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OF INFORMATION ACT (FOIA), 5 U.S.C.552(B)(6)

PE07-057

FORD

2-4-2008

APPENDIX I

Non-Confidential Engineering

Subject: 2005-2007 F-Super Duty Steering Wheel Oscillation (shimmy)
Location: Teleconference

Start: Wed 11/1/2006 5:00 PM
End: Wed 11/1/2006 6:00 PM
Show Time As: Tentative

Recurrence: (none)

Meeting Status: Not yet responded

Required Attendees: O'Connor, Tammy (T.A.); O'Connor, Tammy (T.A.); Repasky, Steve (S.); Gompper, Dan (D.B.); Meier, Kenneth (K.W.); Hale, Curt (B.C.); Knapp, David (D.); Avery, Kevin (K.); Malik, Wesley (W.K.); Eveland, Marty (M.); Snider, Alex (A.); Asay, Larry (L.L.); Choe, Mark (M.J.); Corlew, Randall (R.L.)

Importance: High

Fordnet Dial-In:
Toll-free Dial-In:
International Dial-In:
Passcode:

This meeting is being set up to discuss next steps in regards to Steering Wheel Oscillation/Shimmy issue on the 2005-2007 F-Super Duty:

- **TSB 06-22-14 and is it resolving issue - looking for feedback from FSEs/FQEs**
- **Steering Wheel Shimmy vs. Steering Wheel Fight - what is the difference, etc.**
- **Duke Energy Fleet issue - number of trucks, vins needed, what has been done, what has not, etc.**
- **Next steps**
- **Schedule next meeting**

I have included a few of our FSEs whom I have discussed this issue with - your attendance is optional, however, you feedback would be greatly appreciated.

Please feel free to pass this e-mail along to others who you feel may need to attend -- this meeting will be for Ford Personnel only, please.

From: Reed, Bill (W.P.)
Sent: Wednesday, October 27, 2004 2:23 PM
To: Gompper, Dan (D.B.); Repasky, Steve (S.); Page, Michael (M.A.); Jablonski, Mary (M.K.)
Cc: Teeley, Nicole (N.); Mayer, Donna (D.P.); Froehlich, David (D.C.); Hale, Curt (B.C.)
Subject: 2005 Super Duty Wheel Fight

Follow Up Flag: Follow up
Due By: Wednesday, October 27, 2004 5:00 PM
Flag Status: Flagged

This is the current status of the wheel fight field concern as reported by FCSD:

TSB submitted for publication, awaiting sign-off on parts. Parts released improperly in WERS, new service part numbers required. TSB revised, awaiting conscienced TSB procedure from engineering. Parts have been ordered by FCSD, awaiting parts to be PPAPd, expected deliver time to FCSD 12/10.

Mary, we incorporated this change under ECN. Based on that and earlier information from Vehicle Engineering, I understood the added mass steering wheel to be PPAP. Please advise if I am not correct. Need to know by COB today (10/27). Please reply to all.

Mike, how many levels of PPAP do we need to have to get service parts to the field? What I am building with today is as good for service as it is for production. What can we do to get the PPAP issue resolved and get parts to FCSD now? Need to know by COB today (10/27). Please reply to all.

Dan, Steve, looks like FCSD is also waiting on you to get the TSB completed. Please get with Curt Hale to get it finalized by COB today (10/27). I need you to follow up on this issue daily and keep it moving. Let me know what the roadblock of the day is. Thanks.

Regards,

Bill Reed **(breed1@ford.com)**

PVT Manager, Kentucky Truck Plant
Phone (502) 429-2586 Fax (502) 429-2111 Page (502) 336-7586
Text page at: 5023367586@airtouchpaging.com

From: Knapp, David (D.)
Sent: Wednesday, June 14, 2006 9:49 AM
To: Abela, Matt (M.); Barnes, Andrew (A.); Bishop, Paul (P.); Dery, Edwin (E.); Ehlert, Marvin (M.); Geisen, Scott (S.); Herdzik, John (J.); Kalinski, David (D.); Knapp, David (D.); Kurtz, Phillip (P.); Luczkowski, Larry (L.C.); Mentgen, Brian (B.); Nelson, Richard (R.T.); Presley, Cameron (C.); Reddmann, Joseph (J.); Wolken, Christopher (C.)
Cc: O'Connor, Tammy (T.A.); Owens, Jonathan (J.); Bayne, Rick (R.); Speigle, William (W.); Wagner, Donavun (D.)
Subject: 2007 concerns.

Truckers,

I have been seeing a lot of 2007 superduty with common 06 type concerns. There is no major design change from the 07 to the 06. Example: steering shimmy. Same thing and direct them to the 05-06 tsb. This tsb is being updated and in the mean while I will make an ism to cover the gap. 4x2 front wheel bearing tsb only covered the 05 and 06 but will be updated soon and the 07 will have the updated backing plate in production. I will also author an ism to cover this. If you have "No Knowns" I might so please come see me on an 07 before you flush the call.

David Knapp
Truck Group Service Engineer
F-Superduty/Excursion SME
Ford Technical Hotline
DKnapp7@ford.com
313-317-6316

From: O'Connor, Tammy (T.A.)
Sent: Thursday, July 21, 2005 1:00 PM
To: Knapp, David (D.)
Cc: Hale, Curt (B.C.)
Subject: Calls to Hotline on Steering Wheel Shimmy

David:

I have been going through the CQIS reports for Steering Wheel Shimmy:

Please make sure all the guys suggest the following:

1. Check Tire pressure and make sure it is set to spec on door label (this is covered in TSB, but needs to be emphasized).
2. Check Torque on the front track bar retaining nut and attaching hardware torque.
3. Follow TSB 04-26-01
4. Check caster to ensure it is not set too high

- Pleased do not recommend that tires and wheels be replaced for this issue, unless you have seen reports where it has resolved it, if so, please forward those to me for further investigation with Engineering.
- Some minor oscillation is considered normal.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thurs,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

This e-mail and any attachments is intended only for the use of the person or persons addressed hereto and may contain legally privileged and/or confidential information. If you are not the intended recipient of this e-mail, you are hereby notified that any dissemination, distribution or copying of this e-mail, and any attachments, is strictly prohibited. If you have received this e-mail in error, please notify me via return e-mail and permanently delete the original and any copy of any e-mail and any printout.

From: Malarik, Rex (R.S.)
Sent: Wednesday, September 07, 2005 10:36 AM
To: Gompper, Dan (D.B.); Mayer, Paul (P.A.); Shi, Shixiang (S.)
Cc: Choe, Mark (M.J.); Haffey, Michael (M.P.); Michener, Jason (J.W.); Memmer, Mark (M.A.)

Importance: High

Dan, Paul,
Dan had mentioned the he felt the articulation of the joints in the I-Shaft could cause rotation of the steering wheel; who can calculate that. How much rotation is produced at the wheel and along the I-shaft if the cab moves X, Y, Z, and roll of the cab all relative to the frame? And can this also be done with any single-cardoon joint replaced double-cardoon joints?

I believe this may be important for any practical solution. All the experimental work is pointing to a root cause of modal alignment of the frame/powertrain/vehicle modes with the suspension modes. The simulations that Shixiang ran with a rigid frame showed nibble reduced to 1/3 tends to confirm this. Stiffening the frame would be prohibitively expensive. The remaining paths for this case are the suspension forcing the steering system and the body relative movement to the frame. The relative motion of the cab & frame will cause articulation of the I-shaft and potentially add rotation of the steering wheel

The other simulation he ran with the drag link disconnected reduced the nibble by ½. This case eliminates the suspension forcing the steering system, the remaining path is the modal alignment and body to frame relative motion (the full vehicle flexible modes add to the body to frame relative motion). The relative motion of the cab & frame will cause articulation of the I-shaft and potentially rotation of the steering wheel.

Rex Malarik
Road NVH Technical Specialist
Vehicle NVH & CAE Dept.

From: Hasselbring, D Blake (D.B.)
Sent: Wednesday, February 07, 2007 3:19 PM
To: Chiang, John (J.); McCarthy, Dan (D.J.)
Cc: Gompper, Dan (D.B.)
Subject: FW: 9 Hz Damper TSB for Short wheelbase gas 4x2 units

John / Dan,

I have written up a draft TSB on the 9 Hz Damper for Short wheelbase gas 4x2 P356 units. The VE team is not convinced we will need it as these vehicles seem to be more robust than when we initially pursued this action.

For now, we are recommending to put this TSB on hold. Mark Choe agreed, and we are waiting to see what Peter has to say. If we do indeed need it we can quickly release it.

D. Blake Hasselbring
Truck Vehicle Dynamics
Dearborn Office: EVB 2E-M02
[redacted]
Email: dhasselb@ford.com

From: Choe, Mark (M.J.)
Sent: Wednesday, February 07, 2007 8:28 AM
To: Gompper, Dan (D.B.); Frantzeskakis, Petros (Peter.)
Cc: Hasselbring, D Blake (D.B.); Repasky, Steve (S.)
Subject: RE: 9 Hz Damper TSB for Short wheelbase gas 4x2 units

OK but we need to release the 46 mph and steering wheel vibration (08 damper) TSB asap.
What else do we need to do and when will we release it?

Mark J. Choe
Vehicle Dynamics Manager
Body on Frame Programs

From: Gompper, Dan (D.B.)
Sent: Wednesday, February 07, 2007 8:30 AM
To: Frantzeskakis, Petros (Peter.); Choe, Mark (M.J.)
Cc: Hasselbring, D Blake (D.B.)
Subject: RE: 9 Hz Damper TSB for Short wheelbase gas 4x2 units

Peter, Mark,

I would like to gather your thoughts on the release of the frame mass-damper for a service fix on the 137" and 142" gas 4x2 units. Recall that during CP development, we agreed that we would release the damper for service only, limited to these particular configurations.

My recommendation is that we prepare the TSB write-up, but hold off on release until we get the first wave of TGW / Quality results. This is based on subjective drives during launch as well as at VAPG on both the short wheelbases and the longer wheelbases. I don't believe the shorter wheelbase 4x2s are standing out from the other configurations. Recall that during launch, we added the hydroform/cowl rivets to all vehicles based on a 8-9Hz vibration, which is the same frequency range covered by the frame mass-damper.

Please let me know if you concur. I will work with Blake to finalize the write-up (it is ~90% complete), but I will not pursue the release with FCSD unless you direct me to do so.

For reference, other TSBs either released, or close to release:

- '05 - '07 Superduty, Steering wheel vibration (now includes retrofit of '08 steering damper on 4x4s)
- '05 - '07 156"-172" Superduty, 46mph hopping / vertical shake
- '08 F450PU, T/W vibration

Thanks,

Dan Gompper
SuperDuty Vehicle Dynamics Supervisor
EVB 2E-L01
Cellphone: (313) 805-2039
Email: dgompper@ford.com
text page: 3138052039@sprintpcs.messaging.com

From: Hasselbring, D Blake (D.B.)
Sent: Tuesday, February 06, 2007 2:58 PM
To: Gompper, Dan (D.B.); Repasky, Steve (S.)
Subject: 9 Hz Damper TSB for Short wheelbase gas 4x2 units

Dan / Steve,

Attached is the latest draft of the P356 TSB for 137" / 142" Gas 4x2 Ringdown concern. One thing I am concerned with is people will get this confused with vehicle shimmy. What is the frequency range of shimmy? Any thoughts on how to distinguish the two concerns? Both are set off by transient events, but the results are a bit different.

By the way - I just rode in a 4x2 137" 5.4L P356 and I didn't think that unit was worse for ringdown than the 156" 4x4's I have been driving.

<< File: P356 Ringdown Cage Damper TSB Draft_01.doc >>

D. Blake Hasselbring
Truck Vehicle Dynamics
Dearborn Office: EVB 2E-M02
[redacted]
Email: dhasselb@ford.com

From: Gompper, Dan (D.B.)
Sent: Tuesday, April 24, 2007 5:01 PM
To: O'Connor, Tammy (T.A.)
Cc: Seufert, David (D.C.); Memmer, Mark (M.A.)
Subject: FW: [redacted] has gone to FINAL as 07-5-7 (enUSA)

Tammy -- was this part number discrepancy resolved on this TSB?

I was in a meeting and Don Ufford mentioned we recently had a steering wheel oscillation base buy-back. Are you aware of these? Do these come through your shop?

Thanks,

Dan Gompper
SuperDuty Vehicle Dynamics Supervisor
EVB 2E-L01
Cellphone: (313) 805-2039
Email: dgompper@ford.com
text page: 3138052039@sprintpcs.messaging.com

-----Original Message-----
From: Hwang, Hsiu-Ying (H.Y.)
Sent: Thursday, March 01, 2007 2:57 PM
To: O'Connor, Tammy (T.A.); Gompper, Dan (D.B.); Hodges, Cynthia (C.P.)
Cc: Barry, Jack (J.E.); Hwang, Hsiu-Ying (H.Y.)
Subject: RE: [redacted] has gone to FINAL as 07-5-7 (enUSA)

I need update the TSB.
For F250/350 4x4 service part should be 8C3Z-3E651-C.

I didn't catch the error in the earlier version, and intend to update it. Plus there some fastener I need to add for F450/550. My computer was down for 2 days due to moving office.

I will update and send the new TSB to you. Thank you.

Regards,
Hsiu-Ying Hwang
Steering/Chassis Engineer
Certified Integrated Black Belt
Tel/Pager: 313-805-3873
-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Thursday, March 01, 2007 1:21 PM
To: Gompper, Dan (D.B.); Hodges, Cynthia (C.P.); Hwang, Hsiu-Ying (H.Y.)
Cc: Barry, Jack (J.E.)
Subject: RE: [redacted] has gone to FINAL as 07-5-7 (enUSA)

There is also confusion about whether the correct part number for the new 250/350 4x4 damper should be -a or -c? Please confirm that -A is correct.

```
 SMMPGPMA                  Global Part Information            03/01/07 13:13:01
 ==> _________ ____________________________________________________
 SERVICE PART:      8C3Z-   3E651-A____      DAMPER ASY
 ENGINEERING PART:   8C34    3E651 BB_____________      ORIGIN:      WERS
 SUPPLIER LOC:                                         FINIS:       4810509
 Vendor Part:                                          Fam Buy:
 Motorcraft Part:    ASH-    1085-                     Prime Suplr: T407H
 Comparable Part:                                      Packager Cd: H751B
 Replaced Part:     7C3Z-   3E651-B                   Mat Content:
```

```
Replacing Part:                                          Ship Mlt:          0
Buyer:          [redacted]                               NBA Phone:   734-266-9872
Dmnd Anlyst:  4JC KAREL PAVEK        X77094              NDA Phone:   800-973-3109
Prod Anlyst:  203 FRANK SELINSKY                         NPA Phone:   734-52-35495
Price Anlyst: I89 DAN FREMER                             Profs ID:    DFREMER
Color Name:                                              Pallet Qty:        308
Pnd Obs:          Svc Disp:     Unit Issue:     1        Overpack Qty:        0
Obs Not:          Mech Ob Cd:   Trfc Cd:       79        Max Ord Qty:         0
Obs Eff:          Procure Cd: 2 Hvy Trk App/Cd: 2 /      Min Run Qty:         0
Eff In:  12/18/06 Rlse Hld:   N Fab/Hold:    N          Min Ship Qty:        0
Eff Out: 07/30/07 Final Rlse: N Wgt UOM:     LB         Package Wgt:         3.64
Ord Dte: 12/18/06 Spec Pgm:   Y Dir Ship:               Standard Cst:       18.51
Commdty: 110301   Volume Grp: D Rack/Plt:    1660B      Dealer Net:         34.96
F1=Help  F2=GIMA  F4=PrvPart  F5=NxtPart  F6=PIGA  F9=DEEA  F10=HIIA  F11=ARFA
RECORD FOUND                                                          PD01143
```

Tammy A. O'Connor
Product Concern Engineer
FCSD Service Engineering Operations
Super Duty F-Series
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

-----Original Message-----
From: Gompper, Dan (D.B.)
Sent: Thursday, March 01, 2007 12:57 PM
To: Hodges, Cynthia (C.P.); Hwang, Hsiu-Ying (H.Y.)
Cc: O'Connor, Tammy (T.A.); Barry, Jack (J.E.)
Subject: FW: [redacted] has gone to FINAL as 07-5-7 (enUSA)
Importance: High

Hsiu-Ying --

This TSB makes reference to a bolt cap for the steering damper at frame bracket bolt where there is reduced clearance to the battery cable. The cap part number is W711670-S300, however the part shows up as an invalid part number when the dealers are looking to obtain it.

Can you confirm the number and availability of this cap? FCSD have gotten a number of calls looking for guidance on this.

Thanks,

Dan Gompper
SuperDuty Vehicle Dynamics Supervisor
EVB 2E-L01
Cellphone: (313) 805-2039
Email: dgompper@ford.com
text page: 3138052039@sprintpcs.messaging.com

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Wednesday, February 28, 2007 12:49 PM
To: Knapp, David (D.); Hale, Curt (B.C.); Johnston, Steven (S.J.); McDonagh, Scot (S.M.)
Cc: Gompper, Dan (D.B.); Repasky, Steve (S.); Hasselbring, D Blake (D.B.)
Subject: FW: [redacted] has gone to FINAL as 07-5-7 (enUSA)
Importance: High

TSB Article Number: 07-5-7 for Steering Wheel Oscillation is now published.

Tammy A. O'Connor
Product Concern Engineer
FCSD Service Engineering Operations
Super Duty F-Series
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

-----Original Message-----
From: Siplus, G (G.)
Sent: Wednesday, February 28, 2007 11:02 AM
To: O'Connor, Tammy (T.A.)
Subject: [redacted] has gone to FINAL as 07-5-7 (enUSA)
Importance: High

English TSB Article 07-5-7 has been released for publication

The following Technical Service Bulletin (TSB) article

has been moved from collaboration and is now final.

Dealers may view this article on the next business day via OASIS and

fmcdealer.com (http://www.fmcdealer.dealerconnection.com).

Company personnel may view it at:

http://www.protechnician.com/.

Concern Tracking Number: [redacted]

TSB Article Number: 07-5-7

Description: Steering Wheel Oscillation.

Vehicles: F-Super Duty

If this message should not have been sent to this address please forward it to gsiplus@ford.com.

From: Sprunger, Jon (J.L.)
Sent: Thursday, July 13, 2006 9:07 AM
To: O'Connor, Tammy (T.A.)
Cc: Welch, Sharon (S.L.)
Subject: FW: TSB Collab - APPROVE: [redacted]

Importance: High

Tammy, FYI, the causal part for operation A will be changing from TIRE to NPF. No action needed on your part unless you have an issue with this change. Thanks.

Sincerely,
Jon Sprunger
Global Technical Communications - FCSD
TSB/SSM Processing
Phone: (313)32-32272
Fax: (313)24-86449
jsprunge@ford.com

-----Original Message-----
From: Siplus, G (G.)
Sent: Thursday, July 13, 2006 8:28 AM
To: Sprunger, Jon (J.L.)
Subject: TSB Collab - APPROVE: 0[redacted]
Importance: High

Approved with edits by CBURKEEN on 7/13/2006

Edits:
change causal part for operation "A" to "NPF" with condition code "82".

If this message should not have been sent to this address please forward it to gsiplus@ford.com.

From: McDonald, Joseph (J.)
Sent: Wednesday, September 21, 2005 10:10 AM
To: O'Connor, Tammy (T.A.)
Subject: FW: Assignment 05-219 TSB Review

FYI

-----Original Message-----
From: Peeler, Tom (T.H.)
Sent: Tuesday, September 20, 2005 8:51 PM
To: McDonald, Joseph (J.)
Subject: Assignment 05-219 TSB Review

Did not have vehicle with concern but the following were comment that were made by technicians about this TSB.

-page 1 under **vehicle Inspection** there should be comments about warn and/or cupped tires as a possible issue and what to do.
-page 2 under **evaluation of vehicle prior to repair** should give some standards about road test wheel return and should be moved to first part of TSB.
-page 3 when do you replace redundant steering wheel (before or after the other items are done)
-page 3 under **reduce front caster** the 6th dot point is not clear, should read "it the caster is set to the exact...". Also dot point 7 should read "Adding weight behind the rear axle raises the front..."

Tom Peeler
Field Quality Engineer, Atlanta
Service Engineering Operations
Ford Customer Service Division
tpeeler@ford.com
770-632-1105
770-632-1106 fax
[redacted]

From: McDonald, Joseph (J.)
Sent: Friday, September 23, 2005 9:51 AM
To: O'Connor, Tammy (T.A.)
Subject: FW: Assignment # 05-219

Report updated

-----Original Message-----
From: Airington, Connie (C.G.)
Sent: Thursday, September 22, 2005 11:38 PM
To: McDonald, Joseph (J.)
Subject: RE: Assignment # 05-219

[redacted]

Added to the existing report.

Connie Airington
Dallas/Houston - Field Quality Engineer
Service Engineering Oper[redacted]
[redacted]
cairingt@ford.com

-----Original Message-----
From: McDonald, Joseph (J.)
Sent: Thursday, September 22, 2005 7:52 AM
To: Airington, Connie (C.G.)
Subject: RE: Assignment # 05-219

Please write a CQIS report or add on to the existing report?

-----Original Message-----
From: Airington, Connie (C.G.)
Sent: Thursday, September 22, 2005 12:00 AM
To: McDonald, Joseph (J.)
Subject: Assignment # 05-219

Hi Joe,

Assignment # 05-219 - Validated TSB with a customer's vehicle that exhibited the concern of steering wheel shimmy. The appointment was set for Sept 19th. VIN: 1FTSW21P25E[redacted] mileage: 3,686. We found concerns with tire pressures in front tires (too high), found Inner tie-rod end nuts (loose), track bar-to-track bar bracket bolt (loose), and radius arm to axle bolts (loose). After the tire pressure correction, torquing procedures and gear meshload adjustment, the shimmy concern felt much better/acceptable.

Any suggestions to TSB validation is included in TSB - IN RED.

<< File:[redacted] TSB Steering Wheel Shimmy Update FQE NOTES.doc >>

If Tammy has any questions about our suggestions, please have her call me…..

Connie Airington

Dallas/Houston - Field Quality Engineer
Service Engineering Operations - FCSD
[redacted]
cairingt@ford.com

From: Naley, Vernon (V.K.)
Sent: Wednesday, August 02, 2006 4:14 PM
To: Klump, Robert (R.F.)
Cc: Nagy, Vic (V.A.); O'Connor, Tammy (T.A.)
Subject: FW: Check aging rep. 063-063 [TSB 06-15-1]
Attachments: 063-063.pdf

Bob,

This is the open SPECs case on TSB 06-15-1 we discussed. After you talk to Ford of Canada, let me know if the TSB is going to be re-published or left as is. Thank you.

Regards,

Vernon K. Naley

Global Technical Communications
SEO/Technical Support Operations
Ford Customer Service Division
Phone: (313)390-9283 FAX: (313)390-8518
E-Mail: vnaley@ford.com

From: French, Jeff (J.)
Sent: Wednesday, August 02, 2006 4:06 PM
To: Naley, Vernon (V.K.)
Subject: Check aging rep. 063-063 [TSB 06-15-1]

Best regards,

Jeff French

SPECS Coordinator
jeff@brownart.com
Specs@Ford.com
Office: 313-565-7020
[redacted]

S.P.E.C.S.

Service Publications Error Correction System

SPECS Response Form
(Please Print All Entries)

Date Brown Art Received Case: 8/3/06

Case Number: [redacted]
Who/Where Originated: TSB 06-15-1

Response Due Date: 9/19/06
Date To Supplier: 8/3/06

Publication: TSB
Responsible Supplier: TSB

Model Year: 2005-2007
Vehicle Line: F-Super Duty

Concern: TSB 06-15-1; The warranty statement should probably read {12 months/12,000 miles (20,000 kilometers) etc.}
Vernon K. Naley / Global Technical Communications - SEO/Technical Support Operations
Ford Customer Service Division Phone: (313)390-9283 FAX: (313)390-8518
E-Mail: vnaley@ford.com

TSO SUPPLIER RESPONSE

Check the MAIN root cause of the concern: *(Only 1 concern must be checked)*

F= Ford including engineering supplier
S= TSO supplier RTS, SPX and Tweddle

☐ Late collaboration F S
☐ Incorrect art F S
☐ GSI issues F S
☐ No collaboration F S
☐ Incorrect collaboration F S
☐ Incorrect procedure/ diagnostic/referral F S
☐ Late changes to vehicle and/or late or no source material F S
☐ Other F S:

☐ Technically correct as written (Must contact initiator)
☐ Why: *(Required)*
☐ Contacted initiator-comments:

Describe action taken to correct the concern: *(Required)*

Is concern: ☐ Valid ☐ Invalid

If the concern is valid, does it need to go to Engineering? ☐ Yes ☐ No

If yes, date delivered to Engineering?

Print first and last name of person responsible for resolving case:

Phone: Date Sent to TSO:

ENGINEERING ACTIVITY RESPONSE

Concurrence: ☐ Approve ☐ Deny

Name: Date:

CDS ID: Phone:

Signature:

Comments

FCSD/TSO SERVICE INFORMATION/DEVELOPMENT SIGN OFF

Name:

☐ **Concur with response** **Date:**

☐ **Do not concur with response** **Date:**
(Sent back to supplier for further review)

Action:

Origin of the error F S **F**= Ford including engineering supplier **S**= TSO supplier RTS, SPX and Tweddle

Additional Comments:

SUPPLIER SPECS COORDINATOR DISPOSITION

☐ Update all information ☐ No action

Upload date:

Date expected to see update on PTS:

Name of Supplier SPECS Coordinator:

Date sent to Brown Art *(case closure date)*:

Jeff French

From: Naley, Vernon (V.K.) [vnaley@ford.com]
Sent: Tuesday, August 01, 2006 1:40 PM
To: O'Connor, Tammy (T.A.); French, Jeff (J.)
Cc: Nagy, Vic (V.A.); Klump, Robert (R.F.); Richer, Lionel (A.)
Subject: FW: (A) Conversion Issues in TSB Article 06-15-1
Importance: High
Follow Up Flag: Follow up
Due By: Wednesday, August 02, 2006 2:30 PM
Flag Status: Flagged

Tammy,

Do you think we should re-publish to correct this for Canada? The warranty statement should probably read "12 months/12,000 miles (20,000 kilometers) etc."

Jeff,

This probably should be a SPECs Case?

Regards,

Vernon K. Naley

Global Technical Communications
SEO/Technical Support Operations
Ford Customer Service Division
Phone: (313)390-9283 FAX: (313)390-8518
E-Mail: vnaley@ford.com

From: Nagy, Vic (V.A.)
Sent: Tuesday, August 01, 2006 1:09 PM
To: Naley, Vernon (V.K.)
Subject: FW: (A) Conversion Issues in TSB Article 06-15-1
Importance: High

Would this be a SPEC?

Vic Nagy
Technical Communications Mgr. (OASIS/TSB/SSM)
313.317.9104
vnagy@ford.com

From: TSB (.Mac) [mailto:brownart tsb@mac.com]
Sent: Monday, July 31, 2006 5:33 PM
To: Sprunger, Jon (J.L.); Klump, Robert (R.F.); Nagy, Vic (V.A.)
Subject: FW: (A) Conversion Issues in TSB Article 06-15-1
Importance: High

Here is a question from canada.

Please advise.

Thanks!
Jody Puskarz
313.768.5846

------ Forwarded Message
From: "Richer, Lionel (A.)" <lricher@ford.com>
Date: Mon, 31 Jul 2006 13:59:32 -0400
To: "TSB[redacted]
Cc: "Laquerre, Mike (M.J.)" <mlaquerr@ford.com>
Subject: (A) Conversion Issues in TSB Article 06-15-1

On this TSB on page 1 and 3 in the NOTE section, references are made to 12/12 coverage which should probably read 12/20. Please confirm.

Thanks for pointing it out Mike.

Lionel Richer
Service Publications
(905)845-2511 x1035
(905)845-7069 fax
Mail Drop CHQ 202
Cubicle 280B
Ford of Canada
The Canadian Road
Oakville, ON.
L6J 5E4
"You can't turn back the clock. But you can wind it up again." - *Bonnie Prudden*

------ End of Forwarded Message

STEERING WHEEL OSCILLATION | TSB 06-15-1

FORD:
2005-2007 F-Super Duty

REFERENCE

This article supersedes TSB **05-22-1** to update the vehicle model years, causal part numbers, and Service Procedure.

ISSUE

Some 2005-2007 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion), immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on 4X4 vehicles, and is more evident on trucks equipped with a gas engine.

ACTION

Refer to the following Service Procedure to minimize the steering wheel oscillations on impacts, however, there may be some remaining minor oscillation which would be considered normal.

SERVICE PROCEDURE SUMMARY

- Set tire pressure and road test vehicle to evaluate vehicle before proceeding with further repairs. If issue is resolved, do not proceed with the rest of this TSB
- If concern still exists, check steering damper for leaks; torque steering and suspension fasteners per Workshop Manual
- If concern still exists, check front alignment and reduce front caster
- Replacement of redundant control steering wheel (if equipped and vehicle built prior to 10/8/2004)

VEHICLE INSPECTION - TIRE PRESSURE

1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

NOTE
SETTING TIRE PRESSURE TO DOOR SPECIFICATION IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE.

ROAD TEST

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the customer's issue.
3. If no issues are identified during the road test, do not proceed with the rest of this TSB.

STEERING DAMPER INSPECTION AND STEERING/SUSPENSION FASTENER TORQUE CHECK

1. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
   a. If leaks are present, install a new steering damper.
2. Check torques on the following steering and suspension fasteners and adjust to specification as required (see following Table).

Torque Specification		
Description	**Lb-ft**	**Nm**
Damper nuts (4X2)	59	80
Damper-to-bracket (F-250, F-350 4X4)	26	35
Damper-to-drag link	67	91
Drag link-to-pitman arm nut	148	201
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts and bolts	129	175
Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE
ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE.

NOTE: The information in Technical Service Bulletins is intended for use by trained, professional technicians with the knowledge, tools, and equipment to do the job properly and safely. It informs these technicians of conditions that may occur on some vehicles, or provides information that could assist in proper vehicle service. The procedures should not be performed by "do-it-yourselfers". Do not assume that a condition described affects your car or truck. Contact a Ford, Lincoln, or Mercury dealership to determine whether the Bulletin applies to your vehicle. Warranty Policy and Extended Service Plan documentation determine Warranty and/or Extended Service Plan coverage unless stated otherwise in the TSB article.The information in this Technical Service Bulletin (TSB) was current at the time of printing. Ford Motor Company reserves the right to supercede this information with updates.The most recent information is available through Ford Motor Company's on-line technical resources.

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REFERENCE

FRONT WHEEL ALIGNMENT AND REDUCE FRONT CASTER

NOTE
OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

Measure wheel alignment. Verify that Front Caster, Camber, and Total Toe are within specification. Adjust as required. Refer to the Workshop Manual, Section 204-00 for complete alignment specifications.

REDUCE FRONT CASTER

- Note the current front caster
- Use alignment adjustment bushings to reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit. Use alignment adjustment bushings

F-250/350 4X4:

- 5C3Z-3B440-CCC (0.5 degree bushing)
- 5C3Z-3B440-DDD (0.75 degree bushing)
- 5C3Z-3B440-EEE (1.0 degree bushing)

F-450/550 4X4 and 4X2:

- 5C3Z-3B440-HHH (0.5 degree bushing)
- 5C3Z-3B440-JJJ (0.75 degree bushing)
- 5C3Z-3B440-KKK (1.0 degree bushing)

F-250/350 4X2:

- 5C3Z-3B440-C (0.5 degree busing)
- 5C3Z-3B440-D (0.75 degree bushing)
- 5C3Z-3B440-E (1.0 degree bushing)

For All 4X4 and for F-450/550 4X2:

- Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward and inboard position (See Figure 1)

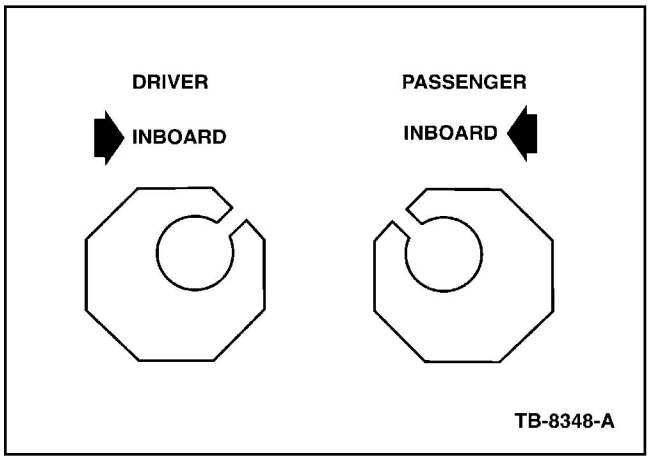

Figure 1 - Article 06-15-1

- This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed
- The final caster and camber settings must be within the specification limits
- Maintain the current front camber, cross-camber and cross-caster settings as close as you possibly can
- Adding weight behind the rear axle lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster

For All F-250/350 4X2:

- Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain that position while moving the caster position forward in the truck
- The final caster and camber settings must be within the specification limits

NOTE
CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 Only

NOTE
THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual, Section 211-04 for complete instructions.
2. Remove the steering wheel.

3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE
FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

PART NUMBER	PART NAME
5C7Z-3600-ABA	Redundant Control Steering Wheel Assy (King Ranch Tan/Peb)
5c7z-3600-CBA	Redundant Control Steering Wheel Assy (Charcoal Black)
5C3Z-3E651-D	Steering Damper
5C3Z-3B440-C	F-250/350 4X2 (0.5 degree bushing)
5C3Z-3B440-D	F-250/350 4X2 (0.75 degree bushing)
5C3Z-3B440-E	F-250/350 4X2 (1.0 degree bushing)
5C3Z-3B440-CCC	F-250/350 4X4 (0.5 degree bushing)
5C3Z-3B440-DDD	F-250/350 4X4 (0.75 degree bushing)
5C3Z-3B440-EEE	F-250/350 4X4 (1.0 degree bushing)
5C3Z-3B440-HHH	F-450/550 4X4 and 4X2 (0.5 degree bushing)
5C3Z-3B440-JJJ	F-450/550 4X4 and 4X2 (0.75 degree bushing)
5C3Z-3B440-KKK	F-450/550 4x4 and 4x2 (1.0 degree bushing)

NOTE
LABOR OPERATIONS IN THIS TSB CAN BE CLAIMED TOGETHER.

NOTE
OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

WARRANTY STATUS: Eligible Under Provisions Of New Vehicle Limited Warranty Coverage

OPERATION	DESCRIPTION	TIME
061501A	2005-2007 F-Super Duty: Check Tire Pressure, Road Test To Verify Repair, Concern Resolved, Return To Customer (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	0.4 Hr.
061501B	2005-2007 F-Super Duty: Check Tire Pressure, Road Test To Verify Repair, Concern Not Resolved, Check Steering Damper Replace If Necessary, Verify Proper Torque On Steering Components, Road Test If Concern Is Resolved Return To Customer (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	1.4 Hrs.
061501C	2005-2007 F-Super Duty 250/350 4X2: Check And Adjust Front Wheel Alignment, This Labor Operation Can Be Claimed With Operation B Only (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	1.9 Hrs.
061501C	2005-2007 F-Super Duty 250/350 4X4, F450/550 4X2/4X4: Check And Adjust Front Wheel Alignment, This Labor Operation Can Be Claimed With Operation B Only (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	2.3 Hrs.
061501D	2005 F-Super Duty With Redundant Steering Control Built Prior To 10-8-2004: Replace Steering Wheel, Includes Time To Depower And Repower The Supplemental Restraints System Can Be Claimed With Operation A Or B (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	0.7 Hr.

DEALER CODING

BASIC PART NO.	CONDITION CODE
(OPERATION A) NPF	82
(OPERATION B) 3E651	42
(OPERATION C) FRONT	W6
(OPERATION D) 3600	42

From: Repasky, Steve (S.)
Sent: Friday, November 03, 2006 2:30 PM
To: O'Connor, Tammy (T.A.); Hale, Curt (B.C.)
Cc: Gompper, Dan (D.B.)
Subject: FW: F250 problem

Info. Not sure who else from Ford may be in attendance at this time...

From: Asay, Larry (L.L.)
Sent: Friday, November 03, 2006 12:27 PM
To: Repasky, Steve (S.)
Subject: FW: F250 problem

FYI

From: Boothroyd, Adam [mailto:ABoothroyd@duke-energy.com]
Sent: Friday, November 03, 2006 8:51 AM
To: Asay, Larry (L.L.)
Cc: Edelen, Ronald G; Boles, Burnace J
Subject: F250 problem

Larry – the people who are leading the team concerning the front end safety problem on the F250s would like the Ford representation to be in Midland, Texas this coming Wednesday (11/08/2006). There will be an assortment of F250s from across the company, not just New Mexico, that have experienced the problem. Representative from Duke Energy Field Services will be in attendance to include the working group as well as the Safety coordinator for this division. Please plan on having yourself and the Ford team to be in attendance.

Burnace – can you give some type of itinerary to Larry Asay (Ford Motor Company) on where to meet Wednesday morning and accommodations that are in the area?

Thank you,
Adam Boothroyd
Fleet Manager
Duke Energy Field Services
(303) 605 - 2188 Office
[redacted]
(303) 605 - 2233

From: McDonald, Joseph (J.)
Sent: Wednesday, September 21, 2005 9:26 AM
To: O'Connor, Tammy (T.A.)
Subject: FW: FQE Assignment

Attachments: Assignment #218.doc

Tammy,
Matt Vellimure (SM) at Palmer Form in Chelsea would like to discuss this TSB with you. Please feel free to call him at 734-320-5010.

-----Original Message-----
From: Domka, John (J.J.)
Sent: Tuesday, September 20, 2005 8:04 PM
To: McDonald, Joseph (J.)
Subject: Assignment

Joe,

Here are the comments (in red on attachment) that Matt Vellimure provided on a vehicle that experienced a light shimmy.
-Corrective actions did not improve the issue.
-I can provide the VIN is required.
-Please feel free to have Tammy contact Matt if she feels necessary.
-Matt stated he would like to discuss procedure with Tammy.
-734-320-5010

Assignment #218.doc (40 KB)

Thanks!!!!

John J. Domka
Michigan - Field Quality Engineer (FQE)
FCSD - Service Engineering Operations
Cell [redacted]

ISSUE:

Some 2005-2006 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion) immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on 4x4 vehicles, equipped with steering wheels that have redundant controls (i.e. climate and radio controls).

ACTION:

This procedure will minimize the steering wheel oscillations on impacts; however, there may be some remaining minor oscillation, which would be considered normal.
Perform the following:

- Vehicle Inspection
- Evaluation Of Vehicle Prior To Repair
- Steering Gear Mesh Load Adjustment
- Reduce front caster by 0.5 to 0.75 degrees
- Replacement Of Redundant Control Steering Wheel (if equipped and vehicle built prior to 10/8/04)

SERVICE PROCEDURE

VEHICLE INSPECTION

1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

   NOTE: SETTING TIRE PRESSUE TO DOOR SPEC IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

2. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
   a. If leaks are present, install a new steering damper and continue with this TSB.
   b. If no leaks are present, continue with this TSB.

3. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table # below).

Description	Torque Specification (lb-ft)	
Damper nuts (4x2)	59	
Damper-to-bracket (F-250, F-350 4x4)	26	
Damper-to-drag link	67	
Drag link-to-pitman arm nut	148	**Found at 135**
Inner tie-rod end nuts	85	
Outer tie-rod end nuts	85	
Track bar bracket-to-frame nuts & bolts	129	
Track bar-to-track bar bracket bolt	406	**4" bar at 200**
Track bar-to-axle nut	185	
Radius arm to axle bolts	222	
Radius arm to bracket nut	222	

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

4. Measure wheel alignment. Verify that Front Caster, Camber & Total Toe is within specification (preferred specification is .1 degree toe in). Adjust to specification as required. Refer to the Workshop Manual, Section 2004-00-1 for complete alignment specifications.

EVALUATION OF VEHICLE PRIOR TO REPAIR

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the severity of wheel oscillation.
3. During the road test, evaluate and note the steering wheel return-ability.

a. Turn steering wheel full lock to lock to confirm no binding.
b. Locate center, and then 45 degrees either side of center on the steering wheel. **Ambiugous**
c. Driving vehicle at 35 MPH (56 Km/h), on a dry and flat road surface, turn the wheel 45 degrees and release. Note the approximate angle that the steering wheel returns to BEFORE CLEAR VISION. Perform and record the angle for both left and right. It is normal if the angle differs slightly from left to right. **Difficult to perform**

STEERING GEAR MESH LOAD ADJUSTMENT

1. Insert hex wrench into steering gear mesh load adjuster screw.
2. While holding the mesh load adjuster screw tight, back off lock nuts two full turns to allow free movement of the adjuster screw. **Adjusted 7/8 turn**
3. Carefully tighten adjuster screw until a slight increase in resistance is felt, then back off approximately 1/16th of a turn.
4. Hold the adjuster screw in place and tighten lock nut. Do not allow the adjustment screw to turn while tightening the locking nut down.
5. Road test vehicle and evaluate for improvement in steering wheel oscillations.
    a. Confirm that there is no objectionable increase in steering efforts, especially at low speeds. **Ambiguous**
    b. Verify that steering wheel return-ability is approximately the same as it was during the original evaluation (within 5 degrees). **Ambiguous**
    c. Turn steering wheel full lock to lock to confirm no binding.
6. Park the vehicle to let it cool down. Road test cold to confirm acceptable parking efforts and return-ability in cold condition. Repeat the mesh load adjustment if needed. **Adjusted 1/8 turn**

REDUCE FRONT CASTER

- Note the current front caster
- Use alignment adjustment bushings to Reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit.
- If caster setting is at exact minimum, camber may be below the specification limit.
- Use Alignment adjustment bushings:
    - 4x4: 5C3Z-3B440-DDD (0.75 Degree bushing) OR 5C3Z-3B440-EEE (1.0 degree bushing)
    - 4x2: 5C3Z-3B440-D (0.75 Degree bushing) OR 5C3Z-3B440-E (1.0 degree bushing)
- Maintain the current front camber, cross-camber & cross-caster settings as close as you possibly can.
- If the caster to the exact minimum he finds that the camber is out of spec.
- Adding weight to the back raises the front of the vehicle, which in effect increases caster.

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE 2005 OR 2006 SUPER DUTY F-SERIES WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

From: Knapp, David (D.)
Sent: Friday, October 21, 2005 3:05 PM
To: O'Connor, Tammy (T.A.)
Subject: FW: ism 05-09-001 removal.

-----Original Message-----
From: Highe, Stanley (S.)
Sent: Friday, October 21, 2005 3:04 PM
To: Knapp, David (D.)
Subject: RE: ism 05-09-001 removal.

Done

-----Original Message-----
From: Knapp, David (D.)
Sent: Friday, October 21, 2005 1:42 PM
To: Highe, Stanley (S.)
Subject: ism 05-09-001 removal.

Stan,

Please remove this ism from the system. It is replaced by tsb 05-22-01 that is on pts today.

ArticleType : ISM Date is displayed in MM/DD/CCYY format	ArticleNumber : 05-09-001	Entered Date : 09/01/2005	Times Recommended : 157

VERIFY TIRE PRESSURES ARE SET TO SPECIFICATION, BOTH RADIUS ARMS ARE PROPERLY TORQUED - CHECK ALIGNMENT & SET CASTER .5 TO .75 BELOW NOMINAL :

SOME 2005-2006 4X4 F-SUPER DUTY MAY EXHIBIT STEERING WHEEL OSCILLATION (BACK AND FORTH MOTION) AFTER DRIVING OVER BUMPS EVEN AFTER TSB 04-26-01 HAS BEEN PREFORMED. CHECK THE FRONT TRACK BAR FASTENER TORQUES; 129 LB-FT (175 NM) @ BRACKET TO FRAME, 406 LB-FT (550 NM) @ TRACK BAR TO TRACK BAR BRACKET BOLT/NUT, 185 LB- FT (250NM) @ TRACK BAR TO AXLE NUT. ADVISE TO ENSURE TIRE PRESSURES SET TO SPECIFICATION ON DOOR LABEL (MOST IMPORTANT). VERIFY THAT BOTH RADIUS ARMS ARE TORQUE PROPERLY. CHECK ALIGNMENT AND SET CASTER TO .5 TO .75 BELOW NOMINAL (MIDDLE OF SPEC). SOME VIBRATION OR SHIMMY MAY BE NORMAL DUE TO UNLOADED VEHICLE AND DEPENDANT ON SIZE OF BUMPS HIT. AN UPDATED TSB WILL REPLACE 04-26-01 CONTAINING THIS ADDITIONAL INFORMATION. TIMING TBD. AUTHOR: DKNAPP7@FORD.COM X76316

Thanks

David Knapp
Truck Group Service Engineer
F-Superduty/Excursion SME
Ford Technical Hotline
DKnapp7@ford.[redacted]
[redacted]

From: Michener, Jason (J.W.)
Sent: Wednesday, September 21, 2005 12:16 PM
To: Mayer, Paul (P.A.)
Subject: FW: P131 Body Mounts

Body mnt history...

Jason W. Michener
PTAC Veh. Dyn.
OPD Quality / Fastener Tech Club rep.
jmichene@ford.com
PDC cube 2B-B67 / (313) 32-32780
cell# [redacted]

-----Original Message-----
From: Michener, Jason (J.W.)
Sent: Tuesday, September 20, 2005 4:47 PM
To: Kolarik, Chris (C.L.); Shi, Shixiang (S.); Malarik, Rex (R.S.); Choe, Mark (M.J.)
Cc: Du, Bin (B.)
Subject: RE: P131 Body Mounts

Quick update on the A to B 2005 F-350 body mount testing to reduce steering wheel ringdown:

The hang up right now is picking the right body mounts to use for A and B runs because:

- All full vehicle testing and CAE modeling has been done using an '05 F-350 Superduty
- The suggestion to test the #3 body mount with a +20% increase in Ky (920N/mm to 1104N/mm) was based on an '05 body mnt.
- However, several changes were made from '05 - '06 on both the upper and lower parts of the #3 body mnt. (as well as the #1 body mnt.) that had an impact on rates
- '05 body mounts are no longer in production ('06 mounts came on line around July of '05)

The supplier will have rate data for the '05 and '06 mnt. tomorrow. Based on the rate data, I suggest that, if the rates are close enough, to use nominal '06 #3 body mnt. for the A and modified '06 body mnt. for B testing. I will fwd the data to all of you as soon as I get it tomorrow so we can come to a consensus and move forward.

Jason W. Michener
PTAC Veh. Dyn.
OPD Quality / Fastener Tech Club rep.
jmichene@ford.com
PDC cube 2B-B67 / (313) 32-32780
cell# [redacted]

-----Original Message-----
From: Du, Bin (B.)
Sent: Monday, September 19, 2005 4:15 PM
To: Kolarik, Chris (C.L.); Shi, Shixiang (S.); Malarik, Rex (R.S.); 'Paul Fernandez@VibracousticNA'; Michener, Jason (J.W.)
Cc: Dabao, Roy (R.T.)
Subject: RE: P131 Body Mounts

Chris, Shixiang, Rex, Jason, Paul,

See attached rate with the summary in the Excel files.

<< File: Pr6007 P356 AP3 Body Mounts, Blake Hasselbring.zip >>

<< File: PR6236 P131 Body Mount Characterization, Ajay Gupta.zip >>
Regards!
Bin Du
P356 Body Mount and Jack D&R
PDC 2B-B33
Tel: 313-805-3951

-----Original Message-----
From: Kolarik, Chris (C.L.)
Sent: Monday, September 19, 2005 1:25 PM
To: Shi, Shixiang (S.)
Cc: Du, Bin (B.); Malarik, Rex (R.S.); 'Paul Fernandez@VibracousticNA'; Dabao, Roy (R.T.)
Subject: RE: P131 Body Mounts

Shixiang…Can you please provide more detail on dynamic mount rates? Diplacment (1mm or 0.1 mm p-p) and frequency (e.g., 15 Hz or 20 Hz). Thanks.

Chris Kolarik
F-Series NVH Quality Supervisor
Pickup Truck and Commercial
[redacted]
E-Mail: ckolarik@ford.com

-----Original Message-----
From: Du, Bin (B.)
Sent: Monday, September 19, 2005 9:15 AM
To: Kolarik, Chris (C.L.); Malarik, Rex (R.S.); Paul Fernandez@VibracousticNA; Dabao, Roy (R.T.)
Subject: P131 Body Mounts

<< Message: List of Tasks >> << Message: FW: Minus 15% - 20% 05 P131 diesel engine mounts >>
Chris, Rex,

We received mutilple e-mails about the request. Would you please have one lead NVH or Vehicle Dynamics engineer to contact Roy Dabao to work out the details?

Since we have mutiple version of P131 mounts released, 2006 mounts P131 is different than 2005. We would like to know which one CAE were used to establish their baseline.

Paul,

Would you please provide the cost of making the P131 body mounts rate higher 20% in Y-Direction?

Thanks!
Bin Du
P356 Body Mount and Jack D&R
PDC 2B-B33
Tel: 313-805-3951

From: Repasky, Steve (S.)
Sent: Wednesday, November 16, 2005 3:52 PM
To: Mayer, Paul (P.A.)
Subject: FW: P221 field issue

The power of delegation..

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Wednesday, November 16, 2005 3:47 PM
To: Repasky, Steve (S.); Meier, Kenneth (K.W.)
Cc: Choe, Mark (M.J.); Hatt, Jeffrey (J.M.); Hale, Curt (B.C.)
Subject: RE: P221 field issue

Steve:

There is no warranty history or calls to the Tech Hotline on either of these trucks.

1 of the vins is not coming up in AWS at all?

This fleet needs to get CVO or FSE involved. They are not following the process. FCSD will respond to this - thanks.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Wed,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Thursday)

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-----Original Message-----
From: Repasky, Steve (S.)
Sent: Wednesday, November 16, 2005 3:38 PM
To: O'Connor, Tammy (T.A.)
Cc: Choe, Mark (M.J.); Hatt, Jeffrey (J.M.)
Subject: FW: P221 field issue

Tammy - is this an area FCSD should get involved with the direct customer? We can have the servicing dealer perform the appropriate TSB. Thanks for any clarification.

-----Original Message-----
From: Hatt, Jeffrey (J.M.)
Sent: Wednesday, November 16, 2005 1:13 PM
To: Repasky, Steve (S.)
Cc: Chaulk, Michael (M.G.); Mayer, Paul (P.A.); Choe, Mark (M.J.); Arnold, Bruce (B.C.)
Subject: FW: P221 field issue

Steve,
Please take the lead on investigating this concern. Paul and I will support as needed. I guess we start with the TSB and go from there, right?

Thanks,

Jeff Hatt
Manager, Suspension and Chassis Integration, PTAC
(313)317-2200, Cell (313)805-2705 , Fax (313)62-14541
Text page: <<mailto:3138052705@messaging.sprintpcs.com>>
Admin. Assistant: Lenora Gregory (LGREGORY) 322-3077

-----Original Message-----
From: Chaulk, Michael (M.G.)
Sent: Wednesday, November 16, 2005 10:43 AM
To: Hatt, Jeffrey (J.M.)
Cc: Chaulk, Michael (M.G.)
Subject: P221 field issue

Jeff,

Have you had any experience in the field with 2005 MY F-250 4X4 standard cab trucks with front suspension issues? A fleet in Michigan reported to me they have:

Fleet #	Mileage	VIN #
269	7,622	1FTNF21545E[redacted]
297	5,669	1FTNF21515E[redacted]

Both trucks are 2005 F250s With 5.4L 4X4
Standard cabs With Automatic Trans

Both trucks will shake violently at speeds ranging from 55 mph. to 75 mph. normally need to slow down below 45-50 mph. to get it to stop. Drivers say shakes violently enough to almost lose control. Normally can make it happen by hitting any size bump in the road.

They returned one vehicle which they were leasing. The dealership working on the issue says there is nothing that can be done - I.E. they don't know how to repair it? The contact at the fleet (Torre & Buglio) is Tom Walters and he can be contacted at (248) 303-2742 or (810) 814-7032. I believe they tow trailers on a fairly consistent basis. Any chance someone could talk to them? Thanks.

Michael G. Chaulk (mchaulk@ford.com)
V-Engine Fleet Test Coordinator
Instrumentation CTR / PT Fleet Section
Vehicle Evaluation and Verification
Office (313) 845-2501
Text Pager: (313) 795-4802

From: Repasky, Steve (S.)
Sent: Tuesday, February 07, 2006 4:08 PM
To: Teeley, Nicole (N.); Mayer, Donna (D.P.)
Cc: Gompper, Dan (D.B.)
Subject: FW: ppt

Donna/Nicole - Attached is background material for the current Superduty "wheel fight" or "ring-down" phenomenon. The long sad story goes as follows:

- Don Ufford reviews TGW status and requests we work on a fix for Superduty ring-down (~ July 2005)
- Work initiated with D&R/CAE/Vdyn engineers to determine what components most impact the concern
- Team decides to run CAE studies on 10-12 frame proposals as well as some Body mount and Engine mount revisions
- Eng. Mount idea dropped as non-feasible for Durability perf., Body mount idea tested with mixed results (later dropped due to Dura concerns)
- CAE Frame ideas - not production feasible.
- Reviewed status w/Don (~ Oct. 27, 2005). Project direction revised to 1) Determine best vehicle test process/procedure and 2) develop a metric target for future programs to minimize "ring-down" TGWs. That project continues.
- The attached is a version of the presentation reviewed with Don.

In Summary, we got nothing (well maybe look at a new steering damper design) for current product that I am aware of. (Other than TSB to correct shimmy due to low tire pressure). Dan's presentation addresses 2008 actions.

-----Original Message-----
From: Michener, Jason (J.W.)
Sent: Wednesday, October 26, 2005 12:52 PM
To: Repasky, Steve (S.)
Subject: ppt

Jason W. Michener
PTAC Veh. Dyn.
OPD Quality / Fastener Tech Club rep.
jmichene@ford.com
PDC cube 2B-B67 / (313) 32-32780
cell# [redacted]

From: Dionisi, Anthony (A.J.)
Sent: Monday, August 21, 2006 9:49 AM
To: O'Connor, Tammy (T.A.)
Cc: Dionisi, Anthony (A.J.)
Subject: FW: Question on Shimmy - Super Duty

Tammy, please see notes below that are between Gordie and I concerning shimmy. Gordie is referring to a "D" level damper which I do not see in parts book. Gordie is on vacation this week - can you provide part # he is referring to?

Tony Dionisi
Ford Motor Company
Service Engineering Operations - FCSD
Denver Field Quality Engineer
Office: 303-346-4788
Cell: [redacted]
Fax: 303-346-4798
adionisi@ford.com

-----Original Message-----
From: Dionisi, Anthony (A.J.)
Sent: Monday, August 21, 2006 7:44 AM
To: Kaltz, Gordie (G.)
Cc: Dionisi, Anthony (A.J.)
Subject: RE: Question on Shimmy - Super Duty

Gordie, maybe it is the altitude that gets to us, but we can not find the suffix "D" part. When we look up a 4x2 or 4x4 for a 2005 F-250/350 SD, the part numbers listed for the steering linkage damper assembly are:

* 4x2 - 5C3Z-3E651-B
* 4x4 - 5C3Z-3E651-CA

Can you give us the complete number you are talking about (5C3Z-3E651-D???? even though it is not listed).

Tony Dionisi
Ford Motor Company
Service Engineering Operations - FCSD
Denver Field Quality Engineer
Office: 303-346-4788
Cell: [redacted]
Fax: 303-346-4798
adionisi@ford.com

-----Original Message-----
From: Kaltz, Gordie (G.)
Sent: Thursday, August 17, 2006 8:34 AM
To: Dionisi, Anthony (A.J.)
Subject: RE: Question on Shimmy - Super Duty

The engineering level is -ch, the service part suffix is -D.

Gordie Kaltz **gkaltz@ford.com**
Service Engineering Operations
Field Quality Engineer
Southern CA/OR/WA/AK/HI
661-349-4334 Office
[redacted] Cell
661-722-7296 Fax

-----Original Message-----
From: Dionisi, Anthony (A.J.)
Sent: Thursday, August 17, 2006 5:35 AM
To: Kaltz, Gordie (G.)
Cc: Dionisi, Anthony (A.J.)
Subject: RE: Question on Shimmy - Super Duty

Were you able to find a level later than "CA" level?

Tony Dionisi
Ford Motor Company
Service Engineering Operations - FCSD
Denver Field Quality Engineer
Office: 303-346-4788
Cell: [redacted]
Fax: 303-346-4798
adionisi@ford.com

-----Original Message-----
From: Kaltz, Gordie (G.)
Sent: Wednesday, August 16, 2006 12:28 AM
To: Dionisi, Anthony (A.J.)
Subject: RE: Question on Shimmy - Super Duty

yes....it's the latest level the CA level leaks internally from what I have been told.
I'll check tomorrow...

Gordie Kaltz **gkaltz@ford.com**
Service Engineering Operations
Field Quality Engineer
Southern CA/OR/WA/AK/HI
661-349-4334 Office
[redacted] Cell
661-722-7296 Fax

-----Original Message-----
From: Dionisi, Anthony (A.J.)
Sent: Tuesday, August 15, 2006 5:55 PM
To: Kaltz, Gordie (G.)
Cc: Dionisi, Anthony (A.J.)
Subject: RE: Question on Shimmy - Super Duty

Gordie - you mention steering stabilizer as a **CH** level? Dealer told me parts only list a **CA** level.
Sure about that CH level?

Tony Dionisi
Ford Motor Company
Service Engineering Operations - FCSD
Denver Field Quality Engineer

Office: 303-346-4788
Cell: [redacted]
Fax: 303-346-4798
adionisi@ford.com

-----Original Message-----
From: Kaltz, Gordie (G.)
Sent: Thursday, August 10, 2006 8:58 AM
To: Dionisi, Anthony (A.J.)
Subject: RE: Question on Shimmy - Super Duty

Tony make sure that the tire pressure is set to the door decal spec...this is very important, also make sure that the steering stabilizer is a "CH" level other levels have been known not to dampen as much, other item that dealers overlook is the torque specs for the various components, especially the trailing arm torque...which is 425 lbs, dealer hit it with an impact and think it's good enough..wrong! If this is of no help then call Tammy O Connor.

Gordie Kaltz **gkaltz@ford.com**
Service Engineering Operations
Field Quality Engineer
Southern CA/OR/WA/AK/HI
661-349-4334 Office
[redacted] Cell
661-722-7296 Fax

-----Original Message-----
From: Dionisi, Anthony (A.J.)
Sent: Thursday, August 10, 2006 5:53 AM
To: Kaltz, Gordie (G.)
Cc: Dionisi, Anthony (A.J.)
Subject: Question on Shimmy - Super Duty

Shimmy concern on F-350 Super Duty units - besides TSB, anything else causing concern. CMT still investigating concern? One dealer mentioned to me about a 2005 F-350 DRW unit where TSB has been done at least twice - still has concern and dealer has been able to verify concern. Any advice or is there anyone to call?

Tony Dionisi
Ford Motor Company
Service Engineering Operations - FCSD
Denver Field Quality Engineer
Office: 303-346-4788
Cell: [redacted]
Fax: 303-346-4798
adionisi@ford.com

From: Bai, Jaimin (J.)
Sent: Wednesday, November 29, 2006 1:08 PM
To: Gu, Jianmin (J.)
Cc: Szumski, Rick (R.G.)
Subject: FW: Shimmy CAE discussion
Attachments: 20061129 SL Topics_discussion.pdf

Jianmin,

Here are the questions regarding Adams model we need to prepare for today's meeting. Let me know if you need any help. Thanks!

Regards,
Jaimin Bai
BoF VVWD Integration Supervisor
Mobil Phone: 313-805-4303

From: Thomas Mitchell [mailto:Thomas.Mitchell@lmsintl.com]
Sent: Wednesday, November 29, 2006 12:58 PM
To: Bai, Jaimin (J.)
Cc: Liu, Yongquan (Y.)
Subject: Shimmy CAE discussion

Hi Jaimin,

Here are the topics that we would like to discuss with your team this afternoon. I'm sure you will have other issues to address.

See you at 3:00

Tom Mitchell
LMS Engineering Services
1050 Wilshire Drive; Suite 250; Troy, MI 48084
Phone: 248-952-5664
Cell: [redacted]

From: Memmer, Mark (M.A.)
Sent: Tuesday, June 17, 2003 6:53 AM
To: Wegienka, Michael (M.J.); Mancini, Leo (L.S.)
Subject: FW: Shimmy on 2005 P131

Attachments: DSC04101.JPG; DSC04102.JPG

FYI

Mark Memmer
2005 U137/P131 Vehicle Dynamics
MMEMMER@Ford.Com
Tel: (313)59-41746 Fax: (313)32-27869

-----Original Message-----
From: Hess, Harry (H.F.)
Sent: Monday, June 16, 2003 4:14 PM
To: Woodard, Ford (F.L.)
Cc: Borges, Claudia (C.R.); Schemanske, Jennifer (J.H.); Hodges, Cynthia (C.P.); Dabao, Roy (R.T.); Xie, Yiping (Y.); Willmer, David (D.G.); Barry, Jack (J.E.); Memmer, Mark (M.A.); Hess, Harry (H.F.); kkullman@aztecmfgcorp.com
Subject: RE: Shimmy on 2005 P131

Ford,

As seen in the attachment below, we recently had a track bar bracket break on durability. We believe this was caused by loose fasteners not long before the issue, as two bolts were at zero torque, and the other, near the break, was at about 50%.

I believe we have actual measured track bar loads, so we should have a good handle on that. The scenario has been suggested by Roy that perhaps frame flex is driving additional loads in the bracket and its joints. Do you have any advice on how we might best instrument a bracket to understand if this is the case?

Yiping, do you believe there is any way to model frame flex loads?

Harry Fuku Hess
P131 Chassis
(313) 32-37017

-----Original Message-----
From: Hess, Harry (H.F.)
Sent: Thursday, June 05, 2003 10:20 AM
To: Hodges, Cynthia (C.P.); Schemanske, Jennifer (J.H.); Borges, Claudia (C.R.)
Cc: Memmer, Mark (M.A.); Barry, Jack (J.E.); Mancini, Leo (L.S.); Wegienka, Michael (M.J.); Willmer, David (D.G.); Kearney, Todd (T.); Kummer, Andy (A.E.); Hess, Harry (H.F.)
Subject: RE: Shimmy on 2005 P131

Jennifer and Claudia,

If the 2005 P131 shimmy at APG is related to a loose track bar bracket, as it sometimes has been in the past, our main concern is determining cause vs. effect.

We know that a loose track bar bracket on the frame will cause shimmy, and we also know that shimmy will

loosen the bracket. To determine which is the case here, we propose to tighten the track bar system to the min torques below, then drive the truck a distance that includes no shimmy events, and recheck the torques. We will discuss further once we have more feedback on the latest events.

Track Bar Bracket to Frame Rail, M14:	149 N-m min.
Track Bar Bracket to C/M, M12:	88 N-m min.
Track Bar to Bracket, M20:	495 N-m min.
Track Bar to Axle, Ball Joint:	149 N-m min.

Play in the track bar ball joint is also worth checking for. The magnitude of acceptance would be similar to a knuckle ball joint. In other words, if you can feel backlash by hand, there is likely a problem.

Thanks.

Harry Fuku Hess
P131 Chassis
(313) 32-37017

-----Original Message-----
From: Memmer, Mark (M.A.)
Sent: Tuesday, June 03, 2003 4:15 PM
To: Patel, Sandip (S.H.); Hodges, Cynthia (C.P.); Willmer, David (D.G.); Mancini, Leo (L.S.)
Cc: Barry, Jack (J.E.); Hess, Harry (H.F.); Schemanske, Jennifer (J.H.); Lafferty, Michael (M.K.); Byndas, Brian (B.B.); Wegienka, Michael (M.J.)
Subject: RE: Shimmy on 2005 P131

I can think of 3 vehicles that have had loose track bar bolts. Two of ours, one at Livonia transmission. All exhibited shimmy and all had loose track bar bolts (frame to bracket). Two were F250/F350, one was a F450. I am not sure what build phase they all were.
We have identified it by turning the steering wheel lock to lock with foot on brake. You can observe the track bar frame bracket moving WRT the bracket mounting bolts.
We have also run a shimmy sensitivity test involving wheel weights and wheel impacts in a turn. Both tests will induce shimmy if there is a problem. Loose track bar, low bushing rates with high compliance tires. We have not run the test on a higher scrub F450/F550. We can take a look at it now that we have a F450 vehicle available for testing.

Mark Memmer
2005 U137/P131 Vehicle Dynamics
MMEMMER@Ford.Com
Tel: (313)59-41746 Fax: (313)32-27869

-----Original Message-----
From: Willmer, David (D.G.)
Sent: Tuesday, June 03, 2003 7:43 AM
To: Mancini, Leo (L.S.); Memmer, Mark (M.A.)
Cc: Barry, Jack (J.E.); Hodges, Cynthia (C.P.); Hess, Harry (H.F.)
Subject: RE: Shimmy on 2005 P131

Mark/Leo, I spoke to Harry Hess yesterday and we were discussion shimmy. Do you guys know how sensitive we are to shimmy? For example, is it possible that this truck had a shimmy problem before the track bar bracket bolts loosened (maybe caused by normal variations in bushing and engine mount rates etc.) and that the shimmy caused the bracket bolts to loosen? Or, are you confident that if all the fasteners are torqued correctly (and stay tight) that we are relatively insensitive to shimmy? Thanks.

-----Original Message-----
From: Cook, Pat (E.P.)
Sent: Monday, June 02, 2003 6:14 PM
To: Hess, Harry (H.F.); Schemanske, Jennifer (J.H.); Mancini, Leo (L.S.); Memmer, Mark (M.A.); Barry, Jack (J.E.)
Cc: Nantais, Jerry (J.L.); Borges, Claudia (C.R.); Willmer, David (D.G.)
Subject: RE: Shimmy on 2005 P131

Loose fasteners on the track bar to frame bracket was the cause of the shimmy. The fastener that attaches the bracket to the cross member was at 0 torque, the forward frame flange fastener was at 68 n.m. the rear frame flange fastener was at 0. All fasteners were torqued per the specs. provided. vehicle is back on test.

-----Original Message-----
From: Hess, Harry (H.F.)
Sent: Monday, June 02, 2003 11:08 AM
To: Schemanske, Jennifer (J.H.); Mancini, Leo (L.S.); Memmer, Mark (M.A.); Barry, Jack (J.E.)
Cc: Nantais, Jerry (J.L.); Borges, Claudia (C.R.); Cook, Pat (E.P.); Willmer, David (D.G.); Hess, Harry (H.F.)
Subject: RE: Shimmy on 2005 P131

Jennifer,

This file lists the major components that I release, and below each, the currently released fasteners with torques for the driven fasteners. These torques should also be used for any previously released fasteners in the same location.

<< File: Monobeam Parts List CP2.xls >>
The track bar bracket M14 bolts to the rail are 175 +/- 26.3 N-m (149 min) and the M12 nut to the crossmember is 103 +/-15.5 N-m (88 min).

Harry Fuku Hess
P131 Chassis
(313) 32-37017

-----Original Message-----
From: Schemanske, Jennifer (J.H.)
Sent: Monday, June 02, 2003 2:00 PM
To: Hess, Harry (H.F.)
Cc: Nantais, Jerry (J.L.); Borges, Claudia (C.R.)
Subject: FW: Shimmy on 2005 P131

Harry,

I am told that these are your fasteners, track bar bracket to frame. Can you provide the torque, so APG can verify whether this is the cause of the shimmy on 308W774 (0001).

Jerry, what is the best way to get APG the 2005 torque values? Do you have a binder with installation sketches and torques?

Jennifer Schemanske
P131 Durability Verification
(313) 323-8906

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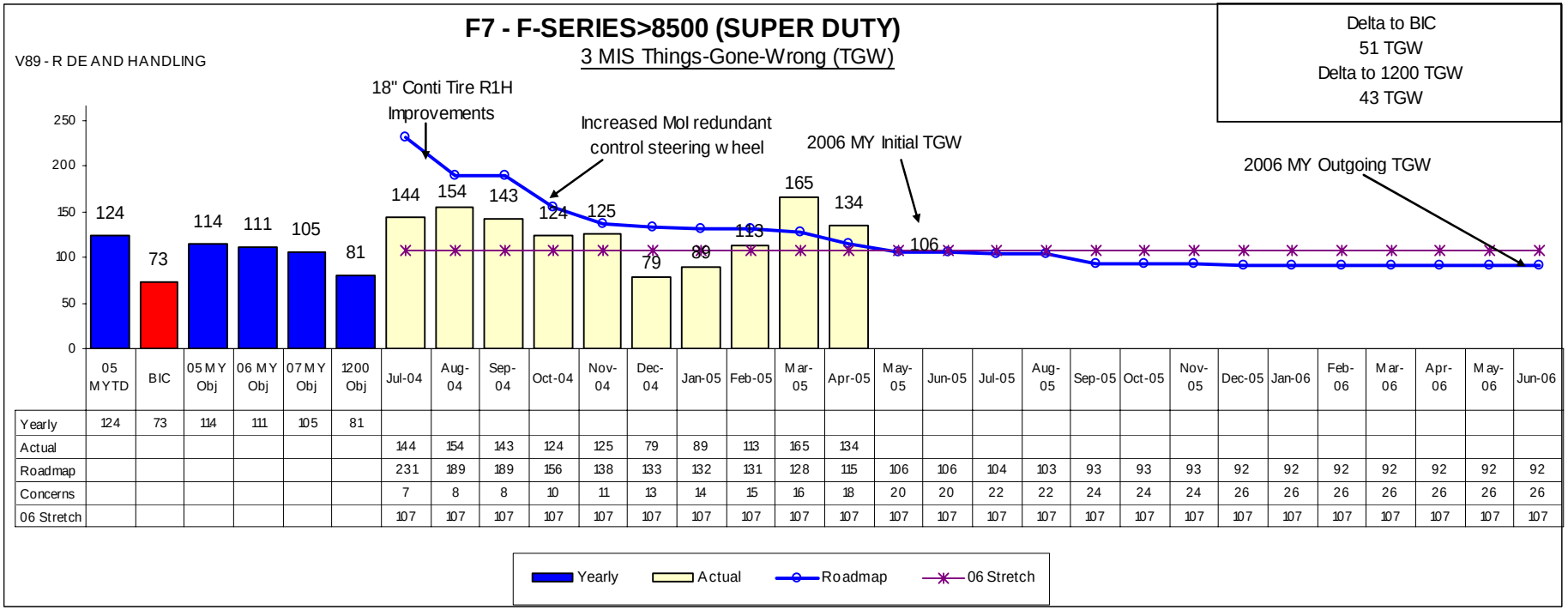
Super Duty V89 R&H TGW Overview

2005 MY Year-to-Date and Roadmap



	05 MYTD	BIC	05 MY Obj	06 MY Obj	07 MY Obj	1200 Obj	Jul-04	Aug-04	Sep-04	Oct-04	Nov-04	Dec-04	Jan-05	Feb-05	Mar-05	Apr-05	May-05	Jun-05	Jul-05	Aug-05	Sep-05	Oct-05	Nov-05	Dec-05	Jan-06	Feb-06	Mar-06	Apr-06	May-06	Jun-06
Yearly	124	73	114	111	105	81																								
Actual							144	154	143	124	125	79	89	113	165	134														
Roadmap							231	189	189	156	138	133	132	131	128	115	106	106	104	103	93	93	93	92	92	92	92	92	92	92
Concerns							7	8	8	10	11	13	14	15	16	18	20	20	22	22	24	24	24	26	26	26	26	26	26	26
06 Stretch							107	107	107	107	107	107	107	107	107	107	107	107	107	107	107	107	107	107	107	107	107	107	107	107

- 2005 YTD V89 TGW are 124 vs Target of 114 (BIC improved from 93 to 73 TGW)
- 2006 Initial V89 TGW (May 05) Projected at 106.

Superduty V89 Quality

October GQRS Results by MoP

2005 MY Oct Report on 3MIS Vehicles

3MIS 2005MY by Month of Prod														Competitors	
Jul-04	Aug-04	Sep-04	Oct-04	Nov-04	Dec-04	Jan-05	Feb-05	Mar-05	Apr-05	May-05	MYTD	CCC	Description	Dodge 250/ 350	Silverado
144	154	143	124	125	79	89	113	165	134		124	**V89**	HANDLING AND RIDE	159	73
19	7	28	0	11	18	1	24	18	28		14		CONSTANT PULL/DRIFT TO ONE SID	48	17
0	1	11	0	11	15	0	22	16	28		10	**H25**	CONSTANT PULL/DRIFT-Left	16	9
19	6	17	0	0	3	1	2	2	0		4	**H26**	CONSTANT PULL/DRIFT-Right	32	9
15	32	29	33	11	7	9	6	16	59		21		STEERING WHEEL VIBRATION/SHIM	2	3
14	11	18	18	8	3	9	2	15	36		12	**N23**	STEERING WHEEL VIB-Below 45 mph	0	3
14	29	15	21	3	4	9	5	1	59		15	**N24**	STEERING WHEEL VIB-Above 45 mph	2	0
50	32	17	38	13	17	31	12	33	0		23		VEHICLE VIBRATES WHILE DRIVING	25	12
											11	**N22**	VEHICLE VIBRATES-Below 45 mph	7	5
											14	**N25**	VEHICLE VIBRATES-Above 45 mph	21	7
											27	**H44**	HARSH RIDE	48	7
											4	**H45**	MUSHY RIDE	1	9
											9	**H62**	IMPROPER TIRE WEAR	5	18
											10	**H24**	STEERING WHEEL SPOKES NOT CC	17	2
											16	**C50**	OTHER HANDLING AND RIDE	13	5
											3157		Sample Size	1048	610

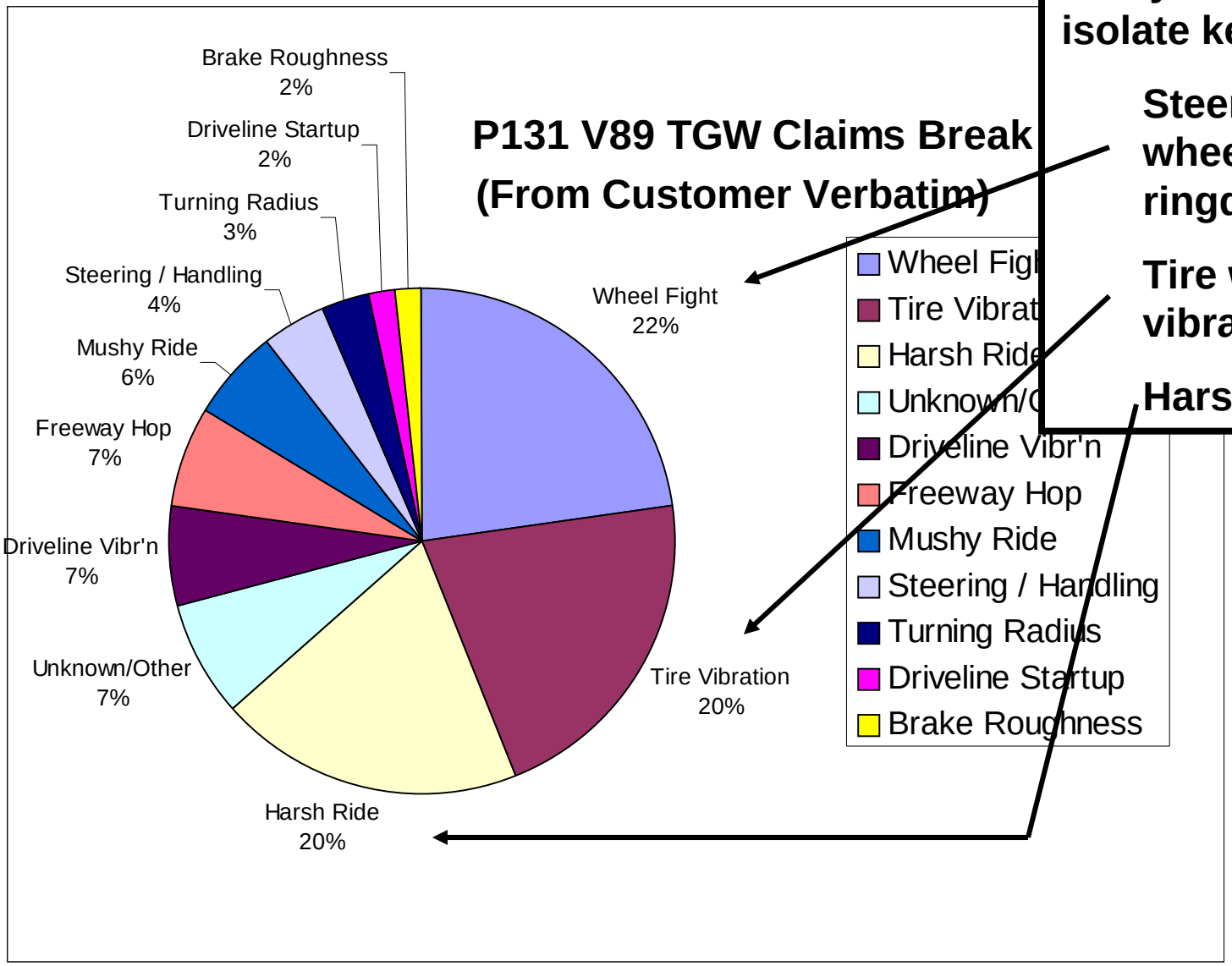
’05 Superduty V89 primarily driven by

Harsh Ride (22%)

Steering Wheel VVWD (17%)

VVWD (19%)

Superduty V89 Quality



Analysis of verbatims isolate key issues:

Steering wheel wheelfight ringdown

Tire wheel vibration

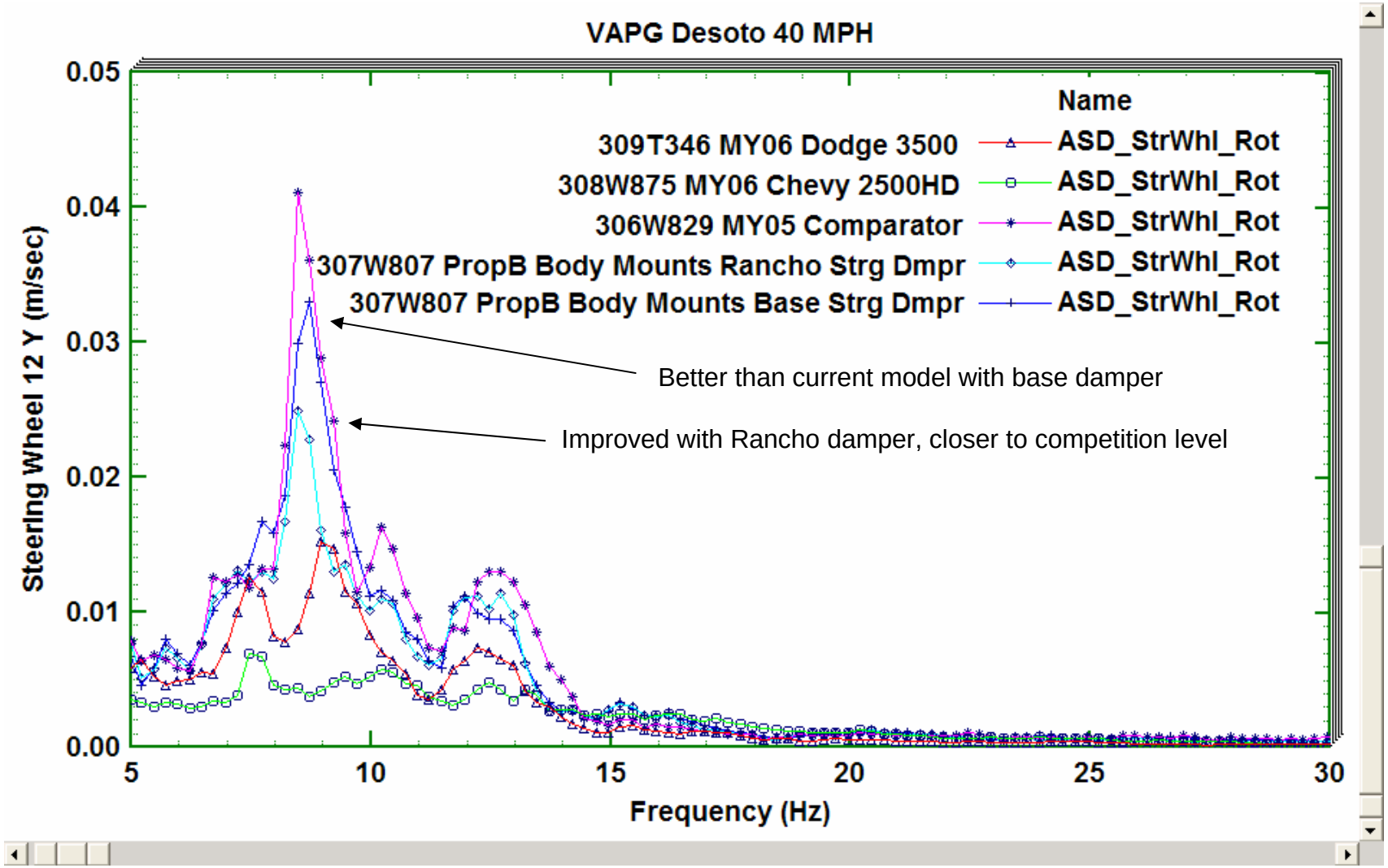
Harsh Ride

PTAC Vehicle Dynamics

2008 P356 CP Steering Vibration

VAPG Desoto, 40mph

4x4 Diesel – Steering Wheel Rotation



From: Arnold, Bruce (B.C.)
Sent: Tuesday, November 27, 2007 1:13 PM
To: Barry, Jack (J.E.); Fraser, Michelle (M.)
Subject: FW: Steering Shimmy Tests

Attachments: P4-223.pdf

FYI

Regards,

Bruce C. Arnold
Supervisor, Chassis Systems Engineering
Pickup, Commercial, & Large SUV Chassis Engineering
2B-B59 PDC, MD 127
TEL: 313-805-3845
Email: barnold2@ford.com
Textpage: <<mailto:3138053845@messaging.sprintpcs.com>>

From: Finkbeiner, Butch (D.E.)
Sent: Wednesday, November 07, 2007 11:40 AM
To: Chernenko, Jim (J.)
Cc: Arnold, Bruce (B.C.); Meldrum, Dean (D.R.)
Subject: RE: Steering Shimmy Tests

Jim, in the old days the procedure was called P4-223.

Here's a complete listing of all of the tests for this procedure. Let me know if this answers your questions.

Thanks.

P4-223.pdf

From: Chernenko, Jim (J.)
Sent: Tuesday, November 06, 2007 1:04 PM
To: Finkbeiner, Butch (D.E.)
Cc: Arnold, Bruce (B.C.); Meldrum, Dean (D.R.)
Subject: RE: Steering Shimmy Tests

Butch,

Also what group requests these tests?

Thank you

James Chernenko Jr. - P.E.
Ford Motor Company
Michigan Proving Ground
Special Projects and Fleet Testing Supervisor

Cell Phone: [redacted]
Fax: (586) 75-28656

Email: jchernen@ford.com

From: Meldrum, Dean (D.R.)
Sent: Tuesday, November 06, 2007 3:00 PM
To: Finkbeiner, Butch (D.E.)
Cc: Chernenko, Jim (J.); Arnold, Bruce (B.C.)
Subject: Steering Shimmy Tests

Hello Butch,

How many Steering Shimmy Tests (CETP: 00.00-R-232) were typically conducted on truck durability vehicles at APG per year? Also, which pickup truck models, i.e. Ranger, F-150, F-250, etc, were subjected to the Steering Shimmy Test?

Regards,

Dean Meldrum
Test Development Engineer
Mobile Phone: (
MPG Phone: (586) 75-28609
Fax: (586) 75-28656
Text Pager: 3
E-mail: dmeldrum@ford.com

INTERNAL SUPER LIST

LEGEND: h-history
c-current
f-future

P4-223

St	Obj Number	MY	Build Number	Make	Model	Body	WB	Eng	Trans	Axle	GVM	Drv	Trim	Str	PU	Fuel	DRW	Emiss	Proto
	Status	Start	Complete	Site	Test	Act/Sch Percent	Front	Rear	LVR/SVR	Program	Sub Program								Sub Program
H	[redacted]	2003	E42S0043	FORD	E150	PASSENG	138	IN	4.6L	4R70W	3.55	7200	LB	RWD	XLT			UNLEADED -	N	AP3
	H	20-MAR-01	21-MAR-01	APG	P4-223	0/100			DCOX7/MGUZNACK	VN127	2003 ECONOLINE FUNCTIONAL								03T004
H	[redacted]	2001.5	U51399	FORD	EXPLOREF	4 DOOR	114	IN	4.6L	5R55W	3.73	5840	LB	4WD	LIMITED	RHD		UNLEADED	N 49S	CP
	H	01-NOV-99	01-NOV-99	APG	P4-223	100/100			JCAPALBY/FRICHAR1	U152	2001 1/2 U152 (4 DOOR E								1776
H	[redacted]	2003	E42S0044	FORD	E150		138	IN	5.4L	4R70W		7200	LB	RWD	XLT	LHD			49S	AP3
	H	22-MAY-01	23-MAY-01	APG	P4-223	6600/100			ESTALNAK/MGUZNACK	VN127	2003 ECONOLINE FUNCTIONAL								03T004
H	[redacted]	2001.5	U51125	FORD	EXPLOREF	4 DOOR	114	IN	4.0L	M5R4	3.73	5200	LB	RWD		LHD		UNLEADED	N 49S	AP
	H	15-MAY-98	15-MAY-98	APG	P4-223	0/100			TFLEMING/FRICHAR1	U152	2001 1/2 U152 (4 DOOR E								01Q009
H	[redacted]	2002		FORD	F350	SUPERCA	158	IN	6.8L	M6HD	3.73	9900	LB	4WD	XLT	LHD	STYLE S	UNLEADED -		CP
	H	24-OCT-01	26-OCT-01	APG	P4-223	200/100			ESTALNAK/GMISTERA	P131	2002 P131 CSE								02U001
H	[redacted]	2001	YED27332	FORD	EXCURSIC	4 DOOR	137	IN	7.3L	4R100	3.73	9200	LB	AWD	LIMITED	LHD		DIESEL		CP
	H	27-NOV-00	28-NOV-00	APG	P4-223	0/100			PCOOK4/JSCHEMA1	U137	2001 U137 COST REDUCTION								01U004
H	[redacted]	2004	F6420016	FORD	F150	SUPERCA	145	IN	4.2L	M5R4	3.55			RWD	XLT	LHD		UNLEADED -	CAL	AP2
	H	17-JUL-01	19-JUL-01	APG	P4-223	100/100			BFINKBEI/SREGALIA	P221	2004 P221 F-SERIES - AP2								04R002
H	[redacted]	2005	F7530111	FORD	F350	REG CA	137	IN	5.4L	M6HD	3.73	11100	LB	4WD		LHD		UNLEADED -		CP
	H	12-FEB-04	12-FEB-04	APG	P4-223	100/100			ESTALNAK/JSCHEMA1	P131	2005 P131 CP								05U001
H	[redacted]	2005	F7530112	FORD	F350	SUPER C	162	IN	5.4L	5R110W	3.73	10800	LB	4WD		LHD	STAKE BI	UNLEADED -		CP

INTERNAL SUPER LIST

LEGEND: h-history
c-current
f-future

P4-223

Obj Number	MY	Build Number	Make	Model	WB	Eng	Trans	Axle	GVM	Drv	Trim	Str	PU	Fuel	DRW	Emiss	Proto
Status	Start	Complete	Site	Test	Act/Sch Percent	Front	Rear	LVR/SVR	Program	Sub Program							Sub Program
H [redacted]	2005	F7530112	FORD	F350	SUPER C	162	IN	5.4L	5R110W	3.73	10800	LB	4WD		LHD	STAKE BI	UNLEADED	-	CP
H	18-DEC-03	18-DEC-03	APG	P4-223	0/100			LRASMUS1/JSCHEMA1	P131	2005 P131 CP							05U001
H [redacted]	2005	F7530122	FORD	F450	CREW CH	176	IN	6.8L	5R110W	5.38	16000	LB	4WD		LHD		UNLEADED/E	Y	CP
H	25-MAR-04	03-MAR-04	APG	P4-223	0/100			PCOOK4/JSCHEMA1	P131	2005 P131 CP							05U001
H [redacted]	2002	EC09796	FORD	EXCURSIC	4 DOOR	137	IN	7.3L	4R100	3.73	9200	LB	4WD	LIMITED	LHD		DIESEL		CP
H	14-NOV-01	14-NOV-01	APG	P4-223	200/100			GBOWES/JSCHEMA1	U137	2002 U137 COST REDUCTION							02U011
H [redacted]	2002	EC01066	FORD	F250	SUPERCA	158	IN	5.4L	M6HD	4.1	8800	LB	4WD	LARIAT	LHD	STYLE S	UNLEADED		CP
H	27-SEP-01	27-SEP-01	APG	P4-223	6500/100			GBOWES/GMISTERA	P131	2002 P131 COST REDUCTION							02U010
H [redacted]	2002	EC28894	FORD	F550	REG CA	164	IN	7.3L	M6HD	4.88	17500	LB	4WD	XLT	LHD		DIESEL	Y	CP
H	25-OCT-01	09-NOV-01	APG	P4-223	200/100			RHOWARD2/GMISTERA	P131	2002 P131 COST REDUCTION							02U010

From: O'Connor, Tammy (T.A.)
Sent: Friday, March 02, 2007 7:56 AM
To: Klump, Robert (R.F.)
Cc: Knapp, David (D.)
Subject: FW: Steering Shimmy TSB

Attachments: PBrush; Picture (Metafile)

Bob:

We found an error in TSB 07-15-07 -- in the text the part number should be -C (like in the parts request) -- can you change that for us?

Tammy A. O'Connor
Product Concern Engineer
FCSD Service Engineering Operations
Super Duty F-Series
Body / Chassis / Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Knapp, David (D.)
Sent: Thursday, March 01, 2007 1:05 PM
To: O'Connor, Tammy (T.A.)
Subject: RE: Steering Shimmy TSB

Ok we need to change where it states in step 5

STEERING DAMPER INSPECTION/REPLACEMENT AND STEERING/SUSPENSION FASTENER

F-250/F-350 4X4 Applications:

1. Remove existing steering damper and frame attachment bracket.
2. Replace steering damper and frame mounting bracket with steering damper P/N 8C3Z-3E651-A and frame bra
3. Attach steering damper to frame bracket (with W706196-S439 bolt and W520114-S441 nut) and torque bolt to
4. Assemble bracket and shock assembly to the frame with attachment bolt retainer (W712855-S439) pointing t bracket nuts (W520114-S441) to 59 lb-ft (80 N-m).
5. Attach other end of shock to the steering drag link and torque to 66 lb-ft (90 N-m).
6. Install damper bolt cap (W711670-S300) to assure a friendly surface for the battery cable in case of casual co

NOTE: CHECK SURROUNDING ENVIRONMENT TO THE FRAME BRACKET AND DAMPER ASSEM BATTERY CABLES ARE NOT CONTACTING BRACKET/BOLTS/DAMPER. ALSO, VERIFY TI COOLER LINES HAVE CLEARANCE TO THE DAMPER DUST SHIELD.

Here is where we were told that the part number was not correct

David Knapp
Truck Group Service Engineer
F-Superduty/Excursion SME
Ford Technical Hotline
DKnapp7@ford.com
313-317-6316

From: O'Connor, Tammy (T.A.)
Sent: Thursday, March 01, 2007 12:58 PM
To: Knapp, David (D.)
Subject: Steering Shimmy TSB

Damper Replacement:

-C = 250/350 4x4
-D = 450/550 All
-B = 250/350 4x2

Another e-mail will follow to address the bolt cap.

Tammy A. O'Connor
Product Concern Engineer
FCSD Service Engineering Operations
Super Duty F-Series
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Landis, Kenneth (K.M.)
Sent: Thursday, July 20, 2006 9:41 AM
To: Memmer, Mark (M.A.)
Cc: Hasselbring, D Blake (D.B.)
Subject: FW: Str Whl w/ Added Mass

Attachments: GPIRS Order - NVH

Mark,

Please see note below. These are the wheel I have for you. I added part numbers to Blake's list.

Kenneth M. Landis
North American Engineering - Occupant Safety Systems
Ford Motor Company

From: Landis, Kenneth (K.M.)
Sent: Tuesday, April 25, 2006 3:08 PM
To: Hasselbring, D Blake (D.B.); Bresky, Aaron (A.)
Cc: Selke, Gil (G.A.); Frantzeskakis, Petros (Peter.); Johnson, Roger (R.); Nammalwar, Giri (G.); Leonardi, Scott (S.A.); Gompper, Dan (D.B.); Memmer, Mark (M.A.)
Subject: RE: Str Whl w/ Added Mass

The part order has been placed. Please see attached note for GPIRS details.

GPIRS Order - NVH

Kenneth M. Landis
North American Engineering - Occupant Safety Systems
Ford Motor Company

From: Hasselbring, D Blake (D.B.)
Sent: Tuesday, April 25, 2006 9:49 AM
To: Bresky, Aaron (A.); Landis, Kenneth (K.M.)
Cc: Selke, Gil (G.A.); Frantzeskakis, Petros (Peter.); Johnson, Roger (R.); Nammalwar, Giri (G.); Leonardi, Scott (S.A.); Gompper, Dan (D.B.); Memmer, Mark (M.A.)
Subject: RE: Str Whl w/ Added Mass

Ken,

Can you please provide the following steering wheels with the added mass for the HTFB drive vehicles as well as wheels for development testing on non-drive trucks?

- 1 x Base Urethane - no speed control 8C34-3600-ABW
- **3** x Base Urethane - w/ speed control 8C34-3600-BBW
- 1 x Base Urethane - w/ speed control & radio control 8C34-3600-CBW
- 1 x Leather Wrap - w/ speed control 8C34-3F563-ABW
- 1 x Leather Wrap - w/ radio control 8C34-3F563-BBW
- 1 x Leather Wrap - w/ redundant control 8C34-3F563-CBW
- **3** x Leather Wrap - King Ranch (similar to redundant control but different leather) 8C34-3F563-DBW (I only have 1

wheel available)

Thanks for the help. This request is redundant to the one Gil sent a few days ago.

D. Blake Hasselbring
Ford Motor Company
Truck VVWD / P356 Road NVH
Dearborn Office: PDC 2D-F62
Cell Phone: [redacted]
Email: dhasselb@ford.com

From: Bresky, Aaron (A.)
Sent: Monday, April 24, 2006 10:01 AM
To: Landis, Kenneth (K.M.)
Cc: Selke, Gil (G.A.); Frantzeskakis, Petros (Peter.); Johnson, Roger (R.); Nammalwar, Giri (G.); Hasselbring, D Blake (D.B.); Leonardi, Scott (S.A.)
Subject: FW: Str Whl w/ Added Mass

Ken - Our team can no longer use self-modified/cobbled parts for demo in HTFB P356 mgmt drives. Pls submit order for 6 steering wheels from supplier with prototype added mass already installed and charge to dept T671. We need first two for the gas trucks by May 8th. Let me know if this is a problem and we can "help."

Gil/Blake- Pls define what wheel configs (color/material/etc.) you need to match existing HTFB drive trucks.

Thanks.

Aaron Bresky
P356 NVH Supervisor- Launch
Product Development Center; Cube 2D-M81
Cell: [redacted]
e-mail: abresky@ford.com

From: Hasselbring, D Blake (D.B.)
Sent: Monday, April 24, 2006 7:43 AM
To: Gompper, Dan (D.B.); Memmer, Mark (M.A.); Kane, Michael (M.D.); Wegienka, Michael (M.J.); DiNicola, Dario (D.); Mathew, Abraham (A.M.); Weber, Grant (G.J.)
Cc: Selke, Gil (G.A.); Leonardi, Scott (S.A.); Landis, Kenneth (K.M.); Nammalwar, Giri (G.); Bresky, Aaron (A.)
Subject: FW: Str Whl w/ added mass

Steering Wheel mass added timing is below.

The HTFB steering wheels were changed for craftsmanship and the CP airbags don't fit HTFB steering wheels. So if you swap steering wheels, it is preferred to swap in a HTFB steering wheel with the added mass and not a CP steering wheel.

Gil and I are asking for additional steering wheels to retrofit HTFB units.

I swapped the wheel on vehicle 7EA000033, but had to put in a CP steering wheel for now since I didn't have a HTFB wheel with the mass added.

D. Blake Hasselbring
Ford Motor Company
Truck VVWD / P356 Road NVH
Dearborn Office: PDC 2D-F62
Cell Phone: [redacted]
Email: dhasselb@ford.com

-----Original Message-----
From: Landis, Kenneth (K.M.)
Sent: Friday, April 21, 2006 10:51 AM
To: Selke, Gil (G.A.)

Cc: Bresky, Aaron (A.)
Subject: RE: Str Whl w/ added mass

The production level steering wheels, with the added mass, will be available by May 31, 2006. The plan is to support EPT with the new level wheels.

Kenneth M. Landis
North American Engineering - Occupant Safety Systems
Ford Motor Company

From: Selke, Gil (G.A.)
Sent: Friday, April 21, 2006 10:47 AM
To: Landis, Kenneth (K.M.)
Cc: Bresky, Aaron (A.)
Subject: Str Whl w/ added mass
Importance: High

I sent you a note a few days ago requesting timing on the steering wheels with the added mass. Any word yet? We are trying to update the HTFB drive trucks. Another avenue we can take is to get us HTFB trim level wheels and we can fabricate the wheels in-house. Wee will need (2) King Ranch and (2) XLT. Please contact me ASAP on this matter.

Gil Selke
Product Development Engineer
Powertrain NVH
Super Duty
PDC (2D-F59)
Cell phone: [redacted]

From: Memmer, Mark (M.A.)
Sent: Tuesday, February 28, 2006 9:40 AM
To: Bokil, Vijay (V.)
Subject: FW: Super-Duty 5.4L with front-end Shimmy

The links below are active.....

Mark Memmer
2007 P356 Vehicle Dynamics
Cell Phone: [redacted]
Text Page: MMEMMER

-----Original Message-----
From: Repasky, Steve (S.)
Sent: Monday, February 27, 2006 9:34 AM
To: Memmer, Mark (M.A.)
Subject: FW: Super-Duty 5.4L with front-end Shimmy

Get your tickets ready
-----Original Message-----
From: Ufford, Donald (D.A.)
Sent: Monday, February 27, 2006 8:06 AM
To: Repasky, Steve (S.); Choe, Mark (M.J.)
Subject: FW: Super-Duty 5.4L with front-end Shimmy

Steve - can you get me a plan to check out these complaints.
Some we may be able to coordinate with FCSD and diagnose over the phone. Others we will need to fly out to see.

-----Original Message-----
From: Bob Gault [mailto:bobgault@crossroadsford.com]
Sent: Monday, February 27, 2006 7:19 AM
To: Ufford, Donald (D.A.)
Subject: Re: Super-Duty 5.4L with front-end Shimmy

Donald,
Thanks for the response. I was on the message board the other day and saw this posted. It may be too late, but I thought it might interest you.
Bob Gault

- New User Guide
- Dealer Email
- ID & Password
- Help/Contact Us
- Log Out

FMC Dealer

Welcome, [redacted]

Monday, February 27, 2006

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Genuine Parts and Service Forum (moderated by webmaster)

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Author	Topic: FRONT END OSCILLATION
DEREK TAYLOR Fremont Motor Sheridan, Inc. Sheridan, WY (307) 674-4423	Posted on: January 18, 2006 6:22:40 PM ET US This welcome message is the first posting in this forum. You can use the navigation links in the top right corner of the page or the "Hop to" drop-menus below to jump from forum to forum. To post a message or reply, simply click the "Post Reply" icon above or below & join the conversation.

To make the message boards most effective, you'll want to stick to the topic being discussed in this forum.
The topic of this forum is FRONT END OSCILLATION.

DEREK TAYLOR
Fremont Motor Sheridan, Inc.
Sheridan, WY
(307) 674-4423

Posted on: January 18, 2006 6:26:15 PM ET US

I remember seeing a post on here awhile back about super duty trucks that would hit a bump at highway speeds and the whole truck would start shaking and you would almost have to come to a stop before it would quit. Does any one remember this. I have one here now. I went for a ride with the customer and I can't believe something in the front end didn't break as bad as it was vibrating. things were falling off the seats and out of the console, it's terrible

JOSEPH MOUNT
Cal Worthington Ford
Anchorage, AK
(907) 276-5300

Posted on: January 18, 2006 7:31:18 PM ET US

RUN AN OASIS OR CHECK BROADCAST MESSAGES AS I REMEMBER SEEING SOMETHING RECENTLY ABOUT THIS CONCERN.

JOSEPH MOUNT
Cal Worthington Ford
Anchorage, AK
(907) 276-5300

Posted on: January 18, 2006 7:56:09 PM ET US

05-22-1 TSB

BRUCE GRANT
Lighthouse Ford, Inc.
Falmouth, MA
(508) 548-1900

Posted on: January 19, 2006 11:01:19 AM ET US

Pay particular attention to tire pressure, low pressure will have an enormous affect on this. If it is low, fill to the spec on the door post and recheck.

Nicholas Casillo
Rittenhouse-Kerr Ford, Inc.
Red Bank, NJ
(732) 741-6000

Posted on: January 24, 2006 1:49:57 PM ET US

i am doing one right now, tsb states to decrease caster by .5, did that along with the stabilizer inspect, steering box adjustment, and retorquing all front suspension, roadtest, did the same thing, called hotline, was told to bring caster up to 3.3, did, roadtest, still the same, out of ideas

MICHAEL BRIGGS
Gubbels Ford
Douglas, WY
(307) 358-3764

Posted on: January 24, 2006 2:57:23 PM ET US

Bruce is correct. We have fixed everyone that has come into our shop by adjusting the tire pressures. Tried doing the TSB on one truck and made it worse. We set the pressures as follows-single rear axle: 65-70 psi in front and 75-80 in rear. Dual rear wheel axle at 70 psi in the front and 80 psi in the rear. Hope this helps someone.

Russell Sniffen
Rea Ford Lincoln-Mercury, Inc.
Monticello, NY
(845) 791-6100

Posted on: January 25, 2006 9:56:40 AM ET US

We have one here with a hop on highway. We did the TSB. Checked the front end torque, adjusted box and decreased caster. Fixed the hop but now the truck wanders and is a nightmare to drive on the highway. Hotline told me to try a new steering box. Still the same. Had a field engineer here and wanted us to adjust alignment. HA-HA! Customer still complaining.

Steve Tomczyk
Theodore Robins,

Posted on: January 25, 2006 10:08:01 AM ET US

Inc.
Costa Mesa, CA
(949) 642-0010

the one i posted awhile back got bought back by ford. didnt get fixed, did everything for tsb, added stabilizer, checked tire pressure, all to no avail.

- MICHAEL BRIGGS
  Gubbels Ford
  Douglas, WY
  (307) 358-3764

  Posted on: January 25, 2006 12:58:08 PM ET US

  Steve and Russell-Were the 2 trucks you had problems w/ duallies or not? I have noticed the tire pressure makes a big difference, but noticed under certain road conditions (heavy rutted roads at 70 mph+) that they will still jump all over.

- Lee Bochanyin
  Rosemurgy Motors Inc
  Wausau, WI
  (715) 675-9500

  Posted on: January 25, 2006 4:51:03 PM ET US

  ARE WE ALL TALKING ABOUT STEERING WHEEL OSCILATION ON NEW 4X4 S.D. OR STEERING WHEEL TRAMP ON 4X2?

- Russell Sniffen
  Rea Ford Lincoln-Mercury, Inc.
  Monticello, NY
  (845) 791-6100

  Posted on: January 26, 2006 12:36:01 PM ET US

  The truck we have is a F-350 w/ a 5.4l and is 4x4. The problem started as a california hop. The steering wheel would vibrate at 60-70 after hitting a bump. The best way to discribe it is it felt like a loose wheel. First thing we did is check tire pressures. Did the TSB and even speed balanced the tires. It fixed the vibration but it handles like crap on the highway. The steering is so sensitive and it won't drive straight. At 60 on at flat straight road if you turn the wheel 1/2 inch the truck acts like you turned the wheel 2 turns.

- DEREK TAYLOR
  Fremont Motor Sheridan, Inc.
  Sheridan, WY
  (307) 674-4423

  Posted on: January 26, 2006 1:04:47 PM ET US

  We adjusted tire pressures and replace steering dampner, it was broken, rd tested and seemed to be ok. Tire pressures were real low.

- MICHAEL BRIGGS
  Gubbels Ford
  Douglas, WY
  (307) 358-3764

  Posted on: January 26, 2006 2:25:20 PM ET US

  Russell-Wow!!!!! Sounds like the only way to fix the one you have is with a gallon of gas and a road flare. Please keep us posted if you find any solution.

- Webmaster

  Posted on: January 27, 2006 11:10:48 AM ET US

  If TSB 05-22-1 is followed completely, it has resolved the shimmy issue on 2005-2006 Super Duty F-Series. Tire Pressure, Torque settings, and Caster to set to lower limit of spec is extremely important in resolving this issue. In most cases the TSB is not being followed completely. If additional assistance is required, please contact the Tech Hotline.

- MICHAEL BRIGGS
  Gubbels Ford
  Douglas, WY
  (307) 358-3764

  Posted on: January 27, 2006 11:28:34 AM ET US

  Webmaster-Question for you. If tire pressure is an issue, why arent these set to the PROPER SPECS AT THE FACTORY? The majority of the vehicles that we pre-deliver arent anywhere near proper specs. Is FMC cutting costs by saving on air. AND, if alignment angles are an issue, WHY HASNT THE FACTORY made the proper adjustments before they leave there? I'm not being rude, but I am (as well as probaly everyone else) tired of dealing with FMC POOR QUALITY

ISSUES. I am also tired of having FMC executives blowing smoke about how great the company is and how quality is so great. Just my $0.02

Russell Sniffen
Rea Ford Lincoln-Mercury, Inc.
Monticello, NY
(845) 791-6100

Posted on: January 27, 2006 5:28:35 PM ET US

I have followed the TSB to extreme detail. I've called Tech hotline 6 times. Every time I called, I got a different answer. I have had my field engineer here and he thought the center point of the box was off. Had me adjust alignment for the 5th time. Customer is still complaining. I don't blame him. He bought a truck that can't be driven on the highway.

RICH BREMER
Ford of Ocala Inc
Ocala, FL
(352) 732-4800

Posted on: January 28, 2006 9:40:37 AM ET US

webmaster, i too, like russel have dealt w/ several of these vehicles with this issue and have followed the tsb in order and to detail. and the results are unacceptable!! it seems funny to me that when reading the tsb fmc says to try this, and when that doesn't fix it try this and when that doesn't fix it then try this and so on. sounds to me like the engineers dont have any idea what's causing this or how to fix the problem. it also seems funny how the concern is only on vehicles w/ a gas engine. never seen this promlem w the leaf spring suspension. maybe they should look into the weight difference between the gas engine and the diesel. i believe this a large part of the problem. any one else agree??

Nicholas Casillo
Rittenhouse-Kerr Ford, Inc.
Red Bank, NJ
(732) 741-6000

Posted on: January 29, 2006 10:22:20 AM ET US

i have a feeling alot of the problem is due to the addition of the ball joint on the track bar, should have left it a a bolt through a bushing type. even the tiny amount of play a ball joint has when new is too much for that type of application. i also think the unsprung weight of that front suspension is too much for the coil spring setup to handle, those 18" steel wheels are back breaking heavy!

Russell Sniffen
Rea Ford Lincoln-Mercury, Inc.
Monticello, NY
(845) 791-6100

Posted on: January 29, 2006 8:31:48 PM ET US

Rich, you are right. Why is it only the gas engines have this problem? I have tried everything ford hotline and feild engineers aked me to do. I'm wonder if we fill the front bumper with cement if that will fix it!!!!!!!!!!

Tony Kaminski
Lincoln Mercury of Bellevue
Bellevue, WA
(425) 454-9585

Posted on: February 1, 2006 2:48:23 PM ET US

have you tried steering shocks old jeeps & trucks with swamper tires were notorious for this had to change to better steering shocks or add to existing

DOUG HESSONG
Phil Long Ford of Chapel Hills
Colorado Springs, CO
(719) 572-2200

Posted on: February 1, 2006 5:41:10 PM ET US

I think Tony's on the right track(no pun intended!)The problem sounds just like an old 4x4 w/big tires-put on a steering stabilizer & no more shimmy.I know these trucks have one stock,but maybe they need a heavy duty one?

Clayton Keenan
Hinchey Ford Inc

Posted on: February 2, 2006 9:22:56 PM ET US

Guymon, OK
(580) 338-8423

We see as many 6.0 doing this as gas,but our country is mostly 6.0s.follow tsb 05-22-1 it will fix most of them.We have had some that you can't get caster to spec.much less reduce it.Worst cause in stall a heavier front coil spring.for says not to but it fixes the proublem

- Nicholas Casillo
  Rittenhouse-Kerr Ford, Inc.
  Red Bank, NJ
  (732) 741-6000

Posted on: February 6, 2006 8:00:45 AM ET US

update...i replaced the track bar ball joint even though it seemed tight, wanted to eliminate it as a suspect, fixed the steering wheel oscillation,but truck is still all over the place over bumps at highway speeds

- Russell Sniffen
  Rea Ford Lincoln-Mercury, Inc.
  Monticello, NY
  (845) 791-6100

Posted on: February 6, 2006 3:39:02 PM ET US

I have my fse comeing again for this truck we have.

- KENNETH CREWS
  Langford Ford Inc
  La Belle, FL
  (863) 675-1686

Posted on: February 8, 2006 12:24:12 PM ET US

Hey guys, We have had alot of these with play in the track bar to frame bushing. Replacing the track bar has cured these issues on the ones we've had. The only way you can acuratly gauge the play is to have the vehicle on the ground, or 4-post rack. Have an assistant sit in the truck with brakes on, and turn the steering wheel slightly back and forth, while watching the track bar bushing. You shouldn't have any play in the bushing. The ones we've seen would only move when the suspension/steering was loaded this way, simulates road conditions. Anyway check it this way, may have same issue, hope this helps. Kenny

- wetzel gilbreth
  Ozark Ford, Inc.
  Ozark, AR
  (479) 667-2162

Posted on: February 10, 2006 11:45:43 AM ET US

We have done many of the tsb's and not had a problem with any. The biggest concern is tire pressure and "propper" mesh load adjustment. Had a few return for concern only to find that they had a flat repair done on front and had low tire pressure from tire shop.

- Patricia Stutts
  Landers Ford
  Collierville, TN
  (901) 854-3673

Posted on: February 10, 2006 2:20:06 PM ET US

A couple of years ago, my husband bought a new 2003 F250 2WD w/the 5.4L gas engine that had the identical concern of this initial posting. We made numerous attempts to repair - index balanced the tires, installed of a steering dampener, etc. It took getting our Ford rep's permission to change the tires to a different brand and get rid of the junk General tires that it came with from the factory.

- CHARLES DEGROOT
  Ray Price Stroud Ford
  Stroudsburg, PA
  (570) 421-2560

Posted on: February 11, 2006 12:28:27 PM ET US

I've had several of these and always traced the problem to the damper (leaking,broken) or MUCH more frerqently the track bar.It seems that even miniscule amounts of play can cause this concern. I also noted gas trucks seem worse.

- MATT WISE
  Campbell Ford Lincoln-Mercury,
  Niles, MI

Posted on: February 21, 2006 6:14:47 PM ET US

i have seen several new trucks with same problem performed tsb little to no improvement played with tire pressure helped some new 05-06

(269) 684-8300

suspension very sensitive poor desing my opinion. fleet customer switched brands of tires on all his new 05 trucks and made huge improvement. He switched to firestone destination at go figure

- Emory Burton
  South Shore Ford
  Rockland, MA
  (781) 878-0152

Posted on: February 22, 2006 10:11:13 AM ET US

TRY TO FIND AN AFTERMARKET HEAVY DUTY STEERING STABILIZER,IF YOU ASK FOR THE STRONGEST STABILIZER IT MAY WORK--HAD AN F350 IN OUR SHOP ABOUT 5 YRS AGO WITH THIS PROBLEM AND THAT FIXED IT

- ROBERT GAULT
  Crossroads Ford, Inc.
  Raleigh, NC
  (919) 467-1881

Posted on: February 22, 2006 12:28:51 PM ET US

I may have a contact that might be able to help. I was at the PSMAC meeting last week. I met and engineer that is working on this concern. E-mail me at bobgault@crossroadsford.com, or call me on my cell 919-524-0384. I will e-mail this engineer to see if he would be willing to help.

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----- Original Message -----
From: Ufford, Donald (D.A.)
To: Bob Gault
Cc: Repasky, Steve (S.)
Sent: Friday, February 24, 2006 1:31 PM
Subject: RE: Super-Duty 5.4L with front-end Shimmy

Thank you Bob, send us the info. you have and Steve Repasky will try to get hold of them.

-----Original Message-----
From: Bob Gault [mailto:bobgault@crossroadsford.com]
Sent: Thursday, February 23, 2006 7:25 AM
To: Ufford, Donald (D.A.)
Subject: Re: Super-Duty 5.4L with front-end Shimmy

Donald,
I was on the message boarrd yesterday and noticed a thread on this front end shimmy. Looks like there are a couple trucks out there that can't seem to get fixed. I posted a note that I might know someone that can help. Would you be interested in contacting these techs? Or should I just wait and see what happens.
Bob Gault

----- Original Message -----
From: Ufford, Donald (D.A.)

To: Bob Gault
Sent: Monday, February 20, 2006 10:25 AM
Subject: RE: Super-Duty 5.4L with front-end Shimmy

Thank you Bob,

I forwarded your note to both the electrical team and the vibration team so we can make sure that we are ready if you flag any more issues.

-----Original Message-----
From: Bob Gault [mailto:bobgault@crossroadsford.com]
Sent: Monday, February 20, 2006 9:22 AM
To: Ufford, Donald (D.A.)
Subject: Re: Super-Duty 5.4L with front-end Shimmy

Thanks for the reply. Yes I am the tech with the issue on the brake controller. I had a discussion with Al DiFalco on this before I left on Friday. He wants me to try another unit on one of the trucks I am having problems with. I will let you know when we get one of these trucks with a shimmy. If there is anything I can help with,just let me know.
Thanks
Bob Gault

----- Original Message -----
From: Ufford, Donald (D.A.)
To: bobgault@crossroadsford.com
Cc: Repasky, Steve (S.)
Sent: Thursday, February 16, 2006 6:42 PM
Subject: Super-Duty 5.4L with front-end Shimmy

Bob - thank you for the feedback during dinner last night and for the help nailing the F150 Vehicle Vibration issue.

If you get any more Super-duty's with a front-end shimmy that you cannot repair, please give us a call so we can come and review.

Also, do you recall which of you had the issue with the Trailer Brake Controller electrical fault?

Thanks

From: Mayer, Paul (P.A.)
Sent: Tuesday, July 26, 2005 10:10 AM
To: Wang, Churn (C.)
Cc: Bokil, Vijay (V.); Repasky, Steve (S.); Arnold, Bruce (B.C.); Shi, Shixiang (S.)
Subject: FW: Super Duty "Steering Ring downt" Assignment - ASSIGNMENTS FROM 7/21 ----- REQUESTING HELP FROM SHIXIANG

Churn, myself & Vijay Bokil recently reviewed this issue with Shixiang. He asked that I send you a written request since what we are asking him to do will require some man-hours.

The following is requested

- Model the steering wheel nibble response for the Rough event and attempt to model an impact strip (I need to check with veh dyn on the worst case speed)
  - Model a 2005 4x4 crew-cab DRW, assuming there is a model available for this. If not we just use the closest model we have
    - this is currently the worst case per veh dyn
- Try to assess what is behind the 2005 MY steering wheel vibration
  - Compare 2004 to 2005 superduty to see if they have differently and why
    - 2004 MY vehicles did not have the problem (need to figure out what is different)
  - View the animation for both cases

Eventually we may use the model to try out design changes, but that will be later

Regards
Paul Mayer
Truck Suspension and Systems Analysis
313-248-9202 Fax:313-317-2349

-----Original Message-----
From: Mayer, Paul (P.A.)
Sent: Friday, July 22, 2005 8:30 AM
To: Hatt, Jeffrey (J.M.); Arnold, Bruce (B.C.); Smith, Ron (R.A.); Choe, Mark (M.J.); Repasky, Steve (S.); Michener, Jason (J.W.); Benson, Jeffrey (J.B.); Bokil, Vijay (V.)
Cc: Gompper, Dan (D.B.); Memmer, Mark (M.A.); Miller, Todd (T.R.); Shi, Shixiang (S.); Gregory, Lenora (L.N.)
Subject: RE: Super Duty "Wheel Fight" Assignment - ASSIGNMENTS FROM 7/21

Just to clarify this is Steering (B)Ring down, not "wheel fight"

- Re-visit Adams analysis at the 2-pass condition (track bar/ drag link angles, quasi-static loads). Include 2007 in the analysis
  - V. Bokil

- Adams model showed that for the 2005 MY design the direction of the force/moment in the track bar / Steering wheel is reversing directions. Myself, Vijay & Bruce discussed this after the meeting. Our best guess is that there is a modeling error, but we will investigate
  - V. Bokil

- Investigate overlapping frequencies in the CAE model to see what lines up. View animation to see if anything obvious jumps out.
  - P. Mayer

- Check DRW vs SRW warranty trends (And TGWs if possible). It was noted that the 172" DRW is the worst case.
  - P. Mayer

- Veh Dyn will handle that collection of Vehicle data. They are going to run 2004 P131 vs 2005 P131 vs Dodge on the road. Then they will follow up with a more detailed study for the 2005 P131 on the chassis rolls where accelerometers are mounted on numerous locations thru-out the frame/steering/suspension. M. Choe requested

that V. Bokil verify that Rex has placed the accelerometers in all the relevant locations

- Hatt requested that the 2005 track bar joints & track bar Brkt to frame joints are checked to the new fastener health chart requirements.
  - R. Smith

- Hatt requested current KTP torque capability data for the track bar joints & track bar Brkt to frame joints
  - T. Miller

- Mayer to contact FCSD Canada in regards to steering gear returns

- Per J. Hatt's request, Lenora Gregory to make this a weekly meeting. Any week when there is no new news, we will cancel.

Regards
Paul Mayer
Truck Suspension and Systems Analysis
313-248-9202 Fax:313-317-2349

-----Original Appointment-----

From: Gregory, Lenora (L.N.) **On Behalf Of** Hatt, Jeffrey (J.M.)
Sent: Friday, July 15, 2005 8:34 AM
To: Hatt, Jeffrey (J.M.); Arnold, Bruce (B.C.); Smith, Ron (R.A.); Choe, Mark (M.J.); Mayer, Paul (P.A.); Repasky, Steve (S.); Michener, Jason (J.W.); Benson, Jeffrey (J.B.); Bokil, Vijay (V.)
Subject: Super Duty "Wheel Fight" Assignment
When: Thursday, July 21, 2005 12:00 PM-12:45 PM (GMT-05:00) Eastern Time (US & Canada).
Where: Hatt's Ofc./2B-A79/PDC

Meeting Purpose:

1. Review '04 vs. '04 Road Load Comparisons
2. Status of Plan to C.M.M. Dodge
3. Update on Vehicle Dynamics Workplan Progress
4. Next Steps/Help Needed

From: Repasky, Steve (S.)
Sent: Wednesday, November 02, 2005 9:53 AM
To: O'Connor, Tammy (T.A.)
Subject: FW: Super Duty wheel fight question

Tammy - How do I get the report noted? Is there a FCSD website? Thanks for any help.

-----Original Message-----
From: Murray, Scott (D.)
Sent: Wednesday, November 02, 2005 6:29 AM
To: Gunlock, George (G.W.); Frantzeskakis, Petros (P.); Hasselbring, D Blake (D.B.); Repasky, Steve (S.)
Cc: Murray, Scott (D.)
Subject: RE: Super Duty wheel fight question

Gentlemen,

There is a CQIS report number with all the vehicle information. The number is [redacted]. The report states there is a wander issue after hitting a bump which is incorrect after talking to the service manager yesterday. He states intermittently, the vehicle will shake violently in the front. The customer has to pull off to the side of the road to stop the shake. The dealer replaced all 4 shocks on the steering damper. They performed the mesh load on the gear box according to TSB 05-22-1. Currently they are going to try changing the caster according to the TSB.

Any assistance or information on this issue is much appreciated. My cell number is 313-598-4698.

Scott D. Murray
Field Service Engineer
Detroit Region FCSD, Zones C1 and C2
Phone: (313) 598-4698
Email: smurray8@ford.com

-----Original Message-----
From: Gunlock, George (G.W.)
Sent: Tuesday, November 01, 2005 12:37 PM
To: Frantzeskakis, Petros (P.); Hasselbring, D Blake (D.B.); Repasky, Steve (S.)
Cc: Murray, Scott (D.)
Subject: Super Duty wheel fight question

Peter, et al,
We have gotten a couple of leads on our request to find Super Duty trucks with tire and wheel vibration, so that is progressing nicely, but.....

Today I got a call from Scott Murray, who is an FSE for the Detroit region. His description of the issue sounds just like wheel fight, so I told him I would try to reach someone who is more familiar with that issue. He said it is an intermittent shake with the steering that only happens occasionally on a some roads. He also said that it is hard to recreate the problem to show the dealer what is wrong. Does that fit the description of wheel fight? Can we offer him some assistance ?

Regards.....George Gunlock
313-323-8987, cell 3[redacted]
ggunlock@ford.com, B5-3D062

From: Hale, Curt (B.C.)
Sent: Wednesday, July 19, 2006 10:33 AM
To: Welch, Sharon (S.L.)
Cc: O'Connor, Tammy (T.A.)
Subject: FW: Superduty TGW verbatims

Sharon,

Do you think a WAN could help in it advised the dealers of the critical nature of proper tire inflation? It should also advise the dealers to educate the customers of how critical tire pressure is too.

B. Curtis Hale
FCSD PVT Program Manager
F-Super Duty & Excursion

From: Repasky, Steve (S.)
Sent: Wednesday, July 19, 2006 10:21 AM
To: Hale, Curt (B.C.)
Cc: Teeley, Nicole (N.); Mayer, Donna (D.P.); Seufert, David (D.C.)
Subject: FW: Superduty TGW verbatims

Curt - I should have included you on this note.

From: Repasky, Steve (S.)
Sent: Wednesday, July 19, 2006 10:20 AM
To: O'Connor, Tammy (T.A.)
Subject: Superduty TGW verbatims

Tammy - we are seeing a lot of shimmy verbatims from the latest TGW data. Is there a method to inform the dealers that tire pressures setting to placard PSI is very important for Superduty vehicles? Thanks for any suggestions...

Subject: FW: Ford Vehicle Vibration
Location: Via Conference Call

Start: Mon 6/12/2006 11:00 AM
End: Mon 6/12/2006 12:30 PM
Show Time As: Tentative

Recurrence: (none)

Meeting Status: Not yet responded

Importance: High

The subject meeting is to discuss Superduty concerns for Baker-Hughes fleet specifically in Canada. Please let me know if you or a rep plan on calling-in. Thanks..

Below is prior background e-mail sent to you.

" As noted below in Brenda's e-mail, either Monday June 12th or Tuesday June 13th are the best dates to have the call-in. I reviewed schedules of key participants and will suggest to Brenda the following times for the proposed call-in:

- Monday June 12 either 11:00 - 12:30 or 1:00 - 2:30.
- Tuesday June 13 either 11:00 -12:30 or 4:00 - 5:30.

I know it will be difficult to fit everyone's schedule, but these times seemed to be the most available for a majority of people. I will send a note to Brenda to schedule the call-in and forward the meeting notice to all once I receive it from Brenda. Again, thanks for your participation…

From: Davis, Brenda K. [mailto:Brenda.Davis@bakerhughes.com]
Sent: Thursday, June 01, 2006 4:08 PM
To: Repasky, Steve (S.)
Subject: RE: Superduty Fleet in Canada
Importance: High

Steve,

Thanks so much. I really appreciate your involvement in this matter. I spoke with the stakeholder in Canada this morning after we talked and he is traveling all week next week. Would the 12 or 13 work for your group?"

From: Davis, Brenda K. [mailto:Brenda.Davis@bakerhughes.com]
Sent: Tuesday, June 06, 2006 5:50 PM
To: Davis, Brenda K.; Repasky, Steve (S.); Henry, Lonnie K.
Subject: Ford Vehicle Vibration
When: Monday, June 12, 2006 11:00 AM-12:30 PM (GMT-05:00) Eastern Time (US & Canada).
Where: Via Conference Call
Importance: High

Central Standard Time Zone - 10-11:30
Canada time will be 9 - 10:30
Eastern Time will be 11:12:30

When I get confirmations I will send a conference dial in number

From: Shaver, Tom (T.J.)
Sent: Thursday, September 21, 2006 2:40 PM
To: Hearn, Chet (C.)
Subject: FW: Nand Design Review

Re. Take-apart steering stabilizer and tuning kit. Mark Memmer has found 1 TAP damper and a kit, Tenneco also has a kit. So, it looks like we should be able to do some tuning work if needed. However, Tenneco isn't interested in helping, as we recently switched to Tokico. I sure we can do it in the shock lab or Ford shock trailer though.

Re Superlift kit. Installation is complete, except for the dampers. I'm holding off until we hear about the new parts. I'm planning to call them tomorrow, if I don't hear from them first.

Tom Shaver

mailto:tshaver@ford.com
Core Vehicle Dynamics - Advanced Projects
1WA03 EVB - **The X Garage**
[redacted]

From: Shaver, Tom (T.J.)
Sent: Tuesday, September 19, 2006 2:02 PM
To: Hearn, Chet (C.)
Subject: RE: Nand Design Review

Re. Superlift
They're supposed to call me when they get dampers. From there, the plan is to ship them along with a pre-paid return. The FedEx guy will drop off the new and pick up the old at the same time. I think they're worth waiting for as they said about a week (from last Thursday). However, I'm concerned the new ones won't be any closer.

Re. TAP Kit. Don't know if there's a kit available. I'll find out.

Tom Shaver

mailto:tshaver@ford.com
Core Vehicle Dynamics - Advanced Projects
1WA03 EVB - **The X Garage**
[redacted]

From: Hearn, Chet (C.)
Sent: Tuesday, September 19, 2006 1:55 PM
To: Shaver, Tom (T.J.)
Subject: RE: Nand Design Review

Regarding the Superlift stabilizer…

Do you intend to order another kit and return two dampers with the lowest forces? If so, it's worth the wait. Please try to get a delivery date from Superlift.

Regarding the OE stabilizer…

Does someone have a TAP valve kit that you can borrow?

Chet Hearn
Vehicle Dynamics Supervisor
EVB 1WE02
Mail Drop X16
Desk: (313) 390-2318
[redacted]
FAX: (313) 84-51776

From: Shaver, Tom (T.J.)
Sent: Tuesday, September 19, 2006 8:16 AM
To: Hearn, Chet (C.)
Subject: RE: Nand Design Review

Pretty sure they don't.

Tom Shaver

mailto:tshaver@ford.com
Core Vehicle Dynamics - Advanced Projects
1WA03 EVB - **The X Garage**
[redacted]

From: Hearn, Chet (C.)
Sent: Monday, September 18, 2006 2:17 PM
To: Shaver, Tom (T.J.)
Subject: RE: Nand Design Review

Does Superlift have the ability to send a matching set of measured dampers?

Chet Hearn
Vehicle Dynamics Supervisor
EVB 1WE02
Mail Drop X16
Desk: (313) 390-2318
Mobile: (313) 805-2063
FAX: (313) 84-51776

From: Shaver, Tom (T.J.)
Sent: Monday, September 18, 2006 2:03 PM
To: Hearn, Chet (C.)
Subject: RE: Nand Design Review

It would be better if we could wait, I talked to the Superlift folks, they want to send new dampers, in the hopes that they match better. They're out of stock until about Sep 26. If we use them, we can't return them. The carrot is higher damping, but given their poor (or perhaps non-existent) QC, it might be better to just run as is. Your call.

I haven't been able to talk to Memmer, as he's always at MPG. But, Doug Steinman had some helpful info; there's a special part between the base valve and the bottom of the can. It blocks the normal intake path between the "feet" of the base valve and provides one new intake hole that's positioned to be at the low point. This isn't perfect, but evidently it's good enough. The damper was tuned for off road wheel fight, nibble was not a consideration.

I'm about to head off to the doctor for my 2nd spinal injection. Talk to you tomorrow.

Are you enjoying your time away?

Tom Shaver

mailto:tshaver@ford.com
Core Vehicle Dynamics - Advanced Projects
1WA03 EVB - **The X Garage**
[redacted]

From: Hearn, Chet (C.)
Sent: Monday, September 18, 2006 1:40 PM
To: Shaver, Tom (T.J.)
Subject: RE: Nand Design Review

Regarding the Super Duty steering stabilizer,

Are you able to conduct a subjective evaluation this week? What did you learn from Mark Memmer regarding tuning?

Chet Hearn
Vehicle Dynamics Supervisor
EVB 1WE02
Mail Drop X16
Desk: (313) 390-2318
[redacted]
FAX: (313) 84-51776

From: Hearn, Chet (C.)
Sent: Friday, September 15, 2006 8:24 AM
To: Shaver, Tom (T.J.); Masel, Dennis (D.M.)
Subject: FW: Nand Design Review

Feel free to provide updates. Read on...

Chet Hearn
Vehicle Dynamics Supervisor
EVB 1WE02
Mail Drop X16
Desk: (313) 390-2318
Mobile: (313) 805-2063
FAX: (313) 84-51776

From: Hearn, Chet (C.)
Sent: Friday, September 15, 2006 8:22 AM
To: Choe, Mark (M.J.)
Cc: Lindstrom, Scott (S.K.)
Subject: RE: Nand Design Review

The plan was to collect objective data for an ODS. Ideally, we intend to compare F250 to Dodge 2500. Unfortunately, we're still trying to track down a sufficient number of cables and adapters to run the test. Meanwhile, the engineer (Dennis Masel) is quite busy as a Vibrations 101 instructor. So, that workstream remains in a holding pattern.

On the hardware side, Tom Shaver purchased an aftermarket steering stabilizer kit which consists of two

monotube dampers. We were quite surprised to learn that the production design utilizes a twintube damper -- with a near-horizontal package. Tom was wise to verify the monotube architecture at the the NDE lab.

<< File: LAYER_H_00001.GIF >>

http://www.superlift.com/accessories/stabilizers.asp

He also measured forces on the dyno. When operating in tandem (opposed arrangement of compression + rebound), they will deliver similar damping levels. Unlike the twintubes, the risk of cavitation will be nil. Our biggest concern is build quality. The dyno measurements revealed differences in gas pressure and rebound forces. We may need to order another set to match forces. I'll talk to Tom about conducting a subjective evaluation next week.

Chet Hearn
Vehicle Dynamics Supervisor
EVB 1WE02
Mail Drop X16
Desk: (313) 390-2318
[redacted]
FAX: (313) 84-51776

From: Choe, Mark (M.J.)
Sent: Thursday, September 14, 2006 9:19 AM
To: Hearn, Chet (C.)
Cc: Lindstrom, Scott (S.K.)
Subject: FW: Nand Design Review

Chet, note shimmy is due up for Nand review.
Are you making progress on what we talked about?

Mark J. Choe
Vehicle Dynamics Manager
Body on Frame Programs

From: Arbitter, Daniel (D.S.)
Sent: Wednesday, September 13, 2006 2:08 PM
To: Haley, William (W.J.)
Cc: Shahidi, Bijan (B.K.); Kelkar, Subhash (S.G.); Kochhar, Nand (N.K.); Choe, Mark (M.J.); Heider, John (J.W.); Lindstrom, Scott (S.K.); Rushbrook, Mark (M.A.); Stevens, Greg (G.B.)
Subject: FW: Nand Design Review

Bill, note attached below is topic I was talking about earlier today. Please schedule add "CAE Organizational Review" on Nand's Design Review schedule.

Also please add these topics as well for Nand's Design Review;
In order to improve communication, we will file copies of papers on these dates even if Nand does not have time in his Design Review to have face to face.

- Vibration 101 Class- 30 minutes, ready now, (Kelkar)
- Smoothness and Plushness Metrics- ready now, 45 minutes (Lindstrom)

- Flat spotting test procedure- 9/27 (Lindstrom)
- Chassis Controls Strategy- ready 9/27, 45 minutes (Lindstrom)
- GPDS VD Deliverables- ready 9/27, 45 minutes (Lindstrom)

- VD Training Curriculum- ready 9/27, 30 minutes (Lindstrom)
- Cross Attribute CAE- 9/27, 1 hour (Shahidi / Lindstrom)

- VD CAE Strategy- 10/4, 45 minutes (Lindstrom)
- Net BTV Status Update- 10/4, 30 minutes (Lindstrom)
- Veh Dyn Critical Path VP analysis- 10/4, 30 minutes (Lindstrom)
- CAE training curriculum- 10/4, 30 minutes (Kelkar)
- BMW/Dodge VVWD Benchmark- 10/4, 1 hour (Shahidi)
- Objective Metrics Refinement- 10/4, 30 minutes (Stevens)
- Competitive Benchmarking Results- 10/4, 30 minutes (Stevens)
- SuperDuty Shimmy 10/4, 1 hour (Choe / Shahidi)

- Rack Damping Correlation Fixture- 10/11, 30 minutes (Lindstrom)
- Tire snow lab testing- 10/11, 45 minutes (Lindstrom)
- Chassis Target Cascade and Freezes- 10/11, (Lindstrom)
- Tire Room Metrics on line- 10/11, 30 minutes (Lindstrom)
- D class spare tire benchmark- 10/11, 1 hour (Stevens)
- Material Cost Alignment- 10/11, 30 minutes (Kelkar)
- Tire Model Correlation Process 10/11, 1 hour (Shahidi / Lindstrom)

- Material cost Optimization- 10/18, 1 hour (Kelkar)
- Attribute CAE GPDS Deliverables- 10/18, 1 hour (Kelkar)
- Wheel End Loads targets 10/18, 1 hour (Lindstrom)
- Next Gen VVWD Health Chart- 10/18, 1 hour (Shahidi / Lindstrom)

- Advanced Projects Update, 10/25, 1 hour (Lindstrom)

From: Arbitter, Daniel (D.S.)
Sent: Wednesday, September 06, 2006 6:24 PM
To: Haley, William (W.J.)
Subject: Nand Design Review

Please add CAE Organizational Review- 45 minutes, not next week, but the following (ready next week)

From: Knapp, David (D.)
Sent: Tuesday, July 19, 2005 8:49 AM
To: Cruz, Jose (A.); Ehlert, Marvin (M.); Engstrom, John (J.C.); Geisen, Scott (S.); Giurlanda, Mario (M.); Iuni, Eric (E.); Kahn, Jason (J.); Knapp, David (D.); Nelson, Richard (R.T.); Raasch, Jason (J.); Reddmann, Joseph (J.); Wardle, Jake (J.); Wenninghoff, Thomas (T.); Wolken, Christopher (C.)
Subject: FW: Steering Wheel Oscillation (Back And Forth Motion) After (FCSD ISM v1.3.1 Request for input)

Guys,
Tars on oscillation are finding that tire pressures are too low and track bars are loose. Make sure you check these two things.
David Knapp
Truck Group Service Engineer
F-Superduty/Excursion SME
Ford Technical Hotline
DKnapp7@ford.com
313-317-6316

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Monday, July 18, 2005 12:17 PM
To: Knapp, David (D.)
Subject: Steering Wheel Oscillation (Back And Forth Motion) After (FCSD ISM v1.3.1 Request for input)

(Begin automated email)

PRIVILEGED AND CONFIDENTIAL
*** DRAFT ***

This message is being sent on behalf of toconnor to toconnor@ford.com, bhale1@ford.com, asnider@ford.com, dknapp7@ford.com for purposes of email compatibility.
You are requested to provide input to the author of this message. Forward/send any comments to the author of this message only. Do NOT reply directly to this note.

Comments:
pLEASE REVIEW AND SEND ME ANY SUGGESTED REVISIONS OR ADDITIONS.

ISM Author: toconnor
Activity Code: 94 Tech Hotline
Tracking Number:
Does this request supersede an active ISM? No
ISM to supersede:
Is this a publication specs concern? No
Applications:
(application 1) 2005-2006 F-Series Super Duty

CQIS Codes: 303000
Supervisor CDSID: BHALE1
Consultant CDSID: TOCONNOR
ISM Number:
Current Text:
CHECK THE FRONT TRACK BAR TORQUES FOR SPECS (129 FT/LBS @ BRACKET TO FRAME, 406 FT/LBS FOR TRACK BAR TO TRACK BAR BRACKET BOLT/NUT, 185 FT/LBS FOR TRACK BAR TO AXLE NUT). ADVISED TO ENSURE TIRE PRESSURES SET TO SPEC ON DOOR LABEL (MOST IMPORTANT). CHECK ALIGNMENT AND ENSURE NO EXCESSIVE POSITIVE CASTER. SOME VIBRATION MAY BE NORMAL DUE TO UNLOADED VEHICLE AND DEPENDANT ON SIZE OF BUMPS HIT. FOLLOW THE TSB 04-26-01, THIS PROCEDURE WILL MINIMIZE THE

STEERING WHEEL OSCILLATIONS ON IMPACTS, HOWEVER, THERE MAY BE SOME REMAINING MINOR OSCILLATION WHICH WOULD BE CONSIDERED NORMAL.

Last act taken (as of 18-Jul-2005, 12:16:51 PM): Send for Engineering Input

(End automated email)

From: Hale, Curt (B.C.)

Sent: Wednesday, January 11, 2006 8:13 AM

To: Wilson, Bradford (B.H.)

Cc: Schramm, Bill (W.J.); Kross, Bryan (B.D.); McKay-Walker, Jennifer (J.); Seufert, David (D.C.); Collins, Keith (K.O.); O'Connor, Tammy (T.A.)

Subject: Galpin Ford PDI Warranty - Super Duty

Brad,

Per my phone message yesterday Galpin Ford (08746) is applying TSB 05-22-01 to a significant number of the Super Duty units during PDI. At this point they have submitted almost 50 claims since October where as the rest of the country has submitted around 10 claims. This has created a spike in N22 warranty of at least 200% and is getting a lot of upper management attention.

When we started seeing this trend from Galpin Ford we pulled warranty and found that they are following this practice on other vehicle lines as well. We need to get this practice stopped at Galpin Ford as soon as possible!

Here are a few VINS as an example:

1FTSW21P96[redacted]
1FTSW21P56
1FTSW21P06
1FTSW20P96
1FTSW20P46
1FTSW20P36
1FTSW20P36
1FTSX21YX6E
1FTSX21P76E
1FTSX21P16E
1FTSX21P06E
1FTSX20P76E
1FTSX20P76E
1FTSX20P56E
1FTSX20P46E
1FTSX21556E
1FTSX21P16E
1FTSF20P56E

B. Curtis Hale

FCSD PVT Program Manager

F-Super Duty & Excursion

-----Original Message-----

From: Griggs, Scott (S.R.)

Sent: Tuesday, January 10, 2006 9:15 AM

To: Hale, Curt (B.C.)

Cc: Teeley, Nicole (N.); Mayer, Donna (D.P.); Ward, Ken (K.A.); Seufert, David (D.C.)

Subject: RE: Ewarranty Mail

In addition to Dave's points below, only 4x4 F250/350 units are affected by the wheelfight issue. This dealer submitted nine claims for wheelfight against twin I-beam 4x2 units. It seems obvious they are applying TSB's 100% without doing proper vehicle evaluation beforehand.

Scott R. Griggs
6 Sigma Black Belt/Chassis Steering
Kentucky Truck Plant
Ph: (502) 339-5393 / Cell [redacted] / Text Pager: SGRIGGS
sgriggs@ford.com

-----Original Message-----
From: Seufert, David (D.C.)
Sent: Monday, January 09, 2006 9:45 AM
To: Hale, Curt (B.C.)
Cc: Teeley, Nicole (N.); Mayer, Donna (D.P.); Griggs, Scott (S.R.); Ward, Ken (K.A.)
Subject: FW: Ewarranty Mail

Curt:

This is going to kill chassis R/1000 for November. Can FCSD do anything to address this? This dealer is obviously taking advantage of the TSB to fix vehicles without the issue to generate some revenue. This dealer had 18 claims for this in one day!

The wheel fight issue due to mesh load is a problem on a very low percentage of units (less than 5%). If we go by customer perception of the issue generating the warranty, we typically get less than a claim per day for this, which means that less than 1 vehicle out of 1500 produced has this issue.

Thanks,

David C. Seufert
Ford Motor Co.
Kentucky Truck Plant
PVT - NVH Engineer
Phone: (502) 429-2568
Cell: [redacted]
FAX: (502) 429-2111

-----Original Message-----
From: Radaker, Bruce (B.E.)
Sent: Monday, January 09, 2006 7:23 AM
To: Charland, Alex (A.J.)
Cc: Teeley, Nicole (N.); Mayer, Donna (D.P.); Griggs, Scott (S.R.); Seufert, David (D.C.); Ward, Ken (K.A.); Hale, Curt (B.C.)
Subject: RE: Ewarranty Mail

Alex, Warranty Administration has sent out a note to all PVT Managers that they will not chargeback paid warranty claims. We now have to eat any warranty claims that are submitted.

Dave Seufert and I contacted this dealer last month and told them to knock off adjusting drive line angles in the pre-delivery inspection.

Regards,
Bruce Radaker
Dealer Liaison
Kentucky Truck Plant
502-429-2220 or 1-800-338-9133
Fax 502-429-2522

-----Original Message-----
From: Charland, Alex (A.J.)
Sent: Monday, January 09, 2006 7:20 AM
To: Radaker, Bruce (B.E.)
Cc: Teeley, Nicole (N.); Mayer, Donna (D.P.); Griggs, Scott (S.R.); Seufert, David (D.C.); Ward, Ken (K.A.)
Subject: FW: Ewarranty Mail

Bruce,

Reviewing the warranty this morning, thought it seemed a little odd that the dealer in Van Nuys California, Galpin Ford, hit Ford for 18 warranty repairs all for the same item. Seems like he took deliver of these 18 units and repaired all of them under an alignment TSB notice. All of the units had under 10 miles, just doesn't seem right.

Have we had issues with this dealer in the past? Was this a fleet order, in which the customer had previous issues with the repaired concern, and therefore the dealer just went ahead and performed this TSB prior to customer delivery?

What do you think?

Thank You,

Alex Charland
Ford Motor Company
VO MFG. Engineer KTP-PVT
Phone: (502) 339-3915
Pager: (502) 342-2966
Fax: (502) 429-2941

From: Knapp, David (D.)
Sent: Monday, August 29, 2005 8:49 AM
To: O'Connor, Tammy (T.A.)
Subject: Good morning. ism replacement

Tammy this is the ism replacement for shimmy.
Ok?
Not so ok?
So so?

Some 2005-2006 F-Super Duty may exhibit Steering Wheel Oscillation (Back And Forth motion) after driving over bumps even after tsb 04-26-01 has been preformed. Check the front track bar fastener torques; 129 lb-ft (175 Nm) @ bracket to frame, 406 lb-ft (550 Nm) @ track bar to track bar bracket bolt/nut, 185 lb- ft (250Nm) @ track bar to axle nut. Advise to ensure tire pressures set to specification on door label (MOST IMPORTANT). Verify that both radius arms are torque properly. Check alignment and set to a preferred .5 to .75 below nominal. Some vibration or shimmy may be normal due to unloaded vehicle and dependant on size of bumps hit. A new tsb will replace 04-26-01 containing this additional information with no eta.

David Knapp
Truck Group Service Engineer
F-Superduty/Excursion SME
Ford Technical Hotline
DKnapp7@ford.com
313-317-6316

From: Seufert, David (D.C.)
Sent: Thursday, December 14, 2006 8:01 AM
To: O'Connor, Tammy (T.A.)
Subject: ISM for Shimmy

Tammy: Do you have the date that the first ISM for tire pressure to address steering wheel shake/shimmy was released?

Thanks,

David C. Seufert
Ford Motor Co.
Kentucky Truck Plant
PVT - NVH Engineer
Phone
Cell: (
FAX: (502) 429-2111

From: Repasky, Steve (S.)
Sent: Tuesday, February 28, 2006 9:46 AM
To: O'Connor, Tammy (T.A.)
Cc: Choe, Mark (M.J.)
Subject: Locate FSE in New Jersey

Tammy - I would like to locate an FSE in New Jersey who might call on a specific dealer who had/has a concern with Superduty steering wheel oscillations. Would you know how to locate the right person? The dealership is described below:

Russell Sniffen
Rea Ford Lincoln-Mercury, Inc.
Monticello, NY
(845) 791-6100 Posted on: January 27, 2006 5:28:35 PM ET US

I have followed the TSB to extreme detail. I've called Tech hotline 6 times. Every time I called, I got a different answer. I have had my field engineer here and he thought the center point of the box was off. Had me adjust alignment for the 5th time. Customer is still complaining. I don't blame him. He bought a truck that can't be driven on the highway.

Russell Sniffen
Rea Ford Lincoln-Mercury, Inc.
Monticello, NY
(845) 791-6100 Posted on: February 6, 2006 3:39:02 PM ET US

I have my fse comeing again for this truck we have.

From: Repasky, Steve (S.)
Sent: Monday, November 20, 2006 9:32 AM
To: O'Connor, Tammy (T.A.); Fass, Alan (A.L.)
Subject: Looking for Feedback from Duke Energy Fleet

Alan - I think Larry Asay is on vacation this week and I am looking for some feedback from Duke Energy on the effectiveness of the 2008 shock damper. I had earlier asked Larry to see if "Charlie's vehicle" (vehicle with 2008 damper) was now operating at a satisfactory level.

I have a review with my management this Tuesday to review the results of our visit to Duke and to demo the shake concern both with and without the 2008 damper. Any feedback would be appreciated. I thought the inquiry to Duke should best come from FCSD. Thanks...

From: Memmer, Mark (M.A.)
Sent: Thursday, October 21, 2004 8:36 AM
To: Hodges, Cynthia (C.P.); Fenocketti, Mike (L.M.)
Cc: Repasky, Steve (S.); Gompper, Dan (D.B.); Kalis, Eric (E.L.); Bunker, Christopher (C.)
Subject: RE [redacted] TSB 2005 SUPERDUTY F-SERIES -- STEERING WHEEL FIGH (FCSD Global Template v1.2 Notification)

Cindy-- If I had to give you a superduty number for that requirement a majority of vehicles would be "At 10 mph vehicle speed, steering wheel must return to within 45 deg of center position after 45 degrees steering wheel turns in both directions" We have very little returnability at that speed and angle. Also, how much time is it given to return? Econoline is in the same boat. I doubt that requirement would/can apply to that platform. Our Veh Dyn returnability testing has percent return of wheel at a given vehicle speed and g level. i.e.. X percent return at 30mph .1g, LH and RH turns. This test requires a straightaway and DIVAS. Not suitable for public testing. Variability between vehicles due to weight, wheelbase, tire size, caster, friction can be as much as 20%

My vote is to check the vehicle before adjustment at 30mph and 45 deg and do not degrade returnability from that point. I do not see how we can give the dealer a reliable way to measure the vehicle objectively.

Mark Memmer
2007 P356 Vehicle Dynamics
MMEMMER@Ford.Com
Tel: (313) 59-41746
[redacted]

-----Original Message-----
From: Hodges, Cynthia (C.P.)
Sent: Wednesday, October 20, 2004 5:32 PM
To: Fenocketti, Mike (L.M.)
Cc: O'Connor, Tammy (T.A.); Memmer, Mark (M.A.); Repasky, Steve (S.)
Subject: RE: [redacted] TSB 2005 SUPERDUTY F-SERIES -- STEERING WHEEL FIGH (FCSD Global Template v1.2 Notification)

Mike -

I realize the Econoline TSB was for a different issue, but the agreement is that we would use the same verbiage because it is a past precedent. Therefore, like the Econoline TSB, we need to quantify the max allowable effect on returnability in a measurable way so the technician verify that returnability is not degraded. I suggest we determine what XX is: "At 10 mph vehicle speed, steering wheel must return to within XX degrees of center position after 45 degree steering wheel turns in both directions" . How long would it take you to determine that?

Cynthia Protas Hodges
P131 & P356 F Series Super Duty Steering Supervisor
Pickup Truck and Commercial Chassis Engineering
Ford Motor Company

2BA57 Product Development Center
phone/fax: (313) 32-29959
pager: (313) 795-6590 or textpage chodges1 <http://vm5.dearborn.ford.com/cgi/textpage?PAGETO=CHODGES1>
Email:chodges1@ford.com

-----Original Message-----
From: Fenocketti, Mike (L.M.)
Sent: Wednesday, October 20, 2004 10:26 AM
To: Hodges, Cynthia (C.P.)
Cc: O'Connor, Tammy (T.A.); Memmer, Mark (M.A.); Repasky, Steve (S.); Fenocketti, Mike (L.M.)
Subject: RE: [redacted] TSB 2005 SUPERDUTY F-SERIES -- STEERING WHEEL FIGH (FCSD Global Template v1.2 Notification)

Cindy, as you requested, I added a line below, "DO NOT TIGHTEN MORE THAN REQUIRED TO REDUCE STEERING WHEEL OSCILLATIONS".

Super Duty is different from E-Series -- Super Duty is bump-induced steering wheel oscillations, as opposed to E-Series smooth road nibble. So what works for E-Series does not necessarily work for Super Duty.

For the wheel fight TSB, it should be sufficient to have the technician verify that returnability is not degraded from the as-received condition. If the vehicle has a returnability issue as received, then that would be a separate repair. We don't know what angle XX equals, but that should not hold up the TSB.

Thanks.
Mike Fenocketti

-----Original Message-----
From: Hodges, Cynthia (C.P.)
Sent: Monday, October 18, 2004 1:27 PM
To: Fenocketti, Mike (L.M.); O'Connor, Tammy (T.A.); Memmer, Mark (M.A.); Repasky, Steve (S.)
Subject: RE: [redacted] TSB 2005 SUPERDUTY F-SERIES -- STEERING WHEEL FIGH (FCSD Global Template v1.2 Notification)

Steve Kenner tells me that the agreement is that we would match the wording of the Econoline one from the past:

Some 2003-2004 E-Series vehicles may exhibit steering wheel nibble (small, rapid, rhythmic back and forth rotation) between 50 and 60 mph. First insure that potential contributors (tire balance, alignment, etc.) are within specifications. If nibble persists, adjust steering gear sector shaft in 45 degree (1/8 turn) clockwise increments (See Workshop Manual section 211-00, Steering Gear Meshload Adjustment, Steps 9 and 11). STEERING RETURNABILITY AFTER ADJUSTMENT MUST BE AS FOLLOWS: Turn steering full lock to lock to confirm no binding. At 10 mph vehicle speed, steering wheel must return to within 10 degrees of center position after 45 degree steering wheel turns in both directions. DO NOT ADJUST SECTOR SHAFT BEYOND MININUM REQUIRED TO REDUCE NIBBLE. In most cases, 1/8 to 1/4 turn should be affective.

Mike, your wording doesn't mention the strong warning about making the adjustment beong the mimimum required. Also, you have said that Super Duty won't pass the test of "At 10 mph vehicle speed, steering wheel must return to within 10 degrees of center position after 45 degree steering wheel turns in both directions". What will it be able to pass? I think we need to be very specific, and I am concerned the wording isn't as specific as we would like. If you could add a specific "At 10 mph vehicle speed, steering wheel must return to within XX degrees of center position after 45 degree steering wheel turns in both directions" that is what we are looking for. Thanks.

Cynthia Protas Hodges
P131 & P356 F Series Super Duty Steering Supervisor

Pickup Truck and Commercial Chassis Engineering
Ford Motor Company

2BA57 Product Development Center
phone/fax: (313) 32-29959
pager: (313) 795-6590 or textpage chodges1 <http://vm5.dearborn.ford.com/cgi/textpage?PAGETO=CHODGES1>
Email:chodges1@ford.com

-----Original Message-----
From: Fenocketti, Mike (L.M.)
Sent: Monday, October 18, 2004 12:09 PM
To: O'Connor, Tammy (T.A.); Memmer, Mark (M.A.); Repasky, Steve (S.); Hodges, Cynthia (C.P.)
Cc: Fenocketti, Mike (L.M.)
Subject: RE: [redacted] TSB 2005 SUPERDUTY F-SERIES -- STEERING WHEEL FIGH (FCSD Global Template v1.2 Notification)
Importance: High

I have updated the TSB wording to address Cindy's concern. My revisions are IN ALL CAPS.

Cindy - if you have any additional questions, please review with Steve or me today, as we owe Tammy the final rewrite by 8 am tomorrow (Tuesday).

Note that the Super Duty as built would often not pass the returnability test you proposed, therefore we have changed the acceptance criteria to be NOT DEGRADED FROM BASELINE (VEHICLE PRIOR TO REPAIR).

Thanks,
Mike Fenocketti

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Wednesday, October 06, 2004 11:13 AM
To: Fenocketti, Mike (L.M.)
Subject: [redacted] TSB 2005 SUPERDUTY F-SERIES -- STEERING WHEEL FIGH (FCSD Global Template v1.2 Notification)

(Begin automated email)

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*** DRAFT ***

This message is being sent on behalf of toconnor to toconnor@ford.com, bhale1@ford.com, mcampb17@ford.com, jsprunge@ford.com, rbardele@ford.com, mfenocke@ford.com, srepasky@ford.com, jbarry@ford.com, jparks1@ford.com, rhallib1@ford.com, mjablon1@ford.com, dyu@ford.com, mmemmer@ford.com, lczarnik@ford.com for purposes of email compatibility. You are requested to provide input to the author of this message. Forward/send any comments to the author of this message only.

Comments:
(no comment)

Author: toconnor
Request Type: TSB
Message Category: Genuine Fix (TSB Only)
Title (subject): 2005 SUPERDUTY F-SERIES -- STEERING WHEEL FIGHT AFTER RIDING OVER BUMPS/RUTS
Applications:
(application 1) 2005 SUPERDUTY F-SERIES

Activity Code: 070 F-SERIES >8500#
QSF/Non-QSF Status: Non-QSF Item
Tracking Number: [redacted]
Is this publication a SPECS concern? No
Does this request supersede an active TSB/SSM/ISM? No
TSBs to supersede:
SSMs to supersede:
Reason for republication: Not applicable
Message Type: Final
Are Service Chemicals being used? No
Other applicable articles:
Date repair procedure was verified: 9/28/2004 11:00:00 AM Procedure verified by CDSID: MFENOCKE Procedure Verification Method: PROCEDURE WAS VERIFIED BY DEALER VISITS WITH ENGINEERING AND FSE. Are parts required? Yes Are illustrations required? No Contact information for additional illustrations:
CDSID:
Name:
Phone:
Illustration notes:

Is Calibration CD required? No
Calibrations:
Has a White Paper or Certification Wire been sent to VEE? N/ADate White Paper or Certification Wire sent to VEE: 12:00:00 AMHave you completed a part request for the calibrations listed? N/ADo you have access to a vehicle for time study? N/AContact for vehicle CDSID: Trustmarks that apply: Ford Article Distribution: WDMO; NA: Canada, Mexico, United States OASIS Service Codes: 303000 Causal Basic Part # or Finis Code: (part or finis 1) 5C7Z-3600-AAA Body: 42

Issue/Cause TSB or SSM Text:
Some 2005 Superduty F-Series vehicles may exhibit steering wheel oscillations immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.) Steering wheel motion is typically in the range of +/- 5 degrees, and typically dampens out in fewer than five oscillations. This phenomenon occurs mostly on 4x4 configurations, and mostly on trucks which have steering wheels with redundant controls (i.e. climate and radio controls). This procedure will MINIMIZE the steering wheel oscillations on impacts. However, there may be some remaining minor oscillations upon completion of the procedure, which would be considered normal.

Repair Action TSB:
Vehicle Inspection and Adjustment, Steering Gear Mesh Load Adjustment, Replacement of Redundant Control Steering Wheel.

Service Procedure TSB:
To Service, perform the following procedure

0) DRIVE EVALUATION OF VEHICLE PRIOR TO REPAIR
- ASK CUSTOMER WHAT TYPE OF ROAD SURFACE AND SPEED GENERATES STEERING WHEEL FIGHT COMPLAINT.
- DRIVE VEHICLE ON SIMILAR ROAD SURFACE AND SPEED, AND NOTE THE SEVERITY OF THE WHEEL FIGHT.
- EVALUATE VEHICLE FOR RETURNABILITY
  - TURN STEERING WHEEL FULL LOCK TO LOCK TO CONFIRM NO BINDING.
  - AT 10 MPH, TURN STEERING WHEEL 45 DEGREES, RELEASE WHEEL, AND NOTE AMOUNT OF RETURN TO CENTER.

1) Vehicle Inspection and Adjustment
- Set tire pressures to placard pressures (located on fuel door).
- Inspect steering damper as-installed for presence of leaks.
- Remove steering damper from vehicle and wipe down (see Workshop Manual Section 211-03 for complete instructions).

- Stroke steering damper for several cycles against the ground.
- Re-inspect steering damper for presence of leaks.
- If leaks are present, install new steering damper.
- Otherwise, re-install existing steering damper.
- Check torques on the front steering system attaching fasteners, and adjust to specification as required.

2) Steering Gear Mesh Load Adjustment
- Remove air cleaner assembly (Diesel Engine only).
- Insert hex socket wrench into steering gear mesh load adjuster screw.
- While holding adjuster screw tight, back off lock nuts at least two full turns to allow free adjustment of adjuster screw.
- A long extension and universal, and a shortened hex socket wrench will simplify the operation.
- Carefully tighten adjuster screw 1/8 to 1/4 turn, or until a slight increase in resistance is felt.
- While holding adjuster screw in place, tighten lock nut. Do not allow adjustment screw to turn while locking nut down.
- Re-install air cleaner assembly (Diesel Engine only).
- Road test vehicle.
  - Evaluate for reduction in steering wheel oscillations immediately following front or rear wheel impacts.
  - Confirm no objectionable INCREASE IN STEERING EFFORTS, ESPECIALLY AT LOW SPEEDS.
- EVALUATE FOR RETURNABILITY
  - TURN STEERING WHEEL FULL LOCK TO LOCK TO CONFIRM NO BINDING.
  - AT 10 MPH, TURN STEERING WHEEL 45 DEGREES, RELEASE WHEEL, AND NOTE AMOUNT OF RETURN TO CENTER.
  - COMPARE TO DRIVE EVALUATION PRIOR TO REPAIR, TO CONFIRM NO DEGRADATION IN RETURNABILITY.
  - IN MOST CASES, 1/8 TO 1/4 TURN SHOULD BE ADEQUATE.
  - DO NOT TIGHTEN MORE THAN REQUIRED TO REDUCE STEERING WHEEL OSCILLATIONS.
- IF NOT, Repeat adjustment process, in 1/8 to 1/4 turn increments, as needed, stopping before there is an objectionable change in steering feel.
- Park the vehicle to let it cool down. Once the vehicle is cold, redrive to confirm acceptable parking efforts and returnability in the cold condition, and repeat the adjustment process as needed.

3) Replacement of Redundant Control Steering Wheel (see workshop manual section 211-04 for complete instructions.
- Remove driver airbag assembly (per workshop manual).
- Remove steering wheel.
- Install new steering wheel 5C7Z-3600-AAA (Tan/Medium Pebble Color-King Ranch) or 5C7Z-3600-CAA (Charcoal Black color).
- Re-install driver airbag assembly (per workshop manual).
- Re-set clear vision as required.

4) For additional information, please refer to Section 211-04 of the 2005 Superduty F-Series Workshop Manual for complete removal and installation procedures for the steering column.

WERS Notice Number, Date Released in WERS

QSF single agenda date/program FRC date: 12:00:00 AM
Parts:
(part 1) STEERING WHEEL ASY 5C74-3F563-AC1D24 1 5C7Z-3600-AAA 4L3 U5MSK H751B
(part 2) STEERING WHEEL ASY 5C74-3F563-AC35B8 1 5C7Z-3600-CAA 4L3 U5MSK H751B

Special instructions/remarks:

Repairs Per 1000 Vehicles: 3
Year(s) of Vehicles: Current Year
Criticality of Fix: Owner irritation

Repair quantity needed as estimated by engineers: 75
Is geographic location significant? No
If Yes, Vehicle Populations:
United States: 200000
Ford of Canada: 50000
Association: 0
Ford of Mexico: 50000
Europe: 0
Direct: 0
Asia/Pacific: 0
South America: 0
WDMO: 0
Aston Martin: 0
Mazda: 0
Ford: 300000
Mercury: 0
Jaguar: 0
Th!nk: 0
Land Rover: 0
Volvo: 0
Lincoln: 0
Nissan: 0
VW: 0

North American Article Number:
Global Article Number:
Reason for Rejection:
Last act taken (as of 06-Oct-2004, 11:13:14 AM): Submit for review

(End automated email)

From: Hale, Curt (B.C.)
Sent: Friday, August 25, 2006 12:27 PM
To: Asay, Larry (L.L.)
Cc: OConnor, Tammy (T.A.)
Subject: RE: 05-06 F250-350 Front-End Shake

Stabilizer don't address this issue unless the stabilizer is defective or damaged. Tire pressure is the primary corrective action.

-----Original Message-----
From: Asay, Larry (L.L.)
Sent: Thu 8/24/2006 11:30 AM
To: Hale, Curt (B.C.)
Cc:
Subject: RE: 05-06 F250-350 Front-End Shake

Curt, If a dealer can put a stabilizer on and send it out the door he will do this without calling the hotline or submitting an EDSR. I think we need to look at our parts sales. I have called several dealers they have replaced quite a few stabilizers I have them checking the level that is failing.

-----Original Message-----
From: Hale, Curt (B.C.)
Sent: Friday, August 18, 2006 8:29 AM
To: Asay, Larry (L.L.); O'Connor, Tammy (T.A.)
Cc: Witthar, Mark (M.B.); Eveland, Marty (M.)
Subject: RE: 05-06 F250-350 Front-End Shake

We need GCQIS reports with a credible business case to drive this issue to engineering. We can't do anything without providing data to engineering anymore.

B. Curtis Hale
FCSD PVT Program Manager
F-Super Duty & Excursion

From: Asay, Larry (L.L.)
Sent: Thursday, August 17, 2006 3:34 PM
To: O'Connor, Tammy (T.A.); Hale, Curt (B.C.)
Cc: Witthar, Mark (M.B.); Eveland, Marty (M.)
Subject: 05-06 F250-350 Front-End Shake

Per your request here is the information. Attached are some E-Mails and pictures. I had some from Canada but you were CC'd on those already. Between My Sales Counterpart and myself we decided it would not be good to go back and ask the fleets for real specific information as it would stir up their concerns even worse. Here are the Fleets with the concerns that I call on and their Ford Truck Count:

Duke- 2200 - Oil Field Services
Charter - 1800
Barrick - Large Gold Mine in Nevada - 100% Ford. Their Cortez Mine is now going to GM because of this issue.
Newmont-Large Gold Mine in Nevada
Kinder Morgan-Pipeline Company
Noble Energy-Oil Field Services
Kerr Mcgee-Oil Field Services - This issue along with the dirt in the fuel tank and canister has them looking at GM

The concerns exist in Extended and Crew Cabs. Gas Engine 5.4L are the most common. Tire Pressure at the high end of the spec will resolve the issue.

<< File: Duke 2.txt >> << File: duke3.txt >> << File: Lews Damper.htm >> << File: RE Dual Steering Shock System.htm >> << File: Tire PN.rtf >>

<< File: DSCF0155.JPG >> << File: DSCF0156.JPG >> << File: DSCF0157.JPG >> << File: DSCF0158.JPG >> << File: DSCF0159.JPG >> << File: DSCF0160.JPG >>

From: Johnston, Steven (S.J.)
Sent: Wednesday, November 02, 2005 11:46 AM
To: Ofstad, Edward (E.N.)
Cc: O'Connor, Tammy (T.A.)
Subject: RE: 05 F 250 crew cab long box road shake.

Sorry Ed, I guess I'm not familiar with this issue or the new shocks? Is this a steering wheel shimmy over bumps? Tammy may have more info since this is more in her area.

Steve Johnston
Product Concern Engineer
Super Duty and Excursion Powertrain
FCSD, Service Engineering Operations
Phone - 313-322-1785

-----Original Message-----
From: Ofstad, Edward (E.N.)
Sent: Wednesday, November 02, 2005 9:45 AM
To: Johnston, Steven (S.J.)
Subject: 05 F 250 crew cab long box road shake.

Steve, In our previous communication regarding this concern it was stated that a new shock will be available for this concern around the 5th of December. I have 2 of these units, one in Salem South Dakota and the other in Sioux City Iowa. Both are on the verge of becoming a buyback and I was on an official tech assist in Salem yesterday. TSB 05-22-1 had been completed but the caster was 3.7 degrees positive and the article states to make it minimal. This will be done but the other unit which has had all the TSB completed still experiences the concern with zero caster. The tire pressures have been run from 45-75, different tires and wheels, new shocks front and rear, torqued the front end all to no avail. This truck demonstrates the concern at 75 mph and up, the speed limit out here, and on any road surface that has breaks in it. The customer states that for the first 5000 miles this truck did not demonstrate any concern and now he and his wife want out of the unit. If we could get 2 sets of the new shocks we might be able to salvage both customers. Please let me know if this is possible.

From: Hasselbring, D Blake (D.B.)
Sent: Friday, July 15, 2005 4:11 PM
To: Landis, Kenneth (K.M.)
Cc: Petersen, Donald (D.R.); Gompper, Dan (D.B.); Memmer, Mark (M.A.); Griebe, Thomas (T.W.); Mongold, Brian (B.D.)
Subject: RE: 07 U22X Steering Wheel NVH Targets / Status

Ken,

Can we get statistical data from the supplier on what the mass and PMOI status is for the CP level parts?

I am glad to have the target, but I need to know where we actually are for CP for the various steering wheel designs.

As I said in a previous email, several of the trucks are showing significant wheel fight. I don't know yet what the root cause is.

Also, I don't understand from the note below why the U22x target doesn't match either the U222 or U228 numbers for mass or PMOI. Shouldn't it match at least one of them? If the U22x target is supposed to be different than U222 and U228 than I don't know what it represents.

D. Blake Hasselbring
Ford Motor Company
VVWD Affinity / 2007 P356 NVH
Pickup & Commercial Vehicle
Body / Chassis & Road NVH Design
Dearborn Office: PDC 2D-F62
Cell Phone: [redacted]
Email: dhasselb@ford.com

-----Original Message-----
From: Landis, Kenneth (K.M.)
Sent: Friday, July 15, 2005 2:29 PM
To: Hasselbring, D Blake (D.B.)
Subject: FW: 07 U22X Steering Wheel NVH Targets / Status

Blake,

The U222 steering wheel is common with P356. See PMOI and mass below.

Kenneth M. Landis
North American Engineering - Occupant Safety Systems
Ford Motor Company
Ph: (313) 32-21301

-----Original Message-----
From: Zidzik, Alan (A.B.)
Sent: Monday, April 04, 2005 9:28 AM
To: Radcliffe, James (J.S.); Egnot, Tim (T.A.); Schettler, Richard (R.L.)
Subject: 07 U22X Steering Wheel NVH Targets / Status

Hello,

Attached is some info on the 2007 U22X steering wheels.

Key points:

Both the 2007 U222 & U228 diameters are 15 3/4"

2007 U22X polar moment of inertia target is 48 g m^2
2007 U222 polar moment of inertia is 50.9 g m^2
2007 U228 polar moment of inertia is 51.3 g m^2

2007 U22X weight target is 3.86 kg
2007 U222 weight is 4.23 kg
2007 U228 weight is 4.21 kg

Jim - I'm still trying to get the info on the P415 steering wheel.

Alan B. Zidzik
T1 Vehicle Integration
313-805-2756

-----Original Message-----
From: Landis, Kenneth (K.M.)
Sent: Monday, April 04, 2005 9:16 AM
To: Zidzik, Alan (A.B.)
Subject: 07 U22X NVH Targets / Status

<< File: T1 NVH Targets and status.xls >>

Kenneth M. Landis
North American Engineering - Occupant Safety Systems
Ford Motor Company
Ph: (313) 32-21301

From: Gompper, Dan (D.B.)
Sent: Tuesday, February 13, 2007 10:52 AM
To: O'Connor, Tammy (T.A.); Chiang, John (J.)
Cc: Repasky, Steve (S.); Hasselbring, D Blake (D.B.); Hale, Curt (B.C.)
Subject: RE: 9 Hz Damper TSB for Short wheelbase gas 4x2 units

John -- Was the damper service kit placed in "R" status? I believe so, but looking for confirmation.

Tammy - if it is in R status, can I get a timing estimate?

Thanks,

Dan Gompper
SuperDuty Vehicle Dynamics Supervisor
EVB 2E-L01
Cellphone: [redacted]
Email: dgompper@ford.com
text page: [redacted]@sprintpcs.messaging.com

From: O'Connor, Tammy (T.A.)
Sent: Wednesday, February 07, 2007 10:43 AM
To: Gompper, Dan (D.B.)
Cc: Repasky, Steve (S.); Hasselbring, D Blake (D.B.); Hale, Curt (B.C.)
Subject: RE: 9 Hz Damper TSB for Short wheelbase gas 4x2 units

Dan:

I just met with our group that does the time study for TSBs. I have a few simple changes to make to the TSB (to reduce the cost of labor), and the time study should be done in a 2-3 days. Then it has to complete the approval process -- the shimmy TSB should be released within 2 weeks maximum (probably before though - latest would be 2/21, probably by the 16th.

I cannot give you timing on the HOP TSB, until Service Kit is at "R" status. I have actaully submitted the TSB, but nothing can proceed until the kit is at "R" status. I need to be notified when that happens. That really kicks off PS&L to get the process kicked off to get the kit assembled and packaged by third party.

Please feel to contact me with any other questions you may have.

Tammy A. O'Connor
Product Concern Engineer
FCSD Service Engineering Operations
Super Duty F-Series
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Gompper, Dan (D.B.)
Sent: Wednesday, February 07, 2007 10:36 AM
To: O'Connor, Tammy (T.A.)
Cc: Repasky, Steve (S.); Hasselbring, D Blake (D.B.)
Subject: FW: 9 Hz Damper TSB for Short wheelbase gas 4x2 units

Tammy,

Do you have timing for the final release of the two outstanding Superduty TSBs?

1. Steering Vibration (done for our part)
2. 46mph Hopping (still need our involvement for concurrance on final wording)

Thanks,

Dan Gompper
SuperDuty Vehicle Dynamics Supervisor
EVB 2E-L01
Cellphone: [redacted]
Email: dgompper@ford.com
text page: [redacted]@sprintpcs.messaging.com

From: Gompper, Dan (D.B.)
Sent: Wednesday, February 07, 2007 10:33 AM
To: Choe, Mark (M.J.); Frantzeskakis, Petros (Peter.)
Cc: Hasselbring, D Blake (D.B.); Repasky, Steve (S.)
Subject: RE: 9 Hz Damper TSB for Short wheelbase gas 4x2 units

The steering vibration TSB is complete and FCSD is determining final charges that dealers can bill. For our part, it is done. I would expect final release to the dealer within 1 to 2 weeks.

The 46mph hopping is being put in to the final format / wording by FCSD and service based on our initial write-up. We have reviewed their final draft once and have asked for slight modifications. I believe the final dealer charges have already been determined, so after our final review of their wording, it should be out the door as well. I will check with FCSD on the timing for this one.

Dan Gompper
SuperDuty Vehicle Dynamics Supervisor
EVB 2E-L01
Cellphone: [redacted]
Email: dgompper@ford.com
text page: [redacted]@sprintpcs.messaging.com

From: Choe, Mark (M.J.)
Sent: Wednesday, February 07, 2007 10:28 AM
To: Gompper, Dan (D.B.); Frantzeskakis, Petros (Peter.)
Cc: Hasselbring, D Blake (D.B.); Repasky, Steve (S.)
Subject: RE: 9 Hz Damper TSB for Short wheelbase gas 4x2 units

OK but we need to release the 46 mph and steering wheel vibration (08 damper) TSB asap.
What else do we need to do and when will we release it?

Mark J. Choe
Vehicle Dynamics Manager
Body on Frame Programs

From: Memmer, Mark (M.A.)
Sent: Thursday, October 21, 2004 8:36 AM
To: Hodges, Cynthia (C.P.); Fenocketti, Mike (L.M.)
Cc: Repasky, Steve (S.); Gompper, Dan (D.B.); Kalis, Eric (E.L.); Bunker, Christopher (C.)
Subject: RE: [redacted] TSB 2005 SUPERDUTY F-SERIES -- STEERING WHEEL FIGH (FCSD Global Template v1.2 Notification)

Cindy-- If I had to give you a superduty number for that requirement a majority of vehicles would be "At 10 mph vehicle speed, steering wheel must return to within 45 deg of center position after 45 degrees steering wheel turns in both directions" We have very little returnability at that speed and angle. Also, how much time is it given to return? Econoline is in the same boat. I doubt that requirement would/can apply to that platform. Our Veh Dyn returnability testing has percent return of wheel at a given vehicle speed and g level. i.e.. X percent return at 30mph .1g, LH and RH turns. This test requires a straightaway and DIVAS. Not suitable for public testing. Variability between vehicles due to weight, wheelbase, tire size, caster, friction can be as much as 20%

My vote is to check the vehicle before adjustment at 30mph and 45 deg and do not degrade returnability from that point. I do not see how we can give the dealer a reliable way to measure the vehicle objectively.

Mark Memmer
2007 P356 Vehicle Dynamics
MMEMMER@Ford.Com
Tel: (313) 59-41746
Page (313) 795-3661

-----Original Message-----
From: Hodges, Cynthia (C.P.)
Sent: Wednesday, October 20, 2004 5:32 PM
To: Fenocketti, Mike (L.M.)
Cc: O'Connor, Tammy (T.A.); Memmer, Mark (M.A.); Repasky, Steve (S.)
Subject: RE: [redacted] TSB 2005 SUPERDUTY F-SERIES -- STEERING WHEEL FIGH (FCSD Global Template v1.2 Notification)

Mike -

I realize the Econoline TSB was for a different issue, but the agreement is that we would use the same verbiage because it is a past precedent. Therefore, like the Econoline TSB, we need to quantify the max allowable effect on returnability in a measurable way so the technician verify that returnability is not degraded. I suggest we determine what XX is: "At 10 mph vehicle speed, steering wheel must return to within XX degrees of center position after 45 degree steering wheel turns in both directions" . How long would it take you to determine that?

Cynthia Protas Hodges
P131 & P356 F Series Super Duty Steering Supervisor
Pickup Truck and Commercial Chassis Engineering
Ford Motor Company

2BA57 Product Development Center
phone/fax: (313) 32-29959
pager: (313) 795-6590 or textpage chodges1 <http://vm5.dearborn.ford.com/cgi/textpage?PAGETO=CHODGES1>
Email:chodges1@ford.com

-----Original Message-----
From: Fenocketti, Mike (L.M.)
Sent: Wednesday, October 20, 2004 10:26 AM
To: Hodges, Cynthia (C.P.)
Cc: O'Connor, Tammy (T.A.); Memmer, Mark (M.A.); Repasky, Steve (S.); Fenocketti, Mike (L.M.)
Subject: RE: [redacted] TSB 2005 SUPERDUTY F-SERIES -- STEERING WHEEL FIGH (FCSD Global Template v1.2 Notification)

Cindy, as you requested, I added a line below, "DO NOT TIGHTEN MORE THAN REQUIRED TO REDUCE STEERING WHEEL OSCILLATIONS".

Super Duty is different from E-Series -- Super Duty is bump-induced steering wheel oscillations, as opposed to E-Series smooth road nibble. So what works for E-Series does not necessarily work for Super Duty.

For the wheel fight TSB, it should be sufficient to have the technician verify that returnability is not degraded from the as-received condition. If the vehicle has a returnability issue as received, then that would be a separate repair. We don't know what angle XX equals, but that should not hold up the TSB.

Thanks.
Mike Fenocketti

-----Original Message-----
From: Hodges, Cynthia (C.P.)
Sent: Monday, October 18, 2004 1:27 PM
To: Fenocketti, Mike (L.M.); O'Connor, Tammy (T.A.); Memmer, Mark (M.A.); Repasky, Steve (S.)
Subject: RE: [redacted] TSB 2005 SUPERDUTY F-SERIES -- STEERING WHEEL FIGH (FCSD Global Template v1.2 Notification)

Steve Kenner tells me that the agreement is that we would match the wording of the Econoline one from the past:

Some 2003-2004 E-Series vehicles may exhibit steering wheel nibble (small, rapid, rhythmic back and forth rotation) between 50 and 60 mph. First insure that potential contributors (tire balance, alignment, etc.) are within specifications. If nibble persists, adjust steering gear sector shaft in 45 degree (1/8 turn) clockwise increments (See Workshop Manual section 211-00, Steering Gear Meshload Adjustment, Steps 9 and 11). STEERING RETURNABILITY AFTER ADJUSTMENT MUST BE AS FOLLOWS: Turn steering full lock to lock to confirm no binding. At 10 mph vehicle speed, steering wheel must return to within 10 degrees of center position after 45 degree steering wheel turns in both directions. DO NOT ADJUST SECTOR SHAFT BEYOND MININUM REQUIRED TO REDUCE NIBBLE. In most cases, 1/8 to 1/4 turn should be affective.

Mike, your wording doesn't mention the strong warning about making the adjustment beong the mimimum required. Also, you have said that Super Duty won't pass the test of "At 10 mph vehicle speed, steering wheel must return to within 10 degrees of center position after 45 degree steering wheel turns in both directions". What will it be able to pass? I think we need to be very specific, and I am concerned the wording isn't as specific as we would like. If you could add a specific "At 10 mph vehicle speed, steering wheel must return to within XX degrees of center position after 45 degree steering wheel turns in both directions" that is what we are looking for. Thanks.

Cynthia Protas Hodges
P131 & P356 F Series Super Duty Steering Supervisor

Pickup Truck and Commercial Chassis Engineering
Ford Motor Company

2BA57 Product Development Center
phone/fax: (313) 32-29959
pager: (313) 795-6590 or textpage chodges1 <http://vm5.dearborn.ford.com/cgi/textpage?PAGETO=CHODGES1>
Email:chodges1@ford.com

-----Original Message-----
From: Fenocketti, Mike (L.M.)
Sent: Monday, October 18, 2004 12:09 PM
To: O'Connor, Tammy (T.A.); Memmer, Mark (M.A.); Repasky, Steve (S.); Hodges, Cynthia (C.P.)
Cc: Fenocketti, Mike (L.M.)
Subject: RE: [redacted] TSB 2005 SUPERDUTY F-SERIES -- STEERING WHEEL FIGH (FCSD Global Template v1.2 Notification)
Importance: High

I have updated the TSB wording to address Cindy's concern. My revisions are IN ALL CAPS.

Cindy - if you have any additional questions, please review with Steve or me today, as we owe Tammy the final rewrite by 8 am tomorrow (Tuesday).

Note that the Super Duty as built would often not pass the returnability test you proposed, therefore we have changed the acceptance criteria to be NOT DEGRADED FROM BASELINE (VEHICLE PRIOR TO REPAIR).

Thanks,
Mike Fenocketti

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Wednesday, October 06, 2004 11:13 AM
To: Fenocketti, Mike (L.M.)
Subject: [redacted] TSB 2005 SUPERDUTY F-SERIES -- STEERING WHEEL FIGH (FCSD Global Template v1.2 Notification)

(Begin automated email)

PRIVILEGED AND CONFIDENTIAL
Confidential Information - Do Not Distribute
*** DRAFT ***

This message is being sent on behalf of toconnor to toconnor@ford.com, bhale1@ford.com, mcampb17@ford.com, jsprunge@ford.com, rbardele@ford.com, mfenocke@ford.com, srepasky@ford.com, jbarry@ford.com, jparks1@ford.com, rhallib1@ford.com, mjablon1@ford.com, dyu@ford.com, mmemmer@ford.com, lczarnik@ford.com for purposes of email compatibility. You are requested to provide input to the author of this message. Forward/send any comments to the author of this message only.

Comments:
(no comment)

Author: toconnor
Request Type: TSB
Message Category: Genuine Fix (TSB Only)
Title (subject): 2005 SUPERDUTY F-SERIES -- STEERING WHEEL FIGHT AFTER RIDING OVER BUMPS/RUTS
Applications:
(application 1) 2005 SUPERDUTY F-SERIES

Activity Code: 070 F-SERIES >8500#
QSF/Non-QSF Status: Non-QSF Item
Tracking Number: [redacted]
Is this publication a SPECS concern? No
Does this request supersede an active TSB/SSM/ISM? No
TSBs to supersede:
SSMs to supersede:
Reason for republication: Not applicable
Message Type: Final
Are Service Chemicals being used? No
Other applicable articles:
Date repair procedure was verified: 9/28/2004 11:00:00 AM Procedure verified by CDSID: MFENOCKE Procedure Verification Method: PROCEDURE WAS VERIFIED BY DEALER VISITS WITH ENGINEERING AND FSE. Are parts required? Yes Are illustrations required? No Contact information for additional illustrations:
CDSID:
Name:
Phone:
Illustration notes:

Is Calibration CD required? No
Calibrations:
Has a White Paper or Certification Wire been sent to VEE? N/ADate White Paper or Certification Wire sent to VEE: 12:00:00 AMHave you completed a part request for the calibrations listed? N/ADo you have access to a vehicle for time study? N/AContact for vehicle CDSID: Trustmarks that apply: Ford Article Distribution: WDMO; NA: Canada, Mexico, United States OASIS Service Codes: 303000 Causal Basic Part # or Finis Code: (part or finis 1) 5C7Z-3600-AAA Body: 42

Issue/Cause TSB or SSM Text:
Some 2005 Superduty F-Series vehicles may exhibit steering wheel oscillations immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.) Steering wheel motion is typically in the range of +/- 5 degrees, and typically dampens out in fewer than five oscillations. This phenomenon occurs mostly on 4x4 configurations, and mostly on trucks which have steering wheels with redundant controls (i.e. climate and radio controls). This procedure will MINIMIZE the steering wheel oscillations on impacts. However, there may be some remaining minor oscillations upon completion of the procedure, which would be considered normal.

Repair Action TSB:
Vehicle Inspection and Adjustment, Steering Gear Mesh Load Adjustment, Replacement of Redundant Control Steering Wheel.

Service Procedure TSB:
To Service, perform the following procedure

0) DRIVE EVALUATION OF VEHICLE PRIOR TO REPAIR
- ASK CUSTOMER WHAT TYPE OF ROAD SURFACE AND SPEED GENERATES STEERING WHEEL FIGHT COMPLAINT.
- DRIVE VEHICLE ON SIMILAR ROAD SURFACE AND SPEED, AND NOTE THE SEVERITY OF THE WHEEL FIGHT.
- EVALUATE VEHICLE FOR RETURNABILITY
  - TURN STEERING WHEEL FULL LOCK TO LOCK TO CONFIRM NO BINDING.
  - AT 10 MPH, TURN STEERING WHEEL 45 DEGREES, RELEASE WHEEL, AND NOTE AMOUNT OF RETURN TO CENTER.

1) Vehicle Inspection and Adjustment
- Set tire pressures to placard pressures (located on fuel door).
- Inspect steering damper as-installed for presence of leaks.
- Remove steering damper from vehicle and wipe down (see Workshop Manual Section 211-03 for complete instructions).

- Stroke steering damper for several cycles against the ground.
- Re-inspect steering damper for presence of leaks.
- If leaks are present, install new steering damper.
- Otherwise, re-install existing steering damper.
- Check torques on the front steering system attaching fasteners, and adjust to specification as required.

2) Steering Gear Mesh Load Adjustment
- Remove air cleaner assembly (Diesel Engine only).
- Insert hex socket wrench into steering gear mesh load adjuster screw.
- While holding adjuster screw tight, back off lock nuts at least two full turns to allow free adjustment of adjuster screw.
- A long extension and universal, and a shortened hex socket wrench will simplify the operation.
- Carefully tighten adjuster screw 1/8 to 1/4 turn, or until a slight increase in resistance is felt.
- While holding adjuster screw in place, tighten lock nut. Do not allow adjustment screw to turn while locking nut down.
- Re-install air cleaner assembly (Diesel Engine only).
- Road test vehicle.
  - Evaluate for reduction in steering wheel oscillations immediately following front or rear wheel impacts.
  - Confirm no objectionable INCREASE IN STEERING EFFORTS, ESPECIALLY AT LOW SPEEDS.
- EVALUATE FOR RETURNABILITY
  - TURN STEERING WHEEL FULL LOCK TO LOCK TO CONFIRM NO BINDING.
  - AT 10 MPH, TURN STEERING WHEEL 45 DEGREES, RELEASE WHEEL, AND NOTE AMOUNT OF RETURN TO CENTER.
  - COMPARE TO DRIVE EVALUATION PRIOR TO REPAIR, TO CONFIRM NO DEGRADATION IN RETURNABILITY.
  - IN MOST CASES, 1/8 TO 1/4 TURN SHOULD BE ADEQUATE.
  - DO NOT TIGHTEN MORE THAN REQUIRED TO REDUCE STEERING WHEEL OSCILLATIONS.
- IF NOT, Repeat adjustment process, in 1/8 to 1/4 turn increments, as needed, stopping before there is an objectionable change in steering feel.
- Park the vehicle to let it cool down. Once the vehicle is cold, redrive to confirm acceptable parking efforts and returnability in the cold condition, and repeat the adjustment process as needed.

3) Replacement of Redundant Control Steering Wheel (see workshop manual section 211-04 for complete instructions.
- Remove driver airbag assembly (per workshop manual).
- Remove steering wheel.
- Install new steering wheel 5C7Z-3600-AAA (Tan/Medium Pebble Color-King Ranch) or 5C7Z-3600-CAA (Charcoal Black color).
- Re-install driver airbag assembly (per workshop manual).
- Re-set clear vision as required.

4) For additional information, please refer to Section 211-04 of the 2005 Superduty F-Series Workshop Manual for complete removal and installation procedures for the steering column.

WERS Notice Number, Date Released in WERS

QSF single agenda date/program FRC date: 12:00:00 AM
Parts:
(part 1) STEERING WHEEL ASY 5C74-3F563-AC1D24 1 5C7Z-3600-AAA 4L3 U5MSK H751B
(part 2) STEERING WHEEL ASY 5C74-3F563-AC35B8 1 5C7Z-3600-CAA 4L3 U5MSK H751B

Special instructions/remarks:

Repairs Per 1000 Vehicles: 3
Year(s) of Vehicles: Current Year
Criticality of Fix: Owner irritation

Repair quantity needed as estimated by engineers: 75
Is geographic location significant? No
If Yes, Vehicle Populations:
United States: 200000
Ford of Canada: 50000
Association: 0
Ford of Mexico: 50000
Europe: 0
Direct: 0
Asia/Pacific: 0
South America: 0
WDMO: 0
Aston Martin: 0
Mazda: 0
Ford: 300000
Mercury: 0
Jaguar: 0
Th!nk: 0
Land Rover: 0
Volvo: 0
Lincoln: 0
Nissan: 0
VW: 0

North American Article Number:
Global Article Number:
Reason for Rejection:
Last act taken (as of 06-Oct-2004, 11:13:14 AM): Submit for review

(End automated email)

From: Schemanske, Jennifer (J.H.)
Sent: Thursday, February 26, 2004 2:30 PM
To: Borges, Claudia (C.R.)
Cc: Bowes, Gary (G.R.); Finkbeiner, Butch (D.E.)
Subject: RE: [redacted]5 final

If we can get the steering linkage shipped out by Monday, ok to remove after residual testing. If it will be later than that, please return before residual testing is complete.

Eric,
After steering cycles, 2 engineers are planning to use this truck. 1) Dave Erwin is fabricating an a/c splash shield and has requested salt splash video, more details will be coming from Jim when plans are confirmed and 2) Brett Mazany will be out at APG 3/15 for rear spring clearance (note sent yesterday).

Jennifer Schemanske
P131 Durability Verification
(313) 323-8906

-----Original Message-----
From: Borges, Claudia (C.R.)
Sent: Thursday, February 26, 2004 1:32 PM
To: Schemanske, Jennifer (J.H.)
Cc: Bowes, Gary (G.R.); Finkbeiner, Butch (D.E.)
Subject: RE: [redacted]final
Importance: High

Hey Jen ~ remember Dave Willmer said he wanted the steering linkage off of this vehicle when it finishes for residual testing. Do we want to do that before or after oscillation test? I'm inclined to say after. What do you think?

Claudia R. Borges
(The Surgeon General Said Nothing About Smoking the Competition!!!)
Steering & Front Suspension ~ Durability; Heat Management
Phone #: 928.753.7309
Fax #: 928.753.7213

-----Original Message-----
From: Bowes, Gary (G.R.)
Sent: Thursday, February 26, 2004 10:46 AM
To: Finkbeiner, Butch (D.E.); Borges, Claudia (C.R.); Schemanske, Jennifer (J.H.)
Subject: [redacted]final

[redacted] has completed structures. I have issued a final inspection package. When the inspection is complete - vehicle will be rigged for and run the oscillation test.

GB for E Stalnaker

Gary Bowes
Arizona Proving Grounds
Test Coordination Unit
Ford Line: 91-753-7316
or toll free: 1-877-837-8274 X-7316

Mailto:gbowes@ford.com

APG external web site:
WWW.TESTAPG.COM

Men occasionally stumble over the truth,
but most of them pick themselves up and
hurry off as if nothing ever happened.

Winston Churchill

From: Memmer, Mark (M.A.)
Sent: Wednesday, January 28, 2004 7:30 AM
To: Mayer, Paul (P.A.); Schemanske, Jennifer (J.H.); Hodges, Cynthia (C.P.); Hess, Harry (H.F.); Nantais, Jerry (J.L.); Mazany, Brett (B.P.)
Cc: Bokil, Vijay (V.); Arnold, Bruce (B.C.); Memmer, Mark (M.A.); Wegienka, Michael (M.J.)
Subject: RE: [redacted] Oscillation Test - NEXT TEST ON [redacted]

Paul-- I do not see any problem doing this. Wrong rear spring rate should not effect shimmy. Rear shock length will be too long. Might bottom out over severe rear impact. I say go with it.

-----Original Message-----
From: Mayer, Paul (P.A.)
Sent: Tuesday, January 27, 2004 4:11 PM
To: Schemanske, Jennifer (J.H.); Hodges, Cynthia (C.P.); Hess, Harry (H.F.); Nantais, Jerry (J.L.); Mazany, Brett (B.P.)
Cc: Bokil, Vijay (V.); Arnold, Bruce (B.C.); Memmer, Mark (M.A.); Wegienka, Michael (M.J.)
Subject: RE: [redacted] Oscillation Test - NEXT TEST ON [redacted]

I have a proposal and I am soliciting feedback to see if I am about to do something really stupid

F350 SRW max caster (5.4) + 1 degree = 6.4 deg …… we just tested 927 at 6.7 deg and passed)
F250 SRW max caster (6.1) + 1 degree = 7.1 deg ……..we have not tested this configuration

However we are not running any f-250 SRW's at APG for durability, so my only option is to do a simulation where I install a 2 " spacer block (replace the 4" F-350 block) on an F-350 durability truck. This lowers the rear end and increases caster by 0.7 degrees. Then I could slot the radius arms to get to 7.1 deg caster.

I propose we do this simulation on [redacted]

This as close as we can come to testing an F-250. But it's still a compromise as this modified truck will not really be an F-250 or an F-350!

And in case you are wondering why I did not push [redacted] to 7.1 degrees. Its because, we had already installed 1 degree slugs, and cut 7mm slots in the rad arms to tip the axle back an extra 2 degrees beyond what the slugs already did. I did not wish to twist the steering/suspension any further

Regards
Paul Mayer
Truck Chassis Systems Integration
313-248-9202 Fax:313-317-2349

-----Original Message-----
From: Mayer, Paul (P.A.)
Sent: Tuesday, January 27, 2004 3:19 PM
To: Borges, Claudia (C.R.); Schemanske, Jennifer (J.H.)
Cc: Rasmussen, Lyle (W.); Finkbeiner, Butch (D.E.); Shaieb, Nick (N.); Hodges, Cynthia (C.P.); Bokil, Vijay (V.); Arnold, Bruce (B.C.); Nantais, Jerry (J.L.); Memmer, Mark (M.A.); Wegienka, Michael (M.J.); Hess, Harry (H.F.); Roth, Frank (F.E.)
Subject: RE: [redacted] Oscillation Test

That's great news that we passed APG shimmy at 6.7 degrees.

I don't see any issue with leaving the rad arms on the truck.

HOWEVER, I have issue with the prototype slugs that Mark Memmer provided. We need to get those off of the truck and get them back to Memmer.
I swore to Mark I would get those back to him.

In regards to other trucks for shimmy test
- [redacted] This is an F-550 that is already planned for shimmy test
- [redacted] I would like to know If I can swap the rear spacer block to the smaller one, and run this truck on shimmy.
The issue for 926 is that I need to run an f-250 on shimmy. However we never run F-250's on APG durability. The key difference for shimmy between the two trucks
is the rear height (the lower block at the rear raises the max caster by 0.7 degrees)
I'll call you to discuss 926

Regards
Paul Mayer
Truck Chassis Systems Integration
313-248-9202 Fax:313-317-2349

-----Original Message-----

From: Borges, Claudia (C.R.)
Sent: Tuesday, January 27, 2004 2:23 PM
To: Mayer, Paul (P.A.); Schemanske, Jennifer (J.H.)
Cc: Rasmussen, Lyle (W.); Finkbeiner, Butch (D.E.); Shaieb, Nick (N.)
Subject: [redacted] Oscillation Test

Paul ~ the Oscillation test at FGAWR w/max caster has been completed. Upon completion of the procedure, the driver reported that the vehicle does not have any evidence of shimmy. I assume at this time we can proceed with the remaining scheduled tests for this vehicle?

Jennifer ~ what testing is left on the vehicle? We have modified the front radius arms (LHS & RHS) and may have to change them back to get back to normal caster specs; depending on the testing remaining. Please advise so we know if we should change out the radius arms. Thanx!

Claudia R. Borges
(The Surgeon General Said Nothing About Smoking the Competition!!!)
Steering & Front Suspension ~ Durability; Heat Management
Phone #: 928.753.7309
Fax #: 928.753.7213

From: Shaieb, Nick (N.)
Sent: Tuesday, January 27, 2004 2:25 PM
To: Borges, Claudia (C.R.); Mayer, Paul (P.A.); Schemanske, Jennifer (J.H.)
Cc: Rasmussen, Lyle (W.); Finkbeiner, Butch (D.E.); Kiedaisch, Kevin (K.W.)
Subject: [redacted] Oscillation Test

Frontal stone pecking is next for body proveout.

-----Original Message-----
From: Borges, Claudia (C.R.)
Sent: Tuesday, January 27, 2004 2:23 PM
To: Mayer, Paul (P.A.); Schemanske, Jennifer (J.H.)
Cc: Rasmussen, Lyle (W.); Finkbeiner, Butch (D.E.); Shaieb, Nick (N.)
Subject: [redacted] Oscillation Test

Paul ~ the Oscillation test at FGAWR w/max caster has been completed. Upon completion of the procedure, the driver reported that the vehicle does not have any evidence of shimmy. I assume at this time we can proceed with the remaining scheduled tests for this vehicle?

Jennifer ~ what testing is left on the vehicle? We have modified the front radius arms (LHS & RHS) and may have to change them back to get back to normal caster specs; depending on the testing remaining. Please advise so we know if we should change out the radius arms. Thanx!

Claudia R. Borges
(The Surgeon General Said Nothing About Smoking the Competition!!!)
Steering & Front Suspension ~ Durability; Heat Management
Phone #: 928.753.7309
Fax #: 928.753.7213

From: Repasky, Steve (S.)
Sent: Wednesday, October 27, 2004 2:46 PM
To: Reed, Bill (W.P.); Gompper, Dan (D.B.); Page, Michael (M.A.); Jablonski, Mary (M.K.)
Cc: Teeley, Nicole (N.); Mayer, Donna (D.P.); Froehlich, David (D.C.); Hale, Curt (B.C.); O'Connor, Tammy (T.A.); Choe, Mark (M.J.); Fenocketti, Mike (L.M.)
Subject: RE: 2005 Super Duty Wheel Fight

Bill - Sent revised TSB wording to Tammy yesterday. Got a call from FCSD today regarding some clarification of the wording.
They said they may revise some wording and send out for review. Thanks...

-----Original Message-----
From: Reed, Bill (W.P.)
Sent: Wednesday, October 27, 2004 2:23 PM
To: Gompper, Dan (D.B.); Repasky, Steve (S.); Page, Michael (M.A.); Jablonski, Mary (M.K.)
Cc: Teeley, Nicole (N.); Mayer, Donna (D.P.); Froehlich, David (D.C.); Hale, Curt (B.C.)
Subject: 2005 Super Duty Wheel Fight

This is the current status of the wheel fight field concern as reported by FCSD:

TSB submitted for publication, awaiting sign-off on parts. Parts released improperly in WERS, new service part numbers required. TSB revised, awaiting conscienced TSB procedure from engineering. Parts have been ordered by FCSD, awaiting parts to be PPAPd, expected deliver time to FCSD 12/10.

Mary, we incorporated this change under ECN. Based on that and earlier information from Vehicle Engineering, I understood the added mass steering wheel to be PPAP. Please advise if I am not correct. Need to know by COB today (10/27). Please reply to all.

Mike, how many levels of PPAP do we need to have to get service parts to the field? What I am building with today is as good for service as it is for production. What can we do to get the PPAP issue resolved and get parts to FCSD now? Need to know by COB today (10/27). Please reply to all.

Dan, Steve, looks like FCSD is also waiting on you to get the TSB completed. Please get with Curt Hale to get it finalized by COB today (10/27). I need you to follow up on this issue daily and keep it moving. Let me know what the roadblock of the day is. Thanks.

Regards,

Bill Reed **(breed1@ford.com)**

PVT Manager, Kentucky Truck Plant
Phone (502) 429-2586 Fax (502) 429-2111 Page (502) 336-7586
Text page at: 5023367586@airtouchpaging.com

From: O'Connor, Tammy (T.A.)
Sent: Monday, August 29, 2005 8:05 AM
To: McDonald, Joseph (J.)
Cc: Hale, Curt (B.C.)
Subject: Update to TSB 04-26-1

Attachments: tsb04-26-01.pdf

Joe:

Attached is a copy of the TSB 04-26-1 with the suggested revisions in the e-mail below. I have already received a copy of suggested changes from Alex Snider and Randy Corlew which I'm including.

Please send this out with the FQE Assignment I just submitted. Thanks.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thurs,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

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-----Original Message-----
From: Repasky, Steve (S.)
Sent: Friday, August 26, 2005 9:51 AM
To: O'Connor, Tammy (T.A.); Snider, Alex (A.)
Cc: Mayer, Paul (P.A.); Choe, Mark (M.J.); Hatt, Jeffrey (J.M.)
Subject: FW: Update to TSB 04-26-1

Tammy - Below is the proposed wording for a new TSB to address 2005 and 2006 Superduty vehicles with steering wheel oscillations. Please review and provide comment. Thanks...

-----Original Message-----
From: Mayer, Paul (P.A.)
Sent: Friday, August 19, 2005 4:01 PM
To: Repasky, Steve (S.)
Subject: Update to TSB 04-26-1

Under section titled "ACTION", we add

- Reduce front caster by 0.5 to 0.75 degrees.
- Remove the reference to replacement of redundant steering wheel and applicable sections related to the steering wheel replacement?
- If needed, mention if vehicle built prior to 10/8/2004 reference TSB 04-26-1

Under Section titled "SERVICE PROCEDURES", we add

- EMPHASIS on set tire pressure in **BOLD** letters. (Is it still located on fuel door in 2006?)
- Under item 3 (Check torques) we add the radius arm to axle**(Torque spec: 185 ft-lb),** radius arm to frame bracket**(Torques spec: 406 ft-lb). Radius arm frame bracket to frame bolts (Torque spec: 129 ft-lb)**
- A new item 4. Measure wheel alignment. Verify that Front Caster, Camber & Total Toe**(preferred spec .1degree toe in)** is within specification. Adjust to specification as required.

A new section Titled "REDUCE FRONT CASTER"

- Note the current front caster
- Use alignment adjustment bushings to Reduce front caster by 0.5 to 0.75 degrees (however, verify that the new caster setting is not below the lower specification limit).
- Use Alignment adjustment bushings:
  - 4x4: 5C3Z-3B440-DDD (0.75 Degree bushing) OR 5C3Z-3B440-EEE (1.0 degree bushing)
  - 4x2: 5C3Z-3B440-D (0.75 Degree bushing) OR 5C3Z-3B440-E (1.0 degree bushing)
- Maintain the current front camber, cross-camber & cross-caster settings as close as you possibly can.

Regards
Paul Mayer
Truck Suspension and Systems Analysis
313-248-9202 Fax:313-317-2349

-----Original Message-----
From: Snider, Alex (A.)
Sent: Friday, August 26, 2005 10:42 AM
To: Repasky, Steve (S.); Mayer, Paul (P.A.)
Cc: Choe, Mark (M.J.); Hatt, Jeffrey (J.M.); O'Connor, Tammy (T.A.)
Subject: RE: Update to TSB 04-26-1

Pual/Steve, I made a few additions to your changes. I hope you don't mind. I listed the torque spec and also added the left side frame bracket to frame bolts. We had some of the bracket bolts loose. (i.e. at 90-100 ft-lb rather than 129 ft-lb).

The other item I added was the toe spec. Paul at on time mentioned that the toe would be better set at .1 degree toe in. Has that changed?

"Accelerate Growth Through Customer Satisfaction and Loyalty"

Alex Snider
Ford Motor Company of Canada
Technical Service Support Specialist
Outlook ID: asnider@ford.com
Dial net: 853-1485
Outside #: 905-845-2511, ext: 1485

Tammy,
Most of it is good. I have a problem with reducing caster by only .5 to .75 degree? What is the caster is up around 4.00 degrees? At 3.00 degrees most F-Super Duty trucks in the right conditions will shimmy.
My suggestion is drop by .75 degrees on both sides and re-verify the customers concern. If the concern still is there it should reduce the shimmy concern. You can lower the caster to the lowest end of the spec. as long as the vehicle drives correctly and will not wear the tires.
Also we need to suggest to check the loading and conditions the shimmy will occur. Remember adding weight to the back raises the front end which in effect raises caster. In other words is this only occurring when loaded?
Randy Corlew - FSE - Pittsburgh

---

tsb04-26-01.pdf
(16 KB)

STEERING WHEEL OSCILLATION (BACK AND FORTH MOTION) AFTER RIDING OVER BUMPS/RUTS

TSB 04-26-1

FORD:
2005 F-Super Duty

ISSUE

Some 2005 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion) immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on 4x4 vehicles, equipped with steering wheels which have redundant controls (i.e. climate and radio controls).

ACTION

This procedure will minimize the steering wheel oscillations on impacts, however, there may be some remaining minor oscillation which would be considered normal.

Perform the following:

- Vehicle Inspection
- Evaluation Of Vehicle Prior To Repair
- Steering Gear Mesh Load Adjustment
- Replacement Of Redundant Control Steering Wheel (if equipped and vehicle built prior to 10/8/04)

SERVICE PROCEDURE

VEHICLE INSPECTION

1. Set tire pressures as indicated on the vehicle label (located on fuel door).
2. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
    a. If leaks are present, install a new steering damper and continue with this TSB.
    b. If no leaks are present, continue with this TSB.
3. Check torques on the steering system fasteners (damper nuts (4x2), damper-to-bracket (F-250, F-350 4x4), damper-to-drag link, drag link-to-pitman arm nut, inner tie-rod end nut, outer tie-rod end nuts, and track bar bracket-to-frame nuts & bolts), adjust to specification as required. Refer to Workshop Manual Section 211-03.

EVALUATION OF VEHICLE PRIOR TO REPAIR

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the severity of wheel oscillation.
3. During the road test, evaluate and note the steering wheel return-ability.
    a. Turn steering wheel full lock to lock to confirm no binding.
    b. Locate center, and then 45 degrees either side of center on the steering wheel.
    c. Driving vehicle at 35 MPH (56 Km/h), on a dry and flat road surface, turn the wheel 45 degrees and release. Note the approximate angle that the steering wheel returns to BEFORE CLEAR VISION. Perform and record the angle for both left and right. It is normal if the angle differs slightly from left to right.

STEERING GEAR MESH LOAD ADJUSTMENT

1. Insert hex wrench into steering gear mesh load adjuster screw.
2. While holding the mesh load adjuster screw tight, back off lock nuts two full turns to allow free movement of the adjuster screw.

NOTE: The information in Technical Service Bulletins is intended for use by trained, professional technicians with the knowledge, tools, and equipment to do the job properly and safely. It informs these technicians of conditions that may occur on some vehicles, or provides information that could assist in proper vehicle service. The procedures should not be performed by "do-it-yourselfers". Do not assume that a condition described affects your car or truck. Contact a Ford, Lincoln, or Mercury dealership to determine whether the Bulletin applies to your vehicle. Warranty Policy and Extended Service Plan documentation determine Warranty and/or Extended Service Plan coverage unless stated otherwise in the TSB article.The information in this Technical Service Bulletin (TSB) was current at the time of printing. Ford Motor Company reserves the right to supercede this information with updates.The most recent information is available through Ford Motor Company's on-line technical resources.

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3. Carefully tighten adjuster screw until a slight increase in resistance is felt, then back off approximately 1/16th of a turn.
4. Hold the adjuster screw in place and tighten lock nut. Do not allow the adjustment screw to turn while tightening the locking nut down.
5. Road test vehicle and evaluate for improvement in steering wheel oscillations.
   a. Confirm that there is no objectionable increase in steering efforts, especially at low speeds.
   b. Verify that steering wheel return-ability is approximately the same as it was during the original evaluation (within 5 degrees).
   c. Turn steering wheel full lock to lock to confirm no binding.
6. Park the vehicle to let it cool down. Road test cold to confirm acceptable parking efforts and return-ability in cold condition. Repeat the mesh load adjustment if needed.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 Only

NOTE
THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE
FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE 2005 SUPER DUTY F-SERIES WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

PART NUMBER	PART NAME
5C7Z-3600-ABA	Redundant Control Steering Wheel (King Ranch Tan/Peb)
5C7Z-3600-CBA	Redundant Control Steering Wheel (Charcoal Black)

WARRANTY STATUS: Eligible Under Provisions Of New Vehicle Limited Warranty Coverage

OPERATION	DESCRIPTION	TIME
042601A	F-Super Duty With Gas Engine: Perform Inspection/Evaluation, Adjust Mesh Load	2.2 Hrs.
042601A	F-Super Duty With 6.0L Diesel: Perform Inspection/Evaluation, Adjust Mesh Load	3.2 Hrs.
042601B	F-Super Duty With Gas Engine: Perform Inspection/Evaluation, Adjust Mesh Load, And Replace Damper	2.3 Hrs.
042601B	F-Super Duty With 6.0L Diesel: Perform Inspection/Evaluation, Adjust Mesh Load, And Replace Damper	3.2 Hrs.
042601C	F-Super Duty With Gas Engine: Perform Inspection/Evaluation, Adjust Mesh Load, And Replace Steering Wheel	2.8 Hrs.
042601C	F-Super Duty With 6.0L Diesel: Perform Inspection/Evaluation, Adjust Mesh Load, And Replace Steering Wheel	3.6 Hrs.
042601D	F-Super Duty With Gas Engine: Perform Inspection/Evaluation, Adjust Mesh Load, Replace Damper And Steering Wheel	2.9 Hrs.
042601D	F-Super Duty With 6.0L Diesel: Perform Inspection/Evaluation, Adjust Mesh Load, Replace Damper And Steering Wheel	3.7 Hrs.

DEALER CODING

BASIC PART NO.	CONDITION CODE
3600	42

From: O'Connor, Tammy (T.A.)
Sent: Monday, August 29, 2005 3:48 PM
To: Johnson, Dan (D.W.)
Subject: RE: Alignment

Attachments: Update to TSB 04-26-1

Update to TSB
04-26-1

Dan: Please review the original TSB and the revisions in the attached e-mail. If you still have questions after that, call me.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thurs,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

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-----Original Message-----
From: Johnson, Dan (D.W.)
Sent: Monday, August 29, 2005 2:35 PM
To: O'Connor, Tammy (T.A.)
Cc: Johnson, Dan (D.W.)
Subject: Alignment

Tammy,

See below.

My question is on Caster/Camber, etc., split?

Give me some spec's to shoot for.

As Tammy stated, get the tire pressure right

Next Step

- Verify and re-torq if required all frt susp fasteners (track-bar, radius arms, steering gear & bracketry)

Next step

- Tighten the steering gear mesh-load screw per the TSB

Next Step

- Drop the front caster by 0.5 degrees (maintain current Camber,X-camber & X-caster)

Regards
Paul Mayer
Truck Suspension and Systems Analysis
313-248-9202 Fax:313-317-2349

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Thursday, August 25, 2005 1:27 PM
To: Repasky, Steve (S.); Mayer, Paul (P.A.)
Cc: Meier, Kenneth (K.W.); Johnston, Steven (S.J.); Hale, Curt (B.C.)
Subject: RE: Report Summary for the CQIS Report [redacted]

Steve/Paul: I know you are working on updating the TSB, but can you provide recommendations on the below truck. Note line concerning stab. bar.

Any recommendations would be appreciated.

Ken, it is very important that tire pressure be set to spec on door label -- very important.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thurs,Fri)
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-----Original Message-----
From: Meier, Kenneth (K.W.)
Sent: Thursday, August 25, 2005 1:18 PM
To: O'Connor, Tammy (T.A.); Johnston, Steven (S.J.)
Subject: FW: Report Summary for the CQIS Report [redacted]

Tammy and Steven,

Based on the information below, and suggestions on how to correct.

Ken Meier
Commercial Vehicle Operations

Commercial Service Manager
1655 Fairlane Circle, Suite 950-C
Allen Park, Mi 48101
Phone: 313-317-1867 Fax: 313-248-6580

-----Original Message-----
From: Johnson, Dan (D.W.)
Sent: Thursday, August 25, 2005 12:33 PM
To: Meier, Kenneth (K.W.)
Subject: FW: Report Summary for the CQIS Report [redacted]

Ken,

One other piece of info.

The tires were set to: 45 PSI. They were higher.

Teamwork Works!

Dan Johnson
Field Manager
Ford Motor Company
Commercial Vehicle Operations

Phone: 480-964-4592

-----Original Message-----
From: Johnson, Dan (D.W.)
Sent: Thursday, August 25, 2005 9:28 AM
To: Meier, Kenneth (K.W.)
Cc: Johnson, Dan (D.W.)
Subject: RE: Report Summary for the CQIS Report [redacted]

Ken,

Here are the spec's.

Alignment:

Left Front.

Camber: +0.00

Caster: +2.82

Right Front:

Camber: +0.09

Caster: +2.97

Toe was at: +1/32"

We did find something curious. The front stabilizer bar, **on unit,** is a: **(eng.#)** 5C34-5494-CC

The v-bom calls for a **(eng.#)** 5C34-5A771-FA **(serv. #)** 5C3Z-5A772-FA

The unit is being held until further notice from us.

Teamwork Works!

Dan Johnson
Field Manager
Ford Motor Company
Commercial Vehicle Operations

Phone: 480-964-4592

-----Original Message-----
From: Meier, Kenneth (K.W.)
Sent: Wednesday, August 24, 2005 10:52 AM
To: Johnson, Dan (D.W.)
Subject: Report Summary for the CQIS Report#5HXFM001

Dan, Please advise to the findings of the dealership after they check this out again.

Attachments : 0

Report# :	[redacted] 1 FLEET			**Received:**	08/24/2005
CCRG/EPRC:		**Reviewed Status:**		**Date:**	
Vehicle:	2005,F250 4X4,SUP CAB,SRW ,1FTSX215 75[redacted] 5			**Build Date:**	04/15/2005
Odometer :	3,570 M	**Engine:**	MOD 5.4 3V	**Calibration:**	5F714N0A
Transmission:	5R110W	**Axle:**		**A/C:**	YES
Dealer:	USA 60347 FORD MOTOR CO. FPSDGO FLT SVC			**Phone#:**	
City:	Dearborn	**State:**	Michigan	**Country :**	USA
Originator:	DAN JOHNSON				
Symptom:	3 03 1 56 CHASS.,S TRG/HAN DLING ,FUNCTIO N,WANDE R				
Status:					

VFG: V87 STEERING

Additional Symptom: STEERING OSCILLATION

Fix:

Causal Component :

Condition Code:

Fleet Nbr: NOFIN 0016988

Fleet Name: DEPARTMENT OF TRANSPORTATION

Phone: (111) 111 - 1111 **City:** PHOENIX **State:** AZ

Specl: KEN MEIER **Specl Phone:** (313) 317 - 1867

Comments :

CONCER 08/24/2005 01:49PM KEN MEIER MSS - FCSD - CVO
FLEET CUSTOMER, ARIZONA DEPARTMENT OF TRANSPORTATION, EXPERIENCING
FRONT END STEERING OSCILLATION. DRIVER COMPLAINS WHEN DRIVING AT
HIGHWAY SPEEDS VEHICLE FRONT END FEELS A LITTLE LOOSE. GETS VERY BAD
WHEN YOU HIT RUTS IN THE ROAD. THE VEHICLE WILL SHAKE LIKE A LEAF.
DEALERSHIP HAS TEST DRIVEN THE VEHICLE TO VERIFY THE CONCERN. IF YOU
ARE NOT PREPARED FOR WHAT IS ABOUT TO HAPPEN WHEN YOU HIT A RUT IN THE
ROAD, IT WILL TAKE YOU INTO THE NEXT LANE. WE HAVE ADVISE CVO FIELD
MANAGER TO TAKE VEHICLE BACK INTO DEALERSHIP, AND CHECK ALIGNMENT
SPECS, FRONT END DAMPNER SHOCK, AND CHECK TIRE AIR PRESSURE CORRECT
PRESSURE SETTINGS. IF TIRE PRESSURE BELOW SET TO REQUIREMENTS AND ROAD
TEST AGAIN. WE ARE SEEING WHERE FLEETS ARE RUNNING TIRE PRESSURE AT
LOWER SETTINGS TO GET A SOFTER RIDE, AND THIS HAS BEEN A CONTRIBUTING
FACTOR.

Teamwork Works!

Dan Johnson
Field Manager
Ford Motor Company
Commercial Vehicle Operations

Phone: 480-964-4592

From: Repasky, Steve (S.)
Sent: Thursday, August 10, 2006 10:07 AM
To: O'Connor, Tammy (T.A.)
Subject: RE: Broadcast message

Thanks…what's a BCM? And who does it go to?

From: O'Connor, Tammy (T.A.)
Sent: Thursday, August 10, 2006 10:04 AM
To: Repasky, Steve (S.)
Subject: FW: Broadcast message

FYI.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Naley, Vernon (V.K.)
Sent: Thursday, August 10, 2006 10:03 AM
To: O'Connor, Tammy (T.A.)
Subject: RE: Broadcast message

A BCM went out with the TSB when it was released. We don't do follow-up BCMs after a TSB or SSM is announced.

Regards,

Vernon K. Naley

Global Technical Communications
SEO/Technical Support Operations
Ford Customer Service Division
Phone: (313)390-9283 FAX: (313)390-8518
E-Mail: vnaley@ford.com

From: O'Connor, Tammy (T.A.)
Sent: Thursday, August 10, 2006 10:01 AM
To: Naley, Vernon (V.K.)
Subject: RE: Broadcast message

We already have a TSB on the issue. I don't think we want to do an SSM also.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)

313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Naley, Vernon (V.K.)
Sent: Thursday, August 10, 2006 9:53 AM
To: O'Connor, Tammy (T.A.)
Subject: RE: Broadcast message

He would need to author an SSM and then a BCM would go out announcing the SSM.

A stand alone BCM is only used for Recall announcements and NON Technical items.

Regards,

Vernon K. Naley

Global Technical Communications
SEO/Technical Support Operations
Ford Customer Service Division
Phone: (313)390-9283 FAX: (313)390-8518
E-Mail: vnaley@ford.com

From: O'Connor, Tammy (T.A.)
Sent: Thursday, August 10, 2006 9:47 AM
To: Naley, Vernon (V.K.)
Subject: Broadcast message

Vern:

Who authorizes a broadcast message?

An Engineer wants to send out a message on Tire Pressure on Super Duty -- due to the number of complaints on the Steering Wheel Oscillation.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Repasky, Steve (S.)
Sent: Thursday, August 10, 2006 10:17 AM
To: O'Connor, Tammy (T.A.)
Subject: RE: Broadcast message

I can send a summary of TGW verbatims from GQRS if needed…thanks..

From: O'Connor, Tammy (T.A.)
Sent: Thursday, August 10, 2006 10:13 AM
To: Naley, Vernon (V.K.); Repasky, Steve (S.); Welch, Sharon (S.L.)
Subject: RE: Broadcast message

Steve: Please see suggestion below.

Sharon: What do you think about doing WAN/ARN for this?

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Naley, Vernon (V.K.)
Sent: Thursday, August 10, 2006 10:11 AM
To: O'Connor, Tammy (T.A.)
Subject: FW: Broadcast message

Tammy,

If this is a high cost warranty issue, you could contact Pam Lovell and suggest that the Warranty Strike force Team publish a WAN or ARN message highlighting the importance of the TSB procedures.

Regards,

Vernon K. Naley

Global Technical Communications
SEO/Technical Support Operations
Ford Customer Service Division
Phone: (313)390-9283 FAX: (313)390-8518
E-Mail: vnaley@ford.com

From: O'Connor, Tammy (T.A.)
Sent: Thursday, August 10, 2006 10:01 AM
To: Naley, Vernon (V.K.)
Subject: RE: Broadcast message

We already have a TSB on the issue. I don't think we want to do an SSM also.

Tammy A. O'Connor
Product Concern Engineer

FCSD, Service Engineering Operations
Super Duty F-Series / Excursion
Body / Chassis / Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Naley, Vernon (V.K.)
Sent: Thursday, August 10, 2006 9:53 AM
To: O'Connor, Tammy (T.A.)
Subject: RE: Broadcast message

He would need to author an SSM and then a BCM would go out announcing the SSM.

A stand alone BCM is only used for Recall announcements and NON Technical items.

Regards,

Vernon K. Naley

Global Technical Communications
SEO/Technical Support Operations
Ford Customer Service Division
Phone: (313)390-9283 FAX: (313)390-8518
E-Mail: vnaley@ford.com

From: O'Connor, Tammy (T.A.)
Sent: Thursday, August 10, 2006 9:47 AM
To: Naley, Vernon (V.K.)
Subject: Broadcast message

Vern:

Who authorizes a broadcast message?

An Engineer wants to send out a message on Tire Pressure on Super Duty -- due to the number of complaints on the Steering Wheel Oscillation.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series / Excursion
Body / Chassis / Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Gompper, Dan (D.B.)
Sent: Monday, October 02, 2006 7:44 AM
To: Masel, Dennis (D.M.); Lam, Hao (H.C.); Hearn, Chet (C.); Wegienka, Michael (M.J.)
Subject: RE: Channels for ODS

Thanks Dennis.

I'd like to add pitman arm lateral (you've got sector shaft already) so that we can pick up the rotational input into the steering gear.

Additionally, we need significantly more focus on the frame compliance, both locally at the steering gear and damper, but also down the rails and between the front crossmember. Remember that the rear tire pressure has been found to be significant, so we must assume that the rear suspension, and therefore the frame, is contributing to the total vehicle mode.

I'm open to a second data collection that specifically targets the frame, however. Might be good to collect the "classic" shimmy with the suspension data collection, and isolate the frequency of concern, then attack the frame.

The frame and brackets are the only real tuning parameter that we have in the short term, so I'm hoping we can gain incremental improvements to at least Dodge levels through some local stiffening actions.

Mike, Hao -- comments? Please share with Dennis.

Dan Gompper
SuperDuty Vehicle Dynamics Supervisor
EVB 2E-L01
Cellphone: (313) 805-2039
Email: dgompper@ford.com

From: Masel, Dennis (D.M.)
Sent: Friday, September 29, 2006 3:13 PM
To: Lam, Hao (H.C.); Hearn, Chet (C.); Gompper, Dan (D.B.); Wegienka, Michael (M.J.)
Subject: Channels for ODS

This is a first cut at the channels.

<< File: Shimmy ODS channels.xls >>

Dennis M. Masel

Core Vehicle Dynamics
Pager & Phone Number: 313-805-2209
text pager: dmasel

From: Klump, Robert (R.F.)
Sent: Thursday, August 03, 2006 1:47 PM
To: Naley, Vernon (V.K.); O'Connor, Tammy (T.A.); Nagy, Vic (V.A.)
Subject: RE: Check aging rep. 063-063 [TSB 06-15-1]

To All,

TSB 06-15-1 will be modified by Brown Art so when it goes out in Canada (paper version) the miles will be converted to kilometers. The Canadian web version will be changed as well. No need to republish the TSB. Thanks.

Regards,
Bob Klump
Global Technical Communications - FCSD
Technical Editor – TSB

☎ 313.390.3489

From: Naley, Vernon (V.K.)
Sent: Wednesday, August 02, 2006 4:14 PM
To: Klump, Robert (R.F.)
Cc: Nagy, Vic (V.A.); O'Connor, Tammy (T.A.)
Subject: FW: Check aging rep. 063-063 [TSB 06-15-1]

Bob,

This is the open SPECs case on TSB 06-15-1 we discussed. After you talk to Ford of Canada, let me know if the TSB is going to be re-published or left as is. Thank you.

Regards,

Vernon K. Naley

Global Technical Communications
SEO/Technical Support Operations
Ford Customer Service Division
Phone: (313)390-9283 FAX: (313)390-8518
E-Mail: vnaley@ford.com

From: French, Jeff (J.)
Sent: Wednesday, August 02, 2006 4:06 PM
To: Naley, Vernon (V.K.)
Subject: Check aging rep. 063-063 [TSB 06-15-1]

Best regards,

Jeff French

SPECS Coordinator
jeff@brownart.com
Specs@Ford.com
Office: 313-565-7020
[redacted]

From: Repasky, Steve (S.)
Sent: Friday, June 02, 2006 2:02 PM
To: Ufford, Donald (D.A.); O'Connor, Tammy (T.A.); Arnold, Bruce (B.C.); Menard, Bob (R.J.); Michon, Jim (J.B.)
Cc: Choe, Mark (M.J.); Frantzeskakis, Petros (Peter.); Parekh, Deepak (D.A.); Gompper, Dan (D.B.); Rocco, Julie (J.E.); Hale, Curt (B.C.)
Subject: RE: F-250 front end shaking problem

As noted below in Brenda's e-mail, either Monday June 12th or Tuesday June 13th are the best dates to have the call-in. I reviewed schedules of key participants and will suggest to Brenda the following times for the proposed call-in:

- Monday June 12 either 11:00 - 12:30 or 1:00 - 2:30.
- Tuesday June 13 either 11:00 -12:30 or 4:00 - 5:30.

I know it will be difficult to fit everyone's schedule, but these times seemed to be the most available for a majority of people. I will send a note to Brenda to schedule the call-in and forward the meeting notice to all once I receive it from Brenda. Again, thanks for your participation...

From: Davis, Brenda K. [mailto:Brenda.Davis@bakerhughes.com]
Sent: Thursday, June 01, 2006 4:08 PM
To: Repasky, Steve (S.)
Subject: RE: Superduty Fleet in Canada
Importance: High

Steve,

Thanks so much. I really appreciate your involvement in this matter. I spoke with the stakeholder in Canada this morning after we talked and he is traveling all week next week. Would the 12 or 13 work for your group?

Brenda Davis
Strategic Sourcing Commodity Manager
Fleet & Temporary Services
Baker Hughes Business Support Services
15355 Vantage Parkway West, #300
Houston, TX 77032
Fleet Central - 281-209-7667
281-209-7897 - Fax - 713-625-4374

From: Repasky, Steve (S.)
Sent: Thursday, June 01, 2006 12:01 PM
To: Ufford, Donald (D.A.); O'Connor, Tammy (T.A.); Arnold, Bruce (B.C.); Menard, Bob (R.J.); Michon, Jim (J.B.)
Cc: Choe, Mark (M.J.); Frantzeskakis, Petros (Peter.); Parekh, Deepak (D.A.); Gompper, Dan (D.B.); Rocco, Julie (J.E.); Hale, Curt (B.C.)
Subject: FW: F-250 front end shaking problem

All - I talked with Brenda Davis this morning (11:00) regarding the subject Superduty Fleet. We agreed to have a call-in meeting early next week to understand the exact nature and extent of the concern. Also, Brenda plans to have a particular individual available with specific questions regarding his use of his Superduty fleet vehicle(s).

I assume the following individuals (or knowledgeable reps) are key participants during the call-in:

- Bruce Arnold - Chassis Systems
- Deepak Parekh - Tire Quality (Traction has been mentioned as a concern)
- Bob Menard/Tammy O'Connor - Field Manager/FCSD
- Jim Michon - Fleet Marketing Manager
- Peter Frantzeskakis/Mark Choe - Superduty attribute managers

Requests:

1. Please acknowledge your role and/or suggest other appropriate persons to attend the meeting.
2. Provide me by Friday June 2 Noon - A range of times for early next week to have the call-in e.g. Monday 10-Noon and/or Tuesday 1-3 P.M. I will send the appropriate invitees to Brenda with proposed times and she will set up the conference call on Outlook for early next week.

Your pro-active participation is greatly appreciated. Thank you...

From: Repasky, Steve (S.)
Sent: Thursday, May 25, 2006 11:06 AM
To: O'Connor, Tammy (T.A.)
Subject: RE: F-250 Violent front end shaking problem

Tammy _ I just called Bob Menard and left a message. His phone recording indicated he had a series of mtgs today and may not be able to get to calls. When he does respond, I'll try and get you on the line..

From: O'Connor, Tammy (T.A.)
Sent: Wednesday, May 24, 2006 3:42 PM
To: Repasky, Steve (S.); Menard, Bob (R.J.)
Subject: RE: F-250 Violent front end shaking problem

I work at home tomorrow - call me at 248/814-8698.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Repasky, Steve (S.)
Sent: Wednesday, May 24, 2006 3:28 PM
To: O'Connor, Tammy (T.A.); Menard, Bob (R.J.)
Subject: RE: F-250 Violent front end shaking problem

Bob/Tammy - can we talk on Thursday regarding next steps? Is someone really needed to "experience" the concern? I have assumed it is the same as experienced in Estevan with reduced levels of tire pressures? However, more insight into the "need more traction" would be beneficial. Perhaps a recommended tire change may be needed. Thanks..

From: Ufford, Donald (D.A.)
Sent: Tuesday, May 23, 2006 5:48 PM
To: Repasky, Steve (S.); O'Connor, Tammy (T.A.); Menard, Bob (R.J.); Michon, Jim (J.B.)
Cc: Choe, Mark (M.J.); Rocco, Julie (J.E.); Frantzeskakis, Petros (Peter.)
Subject: RE: F-250 Violent front end shaking problem

Steve - I understand your feedback but what would it take to get one of our experienced engineers up there to experience the issue both from a shimmy perspective and a traction perspective. Given the size of the fleet, a bit of extra attention would help.

From: Repasky, Steve (S.)

Sent: Monday, May 22, 2006 4:08 PM
To: O'Connor, Tammy (T.A.); Menard, Bob (R.J.)
Cc: Mayer, Paul (P.A.); Ufford, Donald (D.A.); Choe, Mark (M.J.); Rocco, Julie (J.E.); Frantzeskakis, Petros (Peter.); Nilles, Tom (T.J.); Dickson, Donna (D.J.)
Subject: FW: F-250 Violent front end shaking problem

Bob/Tammy - As you know, Paul Mayer and I worked together with Bob on our trip to Senchuck Ford in Estevan, Saskatchewan, Canada from August 15-17, 2005. The C. E. Franklin fleet of Superduty vehicles had similar concerns to those noted below (report attached).

As a result of that visit, TSB Article 05-22-1 was issued to cover 2005/06 Superduty vehicles. Part of the TSB reads: "SETTING TIRE PRESSURE TO DOOR SPECIFICATION IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE." I believe all field concerns have been corrected with proper application of the applicable TSB.

As Paul noted below, the released tire pressures are necessary to support the vehicle GAWRs and GVW. As such, a field visit should not be required. As always, we are available to participate in any necessary call-in conferences. Thanks .....

From: Michon, Jim (J.B.)
Sent: Friday, May 19, 2006 4:38 PM
To: Mayer, Paul (P.A.); Rocco, Julie (J.E.); Dickson, Donna (D.J.)
Cc: Fretts, Greg (G.); Menard, Bob (R.J.); Arnold, Bruce (B.C.); Hiltz, Chris (C.M.); Repasky, Steve (S.)
Subject: RE: F-250 Violent front end shaking problem

Paul,

Thanks for the response. I fully understand why you are unable to attend the meeting. Congratulations on the new addition to the family.

I also understand that we may have to tell the customer something that they do not want to hear. However, having an SME at the meeting that can listen to the concern and comment based upon their technical knowledge of the tires/suspension/vehicle would be invaluable at this meeting to maintain the relationship with the customer --- even if we have to tell them (hopefully tactfully) that there is nothing in the near term (or perhaps long term) that we can do to support their request.

Brenda Davis is a key decision maker at Baker Hughes in the determination of which OEM's (Ford, GM, etc.) are chosen to provide vehicles to their operations. I believe supporting her request on this is important to ensure that she remains 'pro-Ford'.

The goal for the meeting would be:

1) Have an SME at the meeting that can actively discuss the concerns and provide feedback. This will certainly help to maintain the relationship; even if we have to tell them what they don't want to hear.
2) Use this meeting to provide definite closure to the concern; i.e. clearly state the reasons why we can, or more likely can not, provide what they are requesting.

The Super Duty team's consideration of this request would be greatly appreciated.

Thanks.

Jim Michon
Truck Fleet Marketing Manager (Ranger, F-150, Super Duty, E-Series)
Ph: (313) 621-2521; Fax: (313) 594-4684

From: Mayer, Paul (P.A.)
Sent: Friday, May 19, 2006 3:22 PM
To: Michon, Jim (J.B.); Rocco, Julie (J.E.); Dickson, Donna (D.J.)
Cc: Fretts, Greg (G.); Menard, Bob (R.J.); Arnold, Bruce (B.C.); Hiltz, Chris (C.M.); Repasky, Steve (S.); Mayer, Paul (P.A.)
Subject: RE: F-250 Violent front end shaking problem

I would prefer not to attend this trip for two reasons
1) Since the last re-org, I no longer work in the truck group. Spending a couple of hours to pass on the history is no problem, but traveling out to the field for a few days is a conflict with my new responsibilities
2) I have a three week old baby at home. So I have a pretty big personal problem with a trip at this time.

Also I do not believe a field trip will resolve this.
- I believe we understand that the fleet wants an over 8500 pick-up that runs on a tire at approx. 50 psi rather than the current 75/80 psi.
  - We do not currently offer this option.
- My gut says that this is possible, but it requires a small program to design & develop this offering (i.e. PDL, budget, headcount, test vehicles, etc.)
  - This is a decision which occurs at a level much higher than the engineer.

An SME in the field is likely going to tell Baker Hughes what they do not want to hear (i.e. you cannot operate this vehicle at 50 psi)

I do not wish to lose these sales, but I do not see how to satisfy this customer without a new offering.

Regards
Paul Mayer
Chassis Systems Engr.
313-248-9202

From: Michon, Jim (J.B.)
Sent: Friday, May 19, 2006 9:31 AM
To: Rocco, Julie (J.E.); Dickson, Donna (D.J.); Mayer, Paul (P.A.)
Cc: Fretts, Greg (G.); Menard, Bob (R.J.)
Subject: FW: F-250 Violent front end shaking problem
Importance: High

Julie, Donna,

Baker Hughes, a large Fleet customer, has had concerns with "front end shaking" on the F-250 for over a year (primarily with the Canadian Fleets but have had some concerns from U.S. Fleets as well). Brenda Davis (Commodity/Vehicle sourcing Manager for Baker Hughes Global operations) is very Pro-Ford and has worked very hard over the past year to educate the Baker Hughes Fleets in both the U.S. and Canada to properly inflate their tires. However, there is a practice (which we do not endorse) of lowering the tire pressure to achieve greater traction. (Having tires that provide better traction off-road and in mud/snow has been a concern we have heard from other Fleets --- this is a seperate concern that we are trying to dimension)

The threat here is that, with enough pressure from these Fleets, Brenda may be forced to allow these Fleets to puchase from other OEM's (GM, DCX, etc.).

I know the engineering teams are extremely busy working on the proveout and development of our future programs but, as Brenda requests in her attached e-mail, if we could send a "Subject Matter Expert" (SME) on tires/chassis to support a meeting with the Baker Hughes Fleets in Canada (to occur either in the 2nd or 3rd week of June), I believe it would go a long way towards maintaining the relationship with this important Fleet and keeping the business in tact.

Would you be able to help in identifying a SME on the engineering team that could support this meeting?

Paul Mayer, I have included you in this note as well because Greg Fretts mentioned that you, and Steve Ropesky (sp?), have some past experience with this concern and might possibly be able to attend as the Ford SME --- or might know who could support.

For reference, I have provided a summary of Baker Hughes Truck purchases in '04/'05 (U.S. only --- don't have access to the Canadian reporting systems). '06MY purchase levels are about the same. They also purchase cars and suv's from Ford.

2004	E150	E250	E350	E350 Cutaway/Chassis Cab	E450	Ranger	F-150	F-250	F-350	F-450	F-55
Baker Hughes							269	152	35	1	2

2005	E150	E250	E350	E350 Cutaway/Chassis Cab	E450	Ranger	F-150	F-250	F-350	F-450	F-55
Baker Hughes		1					227	137	41	1	4

Any thoughts/support you can provide on this would be greatly appreciated.

Jim Michon
Truck Fleet Marketing Manager (Ranger, F-150, Super Duty, E-Series)
Ph: (313) 621-2521; Fax: (313) 594-4684

From: Davis, Brenda K. [mailto:Brenda.Davis@bakerhughes.com]
Sent: Wednesday, May 17, 2006 7:07 PM
To: Michon, Jim (J.B.)
Cc: Fretts, Greg (G.); Menard, Bob (R.J.)
Subject: FW: F-250 Violent front end shaking problem
Importance: High

Hello Jim, it was a pleasure to see you in Orlando.

I wonder if you were able to come up with anyone who could maybe join our Canada Ford team to discuss the vibration issue we are experiencing with tires. We probably need a tire expert and an engineer subject matter expert. Tires because if they have to be at exact PSI spec to keep from vibrating and the drivers/managers feel they don't get traction, then maybe the tire person should be present to discuss alternatives.

Greg said he may know someone that would fit the bill as the engineer so you may want to communicate with him directly.

As you can see from the e-mail string below our Canada folks would like to schedule a meeting

in Wainwright the second or third week of June if possible. I don't know if I will be able to attend but if not, I'm sure that Greg and Bob will be able to handle the meeting as long as we have the experts as well so that they can address the why's and therefore of the situation.

I appreciate your help and feedback. Hope to see you soon.

Brenda Davis
Strategic Sourcing Commodity Manager
Fleet & Temporary Services
Baker Hughes Business Support Services
15355 Vantage Parkway West, #300
Houston, TX 77032
Fleet Central - 281-209-7667
281-209-7897 - Fax - 713-625-4374

-----Original Message-----
From: Alvarez, Lori M
Sent: Thursday, May 04, 2006 2:19 PM
To: Davis, Brenda K.
Cc: Henry, Lonnie K.; Kaybidge, Allyson N; Young, Stacey - BPC; Bonsteel, Vaughn W.; Whalen, Tom
Subject: RE: F-250 Violent front end shaking problem
Importance: High

Second Request

Brenda,

Just got your EMAIL that you will be out of the office until next Thursday at which time I will be out of the office for a couple of weeks. Have you given any thought or consideration to coordinating a meeting here in Canada with regard to the issues we have with FORD? Also, my first EMAIL mentioned Calgary or Red Deer however managers thought Wainwright would be a better location and we could try and re create the problem so that everyone has a chance to witness the problem.

Cheers!
Lori Alvarez
403-537-3523 Phne
403-537-3796 Fax

> -----Original Message-----
> **From:** Alvarez, Lori M
> **Sent:** Thursday, April 27, 2006 8:21 AM
> **To:** Davis, Brenda K.
> **Cc:** Henry, Lonnie K.; Kaybidge, Allyson N; Young, Stacey - BPC; Bonsteel, Vaughn W.; Whalen, Tom
> **Subject:** RE: F-250 Violent front end shaking problem
> **Importance:** High
>
> Brenda,
>
> This Ford Shimmy situation is ongoing and previously we had discussed a meeting between our management team and Ford. Of course as the commodity manager it would be prudent to have you involved as well. If possible could you please set up a meeting with our Ford representative,

yourself and our management team for the 2nd or 3rd week in June. Prefer Calgary or Red Deer as a location. Your assistance in bringing this to resolution would be most appreciated.

Cheers!
Lori Alvarez
403-537-3523 Phne
403-537-3796 Fax

-----Original Message-----
From: Bonsteel, Vaughn W.
Sent: Wednesday, April 26, 2006 2:51 PM
To: Whalen, Tom
Cc: Henry, Lonnie K.; Alvarez, Lori M; Kaybidge, Allyson N
Subject: F-250 Violent front end shaking problem

Tom,
While assisting Lonnie with additional issues yesterday in Wainwright, he brought to my attention the complete story regarding the 2005, F-250 XL violent shaking problem. After seeing his frustration from past attempts for acknowledgement and his passion for concern, I agreed to assist them in recreating this. While I was riding in one of these trucks with the employee, we actually recreated the condition.

I know your out of the country right now, but please contact me as soon as possible to discuss this issue. Lonnie's level of passion is fully justified and an issue of corporate liability may exist as well.

Regards,

Vaughn Bonsteel
Health, Safety & Environment Specialist
Northwest / Central Canadian Districts
Baker Petrolite
Cell: [redacted]
"Nothing is more priceless than arriving home alive" (Self, 01-17-06)

From: Hale, Curt (B.C.)
Sent: Wednesday, November 01, 2006 2:23 PM
To: Norton, John (J.K.); O'Connor, Tammy (T.A.)
Subject: RE: Fleet Visits

We're having a discussion at 4pm today. We know we can fix this issue with our TSB that includes running the correct tire pressure but we need to take it a step further. The fleets don't like to run at placard pressures so we need engineering to come up with something that is more agreeable to the fleets and or retail customers.

B. Curtis Hale
FCSD PVT Program Manager
F-Super Duty & Excursion

From: Norton, John (J.K.)
Sent: Wednesday, November 01, 2006 1:14 PM
To: O'Connor, Tammy (T.A.)
Cc: Hale, Curt (B.C.)
Subject: FW: Fleet Visits

Tammy,

Please let me know if I need to send the request to Don Ufford to have someone from his team support this visit.

Regards,

John Norton

Manager, Pickup Trucks & SUV's
Truck Service Engineering
Ford Customer Service Division
Phone: (313) 337-3639
Email: jnorton@ford.com

From: Asay, Larry (L.L.)
Sent: Tuesday, October 31, 2006 6:49 PM
To: Norton, John (J.K.)
Cc: Witthar, Mark (M.B.); Johnson, Ernita (E.D.)
Subject: Fleet Visits

I have talked to both Barrick and Duke Energy. Barrick (Elko NV) is very flexible on dates. Duke (Hobbs NM) will get back to me in the morning. He is booked in meetings and is trying to get out of some to accommodate us for the week of the 13th. I will be in both places before then to make sure Engineering gets the information that they need.

From: Margeson, Joan (J.E.)
Sent: Tuesday, February 28, 2006 11:08 AM
To: O'Connor, Tammy (T.A.)
Cc: Hale, Curt (B.C.)
Subject: RE: Genuine Parts and Service Forum question

I posted the following:

If you are unable to resolve this issue following the TSB, the process which should be followed includes calling the Technical Hotline and/or requesting assistance from your FSE. By following this process, the information is reviewed, and then sent to Engineering for additional assistance and resolution.

Joan Margeson
FMCDealer Editor
313.621.2983
jmargeso@ford.com

From: O'Connor, Tammy (T.A.)
Sent: Tuesday, February 28, 2006 10:53 AM
To: Margeson, Joan (J.E.)
Cc: Hale, Curt (B.C.)
Subject: FW: Genuine Parts and Service Forum question

Joan: Can you please remove the last sentence.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

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-----Original Message-----
From: Hale, Curt (B.C.)
Sent: Tuesday, February 28, 2006 10:52 AM
To: O'Connor, Tammy (T.A.)
Subject: RE: Genuine Parts and Service Forum question

I would remonve the last sentence. The Hotline might not appreciate it.

B. Curtis Hale
FCSD PVT Program Manager
F-Super Duty & Excursion

From: O'Connor, Tammy (T.A.)

Sent: Tuesday, February 28, 2006 10:45 AM
To: Margeson, Joan (J.E.)
Cc: Hale, Curt (B.C.)
Subject: Genuine Parts and Service Forum question

Joan:

Would you please post the following on the message board: Service - Front End Oscillation

If you are unable to resolve this issue following the TSB, the process which should be followed includes calling the Technical Hotline and/or requesting assistance from your FSE. By following this process, the information is reviewed, and then sent to Engineering for additional assistance and resolution. The higher number of calls to the Tech Hotline, the quicker you will see an issue resolved in the field.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

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From: Masel, Dennis (D.M.)
Sent: Tuesday, October 24, 2006 7:34 AM
To: Lam, Hao (H.C.)
Cc: Gompper, Dan (D.B.); Wegienka, Michael (M.J.); Hearn, Chet (C.)
Subject: RE: Good news

I have already run the aftermarket damper with the OEM damper test. I am trying to run only the aftermarket damper test this morning. I will supply you the data after that test. If the aftermarket damper alone works, the next configuration I have been asked to look at is "a single aftermarket damper"

Who else can run an ODS in your absence?

From: Lam, Hao (H.C.)
Sent: Monday, October 23, 2006 5:36 PM
To: Masel, Dennis (D.M.); Hearn, Chet (C.); Gompper, Dan (D.B.); Wegienka, Michael (M.J.)
Subject: RE: Good news

Dennis,
Are you going to test with the aftermarket damper from Tom Shaver. If so, the can you do it?

Team,
I'll be on vacation from 10/26/06 to 11/1/06. I'll be back to work on 11/2/06, if you need shimmy ODS during that time, you can ask someone to do it or wait until I come back.

Hao Lam

From: Masel, Dennis (D.M.)
Sent: Monday, October 23, 2006 12:29 PM
To: Hearn, Chet (C.); Gompper, Dan (D.B.); Lam, Hao (H.C.); Wegienka, Michael (M.J.)
Subject: Good news
Importance: High

The good news is that with the aftermarket damper (provided by Tom Shaver) I could not get the vehicle to shimmy at 35 psi tire pressure (even at speeds as high as 80 mph). The next step is to remove the production steering damper.

Dennis M. Masel

Core Vehicle Dynamics
Pager & Phone Number: 313-805-2209
text pager: dmasel

From: Hess, Harry (H.F.)
Sent: Friday, September 13, 2002 3:54 PM
To: Mancini, Leo (L.S.); Kochhar, Nand (N.K.); Caris, John (J.C.); Atkinson, Christopher (C.J.); Memmer, Mark (M.A.); Wegienka, Michael (M.J.); 'raik.michelmann@zf.com'; Nilles, Tom (T.J.); Kearney, Todd (T.); Griebe, Thomas (T.W.); darren.fugett@dana.com; Tim Runstadler
Cc: Byndas, Brian (B.B.); Hodges, Cynthia (C.P.); Arnold, Bruce (B.C.); Hess, Harry (H.F.)
Subject: RE: MONOBEAM BUSH - SENSITIVITY to SHIMMY WITH SOFTER RATES

Lemforder states that the age effect axle bushing radial rate should be close to zero, given their ozone protection. The effect of high ambient temperature should be about a 5% reduction in rate. Rate tolerance is +/-15% when new. Rate loss due to loading over time is targeted at 15% max.

Todd, can you estimate the front axle temperature in the area near the diff side bushings. I expect this will be well above ambient under load.

Although this defies our simplistic internal bushing targets, which call for a dynamic to static rate ratio near 1 (1.0 would represent an ideal spring element), Lemforder can add damping (higher ratio) to the bushing via compound changes.

Mark / Mike / Tom, let me know if this is desirable. This would also effect NVH.

Harry Fuku Hess
P131 Chassis
(313) 32-37017

-----Original Message-----
From: Mancini, Leo (L.S.)
Sent: Friday, September 13, 2002 2:37 PM
To: Kochhar, Nand (N.K.); Hess, Harry (H.F.); Caris, John (J.C.); Atkinson, Christopher (C.J.); Memmer, Mark (M.A.); Wegienka, Michael (M.J.); 'raik.michelmann@zf.com'; Nilles, Tom (T.J.)
Cc: Byndas, Brian (B.B.); Hodges, Cynthia (C.P.); Arnold, Bruce (B.C.)
Subject: RE: MONOBEAM BUSH - SENSITIVITY to SHIMMY WITH SOFTER RATES

We already have a meeting set up for Monday afternoon, main goal is to understand bushing and overall suspension and steering degradation and affect on shimmy.

I will forward meeting notice(set up by T.Nilles)
Leo Mancini
2005 Superduty/Excursion Vehicle Dynamics
Phone: 313-24-82777, Pager: 313-851-3527

-----Original Message-----
From: Kochhar, Nand (N.K.)
Sent: Friday, September 13, 2002 2:33 PM
To: Hess, Harry (H.F.); Caris, John (J.C.); Atkinson, Christopher (C.J.); Memmer, Mark (M.A.); Wegienka, Michael (M.J.); 'raik.michelmann@zf.com'; Mancini, Leo (L.S.); Nilles, Tom (T.J.)
Cc: Byndas, Brian (B.B.); Hodges, Cynthia (C.P.); Arnold, Bruce (B.C.)
Subject: RE: MONOBEAM BUSH - SENSITIVITY to SHIMMY WITH SOFTER RATES

VE will be overall lead so Chris Atkinson will call series of meeting to bring in all parties involved or leverage existing VD PAT.
Leo M. - Consolidate Vehicle dynamics testing/DOE input for subject meetings. (also invite Tom Nilles for analytical support)
Chassis : Bring in input from suppliers, proposals for known issues e.g. excessive loads with front suspension.

Regards,
Nand K. Kochhar
Manager, Vehicle Engineering, Super Duty/Excursion

Ph: (313)248-6637, Fax: (313)594-1175
Admin. Ass't : Chanise Gray (313)594-4769
email: nkochhar@ford.com

-----Original Message-----
From: Hess, Harry (H.F.)
Sent: Friday, September 13, 2002 1:55 PM
To: Caris, John (J.C.); Atkinson, Christopher (C.J.); Memmer, Mark (M.A.); Wegienka, Michael (M.J.); raik.michelmann@zf.com
Cc: Kochhar, Nand (N.K.); Byndas, Brian (B.B.); Hodges, Cynthia (C.P.); Arnold, Bruce (B.C.); Hess, Harry (H.F.)
Subject: RE: MONOBEAM BUSH - SENSITIVITY to SHIMMY WITH SOFTER RATES

I believe Mark Memmer's and Mike Wegienka's bushing DOE answers many of these sensitivity questions, and trade-offs, other than rate changes due to time, loads and temp.

Raik,

Can you provide data, or estimates, on the relation between temp and the axle bushing rate? Also, I understand that prolonged high loads tend to reduce the rates, with 15% max being our target, while on the other hand, age tends to harden the rubber. Is that correct?

Harry Fuku Hess
P131 Chassis
(313) 32-37017

-----Original Message-----
From: Caris, John (J.C.)
Sent: Friday, September 13, 2002 1:16 PM
To: Atkinson, Christopher (C.J.); Arnold, Bruce (B.C.); Hess, Harry (H.F.)
Cc: Kochhar, Nand (N.K.); Byndas, Brian (B.B.); Hodges, Cynthia (C.P.)
Subject: RE: MONOBEAM BUSH - SENSITIVITY to SHIMMY WITH SOFTER RATES

I'm not sure I understand the question nor why it is directed at chassis. Sounds like half the question is for rate sensitivity to temperature that we can do in a lab but shimmy is a vehicle characteristic that requires vehicle level testing and resolution. As Chris points out other vehicle attributes such as shake and brake roughness are also involved. Added to this is the fact that powertrain releases the axle end of the bushes since they are PIA to the front axle. Chassis is certainly committed to support resolution of the issue but the lead clearly needs to come from vehicle engineering given the cross attribute and cross function affects. So I guess I direct the question back to Chris. Who is lead from VE to pull the pieces together? We will fully support for the chassis released parts and provide any additional expertise that we can offer.

Regards,
John Caris
Manager, Tough Truck Suspension Engineering
24-82735; PDC, 2B-D80; Mail Drop #127
text pager: http://vm7.dearborn.ford.com/cgi/textpage
pager: 1-(313)-796-8422

-----Original Message-----
From: Atkinson, Christopher (C.J.)
Sent: Friday, September 13, 2002 12:56 PM
To: Caris, John (J.C.); Arnold, Bruce (B.C.); Hess, Harry (H.F.)
Cc: Atkinson, Christopher (C.J.); Kochhar, Nand (N.K.); Byndas, Brian (B.B.)
Subject: MONOBEAM BUSH - SENSITIVITY to SHIMMY WITH SOFTER RATES

Gents - where are we with the radius arm bushing sensitivity study?
we know that time & temperature will effect these rates
and the result may be shimmy / brake roughness / shake

- when can we review plan so we can ensure alignment of
proto required, CAE, bench tests ... resources and timing to support
final engineering signoff and any help required.

From: Welch, Sharon (S.L.)
Sent: Monday, June 26, 2006 4:55 PM
To: O'Connor, Tammy (T.A.)
Subject: RE: Need causal part numbers

Causal part numbers should be:

3E651 for damper
Front for alignment
Tire for pressure changes

Santos and I have not been on the same schedule to talk yet. You can submit and I will get with him tomorrow so we can list which operations should use which causal part. If you have any questions please give me a call.

Sorry for the delay. Things are crazy as you know.

Sharon Welch
FCSD Program Manager - Warranty Task Force
Fairlane Business Park 3 246F
Phone (313) 24-83499

From: O'Connor, Tammy (T.A.)
Sent: Monday, June 26, 2006 9:17 AM
To: Welch, Sharon (S.L.)
Subject: Need causal part numbers

Sharon:

I'm holding off on submitting the TSB again to get the causal part numbers from you. When do you think a final decision will be made?

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Mayer, Paul (P.A.)
Sent: Wednesday, February 18, 2004 7:57 AM
To: Nantais, Jerry (J.L.); Memmer, Mark (M.A.); Borges, Claudia (C.R.); Schemanske, Jennifer (J.H.); Willmer, David (D.G.)
Cc: Finkbeiner, Butch (D.E.); Hodges, Cynthia (C.P.); Hess, Harry (H.F.)
Subject: RE: NEXT TEST ON [redacted]

The problem is that it is critical that we use the radius arm with the worn out bushing (that's the whole point of running this test post-APG structures).

For your post radius-arm durability inspection, is that mostly to check the bushings?? Because I will not be disturbing the radius arm bushings (the slots are cut on the other end)

Regards
Paul Mayer
Truck Chassis Systems Integration
313-248-9202 Fax:313-317-2349

-----Original Message-----
From: Nantais, Jerry (J.L.)
Sent: Tuesday, February 17, 2004 8:15 PM
To: Memmer, Mark (M.A.); Mayer, Paul (P.A.); Borges, Claudia (C.R.); Schemanske, Jennifer (J.H.); Willmer, David (D.G.)
Cc: Finkbeiner, Butch (D.E.); Hodges, Cynthia (C.P.); Hess, Harry (H.F.)
Subject: RE: NEXT TEST ON [redacted]

Unfortunately, unit 945 is the only vehicle we need/want post APG verification on where APG will R&R as soon as durability (structures and trailer tow) is complete. However, the verification we need is for the bushing rates. If Cindy and Harry agree to cut slot to addreess your needs than OK. However, Harry should have spare radius arms at APG (old level) which could be modified for your test and used to R&R the 945 post-durability radius arms.

> -----Original Message-----
> **From:** Memmer, Mark (M.A.)
> **Sent:** Tue 2/17/2004 4:04 PM
> **To:** Mayer, Paul (P.A.); Borges, Claudia (C.R.); Schemanske, Jennifer (J.H.); Willmer, David (D.G.)
> **Cc:** Finkbeiner, Butch (D.E.); Hodges, Cynthia (C.P.); Nantais, Jerry (J.L.); Hess, Harry (H.F.)
> **Subject:** RE: NEXT TEST ON [redacted]
>
> Anything for you Paul.... They are at FEC, I am in Dearborn. I will have to check with Mike W on shipping....unless it can wait until Monday when I arrive at FEC.
>
> -----Original Message-----
> **From:** Mayer, Paul (P.A.)
> **Sent:** Tuesday, February 17, 2004 2:50 PM
> **To:** Borges, Claudia (C.R.); Schemanske, Jennifer (J.H.); Willmer, David (D.G.)
> **Cc:** Finkbeiner, Butch (D.E.); Memmer, Mark (M.A.); Hodges, Cynthia (C.P.); Nantais, Jerry (J.L.); Hess, Harry (H.F.)
>
> **Subject:** RE: NEXT TEST ON [redacted]

Yes, I can get going on that. There will be two issues

1) MARK MEMMER, can we borrow a pair of 2005 F-550/450 4x4 1 degree caster/camber slugs ?

2) JERRY NANTAIS, Can I cut slots in the radius arms for 31[redacted] or is this on your list of parts for post-durability inspection ?

Regards
Paul Mayer
Truck Chassis Systems Integration
313-248-9202 Fax:313-317-2349

-----Original Message-----
From: Borges, Claudia (C.R.)
Sent: Tuesday, February 17, 2004 2:29 PM
To: Mayer, Paul (P.A.); Schemanske, Jennifer (J.H.); Willmer, David (D.G.)
Cc: Finkbeiner, Butch (D.E.)
Subject: RE: NEXT TEST ON [redacted]

Paul ~ 31[redacted] is the F550 that is targetted for Oscillation (based on our past e-mails). It's close to getting done. It has 50% more of G2 to go; very close to finishing durability. I'll probably need Mark's caster slugs again. Can you start working him for them??????

Claudia R. Borges
(The Surgeon General Said Nothing About Smoking the Competition!!!)
Steering & Front Suspension ~ Durability; Heat Management
Phone #: 928.753.7309
Fax #: 928.753.7213

-----Original Message-----
From: Mayer, Paul (P.A.)
Sent: Tuesday, February 17, 2004 11:32 AM
To: Schemanske, Jennifer (J.H.); Willmer, David (D.G.)
Cc: Borges, Claudia (C.R.)
Subject: RE: NEXT TEST ON 5[redacted]

Assuming this truck is an f-350, I can't say it really needs to be run. It would be a nice to have because we already ran two F-350's

Getting an F-450/550 tested is still a must have

Regards
Paul Mayer
Truck Chassis Systems Integration
313-248-9202 Fax:313-317-2349

-----Original Message-----
From: Schemanske, Jennifer (J.H.)
Sent: Tuesday, February 17, 2004 12:45 PM

To: Mayer, Paul (P.A.); Willmer, David (D.G.)
Cc: Borges, Claudia (C.R.)
Subject: RE: NEXT TEST ON [redacted]

Paul, [redacted] is ready for the next test. Since the 1 deg caster slugs have been returned, APG is asking if the steering oscillation test really needs to still be run. We do not usually test for sample size at APG. Please let me know. Thanks.

Jennifer Schemanske
P131 Durability Verification
(313) 323-8906

-----Original Message-----
From: Mayer, Paul (P.A.)
Sent: Monday, February 02, 2004 4:47 PM
To: Schemanske, Jennifer (J.H.); Willmer, David (D.G.)
Subject: RE: NEXT TEST ON [redacted]

The more sample size the better. I would test it, if possible

Regards
Paul Mayer
Truck Chassis Systems Integration
313-248-9202 Fax:313-317-2349

-----Original Message-----
From: Schemanske, Jennifer (J.H.)
Sent: Monday, February 02, 2004 4:36 PM
To: Willmer, David (D.G.)
Cc: Mayer, Paul (P.A.)
Subject: RE: NEXT TEST ON [redacted]

Dave, steering oscillation is currently scheduled on F350 51[redacted] If I remember correctly, this test was added per your request. Since we have tested W927 and will be testing W926, I would like to cancel steering oscillation on W836. Please let me know if you still need to run it. (Steering oscillation is still scheduled on 3[redacted] which I will keep because it is a F550).

Thanks.

Jennifer Schemanske
P131 Durability Verification
(313) 323-8906

-----Original Message-----
From: Mayer, Paul (P.A.)
Sent: Monday, February 02, 2004 3:14 PM
To: Borges, Claudia (C.R.)
Cc: Memmer, Mark (M.A.); Stalnaker, Eric (E.K.); Schemanske, Jennifer (J.H.); Rasmussen, Lyle (W.)
Subject: RE: NEXT TEST ON [redacted]

That's correct, we will skip curb condition and go straight to GVWR at FGAWR

The problem is that you do not have the required rear susp spacers yet.

I just pulled the below shipper
Parts are attn to lyle Rasmussen

Material Withdrawal No: [redacted]

Warehouse:	FM1DA	Impound No:	
Created Date:	2004/02/02 15:07:43	Author:	PMAYER
Purpose:	test vehicle 517W9>	Transfer Date:	2004/02/02 15:07:44
Status:	T	Action Date:	
Inv/Ship To:	FM0QA ARIZONA PROVING>	Shipping Doc No:	
Customer:		Date Shipped:	
Alt Ship To:		Issue Shipper:	Y

Line No	Part Number Prefix	Base	Suffix	Description	Wdrawl Qty	Picked Qty
1	2C34	5598	BA	SPCR-RR SPG RH	1	
2	2C34	5598	CA	SPCR-RR SPG LH	1	

Regards
Paul Mayer
Truck Chassis Systems Integration
313-248-9202 Fax:313-317-2349

-----Original Message-----
From: Borges, Claudia (C.R.)
Sent: Monday, February 02, 2004 2:22 PM
To: Mayer, Paul (P.A.)
Cc: Memmer, Mark (M.A.); Stalnaker, Eric (E.K.); Schemanske, Jennifer (J.H.)
Subject: NEXT TEST ON 5[redacted]
Importance: High

Paul ~ we are getting set to prep the vehicle for Oscillation test. Per you attached sheet, you only call for the one test at FGAWR. Don't we still need to do it at curb? If so, do we need to install the caster slugs and the rad arm mods at this time... or wait for FGAWR??? Please advise ASAP.

Claudia R. Borges
(The Surgeon General Said Nothing About Smoking the Competition!!!)
Steering & Front Suspension ~ Durability; Heat Management
Phone #: 928.753.7309
Fax #: 928.753.7213

-----Original Message-----
From: Mayer, Paul (P.A.)
Sent: Friday, January 30, 2004 8:11 AM
To: Borges, Claudia (C.R.)
Cc: Memmer, Mark (M.A.); Rasmussen, Lyle (W.)

Subject: RE: 5[redacted] Oscillation Test - NEXT TEST ON 5[redacted]

Claudia, see attached file. It has instructions for how we will test 926. Please take a look and let me know if you have any issues

You will require the 2" spacers, U-bolts and nuts (all part numbers are shown in the attached file). APG inventory list shows that you already have U-bolts and nuts.

I will have to send the spacers

I will send attention to Lyle Rasmussen, vehicle 5[redacted]
Arizona Proving Ground
#1 Proving Ground
Yucca, AZ 86438

Do you know the GSDB code for APG, I will need that to send ??

<< File: 5[redacted]directions for P4-223 test .xls >>

Regards
Paul Mayer
Truck Chassis Systems Integration
313-248-9202 Fax:313-317-2349

-----Original Message-----
From: Schemanske, Jennifer (J.H.)
Sent: Thursday, January 29, 2004 5:46 PM
To: Memmer, Mark (M.A.); Mayer, Paul (P.A.)
Cc: Bokil, Vijay (V.); Arnold, Bruce (B.C.); Wegienka, Michael (M.J.); Stalnaker, Eric (E.K.); Borges, Claudia (C.R.)

Subject: RE: 5[redacted] Oscillation Test - NEXT TEST ON 5[redacted]

I see no problem doing this after W926 has completed the remaining 7% of PT testing (and clutch R&R completed).

Jennifer Schemanske
P131 Durability Verification
(313) 323-8906

-----Original Message-----
From: Memmer, Mark (M.A.)
Sent: Wednesday, January 28, 2004 7:30 AM
To: Mayer, Paul (P.A.); Schemanske, Jennifer (J.H.); Hodges, Cynthia (C.P.); Hess, Harry (H.F.); Nantais, Jerry (J.L.); Mazany, Brett (B.P.)
Cc: Bokil, Vijay (V.); Arnold, Bruce (B.C.); Memmer, Mark (M.A.); Wegienka, Michael (M.J.)
Subject: RE: 5[redacted] Oscillation Test - NEXT TEST ON 5[redacted]

Paul-- I do not see any problem doing this. Wrong rear spring rate should not effect shimmy. Rear shock length will be too long. Might bottom out over severe rear impact. I say go with it.

-----Original Message-----
From: Mayer, Paul (P.A.)
Sent: Tuesday, January 27, 2004 4:11 PM

To: Schemanske, Jennifer (J.H.); Hodges, Cynthia (C.P.); Hess, Harry (H.F.); Nantais, Jerry (J.L.); Mazany, Brett (B.P.)

Cc: Bokil, Vijay (V.); Arnold, Bruce (B.C.); Memmer, Mark (M.A.); Wegienka, Michael (M.J.)

Subject: RE: 5[redacted] Oscillation Test - NEXT TEST ON 5[redacted]

I have a proposal and I am soliciting feedback to see if I am about to do something really stupid

F350 SRW max caster (5.4) + 1 degree = 6.4 deg ..... we just tested 927 at 6.7 deg and passed)
F250 SRW max caster (6.1) + 1 degree = 7.1 deg .....we have not tested this configuration

However we are not running any f-250 SRW's at APG for durability, so my only option is to do a simulation where I install a 2 " spacer block (replace the 4" F-350 block) on an F-350 durability truck. This lowers the rear end and increases caster by 0.7 degrees. Then I could slot the radius arms to get to 7.1 deg caster.

I propose we do this simulation on 5[redacted]

This as close as we can come to testing an F-250. But it's still a compromise as this modified truck will not really be an F-250 or an F-350!

And in case you are wondering why I did not push 5[redacted] to 7.1 degrees. Its because, we had already installed 1 degree slugs, and cut 7mm slots in the rad arms to tip the axle back an extra 2 degrees beyond what the slugs already did. I did not wish to twist the steering/suspension any further

Regards
Paul Mayer
Truck Chassis Systems Integration
313-248-9202 Fax:313-317-2349

-----Original Message-----

From: Mayer, Paul (P.A.)

Sent: Tuesday, January 27, 2004 3:19 PM

To: Borges, Claudia (C.R.); Schemanske, Jennifer (J.H.)

Cc: Rasmussen, Lyle (W.); Finkbeiner, Butch (D.E.); Shaieb, Nick (N.); Hodges, Cynthia (C.P.); Bokil, Vijay (V.); Arnold, Bruce (B.C.); Nantais, Jerry (J.L.); Memmer, Mark (M.A.); Wegienka, Michael (M.J.); Hess, Harry (H.F.); Roth, Frank (F.E.)

Subject: RE: 5[redacted] Oscillation Test

That's great news that we passed APG shimmy at 6.7 degrees.

I don't see any issue with leaving the rad arms on the truck.

HOWEVER, I have issue with the prototype slugs that Mark Memmer provided. We need to get those off of the truck and get them back to Memmer.

I swore to Mark I would get those back to him.

In regards to other trucks for shimmy test
- 3[redacted] This is an F-550 that is already planned for shimmy test
- 5[redacted] I would like to know If I can swap the rear spacer block to the smaller one, and run this truck

on shimmy.

The issue for 926 is that I need to run an f-250 on shimmy. However we never run F-250's on APG durability. The key difference for shimmy between the two trucks

is the rear height (the lower block at the rear raises the max caster by 0.7 degrees)
I'll call you to discuss 926

Regards
Paul Mayer
Truck Chassis Systems Integration
313-248-9202 Fax:313-317-2349

-----Original Message-----
From: Borges, Claudia (C.R.)
Sent: Tuesday, January 27, 2004 2:23 PM
To: Mayer, Paul (P.A.); Schemanske, Jennifer (J.H.)
Cc: Rasmussen, Lyle (W.); Finkbeiner, Butch (D.E.); Shaieb, Nick (N.)
Subject: [redacted] Oscillation Test

Paul ~ the Oscillation test at FGAWR w/max caster has been completed. Upon completion of the procedure, the driver reported that the vehicle does not have any evidence of shimmy. I assume at this time we can proceed with the remaining scheduled tests for this vehicle?

Jennifer ~ what testing is left on the vehicle? We have modified the front radius arms (LHS & RHS) and may have to change them back to get back to normal caster specs; depending on the testing remaining. Please advise so we know if we should change out the radius arms. Thanx!

Claudia R. Borges
(The Surgeon General Said Nothing About Smoking the Competition!!!)
Steering & Front Suspension ~ Durability; Heat Management
Phone #: 928.753.7309
Fax #: 928.753.7213

From: Antonino Sergio Lentini [AntoninoSergio.Lentini@lmsintl.com]
Sent: Friday, August 10, 2007 6:08 AM
To: Gu, Jianmin (J.M.)
Cc: Szumski, Rick (R.G.); Xu, Jay (J.); Bai, Jaimin (J.); Paolo di Carlo; Thomas Mitchell
Subject: RE: Nibble Full Vehicle mass distribution

Jimmy,
I think you you could do also working with mtx file for mass and inertia props, but I do not know how to modify modes linked to global/local stiffness of the body and we usually do by our method creating imeediatly after a new mnf file.
About HPs, it's OK you explained me, just to be sure what I "saw" by FE is correct and then align the MB model

Thnaks for your feedback

Regards

Sergio

From: Gu, Jianmin (J.M.) [mailto:jgu2@ford.com]
Sent: Thursday, August 09, 2007 4:54 PM
To: Antonino Sergio Lentini
Cc: Paola Diglio; Giancarlo Conti; Greg Falbo; Thomas Mitchell; Paolo di Carlo; Bai, Jaimin (J.); Szumski, Rick (R.G.); Xu, Jay (J.)
Subject: RE: Nibble Full Vehicle mass distribution

Hi Sergio,

I'm fine, but no vacation for me in the near future :-(Thank you for asking.

About the flexible frame model, I think you can change its mass and CG by modifying the Inv1 and Inv2 numbers in the .mtx file, right?

About the hard point location differences, you are right - the locations in the FE model are correct. I have double checked those locations in our CAD system. I'm sorry about that - please understand that these ADAMS models were built by CAE engineers in other departments. We have been busy checking and correcting models all the time :-(

Feel free to let me know if you have any questions. Thank you!

Best regards,

Jianmin (Jimmy) Gu, Ph.D.
Technical Expert, Vehicle Shift Quality & Transient NVH
Vehicle Attributes & CAE Department, NAE VE
Ford Motor Company, EVB 1WI07, MD X-19
Phone: (313) 805-4372, Fax: (313) 845-1776
mailto:jgu2@ford.com

From: Antonino Sergio Lentini [mailto:AntoninoSergio.Lentini@lmsintl.com]
Sent: Wednesday, August 08, 2007 1:06 PM
To: Gu, Jianmin (J.M.)
Cc: Paola Diglio; Giancarlo Conti; Greg Falbo; Thomas Mitchell; Paolo di Carlo
Subject: RE: Nibble Full Vehicle mass distribution

Hello Jimmy,
How're you doing? I hope everything is fine about you! I'm ok and waiting for vacation!! ;)

I try to give you feedback about your question on behalf of Paolo: he's currenlty on vacation. After the first mnf will be ready, we'll create another one by a methodology we call modal methodology: it permits you to have mnf file with same modal behavior (same dynamic modal base) and in the meanwhile modify mass and inertia properties, for example aligning these props to realistic ones. You can understand that this method permits you the opposite as well: once mass and inertia props are fixed you could change global and/or local modes (directly linked to global and local rigidities of flex component) and analyse the effect of the changes on the performance.
I hope it's clear for the moment the idea, however further details about will be showed during next our visit in US.

I take advantage of the email to ask you some info about hard points location related Nibble model: The FE model is well aligned with MB model, just few differences on some points:
- REAR LH and RH Bumpstop → difference for X component
- REAR LH and RH Upperstrut → difference for X component
- LH and RH rack_house (connection of the rack house to frame) → three ccordinates. Inside MB model the two points are NOT symmetric whereas they are in the FE model

Attached is a summary file of the connections among frame and all the other components in the MB model: you'll see that about the FE model are reported ONLY the HPs with different coordinates fromMB model. I guess the values of the FE model are correct. Please Jimmy, make a check and let me know if I can change HPs on MB model or whatever.

Thanks a lot

Regards

Sergio LENTINI

From: Gu, Jianmin (J.M.) [mailto:jgu2@ford.com]
Sent: Saturday, August 04, 2007 4:39 AM
To: Paolo di Carlo
Cc: Antonino Sergio Lentini; Paola Diglio; Giancarlo Conti; Greg Falbo; Thomas Mitchell
Subject: RE: Nibble Full Vehicle mass distribution

Hi Paolo,

It is much better than before. I think the rear difference is due to the exhaust system (on the right side), while front driveline is on the left side.

I have a question: you can easily change the mass and CG for rigid parts in ADAMS. But for frame, since we are going to model it as a flexible trimmed frame, how can you modify the mass and CG? Go back to Nastran, or put lump mass on it? Please advise.

Thank you.

Best regards,

Jianmin (Jimmy) Gu, Ph.D.
Technical Expert, Vehicle Shift Quality & Transient NVH
Vehicle Attributes & CAE Department, NAE VE
Ford Motor Company, EVB 1WI07, MD X-19
Phone: (313) 805-4372, Fax: (313) 845-1776
mailto:jgu2@ford.com

From: Paolo di Carlo [mailto:Paolo.diCarlo@lmsintl.com]
Sent: Fri 8/3/2007 9:15 AM
To: Gu, Jianmin (J.M.)
Cc: Antonino Sergio Lentini; Paola Diglio; Giancarlo Conti; Greg Falbo; Thomas Mitchell
Subject: RE: Nibble Full Vehicle mass distribution

Hi Jimmy,
I perfectly understand all your points, in fact it's always really difficult to match exactly the actual vehicle mass at each tire.
Let me start answering to point 1). In our experience driveshaft and driveline are negligible for Nibble phenomenon; therefore we don't need to model them in detail. Anyway, in the A/Car model we have implemented front and rear driveshafts for completeness, but they have dummy mass and they just transfer torque from powertrain to wheels.
Concerning the vehicle mass distribution, attached you can find ppt with new status coming from some assumptions I have made based on your information (error on FE estimation, missed components attached to frame, maybe fuel in the tank etc....). You can see that total weight is now ok, front situation is now much better even if in the rear differences still exist.
If you agree on my assumptions we can go on with proposed modifications.

Let me know your feedback

Best Regards
Paolo di Carlo

Paolo di CARLO
Site Manager
LMS Italiana s.r.l.
Engineering Services Italy
via Garessio 48/7
10126 Torino - ITALY
tel. +39.011.6671615
mobile +39.347.8962910

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From: Gu, Jianmin (J.M.) [mailto:jgu2@ford.com]
Sent: Wednesday, August 01, 2007 3:47 AM
To: Paolo di Carlo; Greg Falbo
Cc: Antonino Sergio Lentini; Paola Diglio; Giancarlo Conti; Gu, Jianmin (J.M.)
Subject: RE: Nibble Full Vehicle mass distribution

Hi Paolo,

Sorry I forgot two things:

1) If nibble requires driveline modeling, I mean if you think driveshafts/halfshafts are a major path for nibble, then we should model the details. We do model the driveline path from transmission to wheels for some events.

2) FE models sometimes underpredict the mass and inertia. This may be due to FE models lack some trim components, fluid, or just simply because hardware prototypes have "more" content than production vehicles. We think the FE model is ok if the difference is within 5%. In this case, 5% for the cab (900 kg) and frame (550 kg) combined is 72.5 kg, which may account for the other 50-100 kg missing!

Best regards,

Jianmin (Jimmy) Gu, Ph.D.
Technical Expert, Vehicle Shift Quality & Transient NVH
Vehicle Attributes & CAE Department, NAE VE
Ford Motor Company, EVB 1WI07, MD X-19
Phone: (313) 805-4372, Fax: (313) 845-1776
mailto:jgu2@ford.com

From: Gu, Jianmin (J.M.)
Sent: Tue 7/31/2007 6:17 PM
To: 'Paolo di Carlo'; Greg Falbo
Cc: Antonino Sergio Lentini; Paola Diglio; Giancarlo Conti; Gu, Jianmin (J.M.)
Subject: RE: Nibble Full Vehicle mass distribution

Hi Paolo,

This is not an easy question.

I checked with our weight engineer and found the following weight info (close to your corner weight info below): Curb weight = 2494 kg.

Of this, weight on front wheels = 1432 kg, and weight on rear wheels = 1062 kg. I don't have weight info on left and right side, respectively.

So, the ADAMS model missed 152 - 218 kg mass, compared with your corner weight or the designed curb weight data. What are these missing masses?

If you look at the original ADAMS/Chassis model, there is one part named "ges_chassis_BODY" with 2040.45 kg mass, which lumps almost all parts except suspensions, wheels and steering system. Now we have separated it into three parts: frame (550 kg), cab (900 kg) and powerplant (400 kg). If we add these three parts together, we get 1850 kg (550+900+400=1850), which is still 190.45 kg lower than the original lumped mass (2040.45 kg). That 190.45 kg is the missing part.

Attached is a CAD snapshot of some parts could be missing in your ADAMS model. The possible missing parts are:

Front axle and differential (which is mounted on the frame, note that CG is on the left side)
Front halfshafts
Front driveshaft (from transfer case to front diff, note that CG is on the left side)
Transfer case (part of it is already included in the powertrain)
Rear driveshaft (from transfer case to rear diff)
Rear halfshafts
Exhaust system (pipes, muffler and tail are on the right side)
Gears in front and rear diffs (sometimes they are included, sometimes not)
Other bushing/mount weights (they are not weightless)

My rough estimate of all these parts together will count for 100+ kg, but I really don't know where is the other 50-100 kg from.

Usually, we lump these masses into frame and/or powertrain proportionally (to have the correct weight distribution and entire vehicle CG). I'm not sure if you have a better way to capture these parts. If you want to model them for details (each as a part in ADAMS), I may have to spend quite some time to find mass, CG and inertia for each of these parts (our CAD software doesn't provide me these info directly).

Finally, the CG of the solid rear axle should be: 5260.49, 20, 531.35. Its CG is on the right side of the center line.

I'm sure I didn't 100% answer your question (which is always a question to me - where is the missing weight?) Feel free to let me know if you have any questions or comments.

Best regards,

Jianmin (Jimmy) Gu, Ph.D.
Technical Expert, Vehicle Shift Quality & Transient NVH
Vehicle Attributes & CAE Department, NAE VE
Ford Motor Company, EVB 1WI07, MD X-19
Phone: (313) 805-4372, Fax: (313) 845-1776
mailto:jgu2@ford.com

From: Paolo di Carlo [mailto:Paolo.diCarlo@lmsintl.com]
Sent: Tuesday, July 31, 2007 10:23 AM
To: Greg Falbo; Gu, Jianmin (J.M.)
Cc: Antonino Sergio Lentini; Paola Diglio; Giancarlo Conti
Subject: RE: Nibble Full Vehicle mass distribution

Hi Jimmy,
Here some additional information:
the corner weight information (there were no occupants in the vehicle during these measurements).

Left (Driver) Front: 717.0 kg (1581 lbs) Right (Passenger) Front: 702.0 kg (1548 lbs)
Left (Driver) Rear: 513.5 kg (1133 lbs) Right (passenger) Rear: 495.5 kg (1093 lbs)

The fuel tank is approximately 85 % full and is bounded by the left frame rail (driver side), the drive shaft (propeller shaft), the rear axle tube and the driver side seat back.

Greg,
Could you provide additional information to Jimmy?

Thanks
Best Regards
Paolo di Carlo

Paolo di CARLO
Site Manager
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via Garessio 48/7

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From: Gu, Jianmin (J.M.) [mailto:jgu2@ford.com]
Sent: Tuesday, July 31, 2007 4:16 PM
To: Paolo di Carlo
Subject: RE: Nibble Full Vehicle mass distribution

Hi Paolo,

Before I answer the questions, I probably need to know:
1) Where did you get the experimental results?
2) What are the test settings? K&C or under what load conditions?

Thank you.

Best regards,

Jianmin (Jimmy) Gu, Ph.D.
Technical Expert, Vehicle Shift Quality & Transient NVH
Vehicle Attributes & CAE Department, NAE VE
Ford Motor Company, EVB 1WI07, MD X-19
Phone: (313) 805-4372, Fax: (313) 845-1776
mailto:jgu2@ford.com

From: Paolo di Carlo [mailto:Paolo.diCarlo@lmsintl.com]
Sent: Tuesday, July 31, 2007 9:31 AM
To: Gu, Jianmin (J.M.)
Cc: Bai, Jaimin (J.); Thomas Mitchell; Greg Falbo; Antonino Sergio Lentini; Paola Diglio
Subject: Nibble Full Vehicle mass distribution
Importance: High

Hi Jimmy,
I'm working on Nibble model in order to align it to the actual mass distribution, but I have some inconsistencies related to weight on each tire. Attached you can find two slides with summary of the current status and the biggest difference is on the fr left tire (124Kg) which is the most important wheel because the unbalanced mass is attached to it. Slide #2 lists all the main model masses and COG locations.
Do you have any suggestion where the missed kilograms came from?

Thanks.

Best Regards
Paolo di Carlo

Paolo di CARLO
Site Manager
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Engineering Services Italy

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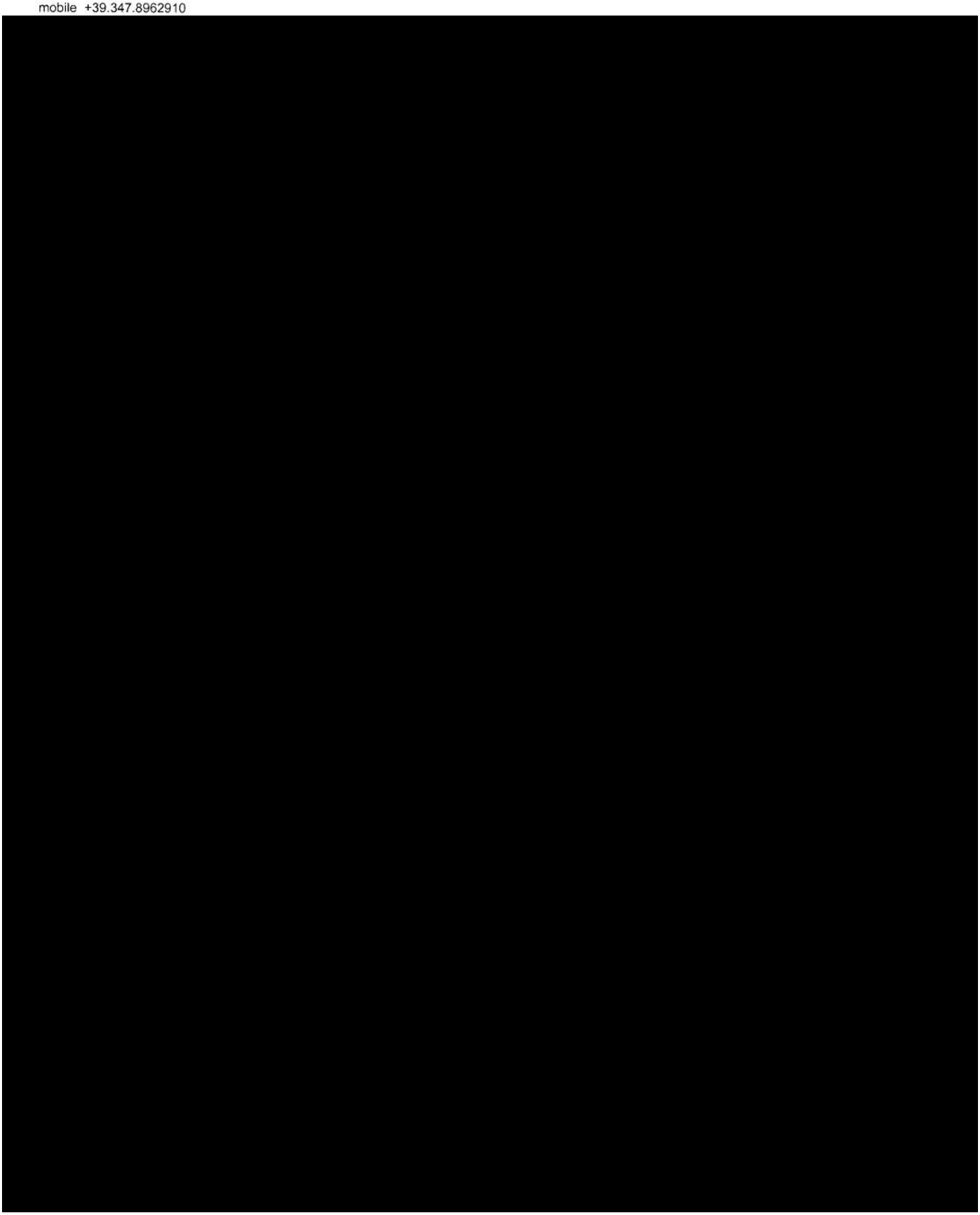

From: Gompper, Dan (D.B.)
Sent: Friday, May 11, 2007 8:52 AM
To: O'Connor, Tammy (T.A.); Hasselbring, D Blake (D.B.)
Cc: Carter, Fletch (F.); Meyers, Guy (G.A.); Hale, Curt (B.C.)
Subject: RE: Oscillation: Lifted trucks

I agree as well.

I believe 07-05-07 included the installation of the '08 steering damper. If not, please make the dealer aware of the latest TSB (07-10-10), but either way, I agree completely with the feedback already given.

Dan Gompper
SuperDuty Vehicle Dynamics Supervisor
EVB 2E-L01
Cellphone: (313) 805-2039
Email: dgompper@ford.com
text page: 3138052039@sprintpcs.messaging.com

From: O'Connor, Tammy (T.A.)
Sent: Friday, May 11, 2007 8:41 AM
To: Gompper, Dan (D.B.); Hasselbring, D Blake (D.B.)
Cc: Carter, Fletch (F.); Meyers, Guy (G.A.); Hale, Curt (B.C.)
Subject: RE: Oscillation: Lifted trucks

Guy: I agee with you 100%.

I will forward this to Engineering to see if they have any additional comments.

Tammy A. O'Connor
Product Concern Engineer
FCSD Service Engineering Operations
Super Duty F-Series
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSC I, Cube 149 (Tuesday,Wednesday)

From: Meyers, Guy (G.A.)
Sent: Tuesday, May 08, 2007 5:05 PM
To: O'Connor, Tammy (T.A.)
Cc: Carter, Fletch (F.)
Subject: RE: Oscillation: Lifted trucks

Tammy,

Any additional thoughts on this issue. See my response below and coach and council if I need it.

From: Carter, Fletch (F.)
Sent: Tuesday, May 08, 2007 10:57 AM
To: 'jim.haynes@barberbrothers.com'
Cc: Meyers, Guy (G.A.)
Subject: FW: Oscillation: Lifted trucks

Jim - Take a look.

From: Meyers, Guy (G.A.)
Sent: Tuesday, May 08, 2007 12:50 PM
To: Kimmerle, Troy (T.)
Cc: Carter, Fletch (F.)
Subject: RE: Oscillation: Lifted trucks

I know this is not what anyone wants to hear, but when the customer/dealer chooses to raise a vehicle it will likely and dramatically affect the steering geometry and turn ratios. This is likely to affect the steering response to bumps and other road conditions. If the vehicle is modified with a lift kit, then it may be necessary for the customer to complete the modification by addressing the steering stabilization with a compatible aftermarket dampener designed for the modification application. Of course this would not be a warrantable repair and would be the responsibility of the customer, and would have to be supported by the modifier with installation or technical support. Any repair that we would design would be designed and tested for trucks that did not have modifications to them. So even if we have a repair out there (Ex: TSB 07-05-07) it would not likely have been designed or tested to work on modified vehicles.

Here is the latest info on the TSB 07-05-07, as you can see in the last sentence there may be some remaining oscillation that may not be entirely removable, even with our best fix. This would be considered a normal level of steering oscillation. However with the affect of altered steering geometry and increased turn ratios created by lifting the vehicle it may exacerbate the normal remaining oscillation from a perceptible to problem level. It would be necessary to consult with the vehicle modifier to investigate and supply a remedy for this.

SOME 2005-2007 F-SUPER DUTY VEHICLES MAY EXHIBIT STEERING WHEEL OSCILLATION (BACK ANDFORTH MOTION), IMMEDIATELY FOLLOWING FRONT OR REAR WHEEL IMPACTS (I.E. PAVEMENT JOINTS, FROST HEAVES, ROUGH ROADS, ETC.). STEERING WHEEL MOTION IS TYPICALLY IN THE RANGE OF ± 5 DEGREES, AND TYPICALLY DAMPENS OUT IN FEWER THAN FIVE OSCILLATIONS. THIS CONDITION OCCURS MOSTLY ON F-250/F-350 4X4 VEHICLES, AND IS MORE EVIDENT ON TRUCKS EQUIPPED WITH A GAS ENGINE. REFER TO THE SERVICE PROCEDURE TO MINIMIZE THE STEERING WHEEL OSCILLATIONS ON IMPACTS, **HOWEVER, THERE MAY BE SOME REMAINING MINOR OSCILLATION WHICH WOULD BE CONSIDERED NORMAL.**

If I receive any additional information on this issue I will advise.

-----Original Message-----
From: Kimmerle, Troy (T.)
Sent: Monday, May 07, 2007 6:46 PM
To: Meyers, Guy (G.A.)
Cc: Carter, Fletch (F.)
Subject: RE: Oscillation: Lifted trucks

Guy,
Can you provide add'l insight/info to Fletch? Check with Marty or Brian as they may have some experience with the issue.

Troy Kimmerle

Technical Support Operations Manager
Denver, Seattle, & Phoenix Regions
(303) 791-9407
tkimmerl@ford.com

-----Original Message-----
From: Carter, Fletch (F.)
Sent: Monday, April 30, 2007 2:14 PM
To: Kimmerle, Troy (T.)
Subject: FW: Oscillation: Lifted trucks

Troy - Other than don't modify the trucks, is there any other way to respond to this question?

-----Original Message-----
From: Jim Haynes [mailto:jim.haynes@barberbrothers.com]
Sent: Friday, April 27, 2007 4:42 PM
To: Carter, Fletch (F.)
Cc: John Barber
Subject: Oscillation: Lifted trucks

Mr. Carter

Just a reminder to have you ask around about any fixes regarding lifted F250-F350 trucks with front end oscillation after hitting a bump at road speed. We have as of today four customers with the problem, each around 20K miles. There is a TSB 07-05-07 that addresses the issue on stock trucks, and we have checked each of these. We have gone over every inch of the front suspension and have been unable to completely correct the condition. Our customers are appropriately calling this a 'death wobble', and rightly so.
It is very violent.

Also, I will give you a call next week regarding our conversation about the Highway Patrol vehicle with engine damage due to the oil filter issue addressed in SSM 19642.

Thanks!

Jim Haynes
Barber Brothers Ford
801.829.3447

From: Knapp, David (D.)
Sent: Monday, July 11, 2005 1:15 PM
To: O'Connor, Tammy (T.A.)
Subject: RE: Oscillations

Were on the same page. Some oscillation is normal and I have been quizzing techs on weather or not they are actually feeling this and at what speeds. I have heard some at 70 mph over rail road tracks which is extreme. However I have had techs report loss of control as compared and in those instances were swapping wheels and tires and most have said that it takes care of it. I can not see other than pressures that would cause that. Just fyi to keep you informed.

David Knapp
Truck Group Service Engineer
F-Superduty/Excursion SME
Ford Technical Hotline
DKnapp7@ford.com
313-317-6316

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Monday, July 11, 2005 12:50 PM
To: Knapp, David (D.)
Cc: Hale, Curt (B.C.)
Subject: RE: Oscillations

David:

Thanks, I had a great vacation! Yes, the weighted steering wheel is equipped on the 2006 MY.

The TSB does state under the ACTION section that some minor oscillation may remain and is considered normal.

My feeling is that we will see some trucks, especially while towing in certain situations that may be extreme. We will have to deal with those on an individual basis, even getting FSEs involved. Please feel free to TAR those reports when appropriate. Please continue to recommend the TSB.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
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248/814-8698 Telecommuting Office (Mon,Thurs,Fri)
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-----Original Message-----
From: Knapp, David (D.)
Sent: Monday, July 11, 2005 10:42 AM
To: O'Connor, Tammy (T.A.)

Subject: Oscillations

Tammy,

First welcome back and I hope you had a good vacation.
I have seen one or two 2006's with steering oscillations. My question is if the redundant control "weighted" steering wheel is equipped on the 2006's. This is the wheel in tsb 04-26-01.

I have been seeing some 2005's come back with the same concern even after mesh load, tire pressures and wheel have been attached. I have 60 reports since the 1st of the year and the tsb was brought out on December 14th. Thanks Tammy!

2005	5F[redacted]	F250X4	B1397	1FTSW21595E[redacted]	MOD 5.4 3V	09/12/04	21747	VIBRATION OVER BUMPS
2005	5F2[redacted]	F250X4	B6254	1FTSW21545E[redacted]	MOD 5.4 3V	01/19/05	9195	DANGEROUS SHAKE / STEER
2005	5F[redacted]	F250X4	01325	1FTSW21P65E[redacted]	6.0L DI	04/04/05	2141	STEERING WHEEL SHAKE.
2005	5D[redacted]	F250X4	B2541	1FTSW21P95E[redacted]	6.0L DI	09/09/04	21118	SHIMMY ON ROUGH ROAD
2005	5F[redacted]	F250X4	B3303	1FTSX21P65E[redacted]	6.0L DI	11/23/04	5095	STEERING SHIMMY OVER BU
2005	5E[redacted]	F250X4	04379	1FTNF21585EA[redacted]	MOD 5.4 3V	08/02/04	8000	STRG. WHEEL OSCILLATION
2005	5E[redacted]	F450X2	06330	1FDXW46P55E[redacted]	6.0L DI	03/05/05	5612	STEERING WANDER.
2005	5F[redacted]	F250X4	08807	1FTSW21595E[redacted]	MOD 5.4 3V	01/06/05	6927	OSCILLATES OVER BUMPS
2005	5E[redacted]	F350X4	08220	1FTWX33P15E[redacted]	6.0L DI	10/17/04	6378	OVER BUMPS
2005	5F[redacted]	F250X4	02634	1FTSX21595E[redacted]	MOD 5.4 3V	02/07/05	5340	OSCILLATES/SHIMMYS OVER
2005	5F[redacted]	F250X4	B2487	1FTSX21505E[redacted]	MOD 5.4 3V	09/27/04	22537	SHIMMY AFTER HITTING A BU
2005	5D[redacted]	F250X4	09781	1FTSX21525E[redacted]	MOD 5.4 3V	08/31/04	2515	STEER WHEEL OSCILLATION
2005	5E[redacted]	F350X2	01330	1FTWW32P65E[redacted]	6.0L DI	04/11/05	857	SHIMMY OVER BUMPS.
2005	5C[redacted]	F350X4	08379	1FTWW31P35E[redacted]	6.0L DI	12/07/04	489	OSOLATION GOING STRAIGH
2005	5G[redacted]	F250X4	03820	1FTNF21555E[redacted]	MOD 5.4 3V	03/13/05	9807	STEERING WHEEL OSIOLATI
2005	5F[redacted]	F350X4	02697	1FDSX35575E[redacted]	MOD 5.4 3V	12/21/04	8351	STEERING SHIMMY ON BUMP
2005	5F[redacted]	F250X4	B2211	1FTSW21545[redacted]	MOD 5.4 3V	08/09/04	14912	VIBRATION OVER BUMP.
2005	5E[redacted]	F250X4	04569	1FTSX21P65E[redacted]	6.0L DI	08/13/04	1391	SHIMMY OVER BUMPS
2005	5F[redacted]	F250X4	08514	1FTSX21Y55E[redacted]	6.8L 3V	08/06/04	9625	SHIMMY OVER BUMPS
2005	5G[redacted]	F250X4	09131	1FTNF21525E[redacted]	MOD 5.4 3V	04/03/05	4126	SHIMMY OVER BUMPS
2005	5F[redacted]	F250X4	B4713	1FTNF21545E[redacted]	MOD 5.4 3V	01/11/05	10	STEERING JUMPS OVER BUM
2005	5F[redacted]	F250X4	B7009	1FTSX21575E[redacted]	MOD 5.4 3V	12/07/04	15277	STEERING SHIMMY OVER BU
2005	5F[redacted]	F250X4	B2217	1FTNF21585E[redacted]	MOD 5.4 3V	03/11/05	2971	VIBRATION OVER BUMPS.
2005	5E[redacted]	F250X4	09844	1FTSX21545E[redacted]	MOD 5.4 3V	08/17/04	2583	SHIMMY OVER BUMPS
2005	5F[redacted]	F250X4	20422	1FTSW21595E[redacted]	MOD 5.4 3V	01/24/05	3078	SHIMMY CHANGING ROAD SURFACES.
2005	5F[redacted]	F250X4	05988	1FTSW21575[redacted]	MOD 5.4 3V	03/31/05	99999	SHIMMY OVER BUMPS
2005	5G[redacted]	F250X4	02724	1FTSW21515E[redacted]	MOD 5.4 3V	08/06/04	5851	UNVERIFIED UNCONTROLABI
2005	5F[redacted]	F250X4	B2530	1FTNF21575E[redacted]	MOD 5.4 3V	11/18/04	14479	SHIMMY AFTER BUMP
2005	5E[redacted]	F350X4	01279	1FTWW31P05E[redacted]	6.0L DI	10/08/04	2105	STEERING OSOLATIONS
2005	5F[redacted]	F250X4	B4810	1FTSX21545E[redacted]	MOD 5.4 3V	11/19/04	15810	SHIMMY OVER BUMPS,

2005	5F[redacted]	F250X4	09138	1FTSX21565E[redacted]	MOD 5.4 3V	02/22/05	3968	SHIMMING GOING 70 OVER B
2005	5G[redacted]	F250X4	04489	1FTSX21535E[redacted]	MOD 5.4 3V	09/28/04	19501	SEVERE RIDE OVER BUMPS
2005	5D[redacted]	F250X4	05458	1FTSW21P75E[redacted]	6.0L DI	08/18/04	10283	STERRINGWHEEL OSICLATIO
2005	5E[redacted]	F350X4	B2211	1FTWX31545[redacted]	MOD 5.4 3V	08/04/04	17051	STEER WHEEL OSCILLATION
2005	5F[redacted]	F250X4	03668	1FTSW21595E[redacted]	MOD 5.4 3V	08/12/04	18672	SHUDDER HITTING BUMPS
2005	5F[redacted]	F250X4	05828	1FTSX21595E[redacted]	MOD 5.4 3V	08/13/04	5441	SHIMMY OVER BUMPS
2005	5F[redacted]	F350X4	04005	1FTWX31545E[redacted]	MOD 5.4 3V	08/24/04	11054	STEERING WHEEL SHIMMY
2005	5F[redacted]	F250X4	04474	1FTSW21P05E[redacted]	6.0L DI	04/12/05	982	SHIMMY OVER BUMPS
2005	5E[redacted]	F250X4	20420	1FTSX21595E[redacted]	MOD 5.4 3V	09/30/04	19129	SHIMMY OVER BUMPS
2005	5E[redacted]	F250X4	03620	1FTSW21565E[redacted]	MOD 5.4 3V	08/07/04	18348	STEERING SHIMMY HITTING E
2005	5[redacted]	F250X4	20428	1FTSX21Y05E[redacted]	6.8L 3V	11/17/04	16670	SHIMMY OVER BUMPS
2005	5E[redacted]	F350X4	08862	1FDWF355X5E[redacted]	MOD 5.4 3V	09/13/04	4537	STEERING WHEEL OSCILATIC
2005	5G[redacted]	F250X4	07067	1FTNF21585E[redacted]	MOD 5.4 3V	08/16/04	14900	SEVERE VIB ON ROUGH ROA
2005	5F[redacted]	F250X4	B4613	1FTSX21585E[redacted]	MOD 5.4 3V	04/02/05	2050	VIBRATION IN STEERING
2005	5F[redacted]	F550X4	08404	1FDAX57P85E[redacted]	6.0L DI	09/09/04	10465	STEERING WHEEL OSCILLAT
2005	5G[redacted]	F250X4	B2357	1FTSX21565E[redacted]	MOD 5.4 3V	10/26/04	9000	STEERING WHEEL OSCILLAT
2005	5D[redacted]	F250X4	09443	1FTSW21Y45E[redacted]	6.8L 3V	09/13/04	3731	SHIMMY WHEN GOING OVER
2005	5E[redacted]	F250X2	01232	1FTSX20565E[redacted]	MOD 5.4 3V	12/22/04	2706	OSCLLATIONS GIONG OVER E
2005	5E[redacted]	F250X4	02561	1FTSX21555[redacted]	MOD 5.4 3V	08/19/04	19683	STEERING SHIMMY AFTER BU
2005	5F[redacted]	F350X4	B6257	1FTWW31P75E[redacted]	6.0L DI	08/20/04	7161	SHIMMY OVER BUMPS
2005	5E[redacted]	F250X4	03565	1FDSX21565E[redacted]	MOD 5.4 3V	01/31/05	4000	STEERING NIBBLE OVER BUM
2005	5F[redacted]	F250X4	04471	1FTNF21585E[redacted]	MOD 5.4 3V	09/11/04	15597	SHIMMY OVER BUMPS
2005	5F[redacted]	F350X2	06534	1FTWW32P05[redacted]	6.0L DI	10/14/04	12676	SHIMMY OVER BUMPS
2005	5G[redacted]	F250X4	B6257	1FTSW21585E[redacted]	MOD 5.4 3V	11/17/04	14633	SHIMMYS/VIBRATES ROUGH
2005	5G[redacted]	F250X4	07799	1FTSW21P65E[redacted]	6.0L DI	02/18/05	5790	SHIMMY OVER BUMPS
2005	5[redacted]1	F250X4	20310	1FTSX21525E[redacted]	MOD 5.4 3V	08/02/04	3301	SHIMMY OVER BUMPS

David Knapp
Truck Group Service Engineer
F-Superduty/Excursion SME
Ford Technical Hotline
DKnapp7@ford.com
313-317-6316

From: Hatt, Jeffrey (J.M.)
Sent: Wednesday, November 16, 2005 5:24 PM
To: O'Connor, Tammy (T.A.); Repasky, Steve (S.); Meier, Kenneth (K.W.)
Cc: Choe, Mark (M.J.); Hale, Curt (B.C.); Mayer, Paul (P.A.); Arnold, Bruce (B.C.)
Subject: RE: P221 field issue

Tammy/Steve,
Thanks for sorting this out. My main concern was that we were following the "process" and the issue got to the proper people. We are ready to assist and support as the investigation warrants.

Thanks,
Jeff Hatt
Manager, Suspension and Chassis Integration, PTAC
(313)317-2200, Cell (313)805-2705 , Fax (313)62-14541
Text page: <<mailto:3138052705@messaging.sprintpcs.com>>
Admin. Assistant: Lenora Gregory (LGREGORY) 322-3077

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Wednesday, November 16, 2005 3:47 PM
To: Repasky, Steve (S.); Meier, Kenneth (K.W.)
Cc: Choe, Mark (M.J.); Hatt, Jeffrey (J.M.); Hale, Curt (B.C.)
Subject: RE: P221 field issue

Steve:

There is no warranty history or calls to the Tech Hotline on either of these trucks.

1 of the vins is not coming up in AWS at all?

This fleet needs to get CVO or FSE involved. They are not following the process. FCSD will respond to this - thanks.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Wed,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Thursday)

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-----Original Message-----
From: Repasky, Steve (S.)
Sent: Wednesday, November 16, 2005 3:38 PM
To: O'Connor, Tammy (T.A.)
Cc: Choe, Mark (M.J.); Hatt, Jeffrey (J.M.)
Subject: FW: P221 field issue

Tammy - is this an area FCSD should get involved with the direct customer? We can have the servicing dealer perform the appropriate TSB. Thanks for any clarification.

-----Original Message-----
From: Hatt, Jeffrey (J.M.)
Sent: Wednesday, November 16, 2005 1:13 PM
To: Repasky, Steve (S.)
Cc: Chaulk, Michael (M.G.); Mayer, Paul (P.A.); Choe, Mark (M.J.); Arnold, Bruce (B.C.)
Subject: FW: P221 field issue

Steve,
Please take the lead on investigating this concern. Paul and I will support as needed. I guess we start with the TSB and go from there, right?

Thanks,
Jeff Hatt
Manager, Suspension and Chassis Integration, PTAC
(313)317-2200, Cell (313)805-2705 , Fax (313)62-14541
Text page: <<<mailto:3138052705@messaging.sprintpcs.com>>>
Admin. Assistant: Lenora Gregory (LGREGORY) 322-3077

-----Original Message-----
From: Chaulk, Michael (M.G.)
Sent: Wednesday, November 16, 2005 10:43 AM
To: Hatt, Jeffrey (J.M.)
Cc: Chaulk, Michael (M.G.)
Subject: P221 field issue

Jeff,

Have you had any experience in the field with 2005 MY F-250 4X4 standard cab trucks with front suspension issues? A fleet in Michigan reported to me they have:

Fleet #	Mileage	VIN #
269	7,622	1FTNF21545E[redacted]
297	5,669	1FTNF21515E[redacted]

Both trucks are 2005 F250s With 5.4L 4X4
Standard cabs With Automatic Trans

Both trucks will shake violently at speeds ranging from 55 mph. to 75 mph. normally need to slow down below 45-50 mph. to get it to stop. Drivers say shakes violently enough to almost lose control. Normally can make it happen by hitting any size bump in the road.

They returned one vehicle which they were leasing. The dealership working on the issue says there is nothing that can be done - I.E. they don't know how to repair it? The contact at the fleet (Torre & Buglio) is Tom Walters and he can be contacted at (248) 303-2742 or (810) 814-7032. I believe they tow trailers on a fairly consistent basis. Any chance someone could talk to them? Thanks.

Michael G. Chaulk (mchaulk@ford.com)
V-Engine Fleet Test Coordinator
Instrumentation CTR / PT Fleet Section
Vehicle Evaluation and Verification
Office (313) 845-2501
Text Pager: (313) 795-4802

From: Zello, Timothy (T.C.)
Sent: Thursday, January 04, 2007 7:29 AM
To: Rooker, Heather (H.R.)
Cc: Selinsky, Frank (F.J.); O'Connor, Tammy (T.A.)
Subject: RE: Part Concern

Hello,
The 7C3Z-3E652-C is now reinstated……..

```
SERVICE PART:   7C3Z-   3E652-C____  BRACKET
ANALYST ROLE:  NPA                   TYPE: GR
Suplr Remarks: N

A Ret Pub                                                                  Update
C Rmk Rmk Remarks                                                          Date
-  -   -  ------------------------------------------------------------ --------
   Y   N  MANUAL LINK / NO STOCK PER MMP                                 09/15/06
   Y   N  REINSTATED/NL00E11872486000                                    01/04/07
```

Tim Zello
Global Business/Parts Analyst
(734)523-5419
FCSD/PS&L NPDC

From: Rooker, Heather (H.R.)
Sent: Wednesday, January 03, 2007 2:59 PM
To: Zello, Timothy (T.C.)
Cc: Selinsky, Frank (F.J.); O'Connor, Tammy (T.A.)
Subject: Part Concern

Hi Tim,
I am working on a TSB concerning steering wheel oscillation….. The part requested is 8c3z3e652a, which will not be available till May. I spoke with the supplier and the replaced part 7C3Z- 3E652-C is obsolete per service, but is still being shipped to production - how can that be? Supplier has stock, readily available to ship to service, but I can not place a release. Frank wanted your authorization prior to reinstating. Was their any specific reason this part was obsolete that you can remember?

Thanks for your time in advance,

Heather Rooker
QSF/Critical Parts Specialist
Critical Parts Handling
Parts, Supply & Logistics
Ford Customer Service Division
Phone: (734)523-5612
Fax: (734)523-6044
hrooker@ford.com

From: Rooker, Heather (H.R.)
Sent: Wednesday, April 11, 2007 9:41 AM
To: O'Connor, Tammy (T.A.); Corlew, Randall (R.L.)
Cc: Rooker, Heather (H.R.)
Subject: RE: Rick West Information

Part Number	Shipping Week	Qty	Will Be Available
W706196S439	4-10 wk	523	4-16 wk
7C3Z3E652C	4-10 wk	650	4-16 wk
8C3Z3E651C	4-10 wk	1806	4-16 wk
W711570S300	4-2 wk	339	4-10 wk

Heather Rooker
QSF/Critical Parts Specialist
Parts, Supply & Logistics
Ford Customer Service Division
Phone: (734)523-5612
Fax: (734)523-6044
hrooker@ford.com
"The happiest people don't have the best of everything.
They just make the best of everything."

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Wednesday, April 11, 2007 9:04 AM
To: Corlew, Randall (R.L.)
Cc: Rooker, Heather (H.R.)
Subject: RE: Rick West Information

The one part number was wrong -- (see attached note). I am going to resubmit to correct this error.

Otherwise, I don't know anything about the parts - but I will send this to Heather Rooker who is our parts specialist.

Heather - can you advise on the parts for the TSB?

Tammy A. O'Connor
Product Concern Engineer
FCSD Service Engineering Operations
Super Duty F-Series
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSC I, Cube 149 (Tuesday,Wednesday)

-----Original Message-----
From: Corlew, Randall (R.L.)
Sent: Tuesday, April 10, 2007 9:27 PM
To: O'Connor, Tammy (T.A.)
Subject: FW: Rick West Information

Tammy,
Is there a hold up on parts for TSB 07-05-07?
This for the shimmy after the previous tsb only after hitting a bump just right.
Intermittent shimmy.
The part#'s are ordered emergency below. The dealer is having trouble getting the parts.
Let me know.

Randy Corlew - FSE - Pittsburgh

-----Original Message-----
From: wash White [mailto:washserv@hotmail.com]
Sent: Tuesday, April 10, 2007 3:26 PM
To: Corlew, Randall (R.L.)
Subject: Rick West Information

Hi Randy,

Here's the information that you requested.

[redacted]

VIN: 1FTWW31Y35E[redacted]
MILEAGE: 35810
REPAIR ORDER: 11700

PARTS:

W706196S439
7C3Z3E652C
8C3Z3E651C
W711570S300

If you need any additional information, give me or Randy a buzz.

Take care,

Diane

_____
The average US Credit Score is 675. The cost to see yours: $0 by Experian.
http://www.freecreditreport.com/pm/default.aspx?sc=660600&bcd=EMAILFOOTERAVERAGE

From: Manning, Justin (J.E.)
Sent: Friday, January 19, 2007 10:58 AM
To: O'Connor, Tammy (T.A.)
Subject: RE: SD vibrations and nibble

Thank you for the part numbers!

Thanks again!

Justin E Manning
Field Service Engineer
Northeast Market, District C
(201) 529-7293 (work)
[redacted]

From: O'Connor, Tammy (T.A.)
Sent: Friday, January 19, 2007 10:41 AM
To: Manning, Justin (J.E.)
Subject: RE: SD vibrations and nibble

No - but I do have the part numbers: See the last 2 part numbers on the parts template -- you have to have the bracket and the new dampner. The text in the tsb has not yet been updated -- still waiting for Engineering.

<< Message: TSB Part Approval Complete:[redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation >>

Tammy A. O'Connor
Product Concern Engineer
FCSD Service Engineering Operations
Super Duty F-Series
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Manning, Justin (J.E.)
Sent: Friday, January 19, 2007 10:38 AM
To: O'Connor, Tammy (T.A.)
Subject: RE: SD vibrations and nibble

Tammy,

Has the TSB been released for the steering nibble concern after hitting bumps? If not, do you have an expected date of release? I have 3 vehicles now that exhibit this concern even after doing the available TSB. Two are close to lemon law eligible.

Thanks again for your assistance on this issue.

Justin E Manning

Field Service Engineer
Northeast Market, District C
(201) 529-7293 (work)
[redacted]

From: O'Connor, Tammy (T.A.)
Sent: Friday, January 05, 2007 4:38 PM
To: Manning, Justin (J.E.)
Subject: RE: SD vibrations and nibble

Justin:

I'm working on the TSB for the new steering dampner for the shimmy. I'm attaching an e-mail for Steve Repasky who is the Engineering Manager in charge of this.
<< Message: RE: SD Steering Oscillation - Any Further Engineering Information >>
It will be at least 2-3 weeks before the TSB is published.

As far as the Hop issue, please call me as we have something in the works (I'll send you a file) -- but I want to make sure this is the same issue.

<< Message: FW: P131 172" Damper Review >>

Tammy A. O'Connor
Product Concern Engineer
FCSD Service Engineering Operations
Super Duty F-Series
Body / Chassis / Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Manning, Justin (J.E.)
Sent: Friday, January 05, 2007 3:01 PM
To: O'Connor, Tammy (T.A.)
Subject: SD vibrations and nibble

Hello Tammy,

I installed the steering dampener that was sent to me on the vehicle and all appears ok at this time. The problem I now have is there are two more Super Duty's with the same steering issue. Is there a timeframe now when the dampener will be released for use? I don't want to use another proto-type part if it is close to being released. Any update on this will be helpful.

I also have a 2007 Super Duty, GCQIS report of 6KCB3001, where the vehicle shakes at 45 mph. In the report it says it is under investigation. Is there an ETA when a fix for this concern will be coming out?

Thanks again for all your help on this and my previous concerns. I hope you have a Happy New Year!

Justin E Manning
Field Service Engineer

Northeast Market, District C
(201) 529-7293 (work)
[redacted]

From: King, Tom (T.F.)
Sent: Tuesday, September 13, 2005 12:07 PM
To: O'Connor, Tammy (T.A.)
Subject: RE: Shudder After Bumps

I chatted with Bob Menard. They have been finding castor settings of 3.7 to 4.0. I've suggested they try 4.5 and 5.0 He agrees that we should stick with the cert. label tire pressure.
Tom

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Tuesday, September 13, 2005 11:24 AM
To: Brandt, Andrew (D.)
Cc: Hale, Curt (B.C.); King, Tom (T.F.)
Subject: RE: Shudder After Bumps

Andrew:

I have spoken with Tom King and Alex Snider about Ron's concern (the trucks Ron is referring to are up in Canada) with this issue. We currently have a revised draft that we are circulating for feedback from the FQEs/FSEs.

There are no trucks we have not been able to resolve this issue on, when the revised TSB is followed.

If there are, then someone needs to contact me.

I left a voice mail message for Ron.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thurs,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

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-----Original Message-----
From: Brandt, Andrew (D.)
Sent: Tuesday, September 13, 2005 11:13 AM
To: O'Connor, Tammy (T.A.)
Subject: Shudder After Bumps

Tammy, I was just sorting an issue with Ron Canal in the Southwest Region and he mentioned he is having trouble with F250 SD after going over bumps. He said all other vehicles do fine with a TSB fix but not the 250's. Does this sound familiar?

Andrew Brandt
Ford Customer Service Division
Product Concern Engineer - E Series

Service Engineering Office
416 Diagnostic Service Center II (DSCII)
Phone/Fax: 313-323-2381

From: Knapp, David (D.)
Sent: Tuesday, November 27, 2007 5:03 PM
To: OConnor, Tammy (T.A.)
Subject: RE: Specs Case for TSB 07-10-10

Tammy this is the second report i have of this. ARe we sure that the bolt and nut for the dampener are correct?

From: OConnor, Tammy (T.A.)
Sent: Tuesday, November 27, 2007 3:56 PM
To: 'ERIC & MICHELLE SNYDER'
Cc: Knapp, David (D.)
Subject: RE: Specs Case for TSB 07-10-10

Eric:

The TSB provides the following instructions:

For F-250/F-350 4x4 applications:

Remove existing steering damper and frame attachment bracket. Replace steering damper and frame mounting bracket with steering damper and frame bracket. Attach steering damper to **frame bracket (with bolt and nut)** and torque bolt to 103 Nm. Assemble bracket and shock assembly to the frame with attachment bolt retainer pointing to rear of vehicle. Torque frame bracket nuts to 80 Nm. Attach other end of shock to the steering drag link and torque to 90 Nm. **Install damper bolt cap** to assure a friendly surface for the battery cable in case of casual contact.

Note: CHECK SURROUNDING ENVIRONMENT TO THE FRAME BRACKET AND DAMPER ASSEMBLY TO ENSURE THAT BATTERY CABLES ARE NOT CONTACTING BRACKET/BOLTS/DAMPER. ALSO, VERIFY THAT TRANSMISSION OIL COOLER LINES HAVE CLEARANCE TO THE DAMPER DUST SHIELD.
The part numbers are provided in the TSB:

The correct part number for the damper is 8C3Z-3E651-C, the bracket is 7c3z-3e652-c, the nut and bolt and the damper cap == these parts are all listed in the TSB.

Please call David Knapp at the Techical Hotline if you have any additional questions. I'm attaching a copy of the TSB for your reference.

Tammy A. O'Connor
Product Concern Engineer
FCSD Service Engineering Operations
Super Duty F-Series
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Tue,Fri AM)
313/322-3824 DSC I, Cube 149 (Wednesday,Thursday)

From: ERIC & MICHELLE SNYDER [mailto:snyderfam3@sbcglobal.net]
Sent: Tuesday, November 27, 2007 3:41 PM
To: OConnor, Tammy (T.A.)
Subject: Re: Specs Case for TSB 07-10-10

i tried the 5c3z-3e651-c, when this wouldn't work i tried the one for the 4x2 (5c3z-3e651-b), it looks almost identical to the 4x4 one, where are the bracket part numbers listed? my vin # is 1ftwx31p65e[redacted]

"OConnor, Tammy (T.A.)" <toconnor@ford.com> wrote:

> Eric:
> For the SPECs case that you recently submitted - Additional information is required.
> Different part numbers apply to different vehicle applications.
> A bracket is required to attach the damper (for all 250/350 4x4 applications only).
> I need a vin before I can respond accurately.
> I also need the part number that tech advises will not fit?
>
> *Tammy A. O'Connor*
> **Product Concern Engineer**
> **FCSD Service Engineering Operations**
> **Super Duty F-Series**
> **Body/Chassis/Electrical**
> 248/814-8698 Telecommuting Office (Mon,Tue,Fri AM)
> 313/322-3824 DSC I, Cube 149 (Wednesday,Thursday)

From: Repasky, Steve (S.)
Sent: Tuesday, February 28, 2006 10:13 AM
To: Ufford, Donald (D.A.); Choe, Mark (M.J.)
Cc: O'Connor, Tammy (T.A.)
Subject: RE: Super-Duty 5.4L with front-end Shimmy

Don/Mark - I have read all the attached comments and accessed the same website this morning (no additional comments). I also talked to Tammy O'Connor and she had already called most of the dealerships with the negative comments. There was one dealership that had a follow-up scheduled with the FSE (Rea Ford LM - Monticello, N.Y.) and Tammy and I will discuss results with the FSE.

A brief summary of the comments below:

- Most postings were just comments (~ 50% each positive/negative) without any specific vehicle VIN called out.
- Positive comments indicated the released TSB fixed the concern
- Negative comments included highway driving with low caster, track bar bushing and tires
- The dealership in Florida (Ford of Ocala - Ocala, Fl.) seemed the most vocal. I will ask Tammy the results of her discussion with that technician.

Next steps: 1) Talk to FSE (N.Y dealership) 2) Follow website for additional comments 3) Discuss with Tammy which, if any, dealership visits or requests to area FSEs are in order 4) Respond to Bob Gault (Crossroad Ford) e-mails as required.

-----Original Message-----
From: Ufford, Donald (D.A.)
Sent: Monday, February 27, 2006 8:06 AM
To: Repasky, Steve (S.); Choe, Mark (M.J.)
Subject: FW: Super-Duty 5.4L with front-end Shimmy

Steve - can you get me a plan to check out these complaints.
Some we may be able to coordinate with FCSD and diagnose over the phone. Others we will need to fly out to see.

-----Original Message-----
From: Bob Gault [mailto:bobgault@crossroadsford.com]
Sent: Monday, February 27, 2006 7:19 AM
To: Ufford, Donald (D.A.)
Subject: Re: Super-Duty 5.4L with front-end Shimmy

Donald,
Thanks for the response. I was on the message board the other day and saw this posted. It may be too late, but I thought it might interest you.
Bob Gault

- New User Guide
- Dealer Email
- ID & Password

- Help/Contact Us
- Log Out

FMCDealer

Welcome, ROBERT GAULT

Monday, February 27, 2006

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Genuine Parts and Service Forum (moderated by webmaster)

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Author	Topic: FRONT END OSCILLATION
DEREK TAYLOR	Posted on: January 18, 2006 6:22:40 PM ET US

Fremont Motor
Sheridan, Inc.
Sheridan, WY
(307) 674-4423

This welcome message is the first posting in this forum.
You can use the navigation links in the top right corner of the page or the "Hop to" drop-menus below to jump from forum to forum.
To post a message or reply, simply click the "Post Reply" icon above or below & join the conversation.
To make the message boards most effective, you'll want to stick to the topic being discussed in this forum.
The topic of this forum is FRONT END OSCILLATION.

DEREK TAYLOR
Fremont Motor
Sheridan, Inc.
Sheridan, WY
(307) 674-4423

Posted on: January 18, 2006 6:26:15 PM ET US

I remember seeing a post on here awhile back about super duty trucks that would hit a bump at highway speeds and the whole truck would start shaking and you would almost have to come to a stop before it would quit. Does any one remember this. I have one here now. I went for a ride with the customer and I can't believe something in the front end didn't break as bad as it was vibrating. things were falling off the seats and out of the console, it's terrible

JOSEPH MOUNT
Cal Worthington Ford
Anchorage, AK
(907) 276-5300

Posted on: January 18, 2006 7:31:18 PM ET US

RUN AN OASIS OR CHECK BROADCAST MESSAGES AS I REMEMBER SEEING SOMETHING RECENTLY ABOUT THIS CONCERN.

JOSEPH MOUNT
Cal Worthington Ford
Anchorage, AK
(907) 276-5300

Posted on: January 18, 2006 7:56:09 PM ET US

05-22-1 TSB

BRUCE GRANT
Lighthouse Ford, Inc.
Falmouth, MA
(508) 548-1900

Posted on: January 19, 2006 11:01:19 AM ET US

Pay particular attention to tire pressure, low pressure will have an enormous affect on this. If it is low, fill to the spec on the door post and recheck.

Nicholas Casillo
Rittenhouse-Kerr Ford, Inc.
Red Bank, NJ
(732) 741-6000

Posted on: January 24, 2006 1:49:57 PM ET US

i am doing one right now, tsb states to decrease caster by .5, did that along with the stabilizer inspect, steering box adjustment, and retorquing all front suspension, roadtest, did the same thing, called hotline, was told to bring caster up to 3.3, did, roadtest, still the same, out of ideas

MICHAEL BRIGGS
Gubbels Ford
Douglas, WY
(307) 358-3764

Posted on: January 24, 2006 2:57:23 PM ET US

Bruce is correct. We have fixed everyone that has come into our shop by adjusting the tire pressures. Tried doing the TSB on one truck and made it worse. We set the pressures as follows-single rear axle: 65-70 psi in front and 75-80 in rear. Dual rear wheel axle at 70 psi in the front and 80 psi in the rear. Hope this helps someone.

Russell Sniffen
Rea Ford Lincoln-Mercury, Inc.
Monticello, NY

Posted on: January 25, 2006 9:56:40 AM ET US

We have one here with a hop on highway. We did the TSB. Checked the front end torque, adjusted box and decreased caster. Fixed the hop

(845) 791-6100

but now the truck wanders and is a nightmare to drive on the highway. Hotline told me to try a new steering box. Still the same. Had a field engineer here and wanted us to adjust alignment. HA-HA! Customer still complaining.

- Steve Tomczyk
  Theodore Robins, Inc.
  Costa Mesa, CA
  (949) 642-0010

  Posted on: January 25, 2006 10:08:01 AM ET US

  the one i posted awhile back got bought back by ford. didnt get fixed, did everything for tsb, added stabilizer, checked tire pressure, all to no avail.

- MICHAEL BRIGGS
  Gubbels Ford
  Douglas, WY
  (307) 358-3764

  Posted on: January 25, 2006 12:58:08 PM ET US

  Steve and Russell-Were the 2 trucks you had problems w/ duallies or not? I have noticed the tire pressure makes a big difference, but noticed under certain road conditions (heavy rutted roads at 70 mph+) that they will still jump all over.

- Lee Bochanyin
  Rosemurgy Motors Inc
  Wausau, WI
  (715) 675-9500

  Posted on: January 25, 2006 4:51:03 PM ET US

  ARE WE ALL TALKING ABOUT STEERING WHEEL OSCILATION ON NEW 4X4 S.D. OR STEERING WHEEL TRAMP ON 4X2?

- Russell Sniffen
  Rea Ford Lincoln-Mercury, Inc.
  Monticello, NY
  (845) 791-6100

  Posted on: January 26, 2006 12:36:01 PM ET US

  The truck we have is a F-350 w/ a 5.4l and is 4x4. The problem started as a california hop. The steering wheel would vibrate at 60-70 after hitting a bump. The best way to discribe it is it felt like a loose wheel. First thing we did is check tire pressures. Did the TSB and even speed balanced the tires. It fixed the vibration but it handles like crap on the highway. The steering is so sensitive and it won't drive straight. At 60 on at flat straight road if you turn the wheel 1/2 inch the truck acts like you turned the wheel 2 turns.

- DEREK TAYLOR
  Fremont Motor Sheridan, Inc.
  Sheridan, WY
  (307) 674-4423

  Posted on: January 26, 2006 1:04:47 PM ET US

  We adjusted tire pressures and replace steering dampner, it was broken, rd tested and seemed to be ok. Tire pressures were real low.

- MICHAEL BRIGGS
  Gubbels Ford
  Douglas, WY
  (307) 358-3764

  Posted on: January 26, 2006 2:25:20 PM ET US

  Russell-Wow!!!!! Sounds like the only way to fix the one you have is with a gallon of gas and a road flare. Please keep us posted if you find any solution.

- Webmaster

  Posted on: January 27, 2006 11:10:48 AM ET US

  If TSB 05-22-1 is followed completely, it has resolved the shimmy issue on 2005-2006 Super Duty F-Series. Tire Pressure, Torque settings, and Caster to set to lower limit of spec is extremely important in resolving this issue. In most cases the TSB is not being followed completely. If additional assistance is required, please contact the Tech Hotline.

- MICHAEL BRIGGS
  Gubbels Ford

  Posted on: January 27, 2006 11:28:34 AM ET US

  Webmaster-Question for you. If tire pressure is an issue, why arent

Douglas, WY
(307) 358-3764

these set to the PROPER SPECS AT THE FACTORY? The majority of the vehicles that we pre-deliver arent anywhere near proper specs. Is FMC cutting costs by saving on air. AND, if alignment angles are an issue, WHY HASNT THE FACTORY made the proper adjustments before they leave there? I'm not being rude, but I am (as well as probaly everyone else) tired of dealing with FMC POOR QUALITY ISSUES. I am also tired of having FMC executives blowing smoke about how great the company is and how quality is so great. Just my $0.02

- Russell Sniffen
  Rea Ford Lincoln-Mercury, Inc.
  Monticello, NY
  (845) 791-6100

Posted on: January 27, 2006 5:28:35 PM ET US

I have followed the TSB to extreme detail. I've called Tech hotline 6 times. Every time I called, I got a different answer. I have had my field engineer here and he thought the center point of the box was off. Had me adjust alignment for the 5th time. Customer is still complaining. I don't blame him. He bought a truck that can't be driven on the highway.

- RICH BREMER
  Ford of Ocala Inc
  Ocala, FL
  (352) 732-4800

Posted on: January 28, 2006 9:40:37 AM ET US

webmaster, i too, like russel have dealt w/ several of these vehicles with this issue and have followed the tsb in order and to detail. and the results are unacceptable!! it seems funny to me that when reading the tsb fmc says to try this, and when that doesn't fix it try this and when that doesn't fix it then try this and so on. sounds to me like the engineers dont have any idea what's causing this or how to fix the problem. it also seems funny how the concern is only on vehicles w/ a gas engine. never seen this promlem w the leaf spring suspension. maybe they should look into the weight difference between the gas engine and the diesel. i believe this a large part of the problem. any one else agree??

- Nicholas Casillo
  Rittenhouse-Kerr Ford, Inc.
  Red Bank, NJ
  (732) 741-6000

Posted on: January 29, 2006 10:22:20 AM ET US

i have a feeling alot of the problem is due to the addition of the ball joint on the track bar, should have left it a a bolt through a bushing type. even the tiny amount of play a ball joint has when new is too much for that type of application. i also think the unsprung weight of that front suspension is too much for the coil spring setup to handle, those 18" steel wheels are back breaking heavy!

- Russell Sniffen
  Rea Ford Lincoln-Mercury, Inc.
  Monticello, NY
  (845) 791-6100

Posted on: January 29, 2006 8:31:48 PM ET US

Rich, you are right. Why is it only the gas engines have this problem? I have tried everything ford hotline and feild engineers aked me to do. I'm wonder if we fill the front bumper with cement if that will fix it!!!!!!!!!!

- Tony Kaminski
  Lincoln Mercury of Bellevue
  Bellevue, WA
  (425) 454-9585

Posted on: February 1, 2006 2:48:23 PM ET US

have you tried steering shocks old jeeps & trucks with swamper tires were notorious for this had to change to better steering shocks or add to existing

- DOUG HESSONG
  Phil Long Ford of

Posted on: February 1, 2006 5:41:10 PM ET US

Chapel Hills
Colorado Springs, CO
(719) 572-2200

I think Tony's on the right track(no pun intended!)The problem sounds just like an old 4x4 w/big tires-put on a steering stabilizer & no more shimmy.I know these trucks have one stock,but maybe they need a heavy duty one?

Clayton Keenan
Hinchey Ford Inc
Guymon, OK
(580) 338-8423

Posted on: February 2, 2006 9:22:56 PM ET US

We see as many 6.0 doing this as gas,but our country is mostly 6.0s.follow tsb 05-22-1 it will fix most of them.We have had some that you can't get caster to spec.much less reduce it.Worst cause in stall a heavier front coil spring.for says not to but it fixes the proublem

Nicholas Casillo
Rittenhouse-Kerr Ford, Inc.
Red Bank, NJ
(732) 741-6000

Posted on: February 6, 2006 8:00:45 AM ET US

update...i replaced the track bar ball joint even though it seemed tight, wanted to eliminate it as a suspect, fixed the steering wheel oscillation,but truck is still all over the place over bumps at highway speeds

Russell Sniffen
Rea Ford Lincoln-Mercury, Inc.
Monticello, NY
(845) 791-6100

Posted on: February 6, 2006 3:39:02 PM ET US

I have my fse comeing again for this truck we have.

KENNETH CREWS
Langford Ford Inc
La Belle, FL
(863) 675-1686

Posted on: February 8, 2006 12:24:12 PM ET US

Hey guys, We have had alot of these with play in the track bar to frame bushing. Replacing the track bar has cured these issues on the ones we've had. The only way you can acuratly gauge the play is to have the vehicle on the ground, or 4-post rack. Have an assistant sit in the truck with brakes on, and turn the steering wheel slightly back and forth, while watching the track bar bushing. You shouldn't have any play in the bushing. The ones we've seen would only move when the suspension/steering was loaded this way, simulates road conditions. Anyway check it this way, may have same issue, hope this helps. Kenny

wetzel gilbreth
Ozark Ford, Inc.
Ozark, AR
(479) 667-2162

Posted on: February 10, 2006 11:45:43 AM ET US

We have done many of the tsb's and not had a problem with any. The biggest concern is tire pressure and "propper" mesh load adjustment. Had a few return for concern only to find that they had a flat repair done on front and had low tire pressure from tire shop.

Patricia Stutts
Landers Ford
Collierville, TN
(901) 854-3673

Posted on: February 10, 2006 2:20:06 PM ET US

A couple of years ago, my husband bought a new 2003 F250 2WD w/the 5.4L gas engine that had the identical concern of this initial posting. We made numerous attempts to repair - index balanced the tires, installed of a steering dampener, etc. It took getting our Ford rep's permission to change the tires to a different brand and get rid of the junk General tires that it came with from the factory.

CHARLES DEGROOT
Ray Price Stroud Ford

Posted on: February 11, 2006 12:28:27 PM ET US

I've had several of these and always traced the problem to the damper (leaking,broken) or MUCH more frerqently the track bar.It seems that

Stroudsburg, PA (570) 421-2560	even miniscule amounts of play can cause this concern. I also noted gas trucks seem worse.
▸ MATT WISE Campbell Ford Lincoln-Mercury, Niles, MI (269) 684-8300	Posted on: February 21, 2006 6:14:47 PM ET US i have seen several new trucks with same problem performed tsb little to no improvement played with tire pressure helped some new 05-06 suspension very sensitive poor desing my opinion. fleet customer switched brands of tires on all his new 05 trucks and made huge improvement. He switched to firestone destination at go figure
▸ Emory Burton South Shore Ford Rockland, MA (781) 878-0152	Posted on: February 22, 2006 10:11:13 AM ET US TRY TO FIND AN AFTERMARKET HEAVY DUTY STEERING STABILIZER,IF YOU ASK FOR THE STRONGEST STABILIZER IT MAY WORK--HAD AN F350 IN OUR SHOP ABOUT 5 YRS AGO WITH THIS PROBLEM AND THAT FIXED IT
▸ ROBERT GAULT Crossroads Ford, Inc. Raleigh, NC (919) 467-1881	Posted on: February 22, 2006 12:28:51 PM ET US I may have a contact that might be able to help. I was at the PSMAC meeting last week. I met and engineer that is working on this concern. E-mail me at bobgault@crossroadsford.com, or call me on my cell 919-524-0384. I will e-mail this engineer to see if he would be willing to help.

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----- Original Message -----
From: Ufford, Donald (D.A.)
To: Bob Gault
Cc: Repasky, Steve (S.)
Sent: Friday, February 24, 2006 1:31 PM
Subject: RE: Super-Duty 5.4L with front-end Shimmy

Thank you Bob, send us the info. you have and Steve Repasky will try to get hold of them.

-----Original Message-----
From: Bob Gault [mailto:bobgault@crossroadsford.com]
Sent: Thursday, February 23, 2006 7:25 AM
To: Ufford, Donald (D.A.)
Subject: Re: Super-Duty 5.4L with front-end Shimmy

Donald,

I was on the message boarrd yesterday and noticed a thread on this front end shimmy. Looks like there are a couple trucks out there that can't seem to get fixed. I posted a note that I might know someone that can help. Would you be interested in contacting these techs? Or should I just wait and see what happens.
Bob Gault

----- Original Message -----
From: Ufford, Donald (D.A.)
To: Bob Gault
Sent: Monday, February 20, 2006 10:25 AM
Subject: RE: Super-Duty 5.4L with front-end Shimmy

Thank you Bob,

I forwarded your note to both the electrical team and the vibration team so we can make sure that we are ready if you flag any more issues.

-----Original Message-----
From: Bob Gault [mailto:bobgault@crossroadsford.com]
Sent: Monday, February 20, 2006 9:22 AM
To: Ufford, Donald (D.A.)
Subject: Re: Super-Duty 5.4L with front-end Shimmy

Thanks for the reply. Yes I am the tech with the issue on the brake controller. I had a discussion with Al DiFalco on this before I left on Friday. He wants me to try another unit on one of the trucks I am having problems with. I will let you know when we get one of these trucks with a shimmy. If there is anything I can help with,just let me know.
Thanks
Bob Gault

----- Original Message -----
From: Ufford, Donald (D.A.)
To: bobgault@crossroadsford.com
Cc: Repasky, Steve (S.)
Sent: Thursday, February 16, 2006 6:42 PM
Subject: Super-Duty 5.4L with front-end Shimmy

Bob - thank you for the feedback during dinner last night and for the help nailing the F150 Vehicle Vibration issue.

If you get any more Super-duty's with a front-end shimmy that you cannot repair, please give us a call so we can come and review.

Also, do you recall which of you had the issue with the Trailer Brake Controller electrical fault?

Thanks

From: Choe, Mark (M.J.)
Sent: Sunday, November 19, 2006 8:40 PM
To: Hearn, Chet (C.)
Subject: RE: Superduty front end shake Discussion

Can you send me the presentation file?
thanks.

Mark J. Choe
Vehicle Dynamics Manager
Body on Frame Programs

-----Original Message-----
From: Hearn, Chet (C.)
Sent: Sunday, November 19, 2006 7:54 PM
To: Choe, Mark (M.J.)
Subject: RE: Superduty front end shake Discussion

Mark,

On Tuesday morning, I'm available from 9:15 to 11:00. Feel free to schedule a 1:1.

Chet Hearn
Vehicle Dynamics Supervisor
EVB 1WE02
Mail Drop X16
Desk: (313) 390-2318
Mobile: (313) 805-2063
FAX: (313) 84-51776
---Original Appointment-----
From: Choe, Mark (M.J.) On Behalf Of Levchenko, Helen (H.)
Sent: Friday, November 17, 2006 9:50 PM
To: Hearn, Chet (C.)
Subject: FW: Superduty front end shake Discussion
When: Tuesday, November 21, 2006 12:45 PM-2:00 PM (GMT-05:00) Eastern Time (US & Canada).
Where: Don Ufford's Ofc. - PDC - 1B-A51

Chet, could I get a preview of your test results on Monday prior to Ufford review?
Thanks.

Mark

-----Original Appointment-----
Organizer: Levchenko, Helen (H.)
Sent: Fri 11/17/2006 5:28 PM
Required: Ufford, Donald (D.A.); Repasky, Steve (S.); Wegienka, Michael (M.J.); Hearn, Chet (C.); Masel, Dennis (D.M.); Choe, Mark (M.J.)
Subject: Superduty front end shake Discussion
When: Tuesday, November 21, 2006 12:45 PM-2:00 PM
Location: Don Ufford's Ofc. - PDC - 1B-A51

Agenda:

*	Review results of Fleet field visit to Duke Engergy	Mike/Steve	10 minutes
*	Review Superduty "front end shake test results"	Chet	30 minutes
*	Demo drive at DDC	Dennis	30 minutes

From: O'Connor, Tammy (T.A.)
Sent: Tuesday, September 20, 2005 9:50 AM
To: Berardi, Paul (.)
Subject: RE: superduty pull

Attachments: [redacted] TSB Steering Wheel Shimmy Update 09 14 05.doc

[redacted] TSB Steering Whe...

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Wed,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Thursday)

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-----Original Message-----
From: Berardi, Paul (.)
Sent: Monday, September 19, 2005 10:07 PM
To: O'Connor, Tammy (T.A.)
Subject: superduty pull

Could I have the pre TSB one more time? Thanks

ISSUE:

Some 2005-2006 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion) immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on 4x4 vehicles, equipped with steering wheels that have redundant controls (i.e. climate and radio controls).

ACTION:

This procedure will minimize the steering wheel oscillations on impacts; however, there may be some remaining minor oscillation, which would be considered normal.
Perform the following:

- Vehicle Inspection
- Evaluation Of Vehicle Prior To Repair
- Steering Gear Mesh Load Adjustment
- Reduce front caster by 0.5 to 0.75 degrees
- Replacement Of Redundant Control Steering Wheel (if equipped and vehicle built prior to 10/8/04)

SERVICE PROCEDURE

VEHICLE INSPECTION

1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

   NOTE: SETTING TIRE PRESSUE TO DOOR SPEC IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

2. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
   a. If leaks are present, install a new steering damper and continue with this TSB.
   b. If no leaks are present, continue with this TSB.

3. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table # below).

Description	Torque Specification (lb-ft/ Nm)	
	Lb-ft	Nm
Damper nuts (4x2)	59	80
Damper-to-bracket (F-250, F-350 4x4)	26	35
Damper-to-drag link	67	91
Drag link-to-pitman arm nut	148	201
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts & bolts	129	175
Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

4. Measure wheel alignment. Verify that Front Caster, Camber & Total Toe is within specification (preferred specification is .1 degree toe in). Adjust to specification as required. Refer to the Workshop Manual, Section 2004-00-1 for complete alignment specifications.

EVALUATION OF VEHICLE PRIOR TO REPAIR

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the severity of wheel oscillation.

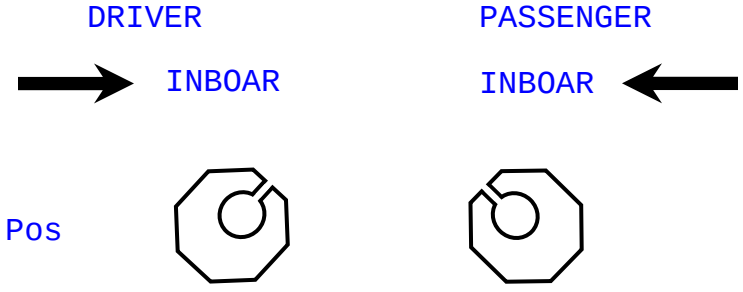
3. During the road test, evaluate and note the steering wheel return-ability.
    a. Turn steering wheel full lock to lock to confirm no binding.
    b. Locate center, and then 45 degrees either side of center on the steering wheel.
    c. Driving vehicle at 35 MPH (56 Km/h), on a dry and flat road surface, turn the wheel 45 degrees and release. Note the approximate angle that the steering wheel returns to BEFORE CLEAR VISION. Perform and record the angle for both left and right. It is normal if the angle differs slightly from left to right.

STEERING GEAR MESH LOAD ADJUSTMENT

1. Insert hex wrench into steering gear mesh load adjuster screw.
2. While holding the mesh load adjuster screw tight, back off lock nuts two full turns to allow free movement of the adjuster screw.
3. Carefully tighten adjuster screw until a slight increase in resistance is felt, then back off approximately 1/16th of a turn.
4. Hold the adjuster screw in place and tighten lock nut. Do not allow the adjustment screw to turn while tightening the locking nut down.
5. Road test vehicle and evaluate for improvement in steering wheel oscillations.
    a. Confirm that there is no objectionable increase in steering efforts, especially at low speeds.
    b. Verify that steering wheel return-ability is approximately the same as it was during the original evaluation (within 5 degrees).
    c. Turn steering wheel full lock to lock to confirm no binding.
6. Park the vehicle to let it cool down. Road test cold to confirm acceptable parking efforts and return-ability in cold condition. Repeat the mesh load adjustment if needed.

REDUCE FRONT CASTER

- Note the current front caster
- Use alignment adjustment bushings to Reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit.
- Use Alignment adjustment bushings:
    - 4x4: 5C3Z-3B440-DDD (0.75 Degree bushing) OR 5C3Z-3B440-EEE (1.0 degree bushing)
    - 4x2: 5C3Z-3B440-D (0.75 Degree bushing) OR 5C3Z-3B440-E (1.0 degree bushing)
- Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward & inboard position (See below picture)
    - This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed.
    - The final camber setting must be within the specification limits



- Maintain the current front camber, cross-camber & cross-caster settings as close as you possibly can.
- Adding weight to the back lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster.

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE 2005 OR 2006 SUPER DUTY F-SERIES WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

From: Welch, Sharon (S.L.)
Sent: Thursday, July 20, 2006 1:44 PM
To: Hale, Curt (B.C.)
Cc: O'Connor, Tammy (T.A.); Campbell, Arnie (A.T.); Lovell, Pam (P.D.); Welch, Sharon (S.L.)
Subject: RE: Superduty TGW verbatims

Curt,
WANs are directed at technical personnel at the dealership and are intended to reinforce information already communicated. TGW data is generated by customers. From prior discussions with Tammy, I believe customers adjust their tire pressures intentionally for some reason (I don't recall what she said). A WAN article to the dealers would not help this situation.

As for the need for dealerships to educate customers on how critical tire pressure is, I would agree. However, this is the sales side of the dealership and I am not sure how one goes about doing this.

P.S. I handle chassis minus wheels and tires. Arnie handles them.

Pam and Arnie,
Any thoughts/suggestions?

Sharon Welch
FCSD Program Manager - Warranty Task Force
Fairlane Business Park 3 246F
Phone (313) 24-83499

From: Hale, Curt (B.C.)
Sent: Wednesday, July 19, 2006 10:33 AM
To: Welch, Sharon (S.L.)
Cc: O'Connor, Tammy (T.A.)
Subject: FW: Superduty TGW verbatims

Sharon,

Do you think a WAN could help in it advised the dealers of the critical nature of proper tire inflation? It should also advise the dealers to educate the customers of how critical tire pressure is too.

B. Curtis Hale
FCSD PVT Program Manager
F-Super Duty & Excursion

From: Repasky, Steve (S.)
Sent: Wednesday, July 19, 2006 10:21 AM
To: Hale, Curt (B.C.)
Cc: Teeley, Nicole (N.); Mayer, Donna (D.P.); Seufert, David (D.C.)
Subject: FW: Superduty TGW verbatims

Curt - I should have included you on this note.

From: Repasky, Steve (S.)
Sent: Wednesday, July 19, 2006 10:20 AM
To: O'Connor, Tammy (T.A.)
Subject: Superduty TGW verbatims

Tammy - we are seeing a lot of shimmy verbatims from the latest TGW data. Is there a method to

inform the dealers that tire pressures setting to placard PSI is very important for Superduty vehicles? Thanks for any suggestions...

From: Antonino Sergio Lentini [AntoninoSergio.Lentini@lmsintl.com]
Sent: Wednesday, January 31, 2007 12:46 PM
To: Gu, Jianmin (J.M.); Szumski, Rick (R.G.)
Cc: Paolo di Carlo; Thomas Mitchell; Bart Vandenplas; Bai, Jaimin (J.)
Subject: RE: Topic related to A/Chassis database for shimmy model
Attachments: K&C.JPG

Hello Jimmy and Rick,

about K&C analysis I can perform internally the analyses listed on the attached file.

As we said by call, in the meanwhile I checked the A/Chassis database we got internally by the files you provided. In term of mass and inertia props everything seems OK.
Just a doubt the upper control arm: within the database, in the front suspension subsystem both the arms (upper and lower) are specified and “left and right uca” option is selected; so exporting the adm file I can get the Upper_Control_Arm with its mass and inertia props as well. Also within your adm file the “Upper_control_Arm is present but commented, so uploading the model with A/View you can see one part only called “Lower_control_Arm” with the graphic of the LCA+UCA and the mass and inertia props of the LCA only!!!!

We were wondering which is the correct configuration: the UCA weighs 9.3 Kg with significant inertia props but currently are not considered! Please, let me know.

In case you succeed in having the database similar to Nibble model, please let me have.

Thank you

Best regards

Sergio LENTINI

From: Gu, Jianmin (J.M.) [mailto:jgu2@ford.com]
Sent: Monday, January 29, 2007 10:40 PM
To: Antonino Sergio Lentini
Cc: Szumski, Rick (R.G.)
Subject: RE: Topic related to A/Chassis database for shimmy model

Sergio,

Are you able to run K&C simulation in your ADAMS/Pre environment? Just checking - I assumed K&C simulation is a Ford specific event.

Thank you.

Best regards,

Jianmin (Jimmy) Gu, Ph.D.
Technical Expert, Vehicle Shift Quality & Transient NVH
Vehicle Attributes & CAE Department, NAE VDEC
Ford Motor Company, AEC 2419, MD 21

Phone: (313) 805-4372, Fax: (313) 621-2351
mailto:jgu2@ford.com

From: Antonino Sergio Lentini [mailto:AntoninoSergio.Lentini@lmsintl.com]
Sent: Monday, January 29, 2007 12:51 PM
To: Gu, Jianmin (J.M.)
Cc: Bai, Jaimin (J.); Thomas Mitchell; Paolo di Carlo; Joris Van Herbruggen; Bart Vandenplas
Subject: Topic related to A/Chassis database for shimmy model

Hello Jimmy,
I summarize the issue related the A/Chassis database for Shimmy project. It has been created by means translation function.

The template files used for the model translation are:
-4X4_54_Gas_RC_LB_2006_P131.fst
-4X4_54_Gas_RC_LB_Curb_2006_P131.btt
-4X4_F350_RC_LB_Gas.rst
-4X4_RC_LB_2006_P131.sst

Additionally we received following .aft files:
-apgui.aft
-f_4link.aft
-f_opt_bld.aft
-header.aft
-relay.aft
I suppose they are customized version of default files available in the A/Chassis installation directory and they have to be specified as personnel files when the maneuver is built and the adm file is created from Chassis GUI. Therefore I have translated them in Python language and I have tried to use them as personnel, but I get error during adm assembly phase.
Summarizing, the obtained A/Chassis database works without error message if provided aft files are not used (it means default ones are used instead) and therefore additional consistency check is needed in order to understand if the model obtained by GUI is in line with that one you sent (4X4_54_Gas_RC_LB_Curb_2006_P131_kc_1.adm)..

This is the reason why I wrote within the ppt material, it's preferable to get A/Chassis database aligned with adm file directly from you.

I hope my explanation it's clear. Please let me know about

Thanks a lot

Best regards

Sergio LENTINI

_____
Sergio LENTINI
Project Engineer

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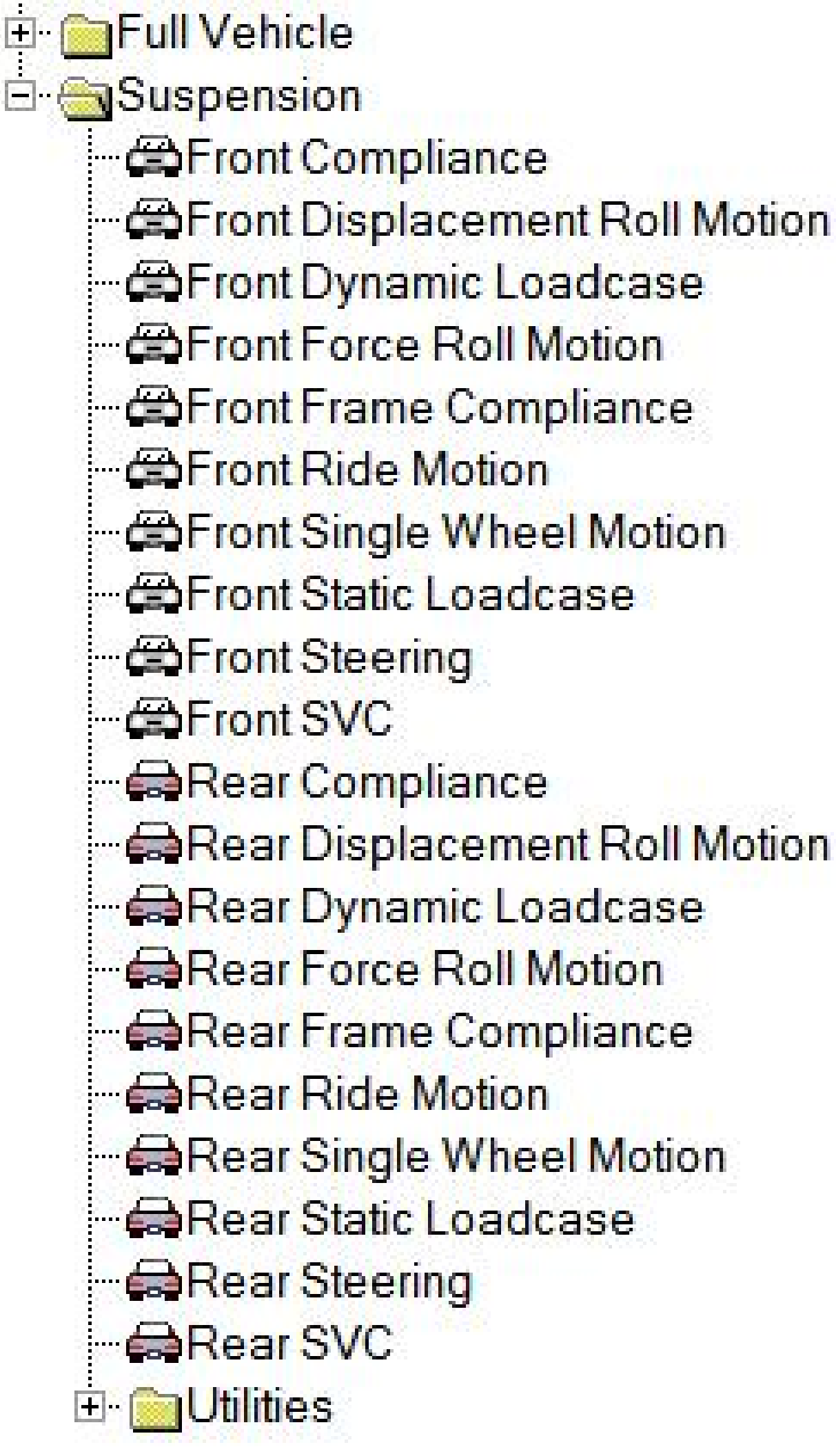
antoninosergio.lentini@lms.it
www.lmsintl.com


Full Vehicle
Suspension
Front Compliance
Front Displacement Roll Motion
Front Dynamic Loadcase
Front Force Roll Motion
Front Frame Compliance
Front Ride Motion
Front Single Wheel Motion
Front Static Loadcase
Front Steering
Front SVC
Rear Compliance
Rear Displacement Roll Motion
Rear Dynamic Loadcase
Rear Force Roll Motion
Rear Frame Compliance
Rear Ride Motion
Rear Single Wheel Motion
Rear Static Loadcase
Rear Steering
Rear SVC
Utilities

From: Repasky, Steve (S.)
Sent: Monday, January 08, 2007 12:58 PM
To: O'Connor, Tammy (T.A.)
Cc: Gompper, Dan (D.B.); Choe, Mark (M.J.)
Subject: RE: TSB [redacted]

Thanks Tammy...

Dan/Mark - the part number below is the bracket for P356 steering damper to frame attachment. Parts were ordered to have in FCSD stock in anticipation of TSB.

From: O'Connor, Tammy (T.A.)
Sent: Monday, January 08, 2007 12:43 PM
To: Repasky, Steve (S.)
Subject: FW: TSB [redacted]

Fyi.

Tammy A. O'Connor
Product Concern Engineer
FCSD Service Engineering Operations
Super Duty F-Series
Body / Chassis / Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Rooker, Heather (H.R.)
Sent: Monday, January 08, 2007 12:40 PM
To: O'Connor, Tammy (T.A.)
Cc: Rooker, Heather (H.R.)
Subject: TSB [redacted]

Just a quick note to let you know the stock is currently in transit for part number 7c3z3e652c. I updated the part list & will be able to sign off hopefully by Wednesday.

Have a wonderful day.

Heather Rooker
QSF/Critical Parts Specialist
Critical Parts Handling
Parts, Supply & Logistics
Ford Customer Service Division
Phone: (734)523-5612
Fax: (734)523-6044
hrooker@ford.com

From: Carey, John (J.P.)
Sent: Wednesday, October 12, 2005 12:26 PM
To: O'Connor, Tammy (T.A.)
Subject: RE: TSB for Steering Wheel Shimmy

Tammy,
No file attached.

Please resend.

Thank you

John Carey
Field Service Engineer
Ford Customer Service Division
Zone B1, B2, B3
(407) 467-5087 Cell

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Wednesday, October 12, 2005 11:02 AM
To: Carey, John (J.P.)
Subject: RE: TSB for Steering Wheel Shimmy

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Wed,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Thursday)

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-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Wednesday, October 12, 2005 11:00 AM
To: Carey, John (J.)
Subject: FW: TSB for Steering Wheel Shimmy

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Wed,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Thursday)

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-----Original Message-----
From: Mayer, Paul (P.A.)
Sent: Monday, October 03, 2005 1:10 PM
To: O'Connor, Tammy (T.A.); Repasky, Steve (S.)
Cc: Zeitz, Keith (K.A.); Smith, Ron (R.A.)
Subject: RE: TSB for Steering Wheel Shimmy

I had three edits under the reduce caster section. They are in red

KEITH, do you have to approve these before they go out ?

<< File: [redacted] TSB Steering Wheel Shimmy Update 09 29 pmrev.doc >>

Regards
Paul Mayer
Truck Suspension and Systems Analysis
313-248-9202 Fax:313-317-2349

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Monday, October 03, 2005 11:01 AM
To: Mayer, Paul (P.A.); Repasky, Steve (S.)
Subject: TSB for Steering Wheel Shimmy

<< File: [redacted] TSB Steering Wheel Shimmy Update 09 29 tao.doc >>

Attached is the draft TSB that I just submitted for final publication.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Wed,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Thursday)

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From: Zeitz, Keith (K.A.)
Sent: Monday, October 03, 2005 3:35 PM
To: Mayer, Paul (P.A.); O'Connor, Tammy (T.A.); Repasky, Steve (S.)
Cc: Smith, Ron (R.A.)
Subject: RE: TSB for Steering Wheel Shimmy

Paul,

Yes, the Chassis QB team should review and approve any TSB that effects components we are responsible for.

I will review with Ron Smith and get approval set.

Tammy,
I would like to know when we will see the TSB in the form it will be sent to the techs. PDF file with all the correct print and illustrations

Keith A. Zeitz

Chassis QB/AFT Sup. / Integrated BB & ASQ SSBB

PDC 2D-G34, ph # (313) 805-3994

"Don't find fault, find a remedy" - Henry Ford

Today's Word On The WaY
"…God's kindness leads you toward repentance."
- Romans 2:4

-----Original Message-----
From: Mayer, Paul (P.A.)
Sent: Monday, October 03, 2005 1:10 PM
To: O'Connor, Tammy (T.A.); Repasky, Steve (S.)
Cc: Zeitz, Keith (K.A.); Smith, Ron (R.A.)
Subject: RE: TSB for Steering Wheel Shimmy

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KEITH, do you have to approve these before they go out ?

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Paul Mayer
Truck Suspension and Systems Analysis
313-248-9202 Fax:313-317-2349

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From: Repasky, Steve (S.)
Sent: Thursday, January 25, 2007 11:10 AM
To: O'Connor, Tammy (T.A.)
Subject: RE: TSB Update and Service Damper Release

Not sure where I got them, however, I will search for the source…

Thanks for sending out the TSB for comment so quickly..

From: O'Connor, Tammy (T.A.)
Sent: Thursday, January 25, 2007 10:41 AM
To: Repasky, Steve (S.)
Subject: RE: TSB Update and Service Damper Release

Steve:

Where are those two illustrations from that you included?

Tammy A. O'Connor
Product Concern Engineer
FCSD Service Engineering Operations
Super Duty F-Series
Body / Chassis / Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Repasky, Steve (S.)
Sent: Wednesday, January 24, 2007 4:03 PM
To: O'Connor, Tammy (T.A.); Gompper, Dan (D.B.); Memmer, Mark (M.A.); Wegienka, Michael (M.J.); Hasselbring, D Blake (D.B.)
Cc: Choe, Mark (M.J.); Ufford, Donald (D.A.); Hodges, Cynthia (C.P.)
Subject: FW: TSB Update and Service Damper Release

Tammy - Based on the successful vehicle testing completed by the package group as noted in the attached e-mail, please start the required FCSD process to review and release the revised TSB as written in the other attached e-mail. In summary, we want to make sure tire pressure is set correctly, front end torques are good, alignment is optimized and then replace the P131 4x4 steering damper with the 2008 P356 4x4 steering damper and bracket. Please advise if additional information is required and expected timing for FCSD review and release. Thanks...

<< Message: FW: TSB Update and Service Damper Release >>

From: Repasky, Steve (S.)
Sent: Thursday, January 04, 2007 3:53 PM
To: Ufford, Donald (D.A.); Hodges, Cynthia (C.P.)
Cc: Choe, Mark (M.J.); Gompper, Dan (D.B.); O'Connor, Tammy (T.A.); Asay, Larry (L.L.)
Subject: RE: TSB Update and Service Damper Release

A revised TSB draft has been written (attached) and we are working on the final wording for it. Once

we have agreement, I'll work with Tammy to get it reviewed by FCSD to establish timing for repair operations and release to the field.
<< Message: FW: >>

In the meantime, we had KTP late last year send 12 sets of dampers and brackets to Larry Asay for distribution to key fleets for trial and evaluation. In a note today, Larry intended to send 3 sets to Noble Energy Inc. for installation. Also, Tammy indicated P356 steering dampers were available through FCSD service but not the brackets yet. Late last year, Tammy had requested FCSD Service Operations to order additional brackets in anticipation of the TSB release.

The Hobbs vehicle is in for repair today. We intend to recover the damper, steering gear and have alignment checked/set.

From: Ufford, Donald (D.A.)
Sent: Thursday, January 04, 2007 3:05 PM
To: Repasky, Steve (S.); Hodges, Cynthia (C.P.)
Cc: Choe, Mark (M.J.)
Subject: TSB Update and Service Damper Release

How are we doing on this?

From: Hale, Curt (B.C.)
Sent: Thursday, October 20, 2005 9:46 AM
To: O'Connor, Tammy (T.A.); Norton, John (J.K.)
Subject: RE: TSBs Republished for Carry-over Product Concerns

The other piece is that we're fighting somewhat of a vehicle characteristic too. Our chassis is so stiff now that it's like a tuning fork.

B. Curtis Hale

FCSD PVT Program Manager
F-Super Duty & Excursion

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Thursday, October 20, 2005 9:37 AM
To: Norton, John (J.K.); Hale, Curt (B.C.)
Subject: RE: TSBs Republished for Carry-over Product Concerns

John:

This issue is due mainly to under-inflated tires, steering & suspension fasteners not being properly torqued, and caster settings (which must be adjusted if towing), the only parts on the TSB is a steering wheel for early 2005 build dates, which was put into production in October 2005.

The only other parts are shims (for adjusting caster), and a steering damper (which typically does not have to be replaced).

Please let me know if you have any other questions.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Wed,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Thursday)

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-----Original Message-----
From: Norton, John (J.K.)
Sent: Thursday, October 20, 2005 9:33 AM
To: Hale, Curt (B.C.); O'Connor, Tammy (T.A.)
Subject: FW: TSBs Republished for Carry-over Product Concerns

Curt/Tammy,

Why did we have to add the 2006 model year to this TSB? Did we not get the issue resolved in production?

Regards,

John Norton

Manager, Pickup Trucks & SUV's
Customer Service Engineering
Ford Customer Service Division
Phone: (313) 337-3639
Email: jnorton@ford.com

-----Original Message-----
From: Sprunger, Jon (J.L.)
Sent: Wednesday, October 19, 2005 4:33 PM
To: Norton, John (J.K.)
Cc: Sprunger, Jon (J.L.); Nagy, Vic (V.A.); Ricks, Kevin (K.J.); Johnson, David (D.J.); DeAngelis, Steven (S.G.); Klump, Robert (R.F.); McClain, David (D.L.)
Subject: RE: TSBs Republished for Carry-over Product Concerns

John,

Attached is a TSB currently in collaboration that is being republished to update the service procedure and add a new model year. Per the agreement listed in the email below, I am forwarding you this TSB to make you aware the concern has carried over. We will continue with the process of releasing the new TSB.

The author is Tammy O'Connor if you have any questions. Thanks.

<< File: [redacted] (new TSB).pdf >> << File: 04-26-1 (Old TSB).pdf >>

Sincerely,

Jon Sprunger
Global Technical Communications - FCSD
TSB/SSM Processing
Phone: (313)32-32272
Fax: (313)24-86449
jsprunge@ford.com

-----Original Message-----
From: Sanders, Lee (L.P.)
Sent: Friday, June 17, 2005 1:54 PM
To: Norton, John (J.K.); Ricks, Kevin (K.J.); Piorkowski, Frank (F.J.)
Cc: Nagy, Vic (V.A.); Sprunger, Jon (J.L.); Naley, Vernon (V.K.); Berardi, Mike (M.A.); Dielenhein, Michael (M.F.); Johnson, David (D.J.); Nienhuis, Jeffrey (J.W.); Merchak, Kathleen (K.M.); McInerney, Thomas (T.W.); Zubieta, Kelly (K.H.); Ricks, Kevin (K.J.)
Subject: TSBs Republished for Carry-over Product Concerns

Following my review of the topic in yesterday's Customer Service Engineering Coordination Meeting, it was decided that my activity would begin sending to the appropriate CSE LL5 any TSB that was being republished to extend the repair information for a concern to a new model-year.

Starting Monday, June 20, each TSB will be reviewed during the Collab process, and any found in that category will be forwarded to the LL5. A copy of every such TSB will be sent to Kevin Ricks, as well, at his request.

If there are any corrections or adjustments needed to this process, please work thru Jon Sprunger.

Lee Sanders, Supervisor
Technical Communications - TSB-OASIS
FCSD - Service Engineering Operations
lsanders@ford.com
Phone: 313-31-79104

From: Asay, Larry (L.L.)
Sent: Monday, December 18, 2006 12:59 PM
To: O'Connor, Tammy (T.A.)
Cc: Repasky, Steve (S.)
Subject: RE: Updated steering oscillation TSB

Tammy, I don't know who all you may have heard from. I know that Dave Motola in FL, Mike Scronce in Chicago, Jim Trest in Detroit, and Joel Nielsen in Houston have all had issues. We may not have to send parts out to all of these people if the situation can be contained by tire air pressure.

From: Repasky, Steve (S.)
Sent: Monday, December 18, 2006 10:21 AM
To: O'Connor, Tammy (T.A.); Asay, Larry (L.L.)
Cc: Gompper, Dan (D.B.); Hale, Curt (B.C.); Kaltz, Gordie (G.); Memmer, Mark (M.A.); Fass, Alan (A.L.)
Subject: RE: Updated steering oscillation TSB

Lets wait for confirmation of the package (expected this week) prior to sending out the FQE assignment. We also need to know how many dampers/brackets will be available to support. From your prior note, it indicated dampers were available in service stock, but not the bracket. Could a request be made to stock the bracket in anticipation of an increased need?? Thanks...

From: O'Connor, Tammy (T.A.)
Sent: Monday, December 18, 2006 11:03 AM
To: Repasky, Steve (S.); Asay, Larry (L.L.)
Cc: Gompper, Dan (D.B.); Hale, Curt (B.C.); Kaltz, Gordie (G.)
Subject: RE: Updated steering oscillation TSB

Steve:

If you are interested -- we could send out an FQE assignment to identify worse-case senario trucks and then send out shocks to those FQEs to install and get feedback. We could make this happen very quickly.

Tammy A. O'Connor
Product Concern Engineer
FCSD Service Engineering Operations
Super Duty F-Series
Body / Chassis / Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Repasky, Steve (S.)
Sent: Monday, December 18, 2006 10:45 AM
To: Asay, Larry (L.L.); O'Connor, Tammy (T.A.)
Cc: Gompper, Dan (D.B.)
Subject: RE: Updated steering oscillation TSB

Larry/Tammy - do you know of other regions we should send shocks and brackets to alleviate Superduty Fleet concerns with shake? If so, please provide a mailing address and we will try to send out samples prior to TSB release. Thanks...

From: Repasky, Steve (S.)
Sent: Monday, December 18, 2006 10:39 AM
To: Memmer, Mark (M.A.)
Cc: Gompper, Dan (D.B.)

Subject: FW: Updated steering oscillation TSB

See below and attached DRAFT…Need torques for all attachments …

<< File: TSB for Superduty front end shake - DRAFTRev1.doc >> Blake had 12 kits (damper, bracket and attachments) sent to Larry Asay last week. Will work towards getting additional sets to other affected Regional managers once package OK'd.

From: Gompper, Dan (D.B.)
Sent: Friday, December 15, 2006 2:43 PM
To: Repasky, Steve (S.); Memmer, Mark (M.A.)
Cc: Hodges, Cynthia (C.P.); Choe, Mark (M.J.); Benson, Keith (K.A.)
Subject: Updated steering oscillation TSB

Steve, Mark,

Early next week, please work to update the steering TSB as decided in the meeting with Ufford and Ali this morning.

- Remove reference to steering damper leaks as a requirement **DONE**
- Add the '08 part numbers for the '08 steering damper, bracket, and any fasteners **DONE**
- Add reference to any package modification (ie. Zip-tie wires, etc.). Do not send out TSB for publication until final approval from package group. Keith Benson is the prime contact. Mark -- please supply any support that Keith may need to assess vehicles, including the use of the black/grey truck and Repasky's buy-back unit as necessary. We did check the package with them this morning, and we do not believe there are any hard rocks, although the trans-cooler D&R engineer is looking for final confirmation and the electrical engineer is to provide a zip-tie method for the battery cable and block heater cable. Also, note that fasteners used to attach the new bracket to the cross member must be inserted from the front (stud points rearward). **DONE**

We were also requested to assemble a group of dampers, brackets, etc. for FCSD/Fleet release as soon as the package is approved.

Mark and Steve -- please work with Cindy or the plant to put together this group of service components, whatever is the fastest method. Not sure on the quantity. Maybe 25 for quick release? Might want to bounce it off the FCSD guys.

I'll be out next week, but feel free to give me a call.

Thanks,

Dan Gompper
SuperDuty Vehicle Dynamics Supervisor
[redacted]
text page: 3138052039@sprintpcs.messaging.com

From: Repasky, Steve (S.)
Sent: Monday, December 18, 2006 12:23 PM
To: O'Connor, Tammy (T.A.)
Subject: RE: Updated steering oscillation TSB

I think to start that would be a good number and then we could gauge the impact when the TSB is released?

From: O'Connor, Tammy (T.A.)
Sent: Monday, December 18, 2006 12:22 PM
To: Repasky, Steve (S.); Asay, Larry (L.L.)
Cc: Gompper, Dan (D.B.); Hale, Curt (B.C.); Kaltz, Gordie (G.); Memmer, Mark (M.A.); Fass, Alan (A.L.)
Subject: RE: Updated steering oscillation TSB

Yes - how many do you think we should request? 100?

Tammy A. O'Connor
Product Concern Engineer
FCSD Service Engineering Operations
Super Duty F-Series
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248/814-8698 Telecommuting Office (Mon,Thur,Fri)
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To: O'Connor, Tammy (T.A.); Asay, Larry (L.L.)
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Super Duty F-Series
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Cc: Gompper, Dan (D.B.)
Subject: FW: Updated steering oscillation TSB

See below and attached DRAFT…Need torques for all attachments …

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Cc: Hodges, Cynthia (C.P.); Choe, Mark (M.J.); Benson, Keith (K.A.)
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I'll be out next week, but feel free to give me a call.

Thanks,

Dan Gompper

SuperDuty Vehicle Dynamics Supervisor
[redacted]
text page: [redacted]@sprintpcs.messaging.com

From: Repasky, Steve (S.)
Sent: Monday, December 18, 2006 2:00 PM
To: Asay, Larry (L.L.)
Cc: Wegienka, Michael (M.J.); Memmer, Mark (M.A.); Gompper, Dan (D.B.)
Subject: RE: Updated steering oscillation TSB

Larry - When the Duke vehicle is in for service, I would also like them to weld several spots on the frame near the spare tire x-member. I will send some pictures and diagrams with specific locations. Thanks...

Mike/Mark/Dan - Ufford suggested this to me today. Do we have any good pictures to send to Larry? Thanks..

From: Asay, Larry (L.L.)
Sent: Monday, December 18, 2006 1:14 PM
To: Repasky, Steve (S.); O'Connor, Tammy (T.A.)
Cc: Gompper, Dan (D.B.)
Subject: RE: Updated steering oscillation TSB

Steve, I know that Dave Motola in FL, Mike Scronce in Chicago (baker hughes fleet), Jim Trest in Detroit(anadarco fleet), would be some good candidates on the fleet side. I will try and handle Barrick Gold, Noble Energy and some more at Duke with the 12 that I have coming.

From: Repasky, Steve (S.)
Sent: Monday, December 18, 2006 8:45 AM
To: Asay, Larry (L.L.); O'Connor, Tammy (T.A.)
Cc: Gompper, Dan (D.B.)
Subject: RE: Updated steering oscillation TSB

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I'll be out next week, but feel free to give me a call.

Thanks,

Dan Gompper
SuperDuty Vehicle Dynamics Supervisor
EVB 2E-L01
[redacted]
text page: [redacted]@sprintpcs.messaging.com

From: O'Connor, Tammy (T.A.)
Sent: Friday, August 27, 2004 12:44 PM
To: Gompper, Dan (D.B.); Jablonski, Mary (M.K.)
Cc: Mass, Noah (N.B.); Reyes, Pete (P.D.); Hale, Curt (B.C.); Campbell, Mark (M.A.)
Subject: Steering Wheel Oscillation - 2005 Superduty

Dan: I left a voice mail message for you. My question is what percentage of vehicles will be repaired with the steps outlined in the ISM/TSB, and what percentage will not be resolved. It was my understanding that it would resolve the concern. If it does not resolve the concern for a majority of the customers, we should not be telling our dealers to do it.

We publish messages quite often advising dealers that a fix is coming. That maybe the better way to proceed.

An example of a message we currently have on Steering Gear Noise:

SOME 2004-2005 SUPER DUTY F-SERIES and EXCURSION VEHICLES MAY EXHIBIT A

Moan/grunt NOISE FROM THE POWER STEERING WHEN TURNING THE STEERING WHEEL,

ESPECIALLY DURING LEFT HAND TURNS. THE NOISE MAY SOUND LIKE IT IS COMING FROM

THE STEERING GEAR OR THE STEERING COLUMN AREA. ENGINEERING IS CURRENTLY

INVESTIGATING THIS CONCERN. DO NOT ATTEMPT TO REPAIR AT THIS TIME, unless the

source of the noise can be confirmed. CONTINUE TO SUBMIT concern reports AND

MONITOR OASIS FOR UPDATES.

Tammy A. O'Connor
Product Concern Engineer
Superduty F-Series/Excursion
Body/Chassis/Electrical
FCSD, Service Engineering Operations
248/814-8698 Telecommuting Office (Mon,Tues,Fri)
313/322-3824 DSCII, Cube 468 (Wed & Thurs)
TOCONNOR or 313/795-0116 Text Page & Pager #

-----Original Message-----
From: Gompper, Dan (D.B.)
Sent: Friday, August 27, 2004 12:27 PM
To: Jablonski, Mary (M.K.); O'Connor, Tammy (T.A.)
Cc: Mass, Noah (N.B.); Reyes, Pete (P.D.)
Subject: RE: Report Summary for the CQIS Report#[redacted]

Thanks, Mary. Do you think that the service parts (at least a few, not necessarily full stock) could be tracked the same as the 4p's you're working on?

Tammy -- Looks like I missed adding your address to my initial response to your note. Can you take a look at my comments below and let us know what you think?

Thanks,

Dan Gompper
SuperDuty Vehicle Dynamics Supervisor
Phone/Fax: (313) 84-54891
[redacted]
Textpager: (313) 813-9026 (3138139026@airtouch.net)
Email: dgompper@ford.com

-----Original Message-----
From: Jablonski, Mary (M.K.)
Sent: Friday, August 27, 2004 12:10 PM
To: Gompper, Dan (D.B.); Jablonski, Mary (M.K.)
Cc: Mass, Noah (N.B.); Reyes, Pete (P.D.)
Subject: RE: Report Summary for the CQIS Report#[redacted]

PSW timing is still 10/15/2004. The ramp up is the issue for Key Safety.
I am working at getting the 4p's saleable less PSW paper work. I have a reviewed scheduled with Key on Monday to review the PV data
so that I can declare that and update the Alert.

Mary Jablonski
TT Airbag, Steering Wheel and RCM Supervisor
313-390-6276, mjablon1@ford.com
(Text) Pager Number 313-814-5984

-----Original Message-----
From: Gompper, Dan (D.B.)
Sent: Friday, August 27, 2004 10:12 AM
To: Jablonski, Mary (M.K.)
Cc: Mass, Noah (N.B.); Reyes, Pete (P.D.)
Subject: RE: Report Summary for the CQIS Report#[redacted]

Mary -- Where do you stand on signoff of the higher inertia redundant controls steering wheel? What is feasibility of pull ahead of signed off wheels for dealer calls, potentially prior to PSW? I believe PSW is expected ~10/15?

Please let me know as soon as you can. I'd like to work with Tammy (FCSD) to improve our resolution of any in service calls.

Tammy -- We are working to release a new steering wheel for job#2 and service that will reduce the levels of steering wheel oscillation. I'm hoping Mary can provide more details on timing and potential pull ahead for a service action. What is our potential to tell the dealers that we are working on another solution and have them sit tight until we come back in approx. 1.5 months (ie. We recognize the concern, we are working on a fix, try the mesh load ISM, but in the meantime, do not replace other components)?

Thanks for a quick response,

Dan Gompper
SuperDuty Vehicle Dynamics Supervisor
Phone/Fax: (313) 84-54891

Cellphone: (502) 379-2532
Textpager: [redacted]@airtouch.net)
Email: dgompper@ford.com

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Friday, August 27, 2004 8:20 AM
To: Gompper, Dan (D.B.)
Subject: Report Summary for the CQIS Report#[redacted]

Note: Procedure in ISM (same as in TSB) did not resolve this concern.

Attachments : 0

Report# :	[redacted] NHL			**Received:**	08/26/2004
CCRG/EPRC:		**Reviewed Status:**		**Date:**	
Vehicle:	2005,F250 4X4,CRW CAB,PICKUP ,1FTSW21P05[redacted]			**Build Date:**	07/29/2004
Odometer :	1,595 M	**Engine:**	6.0L DI	**Calibration:**	
Transmission:	5R110W	**Axle:**		**A/C:**	YES
Dealer:	USA 20305 BERGE FORD			**Phone#:**	(480) 497-7600
City:	Mesa	**State:**	Arizona	**Country :**	USA

Originator: RICHARD FREEMAN
Symptom: 3 03 3 53 CHASS.,STRG/HANDLING ,VIB./SHIMMY,OVER BUMPS
Status:
VFG: V89 RIDE & HANDLING
Additional Symptom: STEERING FIGHT OVER BUMPS
Fix: **Causal Component :**
Condition Code:

Hotliner: BHAIGHT **Phone:** 313 317-6303 **Regn Cd:** 71 Los Angeles - 71
Engineering: **Phone:** **TAR:**
Dlr Contact: **Phone:** **Title Cde:** T

Comments :

REPAIR 08/26/2004 12:10PM BRANDON HAIGHT MSS - FCSD - TECH SVC HOTLINE
TECH STATES WHEEL FIGHTS BACK AFTER HITTING BUMPS OR CRACKS IN THE
ROAD. SEEKING KNOWNS.

RECOMM 08/26/2004 12:10PM BRANDON HAIGHT MSS - FCSD - TECH SVC HOTLINE
ISM 04-08-016 STEERING FIGHT OR SHIMMY OVER BUMPS.

ISM 04-08-015 STEER WHEEL OSCILLATIONS ON ROUGH ROADS OR SURFACES.

ADVISE TECH OF ABOVE INFO. INSTALL DAMPER, INCREASE STEERING GEAR MESH

LOAD. TECH TO ADVISE.

REPAIR **08/26/2004 01:10PM MARIO GIURLANDA MSS - FCSD - TECH SVC HOTLINE**

CONCERN STILL PRESENT, ADJUSTED STEERING GEAR 1/8 TURN. SEEKING KNOWNS

. HAS A DAMPER FROM FACTORY ALREADY ON IT.

RECOMM **08/26/2004 01:10PM MARIO GIURLANDA MSS - FCSD - TECH SVC HOTLINE**

ISM 04-08-015 STEER WHEEL OSCILLATIONS ON ROUGH ROADS OR SURFACES.

ADJUST GEARBOX TIGHTER. IF CONCERN STILL PRESENT AND CAN FEEL STEERIN

G STARTING TO BIND, REPLACE STEERING GEAR.

From: Burkeen, Craig (D.C.)
Sent: Thursday, July 13, 2006 8:31 AM
To: Sprunger, Jon (J.L.); O'Connor, Tammy (T.A.); Rivera, Santos (S.)
Subject: TSB [redacted]

Jon,
Per our discussion I have a concern with the labor operation usage/structure in this TSB.

We state that operation "C" can be used with "B", problem is the causal part for "C" is FRONT which has a 12/12 warranty, this will cause dealer confusion. Can we add the alignment time to operation B and eliminate any dual usage of the labor operations?

Craig Burkeen
Warranty Training & Communication Analyst
FCSD Warranty Administration
Cube 3N-492 / Mail Drop 3NE-1D
Regent Court Bldg. 16800 Executive Plaza Dr.
Dearborn, MI. 48126
Phone: (313) 845-3579
Fax: (313) 845-4408

From: Klump, Robert (R.F.)

Sent: Thursday, September 28, 2006 7:40 AM

To: O'Connor, Tammy (T.A.)

Subject: TSB [redacted] - 2005-2007 F-Super Duty - Steering Wheel Oscillation

Tammy,

Why is this TSB being republished? I am unable to identify any change other than the causal part numbers. What am I missing? Thanks

Regards,
Bob Klump
Global Technical Communications - FCSD
Technical Editor – TSB

☎ 313.390.3489

From: Rooker, Heather (H.R.)
Sent: Monday, January 08, 2007 12:40 PM
To: O'Connor, Tammy (T.A.)
Cc: Rooker, Heather (H.R.)
Subject: TSB [redacted]

Just a quick note to let you know the stock is currently in transit for part number 7c3z3e652c. I updated the part list & will be able to sign off hopefully by Wednesday.

Have a wonderful day.

Heather Rooker
QSF/Critical Parts Specialist
Critical Parts Handling
Parts, Supply & Logistics
Ford Customer Service Division
Phone: (734)523-5612
Fax: (734)523-6044
hrooker@ford.com

From: Klump, Robert (R.F.)
Sent: Monday, February 26, 2007 8:29 AM
To: O'Connor, Tammy (T.A.)
Subject: TSB [redacted] - 2005-2007 F-Super Duty - Steering Wheel Oscillation

Tammy,

Just confirming I am holding this TSB until I receive approval from you. Correct?

Regards,
Bob Klump
Global Technical Communications - FCSD
Technical Editor – TSB

☎ 313.390.3489

From: Nilles, Tom (T.J.)
Sent: Thursday, November 02, 2006 9:49 AM
To: Wasczenski, Pamela (P.M.); Heider, John (J.W.); Rushbrook, Mark (M.A.); Choe, Mark (M.J.); Lindstrom, Scott (S.K.); Moore, Glen (G.R.); Repasky, Steve (S.); Bartman, Greg (G.J.); Shahidi, Bijan (B.K.); Kelkar, Subhash (S.G.); Ellenberger, James (J.M.); Volker, David (D.G.); Kolarik, Chris (C.L.); Tyus, Lisa (L.A.); Trost, Kelly (K.); Haakenson, Dan (D.J.); Arbitter, Daniel (D.S.); Baker, Christopher (C.K.); Mayer, Donna (D.P.); Christensen, Jeff (J.S.); Herron, Micheal (M.C.); Seufert, David (D.C.); Schroeder, Todd (T.); Sterling, Timothy (T.J.); Oslapas, Algis (A.G.); Graham, Robert (S.); Keinath, Wayne (W.)
Cc: Bannon, Chuck (C.J.); Gompper, Dan (D.B.); Janitor, Bill (W.A.); Kosztowny, Brian (B.P.); Radcliffe, James (J.S.); Dhruna, Chet (C.); Weston, Keith (K.); Clark, Brent (B.A.); Hearn, Chet (C.); Kipley, Mike (M.J.); Lecrone, Mark (K.M.); Knapp, Robert (R.A.)
Subject: Updated Veh Dyn PQR Agenda for Today - November 2, 2006

Importance: High

Revised agenda for today's Veh Dyn Program Quality Review. Super Duty shimmy discussion has moved to 2:30pm.

Regards,
Tom Nilles
Supvsr, Vehicle Dynamics Core Quality
313-805-5878, EVB 1W-K04

From: Wasczenski, Pamela (P.M.)
Sent: Tuesday, October 31, 2006 2:10 PM
To: Nilles, Tom (T.J.); Heider, John (J.W.); Rushbrook, Mark (M.A.); Choe, Mark (M.J.); Lindstrom, Scott (S.K.); Moore, Glen (G.R.); Repasky, Steve (S.); Bartman, Greg (G.J.); Shahidi, Bijan (B.K.); Kelkar, Subhash (S.G.); Ellenberger, James (J.M.); Volker, David (D.G.); Kolarik, Chris (C.L.); Tyus, Lisa (L.A.); Trost, Kelly (K.); Haakenson, Dan (D.J.); Arbitter, Daniel (D.S.); Baker, Christopher (C.K.); Mayer, Donna (D.P.); Christensen, Jeff (J.S.); Herron, Micheal (M.C.); Seufert, David (D.C.); Schroeder, Todd (T.); Sterling, Timothy (T.J.); Oslapas, Algis (A.G.); Graham, Robert (S.)
Cc: Bannon, Chuck (C.J.); Gompper, Dan (D.B.); Janitor, Bill (W.A.); Kosztowny, Brian (B.P.); Radcliffe, James (J.S.); Dhruna, Chet (C.); Weston, Keith (K.); Clark, Brent (B.A.); Hearn, Chet (C.); Kipley, Mike (M.J.); Lecrone, Mark (K.M.); Knapp, Robert (R.A.)
Subject: PQR Agenda - November 2, 2006

November 2, 2006

1:00 – 3:00 pm

EVB Exec CR 2nd Floor

Call In Number -- Participant Code

	Time	Duration	Presenters
VDQR Agenda (November 28)	1:00	15 Min	ALL
- Discuss Possible Agenda Topics			
2007-2011 Official Targets	1:15	10 Min	ALL
BSAQ - Due In 30 Days Report	1:25	5 min	P. Wasczenski/ T. Nilles

Focus – PVT Update **- Focus PVT Differences**	1:30	30 Min	M. Rushbrook
- BSAQ **- PVT Process / Status** **- Lessons Learned**			A. Oslapas
Kaizen @TCAP – Tire/Wheel Balance	2:00	30 Min	R. Graham
Super Duty – Shimmy Issue	2:30	30 Min	ALL
Walk-Ins / Next Agenda / Next Steps	2:50	10 Min	ALL

Pam Wasczenski
(313)805-4281 Text Page - pwasczen

PE07-057

FORD

2-4-2008

APPENDIX I

Non-Confidential Engineering

From: VanHollebeke, Mike (M.C.)
Sent: Tuesday, August 30, 2005 1:23 PM
To: O'Connor, Tammy (T.A.)
Subject: 04-26-1

Attachments: 04-26-1.doc

04-26-1.doc (34 KB)

Mike Van Hollebeke
Technical Communications Team
TSB Editor
Phone (313) 39-03489
FAX (313) 24-86449
DSC II, Cube 483

ISSUE:

Some 2005 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion) immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on 4x4 vehicles, equipped with steering wheels which have redundant controls (i.e. climate and radio controls).

ACTION:

This procedure will minimize the steering wheel oscillations on impacts, however, there may be some remaining minor oscillation which would be considered normal.
Perform the following:

- Vehicle Inspection
- Evaluation Of Vehicle Prior To Repair
- Steering Gear Mesh Load Adjustment
- Replacement Of Redundant Control Steering Wheel (if equipped and vehicle built prior to 10/8/04)

SERVICE PROCEDURE

VEHICLE INSPECTION

1. Set tire pressures as indicated on the vehicle label (located on fuel door).
2. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
    a. If leaks are present, install a new steering damper and continue with this TSB.
    b. If no leaks are present, continue with this TSB.
3. Check torques on the steering system fasteners (damper nuts (4x2), damper-to-bracket (F-250, F-350 4x4), damper-to-drag link, drag link-to-pitman arm nut, inner tie-rod end nut, outer tie-rod end nuts, and track bar bracket-to-frame nuts & bolts), adjust to specification as required. Refer to Workshop Manual Section 211-03.

EVALUATION OF VEHICLE PRIOR TO REPAIR

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the severity of wheel oscillation.
3. During the road test, evaluate and note the steering wheel return-ability.
    a. Turn steering wheel full lock to lock to confirm no binding.
    b. Locate center, and then 45 degrees either side of center on the steering wheel.
    c. Driving vehicle at 35 MPH (56 Km/h), on a dry and flat road surface, turn the wheel 45 degrees and release. Note the approximate angle that the steering wheel returns to BEFORE CLEAR VISION. Perform and record the angle for both left and right. It is normal if the angle differs slightly from left to right.

STEERING GEAR MESH LOAD ADJUSTMENT

1. Insert hex wrench into steering gear mesh load adjuster screw.
2. While holding the mesh load adjuster screw tight, back off lock nuts two full turns to allow free movement of the adjuster screw.
3. Carefully tighten adjuster screw until a slight increase in resistance is felt, then back off approximately 1/16th of a turn.
4. Hold the adjuster screw in place and tighten lock nut. Do not allow the adjustment screw to turn while tightening the locking nut down.
5. Road test vehicle and evaluate for improvement in steering wheel oscillations.
    a. Confirm that there is no objectionable increase in steering efforts, especially at low speeds.
    b. Verify that steering wheel return-ability is approximately the same as it was during the original evaluation (within 5 degrees).
    c. Turn steering wheel full lock to lock to confirm no binding.
6. Park the vehicle to let it cool down. Road test cold to confirm acceptable parking efforts and return-ability in cold condition. Repeat the mesh load adjustment if needed.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 Only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE 2005 SUPER DUTY F-SERIES WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

Steering Wheel Oscillation (Back And Forth Motion) After Riding Over Bumps/Ruts

Some 2005 Superduty F-Series vehicles may exhibit steering wheel oscillation (Back And Forth Motion) immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.) Steering wheel motion is typically in the range of +/- 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on 4x4 vehicles, equipped with steering wheels which have redundant controls (i.e. climate and radio controls).

This procedure will minimize the steering wheel oscillations on impacts, however, there may be some remaining minor oscillation which would be considered normal.

Perform the following:
-Vehicle Inspection And Adjustments
-Steering Gear Mesh Load Adjustment
-Replacement Of Redundant Control Steering Wheel (If Equipped)

VEHICLE INSPECTION AND ADJUSTMENTS
1. Set tire pressures to placard pressures (located on fuel door).
2. Remove steering damper from vehicle and wipe down. Refer to Workshop Manual Section 211-03.
3. Function the steering damper for several cycles and inspect for presence of leaks.
a) If leaks are present, install new steering damper.
b) If no leaks are present, re-install existing steering damper.
4. Check torques on the steering system fasteners, adjust to specification as required.

DRIVE EVALUATION OF VEHICLE PRIOR TO REPAIR
1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the severity of wheel oscillation.

3. During the road test, evaluate and note the steering wheel return-ability.
a) Turn steering wheel full lock to lock to confirm no binding.
b) Locate center, and then 45 degrees either side of center on the steering wheel.
c) Driving vehicle at 35 MPH, on a dry and flat road surface, turn the wheel 45 degrees and release. Note the approximate angle that the steering wheel returns to BEFORE CLEAR VISION. Perform and record the angle for both left and right. It is normal if the angle differs slightly from left to right.

STEERING GEAR MESH LOAD ADJUSTMENT
1. Insert hex wrench into steering gear mesh load adjuster screw.
2. While holding the mesh load adjuster screw tight, back off lock nuts two full turns to allow free movement of the adjuster screw.

3. Carefully tighten adjuster screw 1/8 to 1/4 turn, or until a slight increase in resistance is felt.
4. Hold the adjuster screw in place and tighten lock nut. Do not allow the adjustment screw to turn while tightening the locking nut down.
5. Road test vehicle and evaluate for improvement in steering wheel oscillations.
a). Confirm that there is no objectionable increase in steering efforts, especially at low speeds.
b) Compare steering wheel return-ability to your previously recorded angles. If wheel returns within 5 degrees of original evaluation procedure is complete. If wheel fails to return to within 5 degrees of original measurement then back mesh load off slightly and reevaluate.
6. Turn steering wheel full lock to lock to confirm no binding.
7. Repeat steering gear mesh load adjustment process, in 1/8 to 1/4 turn increments, as necessary, stopping before there is an objectionable change in steering feel.
NOTE: DO NOT TIGHTEN MORE THAN REQUIRED TO REDUCE STEERING WHEEL OSCILLATIONS.
8. Park the vehicle to let it cool down. Road test cold to confirm acceptable parking efforts and return-ability in cold condition. Repeat the mesh load adjustment if needed.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL
1. Remove driver airbag assembly. Refer to Workshop Manual Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver airbag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE 2005 SUPER DUTY F-SERIES WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

From: O'Connor, Tammy (T.A.)
Sent: Tuesday, August 30, 2005 3:19 PM
To: McDonald, Joseph (J.)
Cc: Kaltz, Gordie (G.); Hale, Curt (B.C.); Knapp, David (D.)
Subject: [redacted] Revisions to TSB for Steering Wheel Shimmy

Importance: High

Attachments: [redacted] TSB Steering Wheel Shimmy Update.doc

[redacted] TSB Steering Whe...

Joe/Gordie:

Attached is the complete TSB with revisions. Please send this out as appropriate. Thanks.

Let me know if anyone has any questions or feedback.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thurs,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

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ISSUE:

Some 2005-2006 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion) immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on 4x4 vehicles, equipped with steering wheels that have redundant controls (i.e. climate and radio controls).

ACTION:

This procedure will minimize the steering wheel oscillations on impacts; however, there may be some remaining minor oscillation, which would be considered normal.
Perform the following:

- Vehicle Inspection
- Evaluation Of Vehicle Prior To Repair
- Steering Gear Mesh Load Adjustment
- Reduce front caster by 0.5 to 0.75 degrees
- Replacement Of Redundant Control Steering Wheel (if equipped and vehicle built prior to 10/8/04)

SERVICE PROCEDURE

VEHICLE INSPECTION

1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

   NOTE: SETTING TIRE PRESSUE TO DOOR SPEC IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

2. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
   a. If leaks are present, install a new steering damper and continue with this TSB.
   b. If no leaks are present, continue with this TSB.

3. Check torques on the following steering system fasteners and adjust to specification as required. Refer to Workshop Manual Section 211-03.

   - Damper nuts (4x2) (Torque spec: 59 lb-ft)
   - Damper-to-bracket (F-250, F-350 4x4) (Torque Spec: 26 lb-ft)
   - Damper-to-drag link (Torque spec: 67 lb-ft)
   - Drag link-to-pitman arm nut (Torque Spec: 148 lb-ft)
   - Inner tie-rod end nut (Torque Spec: 85 lb-ft)
   - Outer tie-rod end nuts (Torque Spec: 85 lb-ft)
   - Track bar bracket-to-frame nuts & bolts (Torque Spec: 129 lb-ft)

- Radius arm to axle (Torque spec: 185 ft-lb)
- Radius arm to frame bracket (Torque spec: 406 ft-lb)
- Radius arm frame bracket to frame bolts (Torque spec: 129 ft-lb)

NOTE: ADJUSTING TORQUE ON STEERING SYSTEM FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS WHICH ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

4. Measure wheel alignment. Verify that Front Caster, Camber & Total Toe is within specification (preferred specification is .1 degree toe in). Adjust to specification as required. Refer to the Workshop Manual, Section 2004-00-1 for complete alignment specifications.

EVALUATION OF VEHICLE PRIOR TO REPAIR

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the severity of wheel oscillation.
3. During the road test, evaluate and note the steering wheel return-ability.
    a. Turn steering wheel full lock to lock to confirm no binding.
    b. Locate center, and then 45 degrees either side of center on the steering wheel.
    c. Driving vehicle at 35 MPH (56 Km/h), on a dry and flat road surface, turn the wheel 45 degrees and release. Note the approximate angle that the steering wheel returns to BEFORE CLEAR VISION. Perform and record the angle for both left and right. It is normal if the angle differs slightly from left to right.

STEERING GEAR MESH LOAD ADJUSTMENT

1. Insert hex wrench into steering gear mesh load adjuster screw.
2. While holding the mesh load adjuster screw tight, back off lock nuts two full turns to allow free movement of the adjuster screw.
3. Carefully tighten adjuster screw until a slight increase in resistance is felt, then back off approximately 1/16th of a turn.
4. Hold the adjuster screw in place and tighten lock nut. Do not allow the adjustment screw to turn while tightening the locking nut down.
5. Road test vehicle and evaluate for improvement in steering wheel oscillations.
    a. Confirm that there is no objectionable increase in steering efforts, especially at low speeds.
    b. Verify that steering wheel return-ability is approximately the same as it was during the original evaluation (within 5 degrees).
    c. Turn steering wheel full lock to lock to confirm no binding.

6. Park the vehicle to let it cool down. Road test cold to confirm acceptable parking efforts and return-ability in cold condition. Repeat the mesh load adjustment if needed.

REDUCE FRONT CASTER

- Note the current front caster
- Use alignment adjustment bushings to Reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit.
- If caster setting is at exact minimum, camber may be below the specification limit.
- Use Alignment adjustment bushings:
  - 4x4: 5C3Z-3B440-DDD (0.75 Degree bushing) OR 5C3Z-3B440-EEE (1.0 degree bushing)
  - 4x2: 5C3Z-3B440-D (0.75 Degree bushing) OR 5C3Z-3B440-E (1.0 degree bushing)
- Maintain the current front camber, cross-camber & cross-caster settings as close as you possibly can.
- If the caster to the exact minimum he finds that the camber is out of spec.
- Adding weight to the back raises the front of the vehicle, which in effect increases caster.

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE 2005 OR 2006 SUPER DUTY F-SERIES WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

ISSUE:

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Perform the following:

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- Reduce front caster by 0.5 to 0.75 degrees
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SERVICE PROCEDURE

VEHICLE INSPECTION

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   NOTE: SETTING TIRE PRESSUE TO DOOR SPEC IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

2. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
   a. If leaks are present, install a new steering damper and continue with this TSB.
   b. If no leaks are present, continue with this TSB.

3. Check torques on the following steering system fasteners and adjust to specification as required. Refer to Workshop Manual Section 211-03.

   - Damper nuts (4x2) (Torque spec: 59 lb-ft)
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   - Inner tie-rod end nut (Torque Spec: 85 lb-ft)
   - Outer tie-rod end nuts (Torque Spec: 85 lb-ft)
   - Track bar bracket-to-frame nuts & bolts (Torque Spec: 129 lb-ft)

- Radius arm to axle (Torque spec: 185 ft-lb)
- Radius arm to frame bracket (Torque spec: 406 ft-lb)
- Radius arm frame bracket to frame bolts (Torque spec: 129 ft-lb)

NOTE: ADJUSTING TORQUE ON STEERING SYSTEM FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS WHICH ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

4. Measure wheel alignment. Verify that Front Caster, Camber & Total Toe is within specification (preferred specification is .1 degree toe in). Adjust to specification as required. Refer to the Workshop Manual, Section 2004-00-1 for complete alignment specifications.

EVALUATION OF VEHICLE PRIOR TO REPAIR

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the severity of wheel oscillation.
3. During the road test, evaluate and note the steering wheel return-ability.
    a. Turn steering wheel full lock to lock to confirm no binding.
    b. Locate center, and then 45 degrees either side of center on the steering wheel.
    c. Driving vehicle at 35 MPH (56 Km/h), on a dry and flat road surface, turn the wheel 45 degrees and release. Note the approximate angle that the steering wheel returns to BEFORE CLEAR VISION. Perform and record the angle for both left and right. It is normal if the angle differs slightly from left to right.

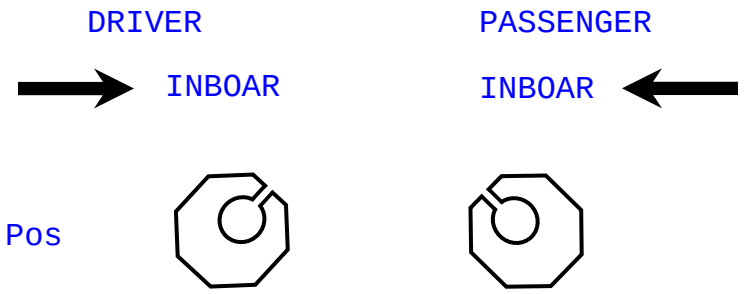
STEERING GEAR MESH LOAD ADJUSTMENT

1. Insert hex wrench into steering gear mesh load adjuster screw.
2. While holding the mesh load adjuster screw tight, back off lock nuts two full turns to allow free movement of the adjuster screw.
3. Carefully tighten adjuster screw until a slight increase in resistance is felt, then back off approximately 1/16th of a turn.
4. Hold the adjuster screw in place and tighten lock nut. Do not allow the adjustment screw to turn while tightening the locking nut down.
5. Road test vehicle and evaluate for improvement in steering wheel oscillations.
    a. Confirm that there is no objectionable increase in steering efforts, especially at low speeds.
    b. Verify that steering wheel return-ability is approximately the same as it was during the original evaluation (within 5 degrees).
    c. Turn steering wheel full lock to lock to confirm no binding.

6. Park the vehicle to let it cool down. Road test cold to confirm acceptable parking efforts and return-ability in cold condition. Repeat the mesh load adjustment if needed.

REDUCE FRONT CASTER

- Note the current front caster
- Use alignment adjustment bushings to Reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit.
- Use Alignment adjustment bushings:
  - 4x4: 5C3Z-3B440-DDD (0.75 Degree bushing) OR 5C3Z-3B440-EEE (1.0 degree bushing)
  - 4x2: 5C3Z-3B440-D (0.75 Degree bushing) OR 5C3Z-3B440-E (1.0 degree bushing)
- Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward & inboard position (See below picture)
  - This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed.
  - The final camber setting must be within the specification limits



- Maintain the current front camber, cross-camber & cross-caster settings as close as you possibly can.
- Adding weight to the back lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster.

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

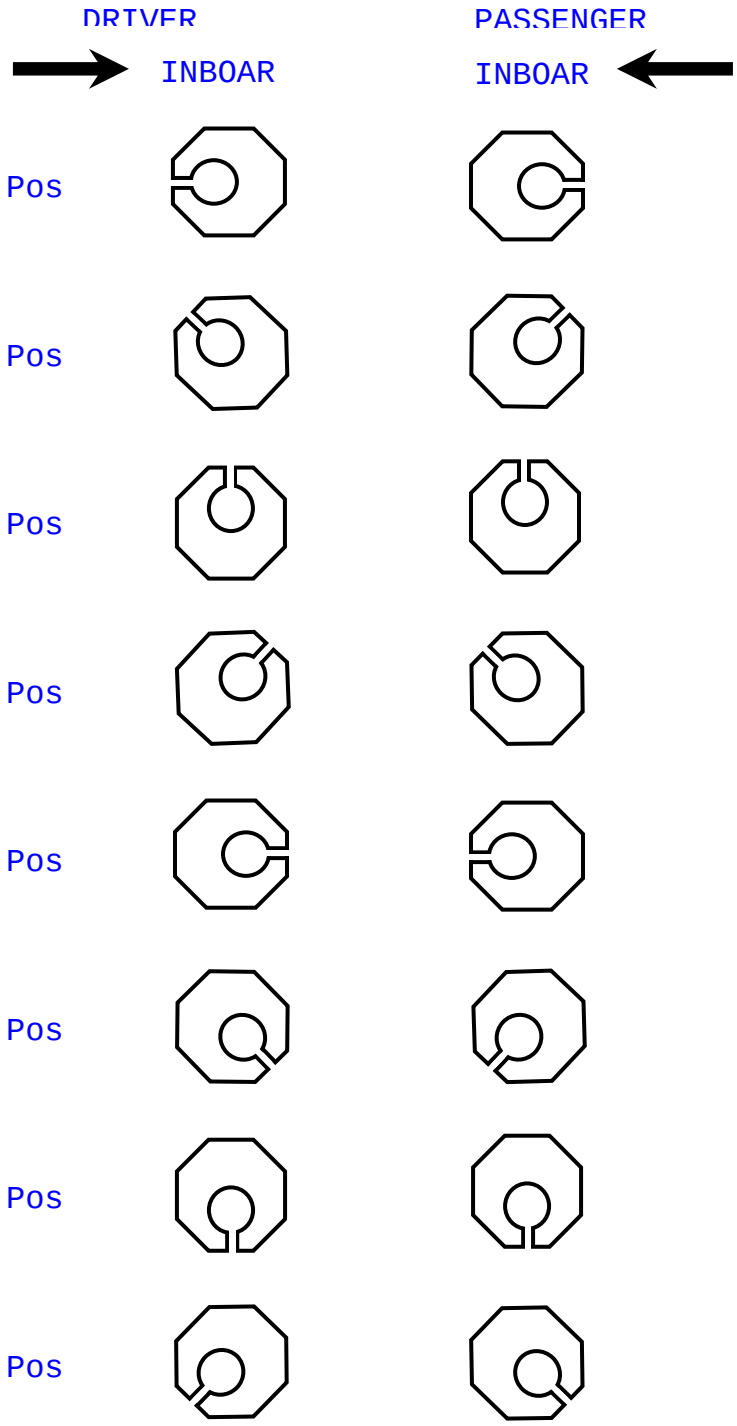
REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE 2005 OR 2006 SUPER DUTY F-SERIES WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

F250/350 4x4 -and- F450/550
(8-sided)



ISSUE:

Some 2005-2006 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion) immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on 4x4 vehicles, equipped with steering wheels that have redundant controls (i.e. climate and radio controls).

ACTION:

This procedure will minimize the steering wheel oscillations on impacts; however, there may be some remaining minor oscillation, which would be considered normal.
Perform the following:

- Vehicle Inspection
- Evaluation Of Vehicle Prior To Repair
- Steering Gear Mesh Load Adjustment
- Reduce front caster by 0.5 to 0.75 degrees
- Replacement Of Redundant Control Steering Wheel (if equipped and vehicle built prior to 10/8/04)

SERVICE PROCEDURE

VEHICLE INSPECTION

1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

   NOTE: SETTING TIRE PRESSUE TO DOOR SPEC IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

2. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
   a. If leaks are present, install a new steering damper and continue with this TSB.
   b. If no leaks are present, continue with this TSB.

3. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table # below).

Description	Torque Specification (lb-ft/ Nm)	
	Lb-ft	Nm
Damper nuts (4x2)	59	80
Damper-to-bracket (F-250, F-350 4x4)	26	35
Damper-to-drag link	67	91
Drag link-to-pitman arm nut	148	201
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts & bolts	129	175
Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

4. Measure wheel alignment. Verify that Front Caster, Camber & Total Toe is within specification (preferred specification is .1 degree toe in). Adjust to specification as required. Refer to the Workshop Manual, Section 2004-00-1 for complete alignment specifications.

EVALUATION OF VEHICLE PRIOR TO REPAIR

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the severity of wheel oscillation.

3. During the road test, evaluate and note the steering wheel return-ability.
    a. Turn steering wheel full lock to lock to confirm no binding.
    b. Locate center, and then 45 degrees either side of center on the steering wheel.
    c. Driving vehicle at 35 MPH (56 Km/h), on a dry and flat road surface, turn the wheel 45 degrees and release. Note the approximate angle that the steering wheel returns to BEFORE CLEAR VISION. Perform and record the angle for both left and right. It is normal if the angle differs slightly from left to right.

STEERING GEAR MESH LOAD ADJUSTMENT

1. Insert hex wrench into steering gear mesh load adjuster screw.
2. While holding the mesh load adjuster screw tight, back off lock nuts two full turns to allow free movement of the adjuster screw.
3. Carefully tighten adjuster screw until a slight increase in resistance is felt, then back off approximately 1/16th of a turn.
4. Hold the adjuster screw in place and tighten lock nut. Do not allow the adjustment screw to turn while tightening the locking nut down.
5. Road test vehicle and evaluate for improvement in steering wheel oscillations.
    a. Confirm that there is no objectionable increase in steering efforts, especially at low speeds.
    b. Verify that steering wheel return-ability is approximately the same as it was during the original evaluation (within 5 degrees).
    c. Turn steering wheel full lock to lock to confirm no binding.
6. Park the vehicle to let it cool down. Road test cold to confirm acceptable parking efforts and return-ability in cold condition. Repeat the mesh load adjustment if needed.

REDUCE FRONT CASTER

- Note the current front caster
- Use alignment adjustment bushings to Reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit.
- If caster setting is at exact minimum, camber may be below the specification limit.
- Use Alignment adjustment bushings:
    - 4x4: 5C3Z-3B440-DDD (0.75 Degree bushing) OR 5C3Z-3B440-EEE (1.0 degree bushing)
    - 4x2: 5C3Z-3B440-D (0.75 Degree bushing) OR 5C3Z-3B440-E (1.0 degree bushing)
- Maintain the current front camber, cross-camber & cross-caster settings as close as you possibly can.
- If the caster is set to the exact minimum, you may find that the camber is out of spec.
- Adding weight to the back raises the front of the vehicle, which in effect increases caster.

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE 2005 OR 2006 SUPER DUTY F-SERIES WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

From: Mayer, Paul (P.A.)
Sent: Tuesday, September 27, 2005 4:06 PM
To: O'Connor, Tammy (T.A.)
Subject: [redacted] TSB Steering Wheel Shimmy Update 09 14 05 pmrev.doc

Attachments: [redacted] TSB Steering Wheel Shimmy Update 09 14 05 pmrev.doc

[redacted] TSB Steering Whe...

ISSUE:

Some 2005-2006 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion) immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on 4x4 vehicles, equipped with steering wheels that have redundant controls (i.e. climate and radio controls).

ACTION:

This procedure will minimize the steering wheel oscillations on impacts; however, there may be some remaining minor oscillation, which would be considered normal.
Perform the following:

- Vehicle Inspection
- Evaluation Of Vehicle Prior To Repair
- Steering Gear Mesh Load Adjustment
- Reduce front caster by 0.5 to 0.75 degrees
- Replacement Of Redundant Control Steering Wheel (if equipped and vehicle built prior to 10/8/04)

SERVICE PROCEDURE

VEHICLE INSPECTION

1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

   NOTE: SETTING TIRE PRESSUE TO DOOR SPEC IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

2. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
   a. If leaks are present, install a new steering damper and continue with this TSB.
   b. If no leaks are present, continue with this TSB.

3. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table # below).

Description	Torque Specification (lb-ft/ Nm)	
	Lb-ft	Nm
Damper nuts (4x2)	59	80
Damper-to-bracket (F-250, F-350 4x4)	26	35
Damper-to-drag link	67	91
Drag link-to-pitman arm nut	148	201
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts & bolts	129	175
Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

4. Measure wheel alignment. Verify that Front Caster, Camber & Total Toe is within specification (preferred specification is .1 degree toe in). Adjust to specification as required. Refer to the Workshop Manual, Section 2004-00-1 for complete alignment specifications.

EVALUATION OF VEHICLE PRIOR TO REPAIR

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the severity of wheel oscillation.

3. During the road test, evaluate and note the steering wheel return-ability.
    a. Turn steering wheel full lock to lock to confirm no binding.
    b. Locate center, and then 45 degrees either side of center on the steering wheel.
    c. Driving vehicle at 35 MPH (56 Km/h), on a dry and flat road surface, turn the wheel 45 degrees and release. Note the approximate angle that the steering wheel returns to BEFORE CLEAR VISION. Perform and record the angle for both left and right. It is normal if the angle differs slightly from left to right.

STEERING GEAR MESH LOAD ADJUSTMENT

1. Insert hex wrench into steering gear mesh load adjuster screw.
2. While holding the mesh load adjuster screw tight, back off lock nuts two full turns to allow free movement of the adjuster screw.
3. Carefully tighten adjuster screw until a slight increase in resistance is felt, then back off approximately 1/16th of a turn.
4. Hold the adjuster screw in place and tighten lock nut. Do not allow the adjustment screw to turn while tightening the locking nut down.
5. Road test vehicle and evaluate for improvement in steering wheel oscillations.
    a. Confirm that there is no objectionable increase in steering efforts, especially at low speeds.
    b. Verify that steering wheel return-ability is approximately the same as it was during the original evaluation (within 5 degrees).
    c. Turn steering wheel full lock to lock to confirm no binding.
6. Park the vehicle to let it cool down. Road test cold to confirm acceptable parking efforts and return-ability in cold condition. Repeat the mesh load adjustment if needed.

REDUCE FRONT CASTER

- Note the current front caster
- Use alignment adjustment bushings to Reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit.
- Use Alignment adjustment bushings:
    - F-250/350 4x4: 5C3Z-3B440-DDD (0.75 Degree bushing) OR 5C3Z-3B440-EEE (1.0 degree bushing)
    - F-450/550 4x4 & 4x2: 5C3Z-3B440-JJJ (0.75 Degree bushing) OR 5C3Z-3B440-KKK (1.0 degree bushing)
    - F-250/350 4x2: 5C3Z-3B440-D (0.75 Degree bushing) OR 5C3Z-3B440-E (1.0 degree bushing)

For All 4x4 and for F-450/550 4x2,

- Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward & inboard position (See below picture)
- This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed.
- The final caster & camber settings must be within the specification limits

Pos

- Maintain the current front camber, cross-camber & cross-caster settings as close as you possibly can.
- Adding weight to the back lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster.

For All F-350/250 4x2,

- Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain that position while moving the caster position forward in the truck.
- The final caster & camber settings must be within the specification limits

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE 2005 OR 2006 SUPER DUTY F-SERIES WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

ISSUE:

Some 2005-2006 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion) immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on 4x4 vehicles, equipped with steering wheels that have redundant controls (i.e. climate and radio controls).

ACTION:

This procedure will minimize the steering wheel oscillations on impacts; however, there may be some remaining minor oscillation, which would be considered normal.
Perform the following:

- Vehicle Inspection
- Evaluation Of Vehicle Prior To Repair
- Steering Gear Mesh Load Adjustment
- Reduce front caster by 0.5 to 0.75 degrees
- Replacement Of Redundant Control Steering Wheel (if equipped and vehicle built prior to 10/8/04)

SERVICE PROCEDURE

VEHICLE INSPECTION

1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

   NOTE: SETTING TIRE PRESSUE TO DOOR SPEC IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

2. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
   a. If leaks are present, install a new steering damper and continue with this TSB.
   b. If no leaks are present, continue with this TSB.

3. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table # below).

Description	Torque Specification (lb-ft/ Nm)	
	Lb-ft	Nm
Damper nuts (4x2)	59	80
Damper-to-bracket (F-250, F-350 4x4)	26	35
Damper-to-drag link	67	91
Drag link-to-pitman arm nut	148	201
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts & bolts	129	175
Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

4. Measure wheel alignment. Verify that Front Caster, Camber & Total Toe is within specification (preferred specification is .1 degree toe in). Adjust to specification as required. Refer to the Workshop Manual, Section 2004-00-1 for complete alignment specifications.

EVALUATION OF VEHICLE PRIOR TO REPAIR

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the severity of wheel oscillation.

3. During the road test, evaluate and note the steering wheel return-ability.
    a. Turn steering wheel full lock to lock to confirm no binding.
    b. Locate center, and then 45 degrees either side of center on the steering wheel.
    c. Driving vehicle at 35 MPH (56 Km/h), on a dry and flat road surface, turn the wheel 45 degrees and release. Note the approximate angle that the steering wheel returns to BEFORE CLEAR VISION. Perform and record the angle for both left and right. It is normal if the angle differs slightly from left to right.

STEERING GEAR MESH LOAD ADJUSTMENT

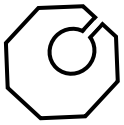
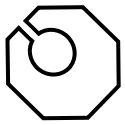
1. Insert hex wrench into steering gear mesh load adjuster screw.
2. While holding the mesh load adjuster screw tight, back off lock nuts two full turns to allow free movement of the adjuster screw.
3. Carefully tighten adjuster screw until a slight increase in resistance is felt, then back off approximately 1/16th of a turn.
4. Hold the adjuster screw in place and tighten lock nut. Do not allow the adjustment screw to turn while tightening the locking nut down.
5. Road test vehicle and evaluate for improvement in steering wheel oscillations.
    a. Confirm that there is no objectionable increase in steering efforts, especially at low speeds.
    b. Verify that steering wheel return-ability is approximately the same as it was during the original evaluation (within 5 degrees).
    c. Turn steering wheel full lock to lock to confirm no binding.
6. Park the vehicle to let it cool down. Road test cold to confirm acceptable parking efforts and return-ability in cold condition. Repeat the mesh load adjustment if needed.

REDUCE FRONT CASTER

- Note the current front caster
- Use alignment adjustment bushings to Reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit.
- Use Alignment adjustment bushings:
    - F-250/350 4x4: 5C3Z-3B440-DDD (0.75 Degree bushing) OR 5C3Z-3B440-EEE (1.0 degree bushing)
    - F-450/550 4x4 & 4x2: 5C3Z-3B440-JJJ (0.75 Degree bushing) OR 5C3Z-3B440-KKK (1.0 degree bushing)
    - F-250/350 4x2: 5C3Z-3B440-D (0.75 Degree bushing) OR 5C3Z-3B440-E (1.0 degree bushing)

For All 4x4 and for F-450/550 4x2,

- Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward & inboard position (See below picture)
- This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed.
- The final caster & camber settings must be within the specification limits

Pos  

- Maintain the current front camber, cross-camber & cross-caster settings as close as you possibly can.
- Adding weight to the back lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster.

For All F-350/250 4x2,

- Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain that position while moving the caster position forward in the truck.
- The final caster & camber settings must be within the specification limits

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE 2005 OR 2006 SUPER DUTY F-SERIES WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

ISSUE:

Some 2005-2006 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion) immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on 4x4 vehicles, and is more evident on trucks equipped with a gas engine.

ACTION:

This procedure will minimize the steering wheel oscillations on impacts; however, there may be some remaining minor oscillation, which would be considered normal.
Perform the following:

- Vehicle Inspection
- Evaluation Of Vehicle Prior To Repair
- Steering Gear Mesh Load Adjustment
- Front Alignment and Reduce front caster
- Replacement Of Redundant Control Steering Wheel (if equipped and vehicle built prior to 10/8/04)

SERVICE PROCEDURE

VEHICLE INSPECTION

1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

NOTE: SETTING TIRE PRESSUE TO DOOR SPEC IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

2. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
    a. If leaks are present, install a new steering damper and continue with this TSB.
    b. If no leaks are present, continue with this TSB.

3. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table # below).

Description	Torque Specification (lb-ft/ Nm)	
	Lb-ft	Nm
Damper nuts (4x2)	59	80
Damper-to-bracket (F-250, F-350 4x4)	26	35
Damper-to-drag link	67	91
Drag link-to-pitman arm nut	148	201
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts & bolts	129	175
Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

EVALUATION OF VEHICLE PRIOR TO REPAIR

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the severity of wheel oscillation.

3. During the road test, evaluate and note the steering wheel return-ability.
    a. Turn steering wheel full lock to lock to confirm no binding.

b. Locate center, and then 45 degrees either side of center on the steering wheel.
c. Driving vehicle at 35 MPH (56 Km/h), on a dry and flat road surface, turn the wheel 45 degrees and release. Note the approximate angle that the steering wheel returns to BEFORE CLEAR VISION. Perform and record the angle for both left and right. It is normal if the angle differs slightly from left to right.

STEERING GEAR MESH LOAD ADJUSTMENT

1. Insert hex wrench into steering gear mesh load adjuster screw.
2. While holding the mesh load adjuster screw tight, back off lock nuts two full turns to allow free movement of the adjuster screw.
3. Carefully tighten adjuster screw until a slight increase in resistance is felt, then back off approximately 1/16th of a turn.
4. Hold the adjuster screw in place and tighten lock nut. Do not allow the adjustment screw to turn while tightening the locking nut down.
5. Road test vehicle and evaluate for improvement in steering wheel oscillations.
    a. Confirm that there is no objectionable increase in steering efforts, especially at low speeds.
    b. Verify that steering wheel return-ability is approximately the same as it was during the original evaluation (within 5 degrees).
    c. Turn steering wheel full lock to lock to confirm no binding.
6. Park the vehicle to let it cool down. Road test cold to confirm acceptable parking efforts and return-ability in cold condition. Repeat the mesh load adjustment if needed.

FRONT WHEEL ALIGNEMENT AND REDUCE FRONT CASTER

Measure wheel alignment. Verify that Front Caster, Camber & Total Toe is within specification. Adjust as required. Refer to the Workshop Manual, Section 2004-00-1 for complete alignment specifications.

REDUCE FRONT CASTER

- Note the current front caster
- Use alignment adjustment bushings to Reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit.
- Use Alignment adjustment bushings:

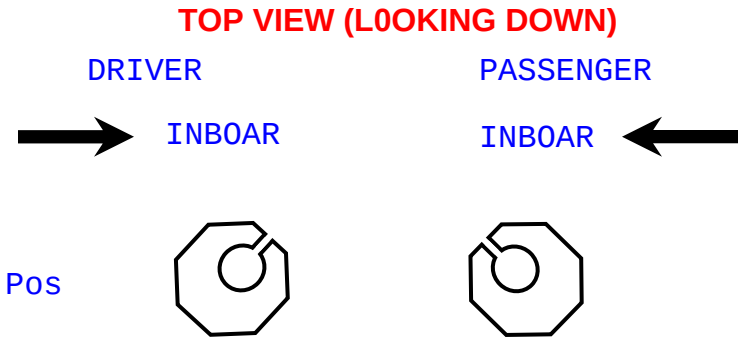
    - **F-250/350 4x4 (use one of the below bushings):**
      5C3Z-3B440-CCC (0.5 degree bushing)
      5C3Z-3B440-DDD (0.75 Degree bushing)
      5C3Z-3B440-EEE (1.0 degree bushing)

    - **F-450/550 4x4 & 4x2(use one of the below bushings)**:
        - 5C3Z-3B440-HHH (0.5 Degree bushing)
        - 5C3Z-3B440-JJJ (0.75 Degree bushing)
        - 5C3Z-3B440-KKK (1.0 degree bushing)

- F-250/350 4x2**(use one of the below bushings)**:
  - 5C3Z-3B440-C = 0.5 degree busing
  - 5C3Z-3B440-D = 0.75 degree bushing
  - 5C3Z-3B440-E = 1.0 degree bushing

For All 4x4 and for F-450/550 4x2,

- Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward & inboard position (See below picture)
- This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed.
- The final caster & camber settings must be within the specification limits



- Maintain the current front camber, cross-camber & cross-caster settings as close as you possibly can.
- Adding weight to the back lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster.

For All F-350/250 4x2,

- Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain that position while moving the caster position forward in the truck.
- The final caster & camber settings must be within the specification limits

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT

CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE 2005 OR 2006 SUPER DUTY F-SERIES WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

ISSUE:

Some 2005-2006 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion) immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on 4x4 vehicles, and is more evident on trucks equipped with a gas engine.

ACTION:

This procedure will minimize the steering wheel oscillations on impacts; however, there may be some remaining minor oscillation, which would be considered normal.
Perform the following:

- Vehicle Inspection
- Evaluation Of Vehicle Prior To Repair
- Steering Gear Mesh Load Adjustment
- Front Alignment and Reduce front caster
- Replacement Of Redundant Control Steering Wheel (if equipped and vehicle built prior to 10/8/04)

SERVICE PROCEDURE

VEHICLE INSPECTION

1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

NOTE: SETTING TIRE PRESSUE TO DOOR SPEC IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

2. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
    a. If leaks are present, install a new steering damper and continue with this TSB.
    b. If no leaks are present, continue with this TSB.

3. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table # below).

Description	Torque Specification (lb-ft/ Nm)	
	Lb-ft	Nm
Damper nuts (4x2)	59	80
Damper-to-bracket (F-250, F-350 4x4)	26	35
Damper-to-drag link	67	91
Drag link-to-pitman arm nut	148	201
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts & bolts	129	175
Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

EVALUATION OF VEHICLE PRIOR TO REPAIR

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the severity of wheel oscillation.

3. During the road test, evaluate and note the steering wheel return-ability.
    a. Turn steering wheel full lock to lock to confirm no binding.

b. Locate center, and then 45 degrees either side of center on the steering wheel.
c. Driving vehicle at 35 MPH (56 Km/h), on a dry and flat road surface, turn the wheel 45 degrees and release. Note the approximate angle that the steering wheel returns to BEFORE CLEAR VISION. Perform and record the angle for both left and right. It is normal if the angle differs slightly from left to right.

STEERING GEAR MESH LOAD ADJUSTMENT

1. Insert hex wrench into steering gear mesh load adjuster screw.
2. While holding the mesh load adjuster screw tight, back off lock nuts two full turns to allow free movement of the adjuster screw.
3. Carefully tighten adjuster screw until a slight increase in resistance is felt, then back off approximately 1/16th of a turn.
4. Hold the adjuster screw in place and tighten lock nut. Do not allow the adjustment screw to turn while tightening the locking nut down.
5. Road test vehicle and evaluate for improvement in steering wheel oscillations.
    a. Confirm that there is no objectionable increase in steering efforts, especially at low speeds.
    b. Verify that steering wheel return-ability is approximately the same as it was during the original evaluation (within 5 degrees).
    c. Turn steering wheel full lock to lock to confirm no binding.
6. Park the vehicle to let it cool down. Road test cold to confirm acceptable parking efforts and return-ability in cold condition. Repeat the mesh load adjustment if needed.

FRONT WHEEL ALIGNEMENT AND REDUCE FRONT CASTER

Measure wheel alignment. Verify that Front Caster, Camber & Total Toe is within specification. Adjust as required. Refer to the Workshop Manual, Section 2004-00-1 for complete alignment specifications.

REDUCE FRONT CASTER

- Note the current front caster
- Use alignment adjustment bushings to Reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit.
- Use Alignment adjustment bushings:

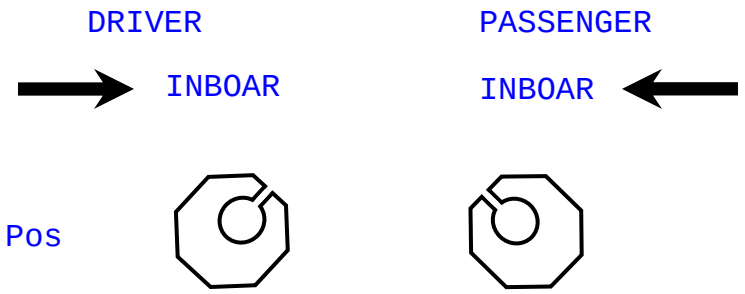
    - **F-250/350 4x4 (use one of the below bushings):**
      5C3Z-3B440-CCC (0.5 degree bushing)
      5C3Z-3B440-DDD (0.75 Degree bushing)
      5C3Z-3B440-EEE (1.0 degree bushing)

    - **F-450/550 4x4 & 4x2(use one of the below bushings)**:
        - 5C3Z-3B440-HHH (0.5 Degree bushing)
        - 5C3Z-3B440-JJJ (0.75 Degree bushing)
        - 5C3Z-3B440-KKK (1.0 degree bushing)

- F-250/350 4x2**(use one of the below bushings)**:
  - 5C3Z-3B440-C = 0.5 degree busing
  - 5C3Z-3B440-D = 0.75 degree bushing
  - 5C3Z-3B440-E = 1.0 degree bushing

For All 4x4 and for F-450/550 4x2,

- Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward & inboard position (See below picture)
- This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed.
- The final caster & camber settings must be within the specification limits



- Maintain the current front camber, cross-camber & cross-caster settings as close as you possibly can.
- Adding weight to the back lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster.

For All F-350/250 4x2,

- Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain that position while moving the caster position forward in the truck.
- The final caster & camber settings must be within the specification limits

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE 2005 OR 2006 SUPER DUTY F-SERIES WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

ISSUE:

Some 2005-2006 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion) immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on 4x4 vehicles, and is more evident on trucks equipped with a gas engine.

ACTION:

This procedure will minimize the steering wheel oscillations on impacts; however, there may be some remaining minor oscillation, which would be considered normal.
Perform the following:

- Vehicle Inspection
- Evaluation Of Vehicle Prior To Repair
- Steering Gear Mesh Load Adjustment
- Front Alignment and Reduce front caster
- Replacement Of Redundant Control Steering Wheel (if equipped and vehicle built prior to 10/8/04)

SERVICE PROCEDURE

VEHICLE INSPECTION

1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

NOTE: SETTING TIRE PRESSUE TO DOOR SPEC IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

2. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
    a. If leaks are present, install a new steering damper and continue with this TSB.
    b. If no leaks are present, continue with this TSB.

3. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table # below).

Description	Torque Specification (lb-ft/ Nm)	
	Lb-ft	Nm
Damper nuts (4x2)	59	80
Damper-to-bracket (F-250, F-350 4x4)	26	35
Damper-to-drag link	67	91
Drag link-to-pitman arm nut	148	201
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts & bolts	129	175
Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

EVALUATION OF VEHICLE PRIOR TO REPAIR

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the severity of wheel oscillation.

3. During the road test, evaluate and note the steering wheel return-ability.
    a. Turn steering wheel full lock to lock to confirm no binding.

b. Locate center, and then 45 degrees either side of center on the steering wheel.
c. Driving vehicle at 35 MPH (56 Km/h), on a dry and flat road surface, turn the wheel 45 degrees and release. Note the approximate angle that the steering wheel returns to BEFORE CLEAR VISION. Perform and record the angle for both left and right. It is normal if the angle differs slightly from left to right.

STEERING GEAR MESH LOAD ADJUSTMENT

1. Insert hex wrench into steering gear mesh load adjuster screw.
2. While holding the mesh load adjuster screw tight, back off lock nuts two full turns to allow free movement of the adjuster screw.
3. Carefully tighten adjuster screw until a slight increase in resistance is felt, then back off approximately 1/16th of a turn.
4. Hold the adjuster screw in place and tighten lock nut. Do not allow the adjustment screw to turn while tightening the locking nut down.
5. Road test vehicle and evaluate for improvement in steering wheel oscillations.
    a. Confirm that there is no objectionable increase in steering efforts, especially at low speeds.
    b. Verify that steering wheel return-ability is approximately the same as it was during the original evaluation (within 5 degrees).
    c. Turn steering wheel full lock to lock to confirm no binding.
6. Park the vehicle to let it cool down. Road test cold to confirm acceptable parking efforts and return-ability in cold condition. Repeat the mesh load adjustment if needed.

FRONT WHEEL ALIGNEMENT AND REDUCE FRONT CASTER

Measure wheel alignment. Verify that Front Caster, Camber & Total Toe is within specification. Adjust as required. Refer to the Workshop Manual, Section 2004-00-1 for complete alignment specifications.

REDUCE FRONT CASTER

- Note the current front caster
- Use alignment adjustment bushings to Reduce front caster by 0.5 to 1.0 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit.
- Use Alignment adjustment bushings:

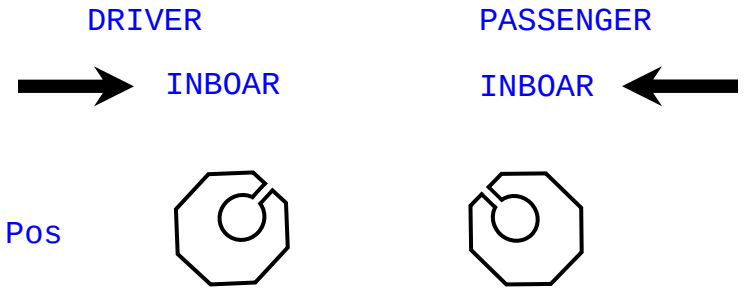
- **F-250/350 4x4:**
  5C3Z-3B440-CCC (0.5 degree bushing)
  5C3Z-3B440-DDD (0.75 Degree bushing)
  5C3Z-3B440-EEE (1.0 degree bushing)

- **F-450/550 4x4 & 4x2**:
  - 5C3Z-3B440-JJJ (0.75 Degree bushing)
  - 5C3Z-3B440-KKK (1.0 degree bushing)

- F-250/350 4x2:
  - 5C3Z-3B440-C = 0.5 degree busing
  - 5C3Z-3B440-D = 0.75 degree bushing
  - 5C3Z-3B440-E = 1.0 degree bushing

For All 4x4 and for F-450/550 4x2,

- Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward & inboard position (See below picture)
- This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed.
- The final caster & camber settings must be within the specification limits



- Maintain the current front camber, cross-camber & cross-caster settings as close as you possibly can.
- Adding weight to the back lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster.

For All F-350/250 4x2,

- Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain that position while moving the caster position forward in the truck.
- The final caster & camber settings must be within the specification limits

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE 2005 OR 2006 SUPER DUTY F-SERIES WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

ISSUE:

Some 2005-2006 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion) immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on 4x4 vehicles, equipped with steering wheels that have redundant controls (i.e. climate and radio controls).

ACTION:

This procedure will minimize the steering wheel oscillations on impacts; however, there may be some remaining minor oscillation, which would be considered normal.
Perform the following:

- Vehicle Inspection
- Evaluation Of Vehicle Prior To Repair
- Steering Gear Mesh Load Adjustment
- Reduce front caster by 0.5 to 0.75 degrees
- Replacement Of Redundant Control Steering Wheel (if equipped and vehicle built prior to 10/8/04)

SERVICE PROCEDURE

VEHICLE INSPECTION

1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

   NOTE: SETTING TIRE PRESSUE TO DOOR SPEC IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

2. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
   a. If leaks are present, install a new steering damper and continue with this TSB.
   b. If no leaks are present, continue with this TSB.

3. Check torques on the following steering system fasteners and adjust to specification as required. Refer to Workshop Manual Section 211-03.

   - Damper nuts (4x2) (Torque spec: 59 lb-ft)
   - Damper-to-bracket (F-250, F-350 4x4) (Torque Spec: 26 lb-ft)
   - Damper-to-drag link (Torque spec: 67 lb-ft)
   - Drag link-to-pitman arm nut (Torque Spec: 148 lb-ft)
   - Inner tie-rod end nut (Torque Spec: 85 lb-ft)
   - Outer tie-rod end nuts (Torque Spec: 85 lb-ft)
   - Track bar bracket-to-frame nuts & bolts (Torque Spec: 129 lb-ft)

- Radius arm to axle (Torque spec: 185 ft-lb)
- Radius arm to frame bracket (Torque spec: 406 ft-lb)
- Radius arm frame bracket to frame bolts (Torque spec: 129 ft-lb)

NOTE: ADJUSTING TORQUE ON STEERING SYSTEM FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS WHICH ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

4. Measure wheel alignment. Verify that Front Caster, Camber & Total Toe is within specification (preferred specification is .1 degree toe in). Adjust to specification as required. Refer to the Workshop Manual, Section 2004-00-1 for complete alignment specifications.

EVALUATION OF VEHICLE PRIOR TO REPAIR

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the severity of wheel oscillation.
3. During the road test, evaluate and note the steering wheel return-ability.
    a. Turn steering wheel full lock to lock to confirm no binding.
    b. Locate center, and then 45 degrees either side of center on the steering wheel.
    c. Driving vehicle at 35 MPH (56 Km/h), on a dry and flat road surface, turn the wheel 45 degrees and release. Note the approximate angle that the steering wheel returns to BEFORE CLEAR VISION. Perform and record the angle for both left and right. It is normal if the angle differs slightly from left to right.

STEERING GEAR MESH LOAD ADJUSTMENT

1. Insert hex wrench into steering gear mesh load adjuster screw.
2. While holding the mesh load adjuster screw tight, back off lock nuts two full turns to allow free movement of the adjuster screw.
3. Carefully tighten adjuster screw until a slight increase in resistance is felt, then back off approximately 1/16th of a turn.
4. Hold the adjuster screw in place and tighten lock nut. Do not allow the adjustment screw to turn while tightening the locking nut down.
5. Road test vehicle and evaluate for improvement in steering wheel oscillations.
    a. Confirm that there is no objectionable increase in steering efforts, especially at low speeds.
    b. Verify that steering wheel return-ability is approximately the same as it was during the original evaluation (within 5 degrees).
    c. Turn steering wheel full lock to lock to confirm no binding.

6. Park the vehicle to let it cool down. Road test cold to confirm acceptable parking efforts and return-ability in cold condition. Repeat the mesh load adjustment if needed.

REDUCE FRONT CASTER

- Note the current front caster
- Use alignment adjustment bushings to Reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit.
- If caster setting is at exact minimum, camber may be below the specification limit.
- Use Alignment adjustment bushings:
  - 4x4: 5C3Z-3B440-DDD (0.75 Degree bushing) OR 5C3Z-3B440-EEE (1.0 degree bushing)
  - 4x2: 5C3Z-3B440-D (0.75 Degree bushing) OR 5C3Z-3B440-E (1.0 degree bushing)
- Maintain the current front camber, cross-camber & cross-caster settings as close as you possibly can.
- If the caster to the exact minimum he finds that the camber is out of spec.
- Adding weight to the back raises the front of the vehicle, which in effect increases caster.

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE 2005 OR 2006 SUPER DUTY F-SERIES WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

From: O'Connor, Tammy (T.A.)
Sent: Monday, October 03, 2005 11:03 AM
To: 'tsb@brownart.com'
Cc: OConnor, Tammy (T.A.)
Subject: Artwork for TSB [redacted]

Attachments: [redacted] TSB Steering Wheel Shimmy Update 09 29 tao.doc

[redacted] TSB Steering Whe...

Attached is the file for this TSB. There is a drawing in the section on caster that I believe we will need to have artwork done on. Please let me know if you have any questions. Thanks.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Wed,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Thursday)

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ISSUE:

Some 2005-2006 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion) immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on 4x4 vehicles, and is more evident on trucks equipped with a gas engine.

ACTION:

This procedure will minimize the steering wheel oscillations on impacts; however, there may be some remaining minor oscillation, which would be considered normal.
Perform the following:

- Vehicle Inspection
- Evaluation Of Vehicle Prior To Repair
- Steering Gear Mesh Load Adjustment
- Front Alignment and Reduce front caster
- Replacement Of Redundant Control Steering Wheel (if equipped and vehicle built prior to 10/8/04)

SERVICE PROCEDURE

VEHICLE INSPECTION

1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

NOTE: SETTING TIRE PRESSUE TO DOOR SPEC IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

2. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
    a. If leaks are present, install a new steering damper and continue with this TSB.
    b. If no leaks are present, continue with this TSB.

3. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table # below).

Description	Torque Specification (lb-ft/ Nm)	
	Lb-ft	Nm
Damper nuts (4x2)	59	80
Damper-to-bracket (F-250, F-350 4x4)	26	35
Damper-to-drag link	67	91
Drag link-to-pitman arm nut	148	201
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts & bolts	129	175
Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

EVALUATION OF VEHICLE PRIOR TO REPAIR

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the severity of wheel oscillation.

3. During the road test, evaluate and note the steering wheel return-ability.
    a. Turn steering wheel full lock to lock to confirm no binding.

b. Locate center, and then 45 degrees either side of center on the steering wheel.
c. Driving vehicle at 35 MPH (56 Km/h), on a dry and flat road surface, turn the wheel 45 degrees and release. Note the approximate angle that the steering wheel returns to BEFORE CLEAR VISION. Perform and record the angle for both left and right. It is normal if the angle differs slightly from left to right.

STEERING GEAR MESH LOAD ADJUSTMENT

1. Insert hex wrench into steering gear mesh load adjuster screw.
2. While holding the mesh load adjuster screw tight, back off lock nuts two full turns to allow free movement of the adjuster screw.
3. Carefully tighten adjuster screw until a slight increase in resistance is felt, then back off approximately 1/16th of a turn.
4. Hold the adjuster screw in place and tighten lock nut. Do not allow the adjustment screw to turn while tightening the locking nut down.
5. Road test vehicle and evaluate for improvement in steering wheel oscillations.
    a. Confirm that there is no objectionable increase in steering efforts, especially at low speeds.
    b. Verify that steering wheel return-ability is approximately the same as it was during the original evaluation (within 5 degrees).
    c. Turn steering wheel full lock to lock to confirm no binding.
6. Park the vehicle to let it cool down. Road test cold to confirm acceptable parking efforts and return-ability in cold condition. Repeat the mesh load adjustment if needed.

FRONT WHEEL ALIGNEMENT AND REDUCE FRONT CASTER

Measure wheel alignment. Verify that Front Caster, Camber & Total Toe is within specification. Adjust as required. Refer to the Workshop Manual, Section 2004-00-1 for complete alignment specifications.

REDUCE FRONT CASTER

- Note the current front caster
- Use alignment adjustment bushings to Reduce front caster by 0.5 to 1.0 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit.
- Use Alignment adjustment bushings:

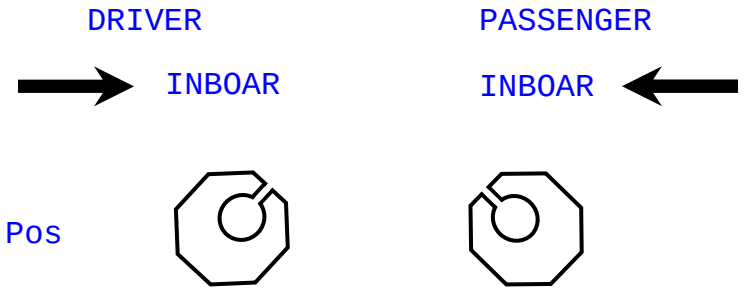
- **F-250/350 4x4:**
  5C3Z-3B440-CCC (0.5 degree bushing)
  5C3Z-3B440-DDD (0.75 Degree bushing)
  5C3Z-3B440-EEE (1.0 degree bushing)

- **F-450/550 4x4 & 4x2**:
  - 5C3Z-3B440-JJJ (0.75 Degree bushing)
  - 5C3Z-3B440-KKK (1.0 degree bushing)

- F-250/350 4x2:
  - 5C3Z-3B440-C = 0.5 degree busing
  - 5C3Z-3B440-D = 0.75 degree bushing
  - 5C3Z-3B440-E = 1.0 degree bushing

For All 4x4 and for F-450/550 4x2,

- Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward & inboard position (See below picture)
- This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed.
- The final caster & camber settings must be within the specification limits



- Maintain the current front camber, cross-camber & cross-caster settings as close as you possibly can.
- Adding weight to the back lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster.

For All F-350/250 4x2,

- Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain that position while moving the caster position forward in the truck.
- The final caster & camber settings must be within the specification limits

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE 2005 OR 2006 SUPER DUTY F-SERIES WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

From: O'Connor, Tammy (T.A.)
Sent: Friday, September 09, 2005 2:11 PM
To: Mayer, Paul (P.A.); Repasky, Steve (S.)
Subject: Draft TSB

Attachments: [redacted] TSB Steering Wheel Shimmy Update.doc

[redacted] TSB Steering Whe...

Attached is the draft TSB for your review.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thurs,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

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ISSUE:

Some 2005-2006 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion) immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on 4x4 vehicles, equipped with steering wheels that have redundant controls (i.e. climate and radio controls).

ACTION:

This procedure will minimize the steering wheel oscillations on impacts; however, there may be some remaining minor oscillation, which would be considered normal.
Perform the following:

- Vehicle Inspection
- Evaluation Of Vehicle Prior To Repair
- Steering Gear Mesh Load Adjustment
- Reduce front caster by 0.5 to 0.75 degrees
- Replacement Of Redundant Control Steering Wheel (if equipped and vehicle built prior to 10/8/04)

SERVICE PROCEDURE

VEHICLE INSPECTION

1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

   NOTE: SETTING TIRE PRESSUE TO DOOR SPEC IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

2. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
   a. If leaks are present, install a new steering damper and continue with this TSB.
   b. If no leaks are present, continue with this TSB.

3. Check torques on the following steering system fasteners and adjust to specification as required. Refer to Workshop Manual Section 211-03.

   - Damper nuts (4x2) (Torque spec: 59 lb-ft)
   - Damper-to-bracket (F-250, F-350 4x4) (Torque Spec: 26 lb-ft)
   - Damper-to-drag link (Torque spec: 67 lb-ft)
   - Drag link-to-pitman arm nut (Torque Spec: 148 lb-ft)
   - Inner tie-rod end nut (Torque Spec: 85 lb-ft)
   - Outer tie-rod end nuts (Torque Spec: 85 lb-ft)
   - Track bar bracket-to-frame nuts & bolts (Torque Spec: 129 lb-ft)

- Radius arm to axle (Torque spec: 185 ft-lb)
- Radius arm to frame bracket (Torque spec: 406 ft-lb)
- Radius arm frame bracket to frame bolts (Torque spec: 129 ft-lb)

NOTE: ADJUSTING TORQUE ON STEERING SYSTEM FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS WHICH ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

4. Measure wheel alignment. Verify that Front Caster, Camber & Total Toe is within specification (preferred specification is .1 degree toe in). Adjust to specification as required. Refer to the Workshop Manual, Section 2004-00-1 for complete alignment specifications.

EVALUATION OF VEHICLE PRIOR TO REPAIR

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the severity of wheel oscillation.
3. During the road test, evaluate and note the steering wheel return-ability.
    a. Turn steering wheel full lock to lock to confirm no binding.
    b. Locate center, and then 45 degrees either side of center on the steering wheel.
    c. Driving vehicle at 35 MPH (56 Km/h), on a dry and flat road surface, turn the wheel 45 degrees and release. Note the approximate angle that the steering wheel returns to BEFORE CLEAR VISION. Perform and record the angle for both left and right. It is normal if the angle differs slightly from left to right.

STEERING GEAR MESH LOAD ADJUSTMENT

1. Insert hex wrench into steering gear mesh load adjuster screw.
2. While holding the mesh load adjuster screw tight, back off lock nuts two full turns to allow free movement of the adjuster screw.
3. Carefully tighten adjuster screw until a slight increase in resistance is felt, then back off approximately 1/16th of a turn.
4. Hold the adjuster screw in place and tighten lock nut. Do not allow the adjustment screw to turn while tightening the locking nut down.
5. Road test vehicle and evaluate for improvement in steering wheel oscillations.
    a. Confirm that there is no objectionable increase in steering efforts, especially at low speeds.
    b. Verify that steering wheel return-ability is approximately the same as it was during the original evaluation (within 5 degrees).
    c. Turn steering wheel full lock to lock to confirm no binding.

6. Park the vehicle to let it cool down. Road test cold to confirm acceptable parking efforts and return-ability in cold condition. Repeat the mesh load adjustment if needed.

REDUCE FRONT CASTER

- Note the current front caster
- Use alignment adjustment bushings to Reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit.
- If caster setting is at exact minimum, camber may be below the specification limit.
- Use Alignment adjustment bushings:
  - 4x4: 5C3Z-3B440-DDD (0.75 Degree bushing) OR 5C3Z-3B440-EEE (1.0 degree bushing)
  - 4x2: 5C3Z-3B440-D (0.75 Degree bushing) OR 5C3Z-3B440-E (1.0 degree bushing)
- Maintain the current front camber, cross-camber & cross-caster settings as close as you possibly can.
- If the caster to the exact minimum he finds that the camber is out of spec.
- Adding weight to the back raises the front of the vehicle, which in effect increases caster.

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE 2005 OR 2006 SUPER DUTY F-SERIES WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

From: O'Connor, Tammy (T.A.)
Sent: Wednesday, August 31, 2005 12:51 PM
To: Berardi, Paul (.)
Subject: FW: 5HPC2018 SUPER DUTY PULL ISSUE

Attachments: [redacted] TSB Steering Wheel Shimmy Update 08 31.doc

Paul: Attached is a rough draft of the TSB for the Steering Wheel Shimmy issue:

[redacted] TSB Steering Whe...

I'm totally confused on whether you have a brake pull issue or a wander issue?

Please call me if you need further assistance.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thurs,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

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-----Original Message-----
From: Knapp, David (D.)
Sent: Wednesday, August 31, 2005 8:28 AM
To: Berardi, Paul (.)
Cc: O'Connor, Tammy (T.A.); Wolken, Christopher (C.)
Subject: RE: 5HPC2018 SUPER DUTY PULL ISSUE

The pvt stated no known issues.
The hotline has known issues or better stated seen trends with this issue.
I authored an ism on this which was recommended in the report. Here is a copy.

ArticleNumber : 05-08-028 Entered Date : 08/09/2005 Times Recommended : 7
Date is displayed in
MM/DD/CCYY format

Follow steps to determine if brake pull caused
by mechanical, hydraulic or alignment
condition :

Some 1999-2006 F-Super Duty vehicles may exhibit a brake related pull. To isolate and properly diagnose using the following steps. First make sure to always check tire pressures and sizes in all four corners. If OK then use a remote temperature gun or temperature probe and measure brake temperatures in all corners after a few hard brake applications. If a temperature difference exists, swap pads and rotors side to side. If the concern changes direction of pull, replace pads and machine rotors. If the condition still exists to the same direction of pull then the condition may be hydraulic. Refer to Pinpoint Test 'H2' of the Workshop Manual section 206-09 to determine if a leaking HCU dump valve is present. If performing the above does not resolve, then diagnose an alignment problem with cross caster, toe, thrust angle and camber as per the workshop manual. Author: Dknapp7@ford.com x-76316

I will relay the investigation info to my pvt's. Thank you for the support.

David Knapp
Truck Group Service Engineer
F-Superduty/Excursion SME
Ford Technical Hotline
DKnapp7@ford.com
313-317-6316

-----Original Message-----
From: Berardi, Paul (.)
Sent: Wednesday, August 31, 2005 12:55 AM
To: Knapp, David (D.)
Subject: 5HPC2018 SUPER DUTY PULL ISSUE

No known issues? I had Steve Repasky out in AZ for a week looking at pull issues on Super Duty units and he was also in LA. He might be interested in this since it's really undetermined. Thanks

ISSUE:

Some 2005-2006 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion) immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on 4x4 vehicles, equipped with steering wheels that have redundant controls (i.e. climate and radio controls).

ACTION:

This procedure will minimize the steering wheel oscillations on impacts; however, there may be some remaining minor oscillation, which would be considered normal.
Perform the following:

- Vehicle Inspection
- Evaluation Of Vehicle Prior To Repair
- Steering Gear Mesh Load Adjustment
- Reduce front caster by 0.5 to 0.75 degrees
- Replacement Of Redundant Control Steering Wheel (if equipped and vehicle built prior to 10/8/04)

SERVICE PROCEDURE

VEHICLE INSPECTION

1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

   NOTE: SETTING TIRE PRESSUE TO DOOR SPEC IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

2. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
   a. If leaks are present, install a new steering damper and continue with this TSB.
   b. If no leaks are present, continue with this TSB.

3. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table # below).

Description	Torque Specification (lb-ft/ Nm)	
	Lb-ft	Nm
Damper nuts (4x2)	59	80
Damper-to-bracket (F-250, F-350 4x4)	26	35
Damper-to-drag link	67	91
Drag link-to-pitman arm nut	148	201
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts & bolts	129	175
Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

4. Measure wheel alignment. Verify that Front Caster, Camber & Total Toe is within specification (preferred specification is .1 degree toe in). Adjust to specification as required. Refer to the Workshop Manual, Section 2004-00-1 for complete alignment specifications.

EVALUATION OF VEHICLE PRIOR TO REPAIR

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the severity of wheel oscillation.

3. During the road test, evaluate and note the steering wheel return-ability.
    a. Turn steering wheel full lock to lock to confirm no binding.
    b. Locate center, and then 45 degrees either side of center on the steering wheel.
    c. Driving vehicle at 35 MPH (56 Km/h), on a dry and flat road surface, turn the wheel 45 degrees and release. Note the approximate angle that the steering wheel returns to BEFORE CLEAR VISION. Perform and record the angle for both left and right. It is normal if the angle differs slightly from left to right.

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1. Insert hex wrench into steering gear mesh load adjuster screw.
2. While holding the mesh load adjuster screw tight, back off lock nuts two full turns to allow free movement of the adjuster screw.
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5. Road test vehicle and evaluate for improvement in steering wheel oscillations.
    a. Confirm that there is no objectionable increase in steering efforts, especially at low speeds.
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6. Park the vehicle to let it cool down. Road test cold to confirm acceptable parking efforts and return-ability in cold condition. Repeat the mesh load adjustment if needed.

REDUCE FRONT CASTER

- Note the current front caster
- Use alignment adjustment bushings to Reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit.
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REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE 2005 OR 2006 SUPER DUTY F-SERIES WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

From: Snider, Alex (A.)
Sent: Wednesday, August 31, 2005 12:39 PM
To: O'Connor, Tammy (T.A.)
Subject: FW: [redacted] Revisions to TSB for Steering Wheel Shimmy

Importance: High

Attachments: [redacted] TSB Steering Wheel Shimmy Update 08 31.doc

Tammy, I added the Nm torque spec for you.

"Accelerate Growth Through Customer Satisfaction and Loyalty"

Alex Snider
Ford Motor Company of Canada
Technical Service Support Specialist
Outlook ID: asnider@ford.com
Dial net: 853-1485
Outside #: 905-845-2511, ext: 1485

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Wednesday, August 31, 2005 11:53 AM
To: McDonald, Joseph (J.)
Cc: Kaltz, Gordie (G.); Hale, Curt (B.C.); Knapp, David (D.); Snider, Alex (A.); Corlew, Randall (R.L.)
Subject: RE: [redacted] Revisions to TSB for Steering Wheel Shimmy
Importance: High

[redacted] TSB Steering Whe...

Joe: Attached is an update with the changes on description on torque spec for steering and suspension fasteners.

I appreciate any feedback any of you have to offer on this draft.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thurs,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

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-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Tuesday, August 30, 2005 3:19 PM
To: McDonald, Joseph (J.)
Cc: Kaltz, Gordie (G.); Hale, Curt (B.C.); Knapp, David (D.)

Subject: [redacted] Revisions to TSB for Steering Wheel Shimmy
Importance: High

<< File: [redacted] TSB Steering Wheel Shimmy Update.doc >>

Joe/Gordie:

Attached is the complete TSB with revisions. Please send this out as appropriate. Thanks.

Let me know if anyone has any questions or feedback.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thurs,Fri)
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SERVICE PROCEDURE

VEHICLE INSPECTION

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Description	Torque Specification (lb-ft/ Nm)	
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Damper nuts (4x2)	59	80
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4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE 2005 OR 2006 SUPER DUTY F-SERIES WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

From: O'Connor, Tammy (T.A.)
Sent: Thursday, October 20, 2005 9:31 AM
To: Hale, Curt (B.C.); Knapp, David (D.); Mayer, Paul (P.A.); Repasky, Steve (S.)
Subject: FW: [redacted] has gone to FINAL as 05-22-1 (enUSA)

Importance: High

TSB 05-22-1 is now published, it will be available on PTS Friday morning.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Wed,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Thursday)

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-----Original Message-----
From: Siplus, G (G.)
Sent: Thursday, October 20, 2005 9:29 AM
To: O'Connor, Tammy (T.A.)
Subject: [redacted] has gone to FINAL as 05-22-1 (enUSA)
Importance: High

English TSB Article 05-22-1 has been released for publication

The following Technical Service Bulletin (TSB) article
has been moved from collaboration and is now final.
Dealers may view this article on the next business day via OASIS and
fmcdealer.com (http://www.fmcdealer.dealerconnection.com).
Company personnel may view it at:
http://www.protechnician.com/.

Concern Tracking Number: [redacted]

TSB Article Number: 05-22-1

Description: Steering Wheel Oscillation.

Vehicles: F-Super Duty

If this message should not have been sent to this address please forward it to gsiplus@ford.com.

From: Mayer, Paul (P.A.)
Sent: Monday, October 17, 2005 4:23 PM
To: O'Connor, Tammy (T.A.); Repasky, Steve (S.)
Cc: Zeitz, Keith (K.A.); Smith, Ron (R.A.); Watts, David (D.E.); Arnold, Bruce (B.C.)
Subject: FW: [redacted] is ready for just in time collaboration review

Importance: High

Attachments: enUSA_art070-2005-1154.pdf

enUSA_art070-200
5-1154.pdf (68...

I have 2 edits and one issue

ISSUE: I'm not sure we are supposed to cut this lose without approval from Keith zeitz, since these TSB's tend to drive warranty spend ?

EDIT 1: The note on tire pressure being important should be in big bold letters

EDIT 2: Under reduce frt caster it should say "Use alignment adjustment bushings to Reduce front caster by 0.5 to 0.75 degrees." NOT 0.5 to 1.0 degrees

Regards
Paul Mayer
Truck Suspension and Systems Analysis
313-248-9202 Fax:313-317-2349

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Monday, October 17, 2005 1:55 PM
To: Mayer, Paul (P.A.); Repasky, Steve (S.)
Cc: Knapp, David (D.); Hale, Curt (B.C.)
Subject: FW: [redacted] is ready for just in time collaboration review
Importance: High

Paul/Steve:

Please review this draft TSB and let me know if you have any suggested changes. This is what TSB will look like if no changes are made, need a response no later than 10/19.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Wed,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Thursday)

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-----Original Message-----
From: Siplus, G (G.)
Sent: Monday, October 17, 2005 1:50 PM
To: O'Connor, Tammy (T.A.)
Subject: [redacted] is ready for just in time collaboration review
Importance: High

YOU MUST RESPOND BY CLOSE OF BUSINESS 10/19/2005
Failure to respond by the deadline is considered approval of the article as written.
*** DO NOT REPLY TO THIS NOTE ***

The following Technical Service Bulletin (TSB) is available for viewing at:
http://www.gsi.ford.com/oz/tips/CollabWeb/Collaborator.asp

Concern Tracking Number: [redacted]

Description: Steering Wheel Oscillation.

Vehicles: F-Super Duty

Review all articles that pertain to your area of responsibility for accuracy and completeness and select ONE of the following:

1. Approve the article as written
2. Approve the article with edits
   Note: If a vehicle line or model year has been excluded from the article select this option and list the vehicle line(s) that should be added.
3. Reject the article with attached reason

If this message should not have been sent to this address please forward it to gsiplus@ford.com.

STEERING WHEEL OSCILLATION

Concern Tracking# [redacted]

FORD:
2005-2006 F-Super Duty

This article supersedes TSB **4-26-01** to update the vehicle model years.

ISSUE

Some 2005-2006 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion), immediately following front or rear wheel impacts (pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on 4x4 vehicles, and is more evident on trucks equipped with a gas engine. Refer to the following Service Procedure to will minimize the steering wheel oscillations on impacts, however, there may be some remaining minor oscillation which would be considered normal.

ACTION

Refer to the following Service Procedure to minimize the steering wheel oscillations on impacts, however, there may be some remaining minor oscillation which would be considered normal.

SERVICE PROCEDURE

Perform the following:

- Vehicle Inspection
- Evaluation Of Vehicle Prior To Repair
- Steering Gear Mesh Load Adjustment
- Front Alignment and Reduce front caster
- Replacement Of Redundant Control Steering Wheel (if equipped and vehicle built prior to 10/8/04)

VEHICLE INSPECTION

1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

NOTE
SETTING TIRE PRESSURE TO DOOR SPECIFICATION IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE.

2. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
   a. If leaks are present, install a new steering damper and continue with this TSB
   b. If no leaks are present, continue with this TSB.
3. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table below).

Torque Specification		
Description	**Lp-ft**	**Nm**
Damper nuts (4x2)	59	80
Damper-to-bracket (F-250, F-350 4x4)	26	35
Damper-to-drag link	67	91
Drag link-to-pitman arm nut	148	201
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts and bolts	129	175
Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE
ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE.

NOTE: The information in Technical Service Bulletins is intended for use by trained, professional technicians with the knowledge, tools, and equipment to do the job properly and safely. It informs these technicians of conditions that may occur on some vehicles, or provides information that could assist in proper vehicle service. The procedures should not be performed by "do-it-yourselfers". Do not assume that a condition described affects your car or truck. Contact a Ford, Lincoln, or Mercury dealership to determine whether the Bulletin applies to your vehicle. Warranty Policy and Extended Service Plan documentation determine Warranty and/or Extended Service Plan coverage unless stated otherwise in the TSB article.The information in this Technical Service Bulletin (TSB) was current at the time of printing. Ford Motor Company reserves the right to supercede this information with updates.The most recent information is available through Ford Motor Company's on-line technical resources.

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EVALUATION OF VEHICLE PRIOR TO REPAIR

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the severity of wheel oscillation.
3. During the road test, evaluate and note the steering wheel return-ability.
   a. Turn steering wheel full lock to lock to confirm no binding.
   b. Locate center, and then 45 degrees either side of center on the steering wheel.
   c. Driving vehicle at 35 MPH (56 Km/h), on a dry and flat road surface, turn the wheel 45 degrees and release. Note the approximate angle that the steering wheel returns to BEFORE CLEAR VISION. Perform and record the angle for both left and right. It is normal if the angle differs slightly from left to right.

STEERING GEAR MESH LOAD ADJUSTMENT

1. Insert hex wrench into steering gear mesh load adjuster screw.
2. While holding the mesh load adjuster screw tight, back off lock nuts two full turns to allow free movement of the adjuster screw.
3. Carefully tighten adjuster screw until a slight increase in resistance is felt, then back off approximately 1/16th of a turn.
4. Hold the adjuster screw in place and tighten lock nut. Do not allow the adjustment screw to turn while tightening the locking nut down.
5. Road test vehicle and evaluate for improvement in steering wheel oscillations.
   a. Confirm that there is no objectionable increase in steering efforts, especially at low speeds.
   b. Verify that steering wheel return-ability is approximately the same as it was during the original evaluation (within 5 degrees).
   c. Turn steering wheel full lock to lock to confirm no binding.
6. Park the vehicle to let it cool down. Road test cold to confirm acceptable parking efforts and return-ability in cold condition. Repeat the mesh load adjustment if needed.

FRONT WHEEL ALIGNMENT AND REDUCE FRONT CASTER

Measure wheel alignment. Verify that Front Caster, Camber and Total Toe is within specification. Adjust as required. Refer to the Workshop Manual, Section 2004-00-1 for complete alignment specifications.

REDUCE FRONT CASTER

- Note the current front caster
- Use alignment adjustment bushings to Reduce front caster by 0.5 to 1.0 degree. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit. Use Alignment adjustment bushings:

F-250/350 4x4:

- 5C3Z-3B440-CCC (0.5 degree bushing)
- 5C3Z-3B440-DDD (0.75 Degree bushing)
- 5C3Z-3B440-EEE (1.0 degree bushing)

F-450/550 4x4 and 4x2:

- 5C3Z-3B440-HHH (0.5 Degree bushing)
- 5C3Z-3B440-JJJ (0.75 Degree bushing)
- 5C3Z-3B440-KKK (1.0 degree bushing)

F-250/350 4x2:

- 5C3Z-3B440-C (0.5 degree bushing)
- 5C3Z-3B440-D (0.75 degree bushing)
- 5C3Z-3B440-E (1.0 degree bushing)

For All 4x4 and for F-450/550 4x2,

- Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward and inboard position (See below picture)
- This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range then rotate the alignment adjustment bushing as needed.
- The final caster and camber settings must be within the specification limits.

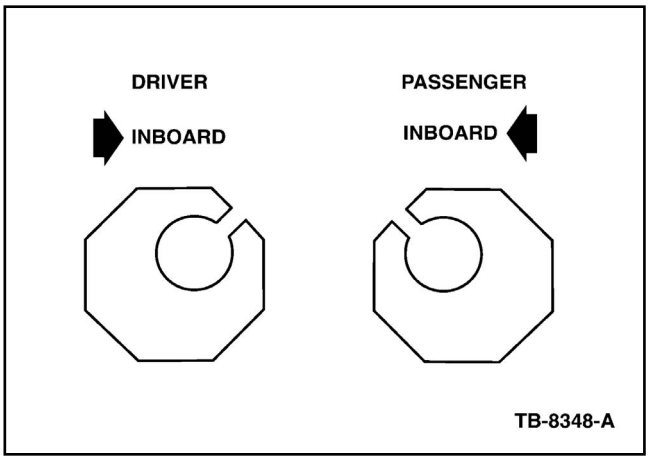

Figure 1 - Article [redacted]4

- Maintain the current front camber, cross-camber and cross-caster settings as close as you possibly can.
- Adding weight behind the rear axle lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster.
- Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain that position while moving the caster position forward in the truck.
- The final caster and camber settings must be within the specification limits

NOTE
CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 only

NOTE
THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE
FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE 2005 OR 2006 SUPER DUTY F-SERIES WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

PART NUMBER	PART NAME
5C7Z-3600-ABA	Redundant Control Steering Wheel Asy (King Ranch Tan/Peb)
5C7Z-3600-CBA	Redundant Control Steering Wheel Asy (Charcoal Black)
5C3Z-3E651-CA	F-250/350 4x4, All F-450/550 - Damper
5C3Z-3E651-BA	F-250/350 4x2 - Damper
5C3Z-3B440-C	F-250/350 4x2 (0.5 degree bushing)
5C3Z-3B440-D	F-250/350 4x2 (0.75 degree bushing)
5C3Z-3B440-E	F-250/350 4x2 (1.0 degree bushing)
5C3Z-3B440-CCC	F-250/350 4x4 (0.5 degree bushing)
5C3Z-3B440-DDD	F-250/350 4x4 (0.75 degree bushing)
5C3Z-3B440-EEE	F-250/350 4x4 (1.0 degree bushing)
5C3Z-3B440-HHH	F-450/550 4x4 and 4x2 (0.5 degree bushing)
5C3Z-3B440-JJJ	F-450/550 4x4 and 4x2 (0.75 degree bushing)
5C3Z-3B440-KKK	F-450/550 4x4 and 4x2 (1.0 degree bushing)

WARRANTY STATUS: Eligible Under Provisions Of New Vehicle Limited Warranty Coverage

OPERATION	DESCRIPTION	TIME
0700554A	F-Super Duty With Gas Engine: Perform Inspection/Evaluation Adjust Mesh Load (Do Not Use With 3504C, 3600A, 3001A, 3001A1, 3001A1T)	2.2 Hrs.
0700554A	F-Super Duty With 6.0L Diesel Engine: Perform Inspection/Evaluation Adjust Mesh Load (Do Not Use With 3504C, 3600A, 3001A, 3001A1, 3001A1T)	3.2 Hrs.
0700554B	F-Super Duty With Gas Engine: Perform Inspection/Evaluation Adjust Mesh Load, And Replace Damper (Do Not Use With 3504C, 3600A, 3001A, 3001A1, 3001A1T)	2.3 Hrs.

Concern Tracking# [redacted] (Continued)

0700554B	F-Super Duty With 6.0L Diesel Engine: Perform Inspection/Evaluation Adjust Mesh Load, And Replace Damper (Do Not Use With 3504C, 3600A, 3001A, 3001A1, 3001A1T)	3.2 Hrs.
0700554C	F-Super Duty With Gas Engine: Perform Inspection/Evaluation Adjust Mesh Load, And Replace Steering Wheel (Do Not Use With 3504C, 3600A, 3001A, 3001A1, 3001A1T)	2.8 Hrs.
0700554C	F-Super Duty With 6.0L Diesel Engine: Perform Inspection/Evaluation Adjust Mesh, Load And Replace Steering Wheel (Do Not Use With 3504C, 3600A, 3001A, 3001A1, 3001A1T)	3.6 Hrs.
0700554D	F-Super Duty With Gas Engine: Perform Inspection/Evaluation Adjust Mesh Load, Replace Damper And Steering Wheel (Do Not Use With 3504C, 3600A, 3001A, 3001A1, 3001A1T)	2.9 Hrs.
0700554D	F-Super Duty With 6.0L Diesel Engine: Perform Inspection/Evaluation Adjust Mesh Load, Replace Damper And Steering Wheel (Do Not Use With 3504C, 3600A, 3001A, 3001A1, 3001A1T)	3.7 Hrs.
0700554E	F-Super Duty: Check Caster, Camber, and Toe (Do Not Use With 3504C, 3600A, 3001A, 3001A1, 3001A1T)	0.4 Hr.
0700554F	F-Super Duty 4X2: Check Caster, Camber, Toe And Adjust One Side (Do Not Use With 3504C, 3600A, 3001A, 3001A1, 3001A1T)	1.3 Hrs.
0700554G	F-Super Duty 4X2: Check Caster, Camber, Toe And Adjust Both Sides (Do Not Use With 3504C, 3600A, 3001A, 3001A1, 3001A1T)	1.9 Hrs.
0700554H	F-Super Duty 4X4: Check Caster, Camber, Toe And Adjust One Side (Do Not Use With 3504C, 3600A, 3001A, 3001A1, 3001A1T)	1.5 Hrs.
0700554I	F-Super Duty 4X4: Check Caster, Camber, Toe And Adjust Both Sides (Do Not Use With 3504C, 3600A, 3001A, 3001A1, 3001A1T)	2.3 Hrs.

DEALER CODING

BASIC PART NO.	CONDITION CODE
3600	42

OASIS CODES: 303000, 304000, 306000, 703000, 703200, 703300, 703400

From: Sprunger, Jon (J.L.)
Sent: Tuesday, July 11, 2006 8:48 AM
To: O'Connor, Tammy (T.A.)
Subject: FW: Steering Oscillation TSB

Attachments: [redacted]pdf

Tammy,

One more question about this one. There was a request to use three causal part numbers (3E651, FRONT and TIRE). But these don't all seem to quite align with the labor operations. Should we use the following instead?

Labor Op
A - TIRE (or Craig Burkeen would probably prefer NPF)
B - 3E651 (although they may or may not replace the damper)
C - FRONT
D - 3600

Sincerely,

Jon Sprunger
Global Technical Communications - FCSD
TSB/SSM Processing
Phone: (313)32-32272
Fax: (313)24-86449
jsprunge@ford.com

From: Sprunger, Jon (J.L.)
Sent: Monday, July 10, 2006 4:46 PM
To: O'Connor, Tammy (T.A.)
Subject: Steering Oscillation TSB

Tammy,

I am still prepping this one for collab. You currently have three dampers on your part list. Can you confirm what application each should be used on? Thanks.

[redacted]p
df (67 KB)

Sincerely,

Jon Sprunger
Global Technical Communications - FCSD
TSB/SSM Processing
Phone: (313)32-32272

Fax: (313)24-86449
jsprunge@ford.com

STEERING WHEEL OSCILLATION

Concern Tracking# [redacted]

FORD:
2005-2007 F-Super Duty

This article supersedes TSB **05-22-1** to update the vehicle model years, causal part numbers, service procedures and labor operations.

ISSUE

Some 2005-2007 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion), immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on 4x4 vehicles, and is more evident on trucks equipped with a gas engine.

ACTION

Refer to the following Service Procedure to minimize the steering wheel oscillations on impacts, however, there may be some remaining minor oscillation which would be considered normal.

SERVICE PROCEDURE

- Check Tire Pressure, Road Test Vehicle to evaluate vehicle before proceeding with further repairs. If issue is resolved, do not proceed with the rest of this TSB.
- If concern still exists, check steering damper for leaks; torque steering and suspension fasteners per Workshop Manual.
- If concern still exists, check Front Alignment and Reduce front caster
- Replacement Of Redundant Control Steering Wheel (if equipped and vehicle built prior to 10/8/2004).

VEHICLE INSPECTION - TIRE PRESSURE

1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

NOTE
SETTING TIRE PRESSURE TO DOOR SPECIFICATION IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE.

ROAD TEST VEHICLE BEFORE PROCEEDING WITH FURTHER REPAIRS

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the customer's issue.
3. During the road test, evaluate and note the steering wheel return-ability.
   a. Turn steering wheel full lock to lock to confirm no binding.
   b. Locate center, and then 45 degrees either side of center on the steering wheel.
   c. Driving vehicle at 35 MPH (56 Km/h), on a dry and flat road surface, turn the wheel 45 degrees and release. Note the approximate angle that the steering wheel returns to BEFORE CLEAR VISION. Perform and record the angle for both left and right. It is normal if the angle differs slightly from left to right.
4. If no issues are identified during the road test, do not proceed with the rest of this TSB.

STEERING DAMPER & TORQUE STEERING AND SUSPENSION FASTENERS

1. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.

NOTE: The information in Technical Service Bulletins is intended for use by trained, professional technicians with the knowledge, tools, and equipment to do the job properly and safely. It informs these technicians of conditions that may occur on some vehicles, or provides information that could assist in proper vehicle service. The procedures should not be performed by "do-it-yourselfers". Do not assume that a condition described affects your car or truck. Contact a Ford, Lincoln, or Mercury dealership to determine whether the Bulletin applies to your vehicle. Warranty Policy and Extended Service Plan documentation determine Warranty and/or Extended Service Plan coverage unless stated otherwise in the TSB article.The information in this Technical Service Bulletin (TSB) was current at the time of printing. Ford Motor Company reserves the right to supercede this information with updates.The most recent information is available through Ford Motor Company's on-line technical resources.

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[redacted]

a. If leaks are present, install a new steering damper.

2. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table below).

Torque Specification		
Description	**Lb-ft**	**Nm**
Damper nuts (4x2)	59	80
Damper-to-bracket (F-250, F-350 4x4)	26	35
Damper-to-drag link	67	91
Drag link-to-pitman arm nut	148	201
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts and bolts	129	175
Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE
ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE.

FRONT WHEEL ALIGNMENT AND REDUCE FRONT CASTER

Measure wheel alignment. Verify that Front Caster, Camber and Total Toe is within specification. Adjust as required. Refer to the Workshop Manual, Section 204-00 for complete alignment specifications.

REDUCE FRONT CASTER

- Note the current front caster
- Use alignment adjustment bushings to Reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit. Use Alignment adjustment bushings:

F-250/350 4x4:

- 5C3Z-3B440-CCC (0.5 degree bushing)
- 5C3Z-3B440-DDD (0.75 degree bushing)
- 5C3Z-3B440-EEE (1.0 degree bushing)

F-450/550 4x4 and 4x2:

- 5C3Z-3B440-HHH (0.5 degree bushing)
- 5C3Z-3B440-JJJ (0.75 degree bushing)
- 5C3Z-3B440-KKK (1.0 degree bushing)

F-250/350 4x2:

- 5C3Z-3B440-C (0.5 degree busing)
- 5C3Z-3B440-D (0.75 degree bushing)
- 5C3Z-3B440-E (1.0 degree bushing)

For All 4x4 and for F-450/550 4x2:

- Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward and inboard position (See Figure 1)

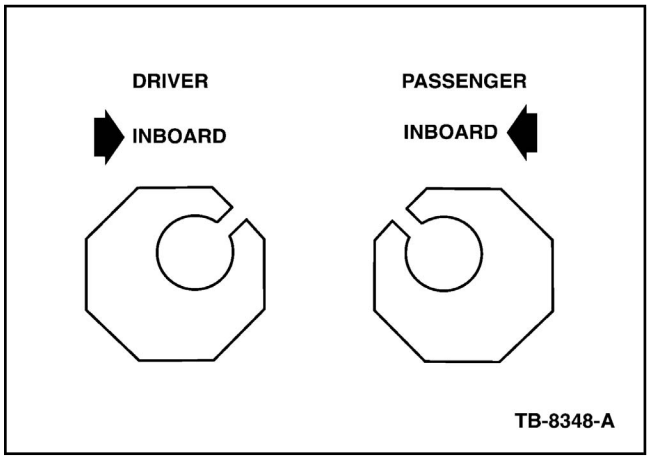


Figure 1 - Article [redacted]1

- This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed
- The final caster and camber settings must be within the specification limits
- Maintain the current front camber, cross-camber and cross-caster settings as close as you possibly can
- Adding weight behind the rear axle lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster

For All F-350/250 4x2:

- Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain that position while moving the caster position forward in the truck
- The final caster and camber settings must be within the specification limits

NOTE
CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 Only

NOTE
THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE
FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

NOTE
THE WHEEL ALIGNMENT LABOR OPERATIONS MAY BE CLAIMED WITH THE REPAIR OPERATIONS IN THIS ARTICLE.

PART NUMBER	PART NAME
5C7Z-3600-ABA	Redundant Control Steering Wheel Asy (King Ranch Tan/Peb)
5c7z-3600-CBA	Redundant Control Steering Wheel Asy (Charcoal Black)
5C3Z-3E651-CA	???? Damper
5C3Z-3E651-D	???? Damper
5C3Z-3E651-B	???? Damper
5C3Z-3B440-C	F-250/350 4x2 (0.5 degree bushing)
5C3Z-3B440-CCC	F-250/350 4x4 (0.5 degree bushing)
5C3Z-3B440-D	F-250/350 4x2 (0.75 degree bushing)
5C3Z-3B440-DDD	F-250/350 4x4 (0.75 degree bushing)
5C3Z-3B440-E	F-250/350 4x2 (1.0 degree bushing)
5C3Z-3B440-EEE	F-250/350 4x4 (1.0 degree bushing)
5C3Z-3B440-HHH	F-450/550 4x4 and 4x2 (0.5 degree bushing)
5C3Z-3B440-JJJ	F-450/550 4x4 and 4x2 (0.75 degree bushing)
5C3Z-3B440-KKK	F-450/550 4x4 and 4x2 (1.0 degree bushing)

WARRANTY STATUS: Eligible Under Provisions Of New Vehicle Limited Warranty Coverage

OPERATION	DESCRIPTION	TIME
07006r1A	2005-2007 F-Super Duty: Check Tire Pressure, Road Test To verify Repair, Concern Resolved, Return To Customer (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	0.4 Hr.
07006r1B	2005-2007 F-Super Duty: Check Tire Pressure, Road Test To verify Repair, Concern Not Resolved, Check Steering Damper Replace If Necessary, Verify Proper Torque On Steering Components, Road Test If Concern Is Resolved Return To Customer (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	1.4 Hrs.
07006r1C	2005-2007 F-Super Duty 250/350 4X2: Check And Adjust Front Wheel Alignment, This Labor Operation Can Be Claimed With Operation B Only (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	1.9 Hrs.
07006r1C	2005-2007 F-Super Duty 250/350 4X4, F450/550 4X2/4X4: Check And Adjust Front Wheel Alignment, This Labor Operation Can Be Claimed With Operation B Only (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	2.3 Hrs.
07006r1D	2005-2007 F-Super Duty With Redundant Steering Control Built Prior To 10-8-2004: Replace Steering Wheel, Includes Time To Depower And Repower The Supplemental Restraints System Can Be Claimed With Operation A Or B (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	0.7 Hr.

Concern Tracking# [redacted] (Continued)

DEALER CODING

BASIC PART NO.	CONDITION CODE
3E651 (OPERATION ?)	42
FRONT (OPERATION ?)	42
TIRE (OPERATION ?)	42

OASIS CODES: 303000, 304000, 306000, 703000, 703000, 703200, 703200, 703300, 703300, 703400, 703400

From: Repasky, Steve (S.)
Sent: Wednesday, January 03, 2007 10:25 AM
To: Gompper, Dan (D.B.); Memmer, Mark (M.A.); Hodges, Cynthia (C.P.); Hwang, Hsiu-Ying (H.Y.)
Cc: Choe, Mark (M.J.); Benson, Keith (K.A.)
Subject: FW:

Attachments: Picture (Metafile); Picture (Metafile); Picture (Metafile); Picture (Metafile)

All - Instead of starting with a previously drafted TSB proposal document that had different wording from the TSB (I know, I started it), I have modified the wording of the actual TSB 06-22-14 trying to incorporate all the input from the various sources. Changes are noted below in **BOLD lower case lettering.** Items in parenthesis are comments only. Please review to insure all items were correctly captured. Thanks…

Printable View (64 KB)	
TSB 06-22-14	• STEERING WHEEL OSCILLATION
Publication Date: October 25, 2006	

FORD: 2005-2007 F-Super Duty

This article supersedes TSB **06-15-1** to update the service labor operations. **(with new TSB number, this note not required?)**

ISSUE:

Some 2005-2007 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion), immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on 4X4 vehicles, and is more evident on trucks equipped with a gas engine.

ACTION:

Refer to the following Service Procedure to minimize the steering wheel oscillations on impacts, however, there may be some remaining minor oscillation which would be considered normal.

SERVICE PROCEDURE SUMMARY

- Set tire pressure and road test vehicle to evaluate vehicle before proceeding with further repairs. If issue is resolved, do not proceed with the rest of this TSB

  (Note road test requirement included in above statement and below road test procedure).

- Torque steering and suspension fasteners per Workshop Manual **and torque specifications noted below. (Complete this step prior to damper inspect/change).**
- If concern still exists, check front alignment and reduce front caster.
- **Install new steering damper frame mounted bracket and steering damper assembly (4X4 applications only). For 4x2 applications, inspect damper for leaks and replace as required with damper 5C3Z-3E651-D only.**
- Replacement of redundant control steering wheel (if equipped and vehicle built prior to 10/8/2004)

VEHICLE INSPECTION - TIRE PRESSURE

1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

NOTE: SETTING TIRE PRESSURE TO DOOR SPECIFICATION IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE.

ROAD TEST

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the customer's issue.
3. If no issues are identified during the road test, do not proceed with the rest of this TSB.

Check/Set Front End Torques

Check torques on the following steering and suspension fasteners and adjust to specification as required (see following Table).

Torque Specification		
Description	**Lb-ft**	**Nm**
Damper nuts (4X2)	**66**	**90**
Damper-to-bracket (F-250, F-350 4X4)	**76**	**103**
Damper-to-drag link	**66**	**90**
Drag link-to-pitman arm nut	**129**	**175**
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts and bolts	129	175
Track bar-to-track bar bracket bolt	406	550

Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE.

FRONT WHEEL ALIGNMENT AND REDUCE FRONT CASTER

NOTE: OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

Measure wheel alignment. Verify that Front Caster, Camber, and Total Toe are within specification. Adjust as required. Refer to the Workshop Manual, Section 204-00 for complete alignment specifications.

REDUCE FRONT CASTER

- Note the current front caster
- Use alignment adjustment bushings to reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit. Use alignment adjustment bushings

F-250/350 4X4:

- 5C3Z-3B440-CCC (0.5 degree bushing)
- 5C3Z-3B440-DDD (0.75 degree bushing)
- 5C3Z-3B440-EEE (1.0 degree bushing)

F-450/550 4X4 and 4X2:

- 5C3Z-3B440-HHH (0.5 degree bushing)
- 5C3Z-3B440-JJJ (0.75 degree bushing)
- 5C3Z-3B440-KKK (1.0 degree bushing)

F-250/350 4X2:

- 5C3Z-3B440-C (0.5 degree busing)
- 5C3Z-3B440-D (0.75 degree bushing)
- 5C3Z-3B440-E (1.0 degree bushing)

For All 4X4 and for F-450/550 4X2:

- Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward and inboard position (See Figure 1)

Figure 1 - Article 06-22-14

- This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed
- The final caster and camber settings must be within the specification limits
- Maintain the current front camber, cross-camber and cross-caster settings as close as you possibly can
- Adding weight behind the rear axle lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster

For All F-250/350 4X2:

- Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain that position while moving the caster position forward in the truck
- The final caster and camber settings must be within the specification limits

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE.

Replace Steering Damper and Frame mounting bracket.

For 4x2 applications only:

1. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
2. If leaks are present, install a new steering damper **(5C3Z-3E651-D).**

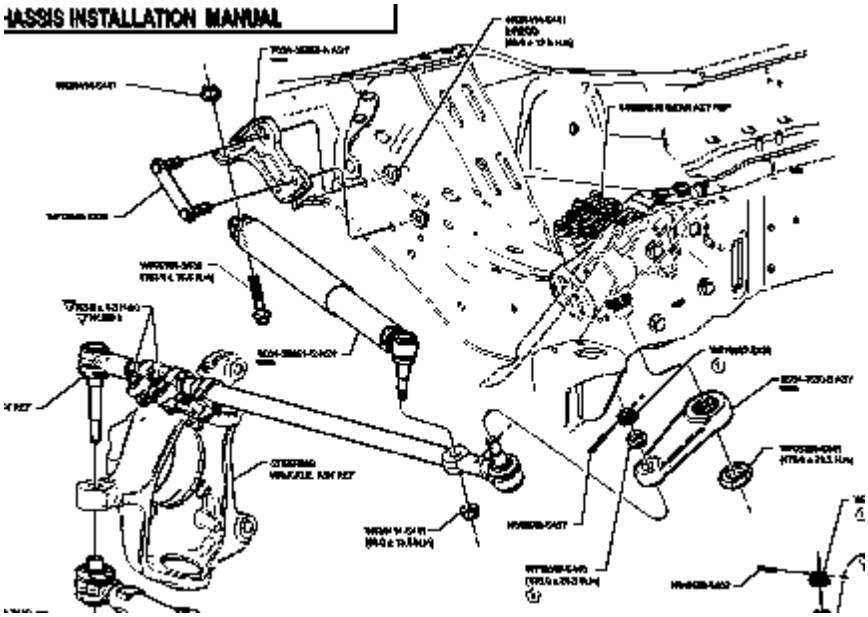
For 4x4 applications:

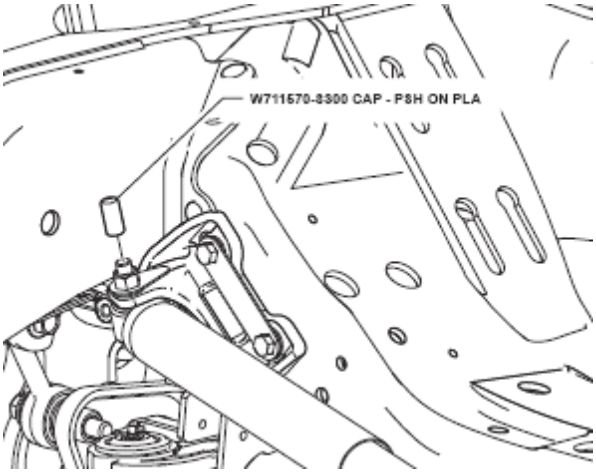
1. Remove existing steering damper and frame attachment bracket. Replace steering damper and frame mounting bracket with steering damper P/N 8C3Z-3E651-A and frame bracket P/N 7C3Z-3E652-C. Attach steering damper to frame bracket (with W706196-S439 bolt and W520114S441 nut) and torque bolt to 103 Nm. Assemble bracket and shock assembly to the frame with attachment bolt retainer (W712055-S439) pointing to rear of vehicle. Torque frame bracket nuts (W520114-S441) to 80 Nm. Attach other end of shock to the steering drag link and

torque to 90 Nm. See figure **X**. **(Needs a number).**

2. **Install damper bolt cap (W711670-S300) to assure a friendly surface for the battery cable in case of casual contact**

   Note: Check surrounding environment to the frame bracket and damper assembly to ensure that battery cables are not contacting bracket/bolts/damper. Also, verify that Transmission Oil Cooler lines have clearance to the damper dust shield.





REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 Only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual, Section 211-04 for complete instructions.

2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

PART NUMBER	PART NAME
5C7Z-3600-ABA	Redundant Control Steering Wheel Assy (King Ranch Tan/Peb)
5c7z-3600-CBA	Redundant Control Steering Wheel Assy (Charcoal Black)
5C3Z-3E651-D	Steering Damper **(4x2 application replacement)**
5C3Z-3B440-C	F-250/350 4X2 (0.5 degree bushing)
5C3Z-3B440-D	F-250/350 4X2 (0.75 degree bushing)
5C3Z-3B440-E	F-250/350 4X2 (1.0 degree bushing)
5C3Z-3B440-CCC	F-250/350 4X4 (0.5 degree bushing)
5C3Z-3B440-DDD	F-250/350 4X4 (0.75 degree bushing)
5C3Z-3B440-EEE	F-250/350 4X4 (1.0 degree bushing)
5C3Z-3B440-HHH	F-450/550 4X4 and 4X2 (0.5 degree bushing)
5C3Z-3B440-JJJ	F-450/550 4X4 and 4X2 (0.75 degree bushing)
5C3Z-3B440-KKK	F-450/550 4x4 and 4x2 (1.0 degree bushing)

NOTE: LABOR OPERATIONS IN THIS TSB CAN BE CLAIMED TOGETHER.

NOTE: OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

WARRANTY STATUS:

Eligible Under Provisions Of New Vehicle Limited Warranty Coverage

OPERATION	DESCRIPTION	TIME
062214A	2005-2007 F-Super Duty: Check Tire Pressure, Road Test To Verify Repair, Concern Resolved, Return To Customer (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	0.4 Hr.
062214B	2005-2007 F-Super Duty: Check Tire Pressure, Road Test To Verify Repair, Concern Not Resolved, Check Steering Damper Replace If Necessary, Verify Proper Torque On Steering Components, Road Test If Concern Is Resolved Return To Customer (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	1.4 Hrs.
062214C	2005-2007 F-Super Duty 250/350 4X2 SINGLE REAR WHEEL: Check And Adjust Front Wheel Alignment, This Labor Operation Can Be Claimed With Operation B Only (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	1.5 Hrs.
062214C	2005-2007 F-Super Duty 250/350 4X4 SINGLE REAR WHEEL: Check And Adjust Front Wheel Alignment, This Labor Operation Can Be Claimed With Operation B Only (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	1.8 Hrs.
062214D	2005-2007 F-Super Duty 250/350 4X2 DUAL REAR WHEEL: Check And Adjust Front Wheel Alignment, This Labor Operation Can Be Claimed With Operation B Only (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	1.9 Hrs.
062214D	2005-2007 F-Super Duty 250/350 4X4 DUAL REAR WHEEL: Check And Adjust Front Wheel Alignment, This Labor Operation Can Be Claimed With Operation B Only (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	2.1 Hrs.
062214D	2005-2007 F-Super Duty F450/550 4X2/4X4 DUAL REAR WHEEL: Check And Adjust Front Wheel Alignment, This Labor Operation Can Be Claimed With Operation B Only (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	2.3 Hrs.
062214E	2005-2007 F-Super Duty With Redundant Steering Control Built Prior To 10-8-2004: Replace Steering Wheel, Includes Time To Depower And Repower The Supplemental Restraints System Can Be Claimed With Operation A Or B (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	0.7 Hr.

DEALER CODING

BASIC PART NO.	CONDITION CODE
(Operation A) NPF	82
(Operation B) 3E651	42
(Operation C) FRONT	W6
(Operation D) Front	W6

(Operation E) 3600	42

NOTE: The information in Technical Service Bulletins is intended for use by trained, professional technicians with the knowledge, tools, and equipment to do the job properly and safely. It informs these technicians of conditions that may occur on some vehicles, or provides information that could assist in proper vehicle service. The procedures should not be performed by "do-it-yourselfers". Do not assume that a condition described affects your car or truck. Contact a Ford, Lincoln, or Mercury dealership to determine whether the Bulletin applies to your vehicle. Warranty Policy and Extended Service Plan documentation determine Warranty and/or Extended Service Plan coverage unless stated otherwise in the TSB article. The information in this Technical Service Bulletin (TSB) was current at the time of printing. Ford Motor Company reserves the right to supercede this information with updates. The most recent information is available through Ford Motor Company's on-line technical resources.

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From: O'Connor, Tammy (T.A.)
Sent: Friday, May 26, 2006 9:47 AM
To: Repasky, Steve (S.)
Cc: Knapp, David (D.); Hale, Curt (B.C.); Snider, Alex (A.); Meier, Kenneth (K.W.)
Subject: FW: TSB Approved and Released: [redacted] 2005-2006 F-Super Duty - Steering Wheel Oscillation

I think we need to update this TSB to include 2007 MY.

Steve: Were there any changes for 2007 MY in production that would effect this TSB as written?

Are there any other revisions we need to make? Please let me know.

I'm also going to send it out to the FSE's and FQE's for input.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Siplus, G (G.)
Sent: Thursday, October 20, 2005 9:44 AM
To: Lentini, Craig (C.A.); jcoope12@visteon.com; McDonald, Joseph (J.); Pasanen, Kary (K.L.); Sprunger, Jon (J.L.); Echhot, T. (T.); Hawkins, William (W.); O'Connor, Tammy (T.A.)
Subject: TSB Approved and Released: [redacted] 2005-2006 F-Super Duty - Steering Wheel Oscillation

TSB Approved and Released
*** DRAFT ***

This message is being sent on behalf of VNALEY.
This is a courtesy copy of the following article to advise you this article has been approved and released.

General Information

Last action taken (as of 10/20/2005 1:43:58 PM GMT): Final/Complete
Comment:

Author:	TOCONNOR
Tracking Number:	[redacted]
Author Tracking Number:	[redacted]
Title:	2005-2006 F-Super Duty - Steering Wheel Oscillation
Article Type:	TSB

TSB Issue:
Some 2005-2006 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion),

immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on 4x4 vehicles, and is more evident on trucks equipped with a gas engine.

TSB Action:

Refer to the following Service Procedure to minimize the steering wheel oscillations on impacts, however, there may be some remaining minor oscillation which would be considered normal.

TSB Service Procedure:

SERVICE PROCEDURE

Perform the following:

- Vehicle Inspection
- Evaluation Of Vehicle Prior To Repair
- Steering Gear Mesh Load Adjustment
- Front Alignment and Reduce front caster
- Replacement Of Redundant Control Steering Wheel (if equipped and vehicle built prior to 10/8/2004)

VEHICLE INSPECTION

---

1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

NOTE: SETTING TIRE PRESSUE TO DOOR SPEC IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE.

2. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
   a. If leaks are present, install a new steering damper and continue with this TSB.
   b. If no leaks are present, continue with this TSB.

3. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table # below).

Description	Torque Specification (lb-ft/ Nm)	
	Lb-ft	Nm
Damper nuts (4x2)	59	80
Damper-to-bracket (F-250, F-350 4x4)	26	35
Damper-to-drag link	67	91
Drag link-to-pitman arm nut	148	201
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts and bolts	129	175
Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE.

EVALUATION OF VEHICLE PRIOR TO REPAIR

---

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the severity of wheel oscillation.
3. During the road test, evaluate and note the steering wheel return-ability.
a. Turn steering wheel full lock to lock to confirm no binding.
b. Locate center, and then 45 degrees either side of center on the steering wheel.
c. Driving vehicle at 35 MPH (56 Km/h), on a dry and flat road surface, turn the wheel 45 degrees and release. Note the approximate angle that the steering wheel returns to BEFORE CLEAR VISION. Perform and record the angle for both left and right. It is normal if the angle differs slightly from left to right.

STEERING GEAR MESH LOAD ADJUSTMENT
---

1. Insert hex wrench into steering gear mesh load adjuster screw.
2. While holding the mesh load adjuster screw tight, back off lock nuts two full turns to allow free movement of the adjuster screw.
3. Carefully tighten adjuster screw until a slight increase in resistance is felt, then back off approximately 1/16th of a turn.
4. Hold the adjuster screw in place and tighten lock nut. Do not allow the adjustment screw to turn while tightening the locking nut down.
5. Road test vehicle and evaluate for improvement in steering wheel oscillations.
a. Confirm that there is no objectionable increase in steering efforts, especially at low speeds.
b. Verify that steering wheel return-ability is approximately the same as it was during the original evaluation (within 5 degrees).
c. Turn steering wheel full lock to lock to confirm no binding.
6. Park the vehicle to let it cool down. Road test cold to confirm acceptable parking efforts and return-ability in cold condition. Repeat the mesh load adjustment if needed.

FRONT WHEEL ALIGNEMENT AND REDUCE FRONT CASTER

Measure wheel alignment. Verify that Front Caster, Camber and Total Toe is within specification. Adjust as required. Refer to the Workshop Manual, Section 204-00 for complete alignment specifications.

REDUCE FRONT CASTER
· Note the current front caster
· Use alignment adjustment bushings to Reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit.
Use Alignment adjustment bushings:

F-250/350 4x4:
· 5C3Z-3B440-CCC (0.5 degree bushing)
· 5C3Z-3B440-DDD (0.75 degree bushing)
· 5C3Z-3B440-EEE (1.0 degree bushing)

F-450/550 4x4 and 4x2:

· 5C3Z-3B440-HHH (0.5 degree bushing)
· 5C3Z-3B440-JJJ (0.75 degree bushing)
· 5C3Z-3B440-KKK (1.0 degree bushing)

F-250/350 4x2:
· 5C3Z-3B440-C = 0.5 degree busing
· 5C3Z-3B440-D = 0.75 degree bushing
· 5C3Z-3B440-E = 1.0 degree bushing

For All 4x4 and for F-450/550 4x2

· Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward and inboard position (See Figure 1)
· This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed
· The final caster and camber settings must be within the specification limits
· Maintain the current front camber, cross-camber and cross-caster settings as close as you possibly can
· Adding weight behind the rear axle lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster

For All F-350/250 4x2,
· Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain that position while moving the caster position forward in the truck
· The final caster and camber settings must be within the specification limits

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.
1. Remove driver air bag assembly. Refer to Workshop Manual Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE 2005 OR 2006 SUPER DUTY F-SERIES WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

NOTE: THE WHEEL ALIGNMENT LABOR OPERATIONS MAY BE CLAIMED WITH THE REPAIR OPERATIONS
IN THIS ARTICLE.

Category: Service Fix (10 years - TSB Only)
Request Type: Non-QSF
Activity Code: 070 F-Series >8500#
Vehicle Applications:

Vehicle Lines	Model Year Start	Model Year End	Assembly Plants	Body Styles	Engine	Trans Axles	Build From	Build To
F Super Duty (F 250 to 550)	2005	2006						

If SPECS Case, Select all Other Affected Publications:
Changes Needed in Other Pubs:
TSBs to Supersede: 04-26-01
SSMs to Supersede:
ISMs to Supersede:
Other application Articles:
Select the reason for republication: Concern Carryover to New Model
Procedure verified by CDSID: srepasky
Describe How The Procedure Was Verified: TSB was verified by Steve Repasky, and also by the FQEs.
Do you have access to a vehicle for time study? Yes

If Yes, contact for vehicle CDSID: toconnor
Are Illustrations Required? Yes
If Yes, Contact information for illustrations:
CDSID(Ford only): toconnor
Full Name: Tammy O'Connor
Phone: 313/322-3824
Illustration Notes:

Trustmarks affected: Ford
Additional Trustmarks To Notify:
Article Distribution: WDMO, Canada, Mexico, United States
DTC Codes and OASIS Service Codes: , 303000, 304000, 306000, 703000, 703000, 703200, 703200, 703300, 703300, 703400, 703400

Causal Basic Part # or Finis Code:

Causal Part # or Finis Code	Warranty Condition Codes
3600	Chassis: 42

Calibrations List:

White Paper Numbers:

Parts Request Information

Are Parts Required? Yes
QSF Single Agenda Or Program FRC Date:
Parts List:

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
1	Existing	5C74 3F563 AB1D24	No	Not Applicable	STEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	
			U5MSK	5C7Z 3600 ABA			

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
2	Existing	5C74 3F563 AB35B8	No	Not Applicable	sTEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	
			U5MSK	5c7z 3600 CBA			

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
3	Existing	5C34 3E651 CE	No	Not Applicable	Damper	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	
			Q29AA	5C3Z 3E651			

				CA			

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34 3E651 BE	No	Not Applicable	Damper	1	100
4	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	
				5C3Z 3E651 BA			

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34 3E651 BG	No	Not Applicable	Damper	1	100
5	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	
				5C3Z 3E651 B			

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34 3D004 NA	No	Not Applicable	.5 DEGREE SHIM 4X2	1	100
6	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	
				5C3Z 3B440 C			

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34 3D004 CA	No	Not Applicable	.5 DEGREE SHIM 4X4	1	100
7	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	
				5C3Z 3B440 CCC			

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34 3D004 PA	No	Not Applicable	.75 DEGREE SHIM 4X2	1	100
8	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	
				5C3Z 3B440 D			

9	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34 3D004 DA	No	Not Applicable	75 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	
				5C3Z 3B440 DDD			

10	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34 3D004 RA	No	Not Applicable	1.0 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	
				5C3Z 3B440 E			

11	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34 3D004 EA	No	Not Applicable	1.0 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	
				5C3Z 3B440 EEE			

12	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34 3D004 JA	No	Not Applicable	0.75 DEGREE SHIM	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	
				5C3Z 3B440 JJJ			

13	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34 3D004 KA	No	Not Applicable	1.0 DEGREE SHIM	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	
				5C3Z 3B440 KKK			

Parts catalog flag needed?	No
Part number(s) that require flag:	
Is geographic location significant?	No
Special instructions/remarks:	ARE PART NUMBER FOUR AND SEVEN IN THE PARTS LIST SECTION REQUIRED? IF SO PLEASE ADVISE SUPPLIER NAME AND CONTACT INFORMATION FOR PART NUMBER FOUR AND SEVEN IN THE PARTS LIST SECTION. THESE TWO PART NUMBERS ARE NOT ACTIVE.
Article Number:	05-22-1
BCM Number:	4943

(End automated email)

From: Sprunger, Jon (J.L.)
Sent: Thursday, July 13, 2006 9:07 AM
To: O'Connor, Tammy (T.A.)
Cc: Welch, Sharon (S.L.)
Subject: FW: TSB Collab - APPROVE: [redacted]

Importance: High

Tammy, FYI, the causal part for operation A will be changing from TIRE to NPF. No action needed on your part unless you have an issue with this change. Thanks.

Sincerely,
Jon Sprunger
Global Technical Communications - FCSD
TSB/SSM Processing
Phone: (313)32-32272
Fax: (313)24-86449
jsprunge@ford.com

-----Original Message-----
From: Siplus, G (G.)
Sent: Thursday, July 13, 2006 8:28 AM
To: Sprunger, Jon (J.L.)
Subject: TSB Collab - APPROVE: [redacted]
Importance: High

Approved with edits by CBURKEEN on 7/13/2006

Edits:
change causal part for operation "A" to "NPF" with condition code "82".

If this message should not have been sent to this address please forward it to gsiplus@ford.com.

From: Hale, Curt (B.C.)
Sent: Thursday, June 15, 2006 3:03 PM
To: O'Connor, Tammy (T.A.)
Subject: FW: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

FYI

B. Curtis Hale
FCSD PVT Program Manager
F-Super Duty & Excursion

From: Hodges, Cynthia (C.P.)
Sent: Thursday, June 15, 2006 2:57 PM
To: Repasky, Steve (S.); Zeitz, Keith (K.A.)
Cc: Hale, Curt (B.C.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

All

Where did we end up on this? Yesterday, at our meeting with Ford VPs at Indy, the warranty teardown results showed a large number of gears returned because of meshload adjustment. It's really easy for a mechanic to mess up meshload so bad that he would need to replace the gear, either because of drift pull wander or leaks. It was agreed that the TSB should not reference resetting meshload at all, and it should just discuss underinflated tires. How can we make this happen?

Cynthia Protas Hodges
RV Gear and Linkage Supervisor
Chassis Engineering
Ford Motor Company

1BD36 Product Development Center
phone (313) 805-3872 fax: (313) 32-29959
textpage chodges1 <http://vm5.dearborn.ford.com/cgi/textpage?PAGETO=CHODGES1>
Email:chodges1@ford.com

From: Repasky, Steve (S.)
Sent: Monday, June 05, 2006 11:26 AM
To: O'Connor, Tammy (T.A.); Hodges, Cynthia (C.P.)
Cc: Hale, Curt (B.C.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Would referencing the meshload setting procedure in the shop manual only and eliminating the actual procedure wording help? Just asking..... I agree with having the TSB updated with 2007 MY.

From: O'Connor, Tammy (T.A.)
Sent: Monday, June 05, 2006 11:21 AM
To: Repasky, Steve (S.)
Cc: Hale, Curt (B.C.)
Subject: FW: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Steve:

If we need to put the TSB on hold, then we'll do that -- but I'm not going to pull that section out and end up re-publishing the TSB. It costs the company money to publish each TSB.

We either publish it, or we put it on hold -- but we need to know time frame - any more than a month would generate too many calls to tech hotline.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Hodges, Cynthia (C.P.)
Sent: Monday, June 05, 2006 11:18 AM
To: Repasky, Steve (S.); Zeitz, Keith (K.A.); Perri, Ron (R.J.); Boals, Shannon (S.D.); Dubaisi, Adnan (A.N.); Kula, Paul (P.K.)
Cc: Pais, Cecil (C.M.); Choe, Mark (M.J.); O'Connor, Tammy (T.A.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

I'd like to revisit this text and see if we can optimize the meshload setting portion of it. I am seeing too much meshload resetting out in the field that results in gears set incorrectly. Can we remove this portion of it now while we investigate it?

Cynthia Protas Hodges
RV Gear and Linkage Supervisor
Chassis Engineering
Ford Motor Company

1BD36 Product Development Center
phone (313) 805-3872 fax: (313) 32-29959
textpage chodges1 <http://vm5.dearborn.ford.com/cgi/textpage?PAGETO=CHODGES1>
Email:chodges1@ford.com

From: Repasky, Steve (S.)
Sent: Monday, June 05, 2006 10:57 AM
To: Hodges, Cynthia (C.P.); Zeitz, Keith (K.A.); Perri, Ron (R.J.); Boals, Shannon (S.D.); Dubaisi, Adnan (A.N.); Kula, Paul (P.K.)
Cc: Pais, Cecil (C.M.); Choe, Mark (M.J.); O'Connor, Tammy (T.A.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

This TSB also addresses SW oscillation when tire pressure is low and is still needed for 2007 vehicles. Replacement of the redundant steering wheel is referenced in this TSB for vehicles built prior to the date when the higher MoI wheel was in plant.

From: Hodges, Cynthia (C.P.)
Sent: Monday, June 05, 2006 10:43 AM
To: Zeitz, Keith (K.A.); Perri, Ron (R.J.); Boals, Shannon (S.D.); Dubaisi, Adnan (A.N.); Kula, Paul (P.K.); Repasky, Steve (S.)
Cc: Pais, Cecil (C.M.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Keith

I don't think we should continue this it was originally written until they got the higher moment of inertia steering wheel into production (only a few months of production. With regard to the meshload adjustment, it is already in the service manual.

Steve-

Your thoughts?

Cynthia Protas Hodges
RV Gear and Linkage Supervisor
Chassis Engineering
Ford Motor Company

1BD36 Product Development Center
phone (313) 805-3872 fax: (313) 32-29959
textpage chodges1 <http://vm5.dearborn.ford.com/cgi/textpage?PAGETO=CHODGES1>
Email:chodges1@ford.com

From: Zeitz, Keith (K.A.)
Sent: Friday, June 02, 2006 4:10 PM
To: Perri, Ron (R.J.); Boals, Shannon (S.D.); Hodges, Cynthia (C.P.); Dubaisi, Adnan (A.N.); Kula, Paul (P.K.)
Cc: Pais, Cecil (C.M.)
Subject: FW: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Team,

The TSB is being extended for 2007 MY. Is this what we want to do?

Paul/Adnan, this will continue to be binned against the steering wheel. Possibly time to change causal part.

Keith A. Zeitz
Steering & Suspension Quality Supervisor
Integrated BB & ASQ SSBB
PDC 2D-G34, ph # (313) 805-3994
"Don't find fault, find a remedy" - Henry Ford
Today's Word On The WaY
"...God's kindness leads you toward repentance."

Romans 2:4

From: Siplus, G (G.)
Sent: Friday, June 02, 2006 3:59 PM
To: Murray, Al (A.R.); Tews, Bryan (B.H.); Tedone, Damian (D.J.); Jones, Darryl (D.S.); Capoccia, David (D.G.); Parekh, Deepak (D.A.); Smith, Ed (E.J.); Yerke, Eric (E.R.); Hermann, Erik (E.H.); Wood, Faith (F.M.); Wickenheiser, Francis (F.J.); Sopko, Gary (G.M.); Patel, Harendra (H.M.); Willard, Jeremy (J.); Pawloski, John (.); Pommer, John (J.M.); Saieg, John (J.R.); Berry, Joseph (J.P.); Bucec, Julayne (J.L.); Braboy, Julie (J.A.); Roehner, Julie (J.); Zeitz, Keith (K.A.); Gusfa, Kenneth (K.); Spears, Laura (L.); Taylor, Mark (M.K.); Vance, Matthew (M.A.); House, Michael (M.T.); Spencer, Michael (M.T.); Nagy, Vic (V.A.); Cervenan, Neil (N.J.); Souchock, Peter (P.D.); Bzymek, Raymond (R.); McClain, Shawn (S.M.); Sprunger, Jon (J.L.); Echhot, T. (T.); Gieleghem, Tom (T.A.); Watson, Tom (T.M.); Westermann, W Scott (W.S.); Dedecker, William (W.S.); Kovacs, John (J.); O'Connor, Tammy (T.A.); Repasky, Steve (S.); Dwyer, Elizabeth (E.A.); Smith, Janet (J.); Boals, Shannon (S.D.)
Subject: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

TSB Courtesy Copy
*** DRAFT ***

This message is being sent on behalf of RKLUMP.
This is a courtesy copy of the following article to advise you this article is currently being processed for publication.

General Information

Last action taken (as of 6/2/2006 7:58:55 PM GMT):	Accept/Submit to approvers
Comment:	TSB is identical to previous version, only adding model year coverage
Author:	TOCONNOR
Tracking Number:	[redacted]
Author Tracking Number:	
Title:	2005 2007 F Super Duty Steering Wheel Oscillation
Article Type:	TSB

TSB Issue:
This article supersedes TSB 05 22 1 to update the vehicle model years.

Some 2005 2007 F Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion), immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer
than five oscillations. This condition occurs mostly on 4x4 vehicles, and is more evident on trucks equipped with a gas engine.
TSB Action:
Refer to the following Service Procedure to minimize the steering wheel oscillations on impacts, however, there may be some remaining minor oscillation which would be considered normal.

TSB Service Procedure:
SERVICE PROCEDURE

Perform the following:

- Vehicle Inspection
- Evaluation Of Vehicle Prior To Repair
- Steering Gear Mesh Load Adjustment
- Front Alignment and Reduce front caster
- Replacement Of Redundant Control Steering Wheel (if equipped and vehicle built prior to 10/8/2004)

VEHICLE INSPECTION

1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

NOTE: SETTING TIRE PRESSUE TO DOOR SPEC IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE.

2. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
a. If leaks are present, install a new steering damper (part number 5C3Z 3E651 D) and continue with this TSB.
b. If no leaks are present, continue with this TSB.

3. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table # below).

Description	Torque Specification (lb ft/ Nm)	
	Lb ft	Nm
Damper nuts (4x2)	59	80
Damper to bracket (F 250, F 350 4x4)	26	35
Damper to drag link	67	91
Drag link to pitman arm nut	148	201
Inner tie rod end nuts	85	115
Outer tie rod end nuts	85	115
Track bar bracket to frame nuts and bolts	129	175
Track bar to track bar bracket bolt	406	550
Track bar to axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE.

EVALUATION OF VEHICLE PRIOR TO REPAIR

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the severity of wheel oscillation.
3. During the road test, evaluate and note the steering wheel return ability.
a. Turn steering wheel full lock to lock to confirm no binding.
b. Locate center, and then 45 degrees either side of center on the steering wheel.
c. Driving vehicle at 35 MPH (56 Km/h), on a dry and flat road surface, turn the wheel 45 degrees and release. Note the approximate angle that the steering wheel returns to BEFORE CLEAR VISION. Perform and record the angle for both left and right. It is normal if the angle differs slightly from left to right.

STEERING GEAR MESH LOAD ADJUSTMENT

1. Insert hex wrench into steering gear mesh load adjuster screw.
2. While holding the mesh load adjuster screw tight, back off lock nuts two full turns to allow free movement of the adjuster screw.
3. Carefully tighten adjuster screw until a slight increase in resistance is felt, then back off approximately 1/16th of a turn.
4. Hold the adjuster screw in place and tighten lock nut. Do not allow the adjustment screw to turn while tightening the locking nut down.
5. Road test vehicle and evaluate for improvement in steering wheel oscillations.
a. Confirm that there is no objectionable increase in steering efforts, especially at low speeds.
b. Verify that steering wheel return ability is approximately the same as it was during the original evaluation (within 5 degrees).
c. Turn steering wheel full lock to lock to confirm no binding.
6. Park the vehicle to let it cool down. Road test cold to confirm acceptable parking efforts and return ability in cold condition. Repeat the mesh load adjustment if needed.

FRONT WHEEL ALIGNEMENT AND REDUCE FRONT CASTER

Measure wheel alignment. Verify that Front Caster, Camber and Total Toe is within specification. Adjust as required. Refer to the Workshop Manual, Section 204 00 for complete alignment specifications.

REDUCE FRONT CASTER
· Note the current front caster
· Use alignment adjustment bushings to Reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit.

Use Alignment adjustment bushings:

F 250/350 4x4:
· 5C3Z 3B440 CCC (0.5 degree bushing)
· 5C3Z 3B440 DDD (0.75 degree bushing)
· 5C3Z 3B440 EEE (1.0 degree bushing)

F 450/550 4x4 and 4x2:

· 5C3Z 3B440 HHH (0.5 degree bushing)
· 5C3Z 3B440 JJJ (0.75 degree bushing)
· 5C3Z 3B440 KKK (1.0 degree bushing)

F 250/350 4x2:
· 5C3Z 3B440 C = 0.5 degree busing
· 5C3Z 3B440 D = 0.75 degree bushing
· 5C3Z 3B440 E = 1.0 degree bushing

For All 4x4 and for F 450/550 4x2
· Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward and inboard position (See Figure 1)
· This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed
· The final caster and camber settings must be within the specification limits
· Maintain the current front camber, cross camber and cross caster settings as close as you possibly can
· Adding weight behind the rear axle lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster
· Inspect the ball joints for excessive play per the workshop manual, section 204 00.

For All F 350/250 4x2,
· Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain that position while moving the caster position forward in the truck
· The final caster and camber settings must be within the specification limits

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL Vehicles Built Prior To 10/8/2004 only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.
1. Remove driver air bag assembly. Refer to Workshop Manual Section 211 04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211 04 OF THE 2005 OR 2006 SUPER DUTY F SERIES WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

NOTE: THE WHEEL ALIGNMENT LABOR OPERATIONS MAY BE CLAIMED WITH THE REPAIR OPERATIONS IN THIS ARTICLE.

Category: Service Fix (10 years TSB Only)
Request Type: Non QSF
Activity Code: 070 F Series >8500#
Vehicle Applications:

Vehicle Lines	Model Year	Model Year	Assembly	Body	Engine	Trans	Build	Build

	Start	End	Plants	Styles		Axles	From	To
F Super Duty (F 250 to 550)	2005	2007						

If SPECS Case, Select all Other Affected Publications:

Changes Needed in Other Pubs:

TSBs to Supersede: 05 22 01
SSMs to Supersede:

ISMs to Supersede:

Other application Articles:

Select the reason for republication: Concern Carryover to New Model
Procedure verified by CDSID: srepasky
Describe How The Procedure Was Verified: TSB was verified by Steve Repasky, and also by the FQEs.
Do you have access to a vehicle for time study? Yes
If Yes, contact for vehicle CDSID: toconnor
Are Illustrations Required? Yes
If Yes, Contact information for illustrations:
CDSID(Ford only): toconnor
Full Name: Tammy O'Connor
Phone: 313/322 3824
Illustration Notes: Please use same illustrations from TSB 05 22 01.

Trustmarks affected: Ford
Additional Trustmarks To Notify:

Article Distribution: WDMO, Canada, Mexico, United States
DTC Codes and OASIS Service Codes: , 303000, 304000, 306000, 703000, 703000, 703200, 703200, 703300, 703300, 703400, 703400

Causal Basic Part # or Finis Code:

Causal Part # or Finis Code	Warranty Condition Codes
3600	Chassis: 42

Calibrations List:

White Paper Numbers:

Parts Request Information

Are Parts Required? Yes
QSF Single Agenda Or Program FRC Date:
Parts List:

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
1	Existing	5C74 3F563 AB1D24	No	Not Applicable	STEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5C7Z 3600 ABA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
2	Existing	5C74 3F563 AB35B8	No	Not Applicable	sTEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						

@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
		U5MSK	5c7z 3600 CBA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
3	Existing	5C34 3E651 CE	No	Not Applicable	Damper	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			Q29AA	5C3Z 3E651 CA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
4	Existing	5C34 3E651 CH	No	Not Applicable	Damper Asy	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z 3E651 D			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
5	Existing	5C34 3E651 BG	No	Not Applicable	Damper	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z 3E651 B			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
6	Existing	5C34 3D004 NA	No	Not Applicable	.5 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z 3B440 C			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
7	Existing	5C34 3D004 CA	No	Not Applicable	.5 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company

	126						
	@1st Contact	**@1st Contact Phone**	**Source Code**	**Service #**	**Replaced SVC #**	**°Replaced Eng. #**	**°Is Calibration Needed**
				5C3Z 3B440 CCC			No

8	***Type of Part**	***Eng #**	***Is This Part a Kit?**	***Existing Stock#**	***Part Name**	***Qty/veh.**	***Engineering Est. Qty. Needed**
	Existing	5C34 3D004 PA	No	Not Applicable	.75 DEGREE SHIM 4X2	1	100
	***Calculated Forecast**		***@WERS Notice #**		***@WERS Date Released**		***@Supplier Company**
	126						
	@1st Contact	**@1st Contact Phone**	**Source Code**	**Service #**	**Replaced SVC #**	**°Replaced Eng. #**	**°Is Calibration Needed**
				5C3Z 3B440 D			No

9	***Type of Part**	***Eng #**	***Is This Part a Kit?**	***Existing Stock#**	***Part Name**	***Qty/veh.**	***Engineering Est. Qty. Needed**
	Existing	5C34 3D004 DA	No	Not Applicable	75 DEGREE SHIM 4X4	1	100
	***Calculated Forecast**		***@WERS Notice #**		***@WERS Date Released**		***@Supplier Company**
	126						
	@1st Contact	**@1st Contact Phone**	**Source Code**	**Service #**	**Replaced SVC #**	**°Replaced Eng. #**	**°Is Calibration Needed**
				5C3Z 3B440 DDD			No

10	***Type of Part**	***Eng #**	***Is This Part a Kit?**	***Existing Stock#**	***Part Name**	***Qty/veh.**	***Engineering Est. Qty. Needed**
	Existing	5C34 3D004 RA	No	Not Applicable	1.0 DEGREE SHIM 4X2	1	100
	***Calculated Forecast**		***@WERS Notice #**		***@WERS Date Released**		***@Supplier Company**
	126						
	@1st Contact	**@1st Contact Phone**	**Source Code**	**Service #**	**Replaced SVC #**	**°Replaced Eng. #**	**°Is Calibration Needed**
				5C3Z 3B440 E			No

11	***Type of Part**	***Eng #**	***Is This Part a Kit?**	***Existing Stock#**	***Part Name**	***Qty/veh.**	***Engineering Est. Qty. Needed**
	Existing	5C34 3D004 EA	No	Not Applicable	1.0 DEGREE SHIM 4X4	1	100
	***Calculated Forecast**		***@WERS Notice #**		***@WERS Date Released**		***@Supplier Company**
	126						
	@1st Contact	**@1st Contact Phone**	**Source Code**	**Service #**	**Replaced SVC #**	**°Replaced Eng. #**	**°Is Calibration Needed**
				5C3Z 3B440 EEE			No

***Type of Part**	***Eng #**	***Is This Part a Kit?**	***Existing Stock#**	***Part Name**	***Qty/veh.**	***Engineering Est. Qty. Needed**
Existing	5C34 3D004 JA	No	Not Applicable	0.75 DEGREE SHIM	1	100

12	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z 3B440 JJJ			No

13	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34 3D004 KA	No	Not Applicable	1.0 DEGREE SHIM	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z 3B440 KKK			No

Parts catalog flag needed? No
Part number(s) that require flag:

Is geographic location significant? No
Special instructions/remarks:

Article Number:

BCM Number:

(End automated email)

From: Pearsall, Norm (N.C.)
Sent: Monday, October 02, 2006 10:06 AM
To: O'Connor, Tammy (T.A.)
Cc: House, Michael (M.T.)
Subject: FW: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Hello Tammy,

Is there any way to highlight the line " REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 Only". It needs to be bold and red if at all possible.

Norman Pearsall

Quality Integration
Building 3, 31A044
Phone 313-805-6289

From: House, Michael (M.T.)
Sent: Thursday, September 28, 2006 2:34 PM
To: Spears, Christopher (C.W.); Pearsall, Norm (N.C.)
Cc: Bedard, Robert (R.D.)
Subject: FW: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

I thought that we were revising the TSB to bin causal part away from Steering Wheel. It is the first item listed below on the parts list. Will this increase our warranty for Body Interior again? Can't we fix this? Thx.

Michael House
Body Interior Current Model Quality
cell 313.805.7933
e-mail mhouse@ford.com

From: GSIPLUS@FORD.COM [mailto:GSIPLUS@FORD.COM]
Sent: Thursday, September 28, 2006 1:22 PM
To: Murray, Al (A.R.); Caines, Bill (B.); Tews, Bryan (B.H.); Tedone, Damian (D.J.); Wood, Daniel (D.P.); Jones, Darryl (D.S.); Capoccia, David (D.G.); Parekh, Deepak (D.A.); Smith, Ed (E.J.); Yerke, Eric (E.R.); Hermann, Erik (E.H.); Wood, Faith (F.M.); Wickenheiser, Francis (F.J.); Sopko, Gary (G.M.); Patel, Harendra (H.M.); Willard, Jeremy (J.); Kovacs, John (J.); Pawloski, John (.); Pommer, John (J.M.); Saieg, John (J.R.); Berry, Joseph (J.P.); Roehner, Julie (J.); Zeitz, Keith (K.A.); Gusfa, Kenneth (K.); Spears, Laura (L.); Taylor, Mark (M.K.); Vance, Matthew (M.A.); House, Michael (M.T.); Spencer, Michael (M.T.); Nagy, Vic (V.A.); Cervenan, Neil (N.J.); Souchock, Peter (P.D.); Bzymek, Raymond (R.); McClain, Shawn (S.M.); Echhot, T (T.); Wheeler, Todd (T.A.); Gieleghem, Tom (T.A.); Watson, Tom (T.M.); Westermann, W Scott (W.S.); O'Connor, Tammy (T.A.); Repasky,

Steve (S.); Dwyer, Elizabeth (E.A.); Smith, Janet (J.); Boals, Shannon (S.D.)
Subject: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

TSB Courtesy Copy
*** DRAFT ***

This message is being sent on behalf of RKLUMP.
This is a courtesy copy of the following article to advise you this article is currently being processed for publication.

General Information

Last action taken (as of 9/28/2006 5:22:08 PM GMT): Accept/Submit to approvers
Comment:

Author:	TOCONNOR
Tracking Number:	[redacted]
Author Tracking Number:	--
Title:	2005-2007 F-Super Duty - Steering Wheel Oscillation
Article Type:	TSB

TSB Issue:
This article supersedes TSB 06-15-1 to update the labor operations.

Some 2005-2007 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion), immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on 4X4 vehicles, and is more evident on trucks equipped with a gas engine.
TSB Action:
Refer to the tsb Service Procedure to minimize the steering wheel oscillations on impacts, however, there may be some remaining minor oscillation which would be considered normal.

TSB Service Procedure:
SERVICE PROCEDURE SUMMARY

- Set tire pressure, road test vehicle to evaluate vehicle before proceeding with further repairs. If issue is resolved, do not proceed with the rest of this TSB
- If concern still exists, check steering damper for leaks; torque steering and suspension fasteners per Workshop Manual
- If concern still exists, check front alignment and reduce front caster
- Replacement of redundant control steering wheel (if equipped and vehicle built prior to 10/8/2004).

VEHICLE INSPECTION - TIRE PRESSURE
---
1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

NOTE: SETTING TIRE PRESSURE TO DOOR SPECIFICATION IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE.

ROAD TEST
---

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the customer's issue.
3. If no issues are identified during the road test, do not proceed with the rest of this TSB.

STEERING DAMPER INSPECTION AND STEERING/SUSPENSION FASTENER TORQUE CHECK

1. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
a. If leaks are present, install a new steering damper.
2. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table below).

Description	Torque Specification (lb-ft/ Nm)	
	Lb-ft	Nm
Damper nuts (4X2)	59	80
Damper-to-bracket (F-250, F-350 4X4)	26	35
Damper-to-drag link	67	91
Drag link-to-pitman arm nut	148	201
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts and bolts	129	175
Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE.

FRONT WHEEL ALIGNMENT AND REDUCE FRONT CASTER

NOTE: OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

Measure wheel alignment. Verify that Front Caster, Camber, and Total Toe are within specification. Adjust as required. Refer to the Workshop Manual, Section 204-00 for complete alignment specifications.

REDUCE FRONT CASTER

- Note the current front caster
- Use alignment adjustment bushings to reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit. Use alignment adjustment bushings

F-250/350 4X4:
- 5C3Z-3B440-CCC (0.5 degree bushing)
- 5C3Z-3B440-DDD (0.75 degree bushing)
- 5C3Z-3B440-EEE (1.0 degree bushing)

F-450/550 4X4 and 4X2:

· 5C3Z-3B440-HHH (0.5 degree bushing)
· 5C3Z-3B440-JJJ (0.75 degree bushing)
· 5C3Z-3B440-KKK (1.0 degree bushing)

F-250/350 4X2:
· 5C3Z-3B440-C = 0.5 degree busing
· 5C3Z-3B440-D = 0.75 degree bushing
· 5C3Z-3B440-E = 1.0 degree bushing

For All 4X4 and for F-450/550 4X2
· Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward and inboard position (See Figure 1)
· This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed
· The final caster and camber settings must be within the specification limits
· Maintain the current front camber, cross-camber and cross-caster settings as close as you possibly can
· Adding weight behind the rear axle lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster

For All F-250/350 4X2,
· Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain that position while moving the caster position forward in the truck
· The final caster and camber settings must be within the specification limits

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 Only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.
1. Remove driver air bag assembly. Refer to Workshop Manual, Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

NOTE: LABOR OPERATIONS IN THIS TSB CAN BE CLAIMED TOGETHER.

NOTE: OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

Category: Service Fix (10 years - TSB Only)
Request Type: Non-QSF
Has a cost save business case been prepared? No
Activity Code: 070 F-Series >8500#
Vehicle Applications:

Vehicle Lines	Model Year Start	Model Year End	Assembly Plants	Body Styles	Engine	Trans Axles	Build From	Build To
F-Super Duty (F-250 to 550)	2005	2007						

If SPECS Case, Select all Other Affected

Publications:
Changes Needed in Other Pubs:
TSBs to Supersede: 06-15-1
SSMs to Supersede:
ISMs to Supersede:
Other application Articles:
Select the reason for republication: Concern Carryover to New Model
Procedure verified by CDSID: srepasky
Describe How The Procedure Was Verified: TSB was verified by Steve Repasky.
Do you have access to a vehicle for time study? Yes
If Yes, contact for vehicle CDSID: toconnor
Are Illustrations Required? Yes
If Yes, Contact information for illustrations:
CDSID(Ford only): toconnor
Full Name: Tammy O'Connor
Phone: 313/322-3824
Illustration Notes: Please use same illustrations from TSB 05-22-01.

Trustmarks affected: Ford
Additional Trustmarks To Notify:
Article Distribution: WDMO, Canada, Mexico, United States
DTC Codes and OASIS Service Codes: , 303000, 304000, 306000, 703000, 703000, 703200, 703200, 703300, 703300, 703400, 703400

Causal Basic Part # or Finis Code:

Causal Part # or Finis Code	Warranty Condition Codes
3E651 FRONT TIR	Chassis: 42

Calibrations List:

White Paper Numbers:

Parts Request Information

Are Parts Required? Yes
QSF Single Agenda Or Program FRC Date:
Parts List:

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
1	Existing	5C74-3F563-AB1D24	No	Not Applicable	STEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5C7Z-3600-ABA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
2	Existing	5C74-3F563-AB35B8	No	Not Applicable	sTEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5c7z-3600-CBA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
3	Existing	5C34-3E651-CE	No	Not Applicable	Damper	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			Q29AA	5C3Z-3E651-CA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
4	Existing	5C34-3E651-CH	No	Not Applicable	Damper Asy	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3E651-D			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
5	Existing	5C34-3E651-BG	No	Not Applicable	Damper	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3E651-B			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
6	Existing	5C34-3D004-NA	No	Not Applicable	.5 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-C			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
7	Existing	5C34-3D004-CA	No	Not Applicable	.5 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-CCC			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed

8	Existing	5C34-3D004-PA	No	Not Applicable	.75 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-D			No

9	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-DA	No	Not Applicable	-75 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-DDD			No

10	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-RA	No	Not Applicable	1.0 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-E			No

11	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-EA	No	Not Applicable	1.0 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-EEE			No

12	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-JA	No	Not Applicable	0.75 DEGREE SHIM	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-JJJ			No

*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed

13	Existing	5C34-3D004-KA	No	Not Applicable	1.0 DEGREE SHIM	1	100
	***Calculated Forecast**		***@WERS Notice #**		***@WERS Date Released**		***@Supplier Company**
	126						
	@1st Contact	**@1st Contact Phone**	**Source Code**	**Service #**	**Replaced SVC #**	**°Replaced Eng. #**	**°Is Calibration Needed**
				5C3Z-3B440-KKK			No

Parts catalog flag needed? No
Part number(s) that require flag:
Is geographic location significant? No
Special instructions/remarks: We want to have 3 causal part numbers as follows:
1. 3E651 = Steering Dampner
2. FRONT = Alignment
3. TIRE = Tire Pressure

Article Number:
BCM Number:

(End automated email)

From: Zeitz, Keith (K.A.)
Sent: Thursday, February 08, 2007 4:15 PM
To: O'Connor, Tammy (T.A.); Hodges, Cynthia (C.P.); Boals, Shannon (S.D.); Welch, Sharon (S.L.); Perri, Ron (R.J.)
Subject: FW: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation
Importance: High

Team,

Here is a release of the TSB for steering wheel oscillation extending for 2008MY. But they causal parts have changed to just 3E651 Steering Damper. This is not acceptable and should remain the same as prior release.

Keith A. Zeitz
Steering & Suspension Quality Supervisor
Integrated BB & ASQ SSBB
PDC 2D-G34, ph # (313) 805-3994

"Don't find fault, find a remedy" - Henry Ford

From: Siplus, G (G.)
Sent: Thursday, February 08, 2007 11:05 AM
To: Murray, Al (A.R.); Caines, Bill (B.); Tews, Bryan (B.H.); Tedone, Damian (D.J.); Wood, Daniel (D.P.); Jones, Darryl (D.S.); Capoccia, David (D.G.); Parekh, Deepak (D.A.); Smith, Ed (E.J.); Yerke, Eric (E.R.); Hermann, Erik (E.H.); Wood, Faith (F.M.); Wickenheiser, Francis (F.J.); Sopko, Gary (G.M.); Patel, Harendra (H.M.); Hansen, James (J.B.); Willard, Jeremy (J.); Kovacs, John (J.); Pawloski, John (.); Pommer, John (J.M.); Saieg, John (J.R.); Berry, Joseph (J.P.); Roehner, Julie (J.); Zeitz, Keith (K.A.); Gusfa, Kenneth (K.); Taylor, Mark (M.K.); Vance, Matthew (M.A.); House, Michael (M.T.); Spencer, Michael (M.T.); Nagy, Vic (V.A.); Cervenan, Neil (N.J.); Bzymek, Raymond (R.); McClain, Shawn (S.M.); Janczak, Stephanie (S.L.); Echhot, T (T.); Wheeler, Todd (T.A.); Gieleghem, Tom (T.A.); TWATSON1@ford.com; Westermann, W Scott (W.S.); Schlott, Michael (M.D.); O'Connor, Tammy (T.A.); Repasky, Steve (S.); Dwyer, Elizabeth (E.A.); Smith, Janet (J.); Boals, Shannon (S.D.)
Subject: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

TSB Courtesy Copy
*** DRAFT ***

This message is being sent on behalf of RKLUMP.
This is a courtesy copy of the following article to advise you this article is currently being processed for publication.

General Information

Last action taken (as of 2/8/2007 4:05:24 PM GMT):	Accept/Submit to approvers
Comment:	
Author:	TOCONNOR
Tracking Number:	[redacted]
Author Tracking Number:	--
Title:	2005-2007 F-Super Duty - Steering Wheel Oscillation

Article Type: TSB

TSB Issue:
This article supersedes TSB 06-15-1 to update the Service Procedure.

Some 2005-2007 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion), immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on F-250/F-350 4X4 vehicles, and is more evident on trucks equipped with a gas engine.

TSB Action:
Refer to the Service Procedure to minimize the steering wheel oscillations on impacts, however, there may be some remaining minor oscillation which would be considered normal.

TSB Service Procedure:
SERVICE PROCEDURE SUMMARY

- Set tire pressure, road test vehicle to evaluate vehicle before proceeding with further repairs. If issue is resolved, do not proceed with the rest of this TSB
- If concern still exists, install a new steering damper (frame-mounted bracket and steering damper assembly on 4X4 applications only). For 4x2 applications, inspect damper for leaks and replace if necessary, torque steering and suspension fasteners per Workshop Manual
- If concern still exists, check front alignment and reduce front caster
- Replacement of redundant control steering wheel (if equipped and vehicle built prior to 10/8/2004).

VEHICLE INSPECTION - TIRE PRESSURE
---
1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

NOTE: SETTING TIRE PRESSURE TO DOOR SPECIFICATION IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE.

ROAD TEST
---
1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the customer's issue.
3. If no issues are identified during the road test, do not proceed with the rest of this TSB.

STEERING DAMPER AND FASTENER TORQUE CHECK

Replace Steering Damper & Frame Mounting Bracket (4X4); Inspect
---
Steering Damper (4X2):

For 4x4 applications:

Remove existing steering damper and frame attachment bracket. Replace steering damper and frame mounting bracket with steering damper P/N 8C3Z-3E651-A and frame bracket P/N 7C3Z-3E652-C. Attach steering damper

to frame bracket (with W706196-S439 bolt and W520114S441 nut) and torque bolt to 103 Nm. Assemble bracket and shock assembly to the frame with attachment bolt retainer (W712055-S439) pointing to rear of vehicle. Torque frame bracket nuts (W520114-S441) to 80 Nm. Attach other end of shock to the steering drag link and torque to 90 Nm. Install damper bolt cap (W711670-S300) to assure a friendly surface for the battery cable in case of casual contact.

Note: CHECK SURROUNDING ENVIRONMENT TO THE FRAME BRACKET AND DAMPER ASSEMBLY TO ENSURE THAT BATTERY CABLES ARE NOT CONTACTING BRACKET/BOLTS/DAMPER. ALSO, VERIFY THAT TRANSMISSION OIL COOLER LINES HAVE CLEARANCE TO THE DAMPER DUST SHIELD.

For 4x2 applications only:

Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
If leaks are present, install a new steering damper.

STEERING/SUSPENSION FASTENER TORQUE CHECK (4X2 & 4X4)

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1. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table below).

Description	Torque Specification (lb-ft/ Nm)	
	Lb-ft	Nm
Damper nuts (F-250/F-350 4X2)	59	80
Damper-to-bracket (F-250/F-350 4X4)	76	103
Damper-to-drag link	66	90
Drag link-to-pitman arm nut	129	175
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts and bolts	129	175
Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE.

FRONT WHEEL ALIGNMENT AND REDUCE FRONT CASTER

NOTE: OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

Measure wheel alignment. Verify that Front Caster, Camber, and Total Toe are within specification. Adjust as required. Refer to the Workshop Manual, Section 204-00 for complete alignment specifications.

REDUCE FRONT CASTER

- Note the current front caster
- Use alignment adjustment bushings to reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit. Use alignment adjustment bushings

F-250/350 4X4:
· 5C3Z-3B440-CCC (0.5 degree bushing)
· 5C3Z-3B440-DDD (0.75 degree bushing)
· 5C3Z-3B440-EEE (1.0 degree bushing)

F-450/550 4X4 and 4X2:

· 5C3Z-3B440-HHH (0.5 degree bushing)
· 5C3Z-3B440-JJJ (0.75 degree bushing)
· 5C3Z-3B440-KKK (1.0 degree bushing)

F-250/350 4X2:
· 5C3Z-3B440-C = 0.5 degree busing
· 5C3Z-3B440-D = 0.75 degree bushing
· 5C3Z-3B440-E = 1.0 degree bushing

For All 4X4 and for F-450/550 4X2
· Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward and inboard position (See Figure 1)
· This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed
· The final caster and camber settings must be within the specification limits
· Maintain the current front camber, cross-camber and cross-caster settings as close as you possibly can
· Adding weight behind the rear axle lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster

For All F-250/350 4X2,
· Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain that position while moving the caster position forward in the truck
· The final caster and camber settings must be within the specification limits

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To
---
10/8/2004 Only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.
1. Remove driver air bag assembly. Refer to Workshop Manual, Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

NOTE: LABOR OPERATIONS IN THIS TSB CAN BE CLAIMED TOGETHER.

NOTE: OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

Category: Service Fix (10 years - TSB Only)
Request Type: Non-QSF
Would this make a good cost save business case? No
Activity Code: 070 F-Series >8500#
Vehicle Applications:

Vehicle Lines	Model Year Start	Model Year End	Assembly Plants	Body Styles	Engine	Trans Axles	Build From	Build To
F-Super Duty (F-250 to 550)	2005	2007						

If SPECS Case, Select all Other Affected Publications:
Changes Needed in Other Pubs:
TSBs to Supersede: 06-15-1
SSMs to Supersede:
ISMs to Supersede:
Other application Articles:
Select the reason for republication: Incorrect Procedure
Procedure verified by CDSID: srepasky
Describe How The Procedure Was Verified: TSB was verified by Steve Repasky.
Do you have access to a vehicle for time study? Yes
If Yes, contact for vehicle CDSID: toconnor
Are Illustrations Required? Yes
If Yes, Contact information for illustrations:
CDSID(Ford only): toconnor
Full Name: Tammy O'Connor
Phone: 313/322-3824
Illustration Notes: Please use same illustrations from TSB 06-15-1.

Trustmarks affected: Ford
Additional Trustmarks To Notify:
Article Distribution: WDMO, Canada, Mexico, United States
DTC Codes and OASIS Service Codes: , 303000, 304000, 306000, 703000, 703000, 703200, 703200, 703300, 703300, 703400, 703400

Causal Basic Part # or Finis Code:

Causal Part # or Finis Code	Warranty Condition Codes
3E651 FRONT TIR	Chassis: 42

Calibrations List:

White Paper Numbers:

Parts Request Information

Are Parts Required? Yes
QSF Single Agenda Or Program FRC Date:
Parts List:

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
1	Existing	5C74-3F563-AB1D24	No	Not Applicable	STEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed

			U5MSK	5C7Z-3600-ABA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
2	Existing	5C74-3F563-AB35B8	No	Not Applicable	sTEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5c7z-3600-CBA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
3	Existing	5C34-3D004-NA	No	Not Applicable	.5 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-C			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
4	Existing	5C34-3D004-CA	No	Not Applicable	.5 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-CCC			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
5	Existing	5C34-3D004-PA	No	Not Applicable	.75 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-D			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
6	Existing	5C34-3D004-DA	No	Not Applicable	-75 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed

				5C3Z-3B440-DDD			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
7	Existing	5C34-3D004-RA	No	Not Applicable	1.0 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-E			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
8	Existing	5C34-3D004-EA	No	Not Applicable	1.0 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-EEE			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
9	Existing	5C34-3D004-JA	No	Not Applicable	0.75 DEGREE SHIM	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-JJJ			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
10	Existing	5C34-3D004-KA	No	Not Applicable	1.0 DEGREE SHIM	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-KKK			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
11	Existing	W520117-S441	No	Not Applicable	NUT - HEX - RH THREA	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed

			G229J	W520117-S441			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	W706196-S439	No	Not Applicable	Bolt	1	100
12	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			G229J	W706196-S439			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	7c343e652ac	No	Not Applicable	Bracket	1	100
13	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				7c3z3e652c			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	8C34-3E651-CB	No	Not Applicable	Dampner Asy	1	100
14	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			T407H	8C3Z-3E651-C			No

Parts catalog flag needed? No
Part number(s) that require flag:
Is geographic location significant? No
Special instructions/remarks: We want to have 3 causal part numbers as follows:
1. 3E651 = Steering Dampner
2. FRONT = Alignment
3. TIRE = Tire Pressure

This TSB is being updated to include a revised steering damper.

Article Number:
BCM Number:

(End automated email)

From: Repasky, Steve (S.)
Sent: Monday, January 29, 2007 3:16 PM
To: Gompper, Dan (D.B.); Hasselbring, D Blake (D.B.); Choe, Mark (M.J.); Ufford, Donald (D.A.)
Cc: Hasselbring, D Blake (D.B.); O'Connor, Tammy (T.A.)
Subject: FW: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Info on Shimmy TSB. Hop TSB has been written and is being reviewed prior to submittal to FCSD. It will be sent to FCSD for comment by COB today.

From: O'Connor, Tammy (T.A.)
Sent: Monday, January 29, 2007 2:57 PM
To: Hale, Curt (B.C.); Knapp, David (D.); Repasky, Steve (S.); Rivera, Santos (S.); Welch, Sharon (S.L.); O'Connor, Tammy (T.A.)
Subject: TSB Courtesy Copy: 070-2006-2728: 2005-2007 F-Super Duty - Steering Wheel Oscillation

TSB Courtesy Copy

*** DRAFT ***

This message is being sent on behalf of TOCONNOR.
This is a courtesy copy of the following article to advise you this article is currently being processed for publication.

General Information

Last action taken (as of 1/29/2007 7:56:29 PM GMT): Submit for approval
Comment:

Author:	TOCONNOR
Tracking Number:	[redacted]
Author Tracking Number:	--
Title:	2005-2007 F-Super Duty - Steering Wheel Oscillation
Article Type:	TSB

TSB Issue:
Some 2005-2007 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion), immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on 4X4 vehicles, and is more evident on trucks equipped with a gas engine.
TSB Action:
Refer to the tsb Service Procedure to minimize the steering wheel oscillations on impacts, however, there may be some remaining minor oscillation which would be considered normal.

TSB Service Procedure:
SERVICE PROCEDURE SUMMARY

- Set tire pressure, road test vehicle to evaluate vehicle before proceeding with further repairs. If issue is resolved, do not proceed with the rest of this TSB
- If concern still exists, torque steering and suspension fasteners per Workshop Manual
- If concern still exists, check front alignment and reduce front caster

· If concern still exists, install a new steering damper frame mounted bracket and steering damper assembly (4X4 applications only). For 4x2 applications, inspect damper for leaks and replace as required with damper 5C3Z-3E651-D only.
· Replacement of redundant control steering wheel (if equipped and vehicle built prior to 10/8/2004).

VEHICLE INSPECTION - TIRE PRESSURE

1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

NOTE: SETTING TIRE PRESSURE TO DOOR SPECIFICATION IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE.

ROAD TEST

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the customer's issue.
3. If no issues are identified during the road test, do not proceed with the rest of this TSB.

STEERING/SUSPENSION FASTENER TORQUE CHECK

1. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table below).

Description	Torque Specification (lb-ft/ Nm)	
	Lb-ft	Nm
Damper nuts (4X2)	66	90
Damper-to-bracket (F-250, F-350 4X4)	76	103
Damper-to-drag link	66	90
Drag link-to-pitman arm nut	129	175
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts and bolts	129	175
Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE.

FRONT WHEEL ALIGNMENT AND REDUCE FRONT CASTER

NOTE: OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

Measure wheel alignment. Verify that Front Caster, Camber, and Total Toe are within specification. Adjust as required. Refer to the Workshop Manual, Section 204-00 for complete alignment specifications.

REDUCE FRONT CASTER

- Note the current front caster
- Use alignment adjustment bushings to reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit. Use alignment adjustment bushings

F-250/350 4X4:

- 5C3Z-3B440-CCC (0.5 degree bushing)
- 5C3Z-3B440-DDD (0.75 degree bushing)
- 5C3Z-3B440-EEE (1.0 degree bushing)

F-450/550 4X4 and 4X2:

- 5C3Z-3B440-HHH (0.5 degree bushing)
- 5C3Z-3B440-JJJ (0.75 degree bushing)
- 5C3Z-3B440-KKK (1.0 degree bushing)

F-250/350 4X2:

- 5C3Z-3B440-C = 0.5 degree busing
- 5C3Z-3B440-D = 0.75 degree bushing
- 5C3Z-3B440-E = 1.0 degree bushing

For All 4X4 and for F-450/550 4X2

- Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward and inboard position (See Figure 1)
- This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed
- The final caster and camber settings must be within the specification limits
- Maintain the current front camber, cross-camber and cross-caster settings as close as you possibly can
- Adding weight behind the rear axle lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster

For All F-250/350 4X2,

- Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain that position while moving the caster position forward in the truck
- The final caster and camber settings must be within the specification limits

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE.

STEERING DAMPER INSPECTION (4X2) AND REPLACE STEERING DAMPNER AND FRAME MOUNTING BRACKET (4X4):

For 4x2 applications only:

Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
If leaks are present, install a new steering damper (5C3Z-3E651-D).

For 4x4 applications:

Remove existing steering damper and frame attachment bracket. Replace steering damper and frame mounting bracket with steering damper P/N 8C3Z-3E651-A and frame bracket P/N 7C3Z-3E652-C. Attach steering damper to frame bracket (with W706196-S439 bolt and W520114S441 nut) and torque bolt to 103 Nm. Assemble bracket and shock assembly to the frame with attachment bolt retainer (W712055-S439) pointing to rear of vehicle. Torque frame bracket nuts (W520114-S441) to 80 Nm. Attach other end of shock to the steering drag link and torque to 90 Nm. See figure X. (Needs a number).
Install damper bolt cap (W711670-S300) to assure a friendly surface for the battery cable in case of casual contact.

Note: CHECK SURROUNDING ENVIRONMENT TO THE FRAME BRACKET AND DAMPER ASSEMBLY TO ENSURE THAT BATTERY CABLES ARE NOT CONTACTING BRACKET/BOLTS/DAMPER. ALSO, VERIFY THAT TRANSMISSION OIL COOLER LINES HAVE CLEARANCE TO THE DAMPER DUST SHIELD.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 Only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual, Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

NOTE: LABOR OPERATIONS IN THIS TSB CAN BE CLAIMED TOGETHER.

NOTE: OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

Category: Service Fix (10 years - TSB Only)
Request Type: Non-QSF
Would this make a good cost save business case? No
Activity Code: 070 F-Series >8500#
Vehicle Applications:

Vehicle Lines	Model Year Start	Model Year End	Assembly Plants	Body Styles	Engine	Trans Axles	Build From	Build To
F-Super Duty (F-250 to 550)	2005	2007						

If SPECS Case, Select all Other Affected Publications:
Changes Needed in Other Pubs:
TSBs to Supersede: 06-15-1
SSMs to Supersede:
ISMs to Supersede:
Other application Articles:
Select the reason for republication: Incorrect Procedure
Procedure verified by CDSID: srepasky
Describe How The Procedure Was Verified: TSB was verified by Steve Repasky.
Do you have access to a vehicle for time study? Yes
If Yes, contact for vehicle CDSID: toconnor
Are Illustrations Required? Yes
If Yes, Contact information for illustrations:
CDSID(Ford only): toconnor
Full Name: Tammy O'Connor
Phone: 313/322-3824
Illustration Notes: Please use same illustrations from TSB 06-15-1.

Trustmarks affected: Ford
Additional Trustmarks To Notify:
Article Distribution: WDMO, Canada, Mexico, United States
DTC Codes and OASIS Service Codes: , 303000, 304000, 306000, 703000, 703000, 703200, 703200, 703300, 703300, 703400, 703400

Causal Basic Part # or Finis Code:

Causal Part # or Finis Code	Warranty Condition Codes
3E651 FRONT TIR	Chassis: 42

Calibrations List:

White Paper Numbers:

Parts Request Information

Are Parts Required? Yes
QSF Single Agenda Or Program FRC Date:
Parts List:

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
1	Existing	5C74-3F563-AB1D24	No	Not Applicable	STEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5C7Z-3600-ABA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
2	Existing	5C74-3F563-AB35B8	No	Not Applicable	sTEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5c7z-3600-CBA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
3	Existing	5C34-3D004-NA	No	Not Applicable	.5 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-C			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-CA	No	Not Applicable	.5 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company

4	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-CCC			No

5	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-PA	No	Not Applicable	.75 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-D			No

6	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-DA	No	Not Applicable	-75 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-DDD			No

7	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-RA	No	Not Applicable	1.0 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-E			No

8	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-EA	No	Not Applicable	1.0 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-EEE			No

9	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-JA	No	Not Applicable	0.75 DEGREE SHIM	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company

	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-JJJ			No

10	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-KA	No	Not Applicable	1.0 DEGREE SHIM	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-KKK			No

11	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	W520117-S441	No	Not Applicable	NUT - HEX - RH THREA	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			G229J	W520117-S441			No

12	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	W706196-S439	No	Not Applicable	Bolt	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			G229J	W706196-S439			No

13	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	7c343e652ac	No	Not Applicable	Bracket	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				7c3z3e652c			No

14	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	8C34-3E651-CB	No	Not Applicable	Dampner Asy	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st	@1st Contact	Source Code	Service #	Replaced	°Replaced	°Is Calibration Needed

Contact	Phone			SVC #	Eng. #	
		T407H	8C3Z-3E651-C			No

Parts catalog flag needed? No
Part number(s) that require flag:
Is geographic location significant? No
Special instructions/remarks: We want to have 3 causal part numbers as follows:
1. 3E651 = Steering Dampner
2. FRONT = Alignment
3. TIRE = Tire Pressure

This TSB is being updated to include a revised steering damper.

Article Number:
BCM Number:

(End automated email)

From: Repasky, Steve (S.)
Sent: Thursday, January 25, 2007 12:21 PM
To: O'Connor, Tammy (T.A.)
Subject: FW: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation
Attachments: TSB for Superduty front end shake - DRAFTRev2_hh.doc

Tammy - I cut and pasted the illustration from this document to get the illustrations. Hopefully it will help...

From: Hwang, Hsiu-Ying (H.Y.)
Sent: Friday, December 22, 2006 2:57 PM
To: Gompper, Dan (D.B.); Hodges, Cynthia (C.P.)
Cc: Repasky, Steve (S.); Hwang, Hsiu-Ying (H.Y.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Dan,

I made some update and attached the file for your reference. We will continue working on it in January.

I had a discussion with Cindy earlier. The Road Test section was missing in the draft. We should keep Road Test, and would need to put the "install new bracket and steering damper assembly" at the last. I updated the torque to the correct numbers. After the package evaluation, we would need to add TOC and Battery cable section. I also attached the steering damper bolt cap in case if it's needed in P131 Vehicle.

Regards,
Hsiu-Ying Hwang
2008 P356 Super Duty Steering D&R
Certified Integrated Black Belt
Tel/Pager: 313-805-3873

From: Gompper, Dan (D.B.)
Sent: Thursday, December 21, 2006 1:18 PM
To: Hwang, Hsiu-Ying (H.Y.); Hodges, Cynthia (C.P.)
Cc: Repasky, Steve (S.)
Subject: FW: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Per you phone message, here is the DRAFT TSB. See Mark's note below to Keith, as well as Steve's note. We'll hold off on releasing the TSB and vehicle until after it is approved by package.

Thanks, and have a nice holiday,

Dan Gompper
SuperDuty Vehicle Dynamics Supervisor
EVB 2E-L01
Cellphone: (313) 805-2039
Email: dgompper@ford.com
text page: 3138052039@sprintpcs.messaging.com

From: Memmer, Mark (M.A.)
Sent: Tuesday, December 19, 2006 12:50 PM
To: Benson, Keith (K.A.)
Cc: Gompper, Dan (D.B.); Repasky, Steve (S.)
Subject: FW: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

For your review. I will hold off on releasing the vehicle we did the package study on until after the first of the year. Vehicle is parked in Mech lot across from EVB row F. Keys are in Dan's desk.

Mark Memmer
P356 Vehicle Dynamics
Cell: (313) 805-2042

From: Repasky, Steve (S.)
Sent: Tuesday, December 19, 2006 11:35 AM
To: O'Connor, Tammy (T.A.)
Cc: Gompper, Dan (D.B.); Memmer, Mark (M.A.); Wegienka, Michael (M.J.); Choe, Mark (M.J.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Thanks. Attached is a draft proposal (procedure #3) indicating replacement of the damper without regard to whether it is leaking or not. I assume we can add an appropriate picture later if deemed necessary.

Lets wait for the holiday good cheer to diminish and get together in early January to agree on any additional package work to complete (Additional TSB direction may be required) and then send out for comments.

From: O'Connor, Tammy (T.A.)
Sent: Tuesday, December 19, 2006 9:35 AM
To: Repasky, Steve (S.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Steve:

I had to do this for this for the early parts request -- just wanted to get it in the system -- it will not go into the system to be published until I submit it -- so anytime you re ready.

Tammy A. O'Connor
Product Concern Engineer
FCSD Service Engineering Operations
Super Duty F-Series
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Repasky, Steve (S.)
Sent: Tuesday, December 19, 2006 9:33 AM
To: O'Connor, Tammy (T.A.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Tammy - I have some changes I would like you to consider. I will send to you a little latter today. Thanks..

From: O'Connor, Tammy (T.A.)
Sent: Tuesday, December 19, 2006 9:28 AM
To: Hale, Curt (B.C.); Repasky, Steve (S.); O'Connor, Tammy (T.A.)
Subject: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

TSB Courtesy Copy
*** DRAFT ***

This message is being sent on behalf of TOCONNOR.
This is a courtesy copy of the following article to advise you this article is currently being processed for publication.

General Information

Last action taken (as of 12/19/2006 2:28:26 PM GMT): Submit early parts request
Comment:

Author:	TOCONNOR
Tracking Number:	[redacted]
Author Tracking Number:	--
Title:	2005-2007 F-Super Duty - Steering Wheel Oscillation
Article Type:	TSB

TSB Issue:
Some 2005-2007 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion), immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on 4X4 vehicles, and is more evident on trucks equipped with a gas engine.

TSB Action:
Refer to the tsb Service Procedure to minimize the steering wheel oscillations on impacts, however, there may be some remaining minor oscillation which would be considered normal.

TSB Service Procedure:
SERVICE PROCEDURE SUMMARY

- Set tire pressure, road test vehicle to evaluate vehicle before proceeding with further repairs. If issue is resolved, do not proceed with the rest of this TSB
- If concern still exists, check steering damper for leaks; torque steering and suspension fasteners per Workshop Manual
- If concern still exists, check front alignment and reduce front caster
- Replacement of redundant control steering wheel (if equipped and vehicle built prior to 10/8/2004).

VEHICLE INSPECTION - TIRE PRESSURE
---

1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

NOTE: SETTING TIRE PRESSURE TO DOOR SPECIFICATION IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE.

ROAD TEST

---

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the customer's issue.
3. If no issues are identified during the road test, do not proceed with the rest of this TSB.

STEERING DAMPER INSPECTION AND STEERING/SUSPENSION FASTENER TORQUE CHECK

---

1. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
   a. If leaks are present, install a new steering damper.
2. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table below).

Description	Torque Specification (lb-ft/ Nm)	
	Lb-ft	Nm
Damper nuts (4X2)	59	80
Damper-to-bracket (F-250, F-350 4X4)	26	35
Damper-to-drag link	67	91
Drag link-to-pitman arm nut	148	201
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts and bolts	129	175
Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE.

FRONT WHEEL ALIGNMENT AND REDUCE FRONT CASTER

NOTE: OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

Measure wheel alignment. Verify that Front Caster, Camber, and Total Toe are within specification. Adjust as required. Refer to the Workshop Manual, Section 204-00 for complete alignment specifications.

REDUCE FRONT CASTER

- Note the current front caster
- Use alignment adjustment bushings to reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit. Use alignment adjustment bushings

F-250/350 4X4:
· 5C3Z-3B440-CCC (0.5 degree bushing)
· 5C3Z-3B440-DDD (0.75 degree bushing)
· 5C3Z-3B440-EEE (1.0 degree bushing)

F-450/550 4X4 and 4X2:

· 5C3Z-3B440-HHH (0.5 degree bushing)
· 5C3Z-3B440-JJJ (0.75 degree bushing)
· 5C3Z-3B440-KKK (1.0 degree bushing)

F-250/350 4X2:
· 5C3Z-3B440-C = 0.5 degree busing
· 5C3Z-3B440-D = 0.75 degree bushing
· 5C3Z-3B440-E = 1.0 degree bushing

For All 4X4 and for F-450/550 4X2
· Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward and inboard position (See Figure 1)
· This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed
· The final caster and camber settings must be within the specification limits
· Maintain the current front camber, cross-camber and cross-caster settings as close as you possibly can
· Adding weight behind the rear axle lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster

For All F-250/350 4X2,
· Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain that position while moving the caster position forward in the truck
· The final caster and camber settings must be within the specification limits

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 Only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.
1. Remove driver air bag assembly. Refer to Workshop Manual, Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

NOTE: LABOR OPERATIONS IN THIS TSB CAN BE CLAIMED TOGETHER.

NOTE: OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

Category: Service Fix (10 years - TSB Only)
Request Type: Non-QSF

Would this make a good cost save business case? No
Activity Code: 070 F-Series >8500#
Vehicle Applications:

Vehicle Lines	Model Year Start	Model Year End	Assembly Plants	Body Styles	Engine	Trans Axles	Build From	Build To
F-Super Duty (F-250 to 550)	2005	2007						

If SPECS Case, Select all Other Affected Publications:
Changes Needed in Other Pubs:
TSBs to Supersede: 06-15-1
SSMs to Supersede:
ISMs to Supersede:
Other application Articles:
Select the reason for republication: Incorrect Procedure
Procedure verified by CDSID: srepasky
Describe How The Procedure Was Verified: TSB was verified by Steve Repasky.
Do you have access to a vehicle for time study? Yes
If Yes, contact for vehicle CDSID: toconnor
Are Illustrations Required? Yes
If Yes, Contact information for illustrations:
CDSID(Ford only): toconnor
Full Name: Tammy O'Connor
Phone: 313/322-3824
Illustration Notes: Please use same illustrations from TSB 05-22-01.

Trustmarks affected: Ford
Additional Trustmarks To Notify:
Article Distribution: WDMO, Canada, Mexico, United States
DTC Codes and OASIS Service Codes: , 303000, 304000, 306000, 703000, 703000, 703200, 703200, 703300, 703300, 703400, 703400

Causal Basic Part # or Finis Code:

Causal Part # or Finis Code	Warranty Condition Codes
3E651 FRONT TIR	Chassis: 42

Calibrations List:

White Paper Numbers:

Parts Request Information

Are Parts Required? Yes
QSF Single Agenda Or Program FRC Date:
Parts List:

1

*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
Existing	5C74-3F563-AB1D24	No	Not Applicable	STEERING WHEEL ASY	1	100

*Calculated Forecast	*@WERS Notice #	*@WERS Date Released	*@Supplier Company
45			

@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
		U5MSK	5C7Z-3600-ABA			No

*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed

2	Existing	5C74-3F563-AB35B8	No	Not Applicable	sTEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5c7z-3600-CBA			No

3	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-NA	No	Not Applicable	.5 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-C			No

4	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-CA	No	Not Applicable	.5 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-CCC			No

5	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-PA	No	Not Applicable	.75 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-D			No

6	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-DA	No	Not Applicable	-75 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-DDD			No

*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed

7	Existing	5C34-3D004-RA	No	Not Applicable	1.0 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-E			No

8	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-EA	No	Not Applicable	1.0 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-EEE			No

9	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-JA	No	Not Applicable	0.75 DEGREE SHIM	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-JJJ			No

10	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-KA	No	Not Applicable	1.0 DEGREE SHIM	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-KKK			No

11	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	W520117-S441	No	Not Applicable	NUT - HEX - RH THREA	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			G229J	W520117-S441			No

*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed

12	Existing	W706196-S439	No	Not Applicable	Bolt	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			G229J	W706196-S439			No

13	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	8C34-3E652-AA	No	Not Applicable	Bracket	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			K856C	8C3Z- 3E652-A			No

14	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	8C34-3E651-CB	No	Not Applicable	Dampner Asy	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			T407H	8C3Z-3E651-C			No

Parts catalog flag needed? No
Part number(s) that require flag:
Is geographic location significant? No
Special instructions/remarks: We want to have 3 causal part numbers as follows:
1. 3E651 = Steering Dampner
2. FRONT = Alignment
3. TIRE = Tire Pressure

Article Number:
BCM Number:

(End automated email)

ISSUE:

Some 2005-2007 F-Super Duty vehicles may exhibit front end shake immediately following front wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.) when traveling at speeds greater than 55 MPH. This condition occurs mostly on 4x4 gas engine vehicles.

ACTION:

This procedure will minimize the front end shake on impacts; however, there may be some remaining minor oscillation, which would be considered normal. Perform the following:

- Check/set tire pressure
- Road Test
- Check/Set Torque on noted front suspension and steering components.
- Front Alignment and Reduce front caster
- Replacement of Redundant Control Steering Wheel (if equipped and vehicle built prior to October 8, 2004).
- Install new bracket and steering damper assembly with corrections for TOC line and battery cable.

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Deleted: <#>Install new bracket and steering damper assembly.¶

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SERVICE PROCEDURE

Check/Set Tire Pressure

1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

NOTE: SETTING TIRE PRESSUE TO DOOR SPEC IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

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Road Test

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1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the customer's issue.
3. If no issues are identified during the road test, do not proceed with the rest of this TSB.

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Check/Set Front end Torques

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1. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table # below).

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Description	Torque Specification (lb-ft/ Nm)	
	Lb-ft	Nm
Damper nuts (4x2)	66	90
Damper-to-bracket Bolt (F-250, F-350 4x4)	76	103

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Damper-to-drag link	66	90
Drag link-to-pitman arm nut	129	175
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts & bolts	129	175
Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

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NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

Front end alignment and reduce caster

1. Measure wheel alignment. Verify that Front Caster, Camber & Total Toe is within specification. Adjust as required. Refer to the Workshop Manual, Section 2004-00-1 for complete alignment specifications.

Reduce front caster

- Note the current front caster
- Use alignment adjustment bushings to Reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit.
- Use Alignment adjustment bushings:

  - **F-250/350 4x4 (use one of the below bushings):**
    5C3Z-3B440-CCC (0.5 degree bushing)
    5C3Z-3B440-DDD (0.75 Degree bushing)
    5C3Z-3B440-EEE (1.0 degree bushing)

  - **F-450/550 4x4 & 4x2(use one of the below bushings)**:
    - 5C3Z-3B440-HHH (0.5 Degree bushing)
    - 5C3Z-3B440-JJJ (0.75 Degree bushing)
    - 5C3Z-3B440-KKK (1.0 degree bushing)

  - F-250/350 4x2**(use one of the below bushings)**:
  - 5C3Z-3B440-C = 0.5 degree busing
  - 5C3Z-3B440-D = 0.75 degree bushing
  - 5C3Z-3B440-E = 1.0 degree bushing

For All 4x4 and for F-450/550 4x2,

Deleted: **Replace steering damper and frame mounting bracket**¶
3. Remove existing steering damper and frame attachment bracket. Replace steering damper and frame mounting bracket with steering damper P/N 8C3Z-3E651-C and frame bracket P/N 7C3Z-3E652-C. Attach steering damper to frame bracket (with W706196S439 bolt and W520117S441 nut) and torque nut to 103 Nm. Assemble bracket and shock assembly to the frame with attachment bolts pointing to rear of vehicle. Torque frame bracket nuts to 80 Nm. Attach other end of shock to the steering drag link and torque to 67 ft-lbs (91 Nm). See figure X. ¶

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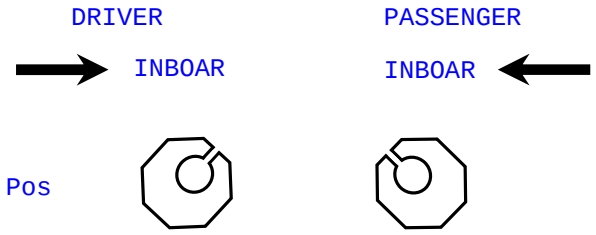
- Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward & inboard position (See below picture)
- This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed.
- The final caster & camber settings must be within the specification limits

TOP VIEW (L0OKING DOWN)



- Maintain the current front camber, cross-camber & cross-caster settings as close as you possibly can.
- Adding weight to the back lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster.

For All F-350/250 4x2,

- Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain that position while moving the caster position forward in the truck.
- The final caster & camber settings must be within the specification limits

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE 2005 OR 2006 SUPER DUTY F-SERIES WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

Replace steering damper and frame mounting bracket

1. Remove existing steering damper and frame attachment bracket. Replace steering damper and frame mounting bracket with steering damper P/N 8C3Z-3E651-A and frame bracket P/N 7C3Z-3E652-C. Attach steering damper to frame bracket (with W706196-S439 bolt and W520114S441 nut) and torque bolt to 103 Nm. Assemble bracket and shock assembly to the frame with attachment bolt retainer (W712055-S439) pointing to rear of vehicle. Torque frame bracket nuts (W520114-S441) to 80 Nm. Attach other end of shock to the steering drag link and torque to 90 Nm. See figure X.
2. Add any corrections required for TOC
3. Add any corrections required for Battery Cable. Please check if damper bolt cap (W711670-S300) is required to have a more friendly surface for the battery cable in case of casual contact.

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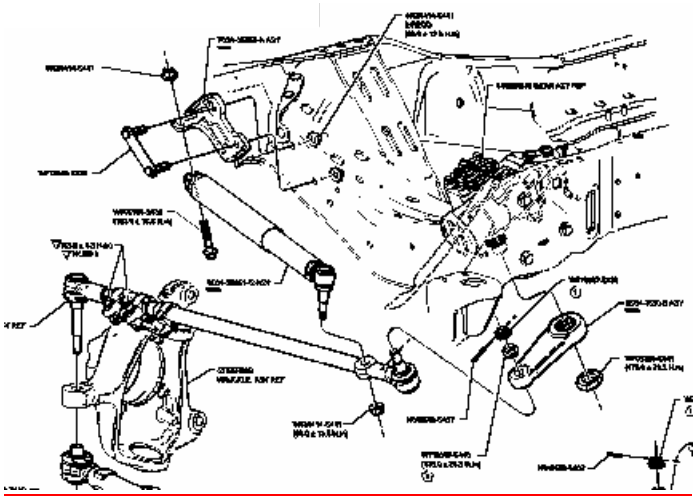

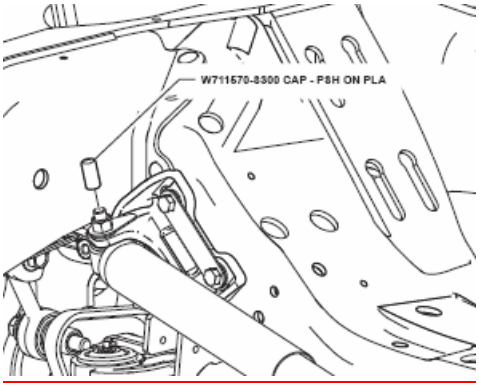

From: Repasky, Steve (S.)
Sent: Wednesday, February 21, 2007 2:33 PM
To: Benson, Keith (K.A.); Perry, Adam (A.F.)
Cc: Hwang, Hsiu-Ying (H.Y.); Barry, Jack (J.E.); Gompper, Dan (D.B.); Memmer, Mark (M.A.); Wegienka, Michael (M.J.); Choe, Mark (M.J.); Hodges, Cynthia (C.P.); O'Connor, Tammy (T.A.)
Subject: FW: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Keith/Adam - Need your assistance/package concurrence to get this TSB completed and out to the field. I had a review with Jack Barry and Hsiu-Ying Hwang yesterday with the following outcomes:

- Differences between the 2008 and 2008.5 Superduty steering damper and strg. damper bracket to frame were discussed and demonstrated.
- We need to determine if the Superduty vehicle test successfully completed by Adam was conducted with a 2008.5 level steering damper and steering damper bracket? (Adam - please confirm part numbers of tested parts).
- If the above statement regarding vehicle test is correct, would the package area sign-off on usage of the 2008 bracket and damper based on the 2008.5 component vehicle test?
- With package approval, the D&R activity would also agree to using the 2008 parts for the TSB until 2008.5 level parts are available.
- Note: 2008 level parts have been installed in the field on a few fleet vehicles without an apparent damage to the damper. I inspected one installation in Hobbs, N.M after ~ 800 miles of usage without any observed damage.
- Sign-off use of the 2008 components would allow issuance of this TSB in a timely manner.
- Waiting for 2008.5 part usage only would result in ~ 6 weeks delay due to unavailability of an adequate number of 08.5 brackets from the supplier to stock FCSD prior to TSB issuance.

Jack/Hsiu-Ying - Please provide clarification if necessary. Thanks..

From: O'Connor, Tammy (T.A.)
Sent: Thursday, February 15, 2007 9:21 AM
To: Hale, Curt (B.C.); Knapp, David (D.); Repasky, Steve (S.); Welch, Sharon (S.L.); O'Connor, Tammy (T.A.)
Subject: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

TSB Courtesy Copy
*** DRAFT ***

This message is being sent on behalf of TOCONNOR.
This is a courtesy copy of the following article to advise you this article is currently being processed for publication.

General Information

Last action taken (as of 2/15/2007 2:20:42 PM GMT):	Submit for approval
Comment:	updated the parts list to include damper part numbers for 250/350 4x2 and 450/550. I updated text to clarify that 4x2 and 450/550 do not use new damper - procedure

itself did not change, and included 4th causal part number.

Author: TOCONNOR
Tracking Number: [redacted]
Author Tracking Number: --
Title: 2005-2007 F-Super Duty - Steering Wheel Oscillation
Article Type: TSB

TSB Issue:
This article supersedes TSB 06-15-1 to update the Service Procedure.

Some 2005-2007 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion), immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on F-250/F-350 4X4 vehicles, and is more evident on trucks equipped with a gas engine.

TSB Action:
Refer to the Service Procedure to minimize the steering wheel oscillations on impacts, however, there may be some remaining minor oscillation which would be considered normal.

TSB Service Procedure:
SERVICE PROCEDURE SUMMARY

· Set tire pressure, road test vehicle to evaluate vehicle before proceeding with further repairs. If issue is resolved, do not proceed with the rest of this TSB
· If concern still exists, install a new steering damper (frame-mounted bracket and steering damper assembly on F-250/F-350 4X4 applications only). For F-250/F-350 4X2 and all F-450/F-550 applications, inspect damper for leaks and replace if necessary, torque steering and suspension fasteners per Workshop Manual
· If concern still exists, check front alignment and reduce front caster
· Replacement of redundant control steering wheel (if equipped and vehicle built prior to 10/8/2004).

VEHICLE INSPECTION - TIRE PRESSURE
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1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

NOTE: SETTING TIRE PRESSURE TO DOOR SPECIFICATION IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE.

ROAD TEST
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1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the customer's issue.
3. If no issues are identified during the road test, do not proceed with the rest of this TSB.

STEERING DAMPER AND FASTENER TORQUE CHECK

Replace Steering Damper & Frame Mounting Bracket (F-250/F-350 4X4); Inspect
---

Steering Damper (F-250/F-350 4X2 & all F-450/F-550):

For F-250/F-350 4x4 applications:

Remove existing steering damper and frame attachment bracket. Replace steering damper and frame mounting bracket with steering damper P/N 8C3Z-3E651-A and frame bracket P/N 7C3Z-3E652-C. Attach steering damper to frame bracket (with W706196-S439 bolt and W520114S441 nut) and torque bolt to 103 Nm. Assemble bracket and shock assembly to the frame with attachment bolt retainer (W712055-S439) pointing to rear of vehicle. Torque frame bracket nuts (W520114-S441) to 80 Nm. Attach other end of shock to the steering drag link and torque to 90 Nm. Install damper bolt cap (W711670-S300) to assure a friendly surface for the battery cable in case of casual contact.

Note: CHECK SURROUNDING ENVIRONMENT TO THE FRAME BRACKET AND DAMPER ASSEMBLY TO ENSURE THAT BATTERY CABLES ARE NOT CONTACTING BRACKET/BOLTS/DAMPER. ALSO, VERIFY THAT TRANSMISSION OIL COOLER LINES HAVE CLEARANCE TO THE DAMPER DUST SHIELD.

For F-250/F-350 4X2 & all F-450/F-550 applications only:

Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
If leaks are present, install a new steering damper.

STEERING/SUSPENSION FASTENER TORQUE CHECK (4X2 & 4X4)

1. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table below).

Description	Torque Specification (lb-ft/ Nm)	
	Lb-ft	Nm
Damper nuts (F-250/F-350 4X2)	59	80
Damper-to-bracket (F-250/F-350 4X4)	76	103
Damper-to-drag link	66	90
Drag link-to-pitman arm nut	129	175
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts and bolts	129	175
Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE.

FRONT WHEEL ALIGNMENT AND REDUCE FRONT CASTER

NOTE: OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

Measure wheel alignment. Verify that Front Caster, Camber, and Total Toe are within specification. Adjust as required. Refer to the Workshop Manual, Section 204-00 for complete alignment specifications.

REDUCE FRONT CASTER

- Note the current front caster
- Use alignment adjustment bushings to reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit. Use alignment adjustment bushings

F-250/350 4X4:

- 5C3Z-3B440-CCC (0.5 degree bushing)
- 5C3Z-3B440-DDD (0.75 degree bushing)
- 5C3Z-3B440-EEE (1.0 degree bushing)

F-450/550 4X4 and 4X2:

- 5C3Z-3B440-HHH (0.5 degree bushing)
- 5C3Z-3B440-JJJ (0.75 degree bushing)
- 5C3Z-3B440-KKK (1.0 degree bushing)

F-250/350 4X2:

- 5C3Z-3B440-C = 0.5 degree busing
- 5C3Z-3B440-D = 0.75 degree bushing
- 5C3Z-3B440-E = 1.0 degree bushing

For All 4X4 and for F-450/550 4X2

- Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward and inboard position (See Figure 1)
- This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed
- The final caster and camber settings must be within the specification limits
- Maintain the current front camber, cross-camber and cross-caster settings as close as you possibly can
- Adding weight behind the rear axle lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster

For All F-250/350 4X2,

- Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain that position while moving the caster position forward in the truck
- The final caster and camber settings must be within the specification limits

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 Only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual, Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.

4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

NOTE: LABOR OPERATIONS IN THIS TSB CAN BE CLAIMED TOGETHER.

NOTE: OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

Category: Service Fix (10 years - TSB Only)
Request Type: Non-QSF
Would this make a good cost save business case? No
Activity Code: 070 F-Series >8500#
Vehicle Applications:

Vehicle Lines	Model Year Start	Model Year End	Assembly Plants	Body Styles	Engine	Trans Axles	Build From	Build To
F-Super Duty (F-250 to 550)	2005	2007						

If SPECS Case, Select all Other Affected Publications:
Changes Needed in Other Pubs:
TSBs to Supersede: 06-15-1
SSMs to Supersede:
ISMs to Supersede:
Other application Articles:
Select the reason for republication: Incorrect Procedure
Procedure verified by CDSID: srepasky
Describe How The Procedure Was Verified: TSB was verified by Steve Repasky.
Do you have access to a vehicle for time study? Yes
If Yes, contact for vehicle CDSID: toconnor
Are Illustrations Required? Yes
If Yes, Contact information for illustrations:
CDSID(Ford only): toconnor
Full Name: Tammy O'Connor
Phone: 313/322-3824
Illustration Notes: Please use same illustrations from TSB 06-15-1.

Trustmarks affected: Ford
Additional Trustmarks To Notify:
Article Distribution: WDMO, Canada, Mexico, United States
DTC Codes and OASIS Service Codes: , 303000, 304000, 306000, 703000, 703000, 703200, 703200, 703300, 703300, 703400, 703400

Causal Basic Part # or Finis Code:

Causal Part # or Finis Code	Warranty Condition Codes
3E651 FRONT TIR	Chassis: 42

Calibrations List:

White Paper Numbers:

Parts Request Information

Are Parts Required? Yes
QSF Single Agenda Or Program FRC Date:
Parts List:

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
1	Existing	5C74-3F563-AB1D24	No	Not Applicable	STEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5C7Z-3600-ABA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
2	Existing	5C74-3F563-AB35B8	No	Not Applicable	sTEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5c7z-3600-CBA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
3	Existing	5C34-3D004-NA	No	Not Applicable	.5 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-C			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
4	Existing	5C34-3D004-CA	No	Not Applicable	.5 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-CCC			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
5	Existing	5C34-3D004-PA	No	Not Applicable	.75 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-D			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
6	Existing	5C34-3D004-DA	No	Not Applicable	-75 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-DDD			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
7	Existing	5C34-3D004-RA	No	Not Applicable	1.0 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-E			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
8	Existing	5C34-3D004-EA	No	Not Applicable	1.0 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-EEE			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
9	Existing	5C34-3D004-JA	No	Not Applicable	0.75 DEGREE SHIM	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-JJJ			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
10	Existing	5C34-3D004-KA	No	Not Applicable	1.0 DEGREE SHIM	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-KKK			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
11	Existing	W520117-S441	No	Not Applicable	NUT - HEX - RH THREA	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			G229J	W520117-S441			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
12	Existing	W706196-S439	No	Not Applicable	Bolt	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			G229J	W706196-S439			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
13	Existing	7c343e652ac	No	Not Applicable	Bracket	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				7c3z3e652c			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
14	Existing	8C34-3E651-CB	No	Not Applicable	Damper 250/350 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			T407H	8C3Z-3E651-C			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
15	Existing	5C34-3E651-CH	No	Not Applicable	Damper 450/550 ALL	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			Q29AA	5C3Z- 3E651-D			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed

16	Existing	5C34-3E651-BG	No	Not Applicable	Damper 250/350 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			Q29AA	5C3Z- 3E651-B			No

Parts catalog flag needed? No
Part number(s) that require flag:
Is geographic location significant? No
Special instructions/remarks: We want to have 4 causal part numbers as follows:
1. 3E651 = Steering Dampner
2. FRONT = Alignment
3. TIRE = Tire Pressure
4. NPF = No Problem Found

This TSB is being updated to include a revised steering damper.

Article Number:
BCM Number:

(End automated email)

From: Memmer, Mark (M.A.)
Sent: Monday, May 07, 2007 8:47 AM
To: Hwang, Hsiu-Ying (H.Y.)
Subject: FW: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Hsiu-Ying-- Could you check the part numbers and the service part numbers for your parts on the parts request information listed at the bottom of this note. Need to get this released to the field asap.
Thanks

Mark Memmer
P356/P473 Vehicle Dynamics
Cell: (313) 805-2042

From: O'Connor, Tammy (T.A.)
Sent: Tuesday, May 01, 2007 10:30 AM
To: Gompper, Dan (D.B.)
Cc: Memmer, Mark (M.A.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

No, Engineering needs to be more timely -- we have been getting complaints from the field - so I needed to get this submitted (I am only aware of 1 wrong part number).

Tammy A. O'Connor
Product Concern Engineer
FCSD Service Engineering Operations
Super Duty F-Series
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSC I, Cube 149 (Tuesday,Wednesday)

From: Gompper, Dan (D.B.)
Sent: Tuesday, May 01, 2007 10:28 AM
To: O'Connor, Tammy (T.A.)
Cc: Memmer, Mark (M.A.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

did you get input from Hsiu-ying on the part numbers? I was just asking Mark Memmer to follow-up with her.

Dan Gompper
SuperDuty Vehicle Dynamics Supervisor
EVB 2E-L01
Cellphone: (313) 805-2039
Email: dgompper@ford.com
text page: 3138052039@sprintpcs.messaging.com

From: O'Connor, Tammy (T.A.)
Sent: Tuesday, May 01, 2007 10:13 AM
To: Hale, Curt (B.C.); Hodges, Cynthia (C.P.); Gompper, Dan (D.B.); Knapp, David (D.); Hwang, Hsiu-Ying (H.Y.); Welch, Sharon (S.L.); O'Connor, Tammy (T.A.)
Subject: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

TSB Courtesy Copy

*** NOTE: The system generated the email. Do not reply to this email ***
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This message is being sent on behalf of TOCONNOR.
This is a courtesy copy of the following article to advise you this article is currently being processed for publication.

General Information

Last action taken (as of 5/1/2007 2:12:54 PM GMT): Submit for approval
Comment:

Author:	TOCONNOR
Tracking Number:	[redacted]
Author Tracking Number:	--
Title:	2005-2007 F-Super Duty - Steering Wheel Oscillation
Article Type:	TSB

TSB Issue:
This article supersedes TSB 07-05-07 to update an incorrect part number.

Some 2005-2007 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion), immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on F-250/F-350 4X4 vehicles, and is more evident on trucks equipped with a gas engine.

TSB Action:
Refer to the Service Procedure to minimize the steering wheel oscillations on impacts, however, there may be some remaining minor oscillation which would be considered normal.

TSB Service Procedure:
SERVICE PROCEDURE SUMMARY

- Set tire pressure, road test vehicle to evaluate vehicle before proceeding with further repairs. If issue is resolved, do not proceed with the rest of this TSB
- If concern still exists, install a new steering damper (frame-mounted bracket and steering damper assembly on F-250/F-350 4X4 applications only). For F-250/F-350 4X2 and all F-450/F-550 applications, inspect damper for leaks and replace if necessary, torque steering and suspension fasteners per Workshop Manual
- If concern still exists, check front alignment and reduce front caster
- Replacement of redundant control steering wheel (if equipped and vehicle built prior to 10/8/2004).

VEHICLE INSPECTION - TIRE PRESSURE
---
1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

NOTE: SETTING TIRE PRESSURE TO DOOR SPECIFICATION IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE.

ROAD TEST

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the customer's issue.
3. If no issues are identified during the road test, do not proceed with the rest of this TSB.

STEERING DAMPER AND FASTENER TORQUE CHECK

Replace Steering Damper & Frame Mounting Bracket (F-250/F-350 4X4); Inspect

Steering Damper (F-250/F-350 4X2 & all F-450/F-550):

For F-250/F-350 4x4 applications:

Remove existing steering damper and frame attachment bracket. Replace steering damper and frame mounting bracket with steering damper and frame bracket. Attach steering damper to frame bracket (with bolt and nut) and torque bolt to 103 Nm. Assemble bracket and shock assembly to the frame with attachment bolt retainer pointing to rear of vehicle. Torque frame bracket nuts to 80 Nm. Attach other end of shock to the steering drag link and torque to 90 Nm. Install damper bolt cap to assure a friendly surface for the battery cable in case of casual contact.

Note: CHECK SURROUNDING ENVIRONMENT TO THE FRAME BRACKET AND DAMPER ASSEMBLY TO ENSURE THAT BATTERY CABLES ARE NOT CONTACTING BRACKET/BOLTS/DAMPER. ALSO, VERIFY THAT TRANSMISSION OIL COOLER LINES HAVE CLEARANCE TO THE DAMPER DUST SHIELD.

For F-250/F-350 4X2 & all F-450/F-550 applications only:

Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
If leaks are present, install a new steering damper.

STEERING/SUSPENSION FASTENER TORQUE CHECK (4X2 & 4X4)

1. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table below).

Description	Torque Specification (lb-ft/ Nm)	
	Lb-ft	Nm
Damper nuts (F-250/F-350 4X2)	59	80
Damper-to-bracket (F-250/F-350 4X4)	76	103
Damper-to-drag link	66	90
Drag link-to-pitman arm nut	129	175
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts and bolts	129	175
Track bar-to-track bar bracket bolt	406	550

Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE.

FRONT WHEEL ALIGNMENT AND REDUCE FRONT CASTER

NOTE: OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

Measure wheel alignment. Verify that Front Caster, Camber, and Total Toe are within specification. Adjust as required. Refer to the Workshop Manual, Section 204-00 for complete alignment specifications.

REDUCE FRONT CASTER

- Note the current front caster
- Use alignment adjustment bushings to reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit. Use alignment adjustment bushings

F-250/350 4X4:

- 5C3Z-3B440-CCC (0.5 degree bushing)
- 5C3Z-3B440-DDD (0.75 degree bushing)
- 5C3Z-3B440-EEE (1.0 degree bushing)

F-450/550 4X4 and 4X2:

- 5C3Z-3B440-HHH (0.5 degree bushing)
- 5C3Z-3B440-JJJ (0.75 degree bushing)
- 5C3Z-3B440-KKK (1.0 degree bushing)

F-250/350 4X2:

- 5C3Z-3B440-C = 0.5 degree busing
- 5C3Z-3B440-D = 0.75 degree bushing
- 5C3Z-3B440-E = 1.0 degree bushing

For All 4X4 and for F-450/550 4X2

- Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward and inboard position (See Figure 1)
- This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed
- The final caster and camber settings must be within the specification limits
- Maintain the current front camber, cross-camber and cross-caster settings as close as you possibly can
- Adding weight behind the rear axle lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster

For All F-250/350 4X2,

- Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain that position while moving the caster position forward in the truck

- The final caster and camber settings must be within the specification limits

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 Only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual, Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

NOTE: LABOR OPERATIONS IN THIS TSB CAN BE CLAIMED TOGETHER.

NOTE: OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

Category: Service Fix (10 years - TSB Only)
Request Type: Non-QSF
Would this make a good cost save business case? No
Activity Code: 070 F-Series >8500#
Vehicle Applications:

Vehicle Lines	Model Year Start	Model Year End	Assembly Plants	Body Styles	Engine	Trans Axles	Build From	Build To
F-Super Duty (F-250 to 550)	2005	2007						

If SPECS Case, Select all Other Affected Publications:
Changes Needed in Other Pubs:
TSBs to Supersede: 07-05-07
SSMs to Supersede:
ISMs to Supersede:
Other application Articles:
Select the reason for republication: Incorrect Procedure
Procedure verified by CDSID: DGOMPPER
Describe How The Procedure Was Verified: TSB was verified by Dan Gompper.
Do you have access to a vehicle for time study? Yes
If Yes, contact for vehicle CDSID: toconnor
Are Illustrations Required? Yes
If Yes, Contact information for illustrations:
CDSID(Ford only): toconnor
Full Name: Tammy O'Connor
Phone: 313/322-3824
Illustration Notes: Please use same illustrations from TSB 06-15-1.

Trustmarks affected: Ford
Additional Trustmarks To Notify:

Article Distribution: WDMO, Canada, Mexico, United States
DTC Codes and OASIS Service Codes: , 303000, 304000, 306000, 703000, 703000, 703200, 703200, 703300, 703300, 703400, 703400

Causal Basic Part # or Finis Code:

Causal Part # or Finis Code	Warranty Condition Codes
3E651 FRONT TIR	Chassis: 42

Calibrations List:

White Paper Numbers:

Parts Request Information

Are Parts Required? Yes
QSF Single Agenda Or Program FRC Date:
Parts List:

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
1	Existing	5C74-3F563-AB1D24	No	Not Applicable	STEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5C7Z-3600-ABA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
2	Existing	5C74-3F563-AB35B8	No	Not Applicable	sTEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5c7z-3600-CBA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
3	Existing	5C34-3D004-NA	No	Not Applicable	.5 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-C			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
4	Existing	5C34-3D004-CA	No	Not Applicable	.5 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						

	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-CCC			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
5	Existing	5C34-3D004-PA	No	Not Applicable	.75 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-D			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
6	Existing	5C34-3D004-DA	No	Not Applicable	-75 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-DDD			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
7	Existing	5C34-3D004-RA	No	Not Applicable	1.0 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-E			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
8	Existing	5C34-3D004-EA	No	Not Applicable	1.0 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-EEE			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
9	Existing	5C34-3D004-JA	No	Not Applicable	0.75 DEGREE SHIM	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						

@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			5C3Z-3B440-JJJ			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
10	Existing	5C34-3D004-KA	No	Not Applicable	1.0 DEGREE SHIM	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-KKK			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
11	Existing	W520117-S441	No	Not Applicable	NUT - HEX - RH THREA	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			G229J	W520117-S441			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
12	Existing	W706196-S439	No	Not Applicable	Bolt	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			G229J	W706196-S439			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
13	Existing	7c343e652ac	No	Not Applicable	Bracket	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				7c3z3e652c			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
14	Existing	8C34-3E651-CB	No	Not Applicable	Damper 250/350 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed

			T407H	8C3Z-3E651-C			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
15	Existing	5C34-3E651-CH	No	Not Applicable	Damper 450/550 ALL	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			Q29AA	5C3Z- 3E651-D			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
16	Existing	5C34-3E651-BG	No	Not Applicable	Damper 250/350 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			Q29AA	5C3Z- 3E651-B			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
17	Existing	W711570-S300	No	Not Applicable	CAP - SHOCK ABSORBER	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				W711570-S300			No

Parts catalog flag needed? No
Part number(s) that require flag:
Is geographic location significant? No
Special instructions/remarks: We want to have 4 causal part numbers as follows:
1. 3E651 = Steering Dampner
2. FRONT = Alignment
3. TIRE = Tire Pressure
4. NPF = No Problem Found

This TSB is being updated to include a revised steering damper.

Article Number:
BCM Number:

(End automated email)

From: O'Connor, Tammy (T.A.)
Sent: Wednesday, October 12, 2005 10:40 AM
To: Trower, Ron (R.D.)
Subject: FW: TSB for Steering Wheel Shimmy

Attachments: [redacted] TSB Steering Wheel Shimmy Update 09 29 pmrev.doc

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Wed,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Thursday)

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-----Original Message-----
From: Mayer, Paul (P.A.)
Sent: Monday, October 03, 2005 1:10 PM
To: O'Connor, Tammy (T.A.); Repasky, Steve (S.)
Cc: Zeitz, Keith (K.A.); Smith, Ron (R.A.)
Subject: RE: TSB for Steering Wheel Shimmy

I had three edits under the reduce caster section. They are in red

KEITH, do you have to approve these before they go out ?

[redacted] TSB Steering Whe...

Regards
Paul Mayer
Truck Suspension and Systems Analysis
313-248-9202 Fax:313-317-2349

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Monday, October 03, 2005 11:01 AM
To: Mayer, Paul (P.A.); Repasky, Steve (S.)
Subject: TSB for Steering Wheel Shimmy

<< File: [redacted] TSB Steering Wheel Shimmy Update 09 29 tao.doc >>

Attached is the draft TSB that I just submitted for final publication.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations

Super Duty F-Series / Excursion
Body / Chassis / Electrical
248/814-8698 Telecommuting Office (Mon,Wed,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Thursday)

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ISSUE:

Some 2005-2006 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion) immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on 4x4 vehicles, and is more evident on trucks equipped with a gas engine.

ACTION:

This procedure will minimize the steering wheel oscillations on impacts; however, there may be some remaining minor oscillation, which would be considered normal.
Perform the following:

- Vehicle Inspection
- Evaluation Of Vehicle Prior To Repair
- Steering Gear Mesh Load Adjustment
- Front Alignment and Reduce front caster
- Replacement Of Redundant Control Steering Wheel (if equipped and vehicle built prior to 10/8/04)

SERVICE PROCEDURE

VEHICLE INSPECTION

1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

NOTE: SETTING TIRE PRESSUE TO DOOR SPEC IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

2. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
    a. If leaks are present, install a new steering damper and continue with this TSB.
    b. If no leaks are present, continue with this TSB.

3. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table # below).

Description	Torque Specification (lb-ft/ Nm)	
	Lb-ft	Nm
Damper nuts (4x2)	59	80
Damper-to-bracket (F-250, F-350 4x4)	26	35
Damper-to-drag link	67	91
Drag link-to-pitman arm nut	148	201
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts & bolts	129	175
Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

EVALUATION OF VEHICLE PRIOR TO REPAIR

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the severity of wheel oscillation.

3. During the road test, evaluate and note the steering wheel return-ability.
    a. Turn steering wheel full lock to lock to confirm no binding.

b. Locate center, and then 45 degrees either side of center on the steering wheel.
c. Driving vehicle at 35 MPH (56 Km/h), on a dry and flat road surface, turn the wheel 45 degrees and release. Note the approximate angle that the steering wheel returns to BEFORE CLEAR VISION. Perform and record the angle for both left and right. It is normal if the angle differs slightly from left to right.

STEERING GEAR MESH LOAD ADJUSTMENT

1. Insert hex wrench into steering gear mesh load adjuster screw.
2. While holding the mesh load adjuster screw tight, back off lock nuts two full turns to allow free movement of the adjuster screw.
3. Carefully tighten adjuster screw until a slight increase in resistance is felt, then back off approximately 1/16th of a turn.
4. Hold the adjuster screw in place and tighten lock nut. Do not allow the adjustment screw to turn while tightening the locking nut down.
5. Road test vehicle and evaluate for improvement in steering wheel oscillations.
    a. Confirm that there is no objectionable increase in steering efforts, especially at low speeds.
    b. Verify that steering wheel return-ability is approximately the same as it was during the original evaluation (within 5 degrees).
    c. Turn steering wheel full lock to lock to confirm no binding.
6. Park the vehicle to let it cool down. Road test cold to confirm acceptable parking efforts and return-ability in cold condition. Repeat the mesh load adjustment if needed.

FRONT WHEEL ALIGNEMENT AND REDUCE FRONT CASTER

Measure wheel alignment. Verify that Front Caster, Camber & Total Toe is within specification. Adjust as required. Refer to the Workshop Manual, Section 2004-00-1 for complete alignment specifications.

REDUCE FRONT CASTER

- Note the current front caster
- Use alignment adjustment bushings to Reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit.
- Use Alignment adjustment bushings:

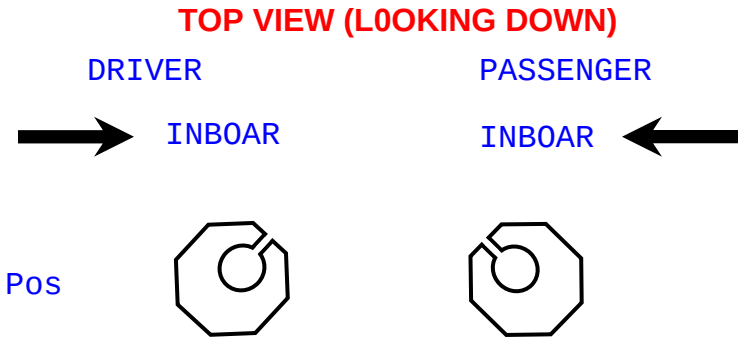
    - **F-250/350 4x4 (use one of the below bushings):**
      5C3Z-3B440-CCC (0.5 degree bushing)
      5C3Z-3B440-DDD (0.75 Degree bushing)
      5C3Z-3B440-EEE (1.0 degree bushing)

    - **F-450/550 4x4 & 4x2(use one of the below bushings)**:
        - 5C3Z-3B440-HHH (0.5 Degree bushing)
        - 5C3Z-3B440-JJJ (0.75 Degree bushing)
        - 5C3Z-3B440-KKK (1.0 degree bushing)

- F-250/350 4x2**(use one of the below bushings)**:
  - 5C3Z-3B440-C = 0.5 degree busing
  - 5C3Z-3B440-D = 0.75 degree bushing
  - 5C3Z-3B440-E = 1.0 degree bushing

For All 4x4 and for F-450/550 4x2,

- Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward & inboard position (See below picture)
- This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed.
- The final caster & camber settings must be within the specification limits



- Maintain the current front camber, cross-camber & cross-caster settings as close as you possibly can.
- Adding weight to the back lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster.

For All F-350/250 4x2,

- Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain that position while moving the caster position forward in the truck.
- The final caster & camber settings must be within the specification limits

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT

CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE 2005 OR 2006 SUPER DUTY F-SERIES WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

From: Welch, Sharon (S.L.)
Sent: Friday, February 16, 2007 4:15 PM
To: O'Connor, Tammy (T.A.)
Subject: FW: TSB Request for Input: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation
Importance: High

Tammy,
This is the note I was talking about that spells out there are 3 different dampers.

P.S. We can not move forward with this TSB yet. They have not tested the 08 parts (damper and bracket) to ensure they will fit without clearance issues on the 2007-2007 vehicles. The test that was performed was using 08.5 parts. Jack Barry, Hwang, Hsiu-Ying, and Steve Repasky are suppose to meet on Monday to discuss next steps.

Sharon Welch
FCSD Program Manager - Warranty Task Force
Fairlane Business Park 3 246F
Phone (313) 24-83499

From: Barry, Jack (J.E.)
Sent: Saturday, February 03, 2007 8:37 AM
To: Welch, Sharon (S.L.)
Cc: Hodges, Cynthia (C.P.)
Subject: FW: TSB Request for Input: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Please see Hsui-Ying's note below. We still have some issues to resolve before this TSB is ready.

Jack Barry

Truck Chassis Steering
Cell Phone ☎: 313-805-0193
Fax 🖹: 845-8551
Address: PDC 1BC42

From: Hwang, Hsiu-Ying (H.Y.)
Sent: Friday, February 02, 2007 5:14 PM
To: O'Connor, Tammy (T.A.)
Cc: Gompper, Dan (D.B.); Memmer, Mark (M.A.); Hodges, Cynthia (C.P.); Benson, Keith (K.A.); Hwang, Hsiu-Ying (H.Y.); Choe, Mark (M.J.); Barry, Jack (J.E.); Hwang, Hsiu-Ying (H.Y.)
Subject: RE: TSB Request for Input: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

My suggested corrections are marked in RED.

As agreed, the replacing P131 damper & bracket with 2008 P356 part is only for F250/350 4x4, not for others (i.e.

not for TIB, neither for F450/550). We should clearly state it. And this TSB could be approved based evaluation on P131 vehicle with 08 P356 steering damper/bracket if there is no contact to surrounding parts. However, the vehicle evaluation data is not reviewed to the affected D&R engineers.

When 2008.5 P356 launched, another Vehicle evaluation (P131 vehicle with 2008.5 P356 steering damper/bracket) should be performed. Since 2008.5 has different damper bracket, the relationship between steering damper and surrounding parts is different from 2008's.

Please let me know if threre is any question. Thank you.

Regards,
Hsiu-Ying Hwang
Steering/Chassis Engineer
Certified Integrated Black Belt
Tel/Pager: 313-805-3873

From: Repasky, Steve (S.)
Sent: Thursday, January 25, 2007 12:33 PM
To: Gompper, Dan (D.B.); Memmer, Mark (M.A.); Hodges, Cynthia (C.P.); Benson, Keith (K.A.); Hwang, Hsiu-Ying (H.Y.)
Cc: O'Connor, Tammy (T.A.); Choe, Mark (M.J.); Barry, Jack (J.E.)
Subject: FW: TSB Request for Input: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

For your review. I think the section under inspect damper for leaks under steering damper inspection in the first part of the TSB needs to be eliminated. Please review and comment directly to Tammy. Also, please verify torques for front end components. Thanks...

Tammy - is a time study required for the 4x4 shock replacement procedure?

From: O'Connor, Tammy (T.A.)
Sent: Thursday, January 25, 2007 10:39 AM
To: Hale, Curt (B.C.); Knapp, David (D.); Repasky, Steve (S.); Welch, Sharon (S.L.); O'Connor, Tammy (T.A.)
Subject: TSB Request for Input: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

TSB Request for Input
*** DRAFT ***

This message is being sent on behalf of TOCONNOR.
Please provide review and feedback for the article below. The person requesting this feedback may have provided further direction in the comment section below. Forward/Send any comments via email to the person who sent this email.
General Information

Last action taken (as of 1/25/2007 3:39:20 PM GMT):	Send for engineering input
Comment:	Please review and forward any suggested changes/comments to Tammy O'Connor no later than Monday, January 29th - at which time it will be submitted for publication.
Author:	TOCONNOR

Tracking Number: [redacted]
Author Tracking Number: --
Title: 2005-2007 F-Super Duty - Steering Wheel Oscillation
Article Type: TSB

TSB Issue:
Some 2005-2007 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion), immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer
than five oscillations. This condition occurs mostly on F250/F350 4X4 vehicles, and is more evident on trucks equipped with a gas engine.

TSB Action:
Refer to the tsb Service Procedure to minimize the steering wheel oscillations on impacts, however, there may be some remaining minor oscillation which would be considered normal.

TSB Service Procedure:
SERVICE PROCEDURE SUMMARY

· Set tire pressure, road test vehicle to evaluate vehicle before proceeding with further repairs. If issue is resolved, do not proceed with the rest of this TSB
· If concern still exists, ~~check steering damper for leaks~~; torque steering and suspension fasteners per Workshop Manual.
· If concern still exists, check front alignment and reduce front caster
· If concern still exists, install a new steering damper frame mounted bracket and steering damper assembly (F250/F350 4X4 applications only). For all other ~~4x2~~ applications, inspect damper for leaks and replace as required with damper 5C3Z-3E651-D for all F450/550, and with 5C3Z-3E651-B for F250/F350 4x2 ~~only~~.
· Replacement of redundant control steering wheel (if equipped and vehicle built prior to 10/8/2004).

VEHICLE INSPECTION - TIRE PRESSURE
---
1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

NOTE: SETTING TIRE PRESSURE TO DOOR SPECIFICATION IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE.

ROAD TEST
---
1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the customer's issue.
3. If no issues are identified during the road test, do not proceed with the rest of this TSB.

~~STEERING DAMPER INSPECTION AND STEERING/~~SUSPENSION FASTENER TORQUE CHECK

---

1. ~~Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.~~
   ~~a. If leaks are present, install a new steering damper.~~
2. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table below).

Description	Torque Specification (lb-ft/ Nm) Lb-ft	Nm
Damper nuts (F250/F350 4X2)	59 ~~66~~	80 ~~90~~
Damper-to-bracket (F-250, F-350 4X4)	76	103
Damper-to-drag link	66	90
Drag link-to-pitman arm nut	129	175
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts and bolts	129	175
Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

* Note: F250/350 4x2 will continue using 5C3Z-3E651-B, so the torque will remain as carry-over torque.

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE.

FRONT WHEEL ALIGNMENT AND REDUCE FRONT CASTER

NOTE: OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

Measure wheel alignment. Verify that Front Caster, Camber, and Total Toe are within specification. Adjust as required. Refer to the Workshop Manual, Section 204-00 for complete alignment specifications.

REDUCE FRONT CASTER

- Note the current front caster
- Use alignment adjustment bushings to reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit. Use alignment adjustment bushings

F-250/350 4X4:
· 5C3Z-3B440-CCC (0.5 degree bushing)
· 5C3Z-3B440-DDD (0.75 degree bushing)
· 5C3Z-3B440-EEE (1.0 degree bushing)

F-450/550 4X4 and 4X2:

· 5C3Z-3B440-HHH (0.5 degree bushing)
· 5C3Z-3B440-JJJ (0.75 degree bushing)
· 5C3Z-3B440-KKK (1.0 degree bushing)

F-250/350 4X2:
· 5C3Z-3B440-C 0.5 degree busing
· 5C3Z-3B440-D 0.75 degree bushing
· 5C3Z-3B440-E 1.0 degree bushing

For All 4X4 and for F-450/550 4X2
· Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward and inboard position (See Figure 1)
· This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed
· The final caster and camber settings must be within the specification limits
· Maintain the current front camber, cross-camber and cross-caster settings as close as you possibly can
· Adding weight behind the rear axle lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster

For All F-250/350 4X2,
· Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain that position while moving the caster position forward in the truck
· The final caster and camber settings must be within the specification limits

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE.

STEERING DAMPER INSPECTION AND REPLACE STEERING DAMPNER AND FRAME MOUNTING BRACKET

~~For 4x2 applications only:~~

~~Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.~~
~~If leaks are present, install a new steering damper (5C3Z-3E651-B).~~

For F250/F350 4x4 applications:

Remove existing steering damper and frame attachment bracket. Replace steering damper and

frame mounting bracket with steering damper P/N 8C3Z-3E651-A and frame bracket P/N 7C3Z-3E652-C. Attach steering damper to frame bracket (with W706196-S439 bolt and W520114-S441 nut) and torque bolt to 103 Nm. Assemble bracket and damper ~~shock~~ assembly to the frame with attachment bolt retainer (W712055-S439) pointing to rear of vehicle. Torque frame bracket nuts (W520114-S441) to 80 Nm. Attach other end of damper ~~shock~~ to the steering drag link and torque to 90 Nm. See figure X. (Needs a number).

Install damper bolt cap (W711670-S300) to assure a friendly surface for the battery cable in case of casual contact.

Note: CHECK SURROUNDING ENVIRONMENT TO THE FRAME BRACKET AND DAMPER ASSEMBLY TO ENSURE THAT BATTERY CABLES ARE NOT CONTACTING BRACKET/BOLTS/DAMPER. ALSO, VERIFY THAT TRANSMISSION OIL COOLER LINES HAVE CLEARANCE TO THE DAMPER DUST SHIELD.

(INSERT FIGURE HERE)

For All Other applications (F250/F350 4x2 and All F450/F550):

1. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
2. If leaks are present, install a new steering damper **(5C3Z-3E651-D for F450/F550, and 5C3Z-3E651-B for F250/350 4x2).**

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 Only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual, Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

NOTE: LABOR OPERATIONS IN THIS TSB CAN BE CLAIMED TOGETHER.

NOTE: OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

Category:	Service Fix (10 years - TSB Only)
Request Type:	Non-QSF
Would this make a good cost save business case?	No
Activity Code:	070 F-Series >8500#
Vehicle Applications:	

Vehicle Lines	Model Year Start	Model Year End	Assembly Plants	Body Styles	Engine	Trans Axles	Build From	Build To
F-Super Duty (F-250 to 550)	2005	2007						

If SPECS Case, Select all Other Affected Publications:
Changes Needed in Other Pubs:
TSBs to Supersede: 06-15-1
SSMs to Supersede:
ISMs to Supersede:
Other application Articles:
Select the reason for republication: Incorrect Procedure
Procedure verified by CDSID: srepasky
Describe How The Procedure Was Verified: TSB was verified by Steve Repasky.
Do you have access to a vehicle for time study? Yes
If Yes, contact for vehicle CDSID: toconnor
Labor Operations:

Are Illustrations Required? Yes
If Yes, Contact information for illustrations:
CDSID(Ford only): toconnor
Full Name: Tammy O'Connor
Phone: 313/322-3824
Illustration Notes: Please use same illustrations from TSB 06-15-1.

Trustmarks affected: Ford
Additional Trustmarks To Notify:
Article Distribution: WDMO, Canada, Mexico, United States
DTC Codes and OASIS Service Codes: , 303000, 304000, 306000, 703000, 703000, 703200, 703200, 703300, 703300, 703400, 703400

Causal Basic Part # or Finis Code:

Causal Part # or Finis Code	Warranty Condition Codes
3E651 FRONT TIR	Chassis: 42

Calibrations List:

White Paper Numbers:

Parts Request Information

Are Parts Required? Yes
QSF Single Agenda Or Program FRC Date:
Parts List:

	*Type of		*Is This	*Existing			*Engineering	

	Part	*Eng #	Part a Kit?	Stock#	*Part Name	*Qty/veh.	Est. Qty. Needed
	Existing	5C74-3F563-AB1D24	No	Not Applicable	STEERING WHEEL ASY	1	100
1	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5C7Z-3600-ABA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C74-3F563-AB35B8	No	Not Applicable	sTEERING WHEEL ASY	1	100
2	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5c7z-3600-CBA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-NA	No	Not Applicable	.5 DEGREE SHIM 4X2	1	100
3	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-C			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
		5C34-			.5		

	Existing	3D004-CA	No	Not Applicable	DEGREE SHIM 4X4	1	100
	***Calculated Forecast**		***@WERS Notice #**		***@WERS Date Released**		***@Supplier Company**
4	126						
	@1st Contact	**@1st Contact Phone**	**Source Code**	**Service #**	**Replaced SVC #**	**°Replaced Eng. #**	**°Is Calibration Needed**
				5C3Z-3B440-CCC			No

	***Type of Part**	***Eng #**	***Is This Part a Kit?**	***Existing Stock#**	***Part Name**	***Qty/veh.**	***Engineering Est. Qty. Needed**
	Existing	5C34-3D004-PA	No	Not Applicable	.75 DEGREE SHIM 4X2	1	100
	***Calculated Forecast**		***@WERS Notice #**		***@WERS Date Released**		***@Supplier Company**
5	126						
	@1st Contact	**@1st Contact Phone**	**Source Code**	**Service #**	**Replaced SVC #**	**°Replaced Eng. #**	**°Is Calibration Needed**
				5C3Z-3B440-D			No

	***Type of Part**	***Eng #**	***Is This Part a Kit?**	***Existing Stock#**	***Part Name**	***Qty/veh.**	***Engineering Est. Qty. Needed**
	Existing	5C34-3D004-DA	No	Not Applicable	-75 DEGREE SHIM 4X4	1	100
	***Calculated Forecast**		***@WERS Notice #**		***@WERS Date Released**		***@Supplier Company**
6	126						
	@1st Contact	**@1st Contact Phone**	**Source Code**	**Service #**	**Replaced SVC #**	**°Replaced Eng. #**	**°Is Calibration Needed**
				5C3Z-3B440-DDD			No

	***Type of Part**	***Eng #**	***Is This Part a Kit?**	***Existing Stock#**	***Part Name**	***Qty/veh.**	***Engineering Est. Qty. Needed**
	Existing	5C34-3D004-RA	No	Not Applicable	1.0 DEGREE SHIM 4X2	1	100

	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
7	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-E			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-EA	No	Not Applicable	1.0 DEGREE SHIM 4X4	1	100
8	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-EEE			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-JA	No	Not Applicable	0.75 DEGREE SHIM	1	100
9	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-JJJ			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-KA	No	Not Applicable	1.0 DEGREE SHIM	1	100
10	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						

	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-KKK			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	W520117-S441	No	Not Applicable	NUT - HEX - RH THREA	1	100
11	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			G229J	W520117-S441			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	W706196-S439	No	Not Applicable	Bolt	1	100
12	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			G229J	W706196-S439			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	7c343e652ac	No	Not Applicable	Bracket	1	100
13	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				7c3z3e652c			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	8C34-3E651-CB	No	Not Applicable	Dampner Asy	1	100
14	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			T407H	8C3Z-3E651-C			No

Parts catalog flag needed? No
Part number(s) that require flag:
Is geographic location significant? No
Special instructions/remarks: We want to have 3 causal part numbers as follows:
1. 3E651 Steering Dampner
2. FRONT Alignment
3. TIRE Tire Pressure

Article Number:
BCM Number:

(End automated email)

From: Seufert, David (D.C.)
Sent: Monday, April 30, 2007 1:29 PM
To: Hwang, Hsiu-Ying (H.Y.)
Cc: O'Connor, Tammy (T.A.)
Subject: FW: TSB Request for Input: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Hsiu-Ying:

Is WERS release set up with 2008 F250/350 part as the replacement for the 2005-2007 part? Also, is it specified to continue using 2005-2007 part for F450? I want to be sure that when service replaces a damper for a 2005-2007 F250/350, it is replaced with the new damper.

Thanks,

David C. Seufert
Ford Motor Co.
Kentucky Truck Plant
PVT - Ride and Handling
Phone: (502) 429-2568
Cell: (313) 805-2172
FAX: (502) 429-2111

From: O'Connor, Tammy (T.A.)
Sent: Monday, April 30, 2007 12:29 PM
To: Gompper, Dan (D.B.); Hwang, Hsiu-Ying (H.Y.); Rodgers, David (D.L.)
Cc: Hale, Curt (B.C.); Knapp, David (D.); Welch, Sharon (S.L.); Seufert, David (D.C.); Hasselbring, D Blake (D.B.)
Subject: RE: TSB Request for Input: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

I've received no feedback from Engineering, I would like to get this submitted for publication this week. Please respond with any changes no later than Wednesday, May 2nd.

Tammy A. O'Connor
Product Concern Engineer
FCSD Service Engineering Operations
Super Duty F-Series
Body / Chassis / Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSC I, Cube 149 (Tuesday,Wednesday)

From: Gompper, Dan (D.B.)
Sent: Thursday, April 26, 2007 7:58 AM
To: Hwang, Hsiu-Ying (H.Y.); Rodgers, David (D.L.)

Cc: O'Connor, Tammy (T.A.); Hale, Curt (B.C.); Knapp, David (D.); Welch, Sharon (S.L.); Seufert, David (D.C.); Hasselbring, D Blake (D.B.)
Subject: RE: TSB Request for Input: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Dave, Hsiu-Ying --

Can you quickly revise with the correct part numbers so Tammy can re-submit? I'm attaching the earlier note I have from you, Hsiu-Ying.

Please keep us informed on status.

Thanks,

Dan Gompper
SuperDuty Vehicle Dynamics Supervisor
EVB 2E-L01
Cellphone: (313) 805-2039
Email: dgompper@ford.com
text page: 3138052039@sprintpcs.messaging.com

From: O'Connor, Tammy (T.A.)
Sent: Wednesday, April 25, 2007 4:05 PM
To: Hale, Curt (B.C.); Hodges, Cynthia (C.P.); Gompper, Dan (D.B.); Knapp, David (D.); Hwang, Hsiu-Ying (H.Y.); Welch, Sharon (S.L.); O'Connor, Tammy (T.A.)
Subject: TSB Request for Input: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

TSB Request for Input

***** NOTE: The system generated the email. *****

This message is being sent on behalf of TOCONNOR.
Please provide review and feedback for the article below. The person requesting this feedback may have provided further direction in the comment section below. Forward/Send any comments via email to the person who sent this email.

General Information

Last action taken (as of 4/25/2007 8:04:59 PM GMT):	Send for engineering input
Comment:	This TSB is being re-published due to incorrect part numbers in text of TSB. Part Numbers should be included in parts list, and not directly in text of TSB. Please review and forward any suggested changes to TOCONNOR no later than COB Friday, April 27th.
Author:	TOCONNOR
Tracking Number:	[redacted]
Author Tracking Number:	--
Title:	2005-2007 F-Super Duty - Steering Wheel Oscillation
Article Type:	TSB

TSB Issue:
This article supersedes TSB 07-05-07 to update an incorrect part number.

Some 2005-2007 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion), immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on F-250/F-350 4X4 vehicles, and is more evident on trucks equipped with a gas engine.

TSB Action:

Refer to the Service Procedure to minimize the steering wheel oscillations on impacts, however, there may be some remaining minor oscillation which would be considered normal.

TSB Service Procedure:

SERVICE PROCEDURE SUMMARY

· Set tire pressure, road test vehicle to evaluate vehicle before proceeding with further repairs. If issue is resolved, do not proceed with the rest of this TSB

· If concern still exists, install a new steering damper (frame-mounted bracket and steering damper assembly on F-250/F-350 4X4 applications only). For F-250/F-350 4X2 and all F-450/F-550 applications, inspect damper for leaks and replace if necessary, torque steering and suspension fasteners per Workshop Manual

· If concern still exists, check front alignment and reduce front caster

· Replacement of redundant control steering wheel (if equipped and vehicle built prior to 10/8/2004).

VEHICLE INSPECTION - TIRE PRESSURE

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1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

NOTE: SETTING TIRE PRESSURE TO DOOR SPECIFICATION IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE.

ROAD TEST

---

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the customer's issue.
3. If no issues are identified during the road test, do not proceed with the rest of this TSB.

STEERING DAMPER AND FASTENER TORQUE CHECK

Replace Steering Damper & Frame Mounting Bracket (F-250/F-350 4X4); Inspect

---

Steering Damper (F-250/F-350 4X2 & all F-450/F-550):

For F-250/F-350 4x4 applications:

Remove existing steering damper and frame attachment bracket. Replace steering damper and frame mounting bracket with steering damper and frame bracket. Attach steering damper to frame bracket (with bolt and nut) and torque bolt to 103 Nm. Assemble bracket and shock assembly to the frame with attachment bolt retainer pointing to rear of vehicle. Torque frame bracket nuts to 80 Nm. Attach other end of shock to the steering drag link and torque to 90 Nm. Install damper bolt cap to assure a friendly surface for the battery cable in case of casual contact.

Note: CHECK SURROUNDING ENVIRONMENT TO THE FRAME BRACKET AND DAMPER ASSEMBLY TO ENSURE THAT BATTERY CABLES ARE NOT CONTACTING BRACKET/BOLTS/DAMPER. ALSO, VERIFY THAT TRANSMISSION OIL COOLER LINES HAVE CLEARANCE TO THE DAMPER DUST SHIELD.

For F-250/F-350 4X2 & all F-450/F-550 applications only:

Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
If leaks are present, install a new steering damper.

STEERING/SUSPENSION FASTENER TORQUE CHECK (4X2 & 4X4)
---

1. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table below).

Description	Torque Specification (lb-ft/ Nm)	
	Lb-ft	Nm
Damper nuts (F-250/F-350 4X2)	59	80
Damper-to-bracket (F-250/F-350 4X4)	76	103
Damper-to-drag link	66	90
Drag link-to-pitman arm nut	129	175
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts and bolts	129	175
Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE.

FRONT WHEEL ALIGNMENT AND REDUCE FRONT CASTER

NOTE: OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

Measure wheel alignment. Verify that Front Caster, Camber, and Total Toe are within specification. Adjust as required. Refer to the Workshop Manual, Section 204-00 for complete alignment specifications.

REDUCE FRONT CASTER
· Note the current front caster
· Use alignment adjustment bushings to reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit. Use alignment adjustment bushings

F-250/350 4X4:
· 5C3Z-3B440-CCC (0.5 degree bushing)
· 5C3Z-3B440-DDD (0.75 degree bushing)

· 5C3Z-3B440-EEE (1.0 degree bushing)

F-450/550 4X4 and 4X2:

· 5C3Z-3B440-HHH (0.5 degree bushing)
· 5C3Z-3B440-JJJ (0.75 degree bushing)
· 5C3Z-3B440-KKK (1.0 degree bushing)

F-250/350 4X2:
· 5C3Z-3B440-C = 0.5 degree busing
· 5C3Z-3B440-D = 0.75 degree bushing
· 5C3Z-3B440-E = 1.0 degree bushing

For All 4X4 and for F-450/550 4X2
· Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward and inboard position (See Figure 1)
· This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed
· The final caster and camber settings must be within the specification limits
· Maintain the current front camber, cross-camber and cross-caster settings as close as you possibly can
· Adding weight behind the rear axle lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster

For All F-250/350 4X2,
· Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain that position while moving the caster position forward in the truck
· The final caster and camber settings must be within the specification limits

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To
---
10/8/2004 Only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.
1. Remove driver air bag assembly. Refer to Workshop Manual, Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

NOTE: LABOR OPERATIONS IN THIS TSB CAN BE CLAIMED TOGETHER.

NOTE: OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

Category:	Service Fix (10 years - TSB Only)
Request Type:	Non-QSF

Would this make a good cost save business case? No
Activity Code: 070 F-Series >8500#
Vehicle Applications:

Vehicle Lines	Model Year Start	Model Year End	Assembly Plants	Body Styles	Engine	Trans Axles	Build From	Build To
F-Super Duty (F-250 to 550)	2005	2007						

If SPECS Case, Select all Other Affected Publications:
Changes Needed in Other Pubs:
TSBs to Supersede: 07-05-07
SSMs to Supersede:
ISMs to Supersede:
Other application Articles:
Select the reason for republication: Incorrect Procedure
Procedure verified by CDSID: srepasky
Describe How The Procedure Was Verified: TSB was verified by Steve Repasky.
Do you have access to a vehicle for time study? Yes
If Yes, contact for vehicle CDSID: toconnor
Labor Operations:

Are Illustrations Required? Yes
If Yes, Contact information for illustrations:
CDSID(Ford only): toconnor
Full Name: Tammy O'Connor
Phone: 313/322-3824
Illustration Notes: Please use same illustrations from TSB 06-15-1.

Trustmarks affected: Ford
Additional Trustmarks To Notify:
Article Distribution: WDMO, Canada, Mexico, United States
DTC Codes and OASIS Service Codes: , 303000, 304000, 306000, 703000, 703000, 703200, 703200, 703300, 703300, 703400, 703400

Causal Basic Part # or Finis Code:

Causal Part # or Finis Code	Warranty Condition Codes
3E651 FRONT TIR	Chassis: 42

Calibrations List:

White Paper Numbers:

Parts Request Information

Are Parts Required? Yes
QSF Single Agenda Or Program FRC Date:
Parts List:

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
1	Existing	5C74-3F563-AB1D24	No	Not Applicable	STEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5C7Z-3600-ABA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
2	Existing	5C74-3F563-AB35B8	No	Not Applicable	sTEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5c7z-3600-CBA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
3	Existing	5C34-3D004-NA	No	Not Applicable	.5 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-C			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
4	Existing	5C34-3D004-CA	No	Not Applicable	.5 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-CCC			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
5	Existing	5C34-3D004-PA	No	Not Applicable	.75 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-D			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
6	Existing	5C34-3D004-DA	No	Not Applicable	-75 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-DDD			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
7	Existing	5C34-3D004-RA	No	Not Applicable	1.0 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-E			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
8	Existing	5C34-3D004-EA	No	Not Applicable	1.0 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-EEE			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
9	Existing	5C34-3D004-JA	No	Not Applicable	0.75 DEGREE SHIM	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-JJJ			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
10	Existing	5C34-3D004-KA	No	Not Applicable	1.0 DEGREE SHIM	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-KKK			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
11	Existing	W520117-S441	No	Not Applicable	NUT - HEX - RH THREA	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			G229J	W520117-S441			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
12	Existing	W706196-S439	No	Not Applicable	Bolt	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			G229J	W706196-S439			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
13	Existing	7c343e652ac	No	Not Applicable	Bracket	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				7c3z3e652c			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
14	Existing	8C34-3E651-CB	No	Not Applicable	Damper 250/350 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			T407H	8C3Z-3E651-C			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
15	Existing	5C34-3E651-CH	No	Not Applicable	Damper 450/550 ALL	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			Q29AA	5C3Z- 3E651-D			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
16	Existing	5C34-3E651-BG	No	Not Applicable	Damper 250/350 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			Q29AA	5C3Z- 3E651-B			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed

	Existing	W711570-S300	No	Not Applicable	CAP - SHOCK ABSORBER	1	100
	***Calculated Forecast**		***@WERS Notice #**		***@WERS Date Released**		***@Supplier Company**
17	126						
	@1st Contact	**@1st Contact Phone**	**Source Code**	**Service #**	**Replaced SVC #**	**°Replaced Eng. #**	**°Is Calibration Needed**
				W711570-S300			No

Parts catalog flag needed? No
Part number(s) that require flag:
Is geographic location significant? No
Special instructions/remarks: We want to have 4 causal part numbers as follows:
1. 3E651 = Steering Dampner
2. FRONT = Alignment
3. TIRE = Tire Pressure
4. NPF = No Problem Found

This TSB is being updated to include a revised steering damper.

Article Number:
BCM Number:

(End automated email)

From: O'Connor, Tammy (T.A.)
Sent: Thursday, January 25, 2007 11:42 AM
To: Welch, Sharon (S.L.)
Subject: FW: TSB Update and Service Damper Release

Attachments: FW: TSB Update and Service Damper Release; FW:

Fyi.

Tammy A. O'Connor
Product Concern Engineer
FCSD Service Engineering Operations
Super Duty F-Series
Body / Chassis / Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Repasky, Steve (S.)
Sent: Wednesday, January 24, 2007 4:03 PM
To: O'Connor, Tammy (T.A.); Gompper, Dan (D.B.); Memmer, Mark (M.A.); Wegienka, Michael (M.J.); Hasselbring, D Blake (D.B.)
Cc: Choe, Mark (M.J.); Ufford, Donald (D.A.); Hodges, Cynthia (C.P.)
Subject: FW: TSB Update and Service Damper Release

Tammy - Based on the successful vehicle testing completed by the package group as noted in the attached e-mail, please start the required FCSD process to review and release the revised TSB as written in the other attached e-mail. In summary, we want to make sure tire pressure is set correctly, front end torques are good, alignment is optimized and then replace the P131 4x4 steering damper with the 2008 P356 4x4 steering damper and bracket. Please advise if additional information is required and expected timing for FCSD review and release. Thanks...

FW: TSB Update and Service Dam...

From: Repasky, Steve (S.)
Sent: Thursday, January 04, 2007 3:53 PM
To: Ufford, Donald (D.A.); Hodges, Cynthia (C.P.)
Cc: Choe, Mark (M.J.); Gompper, Dan (D.B.); O'Connor, Tammy (T.A.); Asay, Larry (L.L.)
Subject: RE: TSB Update and Service Damper Release

A revised TSB draft has been written (attached) and we are working on the final wording for it. Once we have agreement, I'll work with Tammy to get it reviewed by FCSD to establish timing for repair operations and release to the field.

FW:

In the meantime, we had KTP late last year send 12 sets of dampers and brackets to Larry Asay for distribution to key fleets for trial and evaluation. In a note today, Larry intended to send 3 sets to Noble Energy Inc. for installation. Also, Tammy indicated P356 steering dampers were available through FCSD service but not the brackets yet. Late last year, Tammy had requested FCSD Service Operations to order additional brackets in anticipation of the TSB release.

The Hobbs vehicle is in for repair today. We intend to recover the damper, steering gear and have alignment checked/set.

From: Ufford, Donald (D.A.)
Sent: Thursday, January 04, 2007 3:05 PM
To: Repasky, Steve (S.); Hodges, Cynthia (C.P.)
Cc: Choe, Mark (M.J.)
Subject: TSB Update and Service Damper Release

How are we doing on this?

From: Choe, Mark (M.J.)
Sent: Saturday, January 20, 2007 10:34 AM
To: Gompper, Dan (D.B.); Repasky, Steve (S.); Hodges, Cynthia (C.P.)
Subject: FW: TSB Update and Service Damper Release

Mark J. Choe
Vehicle Dynamics Manager
Body on Frame Programs

From: Heck, Manfred (M.P.)
Sent: Friday, January 19, 2007 3:40 PM
To: Choe, Mark (M.J.); Ufford, Donald (D.A.)
Cc: Benson, Keith (K.A.); Perry, Adam (A.F.)
Subject: RE: TSB Update and Service Damper Release

Update as of Friday afternoon … the damper clearance testing has been completed. Adam Perry stated that there was one witness mark from the battery cable to the damper cover over Silver Creek events, but didn't think it was serious; TOC lines stayed clear. We should have data and some video mid next week to review.

Manfred Heck
Manager / BoF Block Layout Engineering
VEV / Digital Innovation
CDS ID: MHECK / Office: PDC / GB-A77
Phone #: 313.805.3811 (C)

From: Heck, Manfred (M.P.)
Sent: Friday, January 19, 2007 9:28 AM
To: Choe, Mark (M.J.)
Cc: Ufford, Donald (D.A.); Benson, Keith (K.A.)
Subject: RE: TSB Update and Service Damper Release

Vehicle is almost done getting the video test equipment put in place … if the weather cooperates, we should be done w/ test events in the next couple of days and then need TBD post-processing time at the video lab …

All is progressing as normal … I'll let you know if we encounter any problems.

Manfred Heck
Manager / BoF Block Layout Engineering
VEV / Digital Innovation
CDS ID: MHECK / Office: PDC / GB-A77
Phone #: 313.805.3811 (C)

From: Choe, Mark (M.J.)
Sent: Monday, January 15, 2007 4:03 PM
To: Heck, Manfred (M.P.)
Cc: Ufford, Donald (D.A.)
Subject: FW: TSB Update and Service Damper Release

Manfred, need your help to close this one out.
Thanks!

Mark J. Choe
Vehicle Dynamics Manager

From: Hodges, Cynthia (C.P.)
Sent: Friday, January 12, 2007 7:27 AM
To: Choe, Mark (M.J.); Repasky, Steve (S.); Gompper, Dan (D.B.)
Subject: RE: TSB Update and Service Damper Release

The vehicle level package test still isn't complete – the package guys are going to have it done mid next week. When we have the result in hand, which I think will indicate there is no contact, we will have a meeting with our TOC friends and convince them that they don't need to run vehicle durability. I had to do the exact same thing the last time, when we added the dust cover that Lisa Drake killed because of cost a couple years ago. If I can't convince them, we'll let Don convince them. However, I think confronted with the evidence that there is no contact, they will be good to go. If Don can help the packaging guys get the result quicker, that might help, too.

Cynthia Protas Hodges
Steering Supervisor, RV Gear and Linkage
Chassis Engineering
Ford Motor Company
1BD36 Product Development Center
phone (313) 805-3872 fax: (313) 32-29959
click here to: textpage me email me my personal productivity site
Please note: Due to my email volume, add FYA (For Your Action) subject line to emails sent to me to insure my quickest response. I read those first!

From: Choe, Mark (M.J.)
Sent: Thursday, January 11, 2007 7:32 PM
To: Hodges, Cynthia (C.P.); Repasky, Steve (S.); Gompper, Dan (D.B.)
Subject: RE: TSB Update and Service Damper Release

What is the latest? We need to update Don tomorrow.
Thanks.

Mark J. Choe
Vehicle Dynamics Manager
Body on Frame Programs

From: Hodges, Cynthia (C.P.)
Sent: Monday, January 08, 2007 7:42 AM
To: Ufford, Donald (D.A.); Repasky, Steve (S.)
Cc: Choe, Mark (M.J.)
Subject: RE: TSB Update and Service Damper Release

I just got back in the office and am digging through email. It looks like the TOC guys are having heartburn over this and want to run durability first. Let me get some more details and I will keep you posted. I may need your help with it, but let me give it a try first.

Cynthia Protas Hodges
Steering Supervisor, RV Gear and Linkage
Chassis Engineering
Ford Motor Company
1BD36 Product Development Center
phone (313) 805-3872 fax: (313) 32-29959
click here to: textpage me email me my personal productivity site
Please note: Due to my email volume, add FYA (For Your Action) subject line to emails sent to me to insure my quickest response. I read those first!

From: Ufford, Donald (D.A.)
Sent: Thursday, January 04, 2007 3:05 PM
To: Repasky, Steve (S.); Hodges, Cynthia (C.P.)
Cc: Choe, Mark (M.J.)
Subject: TSB Update and Service Damper Release

How are we doing on this?

From: Repasky, Steve (S.)
Sent: Wednesday, January 03, 2007 10:25 AM
To: Gompper, Dan (D.B.); Memmer, Mark (M.A.); Hodges, Cynthia (C.P.); Hwang, Hsiu-Ying (H.Y.)
Cc: Choe, Mark (M.J.); Benson, Keith (K.A.)
Subject: FW:

Attachments: Picture (Metafile); Picture (Metafile); Picture (Metafile); Picture (Metafile)

All - Instead of starting with a previously drafted TSB proposal document that had different wording from the TSB (I know, I started it), I have modified the wording of the actual TSB 06-22-14 trying to incorporate all the input from the various sources. Changes are noted below in **BOLD lower case lettering.** Items in parenthesis are comments only. Please review to insure all items were correctly captured. Thanks…

Printable View (64 KB)	
TSB 06-22-14	• STEERING WHEEL OSCILLATION
Publication Date: October 25, 2006	

FORD: 2005-2007 F-Super Duty

This article supersedes TSB **06-15-1** to update the service labor operations. **(with new TSB number, this note not required?)**

ISSUE:

Some 2005-2007 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion), immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on 4X4 vehicles, and is more evident on trucks equipped with a gas engine.

ACTION:

Refer to the following Service Procedure to minimize the steering wheel oscillations on impacts, however, there may be some remaining minor oscillation which would be considered normal.

SERVICE PROCEDURE SUMMARY

- Set tire pressure and road test vehicle to evaluate vehicle before proceeding with further repairs. If issue is resolved, do not proceed with the rest of this TSB

  (Note road test requirement included in above statement and below road test procedure).

- Torque steering and suspension fasteners per Workshop Manual **and torque specifications noted below. (Complete this step prior to damper inspect/change).**
- If concern still exists, check front alignment and reduce front caster.
- **Install new steering damper frame mounted bracket and steering damper assembly (4X4 applications only). For 4x2 applications, inspect damper for leaks and replace as required with damper 5C3Z-3E651-D only.**
- Replacement of redundant control steering wheel (if equipped and vehicle built prior to 10/8/2004)

VEHICLE INSPECTION - TIRE PRESSURE

1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

NOTE: SETTING TIRE PRESSURE TO DOOR SPECIFICATION IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE.

ROAD TEST

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the customer's issue.
3. If no issues are identified during the road test, do not proceed with the rest of this TSB.

Check/Set Front End Torques

Check torques on the following steering and suspension fasteners and adjust to specification as required (see following Table).

Torque Specification		
Description	**Lb-ft**	**Nm**
Damper nuts (4X2)	**66**	**90**
Damper-to-bracket (F-250, F-350 4X4)	**76**	**103**
Damper-to-drag link	**66**	**90**
Drag link-to-pitman arm nut	**129**	**175**
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts and bolts	129	175
Track bar-to-track bar bracket bolt	406	550

Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE.

FRONT WHEEL ALIGNMENT AND REDUCE FRONT CASTER

NOTE: OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

Measure wheel alignment. Verify that Front Caster, Camber, and Total Toe are within specification. Adjust as required. Refer to the Workshop Manual, Section 204-00 for complete alignment specifications.

REDUCE FRONT CASTER

- Note the current front caster
- Use alignment adjustment bushings to reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit. Use alignment adjustment bushings

F-250/350 4X4:

- 5C3Z-3B440-CCC (0.5 degree bushing)
- 5C3Z-3B440-DDD (0.75 degree bushing)
- 5C3Z-3B440-EEE (1.0 degree bushing)

F-450/550 4X4 and 4X2:

- 5C3Z-3B440-HHH (0.5 degree bushing)
- 5C3Z-3B440-JJJ (0.75 degree bushing)
- 5C3Z-3B440-KKK (1.0 degree bushing)

F-250/350 4X2:

- 5C3Z-3B440-C (0.5 degree busing)
- 5C3Z-3B440-D (0.75 degree bushing)
- 5C3Z-3B440-E (1.0 degree bushing)

For All 4X4 and for F-450/550 4X2:

- Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward and inboard position (See Figure 1)

Figure 1 - Article 06-22-14

- This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed
- The final caster and camber settings must be within the specification limits
- Maintain the current front camber, cross-camber and cross-caster settings as close as you possibly can
- Adding weight behind the rear axle lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster

For All F-250/350 4X2:

- Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain that position while moving the caster position forward in the truck
- The final caster and camber settings must be within the specification limits

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE.

Replace Steering Damper and Frame mounting bracket.

For 4x2 applications only:

1. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
2. If leaks are present, install a new steering damper **(5C3Z-3E651-D).**

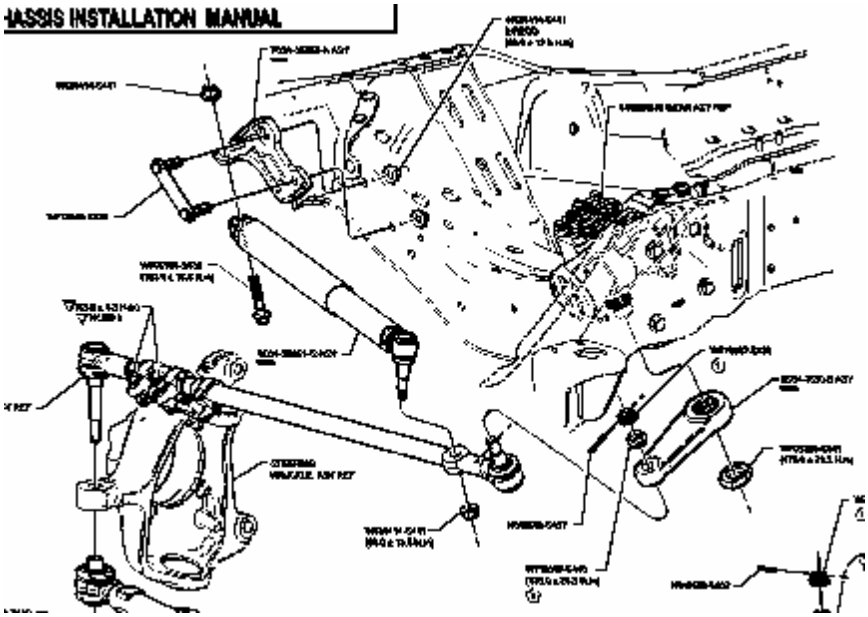
For 4x4 applications:

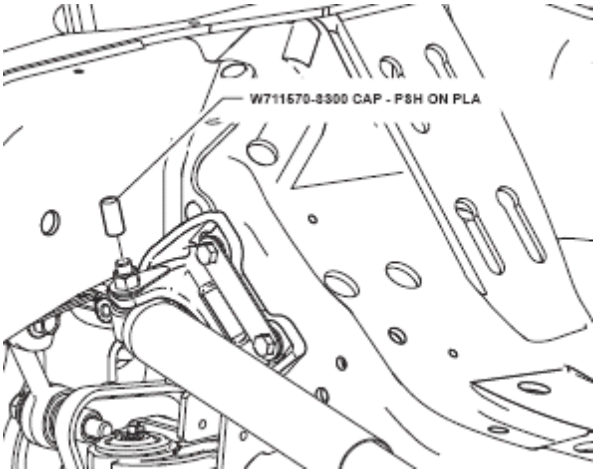
1. Remove existing steering damper and frame attachment bracket. Replace steering damper and frame mounting bracket with steering damper P/N 8C3Z-3E651-A and frame bracket P/N 7C3Z-3E652-C. Attach steering damper to frame bracket (with W706196-S439 bolt and W520114S441 nut) and torque bolt to 103 Nm. Assemble bracket and shock assembly to the frame with attachment bolt retainer (W712055-S439) pointing to rear of vehicle. Torque frame bracket nuts (W520114-S441) to 80 Nm. Attach other end of shock to the steering drag link and

torque to 90 Nm. See figure **X**. **(Needs a number).**

2. **Install damper bolt cap (W711670-S300) to assure a friendly surface for the battery cable in case of casual contact**

   Note: Check surrounding environment to the frame bracket and damper assembly to ensure that battery cables are not contacting bracket/bolts/damper. Also, verify that Transmission Oil Cooler lines have clearance to the damper dust shield.





REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 Only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual, Section 211-04 for complete instructions.

2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

PART NUMBER	PART NAME
5C7Z-3600-ABA	Redundant Control Steering Wheel Assy (King Ranch Tan/Peb)
5c7z-3600-CBA	Redundant Control Steering Wheel Assy (Charcoal Black)
5C3Z-3E651-D	Steering Damper **(4x2 application replacement)**
5C3Z-3B440-C	F-250/350 4X2 (0.5 degree bushing)
5C3Z-3B440-D	F-250/350 4X2 (0.75 degree bushing)
5C3Z-3B440-E	F-250/350 4X2 (1.0 degree bushing)
5C3Z-3B440-CCC	F-250/350 4X4 (0.5 degree bushing)
5C3Z-3B440-DDD	F-250/350 4X4 (0.75 degree bushing)
5C3Z-3B440-EEE	F-250/350 4X4 (1.0 degree bushing)
5C3Z-3B440-HHH	F-450/550 4X4 and 4X2 (0.5 degree bushing)
5C3Z-3B440-JJJ	F-450/550 4X4 and 4X2 (0.75 degree bushing)
5C3Z-3B440-KKK	F-450/550 4x4 and 4x2 (1.0 degree bushing)

NOTE: LABOR OPERATIONS IN THIS TSB CAN BE CLAIMED TOGETHER.

NOTE: OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

WARRANTY STATUS:

Eligible Under Provisions Of New Vehicle Limited Warranty Coverage

OPERATION	DESCRIPTION	TIME
062214A	2005-2007 F-Super Duty: Check Tire Pressure, Road Test To Verify Repair, Concern Resolved, Return To Customer (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	0.4 Hr.
062214B	2005-2007 F-Super Duty: Check Tire Pressure, Road Test To Verify Repair, Concern Not Resolved, Check Steering Damper Replace If Necessary, Verify Proper Torque On Steering Components, Road Test If Concern Is Resolved Return To Customer (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	1.4 Hrs.
062214C	2005-2007 F-Super Duty 250/350 4X2 SINGLE REAR WHEEL: Check And Adjust Front Wheel Alignment, This Labor Operation Can Be Claimed With Operation B Only (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	1.5 Hrs.
062214C	2005-2007 F-Super Duty 250/350 4X4 SINGLE REAR WHEEL: Check And Adjust Front Wheel Alignment, This Labor Operation Can Be Claimed With Operation B Only (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	1.8 Hrs.
062214D	2005-2007 F-Super Duty 250/350 4X2 DUAL REAR WHEEL: Check And Adjust Front Wheel Alignment, This Labor Operation Can Be Claimed With Operation B Only (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	1.9 Hrs.
062214D	2005-2007 F-Super Duty 250/350 4X4 DUAL REAR WHEEL: Check And Adjust Front Wheel Alignment, This Labor Operation Can Be Claimed With Operation B Only (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	2.1 Hrs.
062214D	2005-2007 F-Super Duty F450/550 4X2/4X4 DUAL REAR WHEEL: Check And Adjust Front Wheel Alignment, This Labor Operation Can Be Claimed With Operation B Only (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	2.3 Hrs.
062214E	2005-2007 F-Super Duty With Redundant Steering Control Built Prior To 10-8-2004: Replace Steering Wheel, Includes Time To Depower And Repower The Supplemental Restraints System Can Be Claimed With Operation A Or B (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	0.7 Hr.

DEALER CODING

BASIC PART NO.	CONDITION CODE
(Operation A) NPF	82
(Operation B) 3E651	42
(Operation C) FRONT	W6
(Operation D) Front	W6

(Operation E) 3600	42

NOTE: The information in Technical Service Bulletins is intended for use by trained, professional technicians with the knowledge, tools, and equipment to do the job properly and safely. It informs these technicians of conditions that may occur on some vehicles, or provides information that could assist in proper vehicle service. The procedures should not be performed by "do-it-yourselfers". Do not assume that a condition described affects your car or truck. Contact a Ford, Lincoln, or Mercury dealership to determine whether the Bulletin applies to your vehicle. Warranty Policy and Extended Service Plan documentation determine Warranty and/or Extended Service Plan coverage unless stated otherwise in the TSB article. The information in this Technical Service Bulletin (TSB) was current at the time of printing. Ford Motor Company reserves the right to supercede this information with updates. The most recent information is available through Ford Motor Company's on-line technical resources.

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From: Norton, John (J.K.)
Sent: Thursday, October 20, 2005 9:33 AM
To: Hale, Curt (B.C.); O'Connor, Tammy (T.A.)
Subject: FW: TSBs Republished for Carry-over Product Concerns

Attachments: [redacted] (new TSB).pdf; 04-26-1 (Old TSB).pdf

Curt/Tammy,

Why did we have to add the 2006 model year to this TSB? Did we not get the issue resolved in production?

Regards,

John Norton

Manager, Pickup Trucks & SUV's
Customer Service Engineering
Ford Customer Service Division
Phone: (313) 337-3639
Email: jnorton@ford.com

-----Original Message-----
From: Sprunger, Jon (J.L.)
Sent: Wednesday, October 19, 2005 4:33 PM
To: Norton, John (J.K.)
Cc: Sprunger, Jon (J.L.); Nagy, Vic (V.A.); Ricks, Kevin (K.J.); Johnson, David (D.J.); DeAngelis, Steven (S.G.); Klump, Robert (R.F.); McClain, David (D.L.)
Subject: RE: TSBs Republished for Carry-over Product Concerns

John,

Attached is a TSB currently in collaboration that is being republished to update the service procedure and add a new model year. Per the agreement listed in the email below, I am forwarding you this TSB to make you aware the concern has carried over. We will continue with the process of releasing the new TSB.

The author is Tammy O'Connor if you have any questions. Thanks.

[redacted] (new TSB).pdf (6...
04-26-1 (Old TSB).pdf (55 KB)

Sincerely,

Jon Sprunger
Global Technical Communications - FCSD
TSB/SSM Processing
Phone: (313)32-32272
Fax: (313)24-86449
jsprunge@ford.com

-----Original Message-----

From: Sanders, Lee (L.P.)
Sent: Friday, June 17, 2005 1:54 PM
To: Norton, John (J.K.); Ricks, Kevin (K.J.); Piorkowski, Frank (F.J.)
Cc: Nagy, Vic (V.A.); Sprunger, Jon (J.L.); Naley, Vernon (V.K.); Berardi, Mike (M.A.); Dielenhein, Michael (M.F.); Johnson, David (D.J.); Nienhuis, Jeffrey (J.W.); Merchak, Kathleen (K.M.); McInerney, Thomas (T.W.); Zubieta, Kelly (K.H.); Ricks, Kevin (K.J.)
Subject: TSBs Republished for Carry-over Product Concerns

Following my review of the topic in yesterday's Customer Service Engineering Coordination Meeting, it was decided that my activity would begin sending to the appropriate CSE LL5 any TSB that was being republished to extend the repair information for a concern to a new model-year.

Starting Monday, June 20, each TSB will be reviewed during the Collab process, and any found in that category will be forwarded to the LL5. A copy of every such TSB will be sent to Kevin Ricks, as well, at his request.

If there are any corrections or adjustments needed to this process, please work thru Jon Sprunger.

Lee Sanders, Supervisor
Technical Communications - TSB-OASIS
FCSD - Service Engineering Operations
lsanders@ford.com
Phone: 313-31-79104

STEERING WHEEL OSCILLATION

Concern Tracking# [redacted]

FORD:
2005-2006 F-Super Duty

This article supersedes TSB **4-26-01** to update the vehicle model years.

ISSUE

Some 2005-2006 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion), immediately following front or rear wheel impacts (pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on 4x4 vehicles, and is more evident on trucks equipped with a gas engine.

ACTION

Refer to the following Service Procedure to minimize the steering wheel oscillations on impacts, however, there may be some remaining minor oscillation which would be considered normal.

SERVICE PROCEDURE

Perform the following:

- Vehicle Inspection
- Evaluation Of Vehicle Prior To Repair
- Steering Gear Mesh Load Adjustment
- Front Alignment and Reduce front caster
- Replacement Of Redundant Control Steering Wheel (if equipped and vehicle built prior to 10/8/04)

VEHICLE INSPECTION

1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

NOTE
SETTING TIRE PRESSURE TO DOOR SPECIFICATION IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE.

2. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
   a. If leaks are present, install a new steering damper and continue with this TSB
   b. If no leaks are present, continue with this TSB.
3. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table below).

Torque Specification		
Description	**Lp-ft**	**Nm**
Damper nuts (4x2)	59	80
Damper-to-bracket (F-250, F-350 4x4)	26	35
Damper-to-drag link	67	91
Drag link-to-pitman arm nut	148	201
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts and bolts	129	175
Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE
ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE.

EVALUATION OF VEHICLE PRIOR TO REPAIR

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the severity of wheel oscillation.

NOTE: The information in Technical Service Bulletins is intended for use by trained, professional technicians with the knowledge, tools, and equipment to do the job properly and safely. It informs these technicians of conditions that may occur on some vehicles, or provides information that could assist in proper vehicle service. The procedures should not be performed by "do-it-yourselfers". Do not assume that a condition described affects your car or truck. Contact a Ford, Lincoln, or Mercury dealership to determine whether the Bulletin applies to your vehicle. Warranty Policy and Extended Service Plan documentation determine Warranty and/or Extended Service Plan coverage unless stated otherwise in the TSB article.The information in this Technical Service Bulletin (TSB) was current at the time of printing. Ford Motor Company reserves the right to supercede this information with updates.The most recent information is available through Ford Motor Company's on-line technical resources.

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3. During the road test, evaluate and note the steering wheel return-ability.
   a. Turn steering wheel full lock to lock to confirm no binding.
   b. Locate center, and then 45 degrees either side of center on the steering wheel.
   c. Driving vehicle at 35 MPH (56 Km/h), on a dry and flat road surface, turn the wheel 45 degrees and release. Note the approximate angle that the steering wheel returns to BEFORE CLEAR VISION. Perform and record the angle for both left and right. It is normal if the angle differs slightly from left to right.

STEERING GEAR MESH LOAD ADJUSTMENT

1. Insert hex wrench into steering gear mesh load adjuster screw.
2. While holding the mesh load adjuster screw tight, back off lock nuts two full turns to allow free movement of the adjuster screw.
3. Carefully tighten adjuster screw until a slight increase in resistance is felt, then back off approximately 1/16th of a turn.
4. Hold the adjuster screw in place and tighten lock nut. Do not allow the adjustment screw to turn while tightening the locking nut down.
5. Road test vehicle and evaluate for improvement in steering wheel oscillations.
   a. Confirm that there is no objectionable increase in steering efforts, especially at low speeds.
   b. Verify that steering wheel return-ability is approximately the same as it was during the original evaluation (within 5 degrees).
   c. Turn steering wheel full lock to lock to confirm no binding.
6. Park the vehicle to let it cool down. Road test cold to confirm acceptable parking efforts and return-ability in cold condition. Repeat the mesh load adjustment if needed.

FRONT WHEEL ALIGNMENT AND REDUCE FRONT CASTER

Measure wheel alignment. Verify that Front Caster, Camber and Total Toe is within specification. Adjust as required. Refer to the Workshop Manual, Section 2004-00-1 for complete alignment specifications.

REDUCE FRONT CASTER

- Note the current front caster
- Use alignment adjustment bushings to Reduce front caster by 0.5 to 1.0 degree. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit. Use Alignment adjustment bushings:

F-250/350 4x4:

- 5C3Z-3B440-CCC (0.5 degree bushing)
- 5C3Z-3B440-DDD (0.75 Degree bushing)
- 5C3Z-3B440-EEE (1.0 degree bushing)

F-450/550 4x4 and 4x2:

- 5C3Z-3B440-HHH (0.5 Degree bushing)
- 5C3Z-3B440-JJJ (0.75 Degree bushing)
- 5C3Z-3B440-KKK (1.0 degree bushing)

F-250/350 4x2:

- 5C3Z-3B440-C (0.5 degree bushing)
- 5C3Z-3B440-D (0.75 degree bushing)
- 5C3Z-3B440-E (1.0 degree bushing)

For All 4x4 and for F-450/550 4x2,

- Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward and inboard position (See below picture)
- This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range then rotate the alignment adjustment bushing as needed.
- The final caster and camber settings must be within the specification limits.

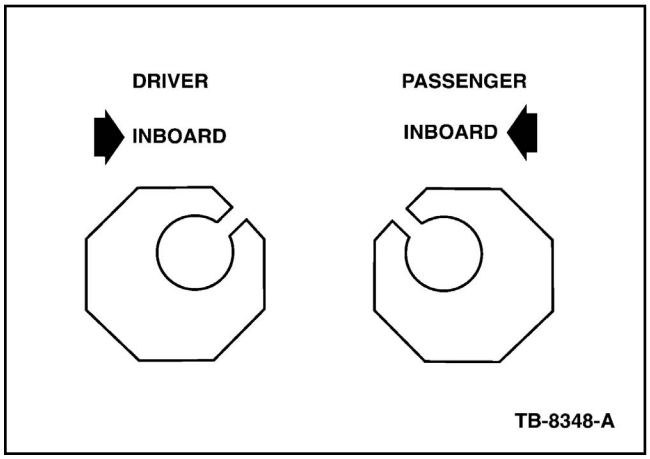

Figure 1 - Article [redacted]

- Maintain the current front camber, cross-camber and cross-caster settings as close as you possibly can.
- Adding weight behind the rear axle lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster.
- Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain that position while moving the caster position forward in the truck.
- The final caster and camber settings must be within the specification limits

NOTE
CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 only

NOTE
THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE
FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE 2005 OR 2006 SUPER DUTY F-SERIES WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

PART NUMBER	PART NAME
5C7Z-3600-ABA	Redundant Control Steering Wheel Asy (King Ranch Tan/Peb)
5C7Z-3600-CBA	Redundant Control Steering Wheel Asy (Charcoal Black)
5C3Z-3E651-CA	F-250/350 4x4, All F-450/550 - Damper
5C3Z-3E651-BA	F-250/350 4x2 - Damper
5C3Z-3B440-C	F-250/350 4x2 (0.5 degree bushing)
5C3Z-3B440-D	F-250/350 4x2 (0.75 degree bushing)
5C3Z-3B440-E	F-250/350 4x2 (1.0 degree bushing)
5C3Z-3B440-CCC	F-250/350 4x4 (0.5 degree bushing)
5C3Z-3B440-DDD	F-250/350 4x4 (0.75 degree bushing)
5C3Z-3B440-EEE	F-250/350 4x4 (1.0 degree bushing)
5C3Z-3B440-HHH	F-450/550 4x4 and 4x2 (0.5 degree bushing)
5C3Z-3B440-JJJ	F-450/550 4x4 and 4x2 (0.75 degree bushing)
5C3Z-3B440-KKK	F-450/550 4x4 and 4x2 (1.0 degree bushing)

WARRANTY STATUS: Eligible Under Provisions Of New Vehicle Limited Warranty Coverage

OPERATION	DESCRIPTION	TIME
0700554A	F-Super Duty With Gas Engine: Perform Inspection/Evaluation Adjust Mesh Load (Do Not Use With 3504C, 3600A, 3001A, 3001A1, 3001A1T)	2.2 Hrs.
0700554A	F-Super Duty With 6.0L Diesel Engine: Perform Inspection/Evaluation Adjust Mesh Load (Do Not Use With 3504C, 3600A, 3001A, 3001A1, 3001A1T)	3.2 Hrs.
0700554B	F-Super Duty With Gas Engine: Perform Inspection/Evaluation Adjust Mesh Load, And Replace Damper (Do Not Use With 3504C, 3600A, 3001A, 3001A1, 3001A1T)	2.3 Hrs.
0700554B	F-Super Duty With 6.0L Diesel Engine: Perform Inspection/Evaluation Adjust Mesh Load, And Replace Damper (Do Not Use With 3504C, 3600A, 3001A, 3001A1, 3001A1T)	3.2 Hrs.

Concern Tracking# [redacted] (Continued)

0700554C	F-Super Duty With Gas Engine: Perform Inspection/Evaluation Adjust Mesh Load, And Replace Steering Wheel (Do Not Use With 3504C, 3600A, 3001A, 3001A1, 3001A1T)	2.8 Hrs.
0700554C	F-Super Duty With 6.0L Diesel Engine: Perform Inspection/Evaluation Adjust Mesh, Load And Replace Steering Wheel (Do Not Use With 3504C, 3600A, 3001A, 3001A1, 3001A1T)	3.6 Hrs.
0700554D	F-Super Duty With Gas Engine: Perform Inspection/Evaluation Adjust Mesh Load, Replace Damper And Steering Wheel (Do Not Use With 3504C, 3600A, 3001A, 3001A1, 3001A1T)	2.9 Hrs.
0700554D	F-Super Duty With 6.0L Diesel Engine: Perform Inspection/Evaluation Adjust Mesh Load, Replace Damper And Steering Wheel (Do Not Use With 3504C, 3600A, 3001A, 3001A1, 3001A1T)	3.7 Hrs.
0700554E	F-Super Duty: Check Caster, Camber, and Toe (Do Not Use With 3504C, 3600A, 3001A, 3001A1, 3001A1T)	0.4 Hr.
0700554F	F-Super Duty 4X2: Check Caster, Camber, Toe And Adjust One Side (Do Not Use With 3504C, 3600A, 3001A, 3001A1, 3001A1T)	1.3 Hrs.
0700554G	F-Super Duty 4X2: Check Caster, Camber, Toe And Adjust Both Sides (Do Not Use With 3504C, 3600A, 3001A, 3001A1, 3001A1T)	1.9 Hrs.
0700554H	F-Super Duty 4X4: Check Caster, Camber, Toe And Adjust One Side (Do Not Use With 3504C, 3600A, 3001A, 3001A1, 3001A1T)	1.5 Hrs.
0700554I	F-Super Duty 4X4: Check Caster, Camber, Toe And Adjust Both Sides (Do Not Use With 3504C, 3600A, 3001A, 3001A1, 3001A1T)	2.3 Hrs.

DEALER CODING

BASIC PART NO.	CONDITION CODE
3600	42

OASIS CODES: 303000, 304000, 306000, 703000, 703200, 703300, 703400

STEERING WHEEL OSCILLATION (BACK AND FORTH MOTION) AFTER RIDING OVER BUMPS/RUTS

TSB 04-26-1

FORD:
2005 F-Super Duty

ISSUE

Some 2005 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion) immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on 4x4 vehicles, equipped with steering wheels which have redundant controls (i.e. climate and radio controls).

ACTION

This procedure will minimize the steering wheel oscillations on impacts, however, there may be some remaining minor oscillation which would be considered normal.

Perform the following:

- Vehicle Inspection
- Evaluation Of Vehicle Prior To Repair
- Steering Gear Mesh Load Adjustment
- Replacement Of Redundant Control Steering Wheel (if equipped and vehicle built prior to 10/8/04)

SERVICE PROCEDURE

VEHICLE INSPECTION

1. Set tire pressures as indicated on the vehicle label (located on fuel door).
2. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
    a. If leaks are present, install a new steering damper and continue with this TSB.
    b. If no leaks are present, continue with this TSB.
3. Check torques on the steering system fasteners (damper nuts (4x2), damper-to-bracket (F-250, F-350 4x4), damper-to-drag link, drag link-to-pitman arm nut, inner tie-rod end nut, outer tie-rod end nuts, and track bar bracket-to-frame nuts & bolts), adjust to specification as required. Refer to Workshop Manual Section 211-03.

EVALUATION OF VEHICLE PRIOR TO REPAIR

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the severity of wheel oscillation.
3. During the road test, evaluate and note the steering wheel return-ability.
    a. Turn steering wheel full lock to lock to confirm no binding.
    b. Locate center, and then 45 degrees either side of center on the steering wheel.
    c. Driving vehicle at 35 MPH (56 Km/h), on a dry and flat road surface, turn the wheel 45 degrees and release. Note the approximate angle that the steering wheel returns to BEFORE CLEAR VISION. Perform and record the angle for both left and right. It is normal if the angle differs slightly from left to right.

STEERING GEAR MESH LOAD ADJUSTMENT

1. Insert hex wrench into steering gear mesh load adjuster screw.
2. While holding the mesh load adjuster screw tight, back off lock nuts two full turns to allow free movement of the adjuster screw.

NOTE: The information in Technical Service Bulletins is intended for use by trained, professional technicians with the knowledge, tools, and equipment to do the job properly and safely. It informs these technicians of conditions that may occur on some vehicles, or provides information that could assist in proper vehicle service. The procedures should not be performed by "do-it-yourselfers". Do not assume that a condition described affects your car or truck. Contact a Ford, Lincoln, or Mercury dealership to determine whether the Bulletin applies to your vehicle. Warranty Policy and Extended Service Plan documentation determine Warranty and/or Extended Service Plan coverage unless stated otherwise in the TSB article.The information in this Technical Service Bulletin (TSB) was current at the time of printing. Ford Motor Company reserves the right to supercede this information with updates.The most recent information is available through Ford Motor Company's on-line technical resources.

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3. Carefully tighten adjuster screw until a slight increase in resistance is felt, then back off approximately 1/16th of a turn.
4. Hold the adjuster screw in place and tighten lock nut. Do not allow the adjustment screw to turn while tightening the locking nut down.
5. Road test vehicle and evaluate for improvement in steering wheel oscillations.
   a. Confirm that there is no objectionable increase in steering efforts, especially at low speeds.
   b. Verify that steering wheel return-ability is approximately the same as it was during the original evaluation (within 5 degrees).
   c. Turn steering wheel full lock to lock to confirm no binding.
6. Park the vehicle to let it cool down. Road test cold to confirm acceptable parking efforts and return-ability in cold condition. Repeat the mesh load adjustment if needed.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 Only

NOTE
THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE
FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE 2005 SUPER DUTY F-SERIES WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

PART NUMBER	PART NAME
5C7Z-3600-ABA	Redundant Control Steering Wheel (King Ranch Tan/Peb)
5C7Z-3600-CBA	Redundant Control Steering Wheel (Charcoal Black)

WARRANTY STATUS: Eligible Under Provisions Of New Vehicle Limited Warranty Coverage

OPERATION	DESCRIPTION	TIME
042601A	F-Super Duty With Gas Engine: Perform Inspection/Evaluation, Adjust Mesh Load	2.2 Hrs.
042601A	F-Super Duty With 6.0L Diesel: Perform Inspection/Evaluation, Adjust Mesh Load	3.2 Hrs.
042601B	F-Super Duty With Gas Engine: Perform Inspection/Evaluation, Adjust Mesh Load, And Replace Damper	2.3 Hrs.
042601B	F-Super Duty With 6.0L Diesel: Perform Inspection/Evaluation, Adjust Mesh Load, And Replace Damper	3.2 Hrs.
042601C	F-Super Duty With Gas Engine: Perform Inspection/Evaluation, Adjust Mesh Load, And Replace Steering Wheel	2.8 Hrs.
042601C	F-Super Duty With 6.0L Diesel: Perform Inspection/Evaluation, Adjust Mesh Load, And Replace Steering Wheel	3.6 Hrs.
042601D	F-Super Duty With Gas Engine: Perform Inspection/Evaluation, Adjust Mesh Load, Replace Damper And Steering Wheel	2.9 Hrs.
042601D	F-Super Duty With 6.0L Diesel: Perform Inspection/Evaluation, Adjust Mesh Load, Replace Damper And Steering Wheel	3.7 Hrs.

DEALER CODING

BASIC PART NO.	CONDITION CODE
3600	42

From: O'Connor, Tammy (T.A.)
Sent: Friday, August 26, 2005 3:43 PM
To: Repasky, Steve (S.); Mayer, Paul (P.A.)
Cc: Snider, Alex (A.); Corlew, Randall (R.L.); Knapp, David (D.)
Subject: FW: Update to TSB 04-26-1

Steve/Paul:

Randy has worked on and resolved the shimmy issue on a few of the Superduty trucks he has worked on.

Please review his e-mail below and let me know what you think about his recommendations?

I really want to get this TSB right!

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thurs,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

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-----Original Message-----
From: Corlew, Randall (R.L.)
Sent: Friday, August 26, 2005 12:49 PM
To: O'Connor, Tammy (T.A.)
Subject: RE: Update to TSB 04-26-1

Tammy,
Most of it is good. I have a problem with reducing caster by only .5 to .75 degree? What is the caster is up around 4.00 degrees? At 3.00 degrees most F-Super Duty trucks in the right conditions will shimmy.
My suggestion is drop by .75 degrees on both sides and re-verify the customers concern. If the concern still is there it should reduce the shimmy concern. You can lower the caster to the lowest end of the spec. as long as the vehicle drives correctly and will not wear the tires.
Also we need to suggest to check the loading and conditions the shimmy will occur. Remember adding weight to the back raises the front end which in effect raises caster. In other words is this only occurring when loaded?
Randy Corlew - FSE - Pittsburgh

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Friday, August 26, 2005 11:34 AM
To: Corlew, Randall (R.L.)
Subject: FW: Update to TSB 04-26-1

Randy:

Below is a draft TSB on the steering wheel shimmy issue on 05-06 Superduty. Please review and let me know if you would make any changes? I really appreciate your input. Thanks.

Tammy A. O'Connor
Product Concern Engineer

FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thurs,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

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-----Original Message-----
From: Snider, Alex (A.)
Sent: Friday, August 26, 2005 10:42 AM
To: Repasky, Steve (S.); Mayer, Paul (P.A.)
Cc: Choe, Mark (M.J.); Hatt, Jeffrey (J.M.); O'Connor, Tammy (T.A.)
Subject: RE: Update to TSB 04-26-1

Pual/Steve, I made a few additions to your changes. I hope you don't mind. I listed the torque spec and also added the left side frame bracket to frame bolts. We had some of the bracket bolts loose. (i.e. at 90-100 ft-lb rather than 129 ft-lb).

The other item I added was the toe spec. Paul at on time mentioned that the toe would be better set at .1 degree toe in. Has that changed?

"Accelerate Growth Through Customer Satisfaction and Loyalty"

Alex Snider
Ford Motor Company of Canada
Technical Service Support Specialist
Outlook ID: asnider@ford.com
Dial net: 853-1485
Outside #: 905-845-2511, ext: 1485

-----Original Message-----
From: Repasky, Steve (S.)
Sent: Friday, August 26, 2005 9:51 AM
To: O'Connor, Tammy (T.A.); Snider, Alex (A.)
Cc: Mayer, Paul (P.A.); Choe, Mark (M.J.); Hatt, Jeffrey (J.M.)
Subject: FW: Update to TSB 04-26-1

Tammy - Below is the proposed wording for a new TSB to address 2005 and 2006 Superduty vehicles with steering wheel oscillations. Please review and provide comment. Thanks...

-----Original Message-----
From: Mayer, Paul (P.A.)
Sent: Friday, August 19, 2005 4:01 PM
To: Repasky, Steve (S.)
Subject: Update to TSB 04-26-1

Under section titled "ACTION", we add

- Reduce front caster by 0.5 to 0.75 degrees.
- Remove the reference to replacement of redundant steering wheel and applicable sections related to the steering wheel replacement?
- If needed, mention if vehicle built prior to 10/8/2004 reference TSB 04-26-1

Under Section titled "SERVICE PROCEDURES", we add

- EMPHASIS on set tire pressure in **BOLD** letters. (Is it still located on fuel door in 2006?)
- Under item 3 (Check torques) we add the radius arm to axle**(Torque spec: 185 ft-lb),** radius arm to frame bracket**(Torques spec: 406 ft-lb). Radius arm frame bracket to frame bolts (Torque spec: 129 ft-lb)**
- A new item 4. Measure wheel alignment. Verify that Front Caster, Camber & Total Toe**(preferred spec .1degree toe**

in) is within specification. Adjust to specification as required.

A new section Titled "REDUCE FRONT CASTER"

- Note the current front caster
- Use alignment adjustment bushings to Reduce front caster by 0.5 to 0.75 degrees (however, verify that the new caster setting is not below the lower specification limit).
- Use Alignment adjustment bushings:
  - 4x4: 5C3Z-3B440-DDD (0.75 Degree bushing) OR 5C3Z-3B440-EEE (1.0 degree bushing)
  - 4x2: 5C3Z-3B440-D (0.75 Degree bushing) OR 5C3Z-3B440-E (1.0 degree bushing)
- Maintain the current front camber, cross-camber & cross-caster settings as close as you possibly can.

<< File: tsb04-26-01 gear meshload.pdf >>

Regards
Paul Mayer
Truck Suspension and Systems Analysis
313-248-9202 Fax:313-317-2349

From: O'Connor, Tammy (T.A.)
Sent: Monday, August 29, 2005 10:14 AM
To: Rhoda, Kevin (K.S.)
Subject: FW: Update to TSB 04-26-1

Attachments: tsb04-26-01.pdf

Kevin: I sent this out to all the FQE's, but I was going through some old e-mails and I believe you've seen a few Superduty trucks with this issue. Any input on this draft TSB would be appreciated.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thurs,Fri)
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-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Monday, August 29, 2005 8:05 AM
To: McDonald, Joseph (J.)
Cc: Hale, Curt (B.C.)
Subject: Update to TSB 04-26-1

Joe:

Attached is a copy of the TSB 04-26-1 with the suggested revisions in the e-mail below. I have already received a copy of suggested changes from Alex Snider and Randy Corlew which I'm including.

Please send this out with the FQE Assignment I just submitted. Thanks.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thurs,Fri)
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-----Original Message-----
From: Repasky, Steve (S.)
Sent: Friday, August 26, 2005 9:51 AM
To: O'Connor, Tammy (T.A.); Snider, Alex (A.)
Cc: Mayer, Paul (P.A.); Choe, Mark (M.J.); Hatt, Jeffrey (J.M.)
Subject: FW: Update to TSB 04-26-1

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Sent: Friday, August 19, 2005 4:01 PM
To: Repasky, Steve (S.)
Subject: Update to TSB 04-26-1

Under section titled "ACTION", we add

- Reduce front caster by 0.5 to 0.75 degrees.
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  - 4x2: 5C3Z-3B440-D (0.75 Degree bushing) OR 5C3Z-3B440-E (1.0 degree bushing)
- Maintain the current front camber, cross-camber & cross-caster settings as close as you possibly can.

Regards
Paul Mayer
Truck Suspension and Systems Analysis
313-248-9202 Fax:313-317-2349

-----Original Message-----
From: Snider, Alex (A.)
Sent: Friday, August 26, 2005 10:42 AM
To: Repasky, Steve (S.); Mayer, Paul (P.A.)
Cc: Choe, Mark (M.J.); Hatt, Jeffrey (J.M.); O'Connor, Tammy (T.A.)
Subject: RE: Update to TSB 04-26-1

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"Accelerate Growth Through Customer Satisfaction and Loyalty"

Alex Snider
Ford Motor Company of Canada
Technical Service Support Specialist
Outlook ID: asnider@ford.com
Dial net: 853-1485
Outside #: 905-845-2511, ext: 1485

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Also we need to suggest to check the loading and conditions the shimmy will occur. Remember adding weight to the back raises the front end which in effect raises caster. In other words is this only occurring when loaded?
Randy Corlew - FSE - Pittsburgh

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tsb04-26-01.pdf
(16 KB)

STEERING WHEEL OSCILLATION (BACK AND FORTH MOTION) AFTER RIDING OVER BUMPS/RUTS

TSB 04-26-1

FORD:
2005 F-Super Duty

ISSUE

Some 2005 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion) immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on 4x4 vehicles, equipped with steering wheels which have redundant controls (i.e. climate and radio controls).

ACTION

This procedure will minimize the steering wheel oscillations on impacts, however, there may be some remaining minor oscillation which would be considered normal.

Perform the following:

- Vehicle Inspection
- Evaluation Of Vehicle Prior To Repair
- Steering Gear Mesh Load Adjustment
- Replacement Of Redundant Control Steering Wheel (if equipped and vehicle built prior to 10/8/04)

SERVICE PROCEDURE

VEHICLE INSPECTION

1. Set tire pressures as indicated on the vehicle label (located on fuel door).
2. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
    a. If leaks are present, install a new steering damper and continue with this TSB.
    b. If no leaks are present, continue with this TSB.
3. Check torques on the steering system fasteners (damper nuts (4x2), damper-to-bracket (F-250, F-350 4x4), damper-to-drag link, drag link-to-pitman arm nut, inner tie-rod end nut, outer tie-rod end nuts, and track bar bracket-to-frame nuts & bolts), adjust to specification as required. Refer to Workshop Manual Section 211-03.

EVALUATION OF VEHICLE PRIOR TO REPAIR

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the severity of wheel oscillation.
3. During the road test, evaluate and note the steering wheel return-ability.
    a. Turn steering wheel full lock to lock to confirm no binding.
    b. Locate center, and then 45 degrees either side of center on the steering wheel.
    c. Driving vehicle at 35 MPH (56 Km/h), on a dry and flat road surface, turn the wheel 45 degrees and release. Note the approximate angle that the steering wheel returns to BEFORE CLEAR VISION. Perform and record the angle for both left and right. It is normal if the angle differs slightly from left to right.

STEERING GEAR MESH LOAD ADJUSTMENT

1. Insert hex wrench into steering gear mesh load adjuster screw.
2. While holding the mesh load adjuster screw tight, back off lock nuts two full turns to allow free movement of the adjuster screw.

NOTE: The information in Technical Service Bulletins is intended for use by trained, professional technicians with the knowledge, tools, and equipment to do the job properly and safely. It informs these technicians of conditions that may occur on some vehicles, or provides information that could assist in proper vehicle service. The procedures should not be performed by "do-it-yourselfers". Do not assume that a condition described affects your car or truck. Contact a Ford, Lincoln, or Mercury dealership to determine whether the Bulletin applies to your vehicle. Warranty Policy and Extended Service Plan documentation determine Warranty and/or Extended Service Plan coverage unless stated otherwise in the TSB article.The information in this Technical Service Bulletin (TSB) was current at the time of printing. Ford Motor Company reserves the right to supercede this information with updates.The most recent information is available through Ford Motor Company's on-line technical resources.

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3. Carefully tighten adjuster screw until a slight increase in resistance is felt, then back off approximately 1/16th of a turn.
4. Hold the adjuster screw in place and tighten lock nut. Do not allow the adjustment screw to turn while tightening the locking nut down.
5. Road test vehicle and evaluate for improvement in steering wheel oscillations.
   a. Confirm that there is no objectionable increase in steering efforts, especially at low speeds.
   b. Verify that steering wheel return-ability is approximately the same as it was during the original evaluation (within 5 degrees).
   c. Turn steering wheel full lock to lock to confirm no binding.
6. Park the vehicle to let it cool down. Road test cold to confirm acceptable parking efforts and return-ability in cold condition. Repeat the mesh load adjustment if needed.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 Only

NOTE
THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE
FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE 2005 SUPER DUTY F-SERIES WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

PART NUMBER	PART NAME
5C7Z-3600-ABA	Redundant Control Steering Wheel (King Ranch Tan/Peb)
5C7Z-3600-CBA	Redundant Control Steering Wheel (Charcoal Black)

WARRANTY STATUS: Eligible Under Provisions Of New Vehicle Limited Warranty Coverage

OPERATION	DESCRIPTION	TIME
042601A	F-Super Duty With Gas Engine: Perform Inspection/Evaluation, Adjust Mesh Load	2.2 Hrs.
042601A	F-Super Duty With 6.0L Diesel: Perform Inspection/Evaluation, Adjust Mesh Load	3.2 Hrs.
042601B	F-Super Duty With Gas Engine: Perform Inspection/Evaluation, Adjust Mesh Load, And Replace Damper	2.3 Hrs.
042601B	F-Super Duty With 6.0L Diesel: Perform Inspection/Evaluation, Adjust Mesh Load, And Replace Damper	3.2 Hrs.
042601C	F-Super Duty With Gas Engine: Perform Inspection/Evaluation, Adjust Mesh Load, And Replace Steering Wheel	2.8 Hrs.
042601C	F-Super Duty With 6.0L Diesel: Perform Inspection/Evaluation, Adjust Mesh Load, And Replace Steering Wheel	3.6 Hrs.
042601D	F-Super Duty With Gas Engine: Perform Inspection/Evaluation, Adjust Mesh Load, Replace Damper And Steering Wheel	2.9 Hrs.
042601D	F-Super Duty With 6.0L Diesel: Perform Inspection/Evaluation, Adjust Mesh Load, Replace Damper And Steering Wheel	3.7 Hrs.

DEALER CODING

BASIC PART NO.	CONDITION CODE
3600	42

From: Knapp, David (D.)
Sent: Monday, August 29, 2005 9:08 AM
To: Echhot, T (T.); Wardle, Jake (J.); Wolken, Christopher (C.); OConnor, Tammy (T.A.)
Subject: ISM Courtesy Copy: [redacted] 2005-2006 F-Super Duty Steering Wheel Oscillatio

ISM Courtesy Copy
*** DRAFT ***

This message is being sent on behalf of DKNAPP7.
This is a courtesy copy of the following article to advise you this article is currently being processed for publication.

General Information

Last action taken (as of 8/29/2005 1:07:37 PM GMT): Submit for approval
Comment:

Author: DKNAPP7
Tracking Number: [redacted]
Title: 2005-2006 F-Super Duty Steering Wheel Oscillatio
Vehicle Applications:

Vehicle Lines	Model Year Start	Model Year End	Assembly Plants	Body Styles	Engine	Trans Axles	Build From	Build To
F-250	2005	2006						
F-350	2005	2006						
F-450	2005	2006						
F-550	2005	2006						

Internal Text: Some 2005-2006 4x4 F-Super Duty may exhibit Steering Wheel Oscillation (Back And Forth motion) after driving over bumps even after tsb 04-26-01 has been preformed. Check the front track bar fastener torques; 129 lb-ft (175 Nm) @ bracket to frame, 406 lb-ft (550 Nm) @ track bar to track bar bracket bolt/nut, 185 lb- ft (250Nm) @ track bar to axle nut. Advise to ensure tire pressures set to specification on door label (MOST IMPORTANT). Verify that both radius arms are torque properly. Check alignment and set to a preferred .5 to .75 below nominal. Some vibration or shimmy may be normal due to unloaded vehicle and dependant on size of bumps hit. A new tsb will replace 04-26-01 containing this additional information with no eta.

External Text:
ISMs to Supersede: 05-07-034
If SPECS Case, Select all Other Affected Publications:
Changes Needed in Other Pubs:
Message Category: Body/Chassis/Electrical
CQIS Codes: 303000, 304000, 305000, 306000, 380000, 390000
Supervisor CDSID: cwolken
Consultant CDSID: toconnor
ISM Number:
Author Work Group: BCE - Truck

(End automated email)

From: Knapp, David (D.)

Sent: Thursday, September 08, 2005 6:33 PM

To: Echhot, T (T.); Knapp, David (D.); Wardle, Jake (J.); Johnston, Steven (S.J.); Zochowski, Stanley (S.); Wolken, Christopher (C.); OConnor, Tammy (T.A.)

Subject: ISM Courtesy Copy: [redacted] 2005-2006 F-Superduty p0460 mil light on.

ISM Courtesy Copy

*** DRAFT ***

This message is being sent on behalf of DKNAPP7.

This is a courtesy copy of the following article to advise you this article is currently being processed for publication.

General Information

Last action taken (as of 9/8/2005 10:32:39 PM GMT): Submit for approval
Comment: ism only

Author: DKNAPP7
Tracking Number: [redacted]
Title: 2005-2006 F-Superduty p0460 mil light on.
Vehicle Applications:

Vehicle Lines	Model Year Start	Model Year End	Assembly Plants	Body Styles	Engine	Trans Axles	Build From	Build To
F-Super Duty (F-250 to 550)	2005	2006						

Internal Text:

Some 2005-2006 F-Super Duty vehicles with a 6.0L Diesel may exhibit a MIL light on with DTC P0460. To Service, perform Pinpoint Test QH in the PC/ED diagnostics manual. This DTC may be induced when a customer's fuel tank is filled while the engine is running, either with an aux tank or at a fueling station; if the vehicle is parked on a slope running for a period of time and then driven on a level surface, which would tell the pcm that fuel level has increased over drive cycle; or finally if the customer has an improperly installed remote start that wakes up the pcm with out waking up the cluster. The pcm compares FLI and FLI_V to determine if the sender has an issue. If a discrepancy is found within the two then DTC P0460 may be set. Do not replace the cluster or the PCM for this issue. Engineering is currently investigating, continue to monitor OASIS.

External Text:
ISMs to Supersede:
If SPECS Case, Select all Other Affected Publications:
Changes Needed in Other Pubs:
Message Category: Body/Chassis/Electrical
CQIS Codes: 698000, 690000, 204000, 206000, 290000
Supervisor CDSID: cwolken
Consultant CDSID: toconnor
ISM Number:
Author Work Group: BCE - Truck

(End automated email)

From: Knapp, David (D.)
Sent: Wednesday, June 14, 2006 10:31 AM
To: Echhot, T (T.); Wolken, Christopher (C.); OConnor, Tammy (T.A.)
Subject: ISM Courtesy Copy: [redacted] 2007 F-Superduty steering oscillation

ISM Courtesy Copy
*** DRAFT ***

This message is being sent on behalf of DKNAPP7.
This is a courtesy copy of the following article to advise you this article is currently being processed for publication.

General Information

Last action taken (as of 6/14/2006 2:31:17 PM GMT): Submit for approval
Comment: ism untill revised tsb is released.

Author: DKNAPP7
Tracking Number: [redacted]
Title: 2007 F-Superduty steering oscillation
Vehicle Applications:

Vehicle Lines	Model Year Start	Model Year End	Assembly Plants	Body Styles	Engine	Trans Axles	Build From	Build To
F-Super Duty (F-250 to 550)	2007	2007						

Internal Text: Some 2007 F-Superduty may have a concern of steering oscillations after hitting a bump. To service follow tsb 05-22-01. There is no design change between the 2005 and 2006 versus the 2007 model year. All 2007 superduty 4x4 trucks have a steering dampener. The tsb is being updated presently to include 2007 model year.

External Text:
ISMs to Supersede:
If SPECS Case, Select all Other Affected Publications:
Changes Needed in Other Pubs:
Message Category: Body/Chassis/Electrical
CQIS Codes: 303353, 303xxx, 703xxx, 380xxx, 390xxx
Supervisor CDSID: cwolken
Consultant CDSID: toconnor
ISM Number:
Author Work Group: BCE - Truck

(End automated email)

From: O'Connor, Tammy (T.A.)
Sent: Wednesday, January 31, 2007 9:34 AM
To: Snider, Alex (A.)
Subject: RE: 2005 to 2007 F SUPER DUTY STEERING SHOCK.

Attachments: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation; TSB Request for Input: [redacted] 2005-2007 F-Super Duty - Vibration/Hop at 40-48 MPH (8.0Hz)

Alex:

I have 2 draft TSBs - the revised steering shimmy tsb has been submitted and is working it's way through the system.

TSB Courtesy Copy: 070-2006-27...

I have the very first draft of the TSB for hop -- I should be submitting it by Friday. I'm attaching copies of both.

TSB Request for Input: 070-200...

Tammy A. O'Connor
Product Concern Engineer
FCSD Service Engineering Operations
Super Duty F-Series
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Snider, Alex (A.)
Sent: Wednesday, January 31, 2007 9:32 AM
To: O'Connor, Tammy (T.A.)
Subject: 2005 to 2007 F SUPER DUTY STEERING SHOCK.

Tammy, Good morning to you.

With the release of the 2008 F super duty are we going to release the 2008 steering damper for the 2005 and up model years?

"Accelerate Growth Through Customer Satisfaction and Loyalty"

Alex Snider
Ford Motor Company of Canada
Technical Service Support Specialist
Outlook ID: asnider@ford.com
Dial net: 853-1485
Outside #: 905-845-2511, ext: 1485

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From: O'Connor, Tammy (T.A.)

Sent: Monday, January 29, 2007 2:57 PM

To: Hale, Curt (B.C.); Knapp, David (D.); Repasky, Steve (S.); Rivera, Santos (S.); Welch, Sharon (S.L.); O'Connor, Tammy (T.A.)

Subject: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

TSB Courtesy Copy

*** DRAFT ***

This message is being sent on behalf of TOCONNOR.
This is a courtesy copy of the following article to advise you this article is currently being processed for publication.

General Information

Last action taken (as of 1/29/2007 7:56:29 PM GMT): Submit for approval
Comment:

Author:	TOCONNOR
Tracking Number:	[redacted]
Author Tracking Number:	--
Title:	2005-2007 F-Super Duty - Steering Wheel Oscillation
Article Type:	TSB

TSB Issue:
Some 2005-2007 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion), immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on 4X4 vehicles, and is more evident on trucks equipped with a gas engine.
TSB Action:
Refer to the tsb Service Procedure to minimize the steering wheel oscillations on impacts, however, there may be some remaining minor oscillation which would be considered normal.

TSB Service Procedure:
SERVICE PROCEDURE SUMMARY

· Set tire pressure, road test vehicle to evaluate vehicle before proceeding with further repairs. If issue is resolved, do not proceed with the rest of this TSB
· If concern still exists, torque steering and suspension fasteners per Workshop Manual
· If concern still exists, check front alignment and reduce front caster
· If concern still exists, install a new steering damper frame mounted bracket and steering damper assembly (4X4 applications only). For 4x2 applications, inspect damper for leaks and replace as required with damper 5C3Z-3E651-D only.
· Replacement of redundant control steering wheel (if equipped and vehicle built prior to 10/8/2004).

VEHICLE INSPECTION - TIRE PRESSURE
---
1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

NOTE: SETTING TIRE PRESSURE TO DOOR SPECIFICATION IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE.

ROAD TEST

---

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the customer's issue.
3. If no issues are identified during the road test, do not proceed with the rest of this TSB.

STEERING/SUSPENSION FASTENER TORQUE CHECK

---

1. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table below).

Description	Torque Specification (lb-ft/ Nm)	
	Lb-ft	Nm
Damper nuts (4X2)	66	90
Damper-to-bracket (F-250, F-350 4X4)	76	103
Damper-to-drag link	66	90
Drag link-to-pitman arm nut	129	175
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts and bolts	129	175
Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE.

FRONT WHEEL ALIGNMENT AND REDUCE FRONT CASTER

NOTE: OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

Measure wheel alignment. Verify that Front Caster, Camber, and Total Toe are within specification. Adjust as required. Refer to the Workshop Manual, Section 204-00 for complete alignment specifications.

REDUCE FRONT CASTER

· Note the current front caster

· Use alignment adjustment bushings to reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit. Use alignment adjustment bushings

F-250/350 4X4:

· 5C3Z-3B440-CCC (0.5 degree bushing)

· 5C3Z-3B440-DDD (0.75 degree bushing)

· 5C3Z-3B440-EEE (1.0 degree bushing)

F-450/550 4X4 and 4X2:

· 5C3Z-3B440-HHH (0.5 degree bushing)
· 5C3Z-3B440-JJJ (0.75 degree bushing)
· 5C3Z-3B440-KKK (1.0 degree bushing)

F-250/350 4X2:
· 5C3Z-3B440-C = 0.5 degree busing
· 5C3Z-3B440-D = 0.75 degree bushing
· 5C3Z-3B440-E = 1.0 degree bushing

For All 4X4 and for F-450/550 4X2
· Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward and inboard position (See Figure 1)
· This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed
· The final caster and camber settings must be within the specification limits
· Maintain the current front camber, cross-camber and cross-caster settings as close as you possibly can
· Adding weight behind the rear axle lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster

For All F-250/350 4X2,
· Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain that position while moving the caster position forward in the truck
· The final caster and camber settings must be within the specification limits

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE.

STEERING DAMPER INSPECTION (4X2) AND REPLACE STEERING DAMPNER AND FRAME MOUNTING BRACKET (4X4):

For 4x2 applications only:

Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
If leaks are present, install a new steering damper (5C3Z-3E651-D).

For 4x4 applications:

Remove existing steering damper and frame attachment bracket. Replace steering damper and frame mounting bracket with steering damper P/N 8C3Z-3E651-A and frame bracket P/N 7C3Z-3E652-C. Attach steering damper to frame bracket (with W706196-S439 bolt and W520114S441 nut) and torque bolt to 103 Nm. Assemble bracket and shock assembly to the frame with attachment bolt retainer (W712055-S439) pointing to rear of vehicle. Torque frame bracket nuts (W520114-S441) to 80 Nm. Attach other end of shock to the steering drag link and torque to 90 Nm. See figure X. (Needs a number).
Install damper bolt cap (W711670-S300) to assure a friendly surface for the battery cable in case of casual contact.

Note: CHECK SURROUNDING ENVIRONMENT TO THE FRAME BRACKET AND DAMPER ASSEMBLY TO ENSURE THAT BATTERY CABLES ARE NOT CONTACTING BRACKET/BOLTS/DAMPER. ALSO, VERIFY

THAT TRANSMISSION OIL COOLER LINES HAVE CLEARANCE TO THE DAMPER DUST SHIELD.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 Only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual, Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

NOTE: LABOR OPERATIONS IN THIS TSB CAN BE CLAIMED TOGETHER.

NOTE: OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

Category: Service Fix (10 years - TSB Only)
Request Type: Non-QSF
Would this make a good cost save business case? No
Activity Code: 070 F-Series >8500#
Vehicle Applications:

Vehicle Lines	Model Year Start	Model Year End	Assembly Plants	Body Styles	Engine	Trans Axles	Build From	Build To
F-Super Duty (F-250 to 550)	2005	2007						

If SPECS Case, Select all Other Affected Publications:
Changes Needed in Other Pubs:
TSBs to Supersede: 06-15-1
SSMs to Supersede:
ISMs to Supersede:
Other application Articles:
Select the reason for republication: Incorrect Procedure
Procedure verified by CDSID: srepasky
Describe How The Procedure Was Verified: TSB was verified by Steve Repasky.
Do you have access to a vehicle for time study? Yes
If Yes, contact for vehicle CDSID: toconnor
Are Illustrations Required? Yes
If Yes, Contact information for illustrations:
CDSID(Ford only): toconnor
Full Name: Tammy O'Connor
Phone: 313/322-3824
Illustration Notes: Please use same illustrations from TSB 06-15-1.

Trustmarks affected: Ford
Additional Trustmarks To Notify:
Article Distribution: WDMO, Canada, Mexico, United States
DTC Codes and OASIS Service Codes: , 303000, 304000, 306000, 703000, 703000, 703200, 703200, 703300, 703300, 703400, 703400

Causal Basic Part # or Finis Code:

Causal Part # or Finis Code	Warranty Condition Codes
3E651 FRONT TIR	Chassis: 42

Calibrations List:

White Paper Numbers:

Parts Request Information

Are Parts Required? Yes

QSF Single Agenda Or Program FRC Date:

Parts List:

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
1	Existing	5C74-3F563-AB1D24	No	Not Applicable	STEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5C7Z-3600-ABA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
2	Existing	5C74-3F563-AB35B8	No	Not Applicable	sTEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5c7z-3600-CBA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
3	Existing	5C34-3D004-NA	No	Not Applicable	.5 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-C			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
4	Existing	5C34-3D004-CA	No	Not Applicable	.5 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-CCC			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-PA	No	Not Applicable	.75 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company

	126						
5	**@1st Contact**	**@1st Contact Phone**	**Source Code**	**Service #**	**Replaced SVC #**	**°Replaced Eng. #**	**°Is Calibration Needed**
				5C3Z-3B440-D			No

6	***Type of Part**	***Eng #**	***Is This Part a Kit?**	***Existing Stock#**	***Part Name**	***Qty/veh.**	***Engineering Est. Qty. Needed**
	Existing	5C34-3D004-DA	No	Not Applicable	-75 DEGREE SHIM 4X4	1	100
	***Calculated Forecast**		***@WERS Notice #**		***@WERS Date Released**		***@Supplier Company**
	126						
	@1st Contact	**@1st Contact Phone**	**Source Code**	**Service #**	**Replaced SVC #**	**°Replaced Eng. #**	**°Is Calibration Needed**
				5C3Z-3B440-DDD			No

7	***Type of Part**	***Eng #**	***Is This Part a Kit?**	***Existing Stock#**	***Part Name**	***Qty/veh.**	***Engineering Est. Qty. Needed**
	Existing	5C34-3D004-RA	No	Not Applicable	1.0 DEGREE SHIM 4X2	1	100
	***Calculated Forecast**		***@WERS Notice #**		***@WERS Date Released**		***@Supplier Company**
	126						
	@1st Contact	**@1st Contact Phone**	**Source Code**	**Service #**	**Replaced SVC #**	**°Replaced Eng. #**	**°Is Calibration Needed**
				5C3Z-3B440-E			No

8	***Type of Part**	***Eng #**	***Is This Part a Kit?**	***Existing Stock#**	***Part Name**	***Qty/veh.**	***Engineering Est. Qty. Needed**
	Existing	5C34-3D004-EA	No	Not Applicable	1.0 DEGREE SHIM 4X4	1	100
	***Calculated Forecast**		***@WERS Notice #**		***@WERS Date Released**		***@Supplier Company**
	126						
	@1st Contact	**@1st Contact Phone**	**Source Code**	**Service #**	**Replaced SVC #**	**°Replaced Eng. #**	**°Is Calibration Needed**
				5C3Z-3B440-EEE			No

9	***Type of Part**	***Eng #**	***Is This Part a Kit?**	***Existing Stock#**	***Part Name**	***Qty/veh.**	***Engineering Est. Qty. Needed**
	Existing	5C34-3D004-JA	No	Not Applicable	0.75 DEGREE SHIM	1	100
	***Calculated Forecast**		***@WERS Notice #**		***@WERS Date Released**		***@Supplier Company**
	126						
	@1st Contact	**@1st Contact Phone**	**Source Code**	**Service #**	**Replaced SVC #**	**°Replaced Eng. #**	**°Is Calibration Needed**
				5C3Z-3B440-JJJ			No

10	***Type of Part**	***Eng #**	***Is This Part a Kit?**	***Existing Stock#**	***Part Name**	***Qty/veh.**	***Engineering Est. Qty. Needed**
	Existing	5C34-3D004-KA	No	Not Applicable	1.0 DEGREE SHIM	1	100
	***Calculated Forecast**		***@WERS Notice #**		***@WERS Date Released**		***@Supplier Company**

	126						
	@1st Contact	**@1st Contact Phone**	**Source Code**	**Service #**	**Replaced SVC #**	**°Replaced Eng. #**	**°Is Calibration Needed**
				5C3Z-3B440-KKK			No

11	***Type of Part**	***Eng #**	***Is This Part a Kit?**	***Existing Stock#**	***Part Name**	***Qty/veh.**	***Engineering Est. Qty. Needed**
	Existing	W520117-S441	No	Not Applicable	NUT - HEX - RH THREA	1	100
	***Calculated Forecast**		***@WERS Notice #**		***@WERS Date Released**		***@Supplier Company**
	126						
	@1st Contact	**@1st Contact Phone**	**Source Code**	**Service #**	**Replaced SVC #**	**°Replaced Eng. #**	**°Is Calibration Needed**
			G229J	W520117-S441			No

12	***Type of Part**	***Eng #**	***Is This Part a Kit?**	***Existing Stock#**	***Part Name**	***Qty/veh.**	***Engineering Est. Qty. Needed**
	Existing	W706196-S439	No	Not Applicable	Bolt	1	100
	***Calculated Forecast**		***@WERS Notice #**		***@WERS Date Released**		***@Supplier Company**
	126						
	@1st Contact	**@1st Contact Phone**	**Source Code**	**Service #**	**Replaced SVC #**	**°Replaced Eng. #**	**°Is Calibration Needed**
			G229J	W706196-S439			No

13	***Type of Part**	***Eng #**	***Is This Part a Kit?**	***Existing Stock#**	***Part Name**	***Qty/veh.**	***Engineering Est. Qty. Needed**
	Existing	7c343e652ac	No	Not Applicable	Bracket	1	100
	***Calculated Forecast**		***@WERS Notice #**		***@WERS Date Released**		***@Supplier Company**
	126						
	@1st Contact	**@1st Contact Phone**	**Source Code**	**Service #**	**Replaced SVC #**	**°Replaced Eng. #**	**°Is Calibration Needed**
				7c3z3e652c			No

14	***Type of Part**	***Eng #**	***Is This Part a Kit?**	***Existing Stock#**	***Part Name**	***Qty/veh.**	***Engineering Est. Qty. Needed**
	Existing	8C34-3E651-CB	No	Not Applicable	Dampner Asy	1	100
	***Calculated Forecast**		***@WERS Notice #**		***@WERS Date Released**		***@Supplier Company**
	126						
	@1st Contact	**@1st Contact Phone**	**Source Code**	**Service #**	**Replaced SVC #**	**°Replaced Eng. #**	**°Is Calibration Needed**
			T407H	8C3Z-3E651-C			No

Parts catalog flag needed? No
Part number(s) that require flag:
Is geographic location significant? No
Special instructions/remarks:

We want to have 3 causal part numbers as follows:
1. 3E651 = Steering Dampner
2. FRONT = Alignment
3. TIRE = Tire Pressure

This TSB is being updated to include a revised steering damper.

Article Number:
BCM Number:

(End automated email)

From: O'Connor, Tammy (T.A.)

Sent: Wednesday, January 31, 2007 9:13 AM

To: Hale, Curt (B.C.); Gompper, Dan (D.B.); Hasselbring, D Blake (D.B.); Knapp, David (D.); Chiang, John (J.); Repasky, Steve (S.); O'Connor, Tammy (T.A.)

Subject: TSB Request for Input: [redacted] 2005-2007 F-Super Duty - Vibration/Hop at 40-48 MPH (8.0Hz)

TSB Request for Input

*** DRAFT ***

This message is being sent on behalf of TOCONNOR.

Please provide review and feedback for the article below. The person requesting this feedback may have provided further direction in the comment section below. Forward/Send any comments via email to the person who sent this email.

General Information

Last action taken (as of 1/31/2007 2:13:09 PM GMT):	Send for engineering input
Comment:	Please review and forward any suggested comments/changes to TOCONNOR before Friday, February 2nd at which time it will be submitted for publication.
Author:	TOCONNOR
Tracking Number:	[redacted]
Author Tracking Number:	--
Title:	2005-2007 F-Super Duty - Vibration/Hop at 40-48 MPH (8.0Hz)
Article Type:	TSB

TSB Issue:

Some 2005-2007 F-Super Duty vehicles with a long wheelbase (172", 158", or 156") may exhibit a vehicle vertical vibration, often described as "hopping", on smooth or coarse road surfaces in the 42 - 48 mph speed range. Although this behavior is considered normal for an O8500 truck, some customers may be sensitive to the concern.

NOTE: THE INSTALLATION OF THIS DAMPER WILL NOT IMPROVE RIDE ON SEGMENTED CONCRETE HIGHWAYS, STEERING WHEEL VIBRATION/SHIMMY, OR GENERAL HARSH RIDE CONCERNS.

To improve the vibration level of the vehicle, please refer to the following TSBs:

1. For steering wheel vibration/shimmy concerns, refer to TSB ??-??-??.
2. Runout Matching TSB 05-06-24, as the issue is sometimes excited by tire and wheel R1H or imbalance.

TSB Action:

To improve the 42 - 48 mph vertical vibration, mount the cage damper directly to the trailer hitch, per the Service Procedure below.

TSB Service Procedure:

Repair Procedure:

1. Remove the spare tire as outlined in the Workshop Manual, Section 204-04.
2. Temporarily remove plastic wiring connector (Figure 2).
3. Position the provided template (Figure 3) to the LH hitch side plate, aligning it with existing holes.
4. Mark location of three holes on hitch for drilling.

5. Drill 14.6 mm diameter mounting holes, 3 places.
6. Place the damper at correct mounting location.
7. Thread the bolts through the side plate into the weld nuts on the damper bracket, and torque to 62.5 N-m.
8. Re-install the plastic wiring connector.
9. Restow the spare tire and tighten to clutch override.

Category: Service Fix (10 years - TSB Only)
Request Type: Non-QSF
Would this make a good cost save business case? No
Activity Code: 070 F-Series >8500#
Vehicle Applications:

Vehicle Lines	Model Year Start	Model Year End	Assembly Plants	Body Styles	Engine	Trans Axles	Build From	Build To
F-Super Duty (F-250 to 550)	2005	2007						

If SPECS Case, Select all Other Affected Publications:
Changes Needed in Other Pubs:
TSBs to Supersede:
SSMs to Supersede:
ISMs to Supersede:
Other application Articles:
Select the reason for republication:
Procedure verified by CDSID:
Describe How The Procedure Was Verified:
Do you have access to a vehicle for time study? No
If Yes, contact for vehicle CDSID:
Labor Operations:

Are Illustrations Required? Yes
If Yes, Contact information for illustrations:
CDSID(Ford only): toconnor
Full Name: Tammy O'Connor
Phone: 313/322-3824
Illustration Notes:

Trustmarks affected: Ford
Additional Trustmarks To Notify:
Article Distribution: WDMO, Canada, Mexico, United States
DTC Codes and OASIS Service Codes: , 303000, 304000, 306000, 703000, 703100, 703200, 703300, 703400
Causal Basic Part # or Finis Code:

Calibrations List:

White Paper Numbers:

Parts Request Information

Are Parts Required? No

Article Number:
BCM Number:

(End automated email)

From: Knapp, David (D.)
Sent: Friday, September 02, 2005 9:31 AM
To: O'Connor, Tammy (T.A.); McDonald, Joseph (J.)
Cc: Kaltz, Gordie (G.); Hale, Curt (B.C.); Snider, Alex (A.); Corlew, Randall (R.L.)
Subject: RE: [redacted] Revisions to TSB for Steering Wheel Shimmy

Attachments: [redacted] TSB Steering Wheel Shimmy Update 08 31.doc

Tammy,
The guys here at the hotline and myself have gone through the tsb and feel it works better like this for both time and labor. Just a suggestion and reformat of an already good tsb.

[redacted] TSB Steering Whe...

David Knapp
Truck Group Service Engineer
F-Superduty/Excursion SME
Ford Technical Hotline
DKnapp7@ford.com
313-317-6316

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Wednesday, August 31, 2005 11:53 AM
To: McDonald, Joseph (J.)
Cc: Kaltz, Gordie (G.); Hale, Curt (B.C.); Knapp, David (D.); Snider, Alex (A.); Corlew, Randall (R.L.)
Subject: RE: [redacted] Revisions to TSB for Steering Wheel Shimmy
Importance: High

<< File: [redacted] TSB Steering Wheel Shimmy Update 08 31.doc >>

Joe: Attached is an update with the changes on description on torque spec for steering and suspension fasteners.

I appreciate any feedback any of you have to offer on this draft.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thurs,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

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-----Original Message-----
From: O'Connor, Tammy (T.A.)

Sent: Tuesday, August 30, 2005 3:19 PM
To: McDonald, Joseph (J.)
Cc: Kaltz, Gordie (G.); Hale, Curt (B.C.); Knapp, David (D.)
Subject: [redacted] Revisions to TSB for Steering Wheel Shimmy
Importance: High

<< File: [redacted] TSB Steering Wheel Shimmy Update.doc >>

Joe/Gordie:

Attached is the complete TSB with revisions. Please send this out as appropriate. Thanks.

Let me know if anyone has any questions or feedback.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
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ISSUE:

Some 2005-2006 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion) immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on 4x4 vehicles, equipped with steering wheels that have redundant controls (i.e. climate and radio controls).

ACTION:

This procedure will minimize the steering wheel oscillations on impacts; however, there may be some remaining minor oscillation, which would be considered normal.
Perform the following:

- Vehicle Inspection
- Evaluation Of Vehicle Prior To Repair
- Steering Gear Mesh Load Adjustment
- Reduce front caster by 0.5 to 0.75 degrees
- Replacement Of Redundant Control Steering Wheel (if equipped and vehicle built prior to 10/8/04)

SERVICE PROCEDURE

VEHICLE INSPECTION

EVALUATION OF VEHICLE PRIOR TO REPAIR

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the severity of wheel oscillation.
3. During the road test, evaluate and note the steering wheel return-ability.
    a. Turn steering wheel full lock to lock to confirm no binding.
    b. Locate center, and then 45 degrees either side of center on the steering wheel.
    c. Driving vehicle at 35 MPH (56 Km/h), on a dry and flat road surface, turn the wheel 45 degrees and release. Note the approximate angle that the steering wheel returns to BEFORE CLEAR VISION. Perform and record the angle for both left and right. It is normal if the angle differs slightly from left to right.

For repair follow these procedures:

1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

NOTE: SETTING TIRE PRESSUE TO DOOR SPEC IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

2. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.

a. If leaks are present, install a new steering damper and continue with this TSB.
b. If no leaks are present, continue with this TSB.

If an adjustment or replacement is made then reevaluate for symptom.

If not rectified then proceed to the next step.

3. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table # below).

Description	**Torque Specification (lb-ft)**
Damper nuts (4x2)	59
Damper-to-bracket (F-250, F-350 4x4)	26
Damper-to-drag link	67
Drag link-to-pitman arm nut	148
Inner tie-rod end nuts	85
Outer tie-rod end nuts	85
Track bar bracket-to-frame nuts & bolts	129
Track bar-to-track bar bracket bolt	406
Track bar-to-axle nut	185
Radius arm to axle bolts	222
Radius arm to bracket nut	222

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

If an adjustment or replacement is made then reevaluate for symptom.

If not rectified then proceed to the next step.

4. STEERING GEAR MESH LOAD ADJUSTMENT

1. Insert hex wrench into steering gear mesh load adjuster screw.
2. While holding the mesh load adjuster screw tight, back off lock nuts two full turns to allow free movement of the adjuster screw.
3. Carefully tighten adjuster screw until a slight increase in resistance is felt, then back off approximately 1/16th of a turn.
4. Hold the adjuster screw in place and tighten lock nut. Do not allow the adjustment screw to turn while tightening the locking nut down.
5. Road test vehicle and evaluate for improvement in steering wheel oscillations.
    a. Confirm that there is no objectionable increase in steering efforts, especially at low speeds.
    b. Verify that steering wheel return-ability is approximately the same as it was during the original evaluation (within 5 degrees).
    c. Turn steering wheel full lock to lock to confirm no binding.
6. Park the vehicle to let it cool down. Road test cold to confirm acceptable parking efforts and return-ability in cold condition. Repeat the mesh load adjustment if needed.

If an adjustment or replacement is made then reevaluate for symptom.

If not rectified then proceed to the next step.

5. CHECK ALIGNMENT

Measure wheel alignment. Verify that Front Caster, Camber & Total Toe is within specification (preferred specification is .1 degree toe in). Adjust to specification as required. Refer to the Workshop Manual, Section 2004-00-1 for complete alignment specifications.

REDUCE FRONT CASTER

- Note the current front caster
- Use alignment adjustment bushings to Reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit.
- If caster setting is at exact minimum, camber may be below the specification limit.
- Use Alignment adjustment bushings:
- 4x4: 5C3Z-3B440-DDD (0.75 Degree bushing) OR 5C3Z-3B440-EEE (1.0 degree bushing)
- 4x2: 5C3Z-3B440-D (0.75 Degree bushing) OR 5C3Z-3B440-E (1.0 degree bushing)
- Maintain the current front camber, cross-camber & cross-caster settings as close as you possibly can.
- If the caster to the exact minimum he finds that the camber is out of spec.
- Adding weight to the back raises the front of the vehicle, which in effect increases caster.

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

If an adjustment or replacement is made then reevaluate for symptom.

If not rectified then proceed to the next step only if vehicle is built before 10/8/2004. Some slight oscillation may still be present due to a vehicle characteristic. If so compare to a like vehicle.

6. REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE 2005 OR 2006 SUPER DUTY F-SERIES WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

From: McDonald, Joseph (J.)
Sent: Tuesday, August 30, 2005 5:07 PM
To: O'Connor, Tammy (T.A.)
Subject: RE: [redacted] Revisions to TSB for Steering Wheel Shimmy

Is this correct, 406 Ft lbs is alot.

- Radius arm to frame bracket (Torque spec: 406 ft-lb)

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Tuesday, August 30, 2005 3:19 PM
To: McDonald, Joseph (J.)
Cc: Kaltz, Gordie (G.); Hale, Curt (B.C.); Knapp, David (D.)
Subject: [redacted] Revisions to TSB for Steering Wheel Shimmy
Importance: High

<< File: [redacted] TSB Steering Wheel Shimmy Update.doc >>

Joe/Gordie:

Attached is the complete TSB with revisions. Please send this out as appropriate. Thanks.

Let me know if anyone has any questions or feedback.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thurs,Fri)
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From: Carey, John (J.P.)
Sent: Wednesday, September 14, 2005 9:42 AM
To: O'Connor, Tammy (T.A.)
Subject: RE: [redacted] Revisions to TSB for Steering Wheel Shimmy

Tammy,
Thank you for your assistance on this vehicle issue.
Following the revised information provided (and correct torque specifications) corrected the concern.
Time did not allow us to progress action by action and road test with each change unfortunately.
The tire pressures were substantially low.
CQIS report 5H3EN009 has been updated with comments / values.

Thank you

John Carey
Field Service Engineer
Ford Customer Service Division
Zone C1,C2, C3
(407) 875-7577
(407) 467-5087 Cell

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Tuesday, September 06, 2005 4:06 PM
To: Carey, John (J.P.)
Subject: FW: [redacted] Revisions to TSB for Steering Wheel Shimmy
Importance: High

John: Here is a revised draft with changes on torque specs. Please call me if you have any questions.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
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-----Original Message-----
From: Snider, Alex (A.)
Sent: Wednesday, August 31, 2005 12:39 PM
To: O'Connor, Tammy (T.A.)
Subject: FW: [redacted] Revisions to TSB for Steering Wheel Shimmy
Importance: High

Tammy, I added the Nm torque spec for you.

"Accelerate Growth Through Customer Satisfaction and Loyalty"

Alex Snider

Ford Motor Company of Canada
Technical Service Support Specialist
Outlook ID: asnider@ford.com
Dial net: 853-1485
Outside #: 905-845-2511, ext: 1485

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Sent: Wednesday, August 31, 2005 11:53 AM
To: McDonald, Joseph (J.)
Cc: Kaltz, Gordie (G.); Hale, Curt (B.C.); Knapp, David (D.); Snider, Alex (A.); Corlew, Randall (R.L.)
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I appreciate any feedback any of you have to offer on this draft.

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Let me know if anyone has any questions or feedback.

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Cc: Kaltz, Gordie (G.); Hale, Curt (B.C.); Knapp, David (D.); Snider, Alex (A.); Corlew, Randall (R.L.)
Subject: RE: [redacted] Revisions to TSB for Steering Wheel Shimmy

Importance: High

Attachments: [redacted] TSB Steering Wheel Shimmy Update 08 31.doc

[redacted] TSB Steering Whe...

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Product Concern Engineer
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- Steering Gear Mesh Load Adjustment
- Reduce front caster by 0.5 to 0.75 degrees
- Replacement Of Redundant Control Steering Wheel (if equipped and vehicle built prior to 10/8/04)

SERVICE PROCEDURE

VEHICLE INSPECTION

1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

   NOTE: SETTING TIRE PRESSUE TO DOOR SPEC IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

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   a. If leaks are present, install a new steering damper and continue with this TSB.
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4. Measure wheel alignment. Verify that Front Caster, Camber & Total Toe is within specification (preferred specification is .1 degree toe in). Adjust to specification as required. Refer to the Workshop Manual, Section 2004-00-1 for complete alignment specifications.

EVALUATION OF VEHICLE PRIOR TO REPAIR

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the severity of wheel oscillation.
3. During the road test, evaluate and note the steering wheel return-ability.

a. Turn steering wheel full lock to lock to confirm no binding.
b. Locate center, and then 45 degrees either side of center on the steering wheel.
c. Driving vehicle at 35 MPH (56 Km/h), on a dry and flat road surface, turn the wheel 45 degrees and release. Note the approximate angle that the steering wheel returns to BEFORE CLEAR VISION. Perform and record the angle for both left and right. It is normal if the angle differs slightly from left to right.

STEERING GEAR MESH LOAD ADJUSTMENT

1. Insert hex wrench into steering gear mesh load adjuster screw.
2. While holding the mesh load adjuster screw tight, back off lock nuts two full turns to allow free movement of the adjuster screw.
3. Carefully tighten adjuster screw until a slight increase in resistance is felt, then back off approximately 1/16th of a turn.
4. Hold the adjuster screw in place and tighten lock nut. Do not allow the adjustment screw to turn while tightening the locking nut down.
5. Road test vehicle and evaluate for improvement in steering wheel oscillations.
    a. Confirm that there is no objectionable increase in steering efforts, especially at low speeds.
    b. Verify that steering wheel return-ability is approximately the same as it was during the original evaluation (within 5 degrees).
    c. Turn steering wheel full lock to lock to confirm no binding.
6. Park the vehicle to let it cool down. Road test cold to confirm acceptable parking efforts and return-ability in cold condition. Repeat the mesh load adjustment if needed.

REDUCE FRONT CASTER

- Note the current front caster
- Use alignment adjustment bushings to Reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit.
- If caster setting is at exact minimum, camber may be below the specification limit.
- Use Alignment adjustment bushings:
    - 4x4: 5C3Z-3B440-DDD (0.75 Degree bushing) OR 5C3Z-3B440-EEE (1.0 degree bushing)
    - 4x2: 5C3Z-3B440-D (0.75 Degree bushing) OR 5C3Z-3B440-E (1.0 degree bushing)
- Maintain the current front camber, cross-camber & cross-caster settings as close as you possibly can.
- If the caster to the exact minimum he finds that the camber is out of spec.
- Adding weight to the back raises the front of the vehicle, which in effect increases caster.

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE 2005 OR 2006 SUPER DUTY F-SERIES WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

From: Louise McEvoy [louise@brownart.com]
Sent: Tuesday, December 04, 2007 4:57 PM
To: OConnor, Tammy (T.A.)
Subject: Re: [redacted]

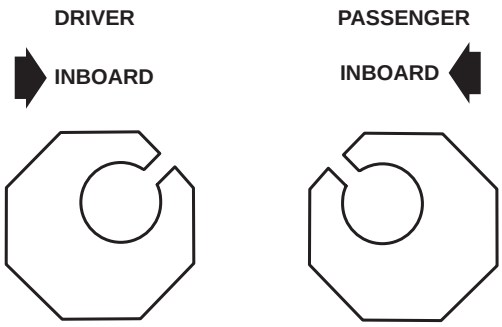
Attachments: [redacted] pdf

[redacted] pdf
(20 KB)

Hi Tammy,
Just need your approval.
Thank you

Louise McEvoy
Graphic Designer
Brown Art Corporation
20065 W. Outer Dr.
Dearborn, MI 48124
Ph. 313-565-7020
Fax 313-565-7022
email: louise@brownart.com

> From: "OConnor, Tammy (T.A.)" <toconnor@ford.com>
> Date: Tue, 4 Dec 2007 12:29:10 -0800
> To: Louise McEvoy <brownart_louise@mac.com>
> Cc: "Klump, Robert (R.F.)" <rklump@ford.com>
> Conversation: [redacted]
> Subject: RE: [redacted]
>
> Please use the same illustrations as TSB 07-10-10 - no changes.
>
> Tammy A. O'Connor
> Product Concern Engineer
> FCSD Service Engineering Operations
> Super Duty F-Series
> Body/Chassis/Electrical
> 248/814-8698 Telecommuting Office (Mon,Tue,Fri AM)
> 313/322-3824 DSC I, Cube 149 (Wednesday,Thursday)
>
> -----Original Message-----
> From: Louise McEvoy [mailto:brownart_louise@mac.com]
> Sent: Tuesday, December 04, 2007 3:17 PM
> To: OConnor, Tammy (T.A.)
> Subject: [redacted]
>
> HI Tammy,
> How are you? I need that artwork for tsb [redacted] .
> Thank you
>
> Louise McEvoy
> Graphic Designer
> Brown Art Corporation
> 20065 W. Outer Dr.
> Dearborn, MI 48124
> Ph. 313-565-7020
> Fax 313-565-7022
> email: louise@brownart.com
>



TB-8348-A

From: O'Connor, Tammy (T.A.)
Sent: Tuesday, October 11, 2005 12:47 PM
To: Dixon, Brandon (B.A.)
Cc: Hale, Curt (B.C.)
Subject: RE: 2005 SD st whl oscillation
Attachments: RE: TSB for Steering Wheel Shimmy

Brandon: Here is the final draft -- should be out in a week or so. Please call me if you have any questions.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Wed,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Thursday)

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-----Original Message-----
From: Dixon, Brandon (B.A.)
Sent: Tuesday, October 11, 2005 9:45 AM
To: O'Connor, Tammy (T.A.)
Cc: Hale, Curt (B.C.)
Subject: RE: 2005 SD st whl oscillation

Tammy,
I will be involved in this repair this week thursday. Please advise if there have been any changes to the draft TSB that you previously sent since 9/12/05. This is a 2006 F250 and the dealer describes the oscillation as severe and has done the torquing requirements per hotline.

Brandon A. Dixon
Ford Motor Company
Field Service Engineer
Chicago Region District D
Illinois / Iowa

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Monday, September 12, 2005 7:11 AM
To: Dixon, Brandon (B.A.)
Subject: 2005 SD st whl oscillation

Brandon: Attached is a draft TSB for this issue, I would appreciate any feedback on this draft and

whether is covers everything needed to perform this repair. I will submit for publication in approx. 2 weeks.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thurs,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

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-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Monday, September 12, 2005 7:45 AM
To: O'Connor, Tammy (T.A.)
Subject: Report Summary for the CQIS Report#[redacted]

Attachments : 0

Report# :	[redacted] NHL			**Received:**	09/09/2005
CCRG/EPRC:		**Reviewed Status:**		**Date:**	
Vehicle:	2006,F250 4X4,CRW CAB,PICKUP ,1FTSW21P16E[redacted]			**Build Date:**	07/20/2005
Odometer :	907 M	**Engine:**	6.0L DI	**Calibration:**	6F710D0A
Transmission:	5R110W DSL	**Axle:**		**A/C:**	YES
Dealer:	USA 04106 Carousel Ford, Inc.			**Phone#:**	(319) 338-7811
City:	Iowa City	**State:**	Iowa	**Country :**	USA
Originator:	MIKE GEROT				
Symptom:	3 03 3 53 CHASS.,STRG/HANDLING ,VIB./SHIMMY,OVER BUMPS				
Status:					
VFG:	V89 RIDE & HANDLING				
Additional Symptom:	SHIMMY OVER BUMPS				
Fix:	**Causal Component :**				
Condition Code:					

Hotliner: MGIURLAN **Phone:** 313 317-7041 **Regn Cd:** 41 Chicago - 41

Engineering: **Phone:** **TAR:**

Dlr Contact: MIKE GEROT **Phone:** 319 338-7811 **Title Cde:** T

Comments :

REPAIR 09/09/2005 12:52PM MARIO GIURLANDA MSS - FCSD - TECH SVC HOTLINE
SHIMMY OVER BUMPS AT HIWAY SPEEDS. TECH SPOKE WITH FSE WHO RECOMMENDED
TO CALL THE HOTLINE FOR INFORMATION.

RECOMM 09/09/2005 12:52PM MARIO GIURLANDA MSS - FCSD - TECH SVC HOTLINE
ISM 05-09-001 VERIFY TIRE PRESSURES ARE SET TO SPECIFICATION, BOTH RADIUS ARMS ARE PROPERLY TORQUED - CHECK ALIGNMENT & SET CASTER 5 TO
.75 BELOW NOMINAL ADVISED ABOVE INFORMATION.

From: Mayer, Paul (P.A.)
Sent: Monday, October 03, 2005 1:10 PM
To: O'Connor, Tammy (T.A.); Repasky, Steve (S.)
Cc: Zeitz, Keith (K.A.); Smith, Ron (R.A.)
Subject: RE: TSB for Steering Wheel Shimmy

Attachments: [redacted] TSB Steering Wheel Shimmy Update 09 29 pmrev.doc

I had three edits under the reduce caster section. They are in red

KEITH, do you have to approve these before they go out ?

[redacted] TSB Steering Whe...

Regards
Paul Mayer
Truck Suspension and Systems Analysis
313-248-9202 Fax:313-317-2349

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Monday, October 03, 2005 11:01 AM
To: Mayer, Paul (P.A.); Repasky, Steve (S.)
Subject: TSB for Steering Wheel Shimmy

<< File: [redacted] TSB Steering Wheel Shimmy Update 09 29 tao.doc >>

Attached is the draft TSB that I just submitted for final publication.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Wed,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Thursday)

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ISSUE:

Some 2005-2006 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion) immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on 4x4 vehicles, and is more evident on trucks equipped with a gas engine.

ACTION:

This procedure will minimize the steering wheel oscillations on impacts; however, there may be some remaining minor oscillation, which would be considered normal.
Perform the following:

- Vehicle Inspection
- Evaluation Of Vehicle Prior To Repair
- Steering Gear Mesh Load Adjustment
- Front Alignment and Reduce front caster
- Replacement Of Redundant Control Steering Wheel (if equipped and vehicle built prior to 10/8/04)

SERVICE PROCEDURE

VEHICLE INSPECTION

1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

NOTE: SETTING TIRE PRESSUE TO DOOR SPEC IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

2. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
    a. If leaks are present, install a new steering damper and continue with this TSB.
    b. If no leaks are present, continue with this TSB.

3. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table # below).

Description	Torque Specification (lb-ft/ Nm)	
	Lb-ft	Nm
Damper nuts (4x2)	59	80
Damper-to-bracket (F-250, F-350 4x4)	26	35
Damper-to-drag link	67	91
Drag link-to-pitman arm nut	148	201
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts & bolts	129	175
Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

EVALUATION OF VEHICLE PRIOR TO REPAIR

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the severity of wheel oscillation.

3. During the road test, evaluate and note the steering wheel return-ability.
    a. Turn steering wheel full lock to lock to confirm no binding.

b. Locate center, and then 45 degrees either side of center on the steering wheel.
c. Driving vehicle at 35 MPH (56 Km/h), on a dry and flat road surface, turn the wheel 45 degrees and release. Note the approximate angle that the steering wheel returns to BEFORE CLEAR VISION. Perform and record the angle for both left and right. It is normal if the angle differs slightly from left to right.

STEERING GEAR MESH LOAD ADJUSTMENT

1. Insert hex wrench into steering gear mesh load adjuster screw.
2. While holding the mesh load adjuster screw tight, back off lock nuts two full turns to allow free movement of the adjuster screw.
3. Carefully tighten adjuster screw until a slight increase in resistance is felt, then back off approximately 1/16th of a turn.
4. Hold the adjuster screw in place and tighten lock nut. Do not allow the adjustment screw to turn while tightening the locking nut down.
5. Road test vehicle and evaluate for improvement in steering wheel oscillations.
    a. Confirm that there is no objectionable increase in steering efforts, especially at low speeds.
    b. Verify that steering wheel return-ability is approximately the same as it was during the original evaluation (within 5 degrees).
    c. Turn steering wheel full lock to lock to confirm no binding.
6. Park the vehicle to let it cool down. Road test cold to confirm acceptable parking efforts and return-ability in cold condition. Repeat the mesh load adjustment if needed.

FRONT WHEEL ALIGNEMENT AND REDUCE FRONT CASTER

Measure wheel alignment. Verify that Front Caster, Camber & Total Toe is within specification. Adjust as required. Refer to the Workshop Manual, Section 2004-00-1 for complete alignment specifications.

REDUCE FRONT CASTER

- Note the current front caster
- Use alignment adjustment bushings to Reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit.
- Use Alignment adjustment bushings:

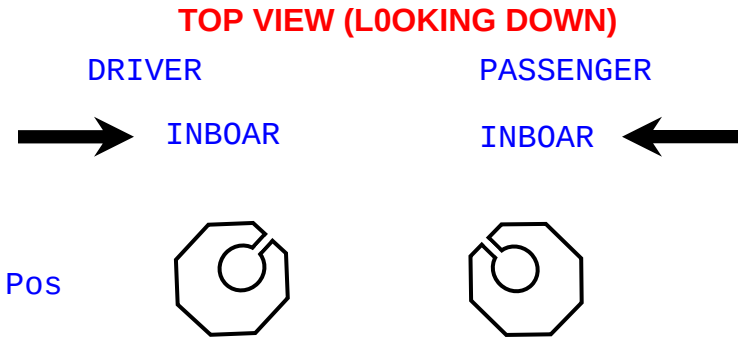
    - **F-250/350 4x4 (use one of the below bushings):**
      5C3Z-3B440-CCC (0.5 degree bushing)
      5C3Z-3B440-DDD (0.75 Degree bushing)
      5C3Z-3B440-EEE (1.0 degree bushing)

    - **F-450/550 4x4 & 4x2(use one of the below bushings)**:
        - 5C3Z-3B440-HHH (0.5 Degree bushing)
        - 5C3Z-3B440-JJJ (0.75 Degree bushing)
        - 5C3Z-3B440-KKK (1.0 degree bushing)

- F-250/350 4x2**(use one of the below bushings)**:
  - 5C3Z-3B440-C = 0.5 degree busing
  - 5C3Z-3B440-D = 0.75 degree bushing
  - 5C3Z-3B440-E = 1.0 degree bushing

For All 4x4 and for F-450/550 4x2,

- Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward & inboard position (See below picture)
- This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed.
- The final caster & camber settings must be within the specification limits



- Maintain the current front camber, cross-camber & cross-caster settings as close as you possibly can.
- Adding weight to the back lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster.

For All F-350/250 4x2,

- Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain that position while moving the caster position forward in the truck.
- The final caster & camber settings must be within the specification limits

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT

CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE 2005 OR 2006 SUPER DUTY F-SERIES WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

From: Repasky, Steve (S.)
Sent: Friday, October 21, 2005 12:28 PM
To: O'Connor, Tammy (T.A.)
Subject: RE: [redacted] is ready for just in time collaboration review

You're welcome...

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Tuesday, October 18, 2005 12:45 PM
To: Repasky, Steve (S.); Mayer, Paul (P.A.)
Subject: RE: [redacted] is ready for just in time collaboration review

Steve/Paul: Thanks for all your help on this issue and the TSB. It is greatly appreciated by the FCSD team.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Wed,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Thursday)

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-----Original Message-----
From: Repasky, Steve (S.)
Sent: Tuesday, October 18, 2005 12:44 PM
To: Mayer, Paul (P.A.); O'Connor, Tammy (T.A.); Zeitz, Keith (K.A.); Choe, Mark (M.J.)
Cc: Smith, Ron (R.A.); Watts, David (D.E.); Arnold, Bruce (B.C.); Hale, Curt (B.C.)
Subject: RE: [redacted] is ready for just in time collaboration review

I agree with the TSB as written and publication as proposed. I am unaware of any formal method to review with the q-back prior to publication and we have asked informally for input without comment.

-----Original Message-----
From: Mayer, Paul (P.A.)
Sent: Tuesday, October 18, 2005 10:29 AM
To: O'Connor, Tammy (T.A.); Repasky, Steve (S.); Zeitz, Keith (K.A.)
Cc: Smith, Ron (R.A.); Watts, David (D.E.); Arnold, Bruce (B.C.); Hale, Curt (B.C.)
Subject: RE: [redacted] is ready for just in time collaboration review

Keith, do you want to have some say in this one ?
Also, I am on vacation tomorrow. Tammy suggested that if you have any objection's to the TSB you contact Curt Hale by wed.

It looks like the train is leaving the station this Thursday, whether you review it or not.

STEVE REPASKY, I assume you approve since we have been over this repeatedly, but can you please send a yes verify.

Regards
Paul Mayer
Truck Suspension and Systems Analysis
313-248-9202 Fax:313-317-2349

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Tuesday, October 18, 2005 9:59 AM
To: Mayer, Paul (P.A.); Repasky, Steve (S.)
Cc: Zeitz, Keith (K.A.); Smith, Ron (R.A.); Watts, David (D.E.); Arnold, Bruce (B.C.); Hale, Curt (B.C.)
Subject: RE: [redacted] is ready for just in time collaboration review

Paul/Steve:

1. Your team has had ample time to review the draft TSB. It is scheduled to be published on Thursday 10/20. If it is not published, the issue will be listed as an Emerging issue, and will be put on the schedule for next Wednesday's PCQR (10/26) for review with Bob Fascetti.

2. I discussed the importance of the note on Tire Pressure with Jon Sprunger, who leads our TSB group. Notes are only allowed in the format it is, no changes can be made according to Jon, I'm satisfied with what we've done.

3. We list 0.5 to 1.0 bushings in the parts list, so we need to be consistent in the text of the TSB. Alex Snider told me that they did have to use the 1.0 bushings on a couple of trucks. It is not consistent to put 0.5-0.75 and then list 1.0 bushings.

Please feel free to call me to discuss.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Wed,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Thursday)

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-----Original Message-----
From: Mayer, Paul (P.A.)
Sent: Monday, October 17, 2005 4:23 PM
To: O'Connor, Tammy (T.A.); Repasky, Steve (S.)
Cc: Zeitz, Keith (K.A.); Smith, Ron (R.A.); Watts, David (D.E.); Arnold, Bruce (B.C.)
Subject: FW: [redacted] is ready for just in time collaboration review
Importance: High

I have 2 edits and one issue

ISSUE: I'm not sure we are supposed to cut this lose without approval from Keith zeitz, since these TSB's tend to drive warranty spend ?

EDIT 1: The note on tire pressure being important should be in big bold letters

EDIT 2: Under reduce frt caster it should say "Use alignment adjustment bushings to Reduce front caster by 0.5 to 0.75 degrees."   NOT 0.5 to 1.0 degrees

Regards
Paul Mayer
Truck Suspension and Systems Analysis
313-248-9202   Fax:313-317-2349

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Monday, October 17, 2005 1:55 PM
To: Mayer, Paul (P.A.); Repasky, Steve (S.)
Cc: Knapp, David (D.); Hale, Curt (B.C.)
Subject: FW: [redacted] is ready for just in time collaboration review
Importance: High

Paul/Steve:

Please review this draft TSB and let me know if you have any suggested changes. This is what TSB will look like if no changes are made, need a response no later than 10/19.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Wed,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Thursday)

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-----Original Message-----
From: Siplus, G (G.)
Sent: Monday, October 17, 2005 1:50 PM
To: O'Connor, Tammy (T.A.)
Subject: [redacted] is ready for just in time collaboration review
Importance: High

YOU MUST RESPOND BY CLOSE OF BUSINESS 10/19/2005
Failure to respond by the deadline is considered approval of the article as written.
*** DO NOT REPLY TO THIS NOTE ***

The following Technical Service Bulletin (TSB) is available for viewing at:
http://www.gsi.ford.com/oz/tips/CollabWeb/Collaborator.asp

Concern Tracking Number: [redacted]

Description: Steering Wheel Oscillation.

Vehicles: F-Super Duty

Review all articles that pertain to your area of responsibility for accuracy and completeness and select ONE of the following:

1. Approve the article as written
2. Approve the article with edits
   Note: If a vehicle line or model year has been excluded from the article select this option and list the vehicle line(s) that should be added.
3. Reject the article with attached reason

If this message should not have been sent to this address please forward it to gsiplus@ford.com.

From: Zeitz, Keith (K.A.)
Sent: Wednesday, October 19, 2005 9:06 PM
To: Perri, Ron (R.J.)
Cc: Offerle, Timothy (T.G.); Watts, David (D.E.); Annadi, Hari (H.); Mayer, Paul (P.A.); Smith, Ron (R.A.)
Subject: RE: [redacted] is ready for just in time collaboration review

Ron,

Please let me know if you provided this feedback to Tammy O'Connor.

Thanks

Keith A. Zeitz
Chassis QB/AFT Sup. / Integrated BB & ASQ SSBB PDC 2D-G34, ph # (313) 805-3994
"Don't find fault, find a remedy" - Henry Ford
Today's Word On The WaY
"…God's kindness leads you toward repentance."
- Romans 2:4

-----Original Message-----
From: Offerle, Timothy (T.G.)
Sent: Wednesday, October 19, 2005 9:10 AM
To: Zeitz, Keith (K.A.); Watts, David (D.E.); Annadi, Hari (H.); Mayer, Paul (P.A.); Perri, Ron (R.J.); Smith, Ron (R.A.)
Subject: RE: [redacted] is ready for just in time collaboration review
Importance: High

Don't current XR50 gears have 2 lock nuts on the adjuster to keep it from backing out? If so we should show it here.

-----Original Message-----
From: Zeitz, Keith (K.A.)
Sent: Tuesday, October 18, 2005 1:55 PM
To: Watts, David (D.E.); Annadi, Hari (H.); Mayer, Paul (P.A.); Offerle, Timothy (T.G.); Perri, Ron (R.J.); Smith, Ron (R.A.)
Subject: RE: [redacted] is ready for just in time collaboration review

Here is the service procedure for setting meshload. Shouldn't this be used in this TSB.

The only part I question is this item:
8. Note: The peak preload torque must be within 3-12 lb-in or a new steering gear must be installed.

This may not be true based on the work the TGW team is doing at Indy currently.

Keith A. Zeitz
Chassis QB/AFT Sup. / Integrated BB & ASQ SSBB
PDC 2D-G34, ph # (313) 805-3994
"Don't find fault, find a remedy" - Henry Ford
Today's Word On The WaY
"...God's kindness leads you toward repentance."
- Romans 2:4

-----Original Message-----
From: Watts, David (D.E.)
Sent: Tuesday, October 18, 2005 1:16 PM
To: Zeitz, Keith (K.A.)
Cc: Annadi, Hari (H.)
Subject: RE: [redacted] is ready for just in time collaboration review

I agree the procedure does not have enough measureable data. The better way would be to measure the input torque with the gear disconnected from the input shaft and the steering linkage. This may be more disassembly and reassembly than is desired however. If we are willing to have this much disassembly, then the proper way to set the mesh load would be to find the center position of the gear input shaft and measure the torque to turn the input +/- 90 degrees. The meshload screw should be advanced (or reversed) until the torque to rotate the input shaft is 18 in-lb. The locknuts should be tightened on the adjuster screw at this position.

David E. Watts
PTAC Steering D&R
PDC 2B-B35
313-248-9934
dwatts2@ford.com

-----Original Message-----
From: Zeitz, Keith (K.A.)
Sent: Tuesday, October 18, 2005 7:21 AM
To: Annadi, Hari (H.); Watts, David (D.E.)
Subject: FW: [redacted] is ready for just in time collaboration review
Importance: High

Both of you are very familiar with the mesh load setting, do you agree with this TSB. It seems to be very open ended. Is there something you would recommend to add measurables to the mesh load setting process?

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-----Original Message-----
From: Mayer, Paul (P.A.)
Sent: Monday, October 17, 2005 4:23 PM
To: O'Connor, Tammy (T.A.); Repasky, Steve (S.)
Cc: Zeitz, Keith (K.A.); Smith, Ron (R.A.); Watts, David (D.E.); Arnold, Bruce (B.C.)
Subject: FW: [redacted] is ready for just in time collaboration review
Importance: High

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EDIT 1: The note on tire pressure being important should be in big bold letters

EDIT 2: Under reduce frt caster it should say "Use alignment adjustment bushings to Reduce front caster by 0.5 to 0.75 degrees." NOT 0.5 to 1.0 degrees

Regards
Paul Mayer
Truck Suspension and Systems Analysis
313-248-9202 Fax:313-317-2349

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Monday, October 17, 2005 1:55 PM
To: Mayer, Paul (P.A.); Repasky, Steve (S.)
Cc: Knapp, David (D.); Hale, Curt (B.C.)
Subject: FW: [redacted] is ready for just in time collaboration review
Importance: High

Paul/Steve:

Please review this draft TSB and let me know if you have any suggested changes. This is what TSB will look like if no changes are made, need a response no later than 10/19.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Wed,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Thursday)

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From: Siplus, G (G.)
Sent: Monday, October 17, 2005 1:50 PM
To: O'Connor, Tammy (T.A.)
Subject: [redacted] is ready for just in time collaboration review
Importance: High

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Concern Tracking Number: [redacted]

Description: Steering Wheel Oscillation.

Vehicles: F-Super Duty

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2. Approve the article with edits

Note: If a vehicle line or model year has been excluded from the article select this option and list the vehicle line(s) that should be added.

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From: Watts, David (D.E.)
Sent: Tuesday, October 18, 2005 2:00 PM
To: Zeitz, Keith (K.A.); Annadi, Hari (H.); Mayer, Paul (P.A.); Offerle, Timothy (T.G.); Perri, Ron (R.J.); Smith, Ron (R.A.)
Subject: RE: [redacted] is ready for just in time collaboration review

Yes, we should be referencing this procedure for setting of mesh load.

David E. Watts
PTAC Steering D&R
PDC 2B-B35
313-248-9934
dwatts2@ford.com

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Sent: Tuesday, October 18, 2005 1:55 PM
To: Watts, David (D.E.); Annadi, Hari (H.); Mayer, Paul (P.A.); Offerle, Timothy (T.G.); Perri, Ron (R.J.); Smith, Ron (R.A.)
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Sent: Monday, October 17, 2005 4:23 PM
To: O'Connor, Tammy (T.A.); Repasky, Steve (S.)
Cc: Zeitz, Keith (K.A.); Smith, Ron (R.A.); Watts, David (D.E.); Arnold, Bruce (B.C.)
Subject: FW: [redacted] is ready for just in time collaboration review
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Regards
Paul Mayer
Truck Suspension and Systems Analysis
313-248-9202 Fax:313-317-2349

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From: O'Connor, Tammy (T.A.)
Sent: Monday, October 17, 2005 1:55 PM
To: Mayer, Paul (P.A.); Repasky, Steve (S.)
Cc: Knapp, David (D.); Hale, Curt (B.C.)
Subject: FW: [redacted] is ready for just in time collaboration review
Importance: High

Paul/Steve:

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what TSB will look like if no changes are made, need a response no later than 10/19.

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Super Duty F-Series/Excursion
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From: Zeitz, Keith (K.A.)
Sent: Tuesday, October 18, 2005 1:58 PM
To: Mayer, Paul (P.A.); O'Connor, Tammy (T.A.); Repasky, Steve (S.); Perri, Ron (R.J.)
Cc: Smith, Ron (R.A.); Watts, David (D.E.); Arnold, Bruce (B.C.); Hale, Curt (B.C.)
Subject: RE: [redacted] is ready for just in time collaboration review

Thanks Paul,

Yes the process should be that the QB reviews and approves any TSB that effects it. In this case Steve von Foerster has asked Ron Perri review it and provide the QB's response.

Keith A. Zeitz
Chassis QB/AFT Sup. / Integrated BB & ASQ SSBB PDC 2D-G34, ph # (313) 805-3994
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-----Original Message-----
From: Mayer, Paul (P.A.)
Sent: Tuesday, October 18, 2005 10:29 AM
To: O'Connor, Tammy (T.A.); Repasky, Steve (S.); Zeitz, Keith (K.A.)
Cc: Smith, Ron (R.A.); Watts, David (D.E.); Arnold, Bruce (B.C.); Hale, Curt (B.C.)
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Keith, do you want to have some say in this one ?
Also, I am on vacation tomorrow. Tammy suggested that if you have any objection's to the TSB you contact Curt Hale by wed.

It looks like the train is leaving the station this Thursday, whether you review it or not.

STEVE REPASKY, I assume you approve since we have been over this repeatedly, but can you please send a yes verify.

Regards
Paul Mayer
Truck Suspension and Systems Analysis
313-248-9202 Fax:313-317-2349

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Tuesday, October 18, 2005 9:59 AM
To: Mayer, Paul (P.A.); Repasky, Steve (S.)
Cc: Zeitz, Keith (K.A.); Smith, Ron (R.A.); Watts, David (D.E.); Arnold, Bruce (B.C.); Hale, Curt (B.C.)
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2. I discussed the importance of the note on Tire Pressure with Jon Sprunger, who leads our TSB group. Notes are only allowed in the format it is, no changes can be made according to Jon, I'm satisfied with what we've done.

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Please feel free to call me to discuss.

Tammy A. O'Connor
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Attachments: enUSA_ar[redacted].pdf

enUSA_ar[redacted].pdf (64...

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STEERING WHEEL OSCILLATION

Concern Tracking# [redacted]

FORD:
2005-2006 F-Super Duty

This article supersedes TSB **4-26-01** to update the vehicle model years.

ISSUE

Some 2005-2006 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion), immediately following front or rear wheel impacts (pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on 4x4 vehicles, and is more evident on trucks equipped with a gas engine. Refer to the following Service Procedure to will minimize the steering wheel oscillations on impacts, however, there may be some remaining minor oscillation which would be considered normal.

ACTION

Refer to the following Service Procedure to minimize the steering wheel oscillations on impacts, however, there may be some remaining minor oscillation which would be considered normal.

SERVICE PROCEDURE

Perform the following:

- Vehicle Inspection
- Evaluation Of Vehicle Prior To Repair
- Steering Gear Mesh Load Adjustment
- Front Alignment and Reduce front caster
- Replacement Of Redundant Control Steering Wheel (if equipped and vehicle built prior to 10/8/04)

VEHICLE INSPECTION

1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

NOTE
SETTING TIRE PRESSURE TO DOOR SPECIFICATION IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE.

2. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
   a. If leaks are present, install a new steering damper and continue with this TSB
   b. If no leaks are present, continue with this TSB.
3. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table below).

Torque Specification		
Description	**Lp-ft**	**Nm**
Damper nuts (4x2)	59	80
Damper-to-bracket (F-250, F-350 4x4)	26	35
Damper-to-drag link	67	91
Drag link-to-pitman arm nut	148	201
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts and bolts	129	175
Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE
ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE.

NOTE: The information in Technical Service Bulletins is intended for use by trained, professional technicians with the knowledge, tools, and equipment to do the job properly and safely. It informs these technicians of conditions that may occur on some vehicles, or provides information that could assist in proper vehicle service. The procedures should not be performed by "do-it-yourselfers". Do not assume that a condition described affects your car or truck. Contact a Ford, Lincoln, or Mercury dealership to determine whether the Bulletin applies to your vehicle. Warranty Policy and Extended Service Plan documentation determine Warranty and/or Extended Service Plan coverage unless stated otherwise in the TSB article.The information in this Technical Service Bulletin (TSB) was current at the time of printing. Ford Motor Company reserves the right to supercede this information with updates.The most recent information is available through Ford Motor Company's on-line technical resources.

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EVALUATION OF VEHICLE PRIOR TO REPAIR

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the severity of wheel oscillation.
3. During the road test, evaluate and note the steering wheel return-ability.
   a. Turn steering wheel full lock to lock to confirm no binding.
   b. Locate center, and then 45 degrees either side of center on the steering wheel.
   c. Driving vehicle at 35 MPH (56 Km/h), on a dry and flat road surface, turn the wheel 45 degrees and release. Note the approximate angle that the steering wheel returns to BEFORE CLEAR VISION. Perform and record the angle for both left and right. It is normal if the angle differs slightly from left to right.

STEERING GEAR MESH LOAD ADJUSTMENT

1. Insert hex wrench into steering gear mesh load adjuster screw.
2. While holding the mesh load adjuster screw tight, back off lock nuts two full turns to allow free movement of the adjuster screw.
3. Carefully tighten adjuster screw until a slight increase in resistance is felt, then back off approximately 1/16th of a turn.
4. Hold the adjuster screw in place and tighten lock nut. Do not allow the adjustment screw to turn while tightening the locking nut down.
5. Road test vehicle and evaluate for improvement in steering wheel oscillations.
   a. Confirm that there is no objectionable increase in steering efforts, especially at low speeds.
   b. Verify that steering wheel return-ability is approximately the same as it was during the original evaluation (within 5 degrees).
   c. Turn steering wheel full lock to lock to confirm no binding.
6. Park the vehicle to let it cool down. Road test cold to confirm acceptable parking efforts and return-ability in cold condition. Repeat the mesh load adjustment if needed.

FRONT WHEEL ALIGNMENT AND REDUCE FRONT CASTER

Measure wheel alignment. Verify that Front Caster, Camber and Total Toe is within specification. Adjust as required. Refer to the Workshop Manual, Section 2004-00-1 for complete alignment specifications.

REDUCE FRONT CASTER

- Note the current front caster
- Use alignment adjustment bushings to Reduce front caster by 0.5 to 1.0 degree. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit. Use Alignment adjustment bushings:

F-250/350 4x4:

- 5C3Z-3B440-CCC (0.5 degree bushing)
- 5C3Z-3B440-DDD (0.75 Degree bushing)
- 5C3Z-3B440-EEE (1.0 degree bushing)

F-450/550 4x4 and 4x2:

- 5C3Z-3B440-HHH (0.5 Degree bushing)
- 5C3Z-3B440-JJJ (0.75 Degree bushing)
- 5C3Z-3B440-KKK (1.0 degree bushing)

F-250/350 4x2:

- 5C3Z-3B440-C (0.5 degree bushing)
- 5C3Z-3B440-D (0.75 degree bushing)
- 5C3Z-3B440-E (1.0 degree bushing)

For All 4x4 and for F-450/550 4x2,

- Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward and inboard position (See below picture)
- This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range then rotate the alignment adjustment bushing as needed.
- The final caster and camber settings must be within the specification limits.

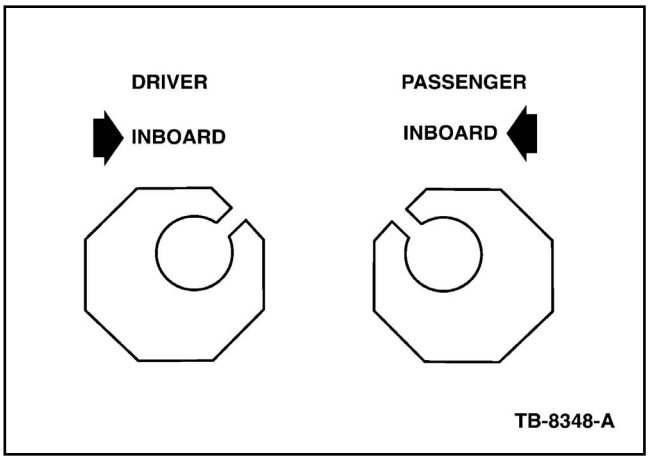

Figure 1 - Article [redacted]

- Maintain the current front camber, cross-camber and cross-caster settings as close as you possibly can.
- Adding weight behind the rear axle lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster.
- Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain that position while moving the caster position forward in the truck.
- The final caster and camber settings must be within the specification limits

NOTE
CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 only

NOTE
THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE
FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE 2005 OR 2006 SUPER DUTY F-SERIES WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

PART NUMBER	PART NAME
5C7Z-3600-ABA	Redundant Control Steering Wheel Asy (King Ranch Tan/Peb)
5C7Z-3600-CBA	Redundant Control Steering Wheel Asy (Charcoal Black)
5C3Z-3E651-CA	F-250/350 4x4, All F-450/550 - Damper
5C3Z-3E651-BA	F-250/350 4x2 - Damper
5C3Z-3B440-C	F-250/350 4x2 (0.5 degree bushing)
5C3Z-3B440-D	F-250/350 4x2 (0.75 degree bushing)
5C3Z-3B440-E	F-250/350 4x2 (1.0 degree bushing)
5C3Z-3B440-CCC	F-250/350 4x4 (0.5 degree bushing)
5C3Z-3B440-DDD	F-250/350 4x4 (0.75 degree bushing)
5C3Z-3B440-EEE	F-250/350 4x4 (1.0 degree bushing)
5C3Z-3B440-HHH	F-450/550 4x4 and 4x2 (0.5 degree bushing)
5C3Z-3B440-JJJ	F-450/550 4x4 and 4x2 (0.75 degree bushing)
5C3Z-3B440-KKK	F-450/550 4x4 and 4x2 (1.0 degree bushing)

WARRANTY STATUS: Eligible Under Provisions Of New Vehicle Limited Warranty Coverage

OPERATION	DESCRIPTION	TIME
0700554A	F-Super Duty With Gas Engine: Perform Inspection/Evaluation Adjust Mesh Load (Do Not Use With 3504C, 3600A, 3001A, 3001A1, 3001A1T)	2.2 Hrs.
0700554A	F-Super Duty With 6.0L Diesel Engine: Perform Inspection/Evaluation Adjust Mesh Load (Do Not Use With 3504C, 3600A, 3001A, 3001A1, 3001A1T)	3.2 Hrs.
0700554B	F-Super Duty With Gas Engine: Perform Inspection/Evaluation Adjust Mesh Load, And Replace Damper (Do Not Use With 3504C, 3600A, 3001A, 3001A1, 3001A1T)	2.3 Hrs.

Concern Tracking# [redacted] (Continued)

0700554B	F-Super Duty With 6.0L Diesel Engine: Perform Inspection/Evaluation Adjust Mesh Load, And Replace Damper (Do Not Use With 3504C, 3600A, 3001A, 3001A1, 3001A1T)	3.2 Hrs.
0700554C	F-Super Duty With Gas Engine: Perform Inspection/Evaluation Adjust Mesh Load, And Replace Steering Wheel (Do Not Use With 3504C, 3600A, 3001A, 3001A1, 3001A1T)	2.8 Hrs.
0700554C	F-Super Duty With 6.0L Diesel Engine: Perform Inspection/Evaluation Adjust Mesh, Load And Replace Steering Wheel (Do Not Use With 3504C, 3600A, 3001A, 3001A1, 3001A1T)	3.6 Hrs.
0700554D	F-Super Duty With Gas Engine: Perform Inspection/Evaluation Adjust Mesh Load, Replace Damper And Steering Wheel (Do Not Use With 3504C, 3600A, 3001A, 3001A1, 3001A1T)	2.9 Hrs.
0700554D	F-Super Duty With 6.0L Diesel Engine: Perform Inspection/Evaluation Adjust Mesh Load, Replace Damper And Steering Wheel (Do Not Use With 3504C, 3600A, 3001A, 3001A1, 3001A1T)	3.7 Hrs.
0700554E	F-Super Duty: Check Caster, Camber, and Toe (Do Not Use With 3504C, 3600A, 3001A, 3001A1, 3001A1T)	0.4 Hr.
0700554F	F-Super Duty 4X2: Check Caster, Camber, Toe And Adjust One Side (Do Not Use With 3504C, 3600A, 3001A, 3001A1, 3001A1T)	1.3 Hrs.
0700554G	F-Super Duty 4X2: Check Caster, Camber, Toe And Adjust Both Sides (Do Not Use With 3504C, 3600A, 3001A, 3001A1, 3001A1T)	1.9 Hrs.
0700554H	F-Super Duty 4X4: Check Caster, Camber, Toe And Adjust One Side (Do Not Use With 3504C, 3600A, 3001A, 3001A1, 3001A1T)	1.5 Hrs.
0700554I	F-Super Duty 4X4: Check Caster, Camber, Toe And Adjust Both Sides (Do Not Use With 3504C, 3600A, 3001A, 3001A1, 3001A1T)	2.3 Hrs.

DEALER CODING

BASIC PART NO.	CONDITION CODE
3600	42

OASIS CODES: 303000, 304000, 306000, 703000, 703200, 703300, 703400

From: Meier, Kenneth (K.W.)
Sent: Monday, October 17, 2005 2:31 PM
To: O'Connor, Tammy (T.A.)
Subject: RE: [redacted] is ready for just in time collaboration review

Tammy,

I have reviewed the attached, and all looks good to me. No changes on this end.

Ken Meier
Commercial Vehicle Operations
Commercial Service Manager
1655 Fairlane Circle, Suite 950-C
Allen Park, Mi 48101
Phone: 313-317-1867 Fax: 313-248-6580

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Monday, October 17, 2005 2:05 PM
To: Meier, Kenneth (K.W.)
Subject: FW: [redacted] is ready for just in time collaboration review
Importance: High

file is attached below.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Wed,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Thursday)

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-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Monday, October 17, 2005 1:55 PM
To: Mayer, Paul (P.A.); Repasky, Steve (S.)
Cc: Knapp, David (D.); Hale, Curt (B.C.)
Subject: FW: [redacted] is ready for just in time collaboration review
Importance: High

Paul/Steve:

Please review this draft TSB and let me know if you have any suggested changes. This is what TSB will look like if no changes are made, need a response no later than 10/19.

Tammy A. O'Connor

Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Wed,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Thursday)

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-----Original Message-----
From: Siplus, G (G.)
Sent: Monday, October 17, 2005 1:50 PM
To: O'Connor, Tammy (T.A.)
Subject: [redacted] is ready for just in time collaboration review
Importance: High

YOU MUST RESPOND BY CLOSE OF BUSINESS 10/19/2005
Failure to respond by the deadline is considered approval of the article as written.
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The following Technical Service Bulletin (TSB) is available for viewing at:
http://www.gsi.ford.com/oz/tips/CollabWeb/Collaborator.asp

Concern Tracking Number: [redacted]

Description: Steering Wheel Oscillation.

Vehicles: F-Super Duty

Review all articles that pertain to your area of responsibility for accuracy and completeness and select ONE of the following:

1. Approve the article as written
2. Approve the article with edits
   Note: If a vehicle line or model year has been excluded from the article select this option and list the vehicle line(s) that should be added.
3. Reject the article with attached reason

If this message should not have been sent to this address please forward it to gsiplus@ford.com.

From: Sprunger, Jon (J.L.)
Sent: Wednesday, July 12, 2006 1:50 PM
To: Welch, Sharon (S.L.)
Cc: O'Connor, Tammy (T.A.)
Subject: RE: [redacted] is ready for just in time collaboration review

Sharon,

I will change the verbiage in the "Service Procedure Summary" to read "Set Tire Pressure…" to be consistent with the Vehicle Inspection section.

Sincerely,

Jon Sprunger
Global Technical Communications - FCSD
TSB/SSM Processing
Phone: (313)32-32272
Fax: (313)24-86449
jsprunge@ford.com

From: Welch, Sharon (S.L.)
Sent: Wednesday, July 12, 2006 12:24 PM
To: O'Connor, Tammy (T.A.); Sprunger, Jon (J.L.); Rivera, Santos (S.)
Cc: Welch, Sharon (S.L.)
Subject: RE: [redacted] is ready for just in time collaboration review

Tammy and Jon,
Should we state Check **and correct** Tire Pressure **if necessary** , ….or maybe **Set** Tire Pressure, ….

Santos,
I am concerned about some of the verbiage surrounding the labor ops. The TSB has the following note:

NOTE
THE WHEEL ALIGNMENT LABOR OPERATIONS MAY BE CLAIMED WITH THE REPAIR OPERATIONS IN THIS ARTICLE.

However, the verbiage under the labor operations states it can only be claimed with Operation B.

We do only want it to be claimed with Operation B, therefore I think the note is misleading.

Also, wouldn't the steering gear be allowed to be claimed with any of the labor operations? It currently states Can Be Claimed
With Operation A Or B.

Lastly, what happened to our alignment ops? The previous TSB had a time for check only and adjust one side only for both 4X2 and 4X4. The time difference between one side and both sides for a 4X4 is quite significant. Did we learn from past experience that both sides always needed to be adjusted? Are you in agreement with this Tammy?

> Sharon Welch
> FCSD Program Manager - Warranty Task Force
> Fairlane Business Park 3 246F
> Phone (313) 24-83499

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Wednesday, July 12, 2006 10:55 AM
To: Repasky, Steve (S.)
Cc: Hale, Curt (B.C.); Knapp, David (D.); Welch, Sharon (S.L.)
Subject: FW: [redacted] is ready for just in time collaboration review
Importance: High

Steve:

Attached is draft of TSB which is currently in co-lab. Please review and send any suggested changes by COB 7/13/06 or TSB will be published as is.

Please feel free to forward to other Engineers as appropriate for their review.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

-----Original Message-----
From: Siplus, G (G.)
Sent: Wednesday, July 12, 2006 10:45 AM
To: O'Connor, Tammy (T.A.)
Subject: [redacted] is ready for just in time collaboration review
Importance: High

YOU MUST RESPOND BY CLOSE OF BUSINESS 7/13/2006
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Concern Tracking Number: [redacted]

Description: Steering Wheel Oscillation.

Vehicles: F-Super Duty

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3. Reject the article with attached reason

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From: Rivera, Santos (S.)
Sent: Wednesday, July 12, 2006 1:40 PM
To: Sprunger, Jon (J.L.)
Cc: O'Connor, Tammy (T.A.)
Subject: RE: [redacted] is ready for just in time collaboration review

No, because it is telling the tech what to do during the road test.

Santos Rivera
Service Labor Time Standards
Ford Consumer Services Group
Tel 313-84-55122 Fax 313-390-8727
srivera5@ford.com

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>

-----Original Message-----
From: Sprunger, Jon (J.L.)
Sent: Wednesday, July 12, 2006 1:37 PM
To: Rivera, Santos (S.)
Cc: O'Connor, Tammy (T.A.)
Subject: FW: [redacted] is ready for just in time collaboration review

Santos,

We are being asked to remove step 3 of the road test from this TSB. Do I need to worry about this affecting the labor operations?

Sincerely,
Jon Sprunger
Global Technical Communications - FCSD
TSB/SSM Processing
Phone: (313)32-32272
Fax: (313)24-86449
jsprunge@ford.com

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Wednesday, July 12, 2006 12:45 PM
To: Sprunger, Jon (J.L.)
Subject: FW: [redacted] is ready for just in time collaboration review

FYI.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations

Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

-----Original Message-----
From: Zeitz, Keith (K.A.)
Sent: Wednesday, July 12, 2006 11:52 AM
To: Repasky, Steve (S.); Arnold, Bruce (B.C.); O'Connor, Tammy (T.A.)
Cc: Welch, Sharon (S.L.); Hodges, Cynthia (C.P.)
Subject: RE: [redacted] is ready for just in time collaboration review

The section in the Road Test #3 I think can be removed. It is referring to returnability which was put there for the meshload adjustment portion which is no longer a part of this TSB.

Keith A. Zeitz
Steering & Suspension Quality Supervisor Integrated BB & ASQ SSBB PDC 2D-G34, ph # (313) 805-3994
"Don't find fault, find a remedy" - Henry Ford
Today's Word On The WaY
"…God's kindness leads you toward repentance."
- Romans 2:4

-----Original Message-----
From: Repasky, Steve (S.)
Sent: Wednesday, July 12, 2006 11:18 AM
To: Arnold, Bruce (B.C.); Zeitz, Keith (K.A.)
Subject: FW: [redacted] is ready for just in time collaboration review
Importance: High

Bruce/Keith - Revised Superduty SW oscillation TSB for your review and comment. Thanks..

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Wednesday, July 12, 2006 10:55 AM
To: Repasky, Steve (S.)
Cc: Hale, Curt (B.C.); Knapp, David (D.); Welch, Sharon (S.L.)
Subject: FW: [redacted] is ready for just in time collaboration review
Importance: High

Steve:

Attached is draft of TSB which is currently in co-lab. Please review and send any suggested changes by COB 7/13/06 or TSB will be published as is.

Please feel free to forward to other Engineers as appropriate for their review.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

-----Original Message-----
From: Siplus, G (G.)
Sent: Wednesday, July 12, 2006 10:45 AM
To: O'Connor, Tammy (T.A.)
Subject: [redacted] is ready for just in time collaboration review
Importance: High

YOU MUST RESPOND BY CLOSE OF BUSINESS 7/13/2006 Failure to respond by the deadline is considered approval of the article as written.
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Concern Tracking Number: [redacted]

Description: Steering Wheel Oscillation.

Vehicles: F-Super Duty

Review all articles that pertain to your area of responsibility for accuracy and completeness and select ONE of the following:

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3. Reject the article with attached reason

If this message should not have been sent to this address please forward it to gsiplus@ford.com.

From: Knapp, David (D.)
Sent: Wednesday, July 12, 2006 10:57 AM
To: O'Connor, Tammy (T.A.); Repasky, Steve (S.)
Cc: Hale, Curt (B.C.); Welch, Sharon (S.L.)
Subject: RE: [redacted] is ready for just in time collaboration review

Tammy,
in regards to alignment. Originally we were reducing caster .5 to .75 degrees below nominal. With the last tsb the nominal portion was eliminated and we are just lowering caster from where it was. Is this correct???
David Knapp
Truck Group Service Engineer
F-Superduty/Excursion SME
Ford Technical Hotline
DKnapp7@ford.com
313-317-6316

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Wednesday, July 12, 2006 10:55 AM
To: Repasky, Steve (S.)
Cc: Hale, Curt (B.C.); Knapp, David (D.); Welch, Sharon (S.L.)
Subject: FW: [redacted] is ready for just in time collaboration review
Importance: High

Steve:

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Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

-----Original Message-----
From: Siplus, G (G.)
Sent: Wednesday, July 12, 2006 10:45 AM
To: O'Connor, Tammy (T.A.)
Subject: [redacted] is ready for just in time collaboration review
Importance: High

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3. Reject the article with attached reason

If this message should not have been sent to this address please forward it to gsiplus@ford.com.

From: Repasky, Steve (S.)
Sent: Thursday, July 13, 2006 1:16 PM
To: O'Connor, Tammy (T.A.)
Subject: RE: [redacted] is ready for just in time collaboration review

I have reviewed and have no changes to offer. Thanks...

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Wednesday, July 12, 2006 10:55 AM
To: Repasky, Steve (S.)
Cc: Hale, Curt (B.C.); Knapp, David (D.); Welch, Sharon (S.L.)
Subject: FW: [redacted] is ready for just in time collaboration review
Importance: High

Steve:

Attached is draft of TSB which is currently in co-lab. Please review and send any suggested changes by COB 7/13/06 or TSB will be published as is.

Please feel free to forward to other Engineers as appropriate for their review.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

-----Original Message-----
From: Siplus, G (G.)
Sent: Wednesday, July 12, 2006 10:45 AM
To: O'Connor, Tammy (T.A.)
Subject: [redacted] is ready for just in time collaboration review
Importance: High

YOU MUST RESPOND BY CLOSE OF BUSINESS 7/13/2006 Failure to respond by the deadline is considered approval of the article as written.
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http://www.gsi.ford.com/oz/tips/CollabWeb/Collaborator.asp

Concern Tracking Number: [redacted]

Description: Steering Wheel Oscillation.

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If this message should not have been sent to this address please forward it to gsiplus@ford.com.

From: Gompper, Dan (D.B.)
Sent: Thursday, March 01, 2007 3:31 PM
To: O'Connor, Tammy (T.A.)
Subject: RE: [redacted] has gone to FINAL as 07-5-7 (enUSA)

I think I just called and talked to your daughter on the phone?

Anyway -- what are the next steps here. Change of part numbers in the TSB just days after release?

Dan Gompper
SuperDuty Vehicle Dynamics Supervisor
EVB 2E-L01
Cellphone: (313) 805-2039
Email: dgompper@ford.com
text page: 3138052039@sprintpcs.messaging.com

-----Original Message-----
From: Hwang, Hsiu-Ying (H.Y.)
Sent: Thursday, March 01, 2007 2:57 PM
To: O'Connor, Tammy (T.A.); Gompper, Dan (D.B.); Hodges, Cynthia (C.P.)
Cc: Barry, Jack (J.E.); Hwang, Hsiu-Ying (H.Y.)
Subject: RE: [redacted] has gone to FINAL as 07-5-7 (enUSA)

I need update the TSB.
For F250/350 4x4 service part should be 8C3Z-3E651-C.

I didn't catch the error in the earlier version, and intend to update it. Plus there some fastener I need to add for F450/550. My computer was down for 2 days due to moving office.

I will update and send the new TSB to you. Thank you.

Regards,
Hsiu-Ying Hwang
Steering/Chassis Engineer
Certified Integrated Black Belt
Tel/Pager: 313-805-3873
-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Thursday, March 01, 2007 1:21 PM
To: Gompper, Dan (D.B.); Hodges, Cynthia (C.P.); Hwang, Hsiu-Ying (H.Y.)
Cc: Barry, Jack (J.E.)
Subject: RE: [redacted] has gone to FINAL as 07-5-7 (enUSA)

There is also confusion about whether the correct part number for the new 250/350 4x4 damper should be -a or -c? Please confirm that -A is correct.

```
 SMMPGPMA                  Global Part Information            03/01/07 13:13:01
 ==> _________ ____________________________________________________
 SERVICE PART:      8C3Z-   3E651-A____      DAMPER ASY
 ENGINEERING PART:   8C34    3E651 BB_____________      ORIGIN:      WERS
 SUPPLIER LOC:                                         FINIS:       4810509
 Vendor Part:                                          Fam Buy:
 Motorcraft Part:    ASH-    1085-                     Prime Suplr: T407H
 Comparable Part:                                      Packager Cd: H751B
 Replaced Part:     7C3Z-   3E651-B                   Mat Content:
 Replacing Part:                                       Ship Mlt:          0
 Buyer:        06R MIKE KELLY                          NBA Phone:   734-266-9872
```

```
 Dmnd Anlyst:  4JC KAREL PAVEK        X77094          NDA Phone:   800-973-3109
 Prod Anlyst:  203 FRANK SELINSKY                     NPA Phone:   734-52-35495
 Price Anlyst: I89 DAN FREMER                         Profs ID:    DFREMER
 Color Name:                                          Pallet Qty:        308
 Pnd Obs:          Svc Disp:     Unit Issue:     1    Overpack Qty:        0
 Obs Not:          Mech Ob Cd:   Trfc Cd:       79    Max Ord Qty:         0
 Obs Eff:          Procure Cd: 2 Hvy Trk App/Cd: 2 /  Min Run Qty:         0
 Eff In:  12/18/06 Rlse Hld:   N Fab/Hold:    N       Min Ship Qty:        0
 Eff Out: 07/30/07 Final Rlse: N Wgt UOM:     LB      Package Wgt:         3.64
 Ord Dte: 12/18/06 Spec Pgm:   Y Dir Ship:            Standard Cst:       18.51
 Commdty: 110301   Volume Grp: D Rack/Plt:    1660B   Dealer Net:         34.96
 F1=Help  F2=GIMA  F4=PrvPart  F5=NxtPart  F6=PIGA  F9=DEEA  F10=HIIA  F11=ARFA
 RECORD FOUND                                                          PD01143
```

Tammy A. O'Connor
Product Concern Engineer
FCSD Service Engineering Operations
Super Duty F-Series
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

-----Original Message-----
From: Gompper, Dan (D.B.)
Sent: Thursday, March 01, 2007 12:57 PM
To: Hodges, Cynthia (C.P.); Hwang, Hsiu-Ying (H.Y.)
Cc: O'Connor, Tammy (T.A.); Barry, Jack (J.E.)
Subject: FW: [redacted] has gone to FINAL as 07-5-7 (enUSA)
Importance: High

Hsiu-Ying --

This TSB makes reference to a bolt cap for the steering damper at frame bracket bolt where there is reduced clearance to the battery cable. The cap part number is W711670-S300, however the part shows up as an invalid part number when the dealers are looking to obtain it.

Can you confirm the number and availability of this cap? FCSD have gotten a number of calls looking for guidance on this.

Thanks,

Dan Gompper
SuperDuty Vehicle Dynamics Supervisor
EVB 2E-L01
Cellphone: (313) 805-2039
Email: dgompper@ford.com
text page: 3138052039@sprintpcs.messaging.com

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Wednesday, February 28, 2007 12:49 PM
To: Knapp, David (D.); Hale, Curt (B.C.); Johnston, Steven (S.J.); McDonagh, Scot (S.M.)
Cc: Gompper, Dan (D.B.); Repasky, Steve (S.); Hasselbring, D Blake (D.B.)
Subject: FW: [redacted] has gone to FINAL as 07-5-7 (enUSA)
Importance: High

TSB Article Number: 07-5-7 for Steering Wheel Oscillation is now published.

Tammy A. O'Connor
Product Concern Engineer

FCSD Service Engineering Operations
Super Duty F-Series
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

-----Original Message-----
From: Siplus, G (G.)
Sent: Wednesday, February 28, 2007 11:02 AM
To: O'Connor, Tammy (T.A.)
Subject: [redacted] has gone to FINAL as 07-5-7 (enUSA)
Importance: High

English TSB Article 07-5-7 has been released for publication

The following Technical Service Bulletin (TSB) article

has been moved from collaboration and is now final.

Dealers may view this article on the next business day via OASIS and

fmcdealer.com (http://www.fmcdealer.dealerconnection.com).

Company personnel may view it at:

http://www.protechnician.com/.

Concern Tracking Number: [redacted]

TSB Article Number: 07-5-7

Description: Steering Wheel Oscillation.

Vehicles: F-Super Duty

If this message should not have been sent to this address please forward it to gsiplus@ford.com.

From: Hodges, Cynthia (C.P.)
Sent: Friday, March 02, 2007 8:41 AM
To: O'Connor, Tammy (T.A.); Barry, Jack (J.E.); Hwang, Hsiu-Ying (H.Y.); Gompper, Dan (D.B.)
Subject: RE: [redacted] has gone to FINAL as 07-5-7 (enUSA)

Tammy -

Per electrical, the engineering part number is listed below - I checked the part number registry, and that is also the service part number.

Cynthia Protas Hodges
Steering Supervisor, RV Gear and Linkage Chassis Engineering Ford Motor Company
1BD36 Product Development Center
phone (313) 805-3872 fax: (313) 32-29959
click here to: textpage me email me my personal productivity site
Please note: Due to my email volume, add FYA (For Your Action) subject line to emails sent to me to insure my quickest response. I read those first!

-----Original Message-----
From: Richter, Bruce (A.)
Sent: Thursday, March 01, 2007 2:06 PM
To: Hodges, Cynthia (C.P.)
Subject: RE: [redacted] has gone to FINAL as 07-5-7 (enUSA)

Cynthia,
The part number you are looking for is [W711570-s300] (Engineering release)

>Regards,
>Bruce Richter
>2008 P356 Electrical Launch Lead
>PDC 2H-C51, MD 331
>Cell: 313 805-4152
>Email: brichter@ford.com
>F: 313 8455447
>

-----Original Message-----
From: Hodges, Cynthia (C.P.)
Sent: Thursday, March 01, 2007 1:21 PM
To: Gompper, Dan (D.B.); Hwang, Hsiu-Ying (H.Y.); Richter, Bruce (A.)
Cc: O'Connor, Tammy (T.A.); Barry, Jack (J.E.)
Subject: RE: [redacted] has gone to FINAL as 07-5-7 (enUSA)

Bruce, can you help? What is the service part number (if you don't know that, can you tell me the engineering part number?) of the cap that was released to protect the battery cable? (Dan/Tammy, this cap was released by electrical, not us

Thanks!

Cynthia Protas Hodges
Steering Supervisor, RV Gear and Linkage Chassis Engineering Ford Motor Company
1BD36 Product Development Center
phone (313) 805-3872 fax: (313) 32-29959
click here to: textpage me email me my personal productivity site
Please note: Due to my email volume, add FYA (For Your Action) subject line to emails sent to me to insure my quickest response. I read those first!
-----Original Message-----
From: Gompper, Dan (D.B.)
Sent: Thursday, March 01, 2007 12:57 PM

To: Hodges, Cynthia (C.P.); Hwang, Hsiu-Ying (H.Y.)
Cc: O'Connor, Tammy (T.A.); Barry, Jack (J.E.)
Subject: FW: [redacted] has gone to FINAL as 07-5-7 (enUSA)
Importance: High

Hsiu-Ying --

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Can you confirm the number and availability of this cap? FCSD have gotten a number of calls looking for guidance on this.

Thanks,

Dan Gompper
SuperDuty Vehicle Dynamics Supervisor
EVB 2E-L01
Cellphone: (313) 805-2039
Email: dgompper@ford.com
text page: 3138052039@sprintpcs.messaging.com

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Wednesday, February 28, 2007 12:49 PM
To: Knapp, David (D.); Hale, Curt (B.C.); Johnston, Steven (S.J.); McDonagh, Scot (S.M.)
Cc: Gompper, Dan (D.B.); Repasky, Steve (S.); Hasselbring, D Blake (D.B.)
Subject: FW: [redacted] has gone to FINAL as 07-5-7 (enUSA)
Importance: High

TSB Article Number: 07-5-7 for Steering Wheel Oscillation is now published.

Tammy A. O'Connor
Product Concern Engineer
FCSD Service Engineering Operations
Super Duty F-Series
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

-----Original Message-----
From: Siplus, G (G.)
Sent: Wednesday, February 28, 2007 11:02 AM
To: O'Connor, Tammy (T.A.)
Subject: [redacted] has gone to FINAL as 07-5-7 (enUSA)
Importance: High

English TSB Article 07-5-7 has been released for publication

The following Technical Service Bulletin (TSB) article

has been moved from collaboration and is now final.

Dealers may view this article on the next business day via OASIS and

fmcdealer.com (http://www.fmcdealer.dealerconnection.com).

Company personnel may view it at:

http://www.protechnician.com/.

Concern Tracking Number: [redacted]

TSB Article Number: 07-5-7

Description: Steering Wheel Oscillation.

Vehicles: F-Super Duty

If this message should not have been sent to this address please forward it to gsiplus@ford.com.

From: Mayer, Paul (P.A.)
Sent: Monday, September 12, 2005 1:21 PM
To: O'Connor, Tammy (T.A.); Repasky, Steve (S.)
Subject: RE: Draft TSB

Attachments: [redacted] TSB Steering Wheel oscillation Update pmrev.doc

I rewrote the section on caster.

See attached. If you like it, just adopt it.

[redacted] TSB Steering Whe...

AND REMEMBER the title is STEERING WHEEL Oscillation

Regards
Paul Mayer
Truck Suspension and Systems Analysis
313-248-9202 Fax:313-317-2349

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Friday, September 09, 2005 2:11 PM
To: Mayer, Paul (P.A.); Repasky, Steve (S.)
Subject: Draft TSB

<< File: [redacted] TSB Steering Wheel Shimmy Update.doc >>

Attached is the draft TSB for your review.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thurs,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

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ISSUE:

Some 2005-2006 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion) immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on 4x4 vehicles, equipped with steering wheels that have redundant controls (i.e. climate and radio controls).

ACTION:

This procedure will minimize the steering wheel oscillations on impacts; however, there may be some remaining minor oscillation, which would be considered normal.
Perform the following:

- Vehicle Inspection
- Evaluation Of Vehicle Prior To Repair
- Steering Gear Mesh Load Adjustment
- Reduce front caster by 0.5 to 0.75 degrees
- Replacement Of Redundant Control Steering Wheel (if equipped and vehicle built prior to 10/8/04)

SERVICE PROCEDURE

VEHICLE INSPECTION

1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

   NOTE: SETTING TIRE PRESSUE TO DOOR SPEC IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

2. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
   a. If leaks are present, install a new steering damper and continue with this TSB.
   b. If no leaks are present, continue with this TSB.

3. Check torques on the following steering system fasteners and adjust to specification as required. Refer to Workshop Manual Section 211-03.

   - Damper nuts (4x2) (Torque spec: 59 lb-ft)
   - Damper-to-bracket (F-250, F-350 4x4) (Torque Spec: 26 lb-ft)
   - Damper-to-drag link (Torque spec: 67 lb-ft)
   - Drag link-to-pitman arm nut (Torque Spec: 148 lb-ft)
   - Inner tie-rod end nut (Torque Spec: 85 lb-ft)
   - Outer tie-rod end nuts (Torque Spec: 85 lb-ft)
   - Track bar bracket-to-frame nuts & bolts (Torque Spec: 129 lb-ft)

- Radius arm to axle (Torque spec: 185 ft-lb)
- Radius arm to frame bracket (Torque spec: 406 ft-lb)
- Radius arm frame bracket to frame bolts (Torque spec: 129 ft-lb)

NOTE: ADJUSTING TORQUE ON STEERING SYSTEM FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS WHICH ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

4. Measure wheel alignment. Verify that Front Caster, Camber & Total Toe is within specification (preferred specification is .1 degree toe in). Adjust to specification as required. Refer to the Workshop Manual, Section 2004-00-1 for complete alignment specifications.

EVALUATION OF VEHICLE PRIOR TO REPAIR

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the severity of wheel oscillation.
3. During the road test, evaluate and note the steering wheel return-ability.
    a. Turn steering wheel full lock to lock to confirm no binding.
    b. Locate center, and then 45 degrees either side of center on the steering wheel.
    c. Driving vehicle at 35 MPH (56 Km/h), on a dry and flat road surface, turn the wheel 45 degrees and release. Note the approximate angle that the steering wheel returns to BEFORE CLEAR VISION. Perform and record the angle for both left and right. It is normal if the angle differs slightly from left to right.

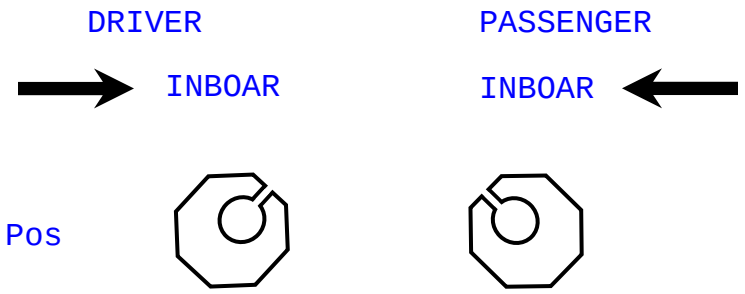
STEERING GEAR MESH LOAD ADJUSTMENT

1. Insert hex wrench into steering gear mesh load adjuster screw.
2. While holding the mesh load adjuster screw tight, back off lock nuts two full turns to allow free movement of the adjuster screw.
3. Carefully tighten adjuster screw until a slight increase in resistance is felt, then back off approximately 1/16th of a turn.
4. Hold the adjuster screw in place and tighten lock nut. Do not allow the adjustment screw to turn while tightening the locking nut down.
5. Road test vehicle and evaluate for improvement in steering wheel oscillations.
    a. Confirm that there is no objectionable increase in steering efforts, especially at low speeds.
    b. Verify that steering wheel return-ability is approximately the same as it was during the original evaluation (within 5 degrees).
    c. Turn steering wheel full lock to lock to confirm no binding.

6. Park the vehicle to let it cool down. Road test cold to confirm acceptable parking efforts and return-ability in cold condition. Repeat the mesh load adjustment if needed.

REDUCE FRONT CASTER

- Note the current front caster
- Use alignment adjustment bushings to Reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit.
- Use Alignment adjustment bushings:
  - 4x4: 5C3Z-3B440-DDD (0.75 Degree bushing) OR 5C3Z-3B440-EEE (1.0 degree bushing)
  - 4x2: 5C3Z-3B440-D (0.75 Degree bushing) OR 5C3Z-3B440-E (1.0 degree bushing)
- Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward & inboard position (See below picture)
  - This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed.
  - The final camber setting must be within the specification limits



- Maintain the current front camber, cross-camber & cross-caster settings as close as you possibly can.
- Adding weight to the back lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster.

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

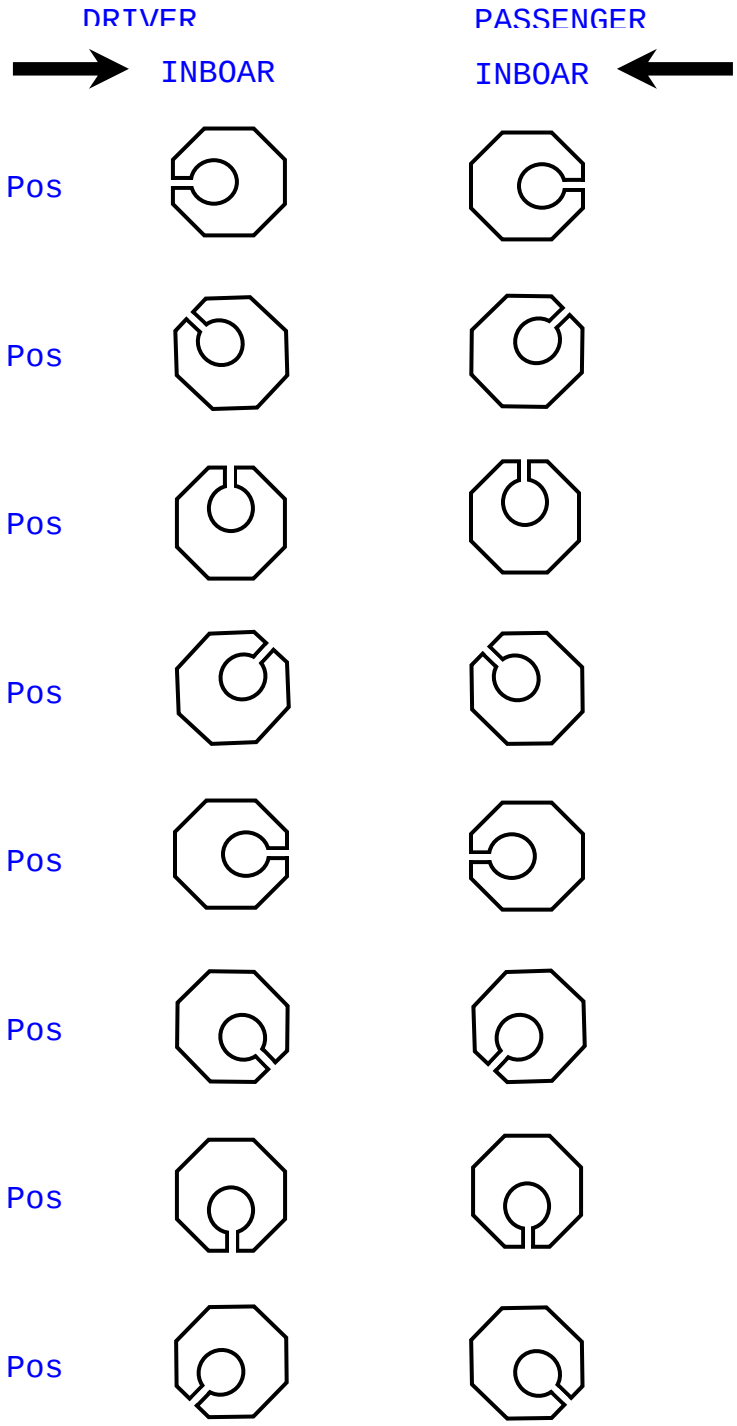
REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE 2005 OR 2006 SUPER DUTY F-SERIES WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

F250/350 4x4 -and- F450/550
(8-sided)



From: Mayer, Paul (P.A.)
Sent: Tuesday, September 13, 2005 7:44 AM
To: O'Connor, Tammy (T.A.); Repasky, Steve (S.)
Subject: RE: Draft TSB

I don't have any thing to add there. I thought the meshload adjust section was pretty good

Regards
Paul Mayer
Truck Suspension and Systems Analysis
313-248-9202 Fax:313-317-2349

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Monday, September 12, 2005 1:27 PM
To: Mayer, Paul (P.A.); Repasky, Steve (S.)
Subject: RE: Draft TSB

Paul/Steve:

Thanks for the update.

I've had a couple of FSEs ask for additional information on meshload adjustment -- do you think there is enough detail is provided in the TSB on the meshload adjustment, and is there anything additional you can provide to more completely explain this?

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thurs,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

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-----Original Message-----
From: Mayer, Paul (P.A.)
Sent: Monday, September 12, 2005 1:21 PM
To: O'Connor, Tammy (T.A.); Repasky, Steve (S.)
Subject: RE: Draft TSB

I rewrote the section on caster.

See attached. If you like it, just adopt it.

<< File: [redacted] TSB Steering Wheel oscillation Update pmrev.doc >>

AND REMEMBER the title is STEERING WHEEL Oscillation

Regards
Paul Mayer

Truck Suspension and Systems Analysis
313-248-9202 Fax:313-317-2349

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Friday, September 09, 2005 2:11 PM
To: Mayer, Paul (P.A.); Repasky, Steve (S.)
Subject: Draft TSB

<< File: [redacted] TSB Steering Wheel Shimmy Update.doc >>

Attached is the draft TSB for your review.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thurs,Fri)
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From: O'Connor, Tammy (T.A.)
Sent: Tuesday, September 13, 2005 10:42 AM
To: King, Tom (T.F.); Haering, Ray (J.R.)
Cc: Canal, Ron (R.J.); Menard, Bob (R.J.); Snider, Alex (A.)
Subject: RE: FW: Truck Issues
Attachments: [redacted] TSB Steering Wheel oscillation Update pmrev.doc

I am in the process of revising/updating TSB 04-26-1 for Steering Wheel Osciallation. I'm attaching a copy of the draft for your review.

The 4 most important items to check to resolve this issue are:

1. Tire pressure -- should be at spec on door label
2. Torque settings on steering and suspension fasteners
3. Caster settings should be reduced
4. Meshload adjustment

Alex Snider from Ford of Canada has spent alot of time on this issue with Trucks and has been able to resolve them with this draft TSB.

Please feel free to call either myself or Alex with questions.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thurs,Fri)
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-----Original Message-----
From: King, Tom (T.F.)
Sent: Tuesday, September 13, 2005 10:36 AM
To: Haering, Ray (J.R.)
Cc: Canal, Ron (R.J.); Menard, Bob (R.J.)
Subject: RE: FW: Truck Issues

I'm not familiar with the issue and Ken is on vacation until next week. I've looked at the TSBs on the F-250 for 2005 and find TSB 4-26-1 is intended to address similar symptoms. It involves adjusting the mesh load in the steering gear. Has it been tried? Please provide us with a vin, mileage, axle weights (both front and rear and alignment settings to help us come up to speed. The vin will allow us to get the vehicle warranty history. Where are the units located? What tire pressures are on the certification label?

What TSB is the one they are going to try? Let's optimize the vehicle with recommended tire

pressures and then we can consider alternate pressures. There are some negatives associated with higher or lower pressures related to tire durability, handling, traction and safety.

I've pulled the data on the vin you supplied. The vehicle was built 17 Nov 04. Warranty start date is 22 Dec. 2004. It is a super cab with 4x4. The tires are either Michelin or Goodrich depending on what line we read on the "as built" info. LT265/70R17E tires. There are no warranty claims to indicate any service has been performed at a dealership.

I got this far in the note and Ron Canal called. We've compared notes. The initial attempts at service will be alignment and TSB 4-26-1. We think that will handle most of it. The alignment will have them looking at tie rods, etc. just in case there are any issues there. There aren't any that I know of, but since they are complaining about handling, that will provide a check. We aren't going to adjust tire pressure from recommended, they may elect to do it later, but Ford isn't going to do it.

I'd like feedback on any repair attempts. Thanks.

Tom King (TKING1@Ford.com)
313-337-6741
CVO Technical Liaison
1655 Fairlane Circle,
Suite 950-C, Cube 345
Allen Park, MI 48101

-----Original Message-----
From: Haering, Ray (J.R.)
Sent: Tuesday, September 13, 2005 9:27 AM
To: King, Tom (T.F.)
Cc: Canal, Ron (R.J.)
Subject: FW: FW: Truck Issues
Importance: High

Tom, see e-mails from Baker Hughes and response form Ford Canada.

Any additional insight would be appreciated.

Here is a Vin #
1FTSX21535E[redacted]

THANK YOU
RAY HAERING
FORD NATIONAL ACCOUNT MGR
HOUSTON AREA
281-361-7662 OFFICE
832-541-3646 CELL
281-361-7664 FAX

-----Original Message-----
From: Henry, Lonnie K. [mailto:Lonnie.Henry@bakerpetrolite.com]

Sent: Monday, September 12, 2005 6:37 PM
To: Menard, Bob (R.J.); Davis, Brenda K.
Cc: Alvarez, Lori M; Beckley, Trevor C.; Longmuir, Curtis; Whalen, Tom; Fretts, Greg (G.); Guberney, Jay (M.J.); Brady, John (J.); Haering, Ray (J.R.); Biever, Larry L; Bonsteel, Vaughn W.; Kaybidge, Allyson N
Subject: RE: FW: Truck Issues
Importance: High

Brenda:

I agree with everything Bob has written below with the exception of the last statement.

> (and running tires at a reduced inflation rate will affect the handling characteristics of any vehicle.)
>
> **When these vehicles have 75 psi in the tires they are a hazard on gravel roads. Especially when there is wash board / bumps in the road, and even worse in the winter time as the traction is reduced significantly.**
>
> **If you drive in the city or on pavement all the time then this is a NON ISSUE. Our people are on gravel roads greater than 75 % of the time so this is a safety concern!**
>
> **I totally respect the fact that Ford of Canada can not recommend anything other than that of the manufacture.**
> **In the past we have reduced the tire inflation rate on Ford and GM vehicles and never have we ever seen this problem before. This was done for the reason expressed above.**
>
> **What is different now is the front end on the new 250 Ford trucks. They used to have solid axel with leaf springs, now they have coil spring suspension with trailing arm linkage. (This is new)**
> **The wheels are 17", which also new.**
>
> **The VIOLENT shaking that occurs when the tire pressure is reduced to 50 psi has never been as issue before. If the recommendation by Ford of Canada is to have 75 psi in the tires, and they claim that there is nothing wrong with the NEW front ends then we have to change something else for the safety of our employees!!**
>
> **I do not want to be reactive to this situation and wait until someone has an accident.**
>
> **Can we look at different tires when the trucks are being built and have that right in the lease?**
> **Will that fix the problem?**

If not what other options do we have?

Please give me a call to discuss further.

Thanks
Lonnie

-----Original Message-----
From: Menard, Bob (R.J.) [mailto:bmenard@ford.com]
Sent: Monday, September 12, 2005 2:50 PM
To: Davis, Brenda K.
Cc: Alvarez, Lori M; Beckley, Trevor C.; Longmuir, Curtis; Whalen, Tom; Menard, Bob (R.J.); Fretts, Greg (G.); Henry, Lonnie K.; Guberney, Jay (M.J.); Brady, John (J.); Haering, Ray (J.R.)
Subject: RE: FW: Truck Issues

Brenda,
Here is the latest on this scenario:

-I spoke to Lonnie about the issue and the outcome per Lonnie's email

-Based on the increased tire inflation correcting the shimmy scenario, it was agreed that I do not need to meet with him and his drivers tomorrow.

-I suggested that both units should be booked in at the dealer and we will perform the TSB in question.

-I furthermore offered that I will pick up the cost of setting the alignment as goodwill for these 2 units. Alignment is a 12/ 20 item and these trucks are beyond the 20,000 kms. The reason for the alignment is to reset the front end to a different setting yet still staying within our specification within our tolerance. This will improve the feel of the front end and will minimize the shimmy scenario.

There seems to be an overall concern out in the field that running tires with inflation as per the manufacturer's recommendation is causing some rough ride issues. We can only recommend that tires are inflated to the manufacturer's spec. and running tires at a reduced inflation rate will affect the handling characteristics of any vehicle.

Thanks

Robert (Bob) Menard
Commercial Area Field Manager
for: Southern Alberta and British Columbia
Ford Motor Company of Canada Limited
North American Fleet Services
403-255-0292 ext 590 Cel: 403-803-9079
Fax 403-255-0164
Email: bmenard@ford.com

Ford Fleet: We're There For you !
"Accelerate Growth Through Customer Satisfaction and Loyalty"

Please note new Suite number on address:
Suite 520 7015 MacLeod Tr S.W.
Calgary AB T2H 2K6

-----Original Message-----
From: Henry, Lonnie K. [mailto:Lonnie.Henry@bakerpetrolite.com]
Sent: Monday, September 12, 2005 1:33 PM
To: Menard, Bob (R.J.)
Cc: Davis, Brenda K.; Alvarez, Lori M; Beckley, Trevor C.; Longmuir, Curtis; Whalen, Tom
Subject: RE: FW: Truck Issues
Importance: High

Bob:

I have left you a voice mail to call me and discuss the trucks shaking. But I am sending this note so that others on the cc list will be in the loop.

1) Trevor and Curtis both pumped their tires up to 75 lbs. and the shaking does not seem to be an issue.

2) I am very shocked, but also some what relieved that this happened.

Questions for consideration are:

1) How come this problem was not relayed to all the Ford dealerships (Norris Ford in Wainwright did not seem to know anything about this problem.)

2) If this truly is a fix to the problem why did these vehicles not experience this until approximately 25,000 kms, when the air pressure in the tires was reduced to 50 psi. when the trucks were brand new?

I think you will agree that the trucks will ride much better at the 50 psi versus 75 psi. We have done this with similar trucks and it has never been an issue.

This really seems like a fix to mask the real problem (what ever that is).

We can discuss more at length when you call me back.

Thanks

Lonnie

-----Original Message-----

From: Menard, Bob (R.J.) [mailto:bmenard@ford.com]
Sent: Monday, September 12, 2005 11:08 AM
To: Henry, Lonnie K.
Subject: Read: FW: Truck Issues
Importance: High

Your message

To: bmenard@ford.com

Subject:

was read on 9/12/2005 11:08 AM.

ISSUE:

Some 2005-2006 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion) immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on 4x4 vehicles, equipped with steering wheels that have redundant controls (i.e. climate and radio controls).

ACTION:

This procedure will minimize the steering wheel oscillations on impacts; however, there may be some remaining minor oscillation, which would be considered normal.
Perform the following:

- Vehicle Inspection
- Evaluation Of Vehicle Prior To Repair
- Steering Gear Mesh Load Adjustment
- Reduce front caster by 0.5 to 0.75 degrees
- Replacement Of Redundant Control Steering Wheel (if equipped and vehicle built prior to 10/8/04)

SERVICE PROCEDURE

VEHICLE INSPECTION

1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

   NOTE: SETTING TIRE PRESSUE TO DOOR SPEC IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

2. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
   a. If leaks are present, install a new steering damper and continue with this TSB.
   b. If no leaks are present, continue with this TSB.

3. Check torques on the following steering system fasteners and adjust to specification as required. Refer to Workshop Manual Section 211-03.

   - Damper nuts (4x2) (Torque spec: 59 lb-ft)
   - Damper-to-bracket (F-250, F-350 4x4) (Torque Spec: 26 lb-ft)
   - Damper-to-drag link (Torque spec: 67 lb-ft)
   - Drag link-to-pitman arm nut (Torque Spec: 148 lb-ft)
   - Inner tie-rod end nut (Torque Spec: 85 lb-ft)
   - Outer tie-rod end nuts (Torque Spec: 85 lb-ft)
   - Track bar bracket-to-frame nuts & bolts (Torque Spec: 129 lb-ft)

- Radius arm to axle (Torque spec: 185 ft-lb)
- Radius arm to frame bracket (Torque spec: 406 ft-lb)
- Radius arm frame bracket to frame bolts (Torque spec: 129 ft-lb)

NOTE: ADJUSTING TORQUE ON STEERING SYSTEM FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS WHICH ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

4. Measure wheel alignment. Verify that Front Caster, Camber & Total Toe is within specification (preferred specification is .1 degree toe in). Adjust to specification as required. Refer to the Workshop Manual, Section 2004-00-1 for complete alignment specifications.

EVALUATION OF VEHICLE PRIOR TO REPAIR

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the severity of wheel oscillation.
3. During the road test, evaluate and note the steering wheel return-ability.
    a. Turn steering wheel full lock to lock to confirm no binding.
    b. Locate center, and then 45 degrees either side of center on the steering wheel.
    c. Driving vehicle at 35 MPH (56 Km/h), on a dry and flat road surface, turn the wheel 45 degrees and release. Note the approximate angle that the steering wheel returns to BEFORE CLEAR VISION. Perform and record the angle for both left and right. It is normal if the angle differs slightly from left to right.

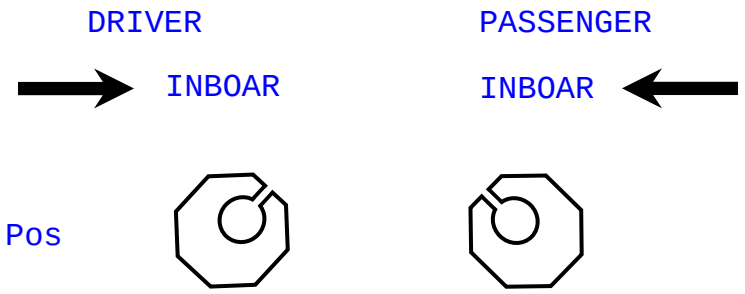
STEERING GEAR MESH LOAD ADJUSTMENT

1. Insert hex wrench into steering gear mesh load adjuster screw.
2. While holding the mesh load adjuster screw tight, back off lock nuts two full turns to allow free movement of the adjuster screw.
3. Carefully tighten adjuster screw until a slight increase in resistance is felt, then back off approximately 1/16th of a turn.
4. Hold the adjuster screw in place and tighten lock nut. Do not allow the adjustment screw to turn while tightening the locking nut down.
5. Road test vehicle and evaluate for improvement in steering wheel oscillations.
    a. Confirm that there is no objectionable increase in steering efforts, especially at low speeds.
    b. Verify that steering wheel return-ability is approximately the same as it was during the original evaluation (within 5 degrees).
    c. Turn steering wheel full lock to lock to confirm no binding.

6. Park the vehicle to let it cool down. Road test cold to confirm acceptable parking efforts and return-ability in cold condition. Repeat the mesh load adjustment if needed.

REDUCE FRONT CASTER

- Note the current front caster
- Use alignment adjustment bushings to Reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit.
- Use Alignment adjustment bushings:
  - 4x4: 5C3Z-3B440-DDD (0.75 Degree bushing) OR 5C3Z-3B440-EEE (1.0 degree bushing)
  - 4x2: 5C3Z-3B440-D (0.75 Degree bushing) OR 5C3Z-3B440-E (1.0 degree bushing)
- Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward & inboard position (See below picture)
  - This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed.
  - The final camber setting must be within the specification limits



- Maintain the current front camber, cross-camber & cross-caster settings as close as you possibly can.
- Adding weight to the back lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster.

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

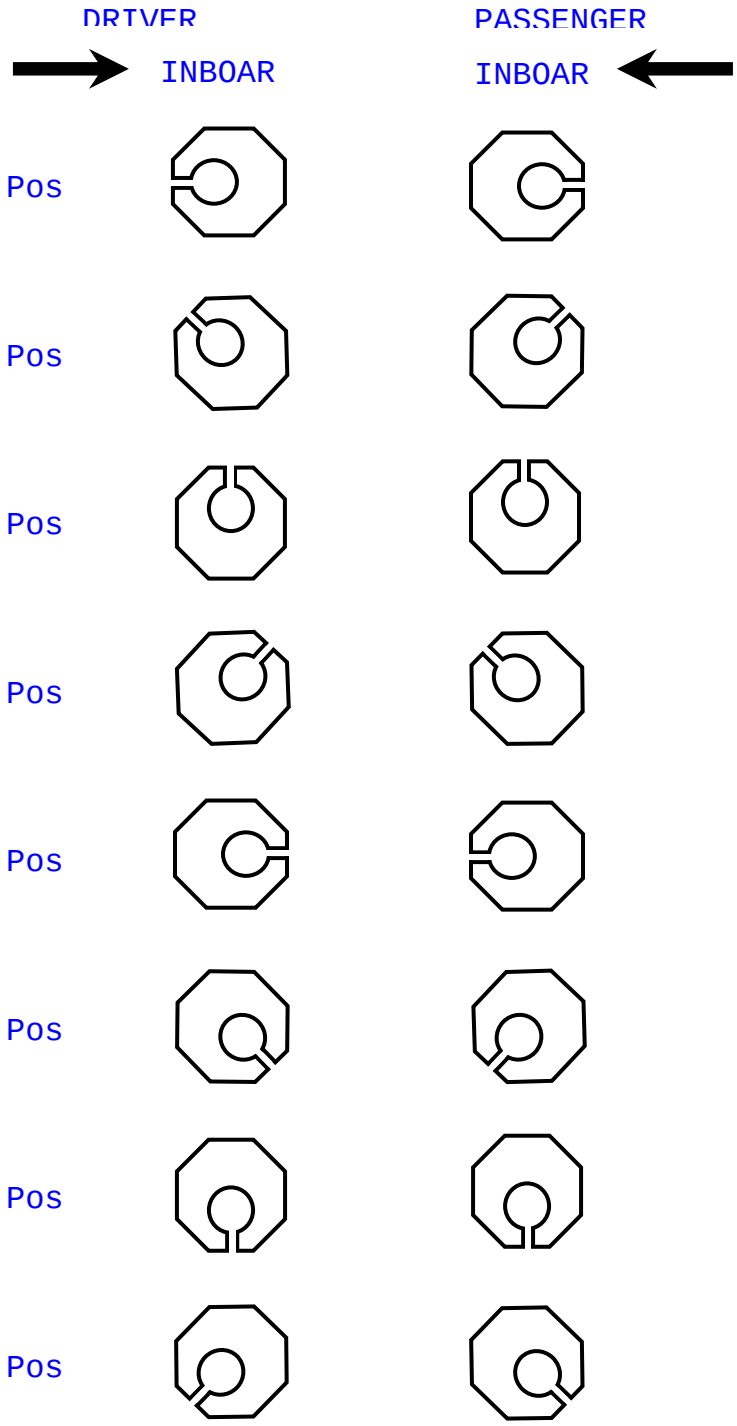
REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE 2005 OR 2006 SUPER DUTY F-SERIES WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

F250/350 4x4 -and- F450/550
(8-sided)



From: O'Connor, Tammy (T.A.)
Sent: Wednesday, August 31, 2005 11:57 AM
To: Corlew, Randall (R.L.); Daniluk, John (J.J.); Becker, Bret (B.T.); Manicki, Mike (M.G.); Vongthip, Didi (D.)
Cc: Nigra, Joe (J.)
Subject: RE: Revisions to TSB for Steering Wheel Shimmy - Assignment 05-219

Attachments: [redacted] TSB Steering Wheel Shimmy Update 08 31.doc

[redacted] TSB Steering Whe...

Randy:

I just make a couple of corrections, this draft is changing on a daily basis. I appreciate any and all feedback that the field has on this issue. Randy, I will include information you noted below and send it out in an update tomorrow.

I especially want to know if you are unable to resolve this issue by following this draft TSB.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thurs,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

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-----Original Message-----
From: Corlew, Randall (R.L.)
Sent: Wednesday, August 31, 2005 11:22 AM
To: Daniluk, John (J.J.); Becker, Bret (B.T.); Manicki, Mike (M.G.); Vongthip, Didi (D.)
Cc: Nigra, Joe (J.); O'Connor, Tammy (T.A.)
Subject: RE: Revisions to TSB for Steering Wheel Shimmy - Assignment 05-219

FYI:
I have been working on this tsb with engineering to help with this issue. I can tell you for sure everything must be right and my experience is that I have to reduce the caster usually down near the min to get it right.
These front ends are sensitive and the steering is fast. Make sure everything including the wheel bearings are tight, air pressure is also a part of this. Pull down the steering damper to check, you have to make sure it works - disconnecting it is the only way.
Any looseness will cause shimmy, high caster will cause shimmy. The shimmy on these trucks is a handful and usually you have to get to 70 plus and hit a bump to make it happen. When doing a test drive for this be ready and have a firm grip on the wheel. When it starts the only way to get it to stop is to slow down to a stop!
Near the bottom of this the author says - "If the caster to the exact minimum he finds that the camber is out of spec." I have no idea of what this means.
Randy Corlew - FSE - Pittsburgh
P.S. Note to Tammy - We just got this from the FQE. I have read this and you can see my concerns which I

have advised the other FSE's in our region. I also felt that I needed to advise the others about what shimmy is and to be ready for it. If you want to forward this or any part to the FQE's go ahead.

-----Original Message-----
From: Daniluk, John (J.J.)
Sent: Wednesday, August 31, 2005 10:46 AM
To: Becker, Bret (B.T.); Manicki, Mike (M.G.); Vongthip, Didi (D.)
Cc: Corlew, Randall (R.L.); Nigra, Joe (J.)
Subject: FW: Revisions to TSB for Steering Wheel Shimmy - Assignment 05-219

Mike, Bret and Didi, I do not see where you were copied on this by Mark Hayduk..

John Daniluk
Warranty Manager
Pittsburgh Region
(412) 928-2909 / (724) 910-3455 cell

-----Original Message-----
From: Hayduk, Mark (M.S.)
Sent: Wednesday, August 31, 2005 10:26 AM
To: Nigra, Joe (J.); Corlew, Randall (R.L.)
Cc: Daniluk, John (J.J.)
Subject: FW: Revisions to TSB for Steering Wheel Shimmy - Assignment 05-219

Updated info for S/D Steering Wheel Shimmy TSB

Mark Hayduk
Field Quality Engineer - Pittsburgh, PA
Service Engineering Operations - FCSD
Ph: 724-941-6670
Cell: 724-413-9113
Fax: 724-941-6670

-----Original Message-----
From: McDonald, Joseph (J.)
Sent: Tuesday, August 30, 2005 3:42 PM
To: Airington, Connie (C.G.); Lentini, Craig (C.A.); Dionisi, Anthony (A.J.); Domka, John (J.J.); Dunn, Bill (W.M.); Howe, Brian (B.T.); Kaltz, Gordie (G.); Hayduk, Mark (M.S.); Myers, Dan (D.P.); Peeler, Tom (T.H.); Trower, Ron (R.D.)
Subject: Revisions to TSB for Steering Wheel Shimmy - Assignment 05-219

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Tuesday, August 30, 2005 3:19 PM
To: McDonald, Joseph (J.)
Cc: Kaltz, Gordie (G.); Hale, Curt (B.C.); Knapp, David (D.)
Subject: [redacted] Revisions to TSB for Steering Wheel Shimmy
Importance: High

<< File: [redacted] TSB Steering Wheel Shimmy Update.doc >>

Joe/Gordie:

Attached is the complete TSB with revisions. Please send this out as appropriate. Thanks.

Let me know if anyone has any questions or feedback.

Tammy A. O'Connor
Product Concern Engineer

FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thurs,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

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ISSUE:

Some 2005-2006 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion) immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on 4x4 vehicles, equipped with steering wheels that have redundant controls (i.e. climate and radio controls).

ACTION:

This procedure will minimize the steering wheel oscillations on impacts; however, there may be some remaining minor oscillation, which would be considered normal.
Perform the following:

- Vehicle Inspection
- Evaluation Of Vehicle Prior To Repair
- Steering Gear Mesh Load Adjustment
- Reduce front caster by 0.5 to 0.75 degrees
- Replacement Of Redundant Control Steering Wheel (if equipped and vehicle built prior to 10/8/04)

SERVICE PROCEDURE

VEHICLE INSPECTION

1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

   NOTE: SETTING TIRE PRESSUE TO DOOR SPEC IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

2. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
   a. If leaks are present, install a new steering damper and continue with this TSB.
   b. If no leaks are present, continue with this TSB.

3. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table # below).

Description	Torque Specification (lb-ft)
Damper nuts (4x2)	59
Damper-to-bracket (F-250, F-350 4x4)	26
Damper-to-drag link	67
Drag link-to-pitman arm nut	148
Inner tie-rod end nuts	85
Outer tie-rod end nuts	85
Track bar bracket-to-frame nuts & bolts	129
Track bar-to-track bar bracket bolt	406
Track bar-to-axle nut	185
Radius arm to axle bolts	222
Radius arm to bracket nut	222

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

4. Measure wheel alignment. Verify that Front Caster, Camber & Total Toe is within specification (preferred specification is .1 degree toe in). Adjust to specification as required. Refer to the Workshop Manual, Section 2004-00-1 for complete alignment specifications.

EVALUATION OF VEHICLE PRIOR TO REPAIR

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the severity of wheel oscillation.
3. During the road test, evaluate and note the steering wheel return-ability.

a. Turn steering wheel full lock to lock to confirm no binding.
b. Locate center, and then 45 degrees either side of center on the steering wheel.
c. Driving vehicle at 35 MPH (56 Km/h), on a dry and flat road surface, turn the wheel 45 degrees and release. Note the approximate angle that the steering wheel returns to BEFORE CLEAR VISION. Perform and record the angle for both left and right. It is normal if the angle differs slightly from left to right.

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1. Insert hex wrench into steering gear mesh load adjuster screw.
2. While holding the mesh load adjuster screw tight, back off lock nuts two full turns to allow free movement of the adjuster screw.
3. Carefully tighten adjuster screw until a slight increase in resistance is felt, then back off approximately 1/16th of a turn.
4. Hold the adjuster screw in place and tighten lock nut. Do not allow the adjustment screw to turn while tightening the locking nut down.
5. Road test vehicle and evaluate for improvement in steering wheel oscillations.
    a. Confirm that there is no objectionable increase in steering efforts, especially at low speeds.
    b. Verify that steering wheel return-ability is approximately the same as it was during the original evaluation (within 5 degrees).
    c. Turn steering wheel full lock to lock to confirm no binding.
6. Park the vehicle to let it cool down. Road test cold to confirm acceptable parking efforts and return-ability in cold condition. Repeat the mesh load adjustment if needed.

REDUCE FRONT CASTER

- Note the current front caster
- Use alignment adjustment bushings to Reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit.
- If caster setting is at exact minimum, camber may be below the specification limit.
- Use Alignment adjustment bushings:
    - 4x4: 5C3Z-3B440-DDD (0.75 Degree bushing) OR 5C3Z-3B440-EEE (1.0 degree bushing)
    - 4x2: 5C3Z-3B440-D (0.75 Degree bushing) OR 5C3Z-3B440-E (1.0 degree bushing)
- Maintain the current front camber, cross-camber & cross-caster settings as close as you possibly can.
- If the caster to the exact minimum he finds that the camber is out of spec.
- Adding weight to the back raises the front of the vehicle, which in effect increases caster.

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE 2005 OR 2006 SUPER DUTY F-SERIES WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

From: Sprunger, Jon (J.L.)
Sent: Thursday, July 13, 2006 4:19 PM
To: Burkeen, Craig (D.C.); O'Connor, Tammy (T.A.); Rivera, Santos (S.); Welch, Sharon (S.L.)
Cc: Sturgill, John (J.)
Subject: RE: TSB [redacted]

Attachments: [redacted] pdf

All,

If you want to take a final look, here is what the TSB looks like with various changes that were requested during collab. It be released tomorrow.

[redacted]
df (62 KB)

Sincerely,

Jon Sprunger
Global Technical Communications - FCSD
TSB/SSM Processing
Phone: (313)32-32272
Fax: (313)24-86449
jsprunge@ford.com

From: Burkeen, Craig (D.C.)
Sent: Thursday, July 13, 2006 1:48 PM
To: Sprunger, Jon (J.L.); O'Connor, Tammy (T.A.)
Cc: Rivera, Santos (S.); Welch, Sharon (S.L.); Burkeen, Craig (D.C.)
Subject: RE: TSB [redacted]

Okay Jon,
Per our discussion - leave the labor ops as written. Add the following note:

NOTE: Oscillation issues resolved by wheel alignment are warranted for 12/12 only, regardless of other steps performed.

Craig Burkeen
Warranty Training & Communication Analyst
FCSD Warranty Administration
Cube 3N-492 / Mail Drop 3NE-1D
Regent Court Bldg. 16800 Executive Plaza Dr.
Dearborn, MI. 48126
Phone: (313) 845-3579
Fax: (313) 845-4408

From: Sprunger, Jon (J.L.)
Sent: Thursday, July 13, 2006 9:31 AM
To: Burkeen, Craig (D.C.); O'Connor, Tammy (T.A.)

Cc: Rivera, Santos (S.); Welch, Sharon (S.L.)
Subject: RE: TSB [redacted]

Craig, No, I was suggesting keeping the stand alone "B" but getting rid of the stand alone C's (create two new all inclusive C's).

Tammy, Operation B pays for inspection and/or replacement of the steering damper, not just replacement. Apparently the time to replace the damper was low enough that it did not justify a unique labor op for inspection vs replacement. Maybe Santos can expand on that. The way the TSB reads you Set the tire pressure (operation A), if the concern is still there you inspect the damper (and replace if needed) and check the torque on all of the fasteners (operation B), then if the problem is still present set the alignment if needed (operation B+C). It does not let you skip past what is paid for with operation B.

Sincerely,

Jon Sprunger
Global Technical Communications - FCSD
TSB/SSM Processing
Phone: (313)32-32272
Fax: (313)24-86449
jsprunge@ford.com

From: Burkeen, Craig (D.C.)
Sent: Thursday, July 13, 2006 9:23 AM
To: O'Connor, Tammy (T.A.); Sprunger, Jon (J.L.)
Cc: Rivera, Santos (S.); Welch, Sharon (S.L.)
Subject: RE: TSB [redacted]

I thought Jon's proposal was to establish a separate labor op including both but still have the stand alones available. Jon, isn't that what you suggested?

Craig Burkeen
Warranty Training & Communication Analyst
FCSD Warranty Administration
Cube 3N-492 / Mail Drop 3NE-1D
Regent Court Bldg. 16800 Executive Plaza Dr.
Dearborn, MI. 48126
Phone: (313) 845-3579
Fax: (313) 845-4408

From: O'Connor, Tammy (T.A.)
Sent: Thursday, July 13, 2006 9:17 AM
To: Burkeen, Craig (D.C.); Sprunger, Jon (J.L.)
Cc: Rivera, Santos (S.); Welch, Sharon (S.L.)
Subject: RE: TSB [redacted]

Not every truck that requires alignment, requires a steering dampner -- why would we pay for the steering dampner to be installed - when it is not always.

For example, many trucks with gas engine will require tire pressure set, check the steering dampner, no leaks found, lower caster -- issue resolved. Why would we pay them to install a dampner everytime the caster is set?

Tammy A. O'Connor

Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series / Excursion
Body / Chassis / Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Burkeen, Craig (D.C.)
Sent: Thursday, July 13, 2006 9:14 AM
To: Sprunger, Jon (J.L.)
Cc: O'Connor, Tammy (T.A.); Rivera, Santos (S.); Welch, Sharon (S.L.)
Subject: RE: TSB [redacted]

This would work for me if everyone else agrees.

Craig Burkeen
Warranty Training & Communication Analyst
FCSD Warranty Administration
Cube 3N-492 / Mail Drop 3NE-1D
Regent Court Bldg. 16800 Executive Plaza Dr.
Dearborn, MI. 48126
Phone: (313) 845-3579
Fax: (313) 845-4408

From: Sprunger, Jon (J.L.)
Sent: Thursday, July 13, 2006 9:03 AM
To: Burkeen, Craig (D.C.)
Cc: O'Connor, Tammy (T.A.); Rivera, Santos (S.); Welch, Sharon (S.L.)
Subject: RE: TSB [redacted]

Craig,

Would it resolve the issue to keep operation B "as is" for vehicles that are fixed with the damper, but combine the current operation B and C's (create 2 new all inclusive C's) for vehicles that also need the alignment reset? Since the service procedure directs them to complete the steps in operation B prior to performing C, I don't think this causes any conflict with the way the procedure will be performed.

We could then use the causal part 3E651 for the all inclusive C's.

Sharon/Tammy/Santos, any thoughts?

Sincerely,

Jon Sprunger
Global Technical Communications - FCSD
TSB/SSM Processing
Phone: (313)32-32272
Fax: (313)24-86449
jsprunge@ford.com

From: Burkeen, Craig (D.C.)
Sent: Thursday, July 13, 2006 8:39 AM
To: O'Connor, Tammy (T.A.); Sprunger, Jon (J.L.); Rivera, Santos (S.); Welch, Sharon (S.L.)
Subject: RE: TSB [redacted]

Yes, alignment is 12/12 only.

Craig Burkeen
Warranty Training & Communication Analyst
FCSD Warranty Administration
Cube 3N-492 / Mail Drop 3NE-1D
Regent Court Bldg. 16800 Executive Plaza Dr.
Dearborn, MI. 48126
Phone: (313) 845-3579
Fax: (313) 845-4408

From: O'Connor, Tammy (T.A.)
Sent: Thursday, July 13, 2006 8:37 AM
To: Burkeen, Craig (D.C.); Sprunger, Jon (J.L.); Rivera, Santos (S.); Welch, Sharon (S.L.)
Subject: RE: TSB [redacted]

Craig:

I don't' think that will work, many times the steering dampner is the only thing that has to be replaced - but often the alignment only has to be on trucks with gas engines (they are the worse case senerio for this issue, due to the light weight).

They really do need to be stand alone. Also the alignment also involves lowering caster, that makes a hugh difference in resolving this issue -- is that really only 12/12 coverage?

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Burkeen, Craig (D.C.)
Sent: Thursday, July 13, 2006 8:31 AM
To: Sprunger, Jon (J.L.); O'Connor, Tammy (T.A.); Rivera, Santos (S.)
Subject: TSB [redacted]

Jon,
Per our discussion I have a concern with the labor operation usage/structure in this TSB.

We state that operation "C" can be used with "B", problem is the causal part for "C" is FRONT which has a 12/12 warranty, this will cause dealer confusion. Can we add the alignment time to operation B and eliminate any dual usage of the labor operations?

Craig Burkeen
Warranty Training & Communication Analyst
FCSD Warranty Administration
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STEERING WHEEL OSCILLATION

Concern Tracking# [redacted]

FORD:
2005-2007 F-Super Duty

This article supersedes TSB **05-22-1** to update the vehicle model years, causal part numbers, and service procedure.

ISSUE

Some 2005-2007 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion), immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on 4X4 vehicles, and is more evident on trucks equipped with a gas engine.

ACTION

Refer to the following Service Procedure to minimize the steering wheel oscillations on impacts, however, there may be some remaining minor oscillation which would be considered normal.

SERVICE PROCEDURE SUMMARY

- Set tire pressure and road test vehicle to evaluate vehicle before proceeding with further repairs. If issue is resolved, do not proceed with the rest of this TSB
- If concern still exists, check steering damper for leaks; torque steering and suspension fasteners per Workshop Manual
- If concern still exists, check front alignment and reduce front caster
- Replacement of redundant control steering wheel (if equipped and vehicle built prior to 10/8/2004)

VEHICLE INSPECTION - TIRE PRESSURE

1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

NOTE
SETTING TIRE PRESSURE TO DOOR SPECIFICATION IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE.

ROAD TEST

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the customer's issue.
3. If no issues are identified during the road test, do not proceed with the rest of this TSB.

STEERING DAMPER INSPECTION AND STEERING/SUSPENSION FASTENER TORQUE CHECK

1. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
   a. If leaks are present, install a new steering damper.
2. Check torques on the following steering and suspension fasteners and adjust to specification as required (see following Table).

NOTE: The information in Technical Service Bulletins is intended for use by trained, professional technicians with the knowledge, tools, and equipment to do the job properly and safely. It informs these technicians of conditions that may occur on some vehicles, or provides information that could assist in proper vehicle service. The procedures should not be performed by "do-it-yourselfers". Do not assume that a condition described affects your car or truck. Contact a Ford, Lincoln, or Mercury dealership to determine whether the Bulletin applies to your vehicle. Warranty Policy and Extended Service Plan documentation determine Warranty and/or Extended Service Plan coverage unless stated otherwise in the TSB article.The information in this Technical Service Bulletin (TSB) was current at the time of printing. Ford Motor Company reserves the right to supercede this information with updates.The most recent information is available through Ford Motor Company's on-line technical resources.

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[redacted]

Torque Specification		
Description	**Lb-ft**	**Nm**
Damper nuts (4X2)	59	80
Damper-to-bracket (F-250, F-350 4X4)	26	35
Damper-to-drag link	67	91
Drag link-to-pitman arm nut	148	201
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts and bolts	129	175
Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE
ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE.

FRONT WHEEL ALIGNMENT AND REDUCE FRONT CASTER

NOTE
OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

Measure wheel alignment. Verify that Front Caster, Camber, and Total Toe are within specification. Adjust as required. Refer to the Workshop Manual, Section 204-00 for complete alignment specifications.

REDUCE FRONT CASTER

- Note the current front caster
- Use alignment adjustment bushings to reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit. Use alignment adjustment bushings

F-250/350 4X4:

- 5C3Z-3B440-CCC (0.5 degree bushing)
- 5C3Z-3B440-DDD (0.75 degree bushing)
- 5C3Z-3B440-EEE (1.0 degree bushing)

F-450/550 4X4 and 4X2:

- 5C3Z-3B440-HHH (0.5 degree bushing)
- 5C3Z-3B440-JJJ (0.75 degree bushing)
- 5C3Z-3B440-KKK (1.0 degree bushing)

F-250/350 4X2:

- 5C3Z-3B440-C (0.5 degree busing)
- 5C3Z-3B440-D (0.75 degree bushing)
- 5C3Z-3B440-E (1.0 degree bushing)

For All 4X4 and for F-450/550 4X2:

- Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward and inboard position (See Figure 1)

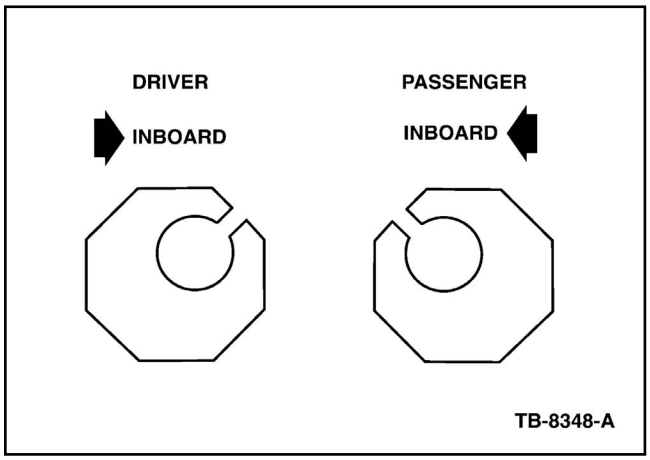

Figure 1 - Article [redacted]

- This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed
- The final caster and camber settings must be within the specification limits
- Maintain the current front camber, cross-camber and cross-caster settings as close as you possibly can
- Adding weight behind the rear axle lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster

For All F-250/350 4X2:

- Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain that position while moving the caster position forward in the truck
- The final caster and camber settings must be within the specification limits

NOTE
CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 Only

NOTE
THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual, Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE
FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

PART NUMBER	PART NAME
5C7Z-3600-ABA	Redundant Control Steering Wheel Assy (King Ranch Tan/Peb)
5c7z-3600-CBA	Redundant Control Steering Wheel Assy (Charcoal Black)
5C3Z-3E651-D	Steering Damper
5C3Z-3B440-C	F-250/350 4X2 (0.5 degree bushing)
5C3Z-3B440-D	F-250/350 4X2 (0.75 degree bushing)
5C3Z-3B440-E	F-250/350 4X2 (1.0 degree bushing)
5C3Z-3B440-CCC	F-250/350 4X4 (0.5 degree bushing)
5C3Z-3B440-DDD	F-250/350 4X4 (0.75 degree bushing)
5C3Z-3B440-EEE	F-250/350 4X4 (1.0 degree bushing)
5C3Z-3B440-HHH	F-450/550 4X4 and 4X2 (0.5 degree bushing)
5C3Z-3B440-JJJ	F-450/550 4X4 and 4X2 (0.75 degree bushing)
5C3Z-3B440-KKK	F-450/550 4x4 and 4x2 (1.0 degree bushing)

NOTE
LABOR OPERATIONS IN THIS TSB CAN BE CLAIMED TOGETHER.

NOTE
OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

WARRANTY STATUS: Eligible Under Provisions Of New Vehicle Limited Warranty Coverage

OPERATION	DESCRIPTION	TIME
07006r1A	2005-2007 F-Super Duty: Check Tire Pressure, Road Test To Verify Repair, Concern Resolved, Return To Customer (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	0.4 Hr.
07006r1B	2005-2007 F-Super Duty: Check Tire Pressure, Road Test To Verify Repair, Concern Not Resolved, Check Steering Damper Replace If Necessary, Verify Proper Torque On Steering Components, Road Test If Concern Is Resolved Return To Customer (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	1.4 Hrs.
07006r1C	2005-2007 F-Super Duty 250/350 4X2: Check And Adjust Front Wheel Alignment, This Labor Operation Can Be Claimed With Operation B Only (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	1.9 Hrs.
07006r1C	2005-2007 F-Super Duty 250/350 4X4, F450/550 4X2/4X4: Check And Adjust Front Wheel Alignment, This Labor Operation Can Be Claimed With Operation B Only (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	2.3 Hrs.
07006r1D	2005 F-Super Duty With Redundant Steering Control Built Prior To 10-8-2004: Replace Steering Wheel, Includes Time To Depower And Repower The Supplemental Restraints System Can Be Claimed With Operation A Or B (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	0.7 Hr.

Concern Tracking# [redacted] (Continued)

DEALER CODING

BASIC PART NO.	CONDITION CODE
(OPERATION A) NPF	82
(OPERATION B) 3E651	42
(OPERATION C) FRONT	W6
(OPERATION D) 3600	42

OASIS CODES: 303000, 304000, 306000, 703000, 703000, 703200, 703200, 703300, 703300, 703400, 703400

From: Repasky, Steve (S.)
Sent: Friday, May 26, 2006 10:18 AM
To: O'Connor, Tammy (T.A.)
Cc: Choe, Mark (M.J.); Gompper, Dan (D.B.); Mayer, Paul (P.A.)
Subject: RE: TSB Approved and Released: [redacted] 2005-2006 F-Super Duty - Steering Wheel Oscillation

I agree to include 2007 MY vehicles. I am not aware of any additional 2007 MY Superduty changes that would affect this TSB.

From: O'Connor, Tammy (T.A.)
Sent: Friday, May 26, 2006 9:47 AM
To: Repasky, Steve (S.)
Cc: Knapp, David (D.); Hale, Curt (B.C.); Snider, Alex (A.); Meier, Kenneth (K.W.)
Subject: FW: TSB Approved and Released: [redacted] 2005-2006 F-Super Duty - Steering Wheel Oscillation

I think we need to update this TSB to include 2007 MY.

Steve: Were there any changes for 2007 MY in production that would effect this TSB as written?

Are there any other revisions we need to make? Please let me know.

I'm also going to send it out to the FSE's and FQE's for input.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Siplus, G (G.)
Sent: Thursday, October 20, 2005 9:44 AM
To: Lentini, Craig (C.A.); jcoope12@visteon.com; McDonald, Joseph (J.); Pasanen, Kary (K.L.); Sprunger, Jon (J.L.); Echhot, T. (T.); Hawkins, William (W.); O'Connor, Tammy (T.A.)
Subject: TSB Approved and Released: [redacted] 2005-2006 F-Super Duty - Steering Wheel Oscillation

TSB Approved and Released
*** DRAFT ***

This message is being sent on behalf of VNALEY.
This is a courtesy copy of the following article to advise you this article has been approved and released.

General Information

Last action taken (as of 10/20/2005 1:43:58 PM GMT): Final/Complete
Comment:

Author: TOCONNOR
Tracking Number: [redacted]
Author Tracking Number:
Title: 2005-2006 F-Super Duty - Steering Wheel Oscillation
Article Type: TSB

TSB Issue:
Some 2005-2006 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion), immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on 4x4 vehicles, and is more evident on trucks equipped with a gas engine.

TSB Action:
Refer to the following Service Procedure to minimize the steering wheel oscillations on impacts, however, there may be some remaining minor oscillation which would be considered normal.

TSB Service Procedure:
SERVICE PROCEDURE

Perform the following:

- Vehicle Inspection
- Evaluation Of Vehicle Prior To Repair
- Steering Gear Mesh Load Adjustment
- Front Alignment and Reduce front caster
- Replacement Of Redundant Control Steering Wheel (if equipped and vehicle built prior to 10/8/2004)

VEHICLE INSPECTION
---

1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

NOTE: SETTING TIRE PRESSUE TO DOOR SPEC IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE.

2. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
a. If leaks are present, install a new steering damper and continue with this TSB.
b. If no leaks are present, continue with this TSB.

3. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table # below).

Description	Torque Specification (lb-ft/ Nm)	
	Lb-ft	Nm
Damper nuts (4x2)	59	80
Damper-to-bracket (F-250, F-350 4x4)	26	35
Damper-to-drag link	67	91
Drag link-to-pitman arm nut	148	201
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts and bolts	129	175
Track bar-to-track bar bracket bolt	406	550

Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE.

EVALUATION OF VEHICLE PRIOR TO REPAIR

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the severity of wheel oscillation.
3. During the road test, evaluate and note the steering wheel return-ability.

a. Turn steering wheel full lock to lock to confirm no binding.
b. Locate center, and then 45 degrees either side of center on the steering wheel.
c. Driving vehicle at 35 MPH (56 Km/h), on a dry and flat road surface, turn the wheel 45 degrees and release. Note the approximate angle that the steering wheel returns to BEFORE CLEAR VISION. Perform and record the angle for both left and right. It is normal if the angle differs slightly from left to right.

STEERING GEAR MESH LOAD ADJUSTMENT

1. Insert hex wrench into steering gear mesh load adjuster screw.
2. While holding the mesh load adjuster screw tight, back off lock nuts two full turns to allow free movement of the adjuster screw.
3. Carefully tighten adjuster screw until a slight increase in resistance is felt, then back off approximately 1/16th of a turn.
4. Hold the adjuster screw in place and tighten lock nut. Do not allow the adjustment screw to turn while tightening the locking nut down.
5. Road test vehicle and evaluate for improvement in steering wheel oscillations.

a. Confirm that there is no objectionable increase in steering efforts, especially at low speeds.
b. Verify that steering wheel return-ability is approximately the same as it was during the original evaluation (within 5 degrees).
c. Turn steering wheel full lock to lock to confirm no binding.

6. Park the vehicle to let it cool down. Road test cold to confirm acceptable parking efforts and return-ability in cold condition. Repeat the mesh load adjustment if needed.

FRONT WHEEL ALIGNEMENT AND REDUCE FRONT CASTER

Measure wheel alignment. Verify that Front Caster, Camber and Total Toe is within specification. Adjust as required. Refer to the Workshop Manual, Section 204-00 for complete alignment specifications.

REDUCE FRONT CASTER

- Note the current front caster
- Use alignment adjustment bushings to Reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit.

Use Alignment adjustment bushings:

F-250/350 4x4:

- 5C3Z-3B440-CCC (0.5 degree bushing)
- 5C3Z-3B440-DDD (0.75 degree bushing)
- 5C3Z-3B440-EEE (1.0 degree bushing)

F-450/550 4x4 and 4x2:

· 5C3Z-3B440-HHH (0.5 degree bushing)
· 5C3Z-3B440-JJJ (0.75 degree bushing)
· 5C3Z-3B440-KKK (1.0 degree bushing)

F-250/350 4x2:
· 5C3Z-3B440-C = 0.5 degree busing
· 5C3Z-3B440-D = 0.75 degree bushing
· 5C3Z-3B440-E = 1.0 degree bushing

For All 4x4 and for F-450/550 4x2
· Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward and inboard position (See Figure 1)
· This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed
· The final caster and camber settings must be within the specification limits
· Maintain the current front camber, cross-camber and cross-caster settings as close as you possibly can
· Adding weight behind the rear axle lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster

For All F-350/250 4x2,
· Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain that position while moving the caster position forward in the truck
· The final caster and camber settings must be within the specification limits

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.
1. Remove driver air bag assembly. Refer to Workshop Manual Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE 2005 OR 2006 SUPER DUTY F-SERIES WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

NOTE: THE WHEEL ALIGNMENT LABOR OPERATIONS MAY BE CLAIMED WITH THE REPAIR OPERATIONS
IN THIS ARTICLE.

Category: Service Fix (10 years - TSB Only)
Request Type: Non-QSF
Activity Code: 070 F-Series >8500#
Vehicle Applications:

Vehicle Lines	Model Year Start	Model Year End	Assembly Plants	Body Styles	Engine	Trans Axles	Build From	Build To
F-Super Duty (F-250 to 550)	2005	2006						

If SPECS Case, Select all Other Affected

Publications:
Changes Needed in Other Pubs:
TSBs to Supersede: 04-26-01
SSMs to Supersede:
ISMs to Supersede:
Other application Articles:
Select the reason for republication: Concern Carryover to New Model
Procedure verified by CDSID: srepasky
Describe How The Procedure Was Verified: TSB was verified by Steve Repasky, and also by the FQEs.
Do you have access to a vehicle for time study? Yes
If Yes, contact for vehicle CDSID: toconnor
Are Illustrations Required? Yes
If Yes, Contact information for illustrations:
CDSID(Ford only): toconnor
Full Name: Tammy O'Connor
Phone: 313/322-3824
Illustration Notes:

Trustmarks affected: Ford
Additional Trustmarks To Notify:
Article Distribution: WDMO, Canada, Mexico, United States
DTC Codes and OASIS Service Codes: , 303000, 304000, 306000, 703000, 703000, 703200, 703200, 703300, 703300, 703400, 703400

Causal Basic Part # or Finis Code:

Causal Part # or Finis Code	Warranty Condition Codes
3600	Chassis: 42

Calibrations List:

White Paper Numbers:

Parts Request Information

Are Parts Required? Yes
QSF Single Agenda Or Program FRC Date:
Parts List:

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
1	Existing	5C74-3F563-AB1D24	No	Not Applicable	STEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	
			U5MSK	5C7Z-3600-ABA			

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
2	Existing	5C74-3F563-AB35B8	No	Not Applicable	sTEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	
			U5MSK	5c7z-3600-			

				CBA			

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
3	Existing	5C34-3E651-CE	No	Not Applicable	Damper	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	
			Q29AA	5C3Z-3E651-CA			

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
4	Existing	5C34-3E651-BE	No	Not Applicable	Damper	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	
				5C3Z-3E651-BA			

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
5	Existing	5C34-3E651-BG	No	Not Applicable	Damper	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	
				5C3Z-3E651-B			

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
6	Existing	5C34-3D004-NA	No	Not Applicable	.5 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	
				5C3Z-3B440-C			

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
7	Existing	5C34-3D004-CA	No	Not Applicable	.5 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	
				5C3Z-3B440-CCC			

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
8	Existing	5C34-3D004-PA	No	Not Applicable	.75 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	
				5C3Z-3B440-D			

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
9	Existing	5C34-3D004-DA	No	Not Applicable	-75 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	
				5C3Z-3B440-DDD			

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
10	Existing	5C34-3D004-RA	No	Not Applicable	1.0 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	
				5C3Z-3B440-E			

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
11	Existing	5C34-3D004-EA	No	Not Applicable	1.0 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	
				5C3Z-3B440-EEE			

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
12	Existing	5C34-3D004-JA	No	Not Applicable	0.75 DEGREE SHIM	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	
				5C3Z-3B440-JJJ			

13	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-KA	No	Not Applicable	1.0 DEGREE SHIM	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	
				5C3Z-3B440-KKK			

Parts catalog flag needed? No
Part number(s) that require flag:
Is geographic location significant? No
Special instructions/remarks: ARE PART NUMBER FOUR AND SEVEN IN THE PARTS LIST SECTION REQUIRED? IF SO PLEASE ADVISE SUPPLIER NAME AND CONTACT INFORMATION FOR PART NUMBER FOUR AND SEVEN IN THE PARTS LIST SECTION. THESE TWO PART NUMBERS ARE NOT ACTIVE.

Article Number: 05-22-1
BCM Number: 4943

(End automated email)

From: O'Connor, Tammy (T.A.)
Sent: Monday, October 17, 2005 11:06 AM
To: Klump, Robert (R.F.)
Cc: Sprunger, Jon (J.L.)
Subject: RE: TSB Courtesy Copy: [redacted] Steering Wheel Oscillation

For the steering damper:

CE and CG are for 250-350 4x4 applications and all 450-550 applications
BE, BG, BA are for 250-350 4x2 applications

Please call me if you have any other questions.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Wed,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Thursday)

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-----Original Message-----
From: Klump, Robert (R.F.)
Sent: Monday, October 17, 2005 10:40 AM
To: O'Connor, Tammy (T.A.)
Cc: Sprunger, Jon (J.L.)
Subject: RE: TSB Courtesy Copy: [redacted] Steering Wheel Oscillation

Tammy,

Just following up on my telephone message. Any status on the part descriptions? I have 2 steering wheels (using old TSB for description -ok?) and 4 dampers with engineering numbers (only 1 with service part) identified and no details on what they are for (1 service damper fit all vehicles?). Thanks.

Regards,
Bob Klump
Global Technical Communications - FCSD
Technical Editor - TSB

☎ 313.390.3489

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Tuesday, October 11, 2005 2:44 PM
To: Sprunger, Jon (J.L.)
Cc: Klump, Robert (R.F.)
Subject: FW: TSB Courtesy Copy: [redacted] Steering Wheel Oscillation

Any estimate on when this TSB will go into co-lab?

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Wed,Fri)
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-----Original Message-----
From: Siplus, G (G.)
Sent: Thursday, October 06, 2005 8:01 AM
To: Reed, Bill (W.P.); Yu, Dave (D.); Rohweder, David (D.S.); Wood, Faith (F.M.); Wickenheiser, Francis (F.J.); Crudo, Frank (F.J.); Webb, Jeff (J.P.); Nolff, Jeffrey (J.P.); Jou, Jesse (J.); Pawloski, John (.); Braboy, Julie (J.A.); Parlow, Katie (K.M.); Foos, Laura (M.); Taylor, Mark (M.K.); Garrisi, Matthew (M.A.); Haffey, Michael (M.P.); Nagy, Vic (V.A.); Souchock, Peter (P.D.); Masters, Rick (R.); Gelven, Rob (R.W.); McClain, Shawn (S.M.); Echhot, T. (T.); O'Connor, Tammy (T.A.); Repasky, Steve (S.); Dwyer, Elizabeth (E.A.); Smith, Janet (J.); Boals, Shannon (S.D.)
Subject: TSB Courtesy Copy: [redacted] Steering Wheel Oscillation

TSB Courtesy Copy
*** DRAFT ***

This message is being sent on behalf of RKLUMP.
This is a courtesy copy of the following article to advise you this article is currently being processed for publication.

General Information

Last action taken (as of 10/6/2005 12:00:48 PM GMT): Accept/Submit to approvers
Comment:

Author:	TOCONNOR
Tracking Number:	[redacted]
Author Tracking Number:	
Title:	Steering Wheel Oscillation
Article Type:	TSB

TSB Issue:
Some 2005-2006 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion), immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer

than five oscillations. This condition occurs mostly on 4x4 vehicles, and is more evident on trucks equipped with a gas engine.

TSB Action:

Refer to the following Service Procedure to will minimize the steering wheel oscillations on impacts, however, there may be some remaining minor oscillation which would be considered normal.

Perform the following:

- Vehicle Inspection
- Evaluation Of Vehicle Prior To Repair
- Steering Gear Mesh Load Adjustment
- Front Alignment and Reduce front caster
- Replacement Of Redundant Control Steering Wheel (if equipped and vehicle built prior to 10/8/04)

TSB Service Procedure:

SERVICE PROCEDURE

Perform the following:

- Vehicle Inspection
- Evaluation Of Vehicle Prior To Repair
- Steering Gear Mesh Load Adjustment
- Front Alignment and Reduce front caster
- Replacement Of Redundant Control Steering Wheel (if equipped and vehicle built prior to 10/8/04)

VEHICLE INSPECTION

---

1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

NOTE: SETTING TIRE PRESSUE TO DOOR SPEC IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

2. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.

a. If leaks are present, install a new steering damper and continue with this TSB.

b. If no leaks are present, continue with this TSB.

3. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table # below).

Description	Torque Specification (lb-ft/ Nm)	
	Lb-ft	Nm
Damper nuts (4x2)	59	80
Damper-to-bracket (F-250, F-350 4x4)	26	35
Damper-to-drag link	67	91
Drag link-to-pitman arm nut	148	201
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts & bolts	129	175
Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

EVALUATION OF VEHICLE PRIOR TO REPAIR

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the severity of wheel oscillation.
3. During the road test, evaluate and note the steering wheel return-ability.

a. Turn steering wheel full lock to lock to confirm no binding.
b. Locate center, and then 45 degrees either side of center on the steering wheel.
c. Driving vehicle at 35 MPH (56 Km/h), on a dry and flat road surface, turn the wheel 45 degrees and release. Note the approximate angle that the steering wheel returns to BEFORE CLEAR VISION. Perform and record the angle for both left and right. It is normal if the angle differs slightly from left to right.

STEERING GEAR MESH LOAD ADJUSTMENT

1. Insert hex wrench into steering gear mesh load adjuster screw.
2. While holding the mesh load adjuster screw tight, back off lock nuts two full turns to allow free movement of the adjuster screw.
3. Carefully tighten adjuster screw until a slight increase in resistance is felt, then back off approximately 1/16th of a turn.
4. Hold the adjuster screw in place and tighten lock nut. Do not allow the adjustment screw to turn while tightening the locking nut down.
5. Road test vehicle and evaluate for improvement in steering wheel oscillations.

a. Confirm that there is no objectionable increase in steering efforts, especially at low speeds.
b. Verify that steering wheel return-ability is approximately the same as it was during the original evaluation (within 5 degrees).
c. Turn steering wheel full lock to lock to confirm no binding.

6. Park the vehicle to let it cool down. Road test cold to confirm acceptable parking efforts and return-ability in cold condition. Repeat the mesh load adjustment if needed.

FRONT WHEEL ALIGNEMENT AND REDUCE FRONT CASTER

Measure wheel alignment. Verify that Front Caster, Camber & Total Toe is within specification. Adjust as required. Refer to the Workshop Manual, Section 2004-00-1 for complete alignment specifications.

REDUCE FRONT CASTER

- Note the current front caster
- Use alignment adjustment bushings to Reduce front caster by 0.5 to 1.0 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit.

Use Alignment adjustment bushings:

F-250/350 4x4:

- 5C3Z-3B440-CCC (0.5 degree bushing)
- 5C3Z-3B440-DDD (0.75 Degree bushing)
- 5C3Z-3B440-EEE (1.0 degree bushing)

F-450/550 4x4 & 4x2:

- 5C3Z-3B440-HHH (0.5 Degree bushing)
- 5C3Z-3B440-JJJ (0.75 Degree bushing)
- 5C3Z-3B440-KKK (1.0 degree bushing)

F-250/350 4x2:

- 5C3Z-3B440-C = 0.5 degree busing
- 5C3Z-3B440-D = 0.75 degree bushing
- 5C3Z-3B440-E = 1.0 degree bushing

For All 4x4 and for F-450/550 4x2,

- Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward & inboard position (See below picture)
- This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed.
- The final caster & camber settings must be within the specification limits.
- Maintain the current front camber, cross-camber & cross-caster settings as close as you possibly can.
- Adding weight behind the rear axle lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster.

For All F-350/250 4x2,

- Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain that position while moving the caster position forward in the truck.
- The final caster & camber settings must be within the specification limits

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE 2005 OR 2006 SUPER DUTY F-SERIES WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

Category: Service Fix (10 years - TSB Only)
Request Type: Non-QSF
Activity Code: 070 F-Series >8500#
Vehicle Applications:

Vehicle Lines	Model Year Start	Model Year End	Assembly Plants	Body Styles	Engine	Trans Axles	Build From	Build To
F-Super Duty (F-250 to 550)	2005	2006						

If SPECS Case, Select all Other Affected Publications:
Changes Needed in Other Pubs:
TSBs to Supersede: 04-26-01
SSMs to Supersede:
ISMs to Supersede:
Other application Articles:
Select the reason for republication: Concern Carryover to New Model
Procedure verified by CDSID: srepasky
Describe How The Procedure Was Verified: TSB was verified by Steve Repasky, and also by the FQEs.

Do you have access to a vehicle for time study? Yes
If Yes, contact for vehicle CDSID: toconnor
Are Illustrations Required? Yes
If Yes, Contact information for illustrations:
CDSID(Ford only): toconnor
Full Name: Tammy O'Connor
Phone: 313/322-3824
Illustration Notes:

Trustmarks affected: Ford
Additional Trustmarks To Notify:
Article Distribution: WDMO, Canada, Mexico, United States
DTC Codes and OASIS Service Codes: , 303000, 304000, 306000, 703000, 703000, 703200, 703200, 703300, 703300, 703400, 703400

Causal Basic Part # or Finis Code:

Causal Part # or Finis Code	Warranty Condition Codes
3600	Chassis: 42

Calibrations List:

White Paper Numbers:

Parts Request Information

Are Parts Required? Yes
QSF Single Agenda Or Program FRC Date:
Parts List:

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
1	Existing	5C74-3F563-AB1D24	No	Not Applicable	STEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	
			U5MSK	5C7Z-3600-ABA			

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
2	Existing	5C74-3F563-AB35B8	No	Not Applicable	sTEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	
			U5MSK	5c7z-3600-CBA			

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
3	Existing	5C34-3E651-CE	No	Not Applicable	Damper	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	

			Q29AA	5C3Z-3E651-CA			

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
4	Existing	5C34-3E651-CG	No	Not Applicable	Damper	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
5	Existing	5C34-3E651-BE	No	Not Applicable	Damper	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
6	Existing	5C34-3E651-BG	No	Not Applicable	Damper	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
7	Existing	7C34-3E651-BA	No	Not Applicable	Damper	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
8	Existing	5C34-3D004-NA	No	Not Applicable	.5 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	
				5C3Z-3B440-C			

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed

9	Existing	5C34-3D004-CA	No	Not Applicable	.5 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	
				5C3Z-3B440-CCC			

10	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-PA	No	Not Applicable	.75 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	
				5C3Z-3B440-D			

11	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-DA	No	Not Applicable	-75 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	
				5C3Z-3B440-DDD			

12	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-RA	No	Not Applicable	1.0 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	
				5C3Z-3B440-E			

13	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-EA	No	Not Applicable	1.0 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	
				5C3Z-3B440-EEE			

*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed

14	Existing	5C34-3D004-JA	No	Not Applicable	0.75 DEGREE SHIM	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	
				5C3Z-3B440-JJJ			

15	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-KA	No	Not Applicable	1.0 DEGREE SHIM	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	0						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	

Parts catalog flag needed? No
Part number(s) that require flag:
Is geographic location significant? No
Special instructions/remarks:

Article Number:
BCM Number:

(End automated email)

Crawley, Donna (.)

From: O'Connor, Tammy (T.A.)
Sent: Monday, October 17, 2005 11:06 AM
To: Klump, Robert (R.F.)
Cc: Sprunger, Jon (J.L.)
Subject: RE: TSB Courtesy Copy: [redacted] Steering Wheel Oscillation

For the steering damper:

CE and CG are for 250-350 4x4 applications and all 450-550 applications
BE, BG, BA are for 250-350 4x2 applications

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Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Wed,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Thursday)

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Cc: Sprunger, Jon (J.L.)
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Tammy,

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Regards,
Bob Klump
Global Technical Communications - FCSD
Technical Editor - TSB

☎ 313.390.3489

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Sent: Tuesday, October 11, 2005 2:44 PM
To: Sprunger, Jon (J.L.)
Cc: Klump, Robert (R.F.)
Subject: FW: TSB Courtesy Copy: [redacted] Steering Wheel Oscillation

Any estimate on when this TSB will go into co-lab?

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
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This e-mail and any attachments is intended only for the use of the person or persons addressed hereto and may contain legally privileged and/or confidential information. If you are not the intended recipient of this e-mail, you are hereby notified that any dissemination, distribution or copying of this e-mail, and any attachments, is strictly prohibited. If you have received this e-mail in error, please notify me via return e-mail and permanently delete the original and any copy of any e-mail and any printout.

-----Original Message-----
From: Siplus, G (G.)
Sent: Thursday, October 06, 2005 8:01 AM
To: Reed, Bill (W.P.); Yu, Dave (D.); Rohweder, David (D.S.); Wood, Faith (F.M.); Wickenheiser, Francis (F.J.); Crudo, Frank (F.J.); Webb, Jeff (J.P.); Nolff, Jeffrey (J.P.); Jou, Jesse (J.); Pawloski, John (.); Braboy, Julie (J.A.); Parlow, Katie (K.M.); Foos, Laura (M.); Taylor, Mark (M.K.); Garrisi, Matthew (M.A.); Haffey, Michael (M.P.); Nagy, Vic (V.A.); Souchock, Peter (P.D.); Masters, Rick (R.); Gelven, Rob (R.W.); McClain, Shawn (S.M.); Echhot, T. (T.); O'Connor, Tammy (T.A.); Repasky, Steve (S.); Dwyer, Elizabeth (E.A.); Smith, Janet (J.); Boals, Shannon (S.D.)
Subject: TSB Courtesy Copy: [redacted] Steering Wheel Oscillation

TSB Courtesy Copy
*** DRAFT ***

This message is being sent on behalf of RKLUMP.
This is a courtesy copy of the following article to advise you this article is currently being processed for publication.

General Information

Last action taken (as of 10/6/2005 12:00:48 PM GMT): Accept/Submit to approvers
Comment:

Author:	TOCONNOR
Tracking Number:	[redacted]
Author Tracking Number:	
Title:	Steering Wheel Oscillation
Article Type:	TSB

TSB Issue:
Some 2005-2006 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion), immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer

than five oscillations. This condition occurs mostly on 4x4 vehicles, and is more evident on trucks equipped with a gas engine.

TSB Action:

Refer to the following Service Procedure to will minimize the steering wheel oscillations on impacts, however, there may be some remaining minor oscillation which would be considered normal.

Perform the following:

- Vehicle Inspection
- Evaluation Of Vehicle Prior To Repair
- Steering Gear Mesh Load Adjustment
- Front Alignment and Reduce front caster
- Replacement Of Redundant Control Steering Wheel (if equipped and vehicle built prior to 10/8/04)

TSB Service Procedure:

SERVICE PROCEDURE

Perform the following:

- Vehicle Inspection
- Evaluation Of Vehicle Prior To Repair
- Steering Gear Mesh Load Adjustment
- Front Alignment and Reduce front caster
- Replacement Of Redundant Control Steering Wheel (if equipped and vehicle built prior to 10/8/04)

VEHICLE INSPECTION

---

1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

NOTE: SETTING TIRE PRESSUE TO DOOR SPEC IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

2. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.

a. If leaks are present, install a new steering damper and continue with this TSB.

b. If no leaks are present, continue with this TSB.

3. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table # below).

Description	Torque Specification (lb-ft/ Nm)	
	Lb-ft	Nm
Damper nuts (4x2)	59	80
Damper-to-bracket (F-250, F-350 4x4)	26	35
Damper-to-drag link	67	91
Drag link-to-pitman arm nut	148	201
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts & bolts	129	175
Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

EVALUATION OF VEHICLE PRIOR TO REPAIR

---

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the severity of wheel oscillation.
3. During the road test, evaluate and note the steering wheel return-ability.

a. Turn steering wheel full lock to lock to confirm no binding.

b. Locate center, and then 45 degrees either side of center on the steering wheel.

c. Driving vehicle at 35 MPH (56 Km/h), on a dry and flat road surface, turn the wheel 45 degrees and release. Note the approximate angle that the steering wheel returns to BEFORE CLEAR VISION. Perform and record the angle for both left and right. It is normal if the angle differs slightly from left to right.

STEERING GEAR MESH LOAD ADJUSTMENT

---

1. Insert hex wrench into steering gear mesh load adjuster screw.
2. While holding the mesh load adjuster screw tight, back off lock nuts two full turns to allow free movement of the adjuster screw.
3. Carefully tighten adjuster screw until a slight increase in resistance is felt, then back off approximately 1/16th of a turn.
4. Hold the adjuster screw in place and tighten lock nut. Do not allow the adjustment screw to turn while tightening the locking nut down.
5. Road test vehicle and evaluate for improvement in steering wheel oscillations.

a. Confirm that there is no objectionable increase in steering efforts, especially at low speeds.

b. Verify that steering wheel return-ability is approximately the same as it was during the original evaluation (within 5 degrees).

c. Turn steering wheel full lock to lock to confirm no binding.

6. Park the vehicle to let it cool down. Road test cold to confirm acceptable parking efforts and return-ability in cold condition. Repeat the mesh load adjustment if needed.

FRONT WHEEL ALIGNEMENT AND REDUCE FRONT CASTER

Measure wheel alignment. Verify that Front Caster, Camber & Total Toe is within specification. Adjust as required. Refer to the Workshop Manual, Section 2004-00-1 for complete alignment specifications.

REDUCE FRONT CASTER

· Note the current front caster

· Use alignment adjustment bushings to Reduce front caster by 0.5 to 1.0 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit.

Use Alignment adjustment bushings:

F-250/350 4x4:

· 5C3Z-3B440-CCC (0.5 degree bushing)
· 5C3Z-3B440-DDD (0.75 Degree bushing)
· 5C3Z-3B440-EEE (1.0 degree bushing)

F-450/550 4x4 & 4x2:

· 5C3Z-3B440-HHH (0.5 Degree bushing)
· 5C3Z-3B440-JJJ (0.75 Degree bushing)
· 5C3Z-3B440-KKK (1.0 degree bushing)

F-250/350 4x2:
- 5C3Z-3B440-C = 0.5 degree busing
- 5C3Z-3B440-D = 0.75 degree bushing
- 5C3Z-3B440-E = 1.0 degree bushing

For All 4x4 and for F-450/550 4x2,
- Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward & inboard position (See below picture)
- This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed.
- The final caster & camber settings must be within the specification limits.
- Maintain the current front camber, cross-camber & cross-caster settings as close as you possibly can.
- Adding weight behind the rear axle lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster.

For All F-350/250 4x2,
- Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain that position while moving the caster position forward in the truck.
- The final caster & camber settings must be within the specification limits

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.
1. Remove driver air bag assembly. Refer to Workshop Manual Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE 2005 OR 2006 SUPER DUTY F-SERIES WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

Category: Service Fix (10 years - TSB Only)
Request Type: Non-QSF
Activity Code: 070 F-Series >8500#
Vehicle Applications:

Vehicle Lines	Model Year Start	Model Year End	Assembly Plants	Body Styles	Engine	Trans Axles	Build From	Build To
F-Super Duty (F-250 to 550)	2005	2006						

If SPECS Case, Select all Other Affected Publications:
Changes Needed in Other Pubs:
TSBs to Supersede: 04-26-01
SSMs to Supersede:
ISMs to Supersede:
Other application Articles:
Select the reason for republication: Concern Carryover to New Model
Procedure verified by CDSID: srepasky
Describe How The Procedure Was Verified: TSB was verified by Steve Repasky, and also by the FQEs.

Do you have access to a vehicle for time study? Yes
If Yes, contact for vehicle CDSID: toconnor
Are Illustrations Required? Yes
If Yes, Contact information for illustrations:
CDSID(Ford only): toconnor
Full Name: Tammy O'Connor
Phone: 313/322-3824
Illustration Notes:

Trustmarks affected: Ford
Additional Trustmarks To Notify:
Article Distribution: WDMO, Canada, Mexico, United States
DTC Codes and OASIS Service Codes: , 303000, 304000, 306000, 703000, 703000, 703200, 703200, 703300, 703300, 703400, 703400

Causal Basic Part # or Finis Code:

Causal Part # or Finis Code	Warranty Condition Codes
3600	Chassis: 42

Calibrations List:

White Paper Numbers:

Parts Request Information

Are Parts Required? Yes
QSF Single Agenda Or Program FRC Date:
Parts List:

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
1	Existing	5C74-3F563-AB1D24	No	Not Applicable	STEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	
			U5MSK	5C7Z-3600-ABA			

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
2	Existing	5C74-3F563-AB35B8	No	Not Applicable	sTEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	
			U5MSK	5c7z-3600-CBA			

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
3	Existing	5C34-3E651-CE	No	Not Applicable	Damper	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	

			Q29AA	5C3Z-3E651-CA			

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
4	Existing	5C34-3E651-CG	No	Not Applicable	Damper	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
5	Existing	5C34-3E651-BE	No	Not Applicable	Damper	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
6	Existing	5C34-3E651-BG	No	Not Applicable	Damper	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
7	Existing	7C34-3E651-BA	No	Not Applicable	Damper	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
8	Existing	5C34-3D004-NA	No	Not Applicable	.5 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	
				5C3Z-3B440-C			

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed

9	Existing	5C34-3D004-CA	No	Not Applicable	.5 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	
				5C3Z-3B440-CCC			

10	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-PA	No	Not Applicable	.75 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	
				5C3Z-3B440-D			

11	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-DA	No	Not Applicable	-75 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	
				5C3Z-3B440-DDD			

12	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-RA	No	Not Applicable	1.0 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	
				5C3Z-3B440-E			

13	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-EA	No	Not Applicable	1.0 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	
				5C3Z-3B440-EEE			

*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed

14	Existing	5C34-3D004-JA	No	Not Applicable	0.75 DEGREE SHIM	1	100
	***Calculated Forecast**		***@WERS Notice #**		***@WERS Date Released**		***@Supplier Company**
	126						
	@1st Contact	**@1st Contact Phone**	**Source Code**	**Service #**	**Replaced SVC #**	**°Replaced Eng. #**	
				5C3Z-3B440-JJJ			

15	***Type of Part**	***Eng #**	***Is This Part a Kit?**	***Existing Stock#**	***Part Name**	***Qty/veh.**	***Engineering Est. Qty. Needed**
	Existing	5C34-3D004-KA	No	Not Applicable	1.0 DEGREE SHIM	1	100
	***Calculated Forecast**		***@WERS Notice #**		***@WERS Date Released**		***@Supplier Company**
	0						
	@1st Contact	**@1st Contact Phone**	**Source Code**	**Service #**	**Replaced SVC #**	**°Replaced Eng. #**	

Parts catalog flag needed? No
Part number(s) that require flag:
Is geographic location significant? No
Special instructions/remarks:

Article Number:
BCM Number:

(End automated email)

From: Klump, Robert (R.F.)
Sent: Thursday, May 10, 2007 2:20 PM
To: Gompper, Dan (D.B.)
Cc: O'Connor, Tammy (T.A.); Hughes, Dave (D.J.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation - TEST

Dan,

This was a development TEST TSB and the article is only being used in a test environment. Thanks

Regards,
Bob Klump
Global Technical Communications - FCSD
Technical Editor – TSB

☎ 313.390.3489

From: Gompper, Dan (D.B.)
Sent: Thursday, May 10, 2007 2:15 PM
To: Klump, Robert (R.F.); O'Connor, Tammy (T.A.); Hughes, Dave (D.J.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation - TEST

Can I assume that you guys are screwing with me and that this isn't actually going in the publication?

Select the reason for republication:	Incorrect Procedure
Procedure verified by CDSID:	DGOMPPER
Describe How The Procedure Was Verified:	I wished it to work and it did

---
Dan Gompper
SuperDuty Vehicle Dynamics Supervisor
EVB 2E-L01
Cellphone: (313) 805-2039
Email: dgompper@ford.com
text page: 3138052039@sprintpcs.messaging.com

From: Siplus, G (G.)
Sent: Thursday, May 10, 2007 9:16 AM
To: Klump, Robert (R.F.); Gompper, Dan (D.B.)
Subject: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation - TEST

TSB Courtesy Copy

***** NOTE: The system generated the email. Do not reply to this email *****
***** To be removed from this distribution list, please email Robert Klump at rklump@ford.com *****

This message is being sent on behalf of RKLUMP.
This is a courtesy copy of the following article to advise you this article is currently being processed for publication.

General Information

Last action taken (as of 5/10/2007 1:16:21 PM GMT): Accept/Submit to approvers
Comment:

Author:	RKLUMP
Tracking Number:	[redacted]
Author Tracking Number:	--
Title:	2005-2007 F-Super Duty - Steering Wheel Oscillation - TEST
Article Type:	TSB

TSB Issue:
This article supersedes TSB 07-05-07 to update an incorrect part number.

Some 2005-2007 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion), immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on F-250/F-350 4X4 vehicles, and is more evident on trucks equipped with a gas engine.
TSB Action:
Refer to the Service Procedure to minimize the steering wheel oscillations on impacts, however, there may be some remaining minor oscillation which would be considered normal.

TSB Service Procedure:
SERVICE PROCEDURE SUMMARY

· Set tire pressure, road test vehicle to evaluate vehicle before proceeding with further repairs. If issue is resolved, do not proceed with the rest of this TSB
· If concern still exists, install a new steering damper (frame-mounted bracket and steering damper assembly on F-250/F-350 4X4 applications only). For F-250/F-350 4X2 and all F-450/F-550 applications, inspect damper for leaks and replace if necessary, torque steering and suspension fasteners per Workshop Manual
· If concern still exists, check front alignment and reduce front caster
· Replacement of redundant control steering wheel (if equipped and vehicle built prior to 10/8/2004).

VEHICLE INSPECTION - TIRE PRESSURE
---
1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

NOTE: SETTING TIRE PRESSURE TO DOOR SPECIFICATION IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE.

ROAD TEST
---
1. Ask customer what type of road surface and speed generates the steering wheel oscillation.

2. Road test vehicle on similar road surface and speed, to gain a feel for the customer's issue.
3. If no issues are identified during the road test, do not proceed with the rest of this TSB.

STEERING DAMPER AND FASTENER TORQUE CHECK

Replace Steering Damper & Frame Mounting Bracket (F-250/F-350 4X4); Inspect
---
Steering Damper (F-250/F-350 4X2 & all F-450/F-550):

For F-250/F-350 4x4 applications:

Remove existing steering damper and frame attachment bracket. Replace steering damper and frame mounting bracket with steering damper and frame bracket. Attach steering damper to frame bracket (with bolt and nut) and torque bolt to 103 Nm. Assemble bracket and shock assembly to the frame with attachment bolt retainer pointing to rear of vehicle. Torque frame bracket nuts to 80 Nm. Attach other end of shock to the steering drag link and torque to 90 Nm. Install damper bolt cap to assure a friendly surface for the battery cable in case of casual contact.

Note: CHECK SURROUNDING ENVIRONMENT TO THE FRAME BRACKET AND DAMPER ASSEMBLY TO ENSURE THAT BATTERY CABLES ARE NOT CONTACTING BRACKET/BOLTS/DAMPER. ALSO, VERIFY THAT TRANSMISSION OIL COOLER LINES HAVE CLEARANCE TO THE DAMPER DUST SHIELD.

For F-250/F-350 4X2 & all F-450/F-550 applications only:

Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
If leaks are present, install a new steering damper.

STEERING/SUSPENSION FASTENER TORQUE CHECK (4X2 & 4X4)
---

1. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table below).

Description Torque Specification (lb-ft/ Nm)
Lb-ft Nm
Damper nuts (F-250/F-350 4X2) 59 80
Damper-to-bracket (F-250/F-350 4X4) 76 103
Damper-to-drag link 66 90
Drag link-to-pitman arm nut 129 175
Inner tie-rod end nuts 85 115
Outer tie-rod end nuts 85 115
Track bar bracket-to-frame nuts and bolts 129 175
Track bar-to-track bar bracket bolt 406 550
Track bar-to-axle nut 185 250
Radius arm to axle bolts 222 300
Radius arm to bracket nut 222 300

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE.

FRONT WHEEL ALIGNMENT AND REDUCE FRONT CASTER

NOTE: OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

Measure wheel alignment. Verify that Front Caster, Camber, and Total Toe are within specification. Adjust as required. Refer to the Workshop Manual, Section 204-00 for complete alignment specifications.

REDUCE FRONT CASTER
· Note the current front caster
· Use alignment adjustment bushings to reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit. Use alignment adjustment bushings

F-250/350 4X4:
· 5C3Z-3B440-CCC (0.5 degree bushing)
· 5C3Z-3B440-DDD (0.75 degree bushing)
· 5C3Z-3B440-EEE (1.0 degree bushing)

F-450/550 4X4 and 4X2:

· 5C3Z-3B440-HHH (0.5 degree bushing)
· 5C3Z-3B440-JJJ (0.75 degree bushing)
· 5C3Z-3B440-KKK (1.0 degree bushing)

F-250/350 4X2:
· 5C3Z-3B440-C = 0.5 degree busing
· 5C3Z-3B440-D = 0.75 degree bushing
· 5C3Z-3B440-E = 1.0 degree bushing

For All 4X4 and for F-450/550 4X2
· Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward and inboard position (See Figure 1)
· This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed
· The final caster and camber settings must be within the specification limits
· Maintain the current front camber, cross-camber and cross-caster settings as close as you possibly can
· Adding weight behind the rear axle lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster

For All F-250/350 4X2,
· Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain that position while moving the caster position forward in the truck
· The final caster and camber settings must be within the specification limits

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To

---

10/8/2004 Only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.
1. Remove driver air bag assembly. Refer to Workshop Manual, Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

NOTE: LABOR OPERATIONS IN THIS TSB CAN BE CLAIMED TOGETHER.

NOTE: OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

Category: Service Tip - Long Term (10 years)
Request Type: QSF
Would this make a good cost save business case? Yes
Activity Code: 070 F-Series >8500#
Vehicle Applications:

Vehicle Lines	Model Year Start	Model Year End	Assembly Plants	Body Styles	Engine	Trans Axles	Build From	Build To
F-Super Duty (F-250 to 550)	2005	2007						

If SPECS Case, Select all Other Affected Publications:
Changes Needed in Other Pubs:
TSBs to Supersede: 07-05-07
SSMs to Supersede:
ISMs to Supersede:
Other application Articles:
Select the reason for republication: Incorrect Procedure
Procedure verified by CDSID: DGOMPPER
Describe How The Procedure Was Verified: I wished it to work and it did
Do you have access to a vehicle for time study? No
If Yes, contact for vehicle CDSID:
Are Illustrations Required? Yes
If Yes, Contact information for illustrations:
CDSID(Ford only): rklump
Full Name: r
Phone: 1234567896
Illustration Notes: Please use same illustrations from TSB 06-15-1.

Trustmarks affected: Ford
Additional Trustmarks To Notify:
Article Distribution: WDMO, Canada, Mexico, United States
DTC Codes and OASIS Service Codes: , 303000, 304000, 306000, 703000, 703200, 703300, 703400

Causal Basic Part # or Finis Code:

Causal Part # or Finis Code	Warranty Condition Codes
3E651Front Tire	Electrical: 42

Calibrations List:

White Paper Numbers:

Parts Request Information

Are Parts Required? No

Article Number:
BCM Number:

(End automated email)

From: Knapp, David (D.)
Sent: Thursday, June 01, 2006 9:49 AM
To: O'Connor, Tammy (T.A.)
Subject: RE: TSB Request for Input: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Inspect the ball joints for excessive play as per the work shop manual section 204-00.

Tammy we have no spec or inspection process for the track bar ball joint. They have a replacement proceedure but it is in section 204-01a for 4x2 only. the ball joint is the same for the 4x2 as the 4x4 but the work shop manual does not have any proceedure in the 4x4 section. I am sort of stuck on this. if we have a spec we can author an inspection process similar to the inspection of the wheel end ball joints.

From: O'Connor, Tammy (T.A.)
Sent: Thursday, June 01, 2006 9:40 AM
To: Knapp, David (D.)
Subject: FW: TSB Request for Input: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

David:

I want to add info on the ball joints? Can you please send me a couple of sentences about what you tell techs to look for? trac bar also?

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: O'Connor, Tammy (T.A.)
Sent: Tuesday, May 30, 2006 7:59 AM
To: Snider, Alex (A.); Hale, Curt (B.C.); Knapp, David (D.); Sprunger, Jon (J.L.); Repasky, Steve (S.); O'Connor, Tammy (T.A.)
Subject: TSB Request for Input: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

TSB Request for Input
*** DRAFT ***

This message is being sent on behalf of TOCONNOR.
Please provide review and feedback for the article below. The person requesting this feedback may have provided further direction in the comment section below. Forward/Send any comments via email to the person who sent this email.

General Information

Last action taken (as of 5/30/2006 11:58:52 AM GMT): Send for engineering input

Comment: Please review and forward any suggested changes to

this TSB - we are updating to include 2007 MY.

Author: TOCONNOR
Tracking Number: [redacted]
Author Tracking Number: --
Title: 2005-2007 F-Super Duty - Steering Wheel Oscillation
Article Type: TSB

TSB Issue:
Some 2005-2007 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion), immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on 4x4 vehicles, and is more evident on trucks equipped with a gas engine.

TSB Action:
Refer to the following Service Procedure to minimize the steering wheel oscillations on impacts, however, there may be some remaining minor oscillation which would be considered normal.

TSB Service Procedure:
SERVICE PROCEDURE

Perform the following:

- Vehicle Inspection
- Evaluation Of Vehicle Prior To Repair
- Steering Gear Mesh Load Adjustment
- Front Alignment and Reduce front caster
- Replacement Of Redundant Control Steering Wheel (if equipped and vehicle built prior to 10/8/2004)

VEHICLE INSPECTION
---

1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

NOTE: SETTING TIRE PRESSUE TO DOOR SPEC IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE.

2. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
a. If leaks are present, install a new steering damper and continue with this TSB.
b. If no leaks are present, continue with this TSB.

3. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table # below).

Description	Torque Specification (lb-ft/ Nm)	
	Lb-ft	Nm
Damper nuts (4x2)	59	80
Damper-to-bracket (F-250, F-350 4x4)	26	35
Damper-to-drag link	67	91
Drag link-to-pitman arm nut	148	201
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts and bolts	129	175
Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250

Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE.

EVALUATION OF VEHICLE PRIOR TO REPAIR

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the severity of wheel oscillation.
3. During the road test, evaluate and note the steering wheel return-ability.

a. Turn steering wheel full lock to lock to confirm no binding.
b. Locate center, and then 45 degrees either side of center on the steering wheel.
c. Driving vehicle at 35 MPH (56 Km/h), on a dry and flat road surface, turn the wheel 45 degrees and release. Note the approximate angle that the steering wheel returns to BEFORE CLEAR VISION. Perform and record the angle for both left and right. It is normal if the angle differs slightly from left to right.

STEERING GEAR MESH LOAD ADJUSTMENT

1. Insert hex wrench into steering gear mesh load adjuster screw.
2. While holding the mesh load adjuster screw tight, back off lock nuts two full turns to allow free movement of the adjuster screw.
3. Carefully tighten adjuster screw until a slight increase in resistance is felt, then back off approximately 1/16th of a turn.
4. Hold the adjuster screw in place and tighten lock nut. Do not allow the adjustment screw to turn while tightening the locking nut down.
5. Road test vehicle and evaluate for improvement in steering wheel oscillations.

a. Confirm that there is no objectionable increase in steering efforts, especially at low speeds.
b. Verify that steering wheel return-ability is approximately the same as it was during the original evaluation (within 5 degrees).
c. Turn steering wheel full lock to lock to confirm no binding.

6. Park the vehicle to let it cool down. Road test cold to confirm acceptable parking efforts and return-ability in cold condition. Repeat the mesh load adjustment if needed.

FRONT WHEEL ALIGNEMENT AND REDUCE FRONT CASTER

Measure wheel alignment. Verify that Front Caster, Camber and Total Toe is within specification. Adjust as required. Refer to the Workshop Manual, Section 204-00 for complete alignment specifications.

REDUCE FRONT CASTER

- Note the current front caster
- Use alignment adjustment bushings to Reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit.

Use Alignment adjustment bushings:

F-250/350 4x4:

- 5C3Z-3B440-CCC (0.5 degree bushing)
- 5C3Z-3B440-DDD (0.75 degree bushing)
- 5C3Z-3B440-EEE (1.0 degree bushing)

F-450/550 4x4 and 4x2:

- 5C3Z-3B440-HHH (0.5 degree bushing)

· 5C3Z-3B440-JJJ (0.75 degree bushing)
· 5C3Z-3B440-KKK (1.0 degree bushing)

F-250/350 4x2:
· 5C3Z-3B440-C = 0.5 degree busing
· 5C3Z-3B440-D = 0.75 degree bushing
· 5C3Z-3B440-E = 1.0 degree bushing

For All 4x4 and for F-450/550 4x2
· Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward and inboard position (See Figure 1)
· This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed
· The final caster and camber settings must be within the specification limits
· Maintain the current front camber, cross-camber and cross-caster settings as close as you possibly can
· Adding weight behind the rear axle lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster

For All F-350/250 4x2,
· Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain that position while moving the caster position forward in the truck
· The final caster and camber settings must be within the specification limits

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.
1. Remove driver air bag assembly. Refer to Workshop Manual Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE 2005 OR 2006 SUPER DUTY F-SERIES WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

NOTE: THE WHEEL ALIGNMENT LABOR OPERATIONS MAY BE CLAIMED WITH THE REPAIR OPERATIONS
IN THIS ARTICLE.

Category: Service Fix (10 years - TSB Only)
Request Type: Non-QSF
Activity Code: 070 F-Series >8500#
Vehicle Applications:

Vehicle Lines	Model Year Start	Model Year End	Assembly Plants	Body Styles	Engine	Trans Axles	Build From	Build To
F-Super Duty (F-250 to 550)	2005	2007						

If SPECS Case, Select all Other Affected Publications:

Changes Needed in Other Pubs:
TSBs to Supersede: 05-22-01
SSMs to Supersede:
ISMs to Supersede:
Other application Articles:
Select the reason for republication: Concern Carryover to New Model
Procedure verified by CDSID: srepasky
Describe How The Procedure Was Verified: TSB was verified by Steve Repasky, and also by the FQEs.
Do you have access to a vehicle for time study? Yes
If Yes, contact for vehicle CDSID: toconnor
Are Illustrations Required? Yes
If Yes, Contact information for illustrations:
CDSID(Ford only): toconnor
Full Name: Tammy O'Connor
Phone: 313/322-3824
Illustration Notes: Please use same illustrations from TSB 05-22-01.

Trustmarks affected: Ford
Additional Trustmarks To Notify:
Article Distribution: WDMO, Canada, Mexico, United States
DTC Codes and OASIS Service Codes: , 303000, 304000, 306000, 703000, 703000, 703200, 703200, 703300, 703300, 703400, 703400

Causal Basic Part # or Finis Code:

Causal Part # or Finis Code	Warranty Condition Codes
3600	Chassis: 42

Calibrations List:

White Paper Numbers:

Parts Request Information

Are Parts Required? Yes
QSF Single Agenda Or Program FRC Date:
Parts List:

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
1	Existing	5C74-3F563-AB1D24	No	Not Applicable	STEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5C7Z-3600-ABA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
2	Existing	5C74-3F563-AB35B8	No	Not Applicable	sTEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5c7z-3600-CBA			No

8	Existing	5C34-3D004-PA	No	Not Applicable	.75 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-D			No

9	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-DA	No	Not Applicable	-75 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-DDD			No

10	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-RA	No	Not Applicable	1.0 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-E			No

11	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-EA	No	Not Applicable	1.0 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-EEE			No

12	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-JA	No	Not Applicable	0.75 DEGREE SHIM	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-JJJ			No

*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
3	Existing	5C34-3E651-CE	No	Not Applicable	Damper	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			Q29AA	5C3Z-3E651-CA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
4	Existing	5C34-3E651-BE	No	Not Applicable	Damper	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3E651-BA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
5	Existing	5C34-3E651-BG	No	Not Applicable	Damper	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3E651-B			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
6	Existing	5C34-3D004-NA	No	Not Applicable	.5 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-C			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
7	Existing	5C34-3D004-CA	No	Not Applicable	.5 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-CCC			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed

13	Existing	5C34-3D004-KA	No	Not Applicable	1.0 DEGREE SHIM	1	100
	***Calculated Forecast**		***@WERS Notice #**		***@WERS Date Released**		***@Supplier Company**
	126						
	@1st Contact	**@1st Contact Phone**	**Source Code**	**Service #**	**Replaced SVC #**	**°Replaced Eng. #**	**°Is Calibration Needed**
				5C3Z-3B440-KKK			No

Parts catalog flag needed? No
Part number(s) that require flag:
Is geographic location significant? No
Special instructions/remarks: ARE PART NUMBER FOUR AND SEVEN IN THE PARTS LIST SECTION REQUIRED? IF SO PLEASE ADVISE SUPPLIER NAME AND CONTACT INFORMATION FOR PART NUMBER FOUR AND SEVEN IN THE PARTS LIST SECTION. THESE TWO PART NUMBERS ARE NOT ACTIVE.

Article Number:
BCM Number:

(End automated email)

From: Welch, Sharon (S.L.)
Sent: Friday, June 16, 2006 8:33 AM
To: O'Connor, Tammy (T.A.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Tammy,
Is there a reason you didn't include Cindy or Keith on this note?

Sharon Welch
FCSD Program Manager - Warranty Task Force
Fairlane Business Park 3 246F
Phone (313) 24-83499

From: O'Connor, Tammy (T.A.)
Sent: Thursday, June 15, 2006 9:58 PM
To: Repasky, Steve (S.)
Cc: Hale, Curt (B.C.); Welch, Sharon (S.L.)
Subject: FW: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Steve:

We already have reports for 2007 MY (attached). As you can see, without the TSB the Tech Hotline is making the wrong recommendations for this issue - that's why it is so important that we re-publish this TSB to include 2007 MY. I have spoken to the Tech Hotline about these 2 reports, and we have written an ISM referring them to use the TSB for 2005-2006 MY. But that is not a long term solution, we need to republish the TSB. We are more than willing to work with you and your Engineering team, but it needs to be done quickly (in the next couple of weeks).

I have added this to our CMT Meeting agenda for next Monday to discuss. Please let me know if you have any questions.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Hodges, Cynthia (C.P.)
Sent: Thursday, June 15, 2006 2:57 PM
To: Repasky, Steve (S.); Zeitz, Keith (K.A.)
Cc: Hale, Curt (B.C.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

All –

Where did we end up on this? Yesterday, at our meeting with Ford VPs at Indy, the warranty teardown results showed a large number of gears returned because of meshload adjustment. It's really easy for a mechanic to mess up meshload so bad that he would need to replace the gear, either because of drift pull wander or leaks. It was agreed that the TSB should not reference resetting meshload at all, and it should just discuss underinflated tires. How can we make this happen?

Cynthia Protas Hodges
RV Gear and Linkage Supervisor
Chassis Engineering
Ford Motor Company

1BD36 Product Development Center
phone (313) 805-3872 fax: (313) 32-29959
textpage chodges1 <http://vm5.dearborn.ford.com/cgi/textpage?PAGETO=CHODGES1>
Email:chodges1@ford.com

From: Repasky, Steve (S.)
Sent: Monday, June 05, 2006 11:26 AM
To: O'Connor, Tammy (T.A.); Hodges, Cynthia (C.P.)
Cc: Hale, Curt (B.C.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Would referencing the meshload setting procedure in the shop manual only and eliminating the actual procedure wording help? Just asking..... I agree with having the TSB updated with 2007 MY.

From: O'Connor, Tammy (T.A.)
Sent: Monday, June 05, 2006 11:21 AM
To: Repasky, Steve (S.)
Cc: Hale, Curt (B.C.)
Subject: FW: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Steve:

If we need to put the TSB on hold, then we'll do that -- but I'm not going to pull that section out and end up re-publishing the TSB. It costs the company money to publish each TSB.

We either publish it, or we put it on hold -- but we need to know time frame - any more than a month would generate too many calls to tech hotline.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Hodges, Cynthia (C.P.)
Sent: Monday, June 05, 2006 11:18 AM
To: Repasky, Steve (S.); Zeitz, Keith (K.A.); Perri, Ron (R.J.); Boals, Shannon (S.D.); Dubaisi, Adnan (A.N.); Kula, Paul (P.K.)
Cc: Pais, Cecil (C.M.); Choe, Mark (M.J.); O'Connor, Tammy (T.A.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

I'd like to revisit this text and see if we can optimize the meshload setting portion of it. I am seeing too much meshload resetting out in the field that results in gears set incorrectly. Can we remove this portion of it now while we investigate it?

Cynthia Protas Hodges
RV Gear and Linkage Supervisor
Chassis Engineering
Ford Motor Company

1BD36 Product Development Center
phone (313) 805-3872 fax: (313) 32-29959
textpage chodges1 <http://vm5.dearborn.ford.com/cgi/textpage?PAGETO=CHODGES1>
Email:chodges1@ford.com

From: Repasky, Steve (S.)
Sent: Monday, June 05, 2006 10:57 AM
To: Hodges, Cynthia (C.P.); Zeitz, Keith (K.A.); Perri, Ron (R.J.); Boals, Shannon (S.D.); Dubaisi, Adnan (A.N.); Kula, Paul (P.K.)
Cc: Pais, Cecil (C.M.); Choe, Mark (M.J.); O'Connor, Tammy (T.A.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

This TSB also addresses SW oscillation when tire pressure is low and is still needed for 2007 vehicles. Replacement of the redundant steering wheel is referenced in this TSB for vehicles built prior to the date when the higher MoI wheel was in plant.

From: Hodges, Cynthia (C.P.)
Sent: Monday, June 05, 2006 10:43 AM
To: Zeitz, Keith (K.A.); Perri, Ron (R.J.); Boals, Shannon (S.D.); Dubaisi, Adnan (A.N.); Kula, Paul (P.K.); Repasky, Steve (S.)
Cc: Pais, Cecil (C.M.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Keith –

I don't think we should continue this – it was originally written until they got the higher moment of inertia steering wheel into production (only a few months of production. With regard to the meshload adjustment, it is already in the service manual.

Steve-

Your thoughts?

Cynthia Protas Hodges

RV Gear and Linkage Supervisor
Chassis Engineering
Ford Motor Company

1BD36 Product Development Center
phone (313) 805-3872 fax: (313) 32-29959
textpage chodges1 <http://vm5.dearborn.ford.com/cgi/textpage?PAGETO=CHODGES1>
Email:chodges1@ford.com

From: Zeitz, Keith (K.A.)
Sent: Friday, June 02, 2006 4:10 PM
To: Perri, Ron (R.J.); Boals, Shannon (S.D.); Hodges, Cynthia (C.P.); Dubaisi, Adnan (A.N.); Kula, Paul (P.K.)
Cc: Pais, Cecil (C.M.)
Subject: FW: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Team,

The TSB is being extended for 2007 MY. Is this what we want to do?

Paul/Adnan, this will continue to be binned against the steering wheel. Possibly time to change causal part.

Keith A. Zeitz
Steering & Suspension Quality Supervisor
Integrated BB & ASQ SSBB
PDC 2D-G34, ph # (313) 805-3994
"Don't find fault, find a remedy" - Henry Ford
Today's Word On The WaY
"…God's kindness leads you toward repentance."
- Romans 2:4

From: Siplus, G (G.)
Sent: Friday, June 02, 2006 3:59 PM
To: Murray, Al (A.R.); Tews, Bryan (B.H.); Tedone, Damian (D.J.); Jones, Darryl (D.S.); Capoccia, David (D.G.); Parekh, Deepak (D.A.); Smith, Ed (E.J.); Yerke, Eric (E.R.); Hermann, Erik (E.H.); Wood, Faith (F.M.); Wickenheiser, Francis (F.J.); Sopko, Gary (G.M.); Patel, Harendra (H.M.); Willard, Jeremy (J.); Pawloski, John (.); Pommer, John (J.M.); Saieg, John (J.R.); Berry, Joseph (J.P.); Bucec, Julayne (J.L.); Braboy, Julie (J.A.); Roehner, Julie (J.); Zeitz, Keith (K.A.); Gusfa, Kenneth (K.); Spears, Laura (L.); Taylor, Mark (M.K.); Vance, Matthew (M.A.); House, Michael (M.T.); Spencer, Michael (M.T.); Nagy, Vic (V.A.); Cervenan, Neil (N.J.); Souchock, Peter (P.D.); Bzymek, Raymond (R.); McClain, Shawn (S.M.); Sprunger, Jon (J.L.); Echhot, T. (T.); Gieleghem, Tom (T.A.); Watson, Tom (T.M.); Westermann, W Scott (W.S.); Dedecker, William (W.S.); Kovacs, John (J.); O'Connor, Tammy (T.A.); Repasky, Steve (S.); Dwyer, Elizabeth (E.A.); Smith, Janet (J.); Boals, Shannon (S.D.)
Subject: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

TSB Courtesy Copy
*** DRAFT ***

This message is being sent on behalf of RKLUMP.
This is a courtesy copy of the following article to advise you this article is currently being processed for publication.
General Information

Last action taken (as of 6/2/2006 7:58:55 PM GMT): Accept/Submit to approvers
Comment: TSB is identical to previous version, only adding model year coverage

Author: TOCONNOR
Tracking Number: [redacted]
Author Tracking Number: --
Title: 2005-2007 F-Super Duty - Steering Wheel Oscillation
Article Type: TSB

TSB Issue:
This article supersedes TSB 05-22-1 to update the vehicle model years.

Some 2005-2007 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion), immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer
than five oscillations. This condition occurs mostly on 4x4 vehicles, and is more evident on trucks equipped with a gas engine.
TSB Action:
Refer to the following Service Procedure to minimize the steering wheel oscillations on impacts, however, there may be some remaining minor oscillation which would be considered normal.

TSB Service Procedure:
SERVICE PROCEDURE

Perform the following:

- Vehicle Inspection
- Evaluation Of Vehicle Prior To Repair
- Steering Gear Mesh Load Adjustment
- Front Alignment and Reduce front caster
- Replacement Of Redundant Control Steering Wheel (if equipped and vehicle built prior to 10/8/2004)

VEHICLE INSPECTION
---

1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

NOTE: SETTING TIRE PRESSUE TO DOOR SPEC IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE.

2. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
a. If leaks are present, install a new steering damper (part number 5C3Z- 3E651-D) and continue with this TSB.
b. If no leaks are present, continue with this TSB.

3. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table # below).

Description	Torque Specification (lb-ft/ Nm)	
	Lb-ft	Nm
Damper nuts (4x2)	59	80
Damper-to-bracket (F-250, F-350 4x4)	26	35
Damper-to-drag link	67	91
Drag link-to-pitman arm nut	148	201
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts and bolts	129	175
Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS

ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE.

EVALUATION OF VEHICLE PRIOR TO REPAIR
---

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the severity of wheel oscillation.
3. During the road test, evaluate and note the steering wheel return-ability.

a. Turn steering wheel full lock to lock to confirm no binding.
b. Locate center, and then 45 degrees either side of center on the steering wheel.
c. Driving vehicle at 35 MPH (56 Km/h), on a dry and flat road surface, turn the wheel 45 degrees and release. Note the approximate angle that the steering wheel returns to BEFORE CLEAR VISION. Perform and record the angle for both left and right. It is normal if the angle differs slightly from left to right.

STEERING GEAR MESH LOAD ADJUSTMENT
---

1. Insert hex wrench into steering gear mesh load adjuster screw.
2. While holding the mesh load adjuster screw tight, back off lock nuts two full turns to allow free movement of the adjuster screw.
3. Carefully tighten adjuster screw until a slight increase in resistance is felt, then back off approximately 1/16th of a turn.
4. Hold the adjuster screw in place and tighten lock nut. Do not allow the adjustment screw to turn while tightening the locking nut down.
5. Road test vehicle and evaluate for improvement in steering wheel oscillations.

a. Confirm that there is no objectionable increase in steering efforts, especially at low speeds.
b. Verify that steering wheel return-ability is approximately the same as it was during the original evaluation (within 5 degrees).
c. Turn steering wheel full lock to lock to confirm no binding.

6. Park the vehicle to let it cool down. Road test cold to confirm acceptable parking efforts and return-ability in cold condition. Repeat the mesh load adjustment if needed.

FRONT WHEEL ALIGNEMENT AND REDUCE FRONT CASTER

Measure wheel alignment. Verify that Front Caster, Camber and Total Toe is within specification. Adjust as required. Refer to the Workshop Manual, Section 204-00 for complete alignment specifications.

REDUCE FRONT CASTER

· Note the current front caster
· Use alignment adjustment bushings to Reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit. Use Alignment adjustment bushings:

F-250/350 4x4:
· 5C3Z-3B440-CCC (0.5 degree bushing)
· 5C3Z-3B440-DDD (0.75 degree bushing)
· 5C3Z-3B440-EEE (1.0 degree bushing)

F-450/550 4x4 and 4x2:

· 5C3Z-3B440-HHH (0.5 degree bushing)
· 5C3Z-3B440-JJJ (0.75 degree bushing)
· 5C3Z-3B440-KKK (1.0 degree bushing)

F-250/350 4x2:
· 5C3Z-3B440-C = 0.5 degree busing
· 5C3Z-3B440-D = 0.75 degree bushing
· 5C3Z-3B440-E = 1.0 degree bushing

For All 4x4 and for F-450/550 4x2
· Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward and inboard position (See Figure 1)
· This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed
· The final caster and camber settings must be within the specification limits
· Maintain the current front camber, cross-camber and cross-caster settings as close as you possibly can
· Adding weight behind the rear axle lowers the rear of the vehicle, which decreases the frame angle, which in effect

increases caster
· Inspect the ball joints for excessive play per the workshop manual, section 204-00.

For All F-350/250 4x2,
· Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain that position while moving the caster position forward in the truck
· The final caster and camber settings must be within the specification limits

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.
1. Remove driver air bag assembly. Refer to Workshop Manual Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE 2005 OR 2006 SUPER DUTY F-SERIES WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

NOTE: THE WHEEL ALIGNMENT LABOR OPERATIONS MAY BE CLAIMED WITH THE REPAIR OPERATIONS IN THIS ARTICLE.

Category: Service Fix (10 years - TSB Only)
Request Type: Non-QSF
Activity Code: 070 F-Series >8500#
Vehicle Applications:

Vehicle Lines	Model Year Start	Model Year End	Assembly Plants	Body Styles	Engine	Trans Axles	Build From	Build To
F-Super Duty (F-250 to 550)	2005	2007						

If SPECS Case, Select all Other Affected Publications:
Changes Needed in Other Pubs:
TSBs to Supersede: 05-22-01
SSMs to Supersede:
ISMs to Supersede:
Other application Articles:
Select the reason for republication: Concern Carryover to New Model
Procedure verified by CDSID: srepasky
Describe How The Procedure Was Verified: TSB was verified by Steve Repasky, and also by the FQEs.
Do you have access to a vehicle for time study? Yes
If Yes, contact for vehicle CDSID: toconnor
Are Illustrations Required? Yes
If Yes, Contact information for illustrations:
CDSID(Ford only): toconnor
Full Name: Tammy O'Connor
Phone: 313/322-3824
Illustration Notes: Please use same illustrations from TSB 05-22-01.

Trustmarks affected: Ford
Additional Trustmarks To Notify:
Article Distribution: WDMO, Canada, Mexico, United States
DTC Codes and OASIS Service Codes: , 303000, 304000, 306000, 703000, 703000, 703200, 703200, 703300, 703300, 703400, 703400

Causal Basic Part # or Finis Code:

Causal Part # or Finis Code	Warranty Condition Codes
3600	Chassis: 42

Calibrations List:

White Paper Numbers:

Parts Request Information

Are Parts Required? Yes

QSF Single Agenda Or Program FRC Date:

Parts List:

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
1	Existing	5C74-3F563-AB1D24	No	Not Applicable	STEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5C7Z-3600-ABA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
2	Existing	5C74-3F563-AB35B8	No	Not Applicable	sTEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5c7z-3600-CBA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
3	Existing	5C34-3E651-CE	No	Not Applicable	Damper	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			Q29AA	5C3Z-3E651-CA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
4	Existing	5C34-3E651-CH	No	Not Applicable	Damper Asy	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed

				5C3Z-3E651-D			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3E651-BG	No	Not Applicable	Damper	1	100
5	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3E651-B			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-NA	No	Not Applicable	.5 DEGREE SHIM 4X2	1	100
6	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-C			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-CA	No	Not Applicable	.5 DEGREE SHIM 4X4	1	100
7	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-CCC			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-PA	No	Not Applicable	.75 DEGREE SHIM 4X2	1	100
8	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-D			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-DA	No	Not Applicable	-75 DEGREE SHIM 4X4	1	100
9	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st	@1st Contact				°Replaced	

	Contact	Phone	Source Code	Service #	Replaced SVC #	Eng. #	°Is Calibration Needed
				5C3Z-3B440-DDD			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
10	Existing	5C34-3D004-RA	No	Not Applicable	1.0 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-E			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
11	Existing	5C34-3D004-EA	No	Not Applicable	1.0 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-EEE			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
12	Existing	5C34-3D004-JA	No	Not Applicable	0.75 DEGREE SHIM	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-JJJ			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
13	Existing	5C34-3D004-KA	No	Not Applicable	1.0 DEGREE SHIM	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-KKK			No

Parts catalog flag needed? No
Part number(s) that require flag:

Is geographic location significant? No
Special instructions/remarks:

Article Number:

BCM Number:

(End automated email)

From: O'Connor, Tammy (T.A.)
Sent: Thursday, June 15, 2006 6:22 PM
To: Welch, Sharon (S.L.)
Cc: Hale, Curt (B.C.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Sharon:

That's fine -- we can make this an emerging issue is that is what is necessary. I already have reports for 2007 MY.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Welch, Sharon (S.L.)
Sent: Thursday, June 15, 2006 4:51 PM
To: O'Connor, Tammy (T.A.)
Cc: Welch, Sharon (S.L.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation
Importance: High

I am on the phone with Keith Zeitz - we definetly have problems. At this point we need to put the TSB on hold. Ali Jammoul is not willing to let this TSB go out until some issues are resolved and supported with data.

Sharon Welch
FCSD Program Manager - Warranty Task Force
Fairlane Business Park 3 246F
Phone (313) 24-83499

From: O'Connor, Tammy (T.A.)
Sent: Thursday, June 15, 2006 4:11 PM
To: Welch, Sharon (S.L.)
Subject: FW: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

fyi

Tammy A. O'Connor

Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Hale, Curt (B.C.)
Sent: Thursday, June 15, 2006 3:03 PM
To: O'Connor, Tammy (T.A.)
Subject: FW: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

FYI

B. Curtis Hale
FCSD PVT Program Manager
F-Super Duty & Excursion

From: Hodges, Cynthia (C.P.)
Sent: Thursday, June 15, 2006 2:57 PM
To: Repasky, Steve (S.); Zeitz, Keith (K.A.)
Cc: Hale, Curt (B.C.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

All –

Where did we end up on this? Yesterday, at our meeting with Ford VPs at Indy, the warranty teardown results showed a large number of gears returned because of meshload adjustment. It's really easy for a mechanic to mess up meshload so bad that he would need to replace the gear, either because of drift pull wander or leaks. It was agreed that the TSB should not reference resetting meshload at all, and it should just discuss underinflated tires. How can we make this happen?

Cynthia Protas Hodges
RV Gear and Linkage Supervisor
Chassis Engineering
Ford Motor Company

1BD36 Product Development Center
phone (313) 805-3872 fax: (313) 32-29959
textpage chodges1 <http://vm5.dearborn.ford.com/cgi/textpage?PAGETO=CHODGES1>
Email:chodges1@ford.com

From: Repasky, Steve (S.)
Sent: Monday, June 05, 2006 11:26 AM
To: O'Connor, Tammy (T.A.); Hodges, Cynthia (C.P.)

Cc: Hale, Curt (B.C.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Would referencing the meshload setting procedure in the shop manual only and eliminating the actual procedure wording help? Just asking..... I agree with having the TSB updated with 2007 MY.

From: O'Connor, Tammy (T.A.)
Sent: Monday, June 05, 2006 11:21 AM
To: Repasky, Steve (S.)
Cc: Hale, Curt (B.C.)
Subject: FW: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Steve:

If we need to put the TSB on hold, then we'll do that -- but I'm not going to pull that section out and end up re-publishing the TSB. It costs the company money to publish each TSB.

We either publish it, or we put it on hold -- but we need to know time frame - any more than a month would generate too many calls to tech hotline.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Hodges, Cynthia (C.P.)
Sent: Monday, June 05, 2006 11:18 AM
To: Repasky, Steve (S.); Zeitz, Keith (K.A.); Perri, Ron (R.J.); Boals, Shannon (S.D.); Dubaisi, Adnan (A.N.); Kula, Paul (P.K.)
Cc: Pais, Cecil (C.M.); Choe, Mark (M.J.); O'Connor, Tammy (T.A.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

I'd like to revisit this text and see if we can optimize the meshload setting portion of it. I am seeing too much meshload resetting out in the field that results in gears set incorrectly. Can we remove this portion of it now while we investigate it?

Cynthia Protas Hodges
RV Gear and Linkage Supervisor
Chassis Engineering
Ford Motor Company

1BD36 Product Development Center
phone (313) 805-3872 fax: (313) 32-29959
textpage chodges1 <http://vm5.dearborn.ford.com/cgi/textpage?PAGETO=CHODGES1>
Email:chodges1@ford.com

From: Repasky, Steve (S.)
Sent: Monday, June 05, 2006 10:57 AM
To: Hodges, Cynthia (C.P.); Zeitz, Keith (K.A.); Perri, Ron (R.J.); Boals, Shannon (S.D.); Dubaisi, Adnan (A.N.); Kula, Paul (P.K.)
Cc: Pais, Cecil (C.M.); Choe, Mark (M.J.); O'Connor, Tammy (T.A.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

This TSB also addresses SW oscillation when tire pressure is low and is still needed for 2007 vehicles. Replacement of the redundant steering wheel is referenced in this TSB for vehicles built prior to the date when the higher MoI wheel was in plant.

From: Hodges, Cynthia (C.P.)
Sent: Monday, June 05, 2006 10:43 AM
To: Zeitz, Keith (K.A.); Perri, Ron (R.J.); Boals, Shannon (S.D.); Dubaisi, Adnan (A.N.); Kula, Paul (P.K.); Repasky, Steve (S.)
Cc: Pais, Cecil (C.M.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Keith –

I don't think we should continue this – it was originally written until they got the higher moment of inertia steering wheel into production (only a few months of production. With regard to the meshload adjustment, it is already in the service manual.

Steve-

Your thoughts?

Cynthia Protas Hodges
RV Gear and Linkage Supervisor
Chassis Engineering
Ford Motor Company

1BD36 Product Development Center
phone (313) 805-3872 fax: (313) 32-29959
textpage chodges1 <http://vm5.dearborn.ford.com/cgi/textpage?PAGETO=CHODGES1>
Email:chodges1@ford.com

From: Zeitz, Keith (K.A.)
Sent: Friday, June 02, 2006 4:10 PM
To: Perri, Ron (R.J.); Boals, Shannon (S.D.); Hodges, Cynthia (C.P.); Dubaisi, Adnan (A.N.); Kula, Paul (P.K.)
Cc: Pais, Cecil (C.M.)
Subject: FW: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Team,

The TSB is being extended for 2007 MY. Is this what we want to do?

Paul/Adnan, this will continue to be binned against the steering wheel. Possibly time to change causal part.

Keith A. Zeitz
Steering & Suspension Quality Supervisor
Integrated BB & ASQ SSBB
PDC 2D-G34, ph # (313) 805-3994
"Don't find fault, find a remedy" - Henry Ford
Today's Word On The WaY
"…God's kindness leads you toward repentance."
- Romans 2:4

From: Siplus, G (G.)
Sent: Friday, June 02, 2006 3:59 PM
To: Murray, Al (A.R.); Tews, Bryan (B.H.); Tedone, Damian (D.J.); Jones, Darryl (D.S.); Capoccia, David (D.G.); Parekh, Deepak (D.A.); Smith, Ed (E.J.); Yerke, Eric (E.R.); Hermann, Erik (E.H.); Wood, Faith (F.M.); Wickenheiser, Francis (F.J.); Sopko, Gary (G.M.); Patel, Harendra (H.M.); Willard, Jeremy (J.); Pawloski, John (.); Pommer, John (J.M.); Saieg, John (J.R.); Berry, Joseph (J.P.); Bucec, Julayne (J.L.); Braboy, Julie (J.A.); Roehner, Julie (J.); Zeitz, Keith (K.A.); Gusfa, Kenneth (K.); Spears, Laura (L.); Taylor, Mark (M.K.); Vance, Matthew (M.A.); House, Michael (M.T.); Spencer, Michael (M.T.); Nagy, Vic (V.A.); Cervenan, Neil (N.J.); Souchock, Peter (P.D.); Bzymek, Raymond (R.); McClain, Shawn (S.M.); Sprunger, Jon (J.L.); Echhot, T. (T.); Gieleghem, Tom (T.A.); Watson, Tom (T.M.); Westermann, W Scott (W.S.); Dedecker, William (W.S.); Kovacs, John (J.); O'Connor, Tammy (T.A.); Repasky, Steve (S.); Dwyer, Elizabeth (E.A.); Smith, Janet (J.); Boals, Shannon (S.D.)
Subject: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

TSB Courtesy Copy
*** DRAFT ***

This message is being sent on behalf of RKLUMP.
This is a courtesy copy of the following article to advise you this article is currently being processed for publication.

General Information

Last action taken (as of 6/2/2006 7:58:55 PM GMT):	Accept/Submit to approvers
Comment:	TSB is identical to previous version, only adding model year coverage
Author:	TOCONNOR
Tracking Number:	[redacted]
Author Tracking Number:	--
Title:	2005-2007 F-Super Duty - Steering Wheel Oscillation
Article Type:	TSB

TSB Issue:
This article supersedes TSB 05-22-1 to update the vehicle model years.

Some 2005-2007 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion), immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer
than five oscillations. This condition occurs mostly on 4x4 vehicles, and is more evident on trucks equipped with a gas engine.
TSB Action:
Refer to the following Service Procedure to minimize the steering wheel oscillations on impacts, however, there may be some remaining minor oscillation which would be considered normal.

TSB Service Procedure:
SERVICE PROCEDURE

Perform the following:

- Vehicle Inspection
- Evaluation Of Vehicle Prior To Repair

- Steering Gear Mesh Load Adjustment
- Front Alignment and Reduce front caster
- Replacement Of Redundant Control Steering Wheel (if equipped and vehicle built prior to 10/8/2004)

VEHICLE INSPECTION

---

1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

NOTE: SETTING TIRE PRESSUE TO DOOR SPEC IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE.

2. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.

a. If leaks are present, install a new steering damper (part number 5C3Z- 3E651-D) and continue with this TSB.

b. If no leaks are present, continue with this TSB.

3. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table # below).

Description	Torque Specification (lb-ft/ Nm)	
	Lb-ft	Nm
Damper nuts (4x2)	59	80
Damper-to-bracket (F-250, F-350 4x4)	26	35
Damper-to-drag link	67	91
Drag link-to-pitman arm nut	148	201
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts and bolts	129	175
Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE.

EVALUATION OF VEHICLE PRIOR TO REPAIR

---

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the severity of wheel oscillation.
3. During the road test, evaluate and note the steering wheel return-ability.

a. Turn steering wheel full lock to lock to confirm no binding.

b. Locate center, and then 45 degrees either side of center on the steering wheel.

c. Driving vehicle at 35 MPH (56 Km/h), on a dry and flat road surface, turn the wheel 45 degrees and release. Note the approximate angle that the steering wheel returns to BEFORE CLEAR VISION. Perform and record the angle for both left and right. It is normal if the angle differs slightly from left to right.

STEERING GEAR MESH LOAD ADJUSTMENT

---

1. Insert hex wrench into steering gear mesh load adjuster screw.
2. While holding the mesh load adjuster screw tight, back off lock nuts two full turns to allow free movement of the adjuster screw.
3. Carefully tighten adjuster screw until a slight increase in resistance is felt, then back off approximately 1/16th of a turn.
4. Hold the adjuster screw in place and tighten lock nut. Do not allow the adjustment screw to turn while tightening the locking nut down.
5. Road test vehicle and evaluate for improvement in steering wheel oscillations.

a. Confirm that there is no objectionable increase in steering efforts, especially at low speeds.

b. Verify that steering wheel return-ability is approximately the same as it was during the original evaluation (within 5 degrees).

c. Turn steering wheel full lock to lock to confirm no binding.

6. Park the vehicle to let it cool down. Road test cold to confirm acceptable parking efforts and return-ability in cold condition. Repeat the mesh load adjustment if needed.

FRONT WHEEL ALIGNEMENT AND REDUCE FRONT CASTER

Measure wheel alignment. Verify that Front Caster, Camber and Total Toe is within specification. Adjust as required. Refer to the Workshop Manual, Section 204-00 for complete alignment specifications.

REDUCE FRONT CASTER

· Note the current front caster

· Use alignment adjustment bushings to Reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit. Use Alignment adjustment bushings:

F-250/350 4x4:

· 5C3Z-3B440-CCC (0.5 degree bushing)
· 5C3Z-3B440-DDD (0.75 degree bushing)
· 5C3Z-3B440-EEE (1.0 degree bushing)

F-450/550 4x4 and 4x2:

· 5C3Z-3B440-HHH (0.5 degree bushing)
· 5C3Z-3B440-JJJ (0.75 degree bushing)
· 5C3Z-3B440-KKK (1.0 degree bushing)

F-250/350 4x2:

· 5C3Z-3B440-C = 0.5 degree busing
· 5C3Z-3B440-D = 0.75 degree bushing
· 5C3Z-3B440-E = 1.0 degree bushing

For All 4x4 and for F-450/550 4x2

· Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward and inboard position (See Figure 1)

· This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed

· The final caster and camber settings must be within the specification limits

· Maintain the current front camber, cross-camber and cross-caster settings as close as you possibly can

· Adding weight behind the rear axle lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster

· Inspect the ball joints for excessive play per the workshop manual, section 204-00.

For All F-350/250 4x2,

· Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain that position while moving the caster position forward in the truck

· The final caster and camber settings must be within the specification limits

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE 2005 OR 2006 SUPER DUTY F-SERIES WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

NOTE: THE WHEEL ALIGNMENT LABOR OPERATIONS MAY BE CLAIMED WITH THE REPAIR OPERATIONS IN THIS ARTICLE.

Category: Service Fix (10 years - TSB Only)
Request Type: Non-QSF
Activity Code: 070 F-Series >8500#
Vehicle Applications:

Vehicle Lines	Model Year Start	Model Year End	Assembly Plants	Body Styles	Engine	Trans Axles	Build From	Build To
F-Super Duty (F-250 to 550)	2005	2007						

If SPECS Case, Select all Other Affected Publications:

Changes Needed in Other Pubs:

TSBs to Supersede: 05-22-01
SSMs to Supersede:

ISMs to Supersede:

Other application Articles:

Select the reason for republication: Concern Carryover to New Model
Procedure verified by CDSID: srepasky
Describe How The Procedure Was Verified: TSB was verified by Steve Repasky, and also by the FQEs.
Do you have access to a vehicle for time study? Yes
If Yes, contact for vehicle CDSID: toconnor
Are Illustrations Required? Yes
If Yes, Contact information for illustrations:
CDSID(Ford only): toconnor
Full Name: Tammy O'Connor
Phone: 313/322-3824
Illustration Notes: Please use same illustrations from TSB 05-22-01.

Trustmarks affected: Ford
Additional Trustmarks To Notify:

Article Distribution: WDMO, Canada, Mexico, United States
DTC Codes and OASIS Service Codes: , 303000, 304000, 306000, 703000, 703000, 703200, 703200, 703300, 703300, 703400, 703400

Causal Basic Part # or Finis Code:

Causal Part # or Finis Code	Warranty Condition Codes
3600	Chassis: 42

Calibrations List:

White Paper Numbers:

Parts Request Information

Are Parts Required? Yes
QSF Single Agenda Or Program FRC Date:
Parts List:

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
1	Existing	5C74-3F563-AB1D24	No	Not Applicable	STEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5C7Z-3600-ABA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
2	Existing	5C74-3F563-AB35B8	No	Not Applicable	sTEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5c7z-3600-CBA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
3	Existing	5C34-3E651-CE	No	Not Applicable	Damper	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			Q29AA	5C3Z-3E651-CA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
4	Existing	5C34-3E651-CH	No	Not Applicable	Damper Asy	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3E651-D			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
5	Existing	5C34-3E651-BG	No	Not Applicable	Damper	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3E651-B			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
6	Existing	5C34-3D004-NA	No	Not Applicable	.5 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-C			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
7	Existing	5C34-3D004-CA	No	Not Applicable	.5 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-CCC			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
8	Existing	5C34-3D004-PA	No	Not Applicable	.75 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-D			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
9	Existing	5C34-3D004-DA	No	Not Applicable	-75 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-DDD			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
10	Existing	5C34-3D004-RA	No	Not Applicable	1.0 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-E			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
11	Existing	5C34-3D004-EA	No	Not Applicable	1.0 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-			

				EEE			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
12	Existing	5C34-3D004-JA	No	Not Applicable	0.75 DEGREE SHIM	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-JJJ			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
13	Existing	5C34-3D004-KA	No	Not Applicable	1.0 DEGREE SHIM	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-KKK			No

Parts catalog flag needed? No
Part number(s) that require flag:

Is geographic location significant? No
Special instructions/remarks:

Article Number:

BCM Number:

(End automated email)

From: Sprunger, Jon (J.L.)
Sent: Thursday, June 08, 2006 8:26 AM
To: O'Connor, Tammy (T.A.); Rivera, Santos (S.)
Cc: Klump, Robert (R.F.); Sturgill, John (J.); Welch, Sharon (S.L.); Hale, Curt (B.C.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

FYI to All,

I have sent this article back to Tammy for modification. I talked with Tammy about the article yesterday afternoon and can send it back without rejection because the changes she is making do not affected the other approvers who have already signed off (Modifying mesh load procedure to point to the WSM and rearranging, but not deleting or significantly adding to, the rest of the procedure).

Santos, You will get an email from our system once Tammy has made the changes and sent the file back to you.

Thanks.

Sincerely,
Jon Sprunger
Global Technical Communications - FCSD
TSB/SSM Processing
Phone: (313)32-32272
Fax: (313)24-86449
jsprunge@ford.com

From: Welch, Sharon (S.L.)
Sent: Wednesday, June 07, 2006 4:56 PM
To: Sprunger, Jon (J.L.); O'Connor, Tammy (T.A.)
Cc: Hale, Curt (B.C.); Klump, Robert (R.F.); Rivera, Santos (S.); Sturgill, John (J.); Welch, Sharon (S.L.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Jon,
This is the one I talked to you about. We need to add causal parts (there will be three in total), change the order, and hopefully add/change the labor times.

Sharon Welch
FCSD Program Manager - Warranty Task Force
Fairlane Business Park 3 246F
Phone (313) 24-83499

From: Sprunger, Jon (J.L.)
Sent: Wednesday, June 07, 2006 4:08 PM
To: O'Connor, Tammy (T.A.)
Cc: Hale, Curt (B.C.); Klump, Robert (R.F.); Rivera, Santos (S.); Sturgill, John (J.); Welch, Sharon (S.L.)

Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Tammy,

Is this just going to involve restructuring the order of the service procedure, or is the whole approach going to change. Just trying to decide if we can get it back to you without rejecting it, or if we will need to reject it first. Thanks.

Sincerely,
Jon Sprunger
Global Technical Communications - FCSD
TSB/SSM Processing
Phone: (313)32-32272
Fax: (313)24-86449
jsprunge@ford.com

From: O'Connor, Tammy (T.A.)
Sent: Wednesday, June 07, 2006 2:52 PM
To: Sprunger, Jon (J.L.); Welch, Sharon (S.L.)
Cc: Hale, Curt (B.C.); Klump, Robert (R.F.); Rivera, Santos (S.); Sturgill, John (J.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Jon:

I need this sent back for more information - I'm going to change the order of TSB, and Sharon Welch is going to talk to Santos about how Engineering wants the time study done.

Thanks.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Sprunger, Jon (J.L.)
Sent: Monday, June 05, 2006 12:30 PM
To: O'Connor, Tammy (T.A.)
Cc: Hale, Curt (B.C.); Repasky, Steve (S.); Klump, Robert (R.F.); Rivera, Santos (S.); Sturgill, John (J.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Tammy,

Do you know the exact procedure changes you want to make at this point? SLTS did create labor operations for this TSB last time (TSB 04-26-01) and is probably planning to reuse the same labor operations. If the procedure is being modified, that will probably affect their labor

times. If you know what changes will need to be made, would it be possible to send them by email at this point. SLTS has not signed-off yet, so that will allow them to see what impact the changes might have.

Sincerely,
Jon Sprunger
Global Technical Communications - FCSD
TSB/SSM Processing
Phone: (313)32-32272
Fax: (313)24-86449
jsprunge@ford.com

From: O'Connor, Tammy (T.A.)
Sent: Monday, June 05, 2006 11:29 AM
To: Sprunger, Jon (J.L.); Klump, Robert (R.F.)
Cc: Hale, Curt (B.C.); Repasky, Steve (S.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Jon:

We want to change a section of this TSB, can you please send it back to me for more information before it goes into co-lab?

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Hodges, Cynthia (C.P.)
Sent: Monday, June 05, 2006 11:27 AM
To: Repasky, Steve (S.); O'Connor, Tammy (T.A.)
Cc: Hale, Curt (B.C.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Yes – that's a great idea. Let's do that. Thanks.

Cynthia Protas Hodges
RV Gear and Linkage Supervisor
Chassis Engineering
Ford Motor Company

1BD36 Product Development Center
phone (313) 805-3872 fax: (313) 32-29959
textpage chodges1 <http://vm5.dearborn.ford.com/cgi/textpage?PAGETO=CHODGES1>

Email:chodges1@ford.com

From: Repasky, Steve (S.)
Sent: Monday, June 05, 2006 11:26 AM
To: O'Connor, Tammy (T.A.); Hodges, Cynthia (C.P.)
Cc: Hale, Curt (B.C.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Would referencing the meshload setting procedure in the shop manual only and eliminating the actual procedure wording help? Just asking..... I agree with having the TSB updated with 2007 MY.

From: O'Connor, Tammy (T.A.)
Sent: Monday, June 05, 2006 11:21 AM
To: Repasky, Steve (S.)
Cc: Hale, Curt (B.C.)
Subject: FW: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Steve:

If we need to put the TSB on hold, then we'll do that -- but I'm not going to pull that section out and end up re-publishing the TSB. It costs the company money to publish each TSB.

We either publish it, or we put it on hold -- but we need to know time frame - any more than a month would generate too many calls to tech hotline.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Hodges, Cynthia (C.P.)
Sent: Monday, June 05, 2006 11:18 AM
To: Repasky, Steve (S.); Zeitz, Keith (K.A.); Perri, Ron (R.J.); Boals, Shannon (S.D.); Dubaisi, Adnan (A.N.); Kula, Paul (P.K.)
Cc: Pais, Cecil (C.M.); Choe, Mark (M.J.); O'Connor, Tammy (T.A.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

I'd like to revisit this text and see if we can optimize the meshload setting portion of it. I am seeing too much meshload resetting out in the field that results in gears set incorrectly. Can we remove this portion of it now while we investigate it?

Cynthia Protas Hodges
RV Gear and Linkage Supervisor
Chassis Engineering
Ford Motor Company

1BD36 Product Development Center
phone (313) 805-3872 fax: (313) 32-29959
textpage chodges1 <http://vm5.dearborn.ford.com/cgi/textpage?PAGETO=CHODGES1>
Email:chodges1@ford.com

From: Repasky, Steve (S.)
Sent: Monday, June 05, 2006 10:57 AM
To: Hodges, Cynthia (C.P.); Zeitz, Keith (K.A.); Perri, Ron (R.J.); Boals, Shannon (S.D.); Dubaisi, Adnan (A.N.); Kula, Paul (P.K.)
Cc: Pais, Cecil (C.M.); Choe, Mark (M.J.); O'Connor, Tammy (T.A.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

This TSB also addresses SW oscillation when tire pressure is low and is still needed for 2007 vehicles. Replacement of the redundant steering wheel is referenced in this TSB for vehicles built prior to the date when the higher MoI wheel was in plant.

From: Hodges, Cynthia (C.P.)
Sent: Monday, June 05, 2006 10:43 AM
To: Zeitz, Keith (K.A.); Perri, Ron (R.J.); Boals, Shannon (S.D.); Dubaisi, Adnan (A.N.); Kula, Paul (P.K.); Repasky, Steve (S.)
Cc: Pais, Cecil (C.M.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Keith –

I don't think we should continue this – it was originally written until they got the higher moment of inertia steering wheel into production (only a few months of production. With regard to the meshload adjustment, it is already in the service manual.

Steve-

Your thoughts?

Cynthia Protas Hodges
RV Gear and Linkage Supervisor
Chassis Engineering
Ford Motor Company

1BD36 Product Development Center
phone (313) 805-3872 fax: (313) 32-29959
textpage chodges1 <http://vm5.dearborn.ford.com/cgi/textpage?PAGETO=CHODGES1>
Email:chodges1@ford.com

From: Zeitz, Keith (K.A.)
Sent: Friday, June 02, 2006 4:10 PM
To: Perri, Ron (R.J.); Boals, Shannon (S.D.); Hodges, Cynthia (C.P.); Dubaisi, Adnan (A.N.); Kula, Paul (P.K.)
Cc: Pais, Cecil (C.M.)
Subject: FW: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Team,

The TSB is being extended for 2007 MY. Is this what we want to do?

Paul/Adnan, this will continue to be binned against the steering wheel. Possibly time to change causal part.

Keith A. Zeitz
Steering & Suspension Quality Supervisor
Integrated BB & ASQ SSBB
PDC 2D-G34, ph # (313) 805-3994
"Don't find fault, find a remedy" - Henry Ford
Today's Word On The WaY
"…God's kindness leads you toward repentance."
- Romans 2:4

From: Siplus, G (G.)
Sent: Friday, June 02, 2006 3:59 PM
To: Murray, Al (A.R.); Tews, Bryan (B.H.); Tedone, Damian (D.J.); Jones, Darryl (D.S.); Capoccia, David (D.G.); Parekh, Deepak (D.A.); Smith, Ed (E.J.); Yerke, Eric (E.R.); Hermann, Erik (E.H.); Wood, Faith (F.M.); Wickenheiser, Francis (F.J.); Sopko, Gary (G.M.); Patel, Harendra (H.M.); Willard, Jeremy (J.); Pawloski, John (.); Pommer, John (J.M.); Saieg, John (J.R.); Berry, Joseph (J.P.); Bucec, Julayne (J.L.); Braboy, Julie (J.A.); Roehner, Julie (J.); Zeitz, Keith (K.A.); Gusfa, Kenneth (K.); Spears, Laura (L.); Taylor, Mark (M.K.); Vance, Matthew (M.A.); House, Michael (M.T.); Spencer, Michael (M.T.); Nagy, Vic (V.A.); Cervenan, Neil (N.J.); Souchock, Peter (P.D.); Bzymek, Raymond (R.); McClain, Shawn (S.M.); Sprunger, Jon (J.L.); Echhot, T. (T.); Gieleghem, Tom (T.A.); Watson, Tom (T.M.); Westermann, W Scott (W.S.); Dedecker, William (W.S.); Kovacs, John (J.); O'Connor, Tammy (T.A.); Repasky, Steve (S.); Dwyer, Elizabeth (E.A.); Smith, Janet (J.); Boals, Shannon (S.D.)
Subject: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

TSB Courtesy Copy
*** DRAFT ***

This message is being sent on behalf of RKLUMP.
This is a courtesy copy of the following article to advise you this article is currently being processed for publication.
General Information

Last action taken (as of 6/2/2006 7:58:55 PM GMT):	Accept/Submit to approvers
Comment:	TSB is identical to previous version, only adding model year coverage
Author:	TOCONNOR
Tracking Number:	[redacted]
Author Tracking Number:	--
Title:	2005-2007 F-Super Duty - Steering Wheel Oscillation
Article Type:	TSB

TSB Issue:
This article supersedes TSB 05-22-1 to update the vehicle model years.

Some 2005-2007 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion), immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer
than five oscillations. This condition occurs mostly on 4x4 vehicles, and is more evident on trucks equipped with a gas engine.
TSB Action:
Refer to the following Service Procedure to minimize the steering wheel oscillations on impacts, however, there may be some remaining minor oscillation which would be considered normal.

TSB Service Procedure:
SERVICE PROCEDURE

Perform the following:

- Vehicle Inspection
- Evaluation Of Vehicle Prior To Repair
- Steering Gear Mesh Load Adjustment
- Front Alignment and Reduce front caster
- Replacement Of Redundant Control Steering Wheel (if equipped and vehicle built prior to 10/8/2004)

VEHICLE INSPECTION
---

1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

NOTE: SETTING TIRE PRESSUE TO DOOR SPEC IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE.

2. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
a. If leaks are present, install a new steering damper (part number 5C3Z- 3E651-D) and continue with this TSB.
b. If no leaks are present, continue with this TSB.

3. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table # below).

Description	Torque Specification (lb-ft/ Nm)	
	Lb-ft	Nm
Damper nuts (4x2)	59	80
Damper-to-bracket (F-250, F-350 4x4)	26	35
Damper-to-drag link	67	91
Drag link-to-pitman arm nut	148	201
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts and bolts	129	175
Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE.

EVALUATION OF VEHICLE PRIOR TO REPAIR
---

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the severity of wheel oscillation.
3. During the road test, evaluate and note the steering wheel return-ability.
a. Turn steering wheel full lock to lock to confirm no binding.
b. Locate center, and then 45 degrees either side of center on the steering wheel.
c. Driving vehicle at 35 MPH (56 Km/h), on a dry and flat road surface, turn the wheel 45 degrees and release. Note the approximate angle that the steering wheel returns to BEFORE CLEAR VISION. Perform and record the angle for both left and right. It is normal if the angle differs slightly from left to right.

STEERING GEAR MESH LOAD ADJUSTMENT
---

1. Insert hex wrench into steering gear mesh load adjuster screw.
2. While holding the mesh load adjuster screw tight, back off lock nuts two full turns to allow free movement of the adjuster screw.
3. Carefully tighten adjuster screw until a slight increase in resistance is felt, then back off approximately 1/16th of a turn.
4. Hold the adjuster screw in place and tighten lock nut. Do not allow the adjustment screw to turn while tightening the locking nut down.
5. Road test vehicle and evaluate for improvement in steering wheel oscillations.

a. Confirm that there is no objectionable increase in steering efforts, especially at low speeds.
b. Verify that steering wheel return-ability is approximately the same as it was during the original evaluation (within 5 degrees).
c. Turn steering wheel full lock to lock to confirm no binding.
6. Park the vehicle to let it cool down. Road test cold to confirm acceptable parking efforts and return-ability in cold condition. Repeat the mesh load adjustment if needed.

FRONT WHEEL ALIGNEMENT AND REDUCE FRONT CASTER

Measure wheel alignment. Verify that Front Caster, Camber and Total Toe is within specification. Adjust as required. Refer to the Workshop Manual, Section 204-00 for complete alignment specifications.

REDUCE FRONT CASTER
· Note the current front caster
· Use alignment adjustment bushings to Reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit. Use Alignment adjustment bushings:

F-250/350 4x4:
· 5C3Z-3B440-CCC (0.5 degree bushing)
· 5C3Z-3B440-DDD (0.75 degree bushing)
· 5C3Z-3B440-EEE (1.0 degree bushing)

F-450/550 4x4 and 4x2:

· 5C3Z-3B440-HHH (0.5 degree bushing)
· 5C3Z-3B440-JJJ (0.75 degree bushing)
· 5C3Z-3B440-KKK (1.0 degree bushing)

F-250/350 4x2:
· 5C3Z-3B440-C = 0.5 degree busing
· 5C3Z-3B440-D = 0.75 degree bushing
· 5C3Z-3B440-E = 1.0 degree bushing

For All 4x4 and for F-450/550 4x2
· Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward and inboard position (See Figure 1)
· This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed
· The final caster and camber settings must be within the specification limits
· Maintain the current front camber, cross-camber and cross-caster settings as close as you possibly can
· Adding weight behind the rear axle lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster
· Inspect the ball joints for excessive play per the workshop manual, section 204-00.

For All F-350/250 4x2,
· Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain that position while moving the caster position forward in the truck
· The final caster and camber settings must be within the specification limits

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.
1. Remove driver air bag assembly. Refer to Workshop Manual Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE 2005 OR 2006 SUPER DUTY

F-SERIES WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

NOTE: THE WHEEL ALIGNMENT LABOR OPERATIONS MAY BE CLAIMED WITH THE REPAIR OPERATIONS IN THIS ARTICLE.

Category: Service Fix (10 years - TSB Only)
Request Type: Non-QSF
Activity Code: 070 F-Series >8500#
Vehicle Applications:

Vehicle Lines	Model Year Start	Model Year End	Assembly Plants	Body Styles	Engine	Trans Axles	Build From	Build To
F-Super Duty (F-250 to 550)	2005	2007						

If SPECS Case, Select all Other Affected Publications:
Changes Needed in Other Pubs:
TSBs to Supersede: 05-22-01
SSMs to Supersede:
ISMs to Supersede:
Other application Articles:
Select the reason for republication: Concern Carryover to New Model
Procedure verified by CDSID: srepasky
Describe How The Procedure Was Verified: TSB was verified by Steve Repasky, and also by the FQEs.
Do you have access to a vehicle for time study? Yes
If Yes, contact for vehicle CDSID: toconnor
Are Illustrations Required? Yes
If Yes, Contact information for illustrations:
CDSID(Ford only): toconnor
Full Name: Tammy O'Connor
Phone: 313/322-3824
Illustration Notes: Please use same illustrations from TSB 05-22-01.

Trustmarks affected: Ford
Additional Trustmarks To Notify:
Article Distribution: WDMO, Canada, Mexico, United States
DTC Codes and OASIS Service Codes: , 303000, 304000, 306000, 703000, 703000, 703200, 703200, 703300, 703300, 703400, 703400

Causal Basic Part # or Finis Code:

Causal Part # or Finis Code	Warranty Condition Codes
3600	Chassis: 42

Calibrations List:

White Paper Numbers:

Parts Request Information

Are Parts Required? Yes
QSF Single Agenda Or Program FRC Date:
Parts List:

*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
Existing	5C74-3F563-AB1D24	No	Not Applicable	STEERING WHEEL ASY	1	100
*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company

	45						
1	**@1st Contact**	**@1st Contact Phone**	**Source Code**	**Service #**	**Replaced SVC #**	**°Replaced Eng. #**	**°Is Calibration Needed**
			U5MSK	5C7Z-3600-ABA			No

	***Type of Part**	***Eng #**	***Is This Part a Kit?**	***Existing Stock#**	***Part Name**	***Qty/veh.**	***Engineering Est. Qty. Needed**
	Existing	5C74-3F563-AB35B8	No	Not Applicable	sTEERING WHEEL ASY	1	100
2	***Calculated Forecast**		***@WERS Notice #**		***@WERS Date Released**		***@Supplier Company**
	45						
	@1st Contact	**@1st Contact Phone**	**Source Code**	**Service #**	**Replaced SVC #**	**°Replaced Eng. #**	**°Is Calibration Needed**
			U5MSK	5c7z-3600-CBA			No

	***Type of Part**	***Eng #**	***Is This Part a Kit?**	***Existing Stock#**	***Part Name**	***Qty/veh.**	***Engineering Est. Qty. Needed**
	Existing	5C34-3E651-CE	No	Not Applicable	Damper	1	100
3	***Calculated Forecast**		***@WERS Notice #**		***@WERS Date Released**		***@Supplier Company**
	126						
	@1st Contact	**@1st Contact Phone**	**Source Code**	**Service #**	**Replaced SVC #**	**°Replaced Eng. #**	**°Is Calibration Needed**
			Q29AA	5C3Z-3E651-CA			No

	***Type of Part**	***Eng #**	***Is This Part a Kit?**	***Existing Stock#**	***Part Name**	***Qty/veh.**	***Engineering Est. Qty. Needed**
	Existing	5C34-3E651-CH	No	Not Applicable	Damper Asy	1	100
4	***Calculated Forecast**		***@WERS Notice #**		***@WERS Date Released**		***@Supplier Company**
	126						
	@1st Contact	**@1st Contact Phone**	**Source Code**	**Service #**	**Replaced SVC #**	**°Replaced Eng. #**	**°Is Calibration Needed**
				5C3Z-3E651-D			No

	***Type of Part**	***Eng #**	***Is This Part a Kit?**	***Existing Stock#**	***Part Name**	***Qty/veh.**	***Engineering Est. Qty. Needed**
	Existing	5C34-3E651-BG	No	Not Applicable	Damper	1	100
5	***Calculated Forecast**		***@WERS Notice #**		***@WERS Date Released**		***@Supplier Company**
	126						
	@1st Contact	**@1st Contact Phone**	**Source Code**	**Service #**	**Replaced SVC #**	**°Replaced Eng. #**	**°Is Calibration Needed**
				5C3Z-3E651-B			No

***Type of Part**	***Eng #**	***Is This Part a Kit?**	***Existing Stock#**	***Part Name**	***Qty/veh.**	***Engineering Est. Qty. Needed**
Existing	5C34-3D004-NA	No	Not Applicable	.5 DEGREE SHIM 4X2	1	100

6	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-C			No

7	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-CA	No	Not Applicable	.5 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-CCC			No

8	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-PA	No	Not Applicable	.75 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-D			No

9	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-DA	No	Not Applicable	-75 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-DDD			No

10	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-RA	No	Not Applicable	1.0 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-E			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
		5C34-3D004-		Not	1.0 DEGREE		

	Existing	EA	No	Applicable	SHIM 4X4	1	100
11	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-EEE			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-JA	No	Not Applicable	0.75 DEGREE SHIM	1	100
12	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-JJJ			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-KA	No	Not Applicable	1.0 DEGREE SHIM	1	100
13	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-KKK			No

Parts catalog flag needed? No
Part number(s) that require flag:

Is geographic location significant? No
Special instructions/remarks:

Article Number:

BCM Number:

(End automated email)

From: Welch, Sharon (S.L.)
Sent: Wednesday, June 07, 2006 4:56 PM
To: Sprunger, Jon (J.L.); O'Connor, Tammy (T.A.)
Cc: Hale, Curt (B.C.); Klump, Robert (R.F.); Rivera, Santos (S.); Sturgill, John (J.); Welch, Sharon (S.L.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Jon,
This is the one I talked to you about. We need to add causal parts (there will be three in total), change the order, and hopefully add/change the labor times.

Sharon Welch
FCSD Program Manager - Warranty Task Force
Fairlane Business Park 3 246F
Phone (313) 24-83499

From: Sprunger, Jon (J.L.)
Sent: Wednesday, June 07, 2006 4:08 PM
To: O'Connor, Tammy (T.A.)
Cc: Hale, Curt (B.C.); Klump, Robert (R.F.); Rivera, Santos (S.); Sturgill, John (J.); Welch, Sharon (S.L.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Tammy,

Is this just going to involve restructuring the order of the service procedure, or is the whole approach going to change. Just trying to decide if we can get it back to you without rejecting it, or if we will need to reject it first. Thanks.

Sincerely,
Jon Sprunger
Global Technical Communications - FCSD
TSB/SSM Processing
Phone: (313)32-32272
Fax: (313)24-86449
jsprunge@ford.com

From: O'Connor, Tammy (T.A.)
Sent: Wednesday, June 07, 2006 2:52 PM
To: Sprunger, Jon (J.L.); Welch, Sharon (S.L.)
Cc: Hale, Curt (B.C.); Klump, Robert (R.F.); Rivera, Santos (S.); Sturgill, John (J.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Jon:

I need this sent back for more information - I'm going to change the order of TSB, and Sharon Welch is going to talk to Santos about how Engineering wants the time study done.

Thanks.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Sprunger, Jon (J.L.)
Sent: Monday, June 05, 2006 12:30 PM
To: O'Connor, Tammy (T.A.)
Cc: Hale, Curt (B.C.); Repasky, Steve (S.); Klump, Robert (R.F.); Rivera, Santos (S.); Sturgill, John (J.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Tammy,

Do you know the exact procedure changes you want to make at this point? SLTS did create labor operations for this TSB last time (TSB 04-26-01) and is probably planning to reuse the same labor operations. If the procedure is being modified, that will probably affect their labor times. If you know what changes will need to be made, would it be possible to send them by email at this point. SLTS has not signed-off yet, so that will allow them to see what impact the changes might have.

Sincerely,
Jon Sprunger
Global Technical Communications - FCSD
TSB/SSM Processing
Phone: (313)32-32272
Fax: (313)24-86449
jsprunge@ford.com

From: O'Connor, Tammy (T.A.)
Sent: Monday, June 05, 2006 11:29 AM
To: Sprunger, Jon (J.L.); Klump, Robert (R.F.)
Cc: Hale, Curt (B.C.); Repasky, Steve (S.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Jon:

We want to change a section of this TSB, can you please send it back to me for more information before it goes into co-lab?

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion

Body / Chassis / Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Hodges, Cynthia (C.P.)
Sent: Monday, June 05, 2006 11:27 AM
To: Repasky, Steve (S.); O'Connor, Tammy (T.A.)
Cc: Hale, Curt (B.C.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Yes – that's a great idea. Let's do that. Thanks.

Cynthia Protas Hodges
RV Gear and Linkage Supervisor
Chassis Engineering
Ford Motor Company

1BD36 Product Development Center
phone (313) 805-3872 fax: (313) 32-29959
textpage chodges1 <http://vm5.dearborn.ford.com/cgi/textpage?PAGETO=CHODGES1>
Email:chodges1@ford.com

From: Repasky, Steve (S.)
Sent: Monday, June 05, 2006 11:26 AM
To: O'Connor, Tammy (T.A.); Hodges, Cynthia (C.P.)
Cc: Hale, Curt (B.C.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Would referencing the meshload setting procedure in the shop manual only and eliminating the actual procedure wording help? Just asking..... I agree with having the TSB updated with 2007 MY.

From: O'Connor, Tammy (T.A.)
Sent: Monday, June 05, 2006 11:21 AM
To: Repasky, Steve (S.)
Cc: Hale, Curt (B.C.)
Subject: FW: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Steve:

If we need to put the TSB on hold, then we'll do that -- but I'm not going to pull that section out and end up re-publishing the TSB. It costs the company money to publish each TSB.

We either publish it, or we put it on hold -- but we need to know time frame - any more than a month would generate too many calls to tech hotline.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations

Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Hodges, Cynthia (C.P.)
Sent: Monday, June 05, 2006 11:18 AM
To: Repasky, Steve (S.); Zeitz, Keith (K.A.); Perri, Ron (R.J.); Boals, Shannon (S.D.); Dubaisi, Adnan (A.N.); Kula, Paul (P.K.)
Cc: Pais, Cecil (C.M.); Choe, Mark (M.J.); O'Connor, Tammy (T.A.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

I'd like to revisit this text and see if we can optimize the meshload setting portion of it. I am seeing too much meshload resetting out in the field that results in gears set incorrectly. Can we remove this portion of it now while we investigate it?

Cynthia Protas Hodges
RV Gear and Linkage Supervisor
Chassis Engineering
Ford Motor Company

1BD36 Product Development Center
phone (313) 805-3872 fax: (313) 32-29959
textpage chodges1 <http://vm5.dearborn.ford.com/cgi/textpage?PAGETO=CHODGES1>
Email:chodges1@ford.com

From: Repasky, Steve (S.)
Sent: Monday, June 05, 2006 10:57 AM
To: Hodges, Cynthia (C.P.); Zeitz, Keith (K.A.); Perri, Ron (R.J.); Boals, Shannon (S.D.); Dubaisi, Adnan (A.N.); Kula, Paul (P.K.)
Cc: Pais, Cecil (C.M.); Choe, Mark (M.J.); O'Connor, Tammy (T.A.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

This TSB also addresses SW oscillation when tire pressure is low and is still needed for 2007 vehicles. Replacement of the redundant steering wheel is referenced in this TSB for vehicles built prior to the date when the higher MoI wheel was in plant.

From: Hodges, Cynthia (C.P.)
Sent: Monday, June 05, 2006 10:43 AM
To: Zeitz, Keith (K.A.); Perri, Ron (R.J.); Boals, Shannon (S.D.); Dubaisi, Adnan (A.N.); Kula, Paul (P.K.); Repasky, Steve (S.)
Cc: Pais, Cecil (C.M.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Keith –

I don't think we should continue this – it was originally written until they got the higher moment of inertia steering wheel into production (only a few months of production. With regard to the meshload adjustment, it is already in the service manual.

Steve-

Your thoughts?

Cynthia Protas Hodges
RV Gear and Linkage Supervisor
Chassis Engineering
Ford Motor Company

1BD36 Product Development Center
phone (313) 805-3872 fax: (313) 32-29959
textpage chodges1 <http://vm5.dearborn.ford.com/cgi/textpage?PAGETO=CHODGES1>
Email:chodges1@ford.com

From: Zeitz, Keith (K.A.)
Sent: Friday, June 02, 2006 4:10 PM
To: Perri, Ron (R.J.); Boals, Shannon (S.D.); Hodges, Cynthia (C.P.); Dubaisi, Adnan (A.N.); Kula, Paul (P.K.)
Cc: Pais, Cecil (C.M.)
Subject: FW: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Team,

The TSB is being extended for 2007 MY. Is this what we want to do?

Paul/Adnan, this will continue to be binned against the steering wheel. Possibly time to change causal part.

Keith A. Zeitz
Steering & Suspension Quality Supervisor
Integrated BB & ASQ SSBB
PDC 2D-G34, ph # (313) 805-3994
"Don't find fault, find a remedy" - Henry Ford
Today's Word On The WaY
"…God's kindness leads you toward repentance."
- Romans 2:4

From: Siplus, G (G.)
Sent: Friday, June 02, 2006 3:59 PM
To: Murray, Al (A.R.); Tews, Bryan (B.H.); Tedone, Damian (D.J.); Jones, Darryl (D.S.); Capoccia, David (D.G.); Parekh, Deepak (D.A.); Smith, Ed (E.J.); Yerke, Eric (E.R.); Hermann, Erik (E.H.); Wood, Faith (F.M.); Wickenheiser, Francis (F.J.); Sopko, Gary (G.M.); Patel, Harendra (H.M.); Willard, Jeremy (J.); Pawloski, John (.); Pommer, John (J.M.); Saieg, John (J.R.); Berry, Joseph (J.P.); Bucec, Julayne (J.L.); Braboy, Julie (J.A.); Roehner, Julie (J.); Zeitz, Keith (K.A.); Gusfa, Kenneth (K.); Spears, Laura (L.); Taylor, Mark (M.K.); Vance, Matthew (M.A.); House, Michael (M.T.); Spencer, Michael (M.T.); Nagy, Vic (V.A.); Cervenan, Neil (N.J.); Souchock, Peter (P.D.); Bzymek, Raymond (R.); McClain, Shawn (S.M.); Sprunger, Jon (J.L.); Echhot, T. (T.); Gieleghem, Tom (T.A.); Watson, Tom (T.M.); Westermann, W Scott (W.S.); Dedecker, William (W.S.); Kovacs, John (J.); O'Connor, Tammy (T.A.); Repasky, Steve (S.); Dwyer, Elizabeth (E.A.); Smith, Janet (J.); Boals, Shannon (S.D.)
Subject: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

TSB Courtesy Copy
*** DRAFT ***

This message is being sent on behalf of RKLUMP.
This is a courtesy copy of the following article to advise you this article is currently being processed for publication.

General Information

Last action taken (as of 6/2/2006 7:58:55 PM GMT):	Accept/Submit to approvers
Comment:	TSB is identical to previous version, only adding model year coverage
Author:	TOCONNOR
Tracking Number:	[redacted]
Author Tracking Number:	--
Title:	2005-2007 F-Super Duty - Steering Wheel Oscillation
Article Type:	TSB

TSB Issue:
This article supersedes TSB 05-22-1 to update the vehicle model years.

Some 2005-2007 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion), immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer
than five oscillations. This condition occurs mostly on 4x4 vehicles, and is more evident on trucks equipped with a gas engine.
TSB Action:
Refer to the following Service Procedure to minimize the steering wheel oscillations on impacts, however, there may be some remaining minor oscillation which would be considered normal.

TSB Service Procedure:
SERVICE PROCEDURE

Perform the following:

- Vehicle Inspection
- Evaluation Of Vehicle Prior To Repair
- Steering Gear Mesh Load Adjustment
- Front Alignment and Reduce front caster
- Replacement Of Redundant Control Steering Wheel (if equipped and vehicle built prior to 10/8/2004)

VEHICLE INSPECTION
---

1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

NOTE: SETTING TIRE PRESSUE TO DOOR SPEC IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE.

2. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
a. If leaks are present, install a new steering damper (part number 5C3Z- 3E651-D) and continue with this TSB.
b. If no leaks are present, continue with this TSB.

3. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table # below).

Description	Torque Specification (lb-ft/ Nm)	
	Lb-ft	Nm
Damper nuts (4x2)	59	80
Damper-to-bracket (F-250, F-350 4x4)	26	35
Damper-to-drag link	67	91
Drag link-to-pitman arm nut	148	201
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts and bolts	129	175

Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE.

EVALUATION OF VEHICLE PRIOR TO REPAIR

---

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the severity of wheel oscillation.
3. During the road test, evaluate and note the steering wheel return-ability.

a. Turn steering wheel full lock to lock to confirm no binding.

b. Locate center, and then 45 degrees either side of center on the steering wheel.

c. Driving vehicle at 35 MPH (56 Km/h), on a dry and flat road surface, turn the wheel 45 degrees and release. Note the approximate angle that the steering wheel returns to BEFORE CLEAR VISION. Perform and record the angle for both left and right. It is normal if the angle differs slightly from left to right.

STEERING GEAR MESH LOAD ADJUSTMENT

---

1. Insert hex wrench into steering gear mesh load adjuster screw.
2. While holding the mesh load adjuster screw tight, back off lock nuts two full turns to allow free movement of the adjuster screw.
3. Carefully tighten adjuster screw until a slight increase in resistance is felt, then back off approximately 1/16th of a turn.
4. Hold the adjuster screw in place and tighten lock nut. Do not allow the adjustment screw to turn while tightening the locking nut down.
5. Road test vehicle and evaluate for improvement in steering wheel oscillations.

a. Confirm that there is no objectionable increase in steering efforts, especially at low speeds.

b. Verify that steering wheel return-ability is approximately the same as it was during the original evaluation (within 5 degrees).

c. Turn steering wheel full lock to lock to confirm no binding.

6. Park the vehicle to let it cool down. Road test cold to confirm acceptable parking efforts and return-ability in cold condition. Repeat the mesh load adjustment if needed.

FRONT WHEEL ALIGNEMENT AND REDUCE FRONT CASTER

Measure wheel alignment. Verify that Front Caster, Camber and Total Toe is within specification. Adjust as required. Refer to the Workshop Manual, Section 204-00 for complete alignment specifications.

REDUCE FRONT CASTER

- Note the current front caster
- Use alignment adjustment bushings to Reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit. Use Alignment adjustment bushings:

F-250/350 4x4:

- 5C3Z-3B440-CCC (0.5 degree bushing)
- 5C3Z-3B440-DDD (0.75 degree bushing)
- 5C3Z-3B440-EEE (1.0 degree bushing)

F-450/550 4x4 and 4x2:

- 5C3Z-3B440-HHH (0.5 degree bushing)
- 5C3Z-3B440-JJJ (0.75 degree bushing)
- 5C3Z-3B440-KKK (1.0 degree bushing)

F-250/350 4x2:

- 5C3Z-3B440-C = 0.5 degree busing
- 5C3Z-3B440-D = 0.75 degree bushing
- 5C3Z-3B440-E = 1.0 degree bushing

For All 4x4 and for F-450/550 4x2

· Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward and inboard position (See Figure 1)
· This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed
· The final caster and camber settings must be within the specification limits
· Maintain the current front camber, cross-camber and cross-caster settings as close as you possibly can
· Adding weight behind the rear axle lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster
· Inspect the ball joints for excessive play per the workshop manual, section 204-00.

For All F-350/250 4x2,
· Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain that position while moving the caster position forward in the truck
· The final caster and camber settings must be within the specification limits

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.
1. Remove driver air bag assembly. Refer to Workshop Manual Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE 2005 OR 2006 SUPER DUTY F-SERIES WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

NOTE: THE WHEEL ALIGNMENT LABOR OPERATIONS MAY BE CLAIMED WITH THE REPAIR OPERATIONS IN THIS ARTICLE.

Category: Service Fix (10 years - TSB Only)
Request Type: Non-QSF
Activity Code: 070 F-Series >8500#
Vehicle Applications:

Vehicle Lines	Model Year Start	Model Year End	Assembly Plants	Body Styles	Engine	Trans Axles	Build From	Build To
F-Super Duty (F-250 to 550)	2005	2007						

If SPECS Case, Select all Other Affected Publications:
Changes Needed in Other Pubs:
TSBs to Supersede: 05-22-01
SSMs to Supersede:
ISMs to Supersede:
Other application Articles:
Select the reason for republication: Concern Carryover to New Model
Procedure verified by CDSID: srepasky
Describe How The Procedure Was Verified: TSB was verified by Steve Repasky, and also by the FQEs.
Do you have access to a vehicle for time study? Yes
If Yes, contact for vehicle CDSID: toconnor
Are Illustrations Required? Yes
If Yes, Contact information for illustrations:
CDSID(Ford only): toconnor
Full Name: Tammy O'Connor

Phone: 313/322-3824
Illustration Notes: Please use same illustrations from TSB 05-22-01.

Trustmarks affected: Ford
Additional Trustmarks To Notify:
Article Distribution: WDMO, Canada, Mexico, United States
DTC Codes and OASIS Service Codes: , 303000, 304000, 306000, 703000, 703000, 703200, 703200, 703300, 703300, 703400, 703400

Causal Basic Part # or Finis Code:

Causal Part # or Finis Code	Warranty Condition Codes
3600	Chassis: 42

Calibrations List:

White Paper Numbers:

Parts Request Information

Are Parts Required? Yes
QSF Single Agenda Or Program FRC Date:
Parts List:

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
1	Existing	5C74-3F563-AB1D24	No	Not Applicable	STEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5C7Z-3600-ABA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
2	Existing	5C74-3F563-AB35B8	No	Not Applicable	sTEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5c7z-3600-CBA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
3	Existing	5C34-3E651-CE	No	Not Applicable	Damper	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			Q29AA	5C3Z-3E651-CA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed

	Existing	5C34-3E651-CH	No	Not Applicable	Damper Asy	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
4	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3E651-D			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3E651-BG	No	Not Applicable	Damper	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
5	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3E651-B			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-NA	No	Not Applicable	.5 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
6	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-C			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-CA	No	Not Applicable	.5 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
7	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-CCC			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-PA	No	Not Applicable	.75 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
8	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-D			No

	*Type of		*Is This Part	*Existing			*Engineering Est. Qty.

	Part	*Eng #	a Kit?	Stock#	*Part Name	*Qty/veh.	Needed
	Existing	5C34-3D004-DA	No	Not Applicable	-75 DEGREE SHIM 4X4	1	100
9	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-DDD			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-RA	No	Not Applicable	1.0 DEGREE SHIM 4X2	1	100
10	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-E			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-EA	No	Not Applicable	1.0 DEGREE SHIM 4X4	1	100
11	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-EEE			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-JA	No	Not Applicable	0.75 DEGREE SHIM	1	100
12	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-JJJ			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-KA	No	Not Applicable	1.0 DEGREE SHIM	1	100
13	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-KKK			No

Parts catalog flag needed? No
Part number(s) that require flag:

Is geographic location significant? No
Special instructions/remarks:

Article Number:

BCM Number:

(End automated email)

From: Hodges, Cynthia (C.P.)
Sent: Tuesday, June 06, 2006 10:11 AM
To: Dubaisi, Adnan (A.N.); Choe, Mark (M.J.); Repasky, Steve (S.); Zeitz, Keith (K.A.); Perri, Ron (R.J.); Boals, Shannon (S.D.); Kula, Paul (P.K.)
Cc: Pais, Cecil (C.M.); O'Connor, Tammy (T.A.); House, Michael (M.T.); Wrestler, Sandy (S.J.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Aren't we having a meeting this afternoon? Let's have our discussion there. Thanks.

Cynthia Protas Hodges
RV Gear and Linkage Supervisor
Chassis Engineering
Ford Motor Company

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phone (313) 805-3872 fax: (313) 32-29959
textpage chodges1 <http://vm5.dearborn.ford.com/cgi/textpage?PAGETO=CHODGES1>
Email:chodges1@ford.com

From: Dubaisi, Adnan (A.N.)
Sent: Tuesday, June 06, 2006 9:05 AM
To: Choe, Mark (M.J.); Hodges, Cynthia (C.P.); Repasky, Steve (S.); Zeitz, Keith (K.A.); Perri, Ron (R.J.); Boals, Shannon (S.D.); Kula, Paul (P.K.)
Cc: Pais, Cecil (C.M.); O'Connor, Tammy (T.A.); House, Michael (M.T.); Wrestler, Sandy (S.J.); Dubaisi, Adnan (A.N.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

The purpose of the costly Zinc mass that was added to the steering wheel on Oct. of 2004 by VE team to make it heavier to improve steering wheel oscillation. But usually, the case with all of the vibration issues are unfortunately handled at the steering wheel level since it may be the cheaper part to replace. Having said that, All the TSB issues were binned to the steering wheel part #3600 incorrectly ever since.
The chart shows the 2006CY Total Warranty Cost as of May 31st, 2006 so far.

Failure Mode	MDL_YR	Total
R&H/Vibration	2005	$1859.05
	2006	$9226.98
R&H/Vibration Total		$11086.03
TSB/Replace SW	2005	$15640.52
	2006	$4888.04
TSB/Replace SW Total		$20528.56
Vibration/TSB	2005	$250528.63
	2006	$134842.23
Vibration/TSB Total		$385370.86
Grand Total		$416985.45

If TSB is extended for 2007MY, Does it mean that the implementation of the corrective action that was planned to be done in September 2006 is postponed of the two major projects (Gear Mesh Load and Gear Ball Match Capability Improvement)? Can't this be done sooner to improve TGW and reduce unexpended warranty

spend?

Thank you,

Adnan Dubaisi
NAE Body Interior/ Restraints
SW/DAB OPD
Tel: 313-805-3408

From: Choe, Mark (M.J.)
Sent: Monday, June 05, 2006 11:00 PM
To: Hodges, Cynthia (C.P.); Repasky, Steve (S.); Zeitz, Keith (K.A.); Perri, Ron (R.J.); Boals, Shannon (S.D.); Dubaisi, Adnan (A.N.); Kula, Paul (P.K.)
Cc: Pais, Cecil (C.M.); O'Connor, Tammy (T.A.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

I agree that we can investigate how we can improve the mesh loading portion of TSB.
But I don't recommend that we remove it since we have demonstrated consistenly that it is a big factor in improving the concern.

Mark J. Choe
Vehicle Dynamics Manager
PickUp Truck & Commercial Vehicle

From: Hodges, Cynthia (C.P.)
Sent: Monday, June 05, 2006 11:18 AM
To: Repasky, Steve (S.); Zeitz, Keith (K.A.); Perri, Ron (R.J.); Boals, Shannon (S.D.); Dubaisi, Adnan (A.N.); Kula, Paul (P.K.)
Cc: Pais, Cecil (C.M.); Choe, Mark (M.J.); O'Connor, Tammy (T.A.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

I'd like to revisit this text and see if we can optimize the meshload setting portion of it. I am seeing too much meshload resetting out in the field that results in gears set incorrectly. Can we remove this portion of it now while we investigate it?

Cynthia Protas Hodges
RV Gear and Linkage Supervisor
Chassis Engineering
Ford Motor Company

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Steve-

Your thoughts?

Cynthia Protas Hodges
RV Gear and Linkage Supervisor
Chassis Engineering
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1BD36 Product Development Center
phone (313) 805-3872 fax: (313) 32-29959
textpage chodges1 <http://vm5.dearborn.ford.com/cgi/textpage?PAGETO=CHODGES1>
Email:chodges1@ford.com

From: Zeitz, Keith (K.A.)
Sent: Friday, June 02, 2006 4:10 PM
To: Perri, Ron (R.J.); Boals, Shannon (S.D.); Hodges, Cynthia (C.P.); Dubaisi, Adnan (A.N.); Kula, Paul (P.K.)
Cc: Pais, Cecil (C.M.)
Subject: FW: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Team,

The TSB is being extended for 2007 MY. Is this what we want to do?

Paul/Adnan, this will continue to be binned against the steering wheel. Possibly time to change causal part.

Keith A. Zeitz
Steering & Suspension Quality Supervisor
Integrated BB & ASQ SSBB
PDC 2D-G34, ph # (313) 805-3994
"Don't find fault, find a remedy" - Henry Ford

Today's Word On The WaY
"…God's kindness leads you toward repentance."
- Romans 2:4

From: Choe, Mark (M.J.)
Sent: Monday, June 05, 2006 11:00 PM
To: Hodges, Cynthia (C.P.); Repasky, Steve (S.); Zeitz, Keith (K.A.); Perri, Ron (R.J.); Boals, Shannon (S.D.); Dubaisi, Adnan (A.N.); Kula, Paul (P.K.)
Cc: Pais, Cecil (C.M.); O'Connor, Tammy (T.A.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

I agree that we can investigate how we can improve the mesh loading portion of TSB.
But I don't recommend that we remove it since we have demonstrated consistenly that it is a big factor in improving the concern.

Mark J. Choe
Vehicle Dynamics Manager
PickUp Truck & Commercial Vehicle

From: Hodges, Cynthia (C.P.)
Sent: Monday, June 05, 2006 11:18 AM
To: Repasky, Steve (S.); Zeitz, Keith (K.A.); Perri, Ron (R.J.); Boals, Shannon (S.D.); Dubaisi, Adnan (A.N.); Kula, Paul (P.K.)
Cc: Pais, Cecil (C.M.); Choe, Mark (M.J.); O'Connor, Tammy (T.A.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

I'd like to revisit this text and see if we can optimize the meshload setting portion of it. I am seeing too much meshload resetting out in the field that results in gears set incorrectly. Can we remove this portion of it now while we investigate it?

Cynthia Protas Hodges
RV Gear and Linkage Supervisor
Chassis Engineering
Ford Motor Company

1BD36 Product Development Center
phone (313) 805-3872 fax: (313) 32-29959
textpage chodges1 <http://vm5.dearborn.ford.com/cgi/textpage?PAGETO=CHODGES1>
Email:chodges1@ford.com

From: Repasky, Steve (S.)
Sent: Monday, June 05, 2006 10:57 AM
To: Hodges, Cynthia (C.P.); Zeitz, Keith (K.A.); Perri, Ron (R.J.); Boals, Shannon (S.D.); Dubaisi, Adnan (A.N.); Kula, Paul (P.K.)
Cc: Pais, Cecil (C.M.); Choe, Mark (M.J.); O'Connor, Tammy (T.A.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

This TSB also addresses SW oscillation when tire pressure is low and is still needed for 2007 vehicles. Replacement of the redundant steering wheel is referenced in this TSB for vehicles built prior to the date when the higher MoI wheel was in plant.

From: Hodges, Cynthia (C.P.)
Sent: Monday, June 05, 2006 10:43 AM
To: Zeitz, Keith (K.A.); Perri, Ron (R.J.); Boals, Shannon (S.D.); Dubaisi, Adnan (A.N.); Kula, Paul (P.K.); Repasky, Steve (S.)
Cc: Pais, Cecil (C.M.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Keith –

I don't think we should continue this – it was originally written until they got the higher moment of inertia steering wheel into production (only a few months of production. With regard to the meshload adjustment, it is already in the service manual.

Steve-

Your thoughts?

Cynthia Protas Hodges
RV Gear and Linkage Supervisor
Chassis Engineering
Ford Motor Company

1BD36 Product Development Center
phone (313) 805-3872 fax: (313) 32-29959
textpage chodges1 <http://vm5.dearborn.ford.com/cgi/textpage?PAGETO=CHODGES1>
Email:chodges1@ford.com

From: Zeitz, Keith (K.A.)
Sent: Friday, June 02, 2006 4:10 PM
To: Perri, Ron (R.J.); Boals, Shannon (S.D.); Hodges, Cynthia (C.P.); Dubaisi, Adnan (A.N.); Kula, Paul (P.K.)
Cc: Pais, Cecil (C.M.)
Subject: FW: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Team,

The TSB is being extended for 2007 MY. Is this what we want to do?

Paul/Adnan, this will continue to be binned against the steering wheel. Possibly time to change causal part.

Keith A. Zeitz
Steering & Suspension Quality Supervisor
Integrated BB & ASQ SSBB
PDC 2D-G34, ph # (313) 805-3994
"Don't find fault, find a remedy" - Henry Ford
Today's Word On The WaY
"…God's kindness leads you toward repentance."
- Romans 2:4

From: Siplus, G (G.)
Sent: Friday, June 02, 2006 3:59 PM
To: Murray, Al (A.R.); Tews, Bryan (B.H.); Tedone, Damian (D.J.); Jones, Darryl (D.S.); Capoccia, David (D.G.); Parekh, Deepak (D.A.); Smith, Ed (E.J.); Yerke, Eric (E.R.); Hermann, Erik (E.H.); Wood, Faith (F.M.); Wickenheiser, Francis (F.J.); Sopko, Gary (G.M.); Patel, Harendra (H.M.); Willard, Jeremy (J.); Pawloski, John (.); Pommer, John (J.M.); Saieg, John (J.R.); Berry, Joseph (J.P.); Bucec, Julayne (J.L.); Braboy, Julie (J.A.); Roehner, Julie (J.); Zeitz, Keith (K.A.); Gusfa, Kenneth (K.); Spears, Laura (L.); Taylor, Mark (M.K.); Vance, Matthew (M.A.); House, Michael (M.T.); Spencer, Michael (M.T.); Nagy, Vic (V.A.); Cervenan, Neil (N.J.); Souchock, Peter (P.D.); Bzymek, Raymond (R.); McClain, Shawn (S.M.); Sprunger, Jon (J.L.); Echhot, T. (T.); Gieleghem, Tom (T.A.); Watson, Tom (T.M.); Westermann, W Scott (W.S.); Dedecker, William (W.S.); Kovacs, John (J.); O'Connor, Tammy (T.A.); Repasky, Steve (S.); Dwyer, Elizabeth (E.A.); Smith, Janet (J.); Boals, Shannon (S.D.)
Subject: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

TSB Courtesy Copy
*** DRAFT ***

This message is being sent on behalf of RKLUMP.
This is a courtesy copy of the following article to advise you this article is currently being processed for publication.
General Information

Last action taken (as of 6/2/2006 7:58:55 PM GMT):	Accept/Submit to approvers
Comment:	TSB is identical to previous version, only adding model year coverage
Author:	TOCONNOR
Tracking Number:	[redacted]
Author Tracking Number:	--
Title:	2005-2007 F-Super Duty - Steering Wheel Oscillation
Article Type:	TSB

TSB Issue:
This article supersedes TSB 05-22-1 to update the vehicle model years.

Some 2005-2007 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion), immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer
than five oscillations. This condition occurs mostly on 4x4 vehicles, and is more evident on trucks equipped with a gas engine.
TSB Action:
Refer to the following Service Procedure to minimize the steering wheel oscillations on impacts, however, there may be some remaining minor oscillation which would be considered normal.

TSB Service Procedure:
SERVICE PROCEDURE

Perform the following:

- Vehicle Inspection
- Evaluation Of Vehicle Prior To Repair
- Steering Gear Mesh Load Adjustment
- Front Alignment and Reduce front caster
- Replacement Of Redundant Control Steering Wheel (if equipped and vehicle built prior to 10/8/2004)

VEHICLE INSPECTION
---
1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

NOTE: SETTING TIRE PRESSUE TO DOOR SPEC IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE.

2. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
a. If leaks are present, install a new steering damper (part number 5C3Z- 3E651-D) and continue with this TSB.
b. If no leaks are present, continue with this TSB.

3. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table # below).

Description	Torque Specification (lb-ft/ Nm)	
	Lb-ft	Nm
Damper nuts (4x2)	59	80
Damper-to-bracket (F-250, F-350 4x4)	26	35
Damper-to-drag link	67	91
Drag link-to-pitman arm nut	148	201
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts and bolts	129	175
Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE.

EVALUATION OF VEHICLE PRIOR TO REPAIR
---
1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the severity of wheel oscillation.
3. During the road test, evaluate and note the steering wheel return-ability.
a. Turn steering wheel full lock to lock to confirm no binding.
b. Locate center, and then 45 degrees either side of center on the steering wheel.
c. Driving vehicle at 35 MPH (56 Km/h), on a dry and flat road surface, turn the wheel 45 degrees and release. Note the approximate angle that the steering wheel returns to BEFORE CLEAR VISION. Perform and record the angle for both left and right. It is normal if the angle differs slightly from left to right.

STEERING GEAR MESH LOAD ADJUSTMENT
---

1. Insert hex wrench into steering gear mesh load adjuster screw.
2. While holding the mesh load adjuster screw tight, back off lock nuts two full turns to allow free movement of the adjuster screw.
3. Carefully tighten adjuster screw until a slight increase in resistance is felt, then back off approximately 1/16th of a turn.
4. Hold the adjuster screw in place and tighten lock nut. Do not allow the adjustment screw to turn while tightening the locking nut down.
5. Road test vehicle and evaluate for improvement in steering wheel oscillations.
a. Confirm that there is no objectionable increase in steering efforts, especially at low speeds.
b. Verify that steering wheel return-ability is approximately the same as it was during the original evaluation (within 5 degrees).
c. Turn steering wheel full lock to lock to confirm no binding.
6. Park the vehicle to let it cool down. Road test cold to confirm acceptable parking efforts and return-ability in cold condition. Repeat the mesh load adjustment if needed.

FRONT WHEEL ALIGNEMENT AND REDUCE FRONT CASTER

Measure wheel alignment. Verify that Front Caster, Camber and Total Toe is within specification. Adjust as required. Refer to the Workshop Manual, Section 204-00 for complete alignment specifications.

REDUCE FRONT CASTER
· Note the current front caster
· Use alignment adjustment bushings to Reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit. Use Alignment adjustment bushings:

F-250/350 4x4:
· 5C3Z-3B440-CCC (0.5 degree bushing)
· 5C3Z-3B440-DDD (0.75 degree bushing)
· 5C3Z-3B440-EEE (1.0 degree bushing)

F-450/550 4x4 and 4x2:

· 5C3Z-3B440-HHH (0.5 degree bushing)
· 5C3Z-3B440-JJJ (0.75 degree bushing)
· 5C3Z-3B440-KKK (1.0 degree bushing)

F-250/350 4x2:
· 5C3Z-3B440-C = 0.5 degree busing
· 5C3Z-3B440-D = 0.75 degree bushing
· 5C3Z-3B440-E = 1.0 degree bushing

For All 4x4 and for F-450/550 4x2
· Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward and inboard position (See Figure 1)
· This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed
· The final caster and camber settings must be within the specification limits
· Maintain the current front camber, cross-camber and cross-caster settings as close as you possibly can
· Adding weight behind the rear axle lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster
· Inspect the ball joints for excessive play per the workshop manual, section 204-00.

For All F-350/250 4x2,
· Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain that position while moving the caster position forward in the truck
· The final caster and camber settings must be within the specification limits

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.
1. Remove driver air bag assembly. Refer to Workshop Manual Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE 2005 OR 2006 SUPER DUTY F-SERIES WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

NOTE: THE WHEEL ALIGNMENT LABOR OPERATIONS MAY BE CLAIMED WITH THE REPAIR OPERATIONS IN THIS ARTICLE.

Category: Service Fix (10 years - TSB Only)
Request Type: Non-QSF
Activity Code: 070 F-Series >8500#
Vehicle Applications:

Vehicle Lines	Model Year Start	Model Year End	Assembly Plants	Body Styles	Engine	Trans Axles	Build From	Build To
F-Super Duty (F-250 to 550)	2005	2007						

If SPECS Case, Select all Other Affected Publications:

Changes Needed in Other Pubs:

TSBs to Supersede: 05-22-01
SSMs to Supersede:

ISMs to Supersede:

Other application Articles:

Select the reason for republication: Concern Carryover to New Model
Procedure verified by CDSID: srepasky
Describe How The Procedure Was Verified: TSB was verified by Steve Repasky, and also by the FQEs.
Do you have access to a vehicle for time study? Yes
If Yes, contact for vehicle CDSID: toconnor
Are Illustrations Required? Yes
If Yes, Contact information for illustrations:
CDSID(Ford only): toconnor
Full Name: Tammy O'Connor
Phone: 313/322-3824
Illustration Notes: Please use same illustrations from TSB 05-22-01.

Trustmarks affected: Ford
Additional Trustmarks To Notify:

Article Distribution: WDMO, Canada, Mexico, United States
DTC Codes and OASIS Service Codes: , 303000, 304000, 306000, 703000, 703000, 703200, 703200, 703300, 703300, 703400, 703400

Causal Basic Part # or Finis Code:

Causal Part # or Finis Code	Warranty Condition Codes
3600	Chassis: 42

Calibrations List:

White Paper Numbers:

Parts Request Information

Are Parts Required? Yes
QSF Single Agenda Or Program FRC Date:
Parts List:

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
1	Existing	5C74-3F563-AB1D24	No	Not Applicable	STEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5C7Z-3600-ABA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
2	Existing	5C74-3F563-AB35B8	No	Not Applicable	sTEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5c7z-3600-CBA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
3	Existing	5C34-3E651-CE	No	Not Applicable	Damper	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			Q29AA	5C3Z-3E651-CA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
4	Existing	5C34-3E651-CH	No	Not Applicable	Damper Asy	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3E651-D			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
5	Existing	5C34-3E651-BG	No	Not Applicable	Damper	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3E651-B			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
6	Existing	5C34-3D004-NA	No	Not Applicable	.5 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-C			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
7	Existing	5C34-3D004-CA	No	Not Applicable	.5 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-CCC			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
8	Existing	5C34-3D004-PA	No	Not Applicable	.75 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-D			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
9	Existing	5C34-3D004-DA	No	Not Applicable	-75 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-DDD			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
10	Existing	5C34-3D004-RA	No	Not Applicable	1.0 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-E			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
11	Existing	5C34-3D004-EA	No	Not Applicable	1.0 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-EEE			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
12	Existing	5C34-3D004-JA	No	Not Applicable	0.75 DEGREE SHIM	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-			

				JJJ			No

13	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-KA	No	Not Applicable	1.0 DEGREE SHIM	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-KKK			No

Parts catalog flag needed? No
Part number(s) that require flag:

Is geographic location significant? No
Special instructions/remarks:

Article Number:

BCM Number:

(End automated email)

From: Sprunger, Jon (J.L.)
Sent: Monday, June 05, 2006 12:30 PM
To: O'Connor, Tammy (T.A.)
Cc: Hale, Curt (B.C.); Repasky, Steve (S.); Klump, Robert (R.F.); Rivera, Santos (S.); Sturgill, John (J.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Tammy,

Do you know the exact procedure changes you want to make at this point? SLTS did create labor operations for this TSB last time (TSB 04-26-01) and is probably planning to reuse the same labor operations. If the procedure is being modified, that will probably affect their labor times. If you know what changes will need to be made, would it be possible to send them by email at this point. SLTS has not signed-off yet, so that will allow them to see what impact the changes might have.

Sincerely,
Jon Sprunger
Global Technical Communications - FCSD
TSB/SSM Processing
Phone: (313)32-32272
Fax: (313)24-86449
jsprunge@ford.com

From: O'Connor, Tammy (T.A.)
Sent: Monday, June 05, 2006 11:29 AM
To: Sprunger, Jon (J.L.); Klump, Robert (R.F.)
Cc: Hale, Curt (B.C.); Repasky, Steve (S.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Jon:

We want to change a section of this TSB, can you please send it back to me for more information before it goes into co-lab?

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Hodges, Cynthia (C.P.)

Sent: Monday, June 05, 2006 11:27 AM
To: Repasky, Steve (S.); O'Connor, Tammy (T.A.)
Cc: Hale, Curt (B.C.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Yes – that's a great idea. Let's do that. Thanks.

Cynthia Protas Hodges
RV Gear and Linkage Supervisor
Chassis Engineering
Ford Motor Company

1BD36 Product Development Center
phone (313) 805-3872 fax: (313) 32-29959
textpage chodges1 <http://vm5.dearborn.ford.com/cgi/textpage?PAGETO=CHODGES1>
Email:chodges1@ford.com

From: Repasky, Steve (S.)
Sent: Monday, June 05, 2006 11:26 AM
To: O'Connor, Tammy (T.A.); Hodges, Cynthia (C.P.)
Cc: Hale, Curt (B.C.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Would referencing the meshload setting procedure in the shop manual only and eliminating the actual procedure wording help? Just asking..... I agree with having the TSB updated with 2007 MY.

From: O'Connor, Tammy (T.A.)
Sent: Monday, June 05, 2006 11:21 AM
To: Repasky, Steve (S.)
Cc: Hale, Curt (B.C.)
Subject: FW: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Steve:

If we need to put the TSB on hold, then we'll do that -- but I'm not going to pull that section out and end up re-publishing the TSB. It costs the company money to publish each TSB.

We either publish it, or we put it on hold -- but we need to know time frame - any more than a month would generate too many calls to tech hotline.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Hodges, Cynthia (C.P.)

Sent: Monday, June 05, 2006 11:18 AM
To: Repasky, Steve (S.); Zeitz, Keith (K.A.); Perri, Ron (R.J.); Boals, Shannon (S.D.); Dubaisi, Adnan (A.N.); Kula, Paul (P.K.)
Cc: Pais, Cecil (C.M.); Choe, Mark (M.J.); O'Connor, Tammy (T.A.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

I'd like to revisit this text and see if we can optimize the meshload setting portion of it. I am seeing too much meshload resetting out in the field that results in gears set incorrectly. Can we remove this portion of it now while we investigate it?

Cynthia Protas Hodges
RV Gear and Linkage Supervisor
Chassis Engineering
Ford Motor Company

1BD36 Product Development Center
phone (313) 805-3872 fax: (313) 32-29959
textpage chodges1 <http://vm5.dearborn.ford.com/cgi/textpage?PAGETO=CHODGES1>
Email:chodges1@ford.com

From: Repasky, Steve (S.)
Sent: Monday, June 05, 2006 10:57 AM
To: Hodges, Cynthia (C.P.); Zeitz, Keith (K.A.); Perri, Ron (R.J.); Boals, Shannon (S.D.); Dubaisi, Adnan (A.N.); Kula, Paul (P.K.)
Cc: Pais, Cecil (C.M.); Choe, Mark (M.J.); O'Connor, Tammy (T.A.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

This TSB also addresses SW oscillation when tire pressure is low and is still needed for 2007 vehicles. Replacement of the redundant steering wheel is referenced in this TSB for vehicles built prior to the date when the higher MoI wheel was in plant.

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Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Keith –

I don't think we should continue this – it was originally written until they got the higher moment of inertia steering wheel into production (only a few months of production. With regard to the meshload adjustment, it is already in the service manual.

Steve-

Your thoughts?

Cynthia Protas Hodges
RV Gear and Linkage Supervisor
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phone (313) 805-3872 fax: (313) 32-29959
textpage chodges1 <http://vm5.dearborn.ford.com/cgi/textpage?PAGETO=CHODGES1>
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Sent: Friday, June 02, 2006 4:10 PM
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Cc: Pais, Cecil (C.M.)
Subject: FW: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Team,

The TSB is being extended for 2007 MY. Is this what we want to do?

Paul/Adnan, this will continue to be binned against the steering wheel. Possibly time to change causal part.

Keith A. Zeitz
Steering & Suspension Quality Supervisor
Integrated BB & ASQ SSBB
PDC 2D-G34, ph # (313) 805-3994
"Don't find fault, find a remedy" - Henry Ford
Today's Word On The WaY
"…God's kindness leads you toward repentance."
- Romans 2:4

From: Siplus, G (G.)
Sent: Friday, June 02, 2006 3:59 PM
To: Murray, Al (A.R.); Tews, Bryan (B.H.); Tedone, Damian (D.J.); Jones, Darryl (D.S.); Capoccia, David (D.G.); Parekh, Deepak (D.A.); Smith, Ed (E.J.); Yerke, Eric (E.R.); Hermann, Erik (E.H.); Wood, Faith (F.M.); Wickenheiser, Francis (F.J.); Sopko, Gary (G.M.); Patel, Harendra (H.M.); Willard, Jeremy (J.); Pawloski, John (.); Pommer, John (J.M.); Saieg, John (J.R.); Berry, Joseph (J.P.); Bucec, Julayne (J.L.); Braboy, Julie (J.A.); Roehner, Julie (J.); Zeitz, Keith (K.A.); Gusfa, Kenneth (K.); Spears, Laura (L.); Taylor, Mark (M.K.); Vance, Matthew (M.A.); House, Michael (M.T.); Spencer, Michael (M.T.); Nagy, Vic (V.A.); Cervenan, Neil (N.J.); Souchock, Peter (P.D.); Bzymek, Raymond (R.); McClain, Shawn (S.M.); Sprunger, Jon (J.L.); Echhot, T. (T.); Gieleghem, Tom (T.A.); Watson, Tom (T.M.); Westermann, W Scott (W.S.); Dedecker, William (W.S.); Kovacs, John (J.); O'Connor, Tammy (T.A.); Repasky, Steve (S.); Dwyer, Elizabeth (E.A.); Smith, Janet (J.); Boals, Shannon (S.D.)
Subject: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

TSB Courtesy Copy
*** DRAFT ***

This message is being sent on behalf of RKLUMP.
This is a courtesy copy of the following article to advise you this article is currently being processed for publication.
General Information

Last action taken (as of 6/2/2006 7:58:55 PM GMT):	Accept/Submit to approvers
Comment:	TSB is identical to previous version, only adding model year

coverage

Author: TOCONNOR
Tracking Number: [redacted]
Author Tracking Number: --
Title: 2005-2007 F-Super Duty - Steering Wheel Oscillation
Article Type: TSB

TSB Issue:
This article supersedes TSB 05-22-1 to update the vehicle model years.

Some 2005-2007 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion), immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer
than five oscillations. This condition occurs mostly on 4x4 vehicles, and is more evident on trucks equipped with a gas engine.
TSB Action:
Refer to the following Service Procedure to minimize the steering wheel oscillations on impacts, however, there may be some remaining minor oscillation which would be considered normal.

TSB Service Procedure:
SERVICE PROCEDURE

Perform the following:

- Vehicle Inspection
- Evaluation Of Vehicle Prior To Repair
- Steering Gear Mesh Load Adjustment
- Front Alignment and Reduce front caster
- Replacement Of Redundant Control Steering Wheel (if equipped and vehicle built prior to 10/8/2004)

VEHICLE INSPECTION
---

1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

NOTE: SETTING TIRE PRESSUE TO DOOR SPEC IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE.

2. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
a. If leaks are present, install a new steering damper (part number 5C3Z- 3E651-D) and continue with this TSB.
b. If no leaks are present, continue with this TSB.

3. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table # below).

Description	Torque Specification (lb-ft/ Nm)	
	Lb-ft	Nm
Damper nuts (4x2)	59	80
Damper-to-bracket (F-250, F-350 4x4)	26	35
Damper-to-drag link	67	91
Drag link-to-pitman arm nut	148	201
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts and bolts	129	175
Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE.

EVALUATION OF VEHICLE PRIOR TO REPAIR
---

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the severity of wheel oscillation.
3. During the road test, evaluate and note the steering wheel return-ability.

a. Turn steering wheel full lock to lock to confirm no binding.
b. Locate center, and then 45 degrees either side of center on the steering wheel.
c. Driving vehicle at 35 MPH (56 Km/h), on a dry and flat road surface, turn the wheel 45 degrees and release. Note the approximate angle that the steering wheel returns to BEFORE CLEAR VISION. Perform and record the angle for both left and right. It is normal if the angle differs slightly from left to right.

STEERING GEAR MESH LOAD ADJUSTMENT
---

1. Insert hex wrench into steering gear mesh load adjuster screw.
2. While holding the mesh load adjuster screw tight, back off lock nuts two full turns to allow free movement of the adjuster screw.
3. Carefully tighten adjuster screw until a slight increase in resistance is felt, then back off approximately 1/16th of a turn.
4. Hold the adjuster screw in place and tighten lock nut. Do not allow the adjustment screw to turn while tightening the locking nut down.
5. Road test vehicle and evaluate for improvement in steering wheel oscillations.

a. Confirm that there is no objectionable increase in steering efforts, especially at low speeds.
b. Verify that steering wheel return-ability is approximately the same as it was during the original evaluation (within 5 degrees).
c. Turn steering wheel full lock to lock to confirm no binding.

6. Park the vehicle to let it cool down. Road test cold to confirm acceptable parking efforts and return-ability in cold condition. Repeat the mesh load adjustment if needed.

FRONT WHEEL ALIGNEMENT AND REDUCE FRONT CASTER

Measure wheel alignment. Verify that Front Caster, Camber and Total Toe is within specification. Adjust as required. Refer to the Workshop Manual, Section 204-00 for complete alignment specifications.

REDUCE FRONT CASTER

· Note the current front caster
· Use alignment adjustment bushings to Reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit. Use Alignment adjustment bushings:

F-250/350 4x4:
· 5C3Z-3B440-CCC (0.5 degree bushing)
· 5C3Z-3B440-DDD (0.75 degree bushing)
· 5C3Z-3B440-EEE (1.0 degree bushing)

F-450/550 4x4 and 4x2:

· 5C3Z-3B440-HHH (0.5 degree bushing)
· 5C3Z-3B440-JJJ (0.75 degree bushing)
· 5C3Z-3B440-KKK (1.0 degree bushing)

F-250/350 4x2:
· 5C3Z-3B440-C = 0.5 degree busing
· 5C3Z-3B440-D = 0.75 degree bushing
· 5C3Z-3B440-E = 1.0 degree bushing

For All 4x4 and for F-450/550 4x2
· Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward and inboard position (See Figure 1)
· This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed
· The final caster and camber settings must be within the specification limits
· Maintain the current front camber, cross-camber and cross-caster settings as close as you possibly can
· Adding weight behind the rear axle lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster
· Inspect the ball joints for excessive play per the workshop manual, section 204-00.

For All F-350/250 4x2,

- Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain that position while moving the caster position forward in the truck
- The final caster and camber settings must be within the specification limits

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE 2005 OR 2006 SUPER DUTY F-SERIES WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

NOTE: THE WHEEL ALIGNMENT LABOR OPERATIONS MAY BE CLAIMED WITH THE REPAIR OPERATIONS IN THIS ARTICLE.

Category: Service Fix (10 years - TSB Only)
Request Type: Non-QSF
Activity Code: 070 F-Series >8500#
Vehicle Applications:

Vehicle Lines	Model Year Start	Model Year End	Assembly Plants	Body Styles	Engine	Trans Axles	Build From	Build To
F-Super Duty (F-250 to 550)	2005	2007						

If SPECS Case, Select all Other Affected Publications:

Changes Needed in Other Pubs:

TSBs to Supersede: 05-22-01
SSMs to Supersede:

ISMs to Supersede:

Other application Articles:

Select the reason for republication: Concern Carryover to New Model
Procedure verified by CDSID: srepasky
Describe How The Procedure Was Verified: TSB was verified by Steve Repasky, and also by the FQEs.
Do you have access to a vehicle for time study? Yes
If Yes, contact for vehicle CDSID: toconnor
Are Illustrations Required? Yes
If Yes, Contact information for illustrations:
CDSID(Ford only): toconnor
Full Name: Tammy O'Connor
Phone: 313/322-3824
Illustration Notes: Please use same illustrations from TSB 05-22-01.

Trustmarks affected: Ford
Additional Trustmarks To Notify:

Article Distribution: WDMO, Canada, Mexico, United States
DTC Codes and OASIS Service Codes: , 303000, 304000, 306000, 703000, 703000, 703200, 703200, 703300, 703300, 703400, 703400

Causal Basic Part # or Finis Code:

Causal Part # or Finis Code	Warranty Condition Codes
3600	Chassis: 42

Calibrations List:

White Paper Numbers:

Parts Request Information

Are Parts Required? Yes

QSF Single Agenda Or Program FRC Date:

Parts List:

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
1	Existing	5C74-3F563-AB1D24	No	Not Applicable	STEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5C7Z-3600-ABA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
2	Existing	5C74-3F563-AB35B8	No	Not Applicable	sTEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5c7z-3600-CBA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
3	Existing	5C34-3E651-CE	No	Not Applicable	Damper	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			Q29AA	5C3Z-3E651-CA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
4	Existing	5C34-3E651-CH	No	Not Applicable	Damper Asy	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3E651-			No

				D			

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3E651-BG	No	Not Applicable	Damper	1	100
5	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3E651-B			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-NA	No	Not Applicable	.5 DEGREE SHIM 4X2	1	100
6	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-C			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-CA	No	Not Applicable	.5 DEGREE SHIM 4X4	1	100
7	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-CCC			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-PA	No	Not Applicable	.75 DEGREE SHIM 4X2	1	100
8	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-D			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-DA	No	Not Applicable	-75 DEGREE SHIM 4X4	1	100
9	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed

				5C3Z-3B440-DDD			No

10	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-RA	No	Not Applicable	1.0 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-E			No

11	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-EA	No	Not Applicable	1.0 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-EEE			No

12	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-JA	No	Not Applicable	0.75 DEGREE SHIM	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-JJJ			No

13	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-KA	No	Not Applicable	1.0 DEGREE SHIM	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-KKK			No

Parts catalog flag needed? No
Part number(s) that require flag:
Is geographic location significant? No
Special instructions/remarks:

Article Number:
BCM Number:

(End automated email)

From: Repasky, Steve (S.)
Sent: Monday, June 05, 2006 11:26 AM
To: O'Connor, Tammy (T.A.); Hodges, Cynthia (C.P.)
Cc: Hale, Curt (B.C.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Would referencing the meshload setting procedure in the shop manual only and eliminating the actual procedure wording help? Just asking..... I agree with having the TSB updated with 2007 MY.

From: O'Connor, Tammy (T.A.)
Sent: Monday, June 05, 2006 11:21 AM
To: Repasky, Steve (S.)
Cc: Hale, Curt (B.C.)
Subject: FW: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Steve:

If we need to put the TSB on hold, then we'll do that -- but I'm not going to pull that section out and end up re-publishing the TSB. It costs the company money to publish each TSB.

We either publish it, or we put it on hold -- but we need to know time frame - any more than a month would generate too many calls to tech hotline.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
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Your thoughts?

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From: Siplus, G (G.)
Sent: Friday, June 02, 2006 3:59 PM
To: Murray, Al (A.R.); Tews, Bryan (B.H.); Tedone, Damian (D.J.); Jones, Darryl (D.S.); Capoccia, David (D.G.); Parekh, Deepak (D.A.); Smith, Ed (E.J.); Yerke, Eric (E.R.); Hermann, Erik (E.H.); Wood, Faith (F.M.); Wickenheiser, Francis (F.J.); Sopko, Gary (G.M.); Patel, Harendra (H.M.); Willard, Jeremy (J.); Pawloski, John (.); Pommer, John (J.M.); Saieg, John (J.R.); Berry, Joseph (J.P.); Bucec, Julayne (J.L.); Braboy, Julie (J.A.); Roehner, Julie (J.); Zeitz, Keith (K.A.); Gusfa, Kenneth (K.); Spears, Laura (L.); Taylor, Mark (M.K.); Vance, Matthew (M.A.); House, Michael (M.T.); Spencer, Michael (M.T.); Nagy, Vic (V.A.); Cervenan, Neil (N.J.); Souchock, Peter (P.D.); Bzymek, Raymond (R.); McClain, Shawn (S.M.); Sprunger, Jon (J.L.); Echhot, T. (T.); Gieleghem, Tom (T.A.); Watson, Tom (T.M.); Westermann, W Scott (W.S.); Dedecker, William (W.S.); Kovacs, John (J.); O'Connor, Tammy (T.A.); Repasky, Steve (S.); Dwyer, Elizabeth (E.A.); Smith, Janet (J.); Boals, Shannon (S.D.)
Subject: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

TSB Courtesy Copy
*** DRAFT ***

This message is being sent on behalf of RKLUMP.
This is a courtesy copy of the following article to advise you this article is currently being processed for publication.
General Information

Last action taken (as of 6/2/2006 7:58:55 PM GMT):	Accept/Submit to approvers
Comment:	TSB is identical to previous version, only adding model year coverage
Author:	TOCONNOR
Tracking Number:	[redacted]
Author Tracking Number:	--
Title:	2005-2007 F-Super Duty - Steering Wheel Oscillation
Article Type:	TSB

TSB Issue:
This article supersedes TSB 05-22-1 to update the vehicle model years.

Some 2005-2007 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion), immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer
than five oscillations. This condition occurs mostly on 4x4 vehicles, and is more evident on trucks equipped with a gas engine.
TSB Action:
Refer to the following Service Procedure to minimize the steering wheel oscillations on impacts, however, there may be some remaining minor oscillation which would be considered normal.

TSB Service Procedure:
SERVICE PROCEDURE

Perform the following:

- Vehicle Inspection
- Evaluation Of Vehicle Prior To Repair
- Steering Gear Mesh Load Adjustment
- Front Alignment and Reduce front caster
- Replacement Of Redundant Control Steering Wheel (if equipped and vehicle built prior to 10/8/2004)

VEHICLE INSPECTION
---

1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

NOTE: SETTING TIRE PRESSUE TO DOOR SPEC IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE.

2. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
a. If leaks are present, install a new steering damper (part number 5C3Z- 3E651-D) and continue with this TSB.
b. If no leaks are present, continue with this TSB.

3. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table # below).

Description	Torque Specification (lb-ft/ Nm)	
	Lb-ft	Nm
Damper nuts (4x2)	59	80
Damper-to-bracket (F-250, F-350 4x4)	26	35
Damper-to-drag link	67	91
Drag link-to-pitman arm nut	148	201
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts and bolts	129	175
Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE.

EVALUATION OF VEHICLE PRIOR TO REPAIR
---

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the severity of wheel oscillation.
3. During the road test, evaluate and note the steering wheel return-ability.
a. Turn steering wheel full lock to lock to confirm no binding.
b. Locate center, and then 45 degrees either side of center on the steering wheel.
c. Driving vehicle at 35 MPH (56 Km/h), on a dry and flat road surface, turn the wheel 45 degrees and release. Note the approximate angle that the steering wheel returns to BEFORE CLEAR VISION. Perform and record the angle for both left and right. It is normal if the angle differs slightly from left to right.

STEERING GEAR MESH LOAD ADJUSTMENT
---

1. Insert hex wrench into steering gear mesh load adjuster screw.
2. While holding the mesh load adjuster screw tight, back off lock nuts two full turns to allow free movement of the adjuster screw.
3. Carefully tighten adjuster screw until a slight increase in resistance is felt, then back off approximately 1/16th of a turn.
4. Hold the adjuster screw in place and tighten lock nut. Do not allow the adjustment screw to turn while tightening the locking nut down.
5. Road test vehicle and evaluate for improvement in steering wheel oscillations.

a. Confirm that there is no objectionable increase in steering efforts, especially at low speeds.
b. Verify that steering wheel return-ability is approximately the same as it was during the original evaluation (within 5 degrees).
c. Turn steering wheel full lock to lock to confirm no binding.
6. Park the vehicle to let it cool down. Road test cold to confirm acceptable parking efforts and return-ability in cold condition. Repeat the mesh load adjustment if needed.

FRONT WHEEL ALIGNEMENT AND REDUCE FRONT CASTER

Measure wheel alignment. Verify that Front Caster, Camber and Total Toe is within specification. Adjust as required. Refer to the Workshop Manual, Section 204-00 for complete alignment specifications.

REDUCE FRONT CASTER
· Note the current front caster
· Use alignment adjustment bushings to Reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit. Use Alignment adjustment bushings:

F-250/350 4x4:
· 5C3Z-3B440-CCC (0.5 degree bushing)
· 5C3Z-3B440-DDD (0.75 degree bushing)
· 5C3Z-3B440-EEE (1.0 degree bushing)

F-450/550 4x4 and 4x2:

· 5C3Z-3B440-HHH (0.5 degree bushing)
· 5C3Z-3B440-JJJ (0.75 degree bushing)
· 5C3Z-3B440-KKK (1.0 degree bushing)

F-250/350 4x2:
· 5C3Z-3B440-C = 0.5 degree busing
· 5C3Z-3B440-D = 0.75 degree bushing
· 5C3Z-3B440-E = 1.0 degree bushing

For All 4x4 and for F-450/550 4x2
· Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward and inboard position (See Figure 1)
· This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed
· The final caster and camber settings must be within the specification limits
· Maintain the current front camber, cross-camber and cross-caster settings as close as you possibly can
· Adding weight behind the rear axle lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster
· Inspect the ball joints for excessive play per the workshop manual, section 204-00.

For All F-350/250 4x2,
· Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain that position while moving the caster position forward in the truck
· The final caster and camber settings must be within the specification limits

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.
1. Remove driver air bag assembly. Refer to Workshop Manual Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE 2005 OR 2006 SUPER DUTY

F-SERIES WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

NOTE: THE WHEEL ALIGNMENT LABOR OPERATIONS MAY BE CLAIMED WITH THE REPAIR OPERATIONS IN THIS ARTICLE.

Category: Service Fix (10 years - TSB Only)
Request Type: Non-QSF
Activity Code: 070 F-Series >8500#
Vehicle Applications:

Vehicle Lines	Model Year Start	Model Year End	Assembly Plants	Body Styles	Engine	Trans Axles	Build From	Build To
F-Super Duty (F-250 to 550)	2005	2007						

If SPECS Case, Select all Other Affected Publications:

Changes Needed in Other Pubs:

TSBs to Supersede: 05-22-01
SSMs to Supersede:

ISMs to Supersede:

Other application Articles:

Select the reason for republication: Concern Carryover to New Model
Procedure verified by CDSID: srepasky
Describe How The Procedure Was Verified: TSB was verified by Steve Repasky, and also by the FQEs.
Do you have access to a vehicle for time study? Yes
If Yes, contact for vehicle CDSID: toconnor
Are Illustrations Required? Yes
If Yes, Contact information for illustrations:
CDSID(Ford only): toconnor
Full Name: Tammy O'Connor
Phone: 313/322-3824
Illustration Notes: Please use same illustrations from TSB 05-22-01.

Trustmarks affected: Ford
Additional Trustmarks To Notify:

Article Distribution: WDMO, Canada, Mexico, United States
DTC Codes and OASIS Service Codes: , 303000, 304000, 306000, 703000, 703000, 703200, 703200, 703300, 703300, 703400, 703400

Causal Basic Part # or Finis Code:

Causal Part # or Finis Code	Warranty Condition Codes
3600	Chassis: 42

Calibrations List:

White Paper Numbers:

Parts Request Information

Are Parts Required? Yes
QSF Single Agenda Or Program FRC Date:
Parts List:

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
1	Existing	5C74-3F563-AB1D24	No	Not Applicable	STEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						

@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
		U5MSK	5C7Z-3600-ABA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C74-3F563-AB35B8	No	Not Applicable	sTEERING WHEEL ASY	1	100
2	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5c7z-3600-CBA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3E651-CE	No	Not Applicable	Damper	1	100
3	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			Q29AA	5C3Z-3E651-CA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3E651-CH	No	Not Applicable	Damper Asy	1	100
4	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3E651-D			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3E651-BG	No	Not Applicable	Damper	1	100
5	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3E651-B			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-NA	No	Not Applicable	.5 DEGREE SHIM 4X2	1	100
6	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company

	126						
	@1st Contact	**@1st Contact Phone**	**Source Code**	**Service #**	**Replaced SVC #**	**°Replaced Eng. #**	**°Is Calibration Needed**
				5C3Z-3B440-C			No

7	***Type of Part**	***Eng #**	***Is This Part a Kit?**	***Existing Stock#**	***Part Name**	***Qty/veh.**	***Engineering Est. Qty. Needed**
	Existing	5C34-3D004-CA	No	Not Applicable	.5 DEGREE SHIM 4X4	1	100
	***Calculated Forecast**		***@WERS Notice #**		***@WERS Date Released**		***@Supplier Company**
	126						
	@1st Contact	**@1st Contact Phone**	**Source Code**	**Service #**	**Replaced SVC #**	**°Replaced Eng. #**	**°Is Calibration Needed**
				5C3Z-3B440-CCC			No

8	***Type of Part**	***Eng #**	***Is This Part a Kit?**	***Existing Stock#**	***Part Name**	***Qty/veh.**	***Engineering Est. Qty. Needed**
	Existing	5C34-3D004-PA	No	Not Applicable	.75 DEGREE SHIM 4X2	1	100
	***Calculated Forecast**		***@WERS Notice #**		***@WERS Date Released**		***@Supplier Company**
	126						
	@1st Contact	**@1st Contact Phone**	**Source Code**	**Service #**	**Replaced SVC #**	**°Replaced Eng. #**	**°Is Calibration Needed**
				5C3Z-3B440-D			No

9	***Type of Part**	***Eng #**	***Is This Part a Kit?**	***Existing Stock#**	***Part Name**	***Qty/veh.**	***Engineering Est. Qty. Needed**
	Existing	5C34-3D004-DA	No	Not Applicable	-75 DEGREE SHIM 4X4	1	100
	***Calculated Forecast**		***@WERS Notice #**		***@WERS Date Released**		***@Supplier Company**
	126						
	@1st Contact	**@1st Contact Phone**	**Source Code**	**Service #**	**Replaced SVC #**	**°Replaced Eng. #**	**°Is Calibration Needed**
				5C3Z-3B440-DDD			No

10	***Type of Part**	***Eng #**	***Is This Part a Kit?**	***Existing Stock#**	***Part Name**	***Qty/veh.**	***Engineering Est. Qty. Needed**
	Existing	5C34-3D004-RA	No	Not Applicable	1.0 DEGREE SHIM 4X2	1	100
	***Calculated Forecast**		***@WERS Notice #**		***@WERS Date Released**		***@Supplier Company**
	126						
	@1st Contact	**@1st Contact Phone**	**Source Code**	**Service #**	**Replaced SVC #**	**°Replaced Eng. #**	**°Is Calibration Needed**
				5C3Z-3B440-E			No

	***Type of Part**	***Eng #**	***Is This Part a Kit?**	***Existing Stock#**	***Part Name**	***Qty/veh.**	***Engineering Est. Qty. Needed**
	Existing	5C34-3D004-EA	No	Not Applicable	1.0 DEGREE SHIM 4X4	1	100

	*Calculated Forecast	*@WERS Notice #		*@WERS Date Released		*@Supplier Company
11	126					
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-EEE			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
12	Existing	5C34-3D004-JA	No	Not Applicable	0.75 DEGREE SHIM	1	100
	*Calculated Forecast	*@WERS Notice #		*@WERS Date Released		*@Supplier Company	
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-JJJ			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
13	Existing	5C34-3D004-KA	No	Not Applicable	1.0 DEGREE SHIM	1	100
	*Calculated Forecast	*@WERS Notice #		*@WERS Date Released		*@Supplier Company	
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-KKK			No

Parts catalog flag needed? No
Part number(s) that require flag:

Is geographic location significant? No
Special instructions/remarks:

Article Number:

BCM Number:

(End automated email)

From: Hodges, Cynthia (C.P.)
Sent: Monday, June 05, 2006 11:18 AM
To: Repasky, Steve (S.); Zeitz, Keith (K.A.); Perri, Ron (R.J.); Boals, Shannon (S.D.); Dubaisi, Adnan (A.N.); Kula, Paul (P.K.)
Cc: Pais, Cecil (C.M.); Choe, Mark (M.J.); O'Connor, Tammy (T.A.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

I'd like to revisit this text and see if we can optimize the meshload setting portion of it. I am seeing too much meshload resetting out in the field that results in gears set incorrectly. Can we remove this portion of it now while we investigate it?

Cynthia Protas Hodges
RV Gear and Linkage Supervisor
Chassis Engineering
Ford Motor Company

1BD36 Product Development Center
phone (313) 805-3872 fax: (313) 32-29959
textpage chodges1 <http://vm5.dearborn.ford.com/cgi/textpage?PAGETO=CHODGES1>
Email:chodges1@ford.com

From: Repasky, Steve (S.)
Sent: Monday, June 05, 2006 10:57 AM
To: Hodges, Cynthia (C.P.); Zeitz, Keith (K.A.); Perri, Ron (R.J.); Boals, Shannon (S.D.); Dubaisi, Adnan (A.N.); Kula, Paul (P.K.)
Cc: Pais, Cecil (C.M.); Choe, Mark (M.J.); O'Connor, Tammy (T.A.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

This TSB also addresses SW oscillation when tire pressure is low and is still needed for 2007 vehicles. Replacement of the redundant steering wheel is referenced in this TSB for vehicles built prior to the date when the higher MoI wheel was in plant.

From: Hodges, Cynthia (C.P.)
Sent: Monday, June 05, 2006 10:43 AM
To: Zeitz, Keith (K.A.); Perri, Ron (R.J.); Boals, Shannon (S.D.); Dubaisi, Adnan (A.N.); Kula, Paul (P.K.); Repasky, Steve (S.)
Cc: Pais, Cecil (C.M.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Keith –

I don't think we should continue this – it was originally written until they got the higher moment of inertia steering wheel into production (only a few months of production. With regard to the meshload adjustment, it is already in the service manual.

Steve-

Your thoughts?

Cynthia Protas Hodges
RV Gear and Linkage Supervisor
Chassis Engineering
Ford Motor Company

1BD36 Product Development Center
phone (313) 805-3872 fax: (313) 32-29959
textpage chodges1 <http://vm5.dearborn.ford.com/cgi/textpage?PAGETO=CHODGES1>
Email:chodges1@ford.com

From: Zeitz, Keith (K.A.)
Sent: Friday, June 02, 2006 4:10 PM
To: Perri, Ron (R.J.); Boals, Shannon (S.D.); Hodges, Cynthia (C.P.); Dubaisi, Adnan (A.N.); Kula, Paul (P.K.)
Cc: Pais, Cecil (C.M.)
Subject: FW: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Team,

The TSB is being extended for 2007 MY. Is this what we want to do?

Paul/Adnan, this will continue to be binned against the steering wheel. Possibly time to change causal part.

Keith A. Zeitz
Steering & Suspension Quality Supervisor
Integrated BB & ASQ SSBB
PDC 2D-G34, ph # (313) 805-3994
"Don't find fault, find a remedy" - Henry Ford
Today's Word On The WaY
"…God's kindness leads you toward repentance."
- *Romans 2:4*

From: Siplus, G (G.)
Sent: Friday, June 02, 2006 3:59 PM
To: Murray, Al (A.R.); Tews, Bryan (B.H.); Tedone, Damian (D.J.); Jones, Darryl (D.S.); Capoccia, David (D.G.); Parekh, Deepak (D.A.); Smith, Ed (E.J.); Yerke, Eric (E.R.); Hermann, Erik (E.H.); Wood, Faith (F.M.); Wickenheiser, Francis (F.J.); Sopko, Gary (G.M.); Patel, Harendra (H.M.); Willard, Jeremy (J.); Pawloski, John (.); Pommer, John (J.M.); Saieg, John (J.R.); Berry, Joseph (J.P.); Bucec, Julayne (J.L.); Braboy, Julie (J.A.); Roehner, Julie (J.); Zeitz, Keith (K.A.); Gusfa, Kenneth (K.); Spears, Laura (L.); Taylor, Mark (M.K.); Vance, Matthew (M.A.); House, Michael (M.T.); Spencer, Michael (M.T.); Nagy, Vic (V.A.); Cervenan, Neil (N.J.); Souchock, Peter (P.D.); Bzymek, Raymond (R.); McClain, Shawn (S.M.); Sprunger, Jon (J.L.); Echhot, T. (T.); Gieleghem, Tom (T.A.); Watson, Tom (T.M.); Westermann, W Scott (W.S.); Dedecker, William (W.S.); Kovacs, John (J.); O'Connor, Tammy (T.A.); Repasky, Steve (S.); Dwyer, Elizabeth (E.A.); Smith, Janet (J.); Boals, Shannon (S.D.)
Subject: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

TSB Courtesy Copy
*** DRAFT ***

This message is being sent on behalf of RKLUMP.

This is a courtesy copy of the following article to advise you this article is currently being processed for publication.

General Information

Last action taken (as of 6/2/2006 7:58:55 PM GMT):	Accept/Submit to approvers
Comment:	TSB is identical to previous version, only adding model year coverage
Author:	TOCONNOR
Tracking Number:	[redacted]
Author Tracking Number:	--
Title:	2005-2007 F-Super Duty - Steering Wheel Oscillation
Article Type:	TSB

TSB Issue:
This article supersedes TSB 05-22-1 to update the vehicle model years.

Some 2005-2007 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion), immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer
than five oscillations. This condition occurs mostly on 4x4 vehicles, and is more evident on trucks equipped with a gas engine.

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- Evaluation Of Vehicle Prior To Repair
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- Front Alignment and Reduce front caster
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VEHICLE INSPECTION
---

1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

NOTE: SETTING TIRE PRESSUE TO DOOR SPEC IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE.

2. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
a. If leaks are present, install a new steering damper (part number 5C3Z- 3E651-D) and continue with this TSB.
b. If no leaks are present, continue with this TSB.

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1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
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b. Locate center, and then 45 degrees either side of center on the steering wheel.
c. Driving vehicle at 35 MPH (56 Km/h), on a dry and flat road surface, turn the wheel 45 degrees and release. Note the approximate angle that the steering wheel returns to BEFORE CLEAR VISION. Perform and record the angle for both left and right. It is normal if the angle differs slightly from left to right.

STEERING GEAR MESH LOAD ADJUSTMENT

1. Insert hex wrench into steering gear mesh load adjuster screw.
2. While holding the mesh load adjuster screw tight, back off lock nuts two full turns to allow free movement of the adjuster screw.
3. Carefully tighten adjuster screw until a slight increase in resistance is felt, then back off approximately 1/16th of a turn.
4. Hold the adjuster screw in place and tighten lock nut. Do not allow the adjustment screw to turn while tightening the locking nut down.
5. Road test vehicle and evaluate for improvement in steering wheel oscillations.

a. Confirm that there is no objectionable increase in steering efforts, especially at low speeds.
b. Verify that steering wheel return-ability is approximately the same as it was during the original evaluation (within 5 degrees).
c. Turn steering wheel full lock to lock to confirm no binding.

6. Park the vehicle to let it cool down. Road test cold to confirm acceptable parking efforts and return-ability in cold condition. Repeat the mesh load adjustment if needed.

FRONT WHEEL ALIGNEMENT AND REDUCE FRONT CASTER

Measure wheel alignment. Verify that Front Caster, Camber and Total Toe is within specification. Adjust as required. Refer to the Workshop Manual, Section 204-00 for complete alignment specifications.

REDUCE FRONT CASTER

- Note the current front caster
- Use alignment adjustment bushings to Reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit. Use Alignment adjustment bushings:

F-250/350 4x4:

- 5C3Z-3B440-CCC (0.5 degree bushing)
- 5C3Z-3B440-DDD (0.75 degree bushing)
- 5C3Z-3B440-EEE (1.0 degree bushing)

F-450/550 4x4 and 4x2:

- 5C3Z-3B440-HHH (0.5 degree bushing)
- 5C3Z-3B440-JJJ (0.75 degree bushing)
- 5C3Z-3B440-KKK (1.0 degree bushing)

F-250/350 4x2:

- 5C3Z-3B440-C = 0.5 degree busing
- 5C3Z-3B440-D = 0.75 degree bushing
- 5C3Z-3B440-E = 1.0 degree bushing

For All 4x4 and for F-450/550 4x2

- Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward and inboard position (See Figure 1)
- This should lower the caster, while keeping the camber within the specification range. If the camber is not in the

specification range than rotate the alignment adjustment bushing as needed
- The final caster and camber settings must be within the specification limits
- Maintain the current front camber, cross-camber and cross-caster settings as close as you possibly can
- Adding weight behind the rear axle lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster
- Inspect the ball joints for excessive play per the workshop manual, section 204-00.

For All F-350/250 4x2,
- Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain that position while moving the caster position forward in the truck
- The final caster and camber settings must be within the specification limits

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.
1. Remove driver air bag assembly. Refer to Workshop Manual Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE 2005 OR 2006 SUPER DUTY F-SERIES WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

NOTE: THE WHEEL ALIGNMENT LABOR OPERATIONS MAY BE CLAIMED WITH THE REPAIR OPERATIONS IN THIS ARTICLE.

Category: Service Fix (10 years - TSB Only)
Request Type: Non-QSF
Activity Code: 070 F-Series >8500#
Vehicle Applications:

Vehicle Lines	Model Year Start	Model Year End	Assembly Plants	Body Styles	Engine	Trans Axles	Build From	Build To
F-Super Duty (F-250 to 550)	2005	2007						

If SPECS Case, Select all Other Affected Publications:
Changes Needed in Other Pubs:
TSBs to Supersede: 05-22-01
SSMs to Supersede:
ISMs to Supersede:
Other application Articles:
Select the reason for republication: Concern Carryover to New Model
Procedure verified by CDSID: srepasky
Describe How The Procedure Was Verified: TSB was verified by Steve Repasky, and also by the FQEs.
Do you have access to a vehicle for time study? Yes
If Yes, contact for vehicle CDSID: toconnor
Are Illustrations Required? Yes
If Yes, Contact information for illustrations:
CDSID(Ford only): toconnor
Full Name: Tammy O'Connor
Phone: 313/322-3824
Illustration Notes: Please use same illustrations from TSB 05-22-01.

Trustmarks affected: Ford
Additional Trustmarks To Notify:

Article Distribution: WDMO, Canada, Mexico, United States
DTC Codes and OASIS Service Codes: , 303000, 304000, 306000, 703000, 703000, 703200, 703200, 703300, 703300, 703400, 703400

Causal Basic Part # or Finis Code:

Causal Part # or Finis Code	Warranty Condition Codes
3600	Chassis: 42

Calibrations List:

White Paper Numbers:

Parts Request Information

Are Parts Required? Yes
QSF Single Agenda Or Program FRC Date:
Parts List:

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
1	Existing	5C74-3F563-AB1D24	No	Not Applicable	STEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5C7Z-3600-ABA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
2	Existing	5C74-3F563-AB35B8	No	Not Applicable	sTEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5c7z-3600-CBA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
3	Existing	5C34-3E651-CE	No	Not Applicable	Damper	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			Q29AA	5C3Z-3E651-CA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
4	Existing	5C34-3E651-CH	No	Not Applicable	Damper Asy	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						

@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			5C3Z-3E651-D			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
5	Existing	5C34-3E651-BG	No	Not Applicable	Damper	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3E651-B			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
6	Existing	5C34-3D004-NA	No	Not Applicable	.5 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-C			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
7	Existing	5C34-3D004-CA	No	Not Applicable	.5 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-CCC			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
8	Existing	5C34-3D004-PA	No	Not Applicable	.75 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-D			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
9	Existing	5C34-3D004-DA	No	Not Applicable	-75 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company

	126						
	@1st Contact	**@1st Contact Phone**	**Source Code**	**Service #**	**Replaced SVC #**	**°Replaced Eng. #**	**°Is Calibration Needed**
				5C3Z-3B440-DDD			No

10	***Type of Part**	***Eng #**	***Is This Part a Kit?**	***Existing Stock#**	***Part Name**	***Qty/veh.**	***Engineering Est. Qty. Needed**
	Existing	5C34-3D004-RA	No	Not Applicable	1.0 DEGREE SHIM 4X2	1	100
	***Calculated Forecast**		***@WERS Notice #**		***@WERS Date Released**		***@Supplier Company**
	126						
	@1st Contact	**@1st Contact Phone**	**Source Code**	**Service #**	**Replaced SVC #**	**°Replaced Eng. #**	**°Is Calibration Needed**
				5C3Z-3B440-E			No

11	***Type of Part**	***Eng #**	***Is This Part a Kit?**	***Existing Stock#**	***Part Name**	***Qty/veh.**	***Engineering Est. Qty. Needed**
	Existing	5C34-3D004-EA	No	Not Applicable	1.0 DEGREE SHIM 4X4	1	100
	***Calculated Forecast**		***@WERS Notice #**		***@WERS Date Released**		***@Supplier Company**
	126						
	@1st Contact	**@1st Contact Phone**	**Source Code**	**Service #**	**Replaced SVC #**	**°Replaced Eng. #**	**°Is Calibration Needed**
				5C3Z-3B440-EEE			No

12	***Type of Part**	***Eng #**	***Is This Part a Kit?**	***Existing Stock#**	***Part Name**	***Qty/veh.**	***Engineering Est. Qty. Needed**
	Existing	5C34-3D004-JA	No	Not Applicable	0.75 DEGREE SHIM	1	100
	***Calculated Forecast**		***@WERS Notice #**		***@WERS Date Released**		***@Supplier Company**
	126						
	@1st Contact	**@1st Contact Phone**	**Source Code**	**Service #**	**Replaced SVC #**	**°Replaced Eng. #**	**°Is Calibration Needed**
				5C3Z-3B440-JJJ			No

13	***Type of Part**	***Eng #**	***Is This Part a Kit?**	***Existing Stock#**	***Part Name**	***Qty/veh.**	***Engineering Est. Qty. Needed**
	Existing	5C34-3D004-KA	No	Not Applicable	1.0 DEGREE SHIM	1	100
	***Calculated Forecast**		***@WERS Notice #**		***@WERS Date Released**		***@Supplier Company**
	126						
	@1st Contact	**@1st Contact Phone**	**Source Code**	**Service #**	**Replaced SVC #**	**°Replaced Eng. #**	**°Is Calibration Needed**
				5C3Z-3B440-KKK			No

Parts catalog flag needed? No
Part number(s) that require flag:

Is geographic location significant? No
Special instructions/remarks:

Article Number:
BCM Number:

(End automated email)

From: Repasky, Steve (S.)
Sent: Monday, June 05, 2006 11:11 AM
To: O'Connor, Tammy (T.A.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

I agree. Hopefully my note may provide some clarification to the addresses..

From: O'Connor, Tammy (T.A.)
Sent: Monday, June 05, 2006 11:04 AM
To: Repasky, Steve (S.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Steve:

If we don't publish this TSB, the Tech Hotline will be swamped with calls, and warranty will increase because the workshop manual does not adress this issue in 1 place. Not publishing, will increase warranty.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Repasky, Steve (S.)
Sent: Monday, June 05, 2006 10:57 AM
To: Hodges, Cynthia (C.P.); Zeitz, Keith (K.A.); Perri, Ron (R.J.); Boals, Shannon (S.D.); Dubaisi, Adnan (A.N.); Kula, Paul (P.K.)
Cc: Pais, Cecil (C.M.); Choe, Mark (M.J.); O'Connor, Tammy (T.A.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

This TSB also addresses SW oscillation when tire pressure is low and is still needed for 2007 vehicles. Replacement of the redundant steering wheel is referenced in this TSB for vehicles built prior to the date when the higher MoI wheel was in plant.

From: Hodges, Cynthia (C.P.)
Sent: Monday, June 05, 2006 10:43 AM
To: Zeitz, Keith (K.A.); Perri, Ron (R.J.); Boals, Shannon (S.D.); Dubaisi, Adnan (A.N.); Kula, Paul (P.K.); Repasky, Steve (S.)
Cc: Pais, Cecil (C.M.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Keith –

I don't think we should continue this – it was originally written until they got the higher moment of inertia steering wheel into production (only a few months of production. With regard to the meshload adjustment, it is already in the service manual.

Steve-

Your thoughts?

Cynthia Protas Hodges
RV Gear and Linkage Supervisor
Chassis Engineering
Ford Motor Company

1BD36 Product Development Center
phone (313) 805-3872 fax: (313) 32-29959
textpage chodges1 <http://vm5.dearborn.ford.com/cgi/textpage?PAGETO=CHODGES1>
Email:chodges1@ford.com

From: Zeitz, Keith (K.A.)
Sent: Friday, June 02, 2006 4:10 PM
To: Perri, Ron (R.J.); Boals, Shannon (S.D.); Hodges, Cynthia (C.P.); Dubaisi, Adnan (A.N.); Kula, Paul (P.K.)
Cc: Pais, Cecil (C.M.)
Subject: FW: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Team,

The TSB is being extended for 2007 MY. Is this what we want to do?

Paul/Adnan, this will continue to be binned against the steering wheel. Possibly time to change causal part.

Keith A. Zeitz
Steering & Suspension Quality Supervisor
Integrated BB & ASQ SSBB
PDC 2D-G34, ph # (313) 805-3994
"Don't find fault, find a remedy" - Henry Ford
Today's Word On The WaY
"…God's kindness leads you toward repentance."
- Romans 2:4

From: Siplus, G (G.)
Sent: Friday, June 02, 2006 3:59 PM
To: Murray, Al (A.R.); Tews, Bryan (B.H.); Tedone, Damian (D.J.); Jones, Darryl (D.S.); Capoccia, David (D.G.); Parekh, Deepak (D.A.); Smith, Ed (E.J.); Yerke, Eric (E.R.); Hermann, Erik (E.H.); Wood, Faith (F.M.); Wickenheiser, Francis (F.J.); Sopko, Gary (G.M.); Patel, Harendra (H.M.); Willard, Jeremy (J.); Pawloski, John (.); Pommer, John (J.M.); Saieg, John (J.R.); Berry, Joseph (J.P.); Bucec, Julayne (J.L.); Braboy, Julie (J.A.); Roehner, Julie (J.); Zeitz, Keith (K.A.); Gusfa, Kenneth (K.); Spears, Laura (L.); Taylor, Mark (M.K.); Vance, Matthew (M.A.); House, Michael (M.T.); Spencer, Michael (M.T.); Nagy, Vic (V.A.); Cervenan, Neil (N.J.); Souchock, Peter (P.D.); Bzymek, Raymond (R.); McClain, Shawn (S.M.); Sprunger, Jon (J.L.); Echhot, T. (T.); Gieleghem, Tom (T.A.); Watson, Tom (T.M.); Westermann, W Scott (W.S.); Dedecker, William (W.S.); Kovacs, John (J.); O'Connor, Tammy (T.A.); Repasky, Steve (S.); Dwyer, Elizabeth (E.A.); Smith, Janet (J.); Boals, Shannon (S.D.)

Subject: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

TSB Courtesy Copy
*** DRAFT ***

This message is being sent on behalf of RKLUMP.
This is a courtesy copy of the following article to advise you this article is currently being processed for publication.

General Information

Last action taken (as of 6/2/2006 7:58:55 PM GMT):	Accept/Submit to approvers
Comment:	TSB is identical to previous version, only adding model year coverage
Author:	TOCONNOR
Tracking Number:	[redacted]
Author Tracking Number:	--
Title:	2005-2007 F-Super Duty - Steering Wheel Oscillation
Article Type:	TSB

TSB Issue:
This article supersedes TSB 05-22-1 to update the vehicle model years.

Some 2005-2007 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion), immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer
than five oscillations. This condition occurs mostly on 4x4 vehicles, and is more evident on trucks equipped with a gas engine.
TSB Action:
Refer to the following Service Procedure to minimize the steering wheel oscillations on impacts, however, there may be some remaining minor oscillation which would be considered normal.

TSB Service Procedure:
SERVICE PROCEDURE

Perform the following:

- Vehicle Inspection
- Evaluation Of Vehicle Prior To Repair
- Steering Gear Mesh Load Adjustment
- Front Alignment and Reduce front caster
- Replacement Of Redundant Control Steering Wheel (if equipped and vehicle built prior to 10/8/2004)

VEHICLE INSPECTION
---

1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

NOTE: SETTING TIRE PRESSUE TO DOOR SPEC IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE.

2. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
a. If leaks are present, install a new steering damper (part number 5C3Z- 3E651-D) and continue with this TSB.
b. If no leaks are present, continue with this TSB.

3. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table # below).

Description	Torque Specification (lb-ft/ Nm)	
	Lb-ft	Nm
Damper nuts (4x2)	59	80
Damper-to-bracket (F-250, F-350 4x4)	26	35
Damper-to-drag link	67	91
Drag link-to-pitman arm nut	148	201
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115

Track bar bracket-to-frame nuts and bolts	129	175
Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE.

EVALUATION OF VEHICLE PRIOR TO REPAIR

---

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the severity of wheel oscillation.
3. During the road test, evaluate and note the steering wheel return-ability.

a. Turn steering wheel full lock to lock to confirm no binding.

b. Locate center, and then 45 degrees either side of center on the steering wheel.

c. Driving vehicle at 35 MPH (56 Km/h), on a dry and flat road surface, turn the wheel 45 degrees and release. Note the approximate angle that the steering wheel returns to BEFORE CLEAR VISION. Perform and record the angle for both left and right. It is normal if the angle differs slightly from left to right.

STEERING GEAR MESH LOAD ADJUSTMENT

---

1. Insert hex wrench into steering gear mesh load adjuster screw.
2. While holding the mesh load adjuster screw tight, back off lock nuts two full turns to allow free movement of the adjuster screw.
3. Carefully tighten adjuster screw until a slight increase in resistance is felt, then back off approximately 1/16th of a turn.
4. Hold the adjuster screw in place and tighten lock nut. Do not allow the adjustment screw to turn while tightening the locking nut down.
5. Road test vehicle and evaluate for improvement in steering wheel oscillations.

a. Confirm that there is no objectionable increase in steering efforts, especially at low speeds.

b. Verify that steering wheel return-ability is approximately the same as it was during the original evaluation (within 5 degrees).

c. Turn steering wheel full lock to lock to confirm no binding.

6. Park the vehicle to let it cool down. Road test cold to confirm acceptable parking efforts and return-ability in cold condition. Repeat the mesh load adjustment if needed.

FRONT WHEEL ALIGNEMENT AND REDUCE FRONT CASTER

Measure wheel alignment. Verify that Front Caster, Camber and Total Toe is within specification. Adjust as required. Refer to the Workshop Manual, Section 204-00 for complete alignment specifications.

REDUCE FRONT CASTER

· Note the current front caster

· Use alignment adjustment bushings to Reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit. Use Alignment adjustment bushings:

F-250/350 4x4:

· 5C3Z-3B440-CCC (0.5 degree bushing)
· 5C3Z-3B440-DDD (0.75 degree bushing)
· 5C3Z-3B440-EEE (1.0 degree bushing)

F-450/550 4x4 and 4x2:

· 5C3Z-3B440-HHH (0.5 degree bushing)
· 5C3Z-3B440-JJJ (0.75 degree bushing)
· 5C3Z-3B440-KKK (1.0 degree bushing)

F-250/350 4x2:

· 5C3Z-3B440-C = 0.5 degree busing
· 5C3Z-3B440-D = 0.75 degree bushing
· 5C3Z-3B440-E = 1.0 degree bushing

For All 4x4 and for F-450/550 4x2

· Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward and inboard position (See Figure 1)

· This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed

· The final caster and camber settings must be within the specification limits

· Maintain the current front camber, cross-camber and cross-caster settings as close as you possibly can

· Adding weight behind the rear axle lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster

· Inspect the ball joints for excessive play per the workshop manual, section 204-00.

For All F-350/250 4x2,

· Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain that position while moving the caster position forward in the truck

· The final caster and camber settings must be within the specification limits

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE 2005 OR 2006 SUPER DUTY F-SERIES WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

NOTE: THE WHEEL ALIGNMENT LABOR OPERATIONS MAY BE CLAIMED WITH THE REPAIR OPERATIONS IN THIS ARTICLE.

Category: Service Fix (10 years - TSB Only)
Request Type: Non-QSF
Activity Code: 070 F-Series >8500#
Vehicle Applications:

Vehicle Lines	Model Year Start	Model Year End	Assembly Plants	Body Styles	Engine	Trans Axles	Build From	Build To
F-Super Duty (F-250 to 550)	2005	2007						

If SPECS Case, Select all Other Affected Publications:
Changes Needed in Other Pubs:
TSBs to Supersede: 05-22-01
SSMs to Supersede:
ISMs to Supersede:
Other application Articles:
Select the reason for republication: Concern Carryover to New Model
Procedure verified by CDSID: srepasky
Describe How The Procedure Was Verified: TSB was verified by Steve Repasky, and also by the FQEs.
Do you have access to a vehicle for time study? Yes
If Yes, contact for vehicle CDSID: toconnor
Are Illustrations Required? Yes
If Yes, Contact information for illustrations:
CDSID(Ford only): toconnor
Full Name: Tammy O'Connor
Phone: 313/322-3824
Illustration Notes: Please use same illustrations from TSB 05-22-01.

Trustmarks affected: Ford

Additional Trustmarks To Notify:
Article Distribution: WDMO, Canada, Mexico, United States
DTC Codes and OASIS Service Codes: , 303000, 304000, 306000, 703000, 703000, 703200, 703200, 703300, 703300, 703400, 703400

Causal Basic Part # or Finis Code:

Causal Part # or Finis Code	Warranty Condition Codes
3600	Chassis: 42

Calibrations List:

White Paper Numbers:

Parts Request Information

Are Parts Required? Yes
QSF Single Agenda Or Program FRC Date:
Parts List:

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
1	Existing	5C74-3F563-AB1D24	No	Not Applicable	STEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5C7Z-3600-ABA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
2	Existing	5C74-3F563-AB35B8	No	Not Applicable	sTEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5c7z-3600-CBA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
3	Existing	5C34-3E651-CE	No	Not Applicable	Damper	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			Q29AA	5C3Z-3E651-CA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
4	Existing	5C34-3E651-CH	No	Not Applicable	Damper Asy	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						

@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			5C3Z-3E651-D			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
5	Existing	5C34-3E651-BG	No	Not Applicable	Damper	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3E651-B			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
6	Existing	5C34-3D004-NA	No	Not Applicable	.5 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-C			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
7	Existing	5C34-3D004-CA	No	Not Applicable	.5 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-CCC			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
8	Existing	5C34-3D004-PA	No	Not Applicable	.75 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-D			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
9	Existing	5C34-3D004-DA	No	Not Applicable	-75 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company

	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-DDD			No

10	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-RA	No	Not Applicable	1.0 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-E			No

11	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-EA	No	Not Applicable	1.0 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-EEE			No

12	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-JA	No	Not Applicable	0.75 DEGREE SHIM	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-JJJ			No

13	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-KA	No	Not Applicable	1.0 DEGREE SHIM	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-KKK			No

Parts catalog flag needed? No
Part number(s) that require flag:
Is geographic location significant? No
Special instructions/remarks:

Article Number:
BCM Number:

(End automated email)

From: Repasky, Steve (S.)
Sent: Friday, June 16, 2006 12:09 PM
To: O'Connor, Tammy (T.A.)
Cc: Welch, Sharon (S.L.); Hale, Curt (B.C.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

I am not the lead. Paul Mayer and I worked with your team to establish the existing TSB to make sure it does work and agree with extending it into 2007. Cindy and Keith are the chassis D&R people with the meshload setting concern. I am good to go with the TSB...

From: O'Connor, Tammy (T.A.)
Sent: Thursday, June 15, 2006 9:58 PM
To: Repasky, Steve (S.)
Cc: Hale, Curt (B.C.); Welch, Sharon (S.L.)
Subject: FW: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Steve:

We already have reports for 2007 MY (attached). As you can see, without the TSB the Tech Hotline is making the wrong recommendations for this issue - that's why it is so important that we re-publish this TSB to include 2007 MY. I have spoken to the Tech Hotline about these 2 reports, and we have written an ISM referring them to use the TSB for 2005-2006 MY. But that is not a long term solution, we need to republish the TSB. We are more than willing to work with you and your Engineering team, but it needs to be done quickly (in the next couple of weeks).

I have added this to our CMT Meeting agenda for next Monday to discuss. Please let me know if you have any questions.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Hodges, Cynthia (C.P.)
Sent: Thursday, June 15, 2006 2:57 PM
To: Repasky, Steve (S.); Zeitz, Keith (K.A.)
Cc: Hale, Curt (B.C.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

All –

Where did we end up on this? Yesterday, at our meeting with Ford VPs at Indy, the warranty teardown results showed a large number of gears returned because of meshload adjustment. It's really easy for a mechanic to mess up meshload so bad that he would need to replace the gear, either because of drift

pull wander or leaks. It was agreed that the TSB should not reference resetting meshload at all, and it should just discuss underinflated tires. How can we make this happen?

Cynthia Protas Hodges
RV Gear and Linkage Supervisor
Chassis Engineering
Ford Motor Company

1BD36 Product Development Center
phone (313) 805-3872 fax: (313) 32-29959
textpage chodges1 <http://vm5.dearborn.ford.com/cgi/textpage?PAGETO=CHODGES1>
Email:chodges1@ford.com

From: Repasky, Steve (S.)
Sent: Monday, June 05, 2006 11:26 AM
To: O'Connor, Tammy (T.A.); Hodges, Cynthia (C.P.)
Cc: Hale, Curt (B.C.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Would referencing the meshload setting procedure in the shop manual only and eliminating the actual procedure wording help? Just asking..... I agree with having the TSB updated with 2007 MY.

From: O'Connor, Tammy (T.A.)
Sent: Monday, June 05, 2006 11:21 AM
To: Repasky, Steve (S.)
Cc: Hale, Curt (B.C.)
Subject: FW: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Steve:

If we need to put the TSB on hold, then we'll do that -- but I'm not going to pull that section out and end up re-publishing the TSB. It costs the company money to publish each TSB.

We either publish it, or we put it on hold -- but we need to know time frame - any more than a month would generate too many calls to tech hotline.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Hodges, Cynthia (C.P.)
Sent: Monday, June 05, 2006 11:18 AM
To: Repasky, Steve (S.); Zeitz, Keith (K.A.); Perri, Ron (R.J.); Boals, Shannon (S.D.); Dubaisi, Adnan (A.N.); Kula, Paul (P.K.)
Cc: Pais, Cecil (C.M.); Choe, Mark (M.J.); O'Connor, Tammy (T.A.)

Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

I'd like to revisit this text and see if we can optimize the meshload setting portion of it. I am seeing too much meshload resetting out in the field that results in gears set incorrectly. Can we remove this portion of it now while we investigate it?

Cynthia Protas Hodges
RV Gear and Linkage Supervisor
Chassis Engineering
Ford Motor Company

1BD36 Product Development Center
phone (313) 805-3872 fax: (313) 32-29959
textpage chodges1 <http://vm5.dearborn.ford.com/cgi/textpage?PAGETO=CHODGES1>
Email:chodges1@ford.com

From: Repasky, Steve (S.)
Sent: Monday, June 05, 2006 10:57 AM
To: Hodges, Cynthia (C.P.); Zeitz, Keith (K.A.); Perri, Ron (R.J.); Boals, Shannon (S.D.); Dubaisi, Adnan (A.N.); Kula, Paul (P.K.)
Cc: Pais, Cecil (C.M.); Choe, Mark (M.J.); O'Connor, Tammy (T.A.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

This TSB also addresses SW oscillation when tire pressure is low and is still needed for 2007 vehicles. Replacement of the redundant steering wheel is referenced in this TSB for vehicles built prior to the date when the higher MoI wheel was in plant.

From: Hodges, Cynthia (C.P.)
Sent: Monday, June 05, 2006 10:43 AM
To: Zeitz, Keith (K.A.); Perri, Ron (R.J.); Boals, Shannon (S.D.); Dubaisi, Adnan (A.N.); Kula, Paul (P.K.); Repasky, Steve (S.)
Cc: Pais, Cecil (C.M.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Keith –

I don't think we should continue this – it was originally written until they got the higher moment of inertia steering wheel into production (only a few months of production. With regard to the meshload adjustment, it is already in the service manual.

Steve-

Your thoughts?

Cynthia Protas Hodges
RV Gear and Linkage Supervisor
Chassis Engineering
Ford Motor Company

1BD36 Product Development Center
phone (313) 805-3872 fax: (313) 32-29959

textpage chodges1 <http://vm5.dearborn.ford.com/cgi/textpage?PAGETO=CHODGES1>
Email:chodges1@ford.com

From: Zeitz, Keith (K.A.)
Sent: Friday, June 02, 2006 4:10 PM
To: Perri, Ron (R.J.); Boals, Shannon (S.D.); Hodges, Cynthia (C.P.); Dubaisi, Adnan (A.N.); Kula, Paul (P.K.)
Cc: Pais, Cecil (C.M.)
Subject: FW: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Team,

The TSB is being extended for 2007 MY. Is this what we want to do?

Paul/Adnan, this will continue to be binned against the steering wheel. Possibly time to change causal part.

Keith A. Zeitz
Steering & Suspension Quality Supervisor
Integrated BB & ASQ SSBB
PDC 2D-G34, ph # (313) 805-3994
"Don't find fault, find a remedy" - Henry Ford
Today's Word On The WaY
"…God's kindness leads you toward repentance."
- Romans 2:4

From: Siplus, G (G.)
Sent: Friday, June 02, 2006 3:59 PM
To: Murray, Al (A.R.); Tews, Bryan (B.H.); Tedone, Damian (D.J.); Jones, Darryl (D.S.); Capoccia, David (D.G.); Parekh, Deepak (D.A.); Smith, Ed (E.J.); Yerke, Eric (E.R.); Hermann, Erik (E.H.); Wood, Faith (F.M.); Wickenheiser, Francis (F.J.); Sopko, Gary (G.M.); Patel, Harendra (H.M.); Willard, Jeremy (J.); Pawloski, John (.); Pommer, John (J.M.); Saieg, John (J.R.); Berry, Joseph (J.P.); Bucec, Julayne (J.L.); Braboy, Julie (J.A.); Roehner, Julie (J.); Zeitz, Keith (K.A.); Gusfa, Kenneth (K.); Spears, Laura (L.); Taylor, Mark (M.K.); Vance, Matthew (M.A.); House, Michael (M.T.); Spencer, Michael (M.T.); Nagy, Vic (V.A.); Cervenan, Neil (N.J.); Souchock, Peter (P.D.); Bzymek, Raymond (R.); McClain, Shawn (S.M.); Sprunger, Jon (J.L.); Echhot, T. (T.); Gieleghem, Tom (T.A.); Watson, Tom (T.M.); Westermann, W Scott (W.S.); Dedecker, William (W.S.); Kovacs, John (J.); O'Connor, Tammy (T.A.); Repasky, Steve (S.); Dwyer, Elizabeth (E.A.); Smith, Janet (J.); Boals, Shannon (S.D.)
Subject: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

TSB Courtesy Copy
*** DRAFT ***

This message is being sent on behalf of RKLUMP.
This is a courtesy copy of the following article to advise you this article is currently being processed for publication.
General Information

Last action taken (as of 6/2/2006 7:58:55 PM GMT):	Accept/Submit to approvers
Comment:	TSB is identical to previous version, only adding model year coverage
Author:	TOCONNOR
Tracking Number:	[redacted]
Author Tracking Number:	--

Title: 2005-2007 F-Super Duty - Steering Wheel Oscillation
Article Type: TSB

TSB Issue:
This article supersedes TSB 05-22-1 to update the vehicle model years.

Some 2005-2007 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion), immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer
than five oscillations. This condition occurs mostly on 4x4 vehicles, and is more evident on trucks equipped with a gas engine.
TSB Action:
Refer to the following Service Procedure to minimize the steering wheel oscillations on impacts, however, there may be some remaining minor oscillation which would be considered normal.

TSB Service Procedure:
SERVICE PROCEDURE

Perform the following:

- Vehicle Inspection
- Evaluation Of Vehicle Prior To Repair
- Steering Gear Mesh Load Adjustment
- Front Alignment and Reduce front caster
- Replacement Of Redundant Control Steering Wheel (if equipped and vehicle built prior to 10/8/2004)

VEHICLE INSPECTION
---

1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

NOTE: SETTING TIRE PRESSUE TO DOOR SPEC IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE.

2. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
a. If leaks are present, install a new steering damper (part number 5C3Z- 3E651-D) and continue with this TSB.
b. If no leaks are present, continue with this TSB.

3. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table # below).

Description	Torque Specification (lb-ft/ Nm)	
	Lb-ft	Nm
Damper nuts (4x2)	59	80
Damper-to-bracket (F-250, F-350 4x4)	26	35
Damper-to-drag link	67	91
Drag link-to-pitman arm nut	148	201
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts and bolts	129	175
Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE.

EVALUATION OF VEHICLE PRIOR TO REPAIR
---

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the severity of wheel oscillation.
3. During the road test, evaluate and note the steering wheel return-ability.
a. Turn steering wheel full lock to lock to confirm no binding.

b. Locate center, and then 45 degrees either side of center on the steering wheel.
c. Driving vehicle at 35 MPH (56 Km/h), on a dry and flat road surface, turn the wheel 45 degrees and release. Note the approximate angle that the steering wheel returns to BEFORE CLEAR VISION. Perform and record the angle for both left and right. It is normal if the angle differs slightly from left to right.

STEERING GEAR MESH LOAD ADJUSTMENT
---

1. Insert hex wrench into steering gear mesh load adjuster screw.
2. While holding the mesh load adjuster screw tight, back off lock nuts two full turns to allow free movement of the adjuster screw.
3. Carefully tighten adjuster screw until a slight increase in resistance is felt, then back off approximately 1/16th of a turn.
4. Hold the adjuster screw in place and tighten lock nut. Do not allow the adjustment screw to turn while tightening the locking nut down.
5. Road test vehicle and evaluate for improvement in steering wheel oscillations.
a. Confirm that there is no objectionable increase in steering efforts, especially at low speeds.
b. Verify that steering wheel return-ability is approximately the same as it was during the original evaluation (within 5 degrees).
c. Turn steering wheel full lock to lock to confirm no binding.
6. Park the vehicle to let it cool down. Road test cold to confirm acceptable parking efforts and return-ability in cold condition. Repeat the mesh load adjustment if needed.

FRONT WHEEL ALIGNEMENT AND REDUCE FRONT CASTER

Measure wheel alignment. Verify that Front Caster, Camber and Total Toe is within specification. Adjust as required. Refer to the Workshop Manual, Section 204-00 for complete alignment specifications.

REDUCE FRONT CASTER
· Note the current front caster
· Use alignment adjustment bushings to Reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit. Use Alignment adjustment bushings:

F-250/350 4x4:
· 5C3Z-3B440-CCC (0.5 degree bushing)
· 5C3Z-3B440-DDD (0.75 degree bushing)
· 5C3Z-3B440-EEE (1.0 degree bushing)

F-450/550 4x4 and 4x2:

· 5C3Z-3B440-HHH (0.5 degree bushing)
· 5C3Z-3B440-JJJ (0.75 degree bushing)
· 5C3Z-3B440-KKK (1.0 degree bushing)

F-250/350 4x2:
· 5C3Z-3B440-C = 0.5 degree busing
· 5C3Z-3B440-D = 0.75 degree bushing
· 5C3Z-3B440-E = 1.0 degree bushing

For All 4x4 and for F-450/550 4x2
· Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward and inboard position (See Figure 1)
· This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed
· The final caster and camber settings must be within the specification limits
· Maintain the current front camber, cross-camber and cross-caster settings as close as you possibly can
· Adding weight behind the rear axle lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster
· Inspect the ball joints for excessive play per the workshop manual, section 204-00.

For All F-350/250 4x2,
· Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain that position while moving the caster position forward in the truck
· The final caster and camber settings must be within the specification limits

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE 2005 OR 2006 SUPER DUTY F-SERIES WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

NOTE: THE WHEEL ALIGNMENT LABOR OPERATIONS MAY BE CLAIMED WITH THE REPAIR OPERATIONS IN THIS ARTICLE.

Category: Service Fix (10 years - TSB Only)
Request Type: Non-QSF
Activity Code: 070 F-Series >8500#
Vehicle Applications:

Vehicle Lines	Model Year Start	Model Year End	Assembly Plants	Body Styles	Engine	Trans Axles	Build From	Build To
F-Super Duty (F-250 to 550)	2005	2007						

If SPECS Case, Select all Other Affected Publications:

Changes Needed in Other Pubs:

TSBs to Supersede: 05-22-01
SSMs to Supersede:

ISMs to Supersede:

Other application Articles:

Select the reason for republication: Concern Carryover to New Model
Procedure verified by CDSID: srepasky
Describe How The Procedure Was Verified: TSB was verified by Steve Repasky, and also by the FQEs.
Do you have access to a vehicle for time study? Yes
If Yes, contact for vehicle CDSID: toconnor
Are Illustrations Required? Yes
If Yes, Contact information for illustrations:
CDSID(Ford only): toconnor
Full Name: Tammy O'Connor
Phone: 313/322-3824
Illustration Notes: Please use same illustrations from TSB 05-22-01.

Trustmarks affected: Ford
Additional Trustmarks To Notify:

Article Distribution: WDMO, Canada, Mexico, United States
DTC Codes and OASIS Service Codes: , 303000, 304000, 306000, 703000, 703000, 703200, 703200, 703300, 703300, 703400, 703400

Causal Basic Part # or Finis Code:

Causal Part # or Finis Code	Warranty Condition Codes
3600	Chassis: 42

Calibrations List:

White Paper Numbers:

Parts Request Information

Are Parts Required? Yes

QSF Single Agenda Or Program FRC Date:

Parts List:

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
1	Existing	5C74-3F563-AB1D24	No	Not Applicable	STEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5C7Z-3600-ABA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
2	Existing	5C74-3F563-AB35B8	No	Not Applicable	sTEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5c7z-3600-CBA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
3	Existing	5C34-3E651-CE	No	Not Applicable	Damper	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			Q29AA	5C3Z-3E651-CA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
4	Existing	5C34-3E651-CH	No	Not Applicable	Damper Asy	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3E651-D			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3E651-BG	No	Not Applicable	Damper	1	100

	*Calculated Forecast	*@WERS Notice #	*@WERS Date Released	*@Supplier Company
5	126			

@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			5C3Z-3E651-B			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
6	Existing	5C34-3D004-NA	No	Not Applicable	.5 DEGREE SHIM 4X2	1	100

*Calculated Forecast	*@WERS Notice #	*@WERS Date Released	*@Supplier Company
126			

@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			5C3Z-3B440-C			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
7	Existing	5C34-3D004-CA	No	Not Applicable	.5 DEGREE SHIM 4X4	1	100

*Calculated Forecast	*@WERS Notice #	*@WERS Date Released	*@Supplier Company
126			

@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			5C3Z-3B440-CCC			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
8	Existing	5C34-3D004-PA	No	Not Applicable	.75 DEGREE SHIM 4X2	1	100

*Calculated Forecast	*@WERS Notice #	*@WERS Date Released	*@Supplier Company
126			

@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			5C3Z-3B440-D			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
9	Existing	5C34-3D004-DA	No	Not Applicable	-75 DEGREE SHIM 4X4	1	100

*Calculated Forecast	*@WERS Notice #	*@WERS Date Released	*@Supplier Company
126			

@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			5C3Z-3B440-DDD			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
		5C34-3D004-		Not	1.0 DEGREE		

	Existing	RA	No	Applicable	SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
10	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-E			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-EA	No	Not Applicable	1.0 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
11	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-EEE			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-JA	No	Not Applicable	0.75 DEGREE SHIM	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
12	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-JJJ			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-KA	No	Not Applicable	1.0 DEGREE SHIM	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
13	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-KKK			No

Parts catalog flag needed? No
Part number(s) that require flag:

Is geographic location significant? No
Special instructions/remarks:

Article Number:

BCM Number:

(End automated email)

From: Pearsall, Norm (N.C.)
Sent: Monday, October 02, 2006 10:19 AM
To: O'Connor, Tammy (T.A.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Thanks Tammy!! We want to make sure they don't change perfectly good steering wheels.

Norman Pearsall

Quality Integration
Building 3, 31A044
Phone 313-805-6289

From: O'Connor, Tammy (T.A.)
Sent: Monday, October 02, 2006 10:17 AM
To: Pearsall, Norm (N.C.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Sorry - we only do boxes around parts that are required to be replaced - I'll get with Robert Klump - Lead TSB Editor and see what we can do. They do them in a template and not that much that we can change, but I'll try.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Pearsall, Norm (N.C.)
Sent: Monday, October 02, 2006 10:16 AM
To: O'Connor, Tammy (T.A.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

How about a box around it?

By the way long time no see... Hope all is well with you and the kids.

Norman Pearsall

Quality Integration
Building 3, 31A044

Phone 313-805-6289

From: O'Connor, Tammy (T.A.)
Sent: Monday, October 02, 2006 10:09 AM
To: Klump, Robert (R.F.)
Cc: House, Michael (M.T.); Pearsall, Norm (N.C.); Welch, Sharon (S.L.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Robert: Please see e-mail below - any recommendations would be appreicated.

Norm/Michael: We do not do TSB's in color - so I know the answer to that is No. We'll see what we can do to help.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Pearsall, Norm (N.C.)
Sent: Monday, October 02, 2006 10:06 AM
To: O'Connor, Tammy (T.A.)
Cc: House, Michael (M.T.)
Subject: FW: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Hello Tammy,

Is there any way to highlight the line " REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 Only". It needs to be bold and red if at all possible.

Norman Pearsall

Quality Integration
Building 3, 31A044
Phone 313-805-6289

From: House, Michael (M.T.)
Sent: Thursday, September 28, 2006 2:34 PM
To: Spears, Christopher (C.W.); Pearsall, Norm (N.C.)

Cc: Bedard, Robert (R.D.)
Subject: FW: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

I thought that we were revising the TSB to bin causal part away from Steering Wheel. It is the first item listed below on the parts list. Will this increase our warranty for Body Interior again? Can't we fix this? Thx.

Michael House
Body Interior Current [redacted]
[redacted]
e-mail mhouse@ford.com

From: GSIPLUS@FORD.COM [mailto:GSIPLUS@FORD.COM]
Sent: Thursday, September 28, 2006 1:22 PM
To: Murray, Al (A.R.); Caines, Bill (B.); Tews, Bryan (B.H.); Tedone, Damian (D.J.); Wood, Daniel (D.P.); Jones, Darryl (D.S.); Capoccia, David (D.G.); Parekh, Deepak (D.A.); Smith, Ed (E.J.); Yerke, Eric (E.R.); Hermann, Erik (E.H.); Wood, Faith (F.M.); Wickenheiser, Francis (F.J.); Sopko, Gary (G.M.); Patel, Harendra (H.M.); Willard, Jeremy (J.); Kovacs, John (J.); Pawloski, John (.); Pommer, John (J.M.); Saieg, John (J.R.); Berry, Joseph (J.P.); Roehner, Julie (J.); Zeitz, Keith (K.A.); Gusfa, Kenneth (K.); Spears, Laura (L.); Taylor, Mark (M.K.); Vance, Matthew (M.A.); House, Michael (M.T.); Spencer, Michael (M.T.); Nagy, Vic (V.A.); Cervenan, Neil (N.J.); Souchock, Peter (P.D.); Bzymek, Raymond (R.); McClain, Shawn (S.M.); Echhot, T (T.); Wheeler, Todd (T.A.); Gieleghem, Tom (T.A.); Watson, Tom (T.M.); Westermann, W Scott (W.S.); O'Connor, Tammy (T.A.); Repasky, Steve (S.); Dwyer, Elizabeth (E.A.); Smith, Janet (J.); Boals, Shannon (S.D.)
Subject: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

TSB Courtesy Copy

*** DRAFT ***

This message is being sent on behalf of RKLUMP.
This is a courtesy copy of the following article to advise you this article is currently being processed for publication.

General Information

Last action taken (as of 9/28/2006 5:22:08 PM GMT): Accept/Submit to approvers
Comment:

Author:	TOCONNOR
Tracking Number:	[redacted]
Author Tracking Number:	--
Title:	2005-2007 F-Super Duty - Steering Wheel Oscillation
Article Type:	TSB

TSB Issue:
This article supersedes TSB 06-15-1 to update the labor operations.

Some 2005-2007 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion), immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on 4X4 vehicles, and is more evident on trucks equipped with a gas engine.
TSB Action:
Refer to the tsb Service Procedure to minimize the steering wheel oscillations on impacts, however, there may be some remaining minor oscillation which would be considered normal.

TSB Service Procedure:
SERVICE PROCEDURE SUMMARY

· Set tire pressure, road test vehicle to evaluate vehicle before proceeding with further repairs. If issue is resolved, do not proceed with the rest of this TSB
· If concern still exists, check steering damper for leaks; torque steering and suspension fasteners per Workshop Manual
· If concern still exists, check front alignment and reduce front caster
· Replacement of redundant control steering wheel (if equipped and vehicle built prior to 10/8/2004).

VEHICLE INSPECTION - TIRE PRESSURE
---
1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

NOTE: SETTING TIRE PRESSURE TO DOOR SPECIFICATION IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE.

ROAD TEST
---
1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the customer's issue.
3. If no issues are identified during the road test, do not proceed with the rest of this TSB.

STEERING DAMPER INSPECTION AND STEERING/SUSPENSION FASTENER TORQUE CHECK
---
1. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
a. If leaks are present, install a new steering damper.
2. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table below).

Description	Torque Specification (lb-ft/ Nm)	
	Lb-ft	Nm
Damper nuts (4X2)	59	80
Damper-to-bracket (F-250, F-350 4X4)	26	35
Damper-to-drag link	67	91
Drag link-to-pitman arm nut	148	201
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts and bolts	129	175
Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE.

FRONT WHEEL ALIGNMENT AND REDUCE FRONT CASTER

NOTE: OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

Measure wheel alignment. Verify that Front Caster, Camber, and Total Toe are within specification. Adjust as required. Refer to the Workshop Manual, Section 204-00 for complete alignment specifications.

REDUCE FRONT CASTER
· Note the current front caster
· Use alignment adjustment bushings to reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit. Use alignment adjustment bushings

F-250/350 4X4:
· 5C3Z-3B440-CCC (0.5 degree bushing)
· 5C3Z-3B440-DDD (0.75 degree bushing)
· 5C3Z-3B440-EEE (1.0 degree bushing)

F-450/550 4X4 and 4X2:

· 5C3Z-3B440-HHH (0.5 degree bushing)
· 5C3Z-3B440-JJJ (0.75 degree bushing)
· 5C3Z-3B440-KKK (1.0 degree bushing)

F-250/350 4X2:
· 5C3Z-3B440-C = 0.5 degree busing
· 5C3Z-3B440-D = 0.75 degree bushing
· 5C3Z-3B440-E = 1.0 degree bushing

For All 4X4 and for F-450/550 4X2
· Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward and inboard position (See Figure 1)
· This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed
· The final caster and camber settings must be within the specification limits
· Maintain the current front camber, cross-camber and cross-caster settings as close as you possibly can
· Adding weight behind the rear axle lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster

For All F-250/350 4X2,
· Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain that position while moving the caster position forward in the truck
· The final caster and camber settings must be within the specification limits

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 Only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual, Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

NOTE: LABOR OPERATIONS IN THIS TSB CAN BE CLAIMED TOGETHER.

NOTE: OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

Category: Service Fix (10 years - TSB Only)
Request Type: Non-QSF
Has a cost save business case been prepared? No
Activity Code: 070 F-Series >8500#
Vehicle Applications:

Vehicle Lines	Model Year Start	Model Year End	Assembly Plants	Body Styles	Engine	Trans Axles	Build From	Build To
F-Super Duty (F-250 to 550)	2005	2007						

If SPECS Case, Select all Other Affected Publications:
Changes Needed in Other Pubs:
TSBs to Supersede: 06-15-1
SSMs to Supersede:
ISMs to Supersede:
Other application Articles:
Select the reason for republication: Concern Carryover to New Model
Procedure verified by CDSID: srepasky
Describe How The Procedure Was Verified: TSB was verified by Steve Repasky.
Do you have access to a vehicle for time study? Yes
If Yes, contact for vehicle CDSID: toconnor
Are Illustrations Required? Yes
If Yes, Contact information for illustrations:
CDSID(Ford only): toconnor
Full Name: Tammy O'Connor
Phone: 313/322-3824
Illustration Notes: Please use same illustrations from TSB 05-22-01.

Trustmarks affected: Ford
Additional Trustmarks To Notify:
Article Distribution: WDMO, Canada, Mexico, United States
DTC Codes and OASIS Service Codes: , 303000, 304000, 306000, 703000, 703000, 703200, 703200, 703300, 703300, 703400, 703400

Causal Basic Part # or Finis Code:

Causal Part # or Finis Code	Warranty Condition Codes
3E651 FRONT TIR	Chassis: 42

Calibrations List:

White Paper Numbers:

Parts Request Information

Are Parts Required? Yes

QSF Single Agenda Or Program FRC Date:

Parts List:

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
1	Existing	5C74-3F563-AB1D24	No	Not Applicable	STEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5C7Z-3600-ABA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
2	Existing	5C74-3F563-AB35B8	No	Not Applicable	sTEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5c7z-3600-CBA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
3	Existing	5C34-3E651-CE	No	Not Applicable	Damper	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			Q29AA	5C3Z-3E651-CA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
4	Existing	5C34-3E651-CH	No	Not Applicable	Damper Asy	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3E651-D			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
5	Existing	5C34-3E651-BG	No	Not Applicable	Damper	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3E651-B			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
6	Existing	5C34-3D004-NA	No	Not Applicable	.5 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-C			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
7	Existing	5C34-3D004-CA	No	Not Applicable	.5 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-CCC			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
8	Existing	5C34-3D004-PA	No	Not Applicable	.75 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-D			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
9	Existing	5C34-3D004-DA	No	Not Applicable	-75 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-DDD			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
10	Existing	5C34-3D004-RA	No	Not Applicable	1.0 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-E			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
11	Existing	5C34-3D004-EA	No	Not Applicable	1.0 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-EEE			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
12	Existing	5C34-3D004-JA	No	Not Applicable	0.75 DEGREE SHIM	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-JJJ			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
13	Existing	5C34-3D004-KA	No	Not Applicable	1.0 DEGREE SHIM	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-KKK			No

Parts catalog flag needed? No
Part number(s) that require flag:
Is geographic location significant? No
Special instructions/remarks: We want to have 3 causal part numbers as follows:
1. 3E651 = Steering Dampner
2. FRONT = Alignment
3. TIRE = Tire Pressure

Article Number:
BCM Number:

(End automated email)

From: Repasky, Steve (S.)
Sent: Tuesday, December 19, 2006 11:35 AM
To: O'Connor, Tammy (T.A.)
Cc: Gompper, Dan (D.B.); Memmer, Mark (M.A.); Wegienka, Michael (M.J.); Choe, Mark (M.J.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation
Attachments: TSB for Superduty front end shake - DRAFTRev2.doc

Thanks. Attached is a draft proposal (procedure #3) indicating replacement of the damper without regard to whether it is leaking or not. I assume we can add an appropriate picture later if deemed necessary.

Lets wait for the holiday good cheer to diminish and get together in early January to agree on any additional package work to complete (Additional TSB direction may be required) and then send out for comments.

From: O'Connor, Tammy (T.A.)
Sent: Tuesday, December 19, 2006 9:35 AM
To: Repasky, Steve (S.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Steve:

I had to do this for this for the early parts request -- just wanted to get it in the system -- it will not go into the system to be published until I submit it -- so anytime you re ready.

Tammy A. O'Connor
Product Concern Engineer
FCSD Service Engineering Operations
Super Duty F-Series
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Repasky, Steve (S.)
Sent: Tuesday, December 19, 2006 9:33 AM
To: O'Connor, Tammy (T.A.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Tammy - I have some changes I would like you to consider. I will send to you a little latter today. Thanks..

From: O'Connor, Tammy (T.A.)

Sent: Tuesday, December 19, 2006 9:28 AM
To: Hale, Curt (B.C.); Repasky, Steve (S.); O'Connor, Tammy (T.A.)
Subject: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

TSB Courtesy Copy

*** DRAFT ***

This message is being sent on behalf of TOCONNOR.
This is a courtesy copy of the following article to advise you this article is currently being processed for publication.

General Information

Last action taken (as of 12/19/2006 2:28:26 PM GMT): Submit early parts request
Comment:

Author:	TOCONNOR
Tracking Number:	[redacted]
Author Tracking Number:	--
Title:	2005-2007 F-Super Duty - Steering Wheel Oscillation
Article Type:	TSB

TSB Issue:
Some 2005-2007 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion), immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on 4X4 vehicles, and is more evident on trucks equipped with a gas engine.
TSB Action:
Refer to the tsb Service Procedure to minimize the steering wheel oscillations on impacts, however, there may be some remaining minor oscillation which would be considered normal.

TSB Service Procedure:
SERVICE PROCEDURE SUMMARY

· Set tire pressure, road test vehicle to evaluate vehicle before proceeding with further repairs. If issue is resolved, do not proceed with the rest of this TSB
· If concern still exists, check steering damper for leaks; torque steering and suspension fasteners per Workshop Manual
· If concern still exists, check front alignment and reduce front caster
· Replacement of redundant control steering wheel (if equipped and vehicle built prior to 10/8/2004).

VEHICLE INSPECTION - TIRE PRESSURE
---
1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

NOTE: SETTING TIRE PRESSURE TO DOOR SPECIFICATION IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE.

ROAD TEST
---
1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the customer's issue.

3. If no issues are identified during the road test, do not proceed with the rest of this TSB.

STEERING DAMPER INSPECTION AND STEERING/SUSPENSION FASTENER TORQUE CHECK
---

1. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
a. If leaks are present, install a new steering damper.
2. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table below).

Description	Torque Specification (lb-ft/ Nm)	
	Lb-ft	Nm
Damper nuts (4X2)	59	80
Damper-to-bracket (F-250, F-350 4X4)	26	35
Damper-to-drag link	67	91
Drag link-to-pitman arm nut	148	201
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts and bolts	129	175
Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE.

FRONT WHEEL ALIGNMENT AND REDUCE FRONT CASTER

NOTE: OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

Measure wheel alignment. Verify that Front Caster, Camber, and Total Toe are within specification. Adjust as required. Refer to the Workshop Manual, Section 204-00 for complete alignment specifications.

REDUCE FRONT CASTER
· Note the current front caster
· Use alignment adjustment bushings to reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit. Use alignment adjustment bushings

F-250/350 4X4:
· 5C3Z-3B440-CCC (0.5 degree bushing)
· 5C3Z-3B440-DDD (0.75 degree bushing)
· 5C3Z-3B440-EEE (1.0 degree bushing)

F-450/550 4X4 and 4X2:

· 5C3Z-3B440-HHH (0.5 degree bushing)
· 5C3Z-3B440-JJJ (0.75 degree bushing)

· 5C3Z-3B440-KKK (1.0 degree bushing)

F-250/350 4X2:
· 5C3Z-3B440-C = 0.5 degree busing
· 5C3Z-3B440-D = 0.75 degree bushing
· 5C3Z-3B440-E = 1.0 degree bushing

For All 4X4 and for F-450/550 4X2
· Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward and inboard position (See Figure 1)
· This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed
· The final caster and camber settings must be within the specification limits
· Maintain the current front camber, cross-camber and cross-caster settings as close as you possibly can
· Adding weight behind the rear axle lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster

For All F-250/350 4X2,
· Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain that position while moving the caster position forward in the truck
· The final caster and camber settings must be within the specification limits

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 Only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.
1. Remove driver air bag assembly. Refer to Workshop Manual, Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

NOTE: LABOR OPERATIONS IN THIS TSB CAN BE CLAIMED TOGETHER.

NOTE: OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

Category: Service Fix (10 years - TSB Only)
Request Type: Non-QSF
Would this make a good cost save business case? No
Activity Code: 070 F-Series >8500#
Vehicle Applications:

Vehicle Lines	Model Year Start	Model Year End	Assembly Plants	Body Styles	Engine	Trans Axles	Build From	Build To
F-Super Duty (F-250 to 550)	2005	2007						

If SPECS Case, Select all Other Affected Publications:
Changes Needed in Other Pubs:

TSBs to Supersede: 06-15-1
SSMs to Supersede:
ISMs to Supersede:
Other application Articles:
Select the reason for republication: Incorrect Procedure
Procedure verified by CDSID: srepasky
Describe How The Procedure Was Verified: TSB was verified by Steve Repasky.
Do you have access to a vehicle for time study? Yes
If Yes, contact for vehicle CDSID: toconnor
Are Illustrations Required? Yes
If Yes, Contact information for illustrations:
CDSID(Ford only): toconnor
Full Name: Tammy O'Connor
Phone: 313/322-3824
Illustration Notes: Please use same illustrations from TSB 05-22-01.

Trustmarks affected: Ford
Additional Trustmarks To Notify:
Article Distribution: WDMO, Canada, Mexico, United States
DTC Codes and OASIS Service Codes: , 303000, 304000, 306000, 703000, 703000, 703200, 703200, 703300, 703300, 703400, 703400

Causal Basic Part # or Finis Code:

Causal Part # or Finis Code	Warranty Condition Codes
3E651 FRONT TIR	Chassis: 42

Calibrations List:

White Paper Numbers:

Parts Request Information

Are Parts Required? Yes
QSF Single Agenda Or Program FRC Date:
Parts List:

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
1	Existing	5C74-3F563-AB1D24	No	Not Applicable	STEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5C7Z-3600-ABA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
2	Existing	5C74-3F563-AB35B8	No	Not Applicable	sTEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5c7z-3600-CBA			No

	*Type of		*Is This Part	*Existing			*Engineering Est. Qty.

	Part	*Eng #	a Kit?	Stock#	*Part Name	*Qty/veh.	Needed
	Existing	5C34-3D004-NA	No	Not Applicable	.5 DEGREE SHIM 4X2	1	100
3	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-C			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-CA	No	Not Applicable	.5 DEGREE SHIM 4X4	1	100
4	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-CCC			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-PA	No	Not Applicable	.75 DEGREE SHIM 4X2	1	100
5	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-D			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-DA	No	Not Applicable	-75 DEGREE SHIM 4X4	1	100
6	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-DDD			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-RA	No	Not Applicable	1.0 DEGREE SHIM 4X2	1	100
7	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-E			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
8	Existing	5C34-3D004-EA	No	Not Applicable	1.0 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-EEE			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
9	Existing	5C34-3D004-JA	No	Not Applicable	0.75 DEGREE SHIM	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-JJJ			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
10	Existing	5C34-3D004-KA	No	Not Applicable	1.0 DEGREE SHIM	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-KKK			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
11	Existing	W520117-S441	No	Not Applicable	NUT - HEX - RH THREA	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			G229J	W520117-S441			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
12	Existing	W706196-S439	No	Not Applicable	Bolt	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			G229J	W706196-S439			No

13	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	8C34-3E652-AA	No	Not Applicable	Bracket	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			K856C	8C3Z- 3E652-A			No

14	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	8C34-3E651-CB	No	Not Applicable	Dampner Asy	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			T407H	8C3Z-3E651-C			No

Parts catalog flag needed? No
Part number(s) that require flag:
Is geographic location significant? No
Special instructions/remarks: We want to have 3 causal part numbers as follows:
1. 3E651 = Steering Dampner
2. FRONT = Alignment
3. TIRE = Tire Pressure

Article Number:
BCM Number:

(End automated email)

ISSUE:

Some 2005-2007 F-Super Duty vehicles may exhibit front end shake immediately following front wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.) when traveling at speeds greater than 55 MPH. This condition occurs mostly on 4x4 gas engine vehicles.

ACTION:

This procedure will minimize the front end shake on impacts; however, there may be some remaining minor oscillation, which would be considered normal. Perform the following:

- Check/set tire pressure
- Check/Set Torque on noted front suspension and steering components.
- Install new bracket and steering damper assembly.
- Front Alignment and Reduce front caster
- Replacement of Redundant Control Steering Wheel (if equipped and vehicle built prior to October 8, 2004).

SERVICE PROCEDURE

Check/Set Tire Pressure

1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

NOTE: SETTING TIRE PRESSUE TO DOOR SPEC IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

Check/Set Front end Torques

2. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table # below).

Description	Torque Specification (lb-ft/ Nm)	
	Lb-ft	Nm
Damper nuts (4x2)	59	80
Damper-to-bracket (F-250, F-350 4x4)	26	35
Damper-to-drag link	67	91
Drag link-to-pitman arm nut	148	201
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts & bolts	129	175

Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

Replace steering damper and frame mounting bracket

3. Remove existing steering damper and frame attachment bracket. Replace steering damper and frame mounting bracket with steering damper P/N 8C3Z-3E651-C and frame bracket P/N 7C3Z-3E652-C. Attach steering damper to frame bracket (with W7061[redacted] bolt and W520[redacted]1 nut) and torque nut to 103 Nm. Assemble bracket and shock assembly to the frame with attachment bolts pointing to rear of vehicle. Torque frame bracket nuts to 80 Nm. Attach other end of shock to the steering drag link and torque to 67 ft-lbs (91 Nm). See figure X.

Front end alignment and reduce caster

4. Measure wheel alignment. Verify that Front Caster, Camber & Total Toe is within specification. Adjust as required. Refer to the Workshop Manual, Section 2004-00-1 for complete alignment specifications.

Reduce front caster

- Note the current front caster
- Use alignment adjustment bushings to Reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit.
- Use Alignment adjustment bushings:

  - **F-250/350 4x4 (use one of the below bushings):**
    5C3Z-3B440-CCC (0.5 degree bushing)
    5C3Z-3B440-DDD (0.75 Degree bushing)
    5C3Z-3B440-EEE (1.0 degree bushing)

  - **F-450/550 4x4 & 4x2(use one of the below bushings)**:
    - 5C3Z-3B440-HHH (0.5 Degree bushing)
    - 5C3Z-3B440-JJJ (0.75 Degree bushing)
    - 5C3Z-3B440-KKK (1.0 degree bushing)

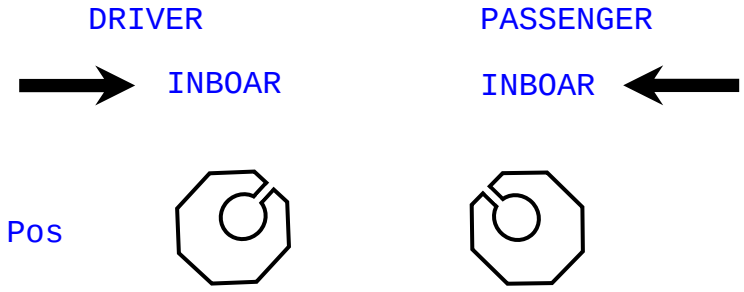
  - F-250/350 4x2**(use one of the below bushings)**:
    - 5C3Z-3B440-C = 0.5 degree busing
    - 5C3Z-3B440-D = 0.75 degree bushing
    - 5C3Z-3B440-E = 1.0 degree bushing

For All 4x4 and for F-450/550 4x2,

- Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward & inboard position (See below picture)

- This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed.
- The final caster & camber settings must be within the specification limits

TOP VIEW (L0OKING DOWN)



- Maintain the current front camber, cross-camber & cross-caster settings as close as you possibly can.
- Adding weight to the back lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster.

For All F-350/250 4x2,

- Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain that position while moving the caster position forward in the truck.
- The final caster & camber settings must be within the specification limits

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE 2005 OR 2006 SUPER DUTY F-SERIES WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

From: Rooker, Heather (H.R.)
Sent: Thursday, February 15, 2007 8:36 AM
To: O'Connor, Tammy (T.A.); Klump, Robert (R.F.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Will do

Heather Rooker
QSF/Critical Parts Specialist
Critical Parts Handling
Parts, Supply & Logistics
Ford Customer Service Division
Phone: (734)523-5612
Fax: (734)523-6044
hrooker@ford.com

From: O'Connor, Tammy (T.A.)
Sent: Thursday, February 15, 2007 8:35 AM
To: Rooker, Heather (H.R.); Klump, Robert (R.F.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Whenever you get it back - but before it goes in co-lab, please send it back for more information - thanks.

Tammy A. O'Connor
Product Concern Engineer
FCSD Service Engineering Operations
Super Duty F-Series
Body / Chassis / Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Rooker, Heather (H.R.)
Sent: Thursday, February 15, 2007 8:31 AM
To: Klump, Robert (R.F.); O'Connor, Tammy (T.A.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

I do not have TSB "2728" in my work box.....
Sorry

Heather Rooker

QSF/Critical Parts Specialist
Critical Parts Handling
Parts, Supply & Logistics
Ford Customer Service Division
Phone: (734)523-5612
Fax: (734)523-6044
hrooker@ford.com

From: Klump, Robert (R.F.)
Sent: Thursday, February 15, 2007 8:29 AM
To: O'Connor, Tammy (T.A.)
Cc: Rooker, Heather (H.R.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Tammy,

I can send this back to you but you will not be able to add part numbers to it. You need to contact the parts person who can add them or send the parts copy back for parts updates. Let me know if you still need me to send this copy back.

Heather,

The TSB needs to have 2 more parts added to it. Can you send back for more info so she can add the parts. Thanks

Regards,
Bob Klump
Global Technical Communications - FCSD
Technical Editor – TSB

☎ 313.390.3489

From: O'Connor, Tammy (T.A.)
Sent: Wednesday, February 14, 2007 4:47 PM
To: Klump, Robert (R.F.); Rooker, Heather (H.R.)
Cc: Welch, Sharon (S.L.)
Subject: FW: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Bob: We need to have 4 causal part numbers for this TSB --#4 would be NPF.

Do you know when this TSB will go into co-lab? Please return it to me before it does?

I need to add 2 more parts to the parts list -- for 4x2 damper.

We want to have 3 causal part numbers as follows:
1. 3E651 = Steering Dampner
2. FRONT = Alignment
3. TIRE = Tire Pressure

Tammy A. O'Connor
Product Concern Engineer
FCSD Service Engineering Operations
Super Duty F-Series
Body / Chassis / Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Siplus, G (G.)
Sent: Thursday, February 08, 2007 11:05 AM
To: Murray, Al (A.R.); Caines, Bill (B.); Tews, Bryan (B.H.); Tedone, Damian (D.J.); Wood, Daniel (D.P.); Jones, Darryl (D.S.); Capoccia, David (D.G.); Parekh, Deepak (D.A.); Smith, Ed (E.J.); Yerke, Eric (E.R.); Hermann, Erik (E.H.); Wood, Faith (F.M.); Wickenheiser, Francis (F.J.); Sopko, Gary (G.M.); Patel, Harendra (H.M.); Hansen, James (J.B.); Willard, Jeremy (J.); Kovacs, John (J.); Pawloski, John (.); Pommer, John (J.M.); Saieg, John (J.R.); Berry, Joseph (J.P.); Roehner, Julie (J.); Zeitz, Keith (K.A.); Gusfa, Kenneth (K.); Taylor, Mark (M.K.); Vance, Matthew (M.A.); House, Michael (M.T.); Spencer, Michael (M.T.); Nagy, Vic (V.A.); Cervenan, Neil (N.J.); Bzymek, Raymond (R.); McClain, Shawn (S.M.); Janczak, Stephanie (S.L.); Echhot, T (T.); Wheeler, Todd (T.A.); Gieleghem, Tom (T.A.); TWATSON1@ford.com; Westermann, W Scott (W.S.); Schlott, Michael (M.D.); O'Connor, Tammy (T.A.); Repasky, Steve (S.); Dwyer, Elizabeth (E.A.); Smith, Janet (J.); Boals, Shannon (S.D.)
Subject: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

TSB Courtesy Copy
*** DRAFT ***

This message is being sent on behalf of RKLUMP.
This is a courtesy copy of the following article to advise you this article is currently being processed for publication.

General Information

Last action taken (as of 2/8/2007 4:05:24 PM GMT):	Accept/Submit to approvers
Comment:	
Author:	TOCONNOR
Tracking Number:	[redacted]
Author Tracking Number:	--
Title:	2005-2007 F-Super Duty - Steering Wheel Oscillation
Article Type:	TSB

TSB Issue:
This article supersedes TSB 06-15-1 to update the Service Procedure.

Some 2005-2007 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion), immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on F-250/F-350 4X4 vehicles, and is more evident on trucks equipped with a gas engine.
TSB Action:
Refer to the Service Procedure to minimize the steering wheel oscillations on impacts, however, there may be some remaining minor oscillation which would be considered normal.

TSB Service Procedure:
SERVICE PROCEDURE SUMMARY

· Set tire pressure, road test vehicle to evaluate vehicle before proceeding with further repairs. If issue is resolved, do not proceed with the rest of this TSB
· If concern still exists, install a new steering damper (frame-mounted bracket and steering damper assembly on 4X4 applications only). For 4x2 applications, inspect damper for leaks and replace if necessary, torque steering and suspension fasteners per Workshop Manual
· If concern still exists, check front alignment and reduce front caster
· Replacement of redundant control steering wheel (if equipped and vehicle built prior to 10/8/2004).

VEHICLE INSPECTION - TIRE PRESSURE
---
1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

NOTE: SETTING TIRE PRESSURE TO DOOR SPECIFICATION IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE.

ROAD TEST
---
1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the customer's issue.
3. If no issues are identified during the road test, do not proceed with the rest of this TSB.

STEERING DAMPER AND FASTENER TORQUE CHECK

Replace Steering Damper & Frame Mounting Bracket (4X4); Inspect
---
Steering Damper (4X2):

For 4x4 applications:

Remove existing steering damper and frame attachment bracket. Replace steering damper and frame mounting bracket with steering damper P/N 8C3Z-3E651-A and frame bracket P/N 7C3Z-3E652-C. Attach steering damper to frame bracket (with W7061[redacted] bolt and W5201[redacted] nut) and torque bolt to 103 Nm. Assemble bracket and shock assembly to the frame with attachment bolt retainer (W712[redacted]) pointing to rear of vehicle. Torque frame bracket nuts (W520114-S441) to 80 Nm. Attach other end of shock to the steering drag link and torque to 90 Nm. Install damper bolt cap (W711670-S300) to assure a friendly surface for the battery cable in case of casual contact.

Note: CHECK SURROUNDING ENVIRONMENT TO THE FRAME BRACKET AND DAMPER ASSEMBLY TO ENSURE THAT BATTERY CABLES ARE NOT CONTACTING BRACKET/BOLTS/DAMPER. ALSO, VERIFY THAT TRANSMISSION OIL COOLER LINES HAVE CLEARANCE TO THE DAMPER DUST SHIELD.

For 4x2 applications only:

Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
If leaks are present, install a new steering damper.

STEERING/SUSPENSION FASTENER TORQUE CHECK (4X2 & 4X4)

---

1. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table below).

Description	Torque Specification (lb-ft/ Nm)	
	Lb-ft	Nm
Damper nuts (F-250/F-350 4X2)	59	80
Damper-to-bracket (F-250/F-350 4X4)	76	103
Damper-to-drag link	66	90
Drag link-to-pitman arm nut	129	175
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts and bolts	129	175
Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE.

FRONT WHEEL ALIGNMENT AND REDUCE FRONT CASTER

NOTE: OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

Measure wheel alignment. Verify that Front Caster, Camber, and Total Toe are within specification. Adjust as required. Refer to the Workshop Manual, Section 204-00 for complete alignment specifications.

REDUCE FRONT CASTER

- Note the current front caster
- Use alignment adjustment bushings to reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit. Use alignment adjustment bushings

F-250/350 4X4:

· 5C3Z-3B440-CCC (0.5 degree bushing)
· 5C3Z-3B440-DDD (0.75 degree bushing)
· 5C3Z-3B440-EEE (1.0 degree bushing)

F-450/550 4X4 and 4X2:

· 5C3Z-3B440-HHH (0.5 degree bushing)
· 5C3Z-3B440-JJJ (0.75 degree bushing)
· 5C3Z-3B440-KKK (1.0 degree bushing)

F-250/350 4X2:

- 5C3Z-3B440-C = 0.5 degree busing
- 5C3Z-3B440-D = 0.75 degree bushing

· 5C3Z-3B440-E = 1.0 degree bushing

For All 4X4 and for F-450/550 4X2

· Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward and inboard position (See Figure 1)

· This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed

· The final caster and camber settings must be within the specification limits

· Maintain the current front camber, cross-camber and cross-caster settings as close as you possibly can

· Adding weight behind the rear axle lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster

For All F-250/350 4X2,

· Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain that position while moving the caster position forward in the truck

· The final caster and camber settings must be within the specification limits

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To
---
10/8/2004 Only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual, Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

NOTE: LABOR OPERATIONS IN THIS TSB CAN BE CLAIMED TOGETHER.

NOTE: OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

Category: Service Fix (10 years - TSB Only)
Request Type: Non-QSF
Would this make a good cost save business case? No
Activity Code: 070 F-Series >8500#
Vehicle Applications:

Vehicle Lines	Model Year Start	Model Year End	Assembly Plants	Body Styles	Engine	Trans Axles	Build From	Build To
F-Super Duty (F-250 to 550)	2005	2007						

If SPECS Case, Select all Other Affected Publications:
Changes Needed in Other Pubs:
TSBs to Supersede: 06-15-1
SSMs to Supersede:

ISMs to Supersede:
Other application Articles:
Select the reason for republication: Incorrect Procedure
Procedure verified by CDSID: srepasky
Describe How The Procedure Was Verified: TSB was verified by Steve Repasky.
Do you have access to a vehicle for time study? Yes
If Yes, contact for vehicle CDSID: toconnor
Are Illustrations Required? Yes
If Yes, Contact information for illustrations:
CDSID(Ford only): toconnor
Full Name: Tammy O'Connor
Phone: 313/322-3824
Illustration Notes: Please use same illustrations from TSB 06-15-1.

Trustmarks affected: Ford
Additional Trustmarks To Notify:
Article Distribution: WDMO, Canada, Mexico, United States
DTC Codes and OASIS Service Codes: , 303000, 304000, 306000, 703000, 703000, 703200, 703200, 703300, 703300, 703400, 703400

Causal Basic Part # or Finis Code:

Causal Part # or Finis Code	Warranty Condition Codes
3E651 FRONT TIR	Chassis: 42

Calibrations List:

White Paper Numbers:

Parts Request Information

Are Parts Required? Yes
QSF Single Agenda Or Program FRC Date:
Parts List:

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
1	Existing	5C74-3F563-AB1D24	No	Not Applicable	STEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5C7Z-3600-ABA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
2	Existing	5C74-3F563-AB35B8	No	Not Applicable	sTEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5c7z-3600-CBA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
		5C34-3D004-			.5 DEGREE		

	Existing	NA	No	Not Applicable	SHIM 4X2	1	100
	***Calculated Forecast**		***@WERS Notice #**		***@WERS Date Released**		***@Supplier Company**
	126						
3	**@1st Contact**	**@1st Contact Phone**	**Source Code**	**Service #**	**Replaced SVC #**	**°Replaced Eng. #**	**°Is Calibration Needed**
				5C3Z-3B440-C			No

	***Type of Part**	***Eng #**	***Is This Part a Kit?**	***Existing Stock#**	***Part Name**	***Qty/veh.**	***Engineering Est. Qty. Needed**
	Existing	5C34-3D004-CA	No	Not Applicable	.5 DEGREE SHIM 4X4	1	100
	***Calculated Forecast**		***@WERS Notice #**		***@WERS Date Released**		***@Supplier Company**
4	126						
	@1st Contact	**@1st Contact Phone**	**Source Code**	**Service #**	**Replaced SVC #**	**°Replaced Eng. #**	**°Is Calibration Needed**
				5C3Z-3B440-CCC			No

	***Type of Part**	***Eng #**	***Is This Part a Kit?**	***Existing Stock#**	***Part Name**	***Qty/veh.**	***Engineering Est. Qty. Needed**
	Existing	5C34-3D004-PA	No	Not Applicable	.75 DEGREE SHIM 4X2	1	100
	***Calculated Forecast**		***@WERS Notice #**		***@WERS Date Released**		***@Supplier Company**
5	126						
	@1st Contact	**@1st Contact Phone**	**Source Code**	**Service #**	**Replaced SVC #**	**°Replaced Eng. #**	**°Is Calibration Needed**
				5C3Z-3B440-D			No

	***Type of Part**	***Eng #**	***Is This Part a Kit?**	***Existing Stock#**	***Part Name**	***Qty/veh.**	***Engineering Est. Qty. Needed**
	Existing	5C34-3D004-DA	No	Not Applicable	-75 DEGREE SHIM 4X4	1	100
	***Calculated Forecast**		***@WERS Notice #**		***@WERS Date Released**		***@Supplier Company**
6	126						
	@1st Contact	**@1st Contact Phone**	**Source Code**	**Service #**	**Replaced SVC #**	**°Replaced Eng. #**	**°Is Calibration Needed**
				5C3Z-3B440-DDD			No

	***Type of Part**	***Eng #**	***Is This Part a Kit?**	***Existing Stock#**	***Part Name**	***Qty/veh.**	***Engineering Est. Qty. Needed**
	Existing	5C34-3D004-RA	No	Not Applicable	1.0 DEGREE SHIM 4X2	1	100
	***Calculated Forecast**		***@WERS Notice #**		***@WERS Date Released**		***@Supplier Company**
7	126						
	@1st Contact	**@1st Contact Phone**	**Source Code**	**Service #**	**Replaced SVC #**	**°Replaced Eng. #**	**°Is Calibration Needed**
				5C3Z-3B440-E			No

	***Type of Part**	***Eng #**	***Is This Part a Kit?**	***Existing Stock#**	***Part Name**	***Qty/veh.**	***Engineering Est. Qty. Needed**
	Existing	5C34-3D004-	No	Not Applicable	1.0 DEGREE	1	100

		EA			SHIM 4X4		
8	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-EEE			No

9	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-JA	No	Not Applicable	0.75 DEGREE SHIM	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-JJJ			No

10	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-KA	No	Not Applicable	1.0 DEGREE SHIM	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-KKK			No

11	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	W520117-S441	No	Not Applicable	NUT - HEX - RH THREA	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			G229J	W520117-S441			No

12	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	W706196-S439	No	Not Applicable	Bolt	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			G229J	W706196-S439			No

*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
Existing	7c343e652ac	No	Not Applicable	Bracket	1	100

13	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				7c3z3e652c			No

14	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	8C34-3E651-CB	No	Not Applicable	Dampner Asy	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			T407H	8C3Z-3E651-C			No

Parts catalog flag needed? No
Part number(s) that require flag:
Is geographic location significant? No
Special instructions/remarks: We want to have 3 causal part numbers as follows:
1. 3E651 = Steering Dampner
2. FRONT = Alignment
3. TIRE = Tire Pressure

This TSB is being updated to include a revised steering damper.

Article Number:
BCM Number:

(End automated email)

From: Repasky, Steve (S.)
Sent: Thursday, January 25, 2007 3:55 PM
To: O'Connor, Tammy (T.A.)
Cc: Hale, Curt (B.C.); Gompper, Dan (D.B.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

The illustrations are a "nice to have" but not really necessary in my opinion. Once the technician gets the new shock and frame bracket, I'm sure they would know how to install it...

From: O'Connor, Tammy (T.A.)
Sent: Thursday, January 25, 2007 12:52 PM
To: Repasky, Steve (S.)
Cc: Hale, Curt (B.C.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Steve:

Does the team really think we need those 2 added illustrations -- I'm not sure they would help that much?

The old TSB did not have them.

Tammy A. O'Connor
Product Concern Engineer
FCSD Service Engineering Operations
Super Duty F-Series
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Repasky, Steve (S.)
Sent: Thursday, January 25, 2007 12:21 PM
To: O'Connor, Tammy (T.A.)
Subject: FW: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Tammy - I cut and pasted the illustration from this document to get the illustrations. Hopefully it will help...

From: Hwang, Hsiu-Ying (H.Y.)
Sent: Friday, December 22, 2006 2:57 PM
To: Gompper, Dan (D.B.); Hodges, Cynthia (C.P.)
Cc: Repasky, Steve (S.); Hwang, Hsiu-Ying (H.Y.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Dan,

I made some update and attached the file for your reference. We will continue working on it in January.

I had a discussion with Cindy earlier. The Road Test section was missing in the draft. We should keep Road Test, and would need to put the "install new bracket and steering damper assembly" at the last. I updated the torque to the correct numbers. After the package evaluation, we would need to add TOC and Battery cable section. I also attached the steering damper bolt cap in case if it's needed in P131 Vehicle.

Regards,
Hsiu-Ying Hwang
2008 P356 Super Duty Steering D&R
Certified Integrated Black Belt
Tel/Pager: 313-805-3873

From: Gompper, Dan (D.B.)
Sent: Thursday, December 21, 2006 1:18 PM
To: Hwang, Hsiu-Ying (H.Y.); Hodges, Cynthia (C.P.)
Cc: Repasky, Steve (S.)
Subject: FW: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Per you phone message, here is the DRAFT TSB. See Mark's note below to Keith, as well as Steve's note. We'll hold off on releasing the TSB and vehicle until after it is approved by package.

Thanks, and have a nice holiday,

Dan Gompper
SuperDuty Vehicle Dynamics Supervisor
EVB 2E-L01
Email: dgompper@ford.com
text page: 3138052039@sprintpcs.messaging.com

From: Memmer, Mark (M.A.)
Sent: Tuesday, December 19, 2006 12:50 PM
To: Benson, Keith (K.A.)
Cc: Gompper, Dan (D.B.); Repasky, Steve (S.)
Subject: FW: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

For your review. I will hold off on releasing the vehicle we did the package study on until after the first of the year. Vehicle is parked in Mech lot across from EVB row F. Keys are in Dan's desk.

Mark Memmer
P356 Vehicle Dynamics

From: Repasky, Steve (S.)
Sent: Tuesday, December 19, 2006 11:35 AM
To: O'Connor, Tammy (T.A.)
Cc: Gompper, Dan (D.B.); Memmer, Mark (M.A.); Wegienka, Michael (M.J.); Choe, Mark (M.J.)

Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Thanks. Attached is a draft proposal (procedure #3) indicating replacement of the damper without regard to whether it is leaking or not. I assume we can add an appropriate picture later if deemed necessary.

Lets wait for the holiday good cheer to diminish and get together in early January to agree on any additional package work to complete (Additional TSB direction may be required) and then send out for comments.

From: O'Connor, Tammy (T.A.)
Sent: Tuesday, December 19, 2006 9:35 AM
To: Repasky, Steve (S.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Steve:

I had to do this for this for the early parts request -- just wanted to get it in the system -- it will not go into the system to be published until I submit it -- so anytime you re ready.

Tammy A. O'Connor
Product Concern Engineer
FCSD Service Engineering Operations
Super Duty F-Series
Body / Chassis / Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Repasky, Steve (S.)
Sent: Tuesday, December 19, 2006 9:33 AM
To: O'Connor, Tammy (T.A.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Tammy - I have some changes I would like you to consider. I will send to you a little latter today. Thanks..

From: O'Connor, Tammy (T.A.)
Sent: Tuesday, December 19, 2006 9:28 AM
To: Hale, Curt (B.C.); Repasky, Steve (S.); O'Connor, Tammy (T.A.)
Subject: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

TSB Courtesy Copy
*** DRAFT ***

This message is being sent on behalf of TOCONNOR.
This is a courtesy copy of the following article to advise you this article is currently being processed for publication.

General Information

Last action taken (as of 12/19/2006 2:28:26 PM GMT): Submit early parts request
Comment:

Author:	TOCONNOR
Tracking Number:	[redacted]
Author Tracking Number:	--
Title:	2005-2007 F-Super Duty - Steering Wheel Oscillation
Article Type:	TSB

TSB Issue:
Some 2005-2007 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion), immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer
than five oscillations. This condition occurs mostly on 4X4 vehicles, and is more evident on trucks equipped with a gas engine.
TSB Action:
Refer to the tsb Service Procedure to minimize the steering wheel oscillations on impacts, however, there may be some remaining minor oscillation which would be considered normal.

TSB Service Procedure:
SERVICE PROCEDURE SUMMARY

· Set tire pressure, road test vehicle to evaluate vehicle before proceeding with further repairs. If issue is resolved, do not proceed with the rest of this TSB
· If concern still exists, check steering damper for leaks; torque steering and suspension fasteners per Workshop Manual
· If concern still exists, check front alignment and reduce front caster
· Replacement of redundant control steering wheel (if equipped and vehicle built prior to 10/8/2004).

VEHICLE INSPECTION - TIRE PRESSURE
---
1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

NOTE: SETTING TIRE PRESSURE TO DOOR SPECIFICATION IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE.

ROAD TEST
---
1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the customer's issue.
3. If no issues are identified during the road test, do not proceed with the rest of this TSB.

STEERING DAMPER INSPECTION AND STEERING/SUSPENSION FASTENER TORQUE CHECK
---
1. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
a. If leaks are present, install a new steering damper.
2. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table below).

Description	Torque Specification (lb-ft/ Nm)	
	Lb-ft	Nm
Damper nuts (4X2)	59	80
Damper-to-bracket (F-250, F-350 4X4)	26	35
Damper-to-drag link	67	91
Drag link-to-pitman arm nut	148	201
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts and bolts	129	175
Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE.

FRONT WHEEL ALIGNMENT AND REDUCE FRONT CASTER

NOTE: OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

Measure wheel alignment. Verify that Front Caster, Camber, and Total Toe are within specification. Adjust as required. Refer to the Workshop Manual, Section 204-00 for complete alignment specifications.

REDUCE FRONT CASTER

· Note the current front caster

· Use alignment adjustment bushings to reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit. Use alignment adjustment bushings

F-250/350 4X4:

· 5C3Z-3B440-CCC (0.5 degree bushing)
· 5C3Z-3B440-DDD (0.75 degree bushing)
· 5C3Z-3B440-EEE (1.0 degree bushing)

F-450/550 4X4 and 4X2:

· 5C3Z-3B440-HHH (0.5 degree bushing)
· 5C3Z-3B440-JJJ (0.75 degree bushing)
· 5C3Z-3B440-KKK (1.0 degree bushing)

F-250/350 4X2:

· 5C3Z-3B440-C = 0.5 degree busing
· 5C3Z-3B440-D = 0.75 degree bushing
· 5C3Z-3B440-E = 1.0 degree bushing

For All 4X4 and for F-450/550 4X2

· Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward and inboard position (See Figure 1)

· This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed
· The final caster and camber settings must be within the specification limits
· Maintain the current front camber, cross-camber and cross-caster settings as close as you possibly can
· Adding weight behind the rear axle lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster

For All F-250/350 4X2,
· Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain that position while moving the caster position forward in the truck
· The final caster and camber settings must be within the specification limits

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 Only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.
1. Remove driver air bag assembly. Refer to Workshop Manual, Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

NOTE: LABOR OPERATIONS IN THIS TSB CAN BE CLAIMED TOGETHER.

NOTE: OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

Category: Service Fix (10 years - TSB Only)
Request Type: Non-QSF
Would this make a good cost save business case? No
Activity Code: 070 F-Series >8500#
Vehicle Applications:

Vehicle Lines	Model Year Start	Model Year End	Assembly Plants	Body Styles	Engine	Trans Axles	Build From	Build To
F-Super Duty (F-250 to 550)	2005	2007						

If SPECS Case, Select all Other Affected Publications:
Changes Needed in Other Pubs:
TSBs to Supersede: 06-15-1
SSMs to Supersede:
ISMs to Supersede:
Other application Articles:
Select the reason for republication: Incorrect Procedure
Procedure verified by CDSID: srepasky
Describe How The Procedure Was Verified: TSB was verified by Steve Repasky.
Do you have access to a vehicle for time study? Yes
If Yes, contact for vehicle CDSID: toconnor
Are Illustrations Required? Yes
If Yes, Contact information for illustrations:

CDSID(Ford only): toconnor
Full Name: Tammy O'Connor
Phone: 313/322-3824
Illustration Notes: Please use same illustrations from TSB 05-22-01.

Trustmarks affected: Ford
Additional Trustmarks To Notify:
Article Distribution: WDMO, Canada, Mexico, United States
DTC Codes and OASIS Service Codes: , 303000, 304000, 306000, 703000, 703000, 703200, 703200, 703300, 703300, 703400, 703400

Causal Basic Part # or Finis Code:

Causal Part # or Finis Code	Warranty Condition Codes
3E651 FRONT TIR	Chassis: 42

Calibrations List:

White Paper Numbers:

Parts Request Information

Are Parts Required? Yes
QSF Single Agenda Or Program FRC Date:
Parts List:

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
1	Existing	5C74-3F563-AB1D24	No	Not Applicable	STEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5C7Z-3600-ABA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
2	Existing	5C74-3F563-AB35B8	No	Not Applicable	sTEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5c7z-3600-CBA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
3	Existing	5C34-3D004-NA	No	Not Applicable	.5 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-C			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
4	Existing	5C34-3D004-CA	No	Not Applicable	.5 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-CCC			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
5	Existing	5C34-3D004-PA	No	Not Applicable	.75 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-D			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
6	Existing	5C34-3D004-DA	No	Not Applicable	-75 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-DDD			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
7	Existing	5C34-3D004-RA	No	Not Applicable	1.0 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-E			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
8	Existing	5C34-3D004-EA	No	Not Applicable	1.0 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-EEE			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
9	Existing	5C34-3D004-JA	No	Not Applicable	0.75 DEGREE SHIM	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-JJJ			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
10	Existing	5C34-3D004-KA	No	Not Applicable	1.0 DEGREE SHIM	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-KKK			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
11	Existing	W520117-S441	No	Not Applicable	NUT - HEX - RH THREA	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			G229J	W520117-S441			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
12	Existing	W706196-S439	No	Not Applicable	Bolt	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			G229J	W706196-S439			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
13	Existing	8C34-3E652-AA	No	Not Applicable	Bracket	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			K856C	8C3Z- 3E652-A			No

	*Type of		*Is This Part a	*Existing			*Engineering Est. Qty.

	Part	*Eng #	Kit?	Stock#	*Part Name	*Qty/veh.	Needed
	Existing	8C34-3E651-CB	No	Not Applicable	Dampner Asy	1	100
14	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			T407H	8C3Z-3E651-C			No

Parts catalog flag needed? No
Part number(s) that require flag:
Is geographic location significant? No
Special instructions/remarks: We want to have 3 causal part numbers as follows:
1. 3E651 = Steering Dampner
2. FRONT = Alignment
3. TIRE = Tire Pressure

Article Number:
BCM Number:

(End automated email)

From: Gompper, Dan (D.B.)

Sent: Thursday, February 22, 2007 4:51 PM

To: O'Connor, Tammy (T.A.)

Cc: Barry, Jack (J.E.); Memmer, Mark (M.A.); Wegienka, Michael (M.J.); Choe, Mark (M.J.); Hodges, Cynthia (C.P.); Klump, Robert (R.F.); Welch, Sharon (S.L.); Hale, Curt (B.C.); Benson, Keith (K.A.); Hwang, Hsiu-Ying (H.Y.); Perry, Adam (A.F.); Repasky, Steve (S.)

Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Okay, sounds like it covers my concern. Thanks for the clarification.

Dan Gompper
SuperDuty Vehicle Dynamics Supervisor
EVB 2E-L01
Email: dgompper@ford.com
text page: 3138052039@sprintpcs.messaging.com

From: O'Connor, Tammy (T.A.)
Sent: Thursday, February 22, 2007 4:50 PM
To: Gompper, Dan (D.B.)
Cc: Barry, Jack (J.E.); Memmer, Mark (M.A.); Wegienka, Michael (M.J.); Choe, Mark (M.J.); Hodges, Cynthia (C.P.); Klump, Robert (R.F.); Welch, Sharon (S.L.); Hale, Curt (B.C.); Benson, Keith (K.A.); Hwang, Hsiu-Ying (H.Y.); Perry, Adam (A.F.); Repasky, Steve (S.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Every TSB contains a box with all the appropriate part numbers. The part numbers will be listed there - along with the appropriate application.

Tammy A. O'Connor
Product Concern Engineer
FCSD Service Engineering Operations
Super Duty F-Series
Body / Chassis / Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Gompper, Dan (D.B.)
Sent: Thursday, February 22, 2007 4:48 PM
To: O'Connor, Tammy (T.A.)
Cc: Barry, Jack (J.E.); Memmer, Mark (M.A.); Wegienka, Michael (M.J.); Choe, Mark (M.J.); Hodges, Cynthia (C.P.); Klump, Robert (R.F.); Welch, Sharon (S.L.); Hale, Curt (B.C.); Benson, Keith (K.A.); Hwang, Hsiu-Ying (H.Y.); Perry, Adam (A.F.); Repasky, Steve (S.)

Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Tammy,

Keith Benson (package supervisor) and I have reviewed the existing video, CAD, and on-vehicle evaluations. Keith and I concurred that the '08 damper package is acceptable. Based on this, please continue the release of this TSB.

On a second note, is it too late to modify the section on the inspection and replacement of steering dampers on 4x2s and F450/550 vehicles to contain the appropriate part numbers? Only the damper part numbers would be required. My concern is that without part numbers listed, the tech may look to the paragraph just above it to obtain parts if leaks justify a new damper.

For F-250/F-350 4x4 applications:

Remove existing steering damper and frame attachment bracket. Replace steering damper and frame mounting bracket with steering damper P/N 8C3Z-3E651-A and frame bracket P/N 7C3Z-3E652-C. Attach steering damper to frame bracket (with W7061[redacted] bolt and W5201[redacted] nut) and torque bolt to 103 Nm. Assemble bracket and shock assembly to the frame with attachment bolt retainer (W7120[redacted]) pointing to rear of vehicle. Torque frame bracket nuts (W5201[redacted]) to 80 Nm. Attach other end of shock to the steering drag link and torque to 90 Nm. Install damper bolt cap (W7116[redacted]) to assure a friendly surface for the battery cable in case of casual contact.

Note: CHECK SURROUNDING ENVIRONMENT TO THE FRAME BRACKET AND DAMPER ASSEMBLY TO ENSURE THAT BATTERY CABLES ARE NOT CONTACTING BRACKET/BOLTS/DAMPER. ALSO, VERIFY THAT TRANSMISSION OIL COOLER LINES HAVE CLEARANCE TO THE DAMPER DUST SHIELD.

For F-250/F-350 4X2 & all F-450/F-550 applications only:

Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
If leaks are present, install a new steering damper.

thanks,

Dan Gompper
SuperDuty Vehicle Dynamics Supervisor
EVB 2E-L01
Email: dgompper@ford.com
text page: 3138052039@sprintpcs.messaging.com

From: O'Connor, Tammy (T.A.)
Sent: Thursday, February 22, 2007 8:51 AM
To: Gompper, Dan (D.B.); Perry, Adam (A.F.); Repasky, Steve (S.); Benson, Keith (K.A.); Miller, Todd (T.R.);

Hwang, Hsiu-Ying (H.Y.)
Cc: Barry, Jack (J.E.); Memmer, Mark (M.A.); Wegienka, Michael (M.J.); Choe, Mark (M.J.); Hodges, Cynthia (C.P.); Klump, Robert (R.F.); Welch, Sharon (S.L.); Hale, Curt (B.C.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

This TSB just went into co-lab (I have put a hold on it), we need to get this resolved quickly.

Tammy A. O'Connor
Product Concern Engineer
FCSD Service Engineering Operations
Super Duty F-Series
Body / Chassis / Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Gompper, Dan (D.B.)
Sent: Wednesday, February 21, 2007 9:03 PM
To: Perry, Adam (A.F.); Repasky, Steve (S.); Benson, Keith (K.A.); Miller, Todd (T.R.); Hwang, Hsiu-Ying (H.Y.)
Cc: Barry, Jack (J.E.); Memmer, Mark (M.A.); Wegienka, Michael (M.J.); Choe, Mark (M.J.); Hodges, Cynthia (C.P.); O'Connor, Tammy (T.A.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Did anyone take the damper off before transferring to the next user?

Todd Miller is using the truck with ACH. Todd -- do you have someone who can read the steering damper and damper bracket @ frame part numbers off of this truck?

My recall was that we assessed with an '08 damper and bracket at EVB. I assume it was the same damper in the video / dynamic clearance study. Hsiu-Ying attended when the package was inspected at EVB as well.

Dan Gompper
SuperDuty Vehicle Dynamics Supervisor
EVB 2E-L01
Email: dgompper@ford.com
text page: 3138052039@sprintpcs.messaging.com

From: Perry, Adam (A.F.)
Sent: Wednesday, February 21, 2007 2:48 PM
To: Repasky, Steve (S.); Benson, Keith (K.A.)
Cc: Barry, Jack (J.E.); Gompper, Dan (D.B.); Memmer, Mark (M.A.); Wegienka, Michael (M.J.); Choe, Mark (M.J.); Hodges, Cynthia (C.P.); O'Connor, Tammy (T.A.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

I cannot say for certain which parts were on the vehicle, I received the vehicle with parts already installed.

Dan Gompper - can you answer the question?

Adam Perry
Vehicle Engineering
(313) 805-3244

From: Repasky, Steve (S.)
Sent: Wednesday, February 21, 2007 2:33 PM
To: Benson, Keith (K.A.); Perry, Adam (A.F.)
Cc: Hwang, Hsiu-Ying (H.Y.); Barry, Jack (J.E.); Gompper, Dan (D.B.); Memmer, Mark (M.A.); Wegienka, Michael (M.J.); Choe, Mark (M.J.); Hodges, Cynthia (C.P.); O'Connor, Tammy (T.A.)
Subject: FW: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Keith/Adam - Need your assistance/package concurrence to get this TSB completed and out to the field. I had a review with Jack Barry and Hsiu-Ying Hwang yesterday with the following outcomes:

- Differences between the 2008 and 2008.5 Superduty steering damper and strg. damper bracket to frame were discussed and demonstrated.
- We need to determine if the Superduty vehicle test successfully completed by Adam was conducted with a 2008.5 level steering damper and steering damper bracket? (Adam - please confirm part numbers of tested parts).
- If the above statement regarding vehicle test is correct, would the package area sign-off on usage of the 2008 bracket and damper based on the 2008.5 component vehicle test?
- With package approval, the D&R activity would also agree to using the 2008 parts for the TSB until 2008.5 level parts are available.
- Note: 2008 level parts have been installed in the field on a few fleet vehicles without an apparent damage to the damper. I inspected one installation in Hobbs, N.M after ~ 800 miles of usage without any observed damage.
- Sign-off use of the 2008 components would allow issuance of this TSB in a timely manner.
- Waiting for 2008.5 part usage only would result in ~ 6 weeks delay due to unavailability of an adequate number of 08.5 brackets from the supplier to stock FCSD prior to TSB issuance.

Jack/Hsiu-Ying - Please provide clarification if necessary. Thanks..

From: O'Connor, Tammy (T.A.)
Sent: Thursday, February 15, 2007 9:21 AM
To: Hale, Curt (B.C.); Knapp, David (D.); Repasky, Steve (S.); Welch, Sharon (S.L.); O'Connor, Tammy (T.A.)
Subject: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

TSB Courtesy Copy
*** DRAFT ***

This message is being sent on behalf of TOCONNOR.

This is a courtesy copy of the following article to advise you this article is currently being processed for publication.

General Information

Last action taken (as of 2/15/2007 2:20:42 PM GMT):	Submit for approval
Comment:	updated the parts list to include damper part numbers for 250/350 4x2 and 450/550. I updated text to clarify that 4x2 and 450/550 do not use new damper - procedure itself did not change, and included 4th causal part number.
Author:	TOCONNOR
Tracking Number:	[redacted]
Author Tracking Number:	--
Title:	2005-2007 F-Super Duty - Steering Wheel Oscillation
Article Type:	TSB

TSB Issue:
This article supersedes TSB 06-15-1 to update the Service Procedure.

Some 2005-2007 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion), immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on F-250/F-350 4X4 vehicles, and is more evident on trucks equipped with a gas engine.

TSB Action:
Refer to the Service Procedure to minimize the steering wheel oscillations on impacts, however, there may be some remaining minor oscillation which would be considered normal.

TSB Service Procedure:
SERVICE PROCEDURE SUMMARY

· Set tire pressure, road test vehicle to evaluate vehicle before proceeding with further repairs. If issue is resolved, do not proceed with the rest of this TSB
· If concern still exists, install a new steering damper (frame-mounted bracket and steering damper assembly on F-250/F-350 4X4 applications only). For F-250/F-350 4X2 and all F-450/F-550 applications, inspect damper for leaks and replace if necessary, torque steering and suspension fasteners per Workshop Manual
· If concern still exists, check front alignment and reduce front caster
· Replacement of redundant control steering wheel (if equipped and vehicle built prior to 10/8/2004).

VEHICLE INSPECTION - TIRE PRESSURE
---

1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

NOTE: SETTING TIRE PRESSURE TO DOOR SPECIFICATION IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE.

ROAD TEST
---

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.

2. Road test vehicle on similar road surface and speed, to gain a feel for the customer's issue.
3. If no issues are identified during the road test, do not proceed with the rest of this TSB.

STEERING DAMPER AND FASTENER TORQUE CHECK

Replace Steering Damper & Frame Mounting Bracket (F-250/F-350 4X4); Inspect
---
Steering Damper (F-250/F-350 4X2 & all F-450/F-550):

For F-250/F-350 4x4 applications:

Remove existing steering damper and frame attachment bracket. Replace steering damper and frame mounting bracket with steering damper P/N 8C3Z-3E651-A and frame bracket P/N 7C3Z-3E652-C. Attach steering damper to frame bracket (with W7061[redacted] bolt and W5201[redacted] nut) and torque bolt to 103 Nm. Assemble bracket and shock assembly to the frame with attachment bolt retainer (W7120[redacted]) pointing to rear of vehicle. Torque frame bracket nuts (W5201[redacted]) to 80 Nm. Attach other end of shock to the steering drag link and torque to 90 Nm. Install damper bolt cap (W7116[redacted]) to assure a friendly surface for the battery cable in case of casual contact.

Note: CHECK SURROUNDING ENVIRONMENT TO THE FRAME BRACKET AND DAMPER ASSEMBLY TO ENSURE THAT BATTERY CABLES ARE NOT CONTACTING BRACKET/BOLTS/DAMPER. ALSO, VERIFY THAT TRANSMISSION OIL COOLER LINES HAVE CLEARANCE TO THE DAMPER DUST SHIELD.

For F-250/F-350 4X2 & all F-450/F-550 applications only:

Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
If leaks are present, install a new steering damper.

STEERING/SUSPENSION FASTENER TORQUE CHECK (4X2 & 4X4)
---

1. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table below).

Description	Torque Specification (lb-ft/ Nm)	
	Lb-ft	Nm
Damper nuts (F-250/F-350 4X2)	59	80
Damper-to-bracket (F-250/F-350 4X4)	76	103
Damper-to-drag link	66	90
Drag link-to-pitman arm nut	129	175
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts and bolts	129	175
Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE.

FRONT WHEEL ALIGNMENT AND REDUCE FRONT CASTER

NOTE: OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

Measure wheel alignment. Verify that Front Caster, Camber, and Total Toe are within specification. Adjust as required. Refer to the Workshop Manual, Section 204-00 for complete alignment specifications.

REDUCE FRONT CASTER
· Note the current front caster
· Use alignment adjustment bushings to reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit. Use alignment adjustment bushings

F-250/350 4X4:
· 5C3Z-3B440-CCC (0.5 degree bushing)
· 5C3Z-3B440-DDD (0.75 degree bushing)
· 5C3Z-3B440-EEE (1.0 degree bushing)

F-450/550 4X4 and 4X2:

· 5C3Z-3B440-HHH (0.5 degree bushing)
· 5C3Z-3B440-JJJ (0.75 degree bushing)
· 5C3Z-3B440-KKK (1.0 degree bushing)

F-250/350 4X2:
· 5C3Z-3B440-C = 0.5 degree busing
· 5C3Z-3B440-D = 0.75 degree bushing
· 5C3Z-3B440-E = 1.0 degree bushing

For All 4X4 and for F-450/550 4X2
· Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward and inboard position (See Figure 1)
· This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed
· The final caster and camber settings must be within the specification limits
· Maintain the current front camber, cross-camber and cross-caster settings as close as you possibly can
· Adding weight behind the rear axle lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster

For All F-250/350 4X2,
· Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain that position while moving the caster position forward in the truck
· The final caster and camber settings must be within the specification limits

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 Only

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NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual, Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

NOTE: LABOR OPERATIONS IN THIS TSB CAN BE CLAIMED TOGETHER.

NOTE: OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

Category: Service Fix (10 years - TSB Only)
Request Type: Non-QSF
Would this make a good cost save business case? No
Activity Code: 070 F-Series >8500#
Vehicle Applications:

Vehicle Lines	Model Year Start	Model Year End	Assembly Plants	Body Styles	Engine	Trans Axles	Build From	Build To
F-Super Duty (F-250 to 550)	2005	2007						

If SPECS Case, Select all Other Affected Publications:
Changes Needed in Other Pubs:
TSBs to Supersede: 06-15-1
SSMs to Supersede:
ISMs to Supersede:
Other application Articles:
Select the reason for republication: Incorrect Procedure
Procedure verified by CDSID: srepasky
Describe How The Procedure Was Verified: TSB was verified by Steve Repasky.
Do you have access to a vehicle for time study? Yes
If Yes, contact for vehicle CDSID: toconnor
Are Illustrations Required? Yes
If Yes, Contact information for illustrations:
CDSID(Ford only): toconnor
Full Name: Tammy O'Connor
Phone: 313/322-3824
Illustration Notes: Please use same illustrations from TSB 06-15-1.

Trustmarks affected: Ford
Additional Trustmarks To Notify:
Article Distribution: WDMO, Canada, Mexico, United States
DTC Codes and OASIS Service Codes: , 303000, 304000, 306000, 703000, 703000, 703200, 703200, 703300, 703300, 703400, 703400

Causal Basic Part # or Finis Code:

Causal Part # or Finis Code	Warranty Condition Codes
3E651 FRONT TIR	Chassis: 42

Calibrations List:

White Paper Numbers:

Parts Request Information

Are Parts Required? Yes
QSF Single Agenda Or Program FRC Date:
Parts List:

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
1	Existing	5C74-3F563-AB1D24	No	Not Applicable	STEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5C7Z-3600-ABA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
2	Existing	5C74-3F563-AB35B8	No	Not Applicable	sTEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5c7z-3600-CBA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
3	Existing	5C34-3D004-NA	No	Not Applicable	.5 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-C			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
4	Existing	5C34-3D004-CA	No	Not Applicable	.5 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-CCC			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-PA	No	Not Applicable	.75 DEGREE SHIM 4X2	1	100

	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
5	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-D			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-DA	No	Not Applicable	-75 DEGREE SHIM 4X4	1	100
6	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-DDD			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-RA	No	Not Applicable	1.0 DEGREE SHIM 4X2	1	100
7	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-E			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-EA	No	Not Applicable	1.0 DEGREE SHIM 4X4	1	100
8	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-EEE			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-JA	No	Not Applicable	0.75 DEGREE SHIM	1	100
9	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-JJJ			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-KA	No	Not Applicable	1.0 DEGREE SHIM	1	100

	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
10	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-KKK			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	W520117-S441	No	Not Applicable	NUT - HEX - RH THREA	1	100
11	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			G229J	W520117-S441			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	W706196-S439	No	Not Applicable	Bolt	1	100
12	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			G229J	W706196-S439			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	7c343e652ac	No	Not Applicable	Bracket	1	100
13	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				7c3z3e652c			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	8C34-3E651-CB	No	Not Applicable	Damper 250/350 4X4	1	100
14	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			T407H	8C3Z-3E651-C			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3E651-CH	No	Not Applicable	Damper 450/550 ALL	1	100
15	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						

	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			Q29AA	5C3Z- 3E651-D			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3E651-BG	No	Not Applicable	Damper 250/350 4X2	1	100
16	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			Q29AA	5C3Z- 3E651-B			No

Parts catalog flag needed? No
Part number(s) that require flag:
Is geographic location significant? No
Special instructions/remarks: We want to have 4 causal part numbers as follows:
1. 3E651 = Steering Dampner
2. FRONT = Alignment
3. TIRE = Tire Pressure
4. NPF = No Problem Found

This TSB is being updated to include a revised steering damper.

Article Number:
BCM Number:

(End automated email)

From: Gompper, Dan (D.B.)

Sent: Wednesday, February 21, 2007 9:03 PM

To: Perry, Adam (A.F.); Repasky, Steve (S.); Benson, Keith (K.A.); Miller, Todd (T.R.); Hwang, Hsiu-Ying (H.Y.)

Cc: Barry, Jack (J.E.); Memmer, Mark (M.A.); Wegienka, Michael (M.J.); Choe, Mark (M.J.); Hodges, Cynthia (C.P.); O'Connor, Tammy (T.A.)

Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Did anyone take the damper off before transferring to the next user?

Todd Miller is using the truck with ACH. Todd -- do you have someone who can read the steering damper and damper bracket @ frame part numbers off of this truck?

My recall was that we assessed with an '08 damper and bracket at EVB. I assume it was the same damper in the video / dynamic clearance study. Hsiu-Ying attended when the package was inspected at EVB as well.

Dan Gompper
SuperDuty Vehicle Dynamics Supervisor
EVB 2E-L01
Email: dgompper@ford.com
text page: 3138052039@sprintpcs.messaging.com

From: Perry, Adam (A.F.)
Sent: Wednesday, February 21, 2007 2:48 PM
To: Repasky, Steve (S.); Benson, Keith (K.A.)
Cc: Barry, Jack (J.E.); Gompper, Dan (D.B.); Memmer, Mark (M.A.); Wegienka, Michael (M.J.); Choe, Mark (M.J.); Hodges, Cynthia (C.P.); O'Connor, Tammy (T.A.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

I cannot say for certain which parts were on the vehicle, I received the vehicle with parts already installed.

Dan Gompper - can you answer the question?

Adam Perry
Vehicle Engineering
(313) 805-3244

From: Repasky, Steve (S.)

Sent: Wednesday, February 21, 2007 2:33 PM
To: Benson, Keith (K.A.); Perry, Adam (A.F.)
Cc: Hwang, Hsiu-Ying (H.Y.); Barry, Jack (J.E.); Gompper, Dan (D.B.); Memmer, Mark (M.A.); Wegienka, Michael (M.J.); Choe, Mark (M.J.); Hodges, Cynthia (C.P.); O'Connor, Tammy (T.A.)
Subject: FW: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Keith/Adam - Need your assistance/package concurrence to get this TSB completed and out to the field. I had a review with Jack Barry and Hsiu-Ying Hwang yesterday with the following outcomes:

- Differences between the 2008 and 2008.5 Superduty steering damper and strg. damper bracket to frame were discussed and demonstrated.
- We need to determine if the Superduty vehicle test successfully completed by Adam was conducted with a 2008.5 level steering damper and steering damper bracket? (Adam - please confirm part numbers of tested parts).
- If the above statement regarding vehicle test is correct, would the package area sign-off on usage of the 2008 bracket and damper based on the 2008.5 component vehicle test?
- With package approval, the D&R activity would also agree to using the 2008 parts for the TSB until 2008.5 level parts are available.
- Note: 2008 level parts have been installed in the field on a few fleet vehicles without an apparent damage to the damper. I inspected one installation in Hobbs, N.M after ~ 800 miles of usage without any observed damage.
- Sign-off use of the 2008 components would allow issuance of this TSB in a timely manner.
- Waiting for 2008.5 part usage only would result in ~ 6 weeks delay due to unavailability of an adequate number of 08.5 brackets from the supplier to stock FCSD prior to TSB issuance.

Jack/Hsiu-Ying - Please provide clarification if necessary. Thanks..

From: O'Connor, Tammy (T.A.)
Sent: Thursday, February 15, 2007 9:21 AM
To: Hale, Curt (B.C.); Knapp, David (D.); Repasky, Steve (S.); Welch, Sharon (S.L.); O'Connor, Tammy (T.A.)
Subject: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

TSB Courtesy Copy
*** DRAFT ***

This message is being sent on behalf of TOCONNOR.
This is a courtesy copy of the following article to advise you this article is currently being processed for publication.

General Information

Last action taken (as of 2/15/2007 2:20:42 PM GMT):	Submit for approval
Comment:	updated the parts list to include damper part numbers for 250/350 4x2 and 450/550. I updated text to clarify that 4x2 and 450/550 do not use new damper - procedure itself did not change, and included 4th causal part number.
Author:	TOCONNOR
Tracking Number:	[redacted]
Author Tracking Number:	--

Title: 2005-2007 F-Super Duty - Steering Wheel Oscillation
Article Type: TSB

TSB Issue:
This article supersedes TSB 06-15-1 to update the Service Procedure.

Some 2005-2007 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion), immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on F-250/F-350 4X4 vehicles, and is more evident on trucks equipped with a gas engine.

TSB Action:
Refer to the Service Procedure to minimize the steering wheel oscillations on impacts, however, there may be some remaining minor oscillation which would be considered normal.

TSB Service Procedure:
SERVICE PROCEDURE SUMMARY

· Set tire pressure, road test vehicle to evaluate vehicle before proceeding with further repairs. If issue is resolved, do not proceed with the rest of this TSB
· If concern still exists, install a new steering damper (frame-mounted bracket and steering damper assembly on F-250/F-350 4X4 applications only). For F-250/F-350 4X2 and all F-450/F-550 applications, inspect damper for leaks and replace if necessary, torque steering and suspension fasteners per Workshop Manual
· If concern still exists, check front alignment and reduce front caster
· Replacement of redundant control steering wheel (if equipped and vehicle built prior to 10/8/2004).

VEHICLE INSPECTION - TIRE PRESSURE
---
1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

NOTE: SETTING TIRE PRESSURE TO DOOR SPECIFICATION IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE.

ROAD TEST
---
1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the customer's issue.
3. If no issues are identified during the road test, do not proceed with the rest of this TSB.

STEERING DAMPER AND FASTENER TORQUE CHECK

Replace Steering Damper & Frame Mounting Bracket (F-250/F-350 4X4); Inspect
---
Steering Damper (F-250/F-350 4X2 & all F-450/F-550):

For F-250/F-350 4x4 applications:

Remove existing steering damper and frame attachment bracket. Replace steering damper and frame mounting bracket with steering damper P/N 8C3Z-3E651-A and frame bracket P/N 7C3Z-3E652-C. Attach steering damper to frame bracket (with W7061[redacted] bolt and W520[redacted] nut) and torque bolt to 103 Nm. Assemble bracket and shock assembly to the frame with attachment bolt retainer (W7120[redacted]) pointing to rear of vehicle. Torque frame bracket nuts (W5201[redacted]) to 80 Nm. Attach other end of shock to the steering drag link and torque to 90 Nm. Install damper bolt cap (W7116[redacted]) to assure a friendly surface for the battery cable in case of casual contact.

Note: CHECK SURROUNDING ENVIRONMENT TO THE FRAME BRACKET AND DAMPER ASSEMBLY TO ENSURE THAT BATTERY CABLES ARE NOT CONTACTING BRACKET/BOLTS/DAMPER. ALSO, VERIFY THAT TRANSMISSION OIL COOLER LINES HAVE CLEARANCE TO THE DAMPER DUST SHIELD.

For F-250/F-350 4X2 & all F-450/F-550 applications only:

Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
If leaks are present, install a new steering damper.

STEERING/SUSPENSION FASTENER TORQUE CHECK (4X2 & 4X4)

---

1. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table below).

Description	Torque Specification (lb-ft/ Nm)	
	Lb-ft	Nm
Damper nuts (F-250/F-350 4X2)	59	80
Damper-to-bracket (F-250/F-350 4X4)	76	103
Damper-to-drag link	66	90
Drag link-to-pitman arm nut	129	175
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts and bolts	129	175
Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE.

FRONT WHEEL ALIGNMENT AND REDUCE FRONT CASTER

NOTE: OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

Measure wheel alignment. Verify that Front Caster, Camber, and Total Toe are within specification. Adjust as required. Refer to the Workshop Manual, Section 204-00 for complete alignment specifications.

REDUCE FRONT CASTER

- Note the current front caster
- Use alignment adjustment bushings to reduce front caster by 0.5 to 0.75 degrees. The caster setting may be

at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit. Use alignment adjustment bushings

F-250/350 4X4:
· 5C3Z-3B440-CCC (0.5 degree bushing)
· 5C3Z-3B440-DDD (0.75 degree bushing)
· 5C3Z-3B440-EEE (1.0 degree bushing)

F-450/550 4X4 and 4X2:

· 5C3Z-3B440-HHH (0.5 degree bushing)
· 5C3Z-3B440-JJJ (0.75 degree bushing)
· 5C3Z-3B440-KKK (1.0 degree bushing)

F-250/350 4X2:
· 5C3Z-3B440-C = 0.5 degree busing
· 5C3Z-3B440-D = 0.75 degree bushing
· 5C3Z-3B440-E = 1.0 degree bushing

For All 4X4 and for F-450/550 4X2
· Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward and inboard position (See Figure 1)
· This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed
· The final caster and camber settings must be within the specification limits
· Maintain the current front camber, cross-camber and cross-caster settings as close as you possibly can
· Adding weight behind the rear axle lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster

For All F-250/350 4X2,
· Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain that position while moving the caster position forward in the truck
· The final caster and camber settings must be within the specification limits

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To
---
10/8/2004 Only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.
1. Remove driver air bag assembly. Refer to Workshop Manual, Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

NOTE: LABOR OPERATIONS IN THIS TSB CAN BE CLAIMED TOGETHER.

NOTE: OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

Category: Service Fix (10 years - TSB Only)
Request Type: Non-QSF
Would this make a good cost save business case? No
Activity Code: 070 F-Series >8500#
Vehicle Applications:

Vehicle Lines	Model Year Start	Model Year End	Assembly Plants	Body Styles	Engine	Trans Axles	Build From	Build To
F-Super Duty (F-250 to 550)	2005	2007						

If SPECS Case, Select all Other Affected Publications:
Changes Needed in Other Pubs:
TSBs to Supersede: 06-15-1
SSMs to Supersede:
ISMs to Supersede:
Other application Articles:
Select the reason for republication: Incorrect Procedure
Procedure verified by CDSID: srepasky
Describe How The Procedure Was Verified: TSB was verified by Steve Repasky.
Do you have access to a vehicle for time study? Yes
If Yes, contact for vehicle CDSID: toconnor
Are Illustrations Required? Yes
If Yes, Contact information for illustrations:
CDSID(Ford only): toconnor
Full Name: Tammy O'Connor
Phone: 313/322-3824
Illustration Notes: Please use same illustrations from TSB 06-15-1.

Trustmarks affected: Ford
Additional Trustmarks To Notify:
Article Distribution: WDMO, Canada, Mexico, United States
DTC Codes and OASIS Service Codes: , 303000, 304000, 306000, 703000, 703000, 703200, 703200, 703300, 703300, 703400, 703400

Causal Basic Part # or Finis Code:

Causal Part # or Finis Code	Warranty Condition Codes
3E651 FRONT TIR	Chassis: 42

Calibrations List:

White Paper Numbers:

Parts Request Information

Are Parts Required? Yes
QSF Single Agenda Or Program FRC Date:
Parts List:

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
1	Existing	5C74-3F563-AB1D24	No	Not Applicable	STEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						

@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
		U5MSK	5C7Z-3600-ABA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
2	Existing	5C74-3F563-AB35B8	No	Not Applicable	sTEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5c7z-3600-CBA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
3	Existing	5C34-3D004-NA	No	Not Applicable	.5 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-C			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
4	Existing	5C34-3D004-CA	No	Not Applicable	.5 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-CCC			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
5	Existing	5C34-3D004-PA	No	Not Applicable	.75 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-D			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
6	Existing	5C34-3D004-DA	No	Not Applicable	-75 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						

@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			5C3Z-3B440-DDD			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
7	Existing	5C34-3D004-RA	No	Not Applicable	1.0 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-E			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
8	Existing	5C34-3D004-EA	No	Not Applicable	1.0 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-EEE			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
9	Existing	5C34-3D004-JA	No	Not Applicable	0.75 DEGREE SHIM	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-JJJ			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
10	Existing	5C34-3D004-KA	No	Not Applicable	1.0 DEGREE SHIM	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-KKK			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
11	Existing	W520117-S441	No	Not Applicable	NUT - HEX - RH THREA	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						

	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			G229J	W520117-S441			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	W706196-S439	No	Not Applicable	Bolt	1	100
12	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			G229J	W706196-S439			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	7c343e652ac	No	Not Applicable	Bracket	1	100
13	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				7c3z3e652c			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	8C34-3E651-CB	No	Not Applicable	Damper 250/350 4X4	1	100
14	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			T407H	8C3Z-3E651-C			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3E651-CH	No	Not Applicable	Damper 450/550 ALL	1	100
15	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			Q29AA	5C3Z- 3E651-D			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3E651-BG	No	Not Applicable	Damper 250/350 4X2	1	100
16	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed

			Q29AA	5C3Z- 3E651-B			No

Parts catalog flag needed? No
Part number(s) that require flag:
Is geographic location significant? No
Special instructions/remarks: We want to have 4 causal part numbers as follows:
1. 3E651 = Steering Dampner
2. FRONT = Alignment
3. TIRE = Tire Pressure
4. NPF = No Problem Found

This TSB is being updated to include a revised steering damper.

Article Number:
BCM Number:

(End automated email)

From: Choe, Mark (M.J.)
Sent: Wednesday, February 21, 2007 8:42 PM
To: Perry, Adam (A.F.); Repasky, Steve (S.); Benson, Keith (K.A.)
Cc: Barry, Jack (J.E.); Gompper, Dan (D.B.); Memmer, Mark (M.A.); Wegienka, Michael (M.J.); Hodges, Cynthia (C.P.); O'Connor, Tammy (T.A.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

We need to get this out as soon as possible. Pls. target by this Fri.
Thanks.

Mark J. Choe
Vehicle Dynamics Manager
Body on Frame Programs

From: Perry, Adam (A.F.)
Sent: Wednesday, February 21, 2007 2:48 PM
To: Repasky, Steve (S.); Benson, Keith (K.A.)
Cc: Barry, Jack (J.E.); Gompper, Dan (D.B.); Memmer, Mark (M.A.); Wegienka, Michael (M.J.); Choe, Mark (M.J.); Hodges, Cynthia (C.P.); O'Connor, Tammy (T.A.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

I cannot say for certain which parts were on the vehicle, I received the vehicle with parts already installed.

Dan Gompper - can you answer the question?

Adam Perry
Vehicle Engineering
(313) 805-3244

From: Repasky, Steve (S.)
Sent: Wednesday, February 21, 2007 2:33 PM
To: Benson, Keith (K.A.); Perry, Adam (A.F.)
Cc: Hwang, Hsiu-Ying (H.Y.); Barry, Jack (J.E.); Gompper, Dan (D.B.); Memmer, Mark (M.A.); Wegienka, Michael (M.J.); Choe, Mark (M.J.); Hodges, Cynthia (C.P.); O'Connor, Tammy (T.A.)
Subject: FW: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Keith/Adam - Need your assistance/package concurrence to get this TSB completed and out to the field. I had a review with Jack Barry and Hsiu-Ying Hwang yesterday with the following outcomes:

- Differences between the 2008 and 2008.5 Superduty steering damper and strg. damper bracket to frame were discussed and demonstrated.
- We need to determine if the Superduty vehicle test successfully completed by Adam was conducted with a 2008.5 level steering damper and steering damper bracket? (Adam - please confirm part numbers of tested parts).
- If the above statement regarding vehicle test is correct, would the package area sign-off on usage of the 2008 bracket and damper based on the 2008.5 component vehicle test?
- With package approval, the D&R activity would also agree to using the 2008 parts for the TSB until 2008.5 level parts are available.
- Note: 2008 level parts have been installed in the field on a few fleet vehicles without an apparent damage to the damper. I inspected one installation in Hobbs, N.M after ~ 800 miles of usage without any observed damage.
- Sign-off use of the 2008 components would allow issuance of this TSB in a timely manner.
- Waiting for 2008.5 part usage only would result in ~ 6 weeks delay due to unavailability of an adequate number of 08.5 brackets from the supplier to stock FCSD prior to TSB issuance.

Jack/Hsiu-Ying - Please provide clarification if necessary. Thanks..

From: O'Connor, Tammy (T.A.)
Sent: Thursday, February 15, 2007 9:21 AM
To: Hale, Curt (B.C.); Knapp, David (D.); Repasky, Steve (S.); Welch, Sharon (S.L.); O'Connor, Tammy (T.A.)
Subject: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

TSB Courtesy Copy
*** DRAFT ***

This message is being sent on behalf of TOCONNOR.
This is a courtesy copy of the following article to advise you this article is currently being processed for publication.

General Information

Last action taken (as of 2/15/2007 2:20:42 PM GMT):	Submit for approval
Comment:	updated the parts list to include damper part numbers for 250/350 4x2 and 450/550. I updated text to clarify that 4x2 and 450/550 do not use new damper - procedure itself did not change, and included 4th causal part number.
Author:	TOCONNOR
Tracking Number:	[redacted]
Author Tracking Number:	--
Title:	2005-2007 F-Super Duty - Steering Wheel Oscillation
Article Type:	TSB

TSB Issue:
This article supersedes TSB 06-15-1 to update the Service Procedure.

Some 2005-2007 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion), immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer
than five oscillations. This condition occurs mostly on F-250/F-350 4X4 vehicles, and is more evident on trucks equipped with a gas engine.
TSB Action:

Refer to the Service Procedure to minimize the steering wheel oscillations on impacts, however, there may be some remaining minor oscillation which would be considered normal.

TSB Service Procedure:
SERVICE PROCEDURE SUMMARY

· Set tire pressure, road test vehicle to evaluate vehicle before proceeding with further repairs. If issue is resolved, do not proceed with the rest of this TSB
· If concern still exists, install a new steering damper (frame-mounted bracket and steering damper assembly on F-250/F-350 4X4 applications only). For F-250/F-350 4X2 and all F-450/F-550 applications, inspect damper for leaks and replace if necessary, torque steering and suspension fasteners per Workshop Manual
· If concern still exists, check front alignment and reduce front caster
· Replacement of redundant control steering wheel (if equipped and vehicle built prior to 10/8/2004).

VEHICLE INSPECTION - TIRE PRESSURE
---
1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

NOTE: SETTING TIRE PRESSURE TO DOOR SPECIFICATION IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE.

ROAD TEST
---
1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the customer's issue.
3. If no issues are identified during the road test, do not proceed with the rest of this TSB.

STEERING DAMPER AND FASTENER TORQUE CHECK

Replace Steering Damper & Frame Mounting Bracket (F-250/F-350 4X4); Inspect
---
Steering Damper (F-250/F-350 4X2 & all F-450/F-550):

For F-250/F-350 4x4 applications:

Remove existing steering damper and frame attachment bracket. Replace steering damper and frame mounting bracket with steering damper P/N 8C3Z-3E651-A and frame bracket P/N 7C3Z-3E652-C. Attach steering damper to frame bracket (with W706196-S439 bolt and W520[redacted] nut) and torque bolt to 103 Nm. Assemble bracket and shock assembly to the frame with attachment bolt retainer (W712[redacted]) pointing to rear of vehicle. Torque frame bracket nuts (W520[redacted] to 80 Nm. Attach other end of shock to the steering drag link and torque to 90 Nm. Install damper bolt cap (W711670-S300) to assure a friendly surface for the battery cable in case of casual contact.

Note: CHECK SURROUNDING ENVIRONMENT TO THE FRAME BRACKET AND DAMPER ASSEMBLY TO ENSURE THAT BATTERY CABLES ARE NOT CONTACTING BRACKET/BOLTS/DAMPER. ALSO, VERIFY THAT TRANSMISSION OIL COOLER LINES HAVE CLEARANCE TO THE DAMPER DUST SHIELD.

For F-250/F-350 4X2 & all F-450/F-550 applications only:

Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
If leaks are present, install a new steering damper.

STEERING/SUSPENSION FASTENER TORQUE CHECK (4X2 & 4X4)

---

1. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table below).

Description	Torque Specification (lb-ft/ Nm)	
	Lb-ft	Nm
Damper nuts (F-250/F-350 4X2)	59	80
Damper-to-bracket (F-250/F-350 4X4)	76	103
Damper-to-drag link	66	90
Drag link-to-pitman arm nut	129	175
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts and bolts	129	175
Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE.

FRONT WHEEL ALIGNMENT AND REDUCE FRONT CASTER

NOTE: OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

Measure wheel alignment. Verify that Front Caster, Camber, and Total Toe are within specification. Adjust as required. Refer to the Workshop Manual, Section 204-00 for complete alignment specifications.

REDUCE FRONT CASTER

- Note the current front caster
- Use alignment adjustment bushings to reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit. Use alignment adjustment bushings

F-250/350 4X4:

- 5C3Z-3B440-CCC (0.5 degree bushing)
- 5C3Z-3B440-DDD (0.75 degree bushing)
- 5C3Z-3B440-EEE (1.0 degree bushing)

F-450/550 4X4 and 4X2:

· 5C3Z-3B440-HHH (0.5 degree bushing)
· 5C3Z-3B440-JJJ (0.75 degree bushing)
· 5C3Z-3B440-KKK (1.0 degree bushing)

F-250/350 4X2:
· 5C3Z-3B440-C = 0.5 degree busing
· 5C3Z-3B440-D = 0.75 degree bushing
· 5C3Z-3B440-E = 1.0 degree bushing

For All 4X4 and for F-450/550 4X2
· Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward and inboard position (See Figure 1)
· This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed
· The final caster and camber settings must be within the specification limits
· Maintain the current front camber, cross-camber and cross-caster settings as close as you possibly can
· Adding weight behind the rear axle lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster

For All F-250/350 4X2,
· Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain that position while moving the caster position forward in the truck
· The final caster and camber settings must be within the specification limits

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To
---
10/8/2004 Only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.
1. Remove driver air bag assembly. Refer to Workshop Manual, Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

NOTE: LABOR OPERATIONS IN THIS TSB CAN BE CLAIMED TOGETHER.

NOTE: OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

Category: Service Fix (10 years - TSB Only)
Request Type: Non-QSF
Would this make a good cost save business case? No
Activity Code: 070 F-Series >8500#
Vehicle Applications:

Vehicle Lines	Model Year Start	Model Year End	Assembly Plants	Body Styles	Engine	Trans Axles	Build From	Build To

F-Super Duty (F-250 to 550)	2005	2007						

If SPECS Case, Select all Other Affected Publications:
Changes Needed in Other Pubs:
TSBs to Supersede: 06-15-1
SSMs to Supersede:
ISMs to Supersede:
Other application Articles:
Select the reason for republication: Incorrect Procedure
Procedure verified by CDSID: srepasky
Describe How The Procedure Was Verified: TSB was verified by Steve Repasky.
Do you have access to a vehicle for time study? Yes
If Yes, contact for vehicle CDSID: toconnor
Are Illustrations Required? Yes
If Yes, Contact information for illustrations:
CDSID(Ford only): toconnor
Full Name: Tammy O'Connor
Phone: 313/322-3824
Illustration Notes: Please use same illustrations from TSB 06-15-1.

Trustmarks affected: Ford
Additional Trustmarks To Notify:
Article Distribution: WDMO, Canada, Mexico, United States
DTC Codes and OASIS Service Codes: , 303000, 304000, 306000, 703000, 703000, 703200, 703200, 703300, 703300, 703400, 703400

Causal Basic Part # or Finis Code:

Causal Part # or Finis Code	Warranty Condition Codes
3E651 FRONT TIR	Chassis: 42

Calibrations List:

White Paper Numbers:

Parts Request Information

Are Parts Required? Yes
QSF Single Agenda Or Program FRC Date:
Parts List:

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
1	Existing	5C74-3F563-AB1D24	No	Not Applicable	STEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5C7Z-3600-ABA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
2	Existing	5C74-3F563-AB35B8	No	Not Applicable	sTEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						

@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
		U5MSK	5c7z-3600-CBA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
3	Existing	5C34-3D004-NA	No	Not Applicable	.5 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-C			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
4	Existing	5C34-3D004-CA	No	Not Applicable	.5 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-CCC			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
5	Existing	5C34-3D004-PA	No	Not Applicable	.75 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-D			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
6	Existing	5C34-3D004-DA	No	Not Applicable	-75 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-DDD			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
7	Existing	5C34-3D004-RA	No	Not Applicable	1.0 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						

@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			5C3Z-3B440-E			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
8	Existing	5C34-3D004-EA	No	Not Applicable	1.0 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-EEE			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
9	Existing	5C34-3D004-JA	No	Not Applicable	0.75 DEGREE SHIM	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-JJJ			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
10	Existing	5C34-3D004-KA	No	Not Applicable	1.0 DEGREE SHIM	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-KKK			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
11	Existing	W520117-S441	No	Not Applicable	NUT - HEX - RH THREA	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			G229J	W520117-S441			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
12	Existing	W706196-S439	No	Not Applicable	Bolt	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st	@1st Contact			Replaced		

	Contact	Phone	Source Code	Service #	SVC #	°Replaced Eng. #	°Is Calibration Needed
			G229J	W706196-S439			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	7c343e652ac	No	Not Applicable	Bracket	1	100
13	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				7c3z3e652c			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	8C34-3E651-CB	No	Not Applicable	Damper 250/350 4X4	1	100
14	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			T407H	8C3Z-3E651-C			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3E651-CH	No	Not Applicable	Damper 450/550 ALL	1	100
15	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			Q29AA	5C3Z- 3E651-D			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3E651-BG	No	Not Applicable	Damper 250/350 4X2	1	100
16	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			Q29AA	5C3Z- 3E651-B			No

Parts catalog flag needed? No
Part number(s) that require flag:
Is geographic location significant? No
Special instructions/remarks:

We want to have 4 causal part numbers as follows:
1. 3E651 = Steering Dampner
2. FRONT = Alignment
3. TIRE = Tire Pressure
4. NPF = No Problem Found

This TSB is being updated to include a revised steering damper.

Article Number:
BCM Number:

(End automated email)

From: Chiang, John (J.)
Sent: Wednesday, February 07, 2007 11:28 AM
To: O'Connor, Tammy (T.A.)
Cc: Hale, Curt (B.C.); Gompper, Dan (D.B.); Hasselbring, D Blake (D.B.); Knapp, David (D.); Rooker, Heather (H.R.); Repasky, Steve (S.); Welch, Sharon (S.L.); Duvall, Allen (A.W.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Vibration/Hop at 40-48 MPH (8.0Hz)

Tammy-

Here is a summary for this TSB task
(1) Usage change for service part 8C34-5D008-A & W708812 (covering 2005) has been completed (NL00-E-11268655-075).
(2) Service kit (5C34-5D008-A) & instruction sheet (SK 5C34-5D008-A) are in release process (NL00-E-11268655-076).
(3) According to last Friday's meeting, the warranty will be binned to damper (CPSC code: 00.05.05), not frame.
(4) TSB will not be released to meet Feb 20 due to service kit availability. Can you estimate release timing?
(5) All parties need to go through the TSB draft one more time in order to avoid mistakes before submitting for approval.

From: O'Connor, Tammy (T.A.)
Sent: Tuesday, February 06, 2007 1:11 PM
To: Hale, Curt (B.C.); Gompper, Dan (D.B.); Hasselbring, D Blake (D.B.); Knapp, David (D.); Rooker, Heather (H.R.); Chiang, John (J.); Repasky, Steve (S.); Welch, Sharon (S.L.); O'Connor, Tammy (T.A.)
Subject: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Vibration/Hop at 40-48 MPH (8.0Hz)

TSB Courtesy Copy

*** DRAFT ***

This message is being sent on behalf of TOCONNOR.
This is a courtesy copy of the following article to advise you this article is currently being processed for publication.

General Information

Last action taken (as of 2/6/2007 6:10:38 PM GMT):	Submit for approval
Comment:	
Author:	TOCONNOR
Tracking Number:	[redacted]
Author Tracking Number:	--
Title:	2005-2007 F-Super Duty - Vibration/Hop at 40-48 MPH (8.0Hz)
Article Type:	TSB

TSB Issue:
Some 2005-2007 F-Super Duty vehicles with a long wheelbase (172", 158", or 156") may exhibit a vehicle vertical vibration, often described as "hopping", on smooth or coarse road surfaces in the 42 - 48 mph speed range.

Although this behavior is considered normal for an O8500 truck, some customers may be sensitive to the concern.

NOTE: THE INSTALLATION OF THIS DAMPER WILL NOT IMPROVE RIDE ON SEGMENTED CONCRETE HIGHWAYS, STEERING WHEEL VIBRATION/SHIMMY, OR GENERAL HARSH RIDE CONCERNS.

TSB Action:

To improve the 42 - 48 mph vertical vibration, complete the Service Procedure below.

TSB Service Procedure:

Service Procedure:

Follow the instruction sheet included in the Service Kit.

Category: Service Fix (10 years - TSB Only)
Request Type: Non-QSF
Would this make a good cost save business case? No
Activity Code: 070 F-Series >8500#
Vehicle Applications:

Vehicle Lines	Model Year Start	Model Year End	Assembly Plants	Body Styles	Engine	Trans Axles	Build From	Build To
F-Super Duty (F-250 to 550)	2005	2007						

If SPECS Case, Select all Other Affected Publications:
Changes Needed in Other Pubs:
TSBs to Supersede:
SSMs to Supersede:
ISMs to Supersede:
Other application Articles:
Select the reason for republication:
Procedure verified by CDSID: JCHIANG
Describe How The Procedure Was Verified: Procedure was verified by John Chiang.
Do you have access to a vehicle for time study? No
If Yes, contact for vehicle CDSID:
Are Illustrations Required? Yes
If Yes, Contact information for illustrations:
CDSID(Ford only): toconnor
Full Name: Tammy O'Connor
Phone: 313/322-3824
Illustration Notes:

Trustmarks affected: Ford
Additional Trustmarks To Notify:
Article Distribution: WDMO, Canada, Mexico, United States
DTC Codes and OASIS Service Codes: , 303000, 304000, 306000, 703000, 703100, 703200, 703300, 703400

Causal Basic Part # or Finis Code:

Causal Part # or Finis Code	Warranty Condition Codes
5D008	Chassis: 42

Calibrations List:

White Paper Numbers:

Parts Request Information

Are Parts Required? Yes
QSF Single Agenda Or Program FRC Date:
Parts List:

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-5D008-A	Yes	Not Applicable	Damper Service Kit	1	200
1	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	210						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				TBD			No

Parts catalog flag needed? No
Part number(s) that require flag:
Is geographic location significant? No
Special instructions/remarks:

Article Number:
BCM Number:

(End automated email)

From: Gompper, Dan (D.B.)
Sent: Tuesday, May 01, 2007 10:28 AM
To: O'Connor, Tammy (T.A.)
Cc: Memmer, Mark (M.A.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

did you get input from Hsiu-ying on the part numbers? I was just asking Mark Memmer to follow-up with her.

Dan Gompper
SuperDuty Vehicle Dynamics Supervisor
EVB 2E-L01
[redacted]
Email: dgompper@ford.com
text page: 3138052039@sprintpcs.messaging.com

From: O'Connor, Tammy (T.A.)
Sent: Tuesday, May 01, 2007 10:13 AM
To: Hale, Curt (B.C.); Hodges, Cynthia (C.P.); Gompper, Dan (D.B.); Knapp, David (D.); Hwang, Hsiu-Ying (H.Y.); Welch, Sharon (S.L.); O'Connor, Tammy (T.A.)
Subject: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

TSB Courtesy Copy

***** NOTE: The system generated the email. Do not reply to this email *****
***** To be removed from this distribution list, please email Robert Klump at rklump@ford.com *****

This message is being sent on behalf of TOCONNOR.
This is a courtesy copy of the following article to advise you this article is currently being processed for publication.

General Information

Last action taken (as of 5/1/2007 2:12:54 PM GMT): Submit for approval
Comment:

Author: TOCONNOR
Tracking Number: [redacted]
Author Tracking Number: --
Title: 2005-2007 F-Super Duty - Steering Wheel Oscillation
Article Type: TSB

TSB Issue:
This article supersedes TSB 07-05-07 to update an incorrect part number.

Some 2005-2007 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion), immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on F-250/F-350 4X4 vehicles, and is more evident on trucks equipped with a gas engine.
TSB Action:

Refer to the Service Procedure to minimize the steering wheel oscillations on impacts, however, there may be some remaining minor oscillation which would be considered normal.

TSB Service Procedure:
SERVICE PROCEDURE SUMMARY

· Set tire pressure, road test vehicle to evaluate vehicle before proceeding with further repairs. If issue is resolved, do not proceed with the rest of this TSB
· If concern still exists, install a new steering damper (frame-mounted bracket and steering damper assembly on F-250/F-350 4X4 applications only). For F-250/F-350 4X2 and all F-450/F-550 applications, inspect damper for leaks and replace if necessary, torque steering and suspension fasteners per Workshop Manual
· If concern still exists, check front alignment and reduce front caster
· Replacement of redundant control steering wheel (if equipped and vehicle built prior to 10/8/2004).

VEHICLE INSPECTION - TIRE PRESSURE
---
1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

NOTE: SETTING TIRE PRESSURE TO DOOR SPECIFICATION IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE.

ROAD TEST
---
1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the customer's issue.
3. If no issues are identified during the road test, do not proceed with the rest of this TSB.

STEERING DAMPER AND FASTENER TORQUE CHECK

Replace Steering Damper & Frame Mounting Bracket (F-250/F-350 4X4); Inspect
---
Steering Damper (F-250/F-350 4X2 & all F-450/F-550):

For F-250/F-350 4x4 applications:

Remove existing steering damper and frame attachment bracket. Replace steering damper and frame mounting bracket with steering damper and frame bracket. Attach steering damper to frame bracket (with bolt and nut) and torque bolt to 103 Nm. Assemble bracket and shock assembly to the frame with attachment bolt retainer pointing to rear of vehicle. Torque frame bracket nuts to 80 Nm. Attach other end of shock to the steering drag link and torque to 90 Nm. Install damper bolt cap to assure a friendly surface for the battery cable in case of casual contact.

Note: CHECK SURROUNDING ENVIRONMENT TO THE FRAME BRACKET AND DAMPER ASSEMBLY TO ENSURE THAT BATTERY CABLES ARE NOT CONTACTING BRACKET/BOLTS/DAMPER. ALSO, VERIFY THAT TRANSMISSION OIL COOLER LINES HAVE CLEARANCE TO THE DAMPER DUST SHIELD.

For F-250/F-350 4X2 & all F-450/F-550 applications only:

Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
If leaks are present, install a new steering damper.

STEERING/SUSPENSION FASTENER TORQUE CHECK (4X2 & 4X4)

---

1. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table below).

Description	Torque Specification (lb-ft/ Nm)	
	Lb-ft	Nm
Damper nuts (F-250/F-350 4X2)	59	80
Damper-to-bracket (F-250/F-350 4X4)	76	103
Damper-to-drag link	66	90
Drag link-to-pitman arm nut	129	175
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts and bolts	129	175
Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE.

FRONT WHEEL ALIGNMENT AND REDUCE FRONT CASTER

NOTE: OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

Measure wheel alignment. Verify that Front Caster, Camber, and Total Toe are within specification. Adjust as required. Refer to the Workshop Manual, Section 204-00 for complete alignment specifications.

REDUCE FRONT CASTER

· Note the current front caster

· Use alignment adjustment bushings to reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit. Use alignment adjustment bushings

F-250/350 4X4:

· 5C3Z-3B440-CCC (0.5 degree bushing)
· 5C3Z-3B440-DDD (0.75 degree bushing)
· 5C3Z-3B440-EEE (1.0 degree bushing)

F-450/550 4X4 and 4X2:

· 5C3Z-3B440-HHH (0.5 degree bushing)

· 5C3Z-3B440-JJJ (0.75 degree bushing)
· 5C3Z-3B440-KKK (1.0 degree bushing)

F-250/350 4X2:
· 5C3Z-3B440-C = 0.5 degree busing
· 5C3Z-3B440-D = 0.75 degree bushing
· 5C3Z-3B440-E = 1.0 degree bushing

For All 4X4 and for F-450/550 4X2
· Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward and inboard position (See Figure 1)
· This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed
· The final caster and camber settings must be within the specification limits
· Maintain the current front camber, cross-camber and cross-caster settings as close as you possibly can
· Adding weight behind the rear axle lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster

For All F-250/350 4X2,
· Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain that position while moving the caster position forward in the truck
· The final caster and camber settings must be within the specification limits

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To
---
10/8/2004 Only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.
1. Remove driver air bag assembly. Refer to Workshop Manual, Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

NOTE: LABOR OPERATIONS IN THIS TSB CAN BE CLAIMED TOGETHER.

NOTE: OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

Category: Service Fix (10 years - TSB Only)
Request Type: Non-QSF
Would this make a good cost save business case? No
Activity Code: 070 F-Series >8500#
Vehicle Applications:

Vehicle Lines	Model Year Start	Model Year End	Assembly Plants	Body Styles	Engine	Trans Axles	Build From	Build To
F-Super Duty (F-250	2005	2007						

to 550)								

If SPECS Case, Select all Other Affected Publications:
Changes Needed in Other Pubs:
TSBs to Supersede: 07-05-07
SSMs to Supersede:
ISMs to Supersede:
Other application Articles:
Select the reason for republication: Incorrect Procedure
Procedure verified by CDSID: DGOMPPER
Describe How The Procedure Was Verified: TSB was verified by Dan Gompper.
Do you have access to a vehicle for time study? Yes
If Yes, contact for vehicle CDSID: toconnor
Are Illustrations Required? Yes
If Yes, Contact information for illustrations:
CDSID(Ford only): toconnor
Full Name: Tammy O'Connor
Phone: 313/322-3824
Illustration Notes: Please use same illustrations from TSB 06-15-1.

Trustmarks affected: Ford
Additional Trustmarks To Notify:
Article Distribution: WDMO, Canada, Mexico, United States
DTC Codes and OASIS Service Codes: , 303000, 304000, 306000, 703000, 703000, 703200, 703200, 703300, 703300, 703400, 703400

Causal Basic Part # or Finis Code:

Causal Part # or Finis Code	Warranty Condition Codes
3E651 FRONT TIR	Chassis: 42

Calibrations List:

White Paper Numbers:

Parts Request Information

Are Parts Required? Yes
QSF Single Agenda Or Program FRC Date:
Parts List:

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
1	Existing	5C74-3F563-AB1D24	No	Not Applicable	STEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5C7Z-3600-ABA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
2	Existing	5C74-3F563-AB35B8	No	Not Applicable	sTEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st	@1st Contact					

Contact	Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
		U5MSK	5c7z-3600-CBA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
3	Existing	5C34-3D004-NA	No	Not Applicable	.5 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-C			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
4	Existing	5C34-3D004-CA	No	Not Applicable	.5 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-CCC			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
5	Existing	5C34-3D004-PA	No	Not Applicable	.75 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-D			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
6	Existing	5C34-3D004-DA	No	Not Applicable	-75 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-DDD			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
7	Existing	5C34-3D004-RA	No	Not Applicable	1.0 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						

@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			5C3Z-3B440-E			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
8	Existing	5C34-3D004-EA	No	Not Applicable	1.0 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-EEE			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
9	Existing	5C34-3D004-JA	No	Not Applicable	0.75 DEGREE SHIM	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-JJJ			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
10	Existing	5C34-3D004-KA	No	Not Applicable	1.0 DEGREE SHIM	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-KKK			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
11	Existing	W520117-S441	No	Not Applicable	NUT - HEX - RH THREA	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			G229J	W520117-S441			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
12	Existing	W706196-S439	No	Not Applicable	Bolt	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st	@1st Contact			Replaced		

	Contact	Phone	Source Code	Service #	SVC #	°Replaced Eng. #	°Is Calibration Needed
			G229J	W706196-S439			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	7c343e652ac	No	Not Applicable	Bracket	1	100
13	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				7c3z3e652c			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	8C34-3E651-CB	No	Not Applicable	Damper 250/350 4X4	1	100
14	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			T407H	8C3Z-3E651-C			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3E651-CH	No	Not Applicable	Damper 450/550 ALL	1	100
15	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			Q29AA	5C3Z- 3E651-D			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3E651-BG	No	Not Applicable	Damper 250/350 4X2	1	100
16	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			Q29AA	5C3Z- 3E651-B			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	W711570-S300	No	Not Applicable	CAP - SHOCK ABSORBER	1	100
17	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced	°Is Calibration

						Eng. #	Needed
				W711570-S300			No

Parts catalog flag needed? No
Part number(s) that require flag:
Is geographic location significant? No
Special instructions/remarks: We want to have 4 causal part numbers as follows:
1. 3E651 = Steering Dampner
2. FRONT = Alignment
3. TIRE = Tire Pressure
4. NPF = No Problem Found

This TSB is being updated to include a revised steering damper.

Article Number:
BCM Number:

(End automated email)

From: Mayer, Paul (P.A.)
Sent: Monday, October 03, 2005 1:10 PM
To: O'Connor, Tammy (T.A.); Repasky, Steve (S.)
Cc: Zeitz, Keith (K.A.); Smith, Ron (R.A.)
Subject: RE: TSB for Steering Wheel Shimmy

Attachments: [redacted] TSB Steering Wheel Shimmy Update 09 29 pmrev.doc

I had three edits under the reduce caster section. They are in red

KEITH, do you have to approve these before they go out ?

[redacted] TSB Steering Whe...

Regards
Paul Mayer
Truck Suspension and Systems Analysis
313-248-9202 Fax:313-317-2349

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Monday, October 03, 2005 11:01 AM
To: Mayer, Paul (P.A.); Repasky, Steve (S.)
Subject: TSB for Steering Wheel Shimmy

<< File: [redacted] TSB Steering Wheel Shimmy Update 09 29 tao.doc >>

Attached is the draft TSB that I just submitted for final publication.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Wed,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Thursday)

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ISSUE:

Some 2005-2006 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion) immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on 4x4 vehicles, and is more evident on trucks equipped with a gas engine.

ACTION:

This procedure will minimize the steering wheel oscillations on impacts; however, there may be some remaining minor oscillation, which would be considered normal.
Perform the following:

- Vehicle Inspection
- Evaluation Of Vehicle Prior To Repair
- Steering Gear Mesh Load Adjustment
- Front Alignment and Reduce front caster
- Replacement Of Redundant Control Steering Wheel (if equipped and vehicle built prior to 10/8/04)

SERVICE PROCEDURE

VEHICLE INSPECTION

1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

NOTE: SETTING TIRE PRESSUE TO DOOR SPEC IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

2. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
    a. If leaks are present, install a new steering damper and continue with this TSB.
    b. If no leaks are present, continue with this TSB.

3. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table # below).

Description	Torque Specification (lb-ft/ Nm)	
	Lb-ft	Nm
Damper nuts (4x2)	59	80
Damper-to-bracket (F-250, F-350 4x4)	26	35
Damper-to-drag link	67	91
Drag link-to-pitman arm nut	148	201
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts & bolts	129	175
Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

EVALUATION OF VEHICLE PRIOR TO REPAIR

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the severity of wheel oscillation.

3. During the road test, evaluate and note the steering wheel return-ability.
    a. Turn steering wheel full lock to lock to confirm no binding.

b. Locate center, and then 45 degrees either side of center on the steering wheel.
c. Driving vehicle at 35 MPH (56 Km/h), on a dry and flat road surface, turn the wheel 45 degrees and release. Note the approximate angle that the steering wheel returns to BEFORE CLEAR VISION. Perform and record the angle for both left and right. It is normal if the angle differs slightly from left to right.

STEERING GEAR MESH LOAD ADJUSTMENT

1. Insert hex wrench into steering gear mesh load adjuster screw.
2. While holding the mesh load adjuster screw tight, back off lock nuts two full turns to allow free movement of the adjuster screw.
3. Carefully tighten adjuster screw until a slight increase in resistance is felt, then back off approximately 1/16th of a turn.
4. Hold the adjuster screw in place and tighten lock nut. Do not allow the adjustment screw to turn while tightening the locking nut down.
5. Road test vehicle and evaluate for improvement in steering wheel oscillations.
    a. Confirm that there is no objectionable increase in steering efforts, especially at low speeds.
    b. Verify that steering wheel return-ability is approximately the same as it was during the original evaluation (within 5 degrees).
    c. Turn steering wheel full lock to lock to confirm no binding.
6. Park the vehicle to let it cool down. Road test cold to confirm acceptable parking efforts and return-ability in cold condition. Repeat the mesh load adjustment if needed.

FRONT WHEEL ALIGNEMENT AND REDUCE FRONT CASTER

Measure wheel alignment. Verify that Front Caster, Camber & Total Toe is within specification. Adjust as required. Refer to the Workshop Manual, Section 2004-00-1 for complete alignment specifications.

REDUCE FRONT CASTER

- Note the current front caster
- Use alignment adjustment bushings to Reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit.
- Use Alignment adjustment bushings:

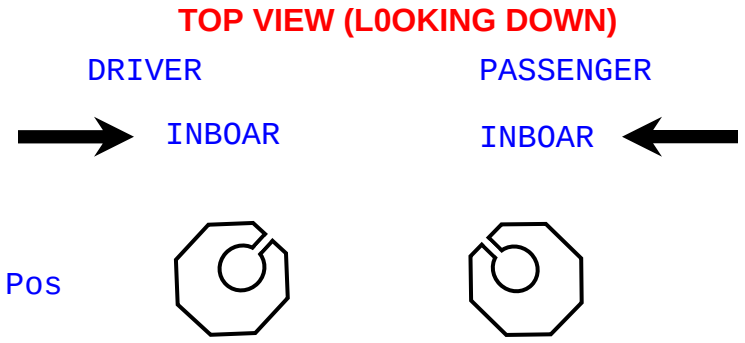
    - **F-250/350 4x4 (use one of the below bushings):**
      5C3Z-3B440-CCC (0.5 degree bushing)
      5C3Z-3B440-DDD (0.75 Degree bushing)
      5C3Z-3B440-EEE (1.0 degree bushing)

    - **F-450/550 4x4 & 4x2(use one of the below bushings)**:
        - 5C3Z-3B440-HHH (0.5 Degree bushing)
        - 5C3Z-3B440-JJJ (0.75 Degree bushing)
        - 5C3Z-3B440-KKK (1.0 degree bushing)

- F-250/350 4x2**(use one of the below bushings)**:
  - 5C3Z-3B440-C = 0.5 degree busing
  - 5C3Z-3B440-D = 0.75 degree bushing
  - 5C3Z-3B440-E = 1.0 degree bushing

For All 4x4 and for F-450/550 4x2,

- Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward & inboard position (See below picture)
- This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed.
- The final caster & camber settings must be within the specification limits



- Maintain the current front camber, cross-camber & cross-caster settings as close as you possibly can.
- Adding weight to the back lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster.

For All F-350/250 4x2,

- Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain that position while moving the caster position forward in the truck.
- The final caster & camber settings must be within the specification limits

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT

CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE 2005 OR 2006 SUPER DUTY F-SERIES WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

From: Sprunger, Jon (J.L.)
Sent: Wednesday, October 05, 2005 3:33 PM
To: Hornick, Paul (P.A.); Klump, Robert (R.F.)
Cc: O'Connor, Tammy (T.A.)
Subject: RE: TSB for Steering Wheel Shimmy [redacted]

Bob, please add this extra shim to the Service Procedure text when editing (no need to send back to Tammy unless you want to).

Paul, please take the action "Request More Info From Author" so she can add one additional part number to the part list for you. Thanks.

Sincerely,

Jon Sprunger
Global Technical Communications - FCSD
TSB/SSM Processing
Phone: (313)32-32272
Fax: (313)24-86449
jsprunge@ford.com

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Wednesday, October 05, 2005 3:22 PM
To: Sprunger, Jon (J.L.)
Cc: Klump, Robert (R.F.); Hornick, Paul (P.A.)
Subject: RE: TSB for Steering Wheel Shimmy [redacted]

I only need to add 1 part number (in red). Text does not change.

- **F-450/550 4x4 & 4x2(use one of the below bushings)**:
  - 5C3Z-3B440-HHH (0.5 Degree bushing)
  - 5C3Z-3B440-JJJ (0.75 Degree bushing)
  - 5C3Z-3B440-KKK (1.0 degree bushing)

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Wed,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Thursday)

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-----Original Message-----
From: Sprunger, Jon (J.L.)
Sent: Wednesday, October 05, 2005 3:20 PM
To: O'Connor, Tammy (T.A.)
Cc: Klump, Robert (R.F.); Hornick, Paul (P.A.)

Subject: RE: TSB for Steering Wheel Shimmy [redacted]

Tammy,

Bob just got it for editing, so we can probably still handle the change without rejecting. Do you need to update the text as well as the part list? If so, let's have Bob send it back to you (Request More Info) to update the text first, then we will have Paul send it back to you (Request More Info) to update the part list. Please advise. Thanks.

Sincerely,

Jon Sprunger
Global Technical Communications - FCSD
TSB/SSM Processing
Phone: (313)32-32272
Fax: (313)24-86449
jsprunge@ford.com

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Wednesday, October 05, 2005 2:14 PM
To: Sprunger, Jon (J.L.)
Subject: RE: TSB for Steering Wheel Shimmy [redacted]

Jon: I have a late change from Engineering that requires me to add another part number to the TSB (another shim). You'll probably need to send it back to me. Let me know. Thanks.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Wed,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Thursday)

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-----Original Message-----
From: Mayer, Paul (P.A.)
Sent: Monday, October 03, 2005 1:10 PM
To: O'Connor, Tammy (T.A.); Repasky, Steve (S.)
Cc: Zeitz, Keith (K.A.); Smith, Ron (R.A.)
Subject: RE: TSB for Steering Wheel Shimmy

I had three edits under the reduce caster section. They are in red

KEITH, do you have to approve these before they go out ?

<< File: [redacted] TSB Steering Wheel Shimmy Update 09 29 pmrev.doc >>

Regards
Paul Mayer
Truck Suspension and Systems Analysis
313-248-9202 Fax:313-317-2349

-----Original Message-----

From: O'Connor, Tammy (T.A.)
Sent: Monday, October 03, 2005 11:01 AM
To: Mayer, Paul (P.A.); Repasky, Steve (S.)
Subject: TSB for Steering Wheel Shimmy

<< File: [redacted] TSB Steering Wheel Shimmy Update 09 29 tao.doc >>

Attached is the draft TSB that I just submitted for final publication.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Wed,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Thursday)

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From: Knapp, David (D.)
Sent: Thursday, June 01, 2006 9:49 AM
To: O'Connor, Tammy (T.A.)
Subject: RE: TSB Request for Input: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Inspect the ball joints for excessive play as per the work shop manual section 204-00.

Tammy we have no spec or inspection process for the track bar ball joint. They have a replacement proceedure but it is in section 204-01a for 4x2 only. the ball joint is the same for the 4x2 as the 4x4 but the work shop manual does not have any proceedure in the 4x4 section. I am sort of stuck on this. if we have a spec we can author an inspection process similar to the inspection of the wheel end ball joints.

From: O'Connor, Tammy (T.A.)
Sent: Thursday, June 01, 2006 9:40 AM
To: Knapp, David (D.)
Subject: FW: TSB Request for Input: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

David:

I want to add info on the ball joints? Can you please send me a couple of sentences about what you tell techs to look for? trac bar also?

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: O'Connor, Tammy (T.A.)
Sent: Tuesday, May 30, 2006 7:59 AM
To: Snider, Alex (A.); Hale, Curt (B.C.); Knapp, David (D.); Sprunger, Jon (J.L.); Repasky, Steve (S.); O'Connor, Tammy (T.A.)
Subject: TSB Request for Input: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

TSB Request for Input
*** DRAFT ***

This message is being sent on behalf of TOCONNOR.
Please provide review and feedback for the article below. The person requesting this feedback may have provided further direction in the comment section below. Forward/Send any comments via email to the person who sent this email.

General Information

Last action taken (as of 5/30/2006 11:58:52 AM GMT): Send for engineering input

Comment: Please review and forward any suggested changes to

this TSB - we are updating to include 2007 MY.

Author: TOCONNOR
Tracking Number: [redacted]
Author Tracking Number: --
Title: 2005-2007 F-Super Duty - Steering Wheel Oscillation
Article Type: TSB

TSB Issue:
Some 2005-2007 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion), immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer
than five oscillations. This condition occurs mostly on 4x4 vehicles, and is more evident on trucks equipped with a gas engine.
TSB Action:
Refer to the following Service Procedure to minimize the steering wheel oscillations on impacts, however, there may be some remaining minor oscillation which would be considered normal.

TSB Service Procedure:
SERVICE PROCEDURE

Perform the following:

- Vehicle Inspection
- Evaluation Of Vehicle Prior To Repair
- Steering Gear Mesh Load Adjustment
- Front Alignment and Reduce front caster
- Replacement Of Redundant Control Steering Wheel (if equipped and vehicle built prior to 10/8/2004)

VEHICLE INSPECTION
---

1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

NOTE: SETTING TIRE PRESSUE TO DOOR SPEC IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE.

2. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
a. If leaks are present, install a new steering damper and continue with this TSB.
b. If no leaks are present, continue with this TSB.

3. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table # below).

Description	Torque Specification (lb-ft/ Nm)	
	Lb-ft	Nm
Damper nuts (4x2)	59	80
Damper-to-bracket (F-250, F-350 4x4)	26	35
Damper-to-drag link	67	91
Drag link-to-pitman arm nut	148	201
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts and bolts	129	175
Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250

Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE.

EVALUATION OF VEHICLE PRIOR TO REPAIR

---

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the severity of wheel oscillation.
3. During the road test, evaluate and note the steering wheel return-ability.

a. Turn steering wheel full lock to lock to confirm no binding.
b. Locate center, and then 45 degrees either side of center on the steering wheel.
c. Driving vehicle at 35 MPH (56 Km/h), on a dry and flat road surface, turn the wheel 45 degrees and release. Note the approximate angle that the steering wheel returns to BEFORE CLEAR VISION. Perform and record the angle for both left and right. It is normal if the angle differs slightly from left to right.

STEERING GEAR MESH LOAD ADJUSTMENT

---

1. Insert hex wrench into steering gear mesh load adjuster screw.
2. While holding the mesh load adjuster screw tight, back off lock nuts two full turns to allow free movement of the adjuster screw.
3. Carefully tighten adjuster screw until a slight increase in resistance is felt, then back off approximately 1/16th of a turn.
4. Hold the adjuster screw in place and tighten lock nut. Do not allow the adjustment screw to turn while tightening the locking nut down.
5. Road test vehicle and evaluate for improvement in steering wheel oscillations.

a. Confirm that there is no objectionable increase in steering efforts, especially at low speeds.
b. Verify that steering wheel return-ability is approximately the same as it was during the original evaluation (within 5 degrees).
c. Turn steering wheel full lock to lock to confirm no binding.

6. Park the vehicle to let it cool down. Road test cold to confirm acceptable parking efforts and return-ability in cold condition. Repeat the mesh load adjustment if needed.

FRONT WHEEL ALIGNEMENT AND REDUCE FRONT CASTER

Measure wheel alignment. Verify that Front Caster, Camber and Total Toe is within specification. Adjust as required. Refer to the Workshop Manual, Section 204-00 for complete alignment specifications.

REDUCE FRONT CASTER

· Note the current front caster
· Use alignment adjustment bushings to Reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit.

Use Alignment adjustment bushings:

F-250/350 4x4:

· 5C3Z-3B440-CCC (0.5 degree bushing)
· 5C3Z-3B440-DDD (0.75 degree bushing)
· 5C3Z-3B440-EEE (1.0 degree bushing)

F-450/550 4x4 and 4x2:

· 5C3Z-3B440-HHH (0.5 degree bushing)

· 5C3Z-3B440-JJJ (0.75 degree bushing)
· 5C3Z-3B440-KKK (1.0 degree bushing)

F-250/350 4x2:
· 5C3Z-3B440-C = 0.5 degree busing
· 5C3Z-3B440-D = 0.75 degree bushing
· 5C3Z-3B440-E = 1.0 degree bushing

For All 4x4 and for F-450/550 4x2
· Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward and inboard position (See Figure 1)
· This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed
· The final caster and camber settings must be within the specification limits
· Maintain the current front camber, cross-camber and cross-caster settings as close as you possibly can
· Adding weight behind the rear axle lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster

For All F-350/250 4x2,
· Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain that position while moving the caster position forward in the truck
· The final caster and camber settings must be within the specification limits

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.
1. Remove driver air bag assembly. Refer to Workshop Manual Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE 2005 OR 2006 SUPER DUTY F-SERIES WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

NOTE: THE WHEEL ALIGNMENT LABOR OPERATIONS MAY BE CLAIMED WITH THE REPAIR OPERATIONS
IN THIS ARTICLE.

Category: Service Fix (10 years - TSB Only)
Request Type: Non-QSF
Activity Code: 070 F-Series >8500#
Vehicle Applications:

Vehicle Lines	Model Year Start	Model Year End	Assembly Plants	Body Styles	Engine	Trans Axles	Build From	Build To
F-Super Duty (F-250 to 550)	2005	2007						

If SPECS Case, Select all Other Affected Publications:

Changes Needed in Other Pubs:
TSBs to Supersede: 05-22-01
SSMs to Supersede:
ISMs to Supersede:
Other application Articles:
Select the reason for republication: Concern Carryover to New Model
Procedure verified by CDSID: srepasky
Describe How The Procedure Was Verified: TSB was verified by Steve Repasky, and also by the FQEs.
Do you have access to a vehicle for time study? Yes
If Yes, contact for vehicle CDSID: toconnor
Are Illustrations Required? Yes
If Yes, Contact information for illustrations:
CDSID(Ford only): toconnor
Full Name: Tammy O'Connor
Phone: 313/322-3824
Illustration Notes: Please use same illustrations from TSB 05-22-01.

Trustmarks affected: Ford
Additional Trustmarks To Notify:
Article Distribution: WDMO, Canada, Mexico, United States
DTC Codes and OASIS Service Codes: , 303000, 304000, 306000, 703000, 703000, 703200, 703200, 703300, 703300, 703400, 703400

Causal Basic Part # or Finis Code:

Causal Part # or Finis Code	Warranty Condition Codes
3600	Chassis: 42

Calibrations List:

White Paper Numbers:

Parts Request Information

Are Parts Required? Yes
QSF Single Agenda Or Program FRC Date:
Parts List:

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
1	Existing	5C74-3F563-AB1D24	No	Not Applicable	STEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5C7Z-3600-ABA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
2	Existing	5C74-3F563-AB35B8	No	Not Applicable	sTEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5c7z-3600-CBA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
3	Existing	5C34-3E651-CE	No	Not Applicable	Damper	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			Q29AA	5C3Z-3E651-CA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
4	Existing	5C34-3E651-BE	No	Not Applicable	Damper	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3E651-BA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
5	Existing	5C34-3E651-BG	No	Not Applicable	Damper	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3E651-B			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
6	Existing	5C34-3D004-NA	No	Not Applicable	.5 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-C			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
7	Existing	5C34-3D004-CA	No	Not Applicable	.5 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-CCC			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed

8	Existing	5C34-3D004-PA	No	Not Applicable	.75 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-D			No

9	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-DA	No	Not Applicable	-75 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-DDD			No

10	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-RA	No	Not Applicable	1.0 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-E			No

11	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-EA	No	Not Applicable	1.0 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-EEE			No

12	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-JA	No	Not Applicable	0.75 DEGREE SHIM	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-JJJ			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed

13	Existing	5C34-3D004-KA	No	Not Applicable	1.0 DEGREE SHIM	1	100
	***Calculated Forecast**		***@WERS Notice #**		***@WERS Date Released**		***@Supplier Company**
	126						
	@1st Contact	**@1st Contact Phone**	**Source Code**	**Service #**	**Replaced SVC #**	**°Replaced Eng. #**	**°Is Calibration Needed**
				5C3Z-3B440-KKK			No

Parts catalog flag needed? No
Part number(s) that require flag:
Is geographic location significant? No
Special instructions/remarks: ARE PART NUMBER FOUR AND SEVEN IN THE PARTS LIST SECTION REQUIRED? IF SO PLEASE ADVISE SUPPLIER NAME AND CONTACT INFORMATION FOR PART NUMBER FOUR AND SEVEN IN THE PARTS LIST SECTION. THESE TWO PART NUMBERS ARE NOT ACTIVE.

Article Number:
BCM Number:

(End automated email)

From: Repasky, Steve (S.)
Sent: Friday, June 23, 2006 12:13 PM
To: O'Connor, Tammy (T.A.)
Subject: RE: TSB Request for Input: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Looks Good to go. Thanks..

From: O'Connor, Tammy (T.A.)
Sent: Tuesday, June 20, 2006 4:58 PM
To: Snider, Alex (A.); Hale, Curt (B.C.); Knapp, David (D.); Sturgill, John (J.); Repasky, Steve (S.); Rivera, Santos (S.); Welch, Sharon (S.L.); O'Connor, Tammy (T.A.)
Subject: TSB Request for Input: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

TSB Request for Input

*** DRAFT ***

This message is being sent on behalf of TOCONNOR.
Please provide review and feedback for the article below. The person requesting this feedback may have provided further direction in the comment section below. Forward/Send any comments via email to the person who sent this email.

General Information

Last action taken (as of 6/20/2006 8:57:53 PM GMT):	Send for engineering input
Comment:	Please review the revised TSB and send me any suggestions/comments no later than Friday, 6/23 close of business.
Author:	TOCONNOR
Tracking Number:	[redacted]
Author Tracking Number:	--
Title:	2005-2007 F-Super Duty - Steering Wheel Oscillation
Article Type:	TSB

TSB Issue:
This article supersedes TSB 05-22-1 to update the vehicle model years, causal part numbers and labor operations.

Some 2005-2007 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion), immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on 4x4 vehicles, and is more evident on trucks equipped with a gas engine.

TSB Action:
Refer to the following Service Procedure to minimize the steering wheel oscillations on impacts, however, there may be some remaining minor oscillation which would be considered normal.

TSB Service Procedure:
SERVICE PROCEDURE

Perform the following:

- Vehicle Inspection - Tire Pressure
- Evaluation Of Vehicle before proceeding with further repairs
- Front Alignment and Reduce front caster
- Replacement Of Redundant Control Steering Wheel

(if equipped and vehicle built prior to 10/8/2004)

VEHICLE INSPECTION - TIRE PRESSURE

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1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

NOTE: SETTING TIRE PRESSUE TO DOOR SPEC IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE.

EVALUATION OF VEHICLE BEFORE PROCEEDING WITH FURTHER REPAIRS

---

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the severity of wheel oscillation.
3. During the road test, evaluate and note the steering wheel return-ability.

a. Turn steering wheel full lock to lock to confirm no binding.

b. Locate center, and then 45 degrees either side of center on the steering wheel.

c. Driving vehicle at 35 MPH (56 Km/h), on a dry and flat road surface, turn the wheel 45 degrees and release. Note the approximate angle that the steering wheel returns to BEFORE CLEAR VISION. Perform and record the angle for both left and right. It is normal if the angle differs slightly from left to right.

4. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.

a. If leaks are present, install a new steering damper (part number 5C3Z- 3E651-D) and continue with this TSB.

b. If no leaks are present, continue with this TSB.

5. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table # below).

Description	Torque Specification (lb-ft/ Nm)	
	Lb-ft	Nm
Damper nuts (4x2)	59	80
Damper-to-bracket (F-250, F-350 4x4)	26	35
Damper-to-drag link	67	91
Drag link-to-pitman arm nut	148	201
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts and bolts	129	175
Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE.

FRONT WHEEL ALIGNEMENT AND REDUCE FRONT CASTER

Measure wheel alignment. Verify that Front Caster, Camber and Total Toe is within specification. Adjust as

required. Refer to the Workshop Manual, Section 204-00 for complete alignment specifications.

REDUCE FRONT CASTER

- Note the current front caster
- Use alignment adjustment bushings to Reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit.

Use Alignment adjustment bushings:

F-250/350 4x4:

- 5C3Z-3B440-CCC (0.5 degree bushing)
- 5C3Z-3B440-DDD (0.75 degree bushing)
- 5C3Z-3B440-EEE (1.0 degree bushing)

F-450/550 4x4 and 4x2:

- 5C3Z-3B440-HHH (0.5 degree bushing)
- 5C3Z-3B440-JJJ (0.75 degree bushing)
- 5C3Z-3B440-KKK (1.0 degree bushing)

F-250/350 4x2:

- 5C3Z-3B440-C = 0.5 degree busing
- 5C3Z-3B440-D = 0.75 degree bushing
- 5C3Z-3B440-E = 1.0 degree bushing

For All 4x4 and for F-450/550 4x2

- Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward and inboard position (See Figure 1)
- This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed
- The final caster and camber settings must be within the specification limits
- Maintain the current front camber, cross-camber and cross-caster settings as close as you possibly can
- Adding weight behind the rear axle lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster

For All F-350/250 4x2,

- Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain that position while moving the caster position forward in the truck
- The final caster and camber settings must be within the specification limits

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE WORKSHOP

MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

NOTE: THE WHEEL ALIGNMENT LABOR OPERATIONS MAY BE CLAIMED WITH THE REPAIR OPERATIONS IN THIS ARTICLE.

Category: Service Fix (10 years - TSB Only)
Request Type: Non-QSF
Has a cost save business case been prepared?
Activity Code: 070 F-Series >8500#
Vehicle Applications:

Vehicle Lines	Model Year Start	Model Year End	Assembly Plants	Body Styles	Engine	Trans Axles	Build From	Build To
F-Super Duty (F-250 to 550)	2005	2007						

If SPECS Case, Select all Other Affected Publications:
Changes Needed in Other Pubs:
TSBs to Supersede: 05-22-01
SSMs to Supersede:
ISMs to Supersede:
Other application Articles:
Select the reason for republication: Concern Carryover to New Model
Procedure verified by CDSID: srepasky
Describe How The Procedure Was Verified: TSB was verified by Steve Repasky.
Do you have access to a vehicle for time study? Yes
If Yes, contact for vehicle CDSID: toconnor
Labor Operations:

Are Illustrations Required? Yes
If Yes, Contact information for illustrations:
CDSID(Ford only): toconnor
Full Name: Tammy O'Connor
Phone: 313/322-3824
Illustration Notes: Please use same illustrations from TSB 05-22-01.

Trustmarks affected: Ford
Additional Trustmarks To Notify:
Article Distribution: WDMO, Canada, Mexico, United States
DTC Codes and OASIS Service Codes: , 303000, 304000, 306000, 703000, 703000, 703200, 703200, 703300, 703300, 703400, 703400

Causal Basic Part # or Finis Code:

Causal Part # or Finis Code	Warranty Condition Codes
3600	Chassis: 42

Calibrations List:

White Paper Numbers:

Parts Request Information

Are Parts Required? Yes
QSF Single Agenda Or Program FRC Date:
Parts List:

*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
Existing	5C74-3F563-AB1D24	No	Not Applicable	STEERING WHEEL ASY	1	100

	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
1	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5C7Z-3600-ABA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C74-3F563-AB35B8	No	Not Applicable	sTEERING WHEEL ASY	1	100
2	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5c7z-3600-CBA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3E651-CE	No	Not Applicable	Damper	1	100
3	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			Q29AA	5C3Z-3E651-CA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3E651-CH	No	Not Applicable	Damper Asy	1	100
4	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3E651-D			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3E651-BG	No	Not Applicable	Damper	1	100
5	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3E651-B			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-NA	No	Not Applicable	.5 DEGREE SHIM 4X2	1	100
6	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						

@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			5C3Z-3B440-C			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
7	Existing	5C34-3D004-CA	No	Not Applicable	.5 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-CCC			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
8	Existing	5C34-3D004-PA	No	Not Applicable	.75 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-D			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
9	Existing	5C34-3D004-DA	No	Not Applicable	-75 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-DDD			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
10	Existing	5C34-3D004-RA	No	Not Applicable	1.0 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-E			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
11	Existing	5C34-3D004-EA	No	Not Applicable	1.0 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						

	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-EEE			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-JA	No	Not Applicable	0.75 DEGREE SHIM	1	100
12	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-JJJ			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-KA	No	Not Applicable	1.0 DEGREE SHIM	1	100
13	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-KKK			No

Parts catalog flag needed? No
Part number(s) that require flag:
Is geographic location significant? No
Special instructions/remarks:

Article Number:
BCM Number:

(End automated email)

From: Gompper, Dan (D.B.)
Sent: Thursday, January 25, 2007 4:10 PM
To: Repasky, Steve (S.); O'Connor, Tammy (T.A.)
Cc: Memmer, Mark (M.A.)
Subject: RE: TSB Request for Input: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Likely easier to put the bracket on the frame, then install the damper into the vehicle. Either way can work, though.

Dan Gompper
SuperDuty Vehicle Dynamics Supervisor
EVB 2E-L01
[redacted]
Email: dgompper@ford.com
text page: 3138052039@sprintpcs.messaging.com

From: Repasky, Steve (S.)
Sent: Thursday, January 25, 2007 4:00 PM
To: O'Connor, Tammy (T.A.)
Cc: Gompper, Dan (D.B.); Memmer, Mark (M.A.)
Subject: RE: TSB Request for Input: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Yes, the tech would need to remove the P131 frame bracket, remove the stud plate and re-install the stud plate on the P356 frame bracket. He could then either install the shock to the bracket prior to installing the bracket or first attach the frame bracket and then install the shock. I'm not sure which method is most efficient.
In Hobbs, we already had the shock attached to the bracket and installed it that way.

Dan/Mark - any preference for installation method??

From: O'Connor, Tammy (T.A.)
Sent: Thursday, January 25, 2007 12:34 PM
To: Repasky, Steve (S.)
Subject: RE: TSB Request for Input: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Steve:

Would installation be the same - any extra steps required to install it?

Tammy A. O'Connor
Product Concern Engineer
FCSD Service Engineering Operations
Super Duty F-Series
Body/Chassis/Electrical

248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Repasky, Steve (S.)
Sent: Thursday, January 25, 2007 12:33 PM
To: Gompper, Dan (D.B.); Memmer, Mark (M.A.); Hodges, Cynthia (C.P.); Benson, Keith (K.A.); Hwang, Hsiu-Ying (H.Y.)
Cc: O'Connor, Tammy (T.A.); Choe, Mark (M.J.); Barry, Jack (J.E.)
Subject: FW: TSB Request for Input: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

For your review. I think the section under inspect damper for leaks under steering damper inspection in the first part of the TSB needs to be eliminated. Please review and comment directly to Tammy. Also, please verify torques for front end components. Thanks...

Tammy - is a time study required for the 4x4 shock replacement procedure?

From: O'Connor, Tammy (T.A.)
Sent: Thursday, January 25, 2007 10:39 AM
To: Hale, Curt (B.C.); Knapp, David (D.); Repasky, Steve (S.); Welch, Sharon (S.L.); O'Connor, Tammy (T.A.)
Subject: TSB Request for Input: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

TSB Request for Input
*** DRAFT ***

This message is being sent on behalf of TOCONNOR.
Please provide review and feedback for the article below. The person requesting this feedback may have provided further direction in the comment section below. Forward/Send any comments via email to the person who sent this email.

General Information

Last action taken (as of 1/25/2007 3:39:20 PM GMT):	Send for engineering input
Comment:	Please review and forward any suggested changes/comments to Tammy O'Connor no later than Monday, January 29th - at which time it will be submitted for publication.
Author:	TOCONNOR
Tracking Number:	[redacted]
Author Tracking Number:	--
Title:	2005-2007 F-Super Duty - Steering Wheel Oscillation
Article Type:	TSB

TSB Issue:
Some 2005-2007 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion), immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on 4X4 vehicles, and is more evident on trucks equipped with a gas engine.
TSB Action:
Refer to the tsb Service Procedure to minimize the steering wheel oscillations on impacts, however, there may be some remaining minor oscillation which would be considered normal.

TSB Service Procedure:
SERVICE PROCEDURE SUMMARY

· Set tire pressure, road test vehicle to evaluate vehicle before proceeding with further repairs. If issue is resolved, do not proceed with the rest of this TSB
· If concern still exists, check steering damper for leaks; torque steering and suspension fasteners per Workshop Manual
· If concern still exists, check front alignment and reduce front caster
· If concern still exists, install a new steering damper frame mounted bracket and steering damper assembly (4X4 applications only). For 4x2 applications, inspect damper for leaks and replace as required with damper 5C3Z-3E651-D only.
· Replacement of redundant control steering wheel (if equipped and vehicle built prior to 10/8/2004).

VEHICLE INSPECTION - TIRE PRESSURE
---
1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

NOTE: SETTING TIRE PRESSURE TO DOOR SPECIFICATION IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE.

ROAD TEST
---
1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the customer's issue.
3. If no issues are identified during the road test, do not proceed with the rest of this TSB.

STEERING DAMPER INSPECTION AND STEERING/SUSPENSION FASTENER TORQUE CHECK
---
1. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
a. If leaks are present, install a new steering damper.
2. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table below).

Description	Torque Specification (lb-ft/ Nm)	
	Lb-ft	Nm
Damper nuts (4X2)	66	90
Damper-to-bracket (F-250, F-350 4X4)	76	103
Damper-to-drag link	66	90
Drag link-to-pitman arm nut	129	175
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts and bolts	129	175
Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE

WORSE.

FRONT WHEEL ALIGNMENT AND REDUCE FRONT CASTER

NOTE: OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

Measure wheel alignment. Verify that Front Caster, Camber, and Total Toe are within specification. Adjust as required. Refer to the Workshop Manual, Section 204-00 for complete alignment specifications.

REDUCE FRONT CASTER

- Note the current front caster
- Use alignment adjustment bushings to reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit. Use alignment adjustment bushings

F-250/350 4X4:

- 5C3Z-3B440-CCC (0.5 degree bushing)
- 5C3Z-3B440-DDD (0.75 degree bushing)
- 5C3Z-3B440-EEE (1.0 degree bushing)

F-450/550 4X4 and 4X2:

- 5C3Z-3B440-HHH (0.5 degree bushing)
- 5C3Z-3B440-JJJ (0.75 degree bushing)
- 5C3Z-3B440-KKK (1.0 degree bushing)

F-250/350 4X2:

- 5C3Z-3B440-C = 0.5 degree busing
- 5C3Z-3B440-D = 0.75 degree bushing
- 5C3Z-3B440-E = 1.0 degree bushing

For All 4X4 and for F-450/550 4X2

- Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward and inboard position (See Figure 1)
- This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed
- The final caster and camber settings must be within the specification limits
- Maintain the current front camber, cross-camber and cross-caster settings as close as you possibly can
- Adding weight behind the rear axle lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster

For All F-250/350 4X2,

- Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain that position while moving the caster position forward in the truck
- The final caster and camber settings must be within the specification limits

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE.

REPLACE STEERING DAMPNER AND FRAME MOUNTING BRACKET:

For 4x2 applications only:

Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
If leaks are present, install a new steering damper (5C3Z-3E651-D).

For 4x4 applications:

Remove existing steering damper and frame attachment bracket. Replace steering damper and frame mounting bracket with steering damper P/N 8C3Z-3E651-A and frame bracket P/N 7C3Z-3E652-C. Attach steering damper to frame bracket (with W706[redacted] bolt and W520[redacted] nut) and torque bolt to 103 Nm. Assemble bracket and shock assembly to the frame with attachment bolt retainer (W712055-S439) pointing to rear of vehicle. Torque frame bracket nuts (W520[redacted]) to 80 Nm. Attach other end of shock to the steering drag link and torque to 90 Nm. See figure X. (Needs a number).
Install damper bolt cap (W711[redacted]) to assure a friendly surface for the battery cable in case of casual contact.

Note: CHECK SURROUNDING ENVIRONMENT TO THE FRAME BRACKET AND DAMPER ASSEMBLY TO ENSURE THAT BATTERY CABLES ARE NOT CONTACTING BRACKET/BOLTS/DAMPER. ALSO, VERIFY THAT TRANSMISSION OIL COOLER LINES HAVE CLEARANCE TO THE DAMPER DUST SHIELD.

(INSERT FIGURE HERE)

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 Only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual, Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

NOTE: LABOR OPERATIONS IN THIS TSB CAN BE CLAIMED TOGETHER.

NOTE: OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

Category: Service Fix (10 years - TSB Only)
Request Type: Non-QSF
Would this make a good cost save business case? No
Activity Code: 070 F-Series >8500#
Vehicle Applications:

Vehicle Lines	Model Year Start	Model Year End	Assembly Plants	Body Styles	Engine	Trans Axles	Build From	Build To
F-Super Duty (F-250 to 550)	2005	2007						

If SPECS Case, Select all Other Affected Publications:
Changes Needed in Other Pubs:
TSBs to Supersede: 06-15-1
SSMs to Supersede:
ISMs to Supersede:
Other application Articles:

Select the reason for republication: Incorrect Procedure
Procedure verified by CDSID: srepasky
Describe How The Procedure Was Verified: TSB was verified by Steve Repasky.
Do you have access to a vehicle for time study? Yes
If Yes, contact for vehicle CDSID: toconnor
Labor Operations:

Are Illustrations Required? Yes
If Yes, Contact information for illustrations:
CDSID(Ford only): toconnor
Full Name: Tammy O'Connor
Phone: 313/322-3824
Illustration Notes: Please use same illustrations from TSB 06-15-1.

Trustmarks affected: Ford
Additional Trustmarks To Notify:
Article Distribution: WDMO, Canada, Mexico, United States
DTC Codes and OASIS Service Codes: , 303000, 304000, 306000, 703000, 703000, 703200, 703200, 703300, 703300, 703400, 703400

Causal Basic Part # or Finis Code:

Causal Part # or Finis Code	Warranty Condition Codes
3E651 FRONT TIR	Chassis: 42

Calibrations List:

White Paper Numbers:

Parts Request Information

Are Parts Required? Yes
QSF Single Agenda Or Program FRC Date:
Parts List:

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
1	Existing	5C74-3F563-AB1D24	No	Not Applicable	STEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5C7Z-3600-ABA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
2	Existing	5C74-3F563-AB35B8	No	Not Applicable	sTEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5c7z-3600-CBA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
		5C34-3D004-			.5 DEGREE		

3	Existing	NA	No	Not Applicable	SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-C			No

4	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-CA	No	Not Applicable	.5 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-CCC			No

5	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-PA	No	Not Applicable	.75 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-D			No

6	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-DA	No	Not Applicable	-75 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-DDD			No

7	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-RA	No	Not Applicable	1.0 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-E			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-	No	Not Applicable	1.0 DEGREE	1	100

		EA			SHIM 4X4		
8	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-EEE			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-JA	No	Not Applicable	0.75 DEGREE SHIM	1	100
9	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-JJJ			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-KA	No	Not Applicable	1.0 DEGREE SHIM	1	100
10	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-KKK			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	W520117-S441	No	Not Applicable	NUT - HEX - RH THREA	1	100
11	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			G229J	W520117-S441			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	W706196-S439	No	Not Applicable	Bolt	1	100
12	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			G229J	W706196-S439			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	7c343e652ac	No	Not Applicable	Bracket	1	100

13	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				7c3z3e652c			No

14	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	8C34-3E651-CB	No	Not Applicable	Dampner Asy	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			T407H	8C3Z-3E651-C			No

Parts catalog flag needed? No
Part number(s) that require flag:
Is geographic location significant? No
Special instructions/remarks: We want to have 3 causal part numbers as follows:
1. 3E651 = Steering Dampner
2. FRONT = Alignment
3. TIRE = Tire Pressure

Article Number:
BCM Number:

(End automated email)

From: O'Connor, Tammy (T.A.)
Sent: Thursday, January 25, 2007 11:42 AM
To: Welch, Sharon (S.L.)
Cc: Rivera, Santos (S.)
Subject: RE: TSB Request for Input: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

I will send you some e-mails from Steve Repasky.

This is the first draft only.

Tammy A. O'Connor
Product Concern Engineer
FCSD Service Engineering Operations
Super Duty F-Series
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Welch, Sharon (S.L.)
Sent: Thursday, January 25, 2007 11:41 AM
To: O'Connor, Tammy (T.A.)
Cc: Welch, Sharon (S.L.)
Subject: RE: TSB Request for Input: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Has Santos seen this yet? I believe the way it is currently written is going to cause a problem for establishing labor times.

Also, who from steering has seen this TSB and is in agreement? I do not want FCSD to end up in a battle with steering again.

Lastly, the way the TSB is currently written is confusing to me as well with regard to why we address the steering dampener at one point in the TSB, check other items, and then ask them to inspect the dampener again.

Sharon Welch
FCSD Program Manager - Warranty Task Force
Fairlane Business Park 3 246F
Phone (313) 24-83499

From: O'Connor, Tammy (T.A.)
Sent: Thursday, January 25, 2007 10:39 AM
To: Hale, Curt (B.C.); Knapp, David (D.); Repasky, Steve (S.); Welch, Sharon (S.L.); O'Connor, Tammy (T.A.)
Subject: TSB Request for Input: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

TSB Request for Input
*** DRAFT ***

This message is being sent on behalf of TOCONNOR.
Please provide review and feedback for the article below. The person requesting this feedback may have provided further direction in the comment section below. Forward/Send any comments via email to the person who sent this email.

General Information

Last action taken (as of 1/25/2007 3:39:20 PM GMT):	Send for engineering input
Comment:	Please review and forward any suggested changes/comments to Tammy O'Connor no later than Monday, January 29th - at which time it will be submitted for publication.
Author:	TOCONNOR
Tracking Number:	[redacted]
Author Tracking Number:	--
Title:	2005-2007 F-Super Duty - Steering Wheel Oscillation
Article Type:	TSB

TSB Issue:
Some 2005-2007 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion), immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on 4X4 vehicles, and is more evident on trucks equipped with a gas engine.
TSB Action:
Refer to the tsb Service Procedure to minimize the steering wheel oscillations on impacts, however, there may be some remaining minor oscillation which would be considered normal.

TSB Service Procedure:
SERVICE PROCEDURE SUMMARY

- Set tire pressure, road test vehicle to evaluate vehicle before proceeding with further repairs. If issue is resolved, do not proceed with the rest of this TSB
- If concern still exists, check steering damper for leaks; torque steering and suspension fasteners per Workshop Manual
- If concern still exists, check front alignment and reduce front caster
- If concern still exists, install a new steering damper frame mounted bracket and steering damper assembly (4X4 applications only). For 4x2 applications, inspect damper for leaks and replace as required with damper 5C3Z-3E651-D only.
- Replacement of redundant control steering wheel (if equipped and vehicle built prior to 10/8/2004).

VEHICLE INSPECTION - TIRE PRESSURE
---
1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

NOTE: SETTING TIRE PRESSURE TO DOOR SPECIFICATION IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE.

ROAD TEST

---

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the customer's issue.
3. If no issues are identified during the road test, do not proceed with the rest of this TSB.

STEERING DAMPER INSPECTION AND STEERING/SUSPENSION FASTENER TORQUE CHECK

---

1. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
a. If leaks are present, install a new steering damper.
2. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table below).

Description	Torque Specification (lb-ft/ Nm)	
	Lb-ft	Nm
Damper nuts (4X2)	66	90
Damper-to-bracket (F-250, F-350 4X4)	76	103
Damper-to-drag link	66	90
Drag link-to-pitman arm nut	129	175
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts and bolts	129	175
Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE.

FRONT WHEEL ALIGNMENT AND REDUCE FRONT CASTER

NOTE: OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

Measure wheel alignment. Verify that Front Caster, Camber, and Total Toe are within specification. Adjust as required. Refer to the Workshop Manual, Section 204-00 for complete alignment specifications.

REDUCE FRONT CASTER

- Note the current front caster
- Use alignment adjustment bushings to reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit. Use alignment adjustment bushings

F-250/350 4X4:

- 5C3Z-3B440-CCC (0.5 degree bushing)
- 5C3Z-3B440-DDD (0.75 degree bushing)
- 5C3Z-3B440-EEE (1.0 degree bushing)

F-450/550 4X4 and 4X2:

· 5C3Z-3B440-HHH (0.5 degree bushing)
· 5C3Z-3B440-JJJ (0.75 degree bushing)
· 5C3Z-3B440-KKK (1.0 degree bushing)

F-250/350 4X2:
· 5C3Z-3B440-C = 0.5 degree busing
· 5C3Z-3B440-D = 0.75 degree bushing
· 5C3Z-3B440-E = 1.0 degree bushing

For All 4X4 and for F-450/550 4X2
· Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward and inboard position (See Figure 1)
· This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed
· The final caster and camber settings must be within the specification limits
· Maintain the current front camber, cross-camber and cross-caster settings as close as you possibly can
· Adding weight behind the rear axle lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster

For All F-250/350 4X2,
· Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain that position while moving the caster position forward in the truck
· The final caster and camber settings must be within the specification limits

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE.

REPLACE STEERING DAMPNER AND FRAME MOUNTING BRACKET:

For 4x2 applications only:

Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
If leaks are present, install a new steering damper (5C3Z-3E651-D).

For 4x4 applications:

Remove existing steering damper and frame attachment bracket. Replace steering damper and frame mounting bracket with steering damper P/N 8C3Z-3E651-A and frame bracket P/N 7C3Z-3E652-C. Attach steering damper to frame bracket (with W7061[redacted] bolt and W52[redacted] nut) and torque bolt to 103 Nm. Assemble bracket and shock assembly to the frame with attachment bolt retainer (W7120[redacted] pointing to rear of vehicle. Torque frame bracket nuts (W5201[redacted] to 80 Nm. Attach other end of shock to the steering drag link and torque to 90 Nm. See figure X. (Needs a number).
Install damper bolt cap (W711670-S300) to assure a friendly surface for the battery cable in case of casual contact.

Note: CHECK SURROUNDING ENVIRONMENT TO THE FRAME BRACKET AND DAMPER ASSEMBLY TO ENSURE THAT BATTERY CABLES ARE NOT CONTACTING BRACKET/BOLTS/DAMPER. ALSO, VERIFY THAT TRANSMISSION OIL COOLER LINES HAVE CLEARANCE TO THE DAMPER DUST SHIELD.

(INSERT FIGURE HERE)

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 Only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual, Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

NOTE: LABOR OPERATIONS IN THIS TSB CAN BE CLAIMED TOGETHER.

NOTE: OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

Category: Service Fix (10 years - TSB Only)
Request Type: Non-QSF
Would this make a good cost save business case? No
Activity Code: 070 F-Series >8500#
Vehicle Applications:

Vehicle Lines	Model Year Start	Model Year End	Assembly Plants	Body Styles	Engine	Trans Axles	Build From	Build To
F-Super Duty (F-250 to 550)	2005	2007						

If SPECS Case, Select all Other Affected Publications:
Changes Needed in Other Pubs:
TSBs to Supersede: 06-15-1
SSMs to Supersede:
ISMs to Supersede:
Other application Articles:
Select the reason for republication: Incorrect Procedure
Procedure verified by CDSID: srepasky
Describe How The Procedure Was Verified: TSB was verified by Steve Repasky.
Do you have access to a vehicle for time study? Yes
If Yes, contact for vehicle CDSID: toconnor
Labor Operations:

Are Illustrations Required? Yes
If Yes, Contact information for illustrations:
CDSID(Ford only): toconnor
Full Name: Tammy O'Connor
Phone: 313/322-3824
Illustration Notes: Please use same illustrations from TSB 06-15-1.

Trustmarks affected: Ford
Additional Trustmarks To Notify:
Article Distribution: WDMO, Canada, Mexico, United States
DTC Codes and OASIS Service Codes: , 303000, 304000, 306000, 703000, 703000, 703200, 703200, 703300, 703300, 703400, 703400

Causal Basic Part # or Finis Code:

Causal Part # or Finis Code	Warranty Condition Codes
3E651 FRONT TIR	Chassis: 42

Calibrations List:

White Paper Numbers:

Parts Request Information

Are Parts Required? Yes

QSF Single Agenda Or Program FRC Date:

Parts List:

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
1	Existing	5C74-3F563-AB1D24	No	Not Applicable	STEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5C7Z-3600-ABA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
2	Existing	5C74-3F563-AB35B8	No	Not Applicable	sTEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5c7z-3600-CBA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
3	Existing	5C34-3D004-NA	No	Not Applicable	.5 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-C			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
4	Existing	5C34-3D004-CA	No	Not Applicable	.5 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-CCC			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
5	Existing	5C34-3D004-PA	No	Not Applicable	.75 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						

@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			5C3Z-3B440-D			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
6	Existing	5C34-3D004-DA	No	Not Applicable	-75 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-DDD			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
7	Existing	5C34-3D004-RA	No	Not Applicable	1.0 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-E			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
8	Existing	5C34-3D004-EA	No	Not Applicable	1.0 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-EEE			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
9	Existing	5C34-3D004-JA	No	Not Applicable	0.75 DEGREE SHIM	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-JJJ			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
10	Existing	5C34-3D004-KA	No	Not Applicable	1.0 DEGREE SHIM	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						

@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			5C3Z-3B440-KKK			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
11	Existing	W520117-S441	No	Not Applicable	NUT - HEX - RH THREA	1	100

*Calculated Forecast	*@WERS Notice #	*@WERS Date Released	*@Supplier Company
126			

@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
		G229J	W520117-S441			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
12	Existing	W706196-S439	No	Not Applicable	Bolt	1	100

*Calculated Forecast	*@WERS Notice #	*@WERS Date Released	*@Supplier Company
126			

@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
		G229J	W706196-S439			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
13	Existing	7c343e652ac	No	Not Applicable	Bracket	1	100

*Calculated Forecast	*@WERS Notice #	*@WERS Date Released	*@Supplier Company
126			

@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			7c3z3e652c			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
14	Existing	8C34-3E651-CB	No	Not Applicable	Dampner Asy	1	100

*Calculated Forecast	*@WERS Notice #	*@WERS Date Released	*@Supplier Company
126			

@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
		T407H	8C3Z-3E651-C			No

Parts catalog flag needed? No
Part number(s) that require flag:
Is geographic location significant? No
Special instructions/remarks: We want to have 3 causal part numbers as follows:
1. 3E651 = Steering Dampner
2. FRONT = Alignment
3. TIRE = Tire Pressure

Article Number:

BCM Number:

(End automated email)

From: Hwang, Hsiu-Ying (H.Y.)
Sent: Friday, March 02, 2007 9:24 AM
To: O'Connor, Tammy (T.A.); Gompper, Dan (D.B.); Benson, Keith (K.A.); Perry, Adam (A.F.); Memmer, Mark (M.A.)
Cc: Hodges, Cynthia (C.P.); Choe, Mark (M.J.); Barry, Jack (J.E.); Hale, Curt (B.C.); Klump, Robert (R.F.); Hwang, Hsiu-Ying (H.Y.)
Subject: RE: TSB Request for Input: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

As long as the dealer would know to look back from 2005-2007 P131 service manual, then it should be O.K.

(If they refer to 2008 P356 service manual, then the torque could damage the rubber bushing of damper. As long as the part number and torque are checked, then it would be fine.)

Regards,
Hsiu-Ying Hwang
Steering/Chassis Engineer
Certified Integrated Black Belt
Tel/Pager: 313-805-3873

From: O'Connor, Tammy (T.A.)
Sent: Friday, March 02, 2007 9:15 AM
To: Hwang, Hsiu-Ying (H.Y.); Gompper, Dan (D.B.); Benson, Keith (K.A.); Perry, Adam (A.F.); Memmer, Mark (M.A.)
Cc: Hodges, Cynthia (C.P.); Choe, Mark (M.J.); Barry, Jack (J.E.); Hale, Curt (B.C.); Klump, Robert (R.F.)
Subject: RE: TSB Request for Input: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

The 2 part numbers have already been changed -- anything else would require complete re-publication of the TSB -- which is not necessary at this time. The damper for 450/550 is unchanged.

Tammy A. O'Connor
Product Concern Engineer
FCSD Service Engineering Operations
Super Duty F-Series
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Hwang, Hsiu-Ying (H.Y.)
Sent: Friday, March 02, 2007 9:11 AM
To: O'Connor, Tammy (T.A.); Gompper, Dan (D.B.); Benson, Keith (K.A.); Perry, Adam (A.F.); Memmer, Mark (M.A.)
Cc: Hodges, Cynthia (C.P.); Choe, Mark (M.J.); Barry, Jack (J.E.); Hwang, Hsiu-Ying (H.Y.)
Subject: RE: TSB Request for Input: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

I made 3 corrections and marked them in **Blue**.
(Update Service part number for F250/350 4x4 damper and the cap part number, and add torque for F450/550 damper to bracket.)

Regards,
Hsiu-Ying Hwang
Steering/Chassis Engineer
Certified Integrated Black Belt
Tel/Pager: 313-805-3873

From: Hwang, Hsiu-Ying (H.Y.)
Sent: Wednesday, February 14, 2007 5:45 PM
To: O'Connor, Tammy (T.A.); Gompper, Dan (D.B.); Benson, Keith (K.A.); Perry, Adam (A.F.); Memmer, Mark (M.A.)
Cc: Hodges, Cynthia (C.P.); Choe, Mark (M.J.); Barry, Jack (J.E.); Hwang, Hsiu-Ying (H.Y.)
Subject: RE: TSB Request for Input: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Base on the review (from video), It looks like the damper & bracket were **2008.5** P356, not **2008** P356. Could we verify what parts were used on the Vehicle?

If that's the case (2008.5 parts), then the part numbers shown in the TSB are not correct. We need to change to 2008.5 part numbers. Please confirm what's the parts used on the vehicle, then I could update the TSB accordingly.

If we are going to use 2008 P356 parts, then we need evaluate the vehicle with represent-able 2008 P356 parts (damper/bracket) on P131 vehicle.

Regards,
Hsiu-Ying Hwang
Steering/Chassis Engineer
Certified Integrated Black Belt
Tel/Pager: 313-805-3873

From: Hwang, Hsiu-Ying (H.Y.)
Sent: Friday, February 02, 2007 5:14 PM
To: O'Connor, Tammy (T.A.)
Cc: Gompper, Dan (D.B.); Memmer, Mark (M.A.); Hodges, Cynthia (C.P.); Benson, Keith (K.A.); Hwang, Hsiu-Ying (H.Y.); Choe, Mark (M.J.); Barry, Jack (J.E.); Hwang, Hsiu-Ying (H.Y.)
Subject: RE: TSB Request for Input: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

My suggested corrections are marked in RED.

As agreed, the replacing P131 damper & bracket with 2008 P356 part is only for F250/350 4x4, not for others (i.e. not for TIB, neither for F450/550). We should clearly state it. And this TSB could be approved based evaluation on P131 vehicle with 08 P356 steering damper/bracket if there is no contact to surrounding parts. However, the vehicle evaluation data is not reviewed to the affected D&R engineers.

When 2008.5 P356 launched, another Vehicle evaluation (P131 vehicle with 2008.5 P356 steering damper/bracket) should be performed. Since 2008.5 has different damper bracket, the relationship between steering damper and surrounding parts is different from 2008's.

Please let me know if threre is any question. Thank you.

Regards,
Hsiu-Ying Hwang
Steering/Chassis Engineer
Certified Integrated Black Belt
Tel/Pager: 313-805-3873

From: Repasky, Steve (S.)
Sent: Thursday, January 25, 2007 12:33 PM
To: Gompper, Dan (D.B.); Memmer, Mark (M.A.); Hodges, Cynthia (C.P.); Benson, Keith (K.A.); Hwang, Hsiu-Ying (H.Y.)
Cc: O'Connor, Tammy (T.A.); Choe, Mark (M.J.); Barry, Jack (J.E.)
Subject: FW: TSB Request for Input: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

For your review. I think the section under inspect damper for leaks under steering damper inspection in the first part of the TSB needs to be eliminated. Please review and comment directly to Tammy. Also, please verify torques for front end components. Thanks...

Tammy - is a time study required for the 4x4 shock replacement procedure?

From: O'Connor, Tammy (T.A.)
Sent: Thursday, January 25, 2007 10:39 AM
To: Hale, Curt (B.C.); Knapp, David (D.); Repasky, Steve (S.); Welch, Sharon (S.L.); O'Connor, Tammy (T.A.)
Subject: TSB Request for Input: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

TSB Request for Input
*** DRAFT ***

This message is being sent on behalf of TOCONNOR.
Please provide review and feedback for the article below. The person requesting this feedback may have provided further direction in the comment section below. Forward/Send any comments via email to the person who sent this email.
General Information

Last action taken (as of 1/25/2007 3:39:20 PM GMT):	Send for engineering input
Comment:	Please review and forward any suggested changes/comments to Tammy O'Connor no later than Monday, January 29th - at which time it will be submitted for publication.
Author:	TOCONNOR
Tracking Number:	[redacted]
Author Tracking Number:	--
Title:	2005-2007 F-Super Duty - Steering Wheel Oscillation
Article Type:	TSB

TSB Issue:
Some 2005-2007 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion), immediately following front or rear wheel impacts (i.e. pavement

joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on F250/F350 4X4 vehicles, and is more evident on trucks equipped with a gas engine.

TSB Action:

Refer to the tsb Service Procedure to minimize the steering wheel oscillations on impacts, however, there may be some remaining minor oscillation which would be considered normal.

TSB Service Procedure:

SERVICE PROCEDURE SUMMARY

· Set tire pressure, road test vehicle to evaluate vehicle before proceeding with further repairs. If issue is resolved, do not proceed with the rest of this TSB
· If concern still exists, ~~check steering damper for leaks~~; torque steering and suspension fasteners per Workshop Manual.
· If concern still exists, check front alignment and reduce front caster
· If concern still exists, install a new steering damper frame mounted bracket and steering damper assembly (F250/F350 4X4 applications only). For all other ~~4x2~~ applications, inspect damper for leaks and replace as required with damper 5C3[redacted]D for all F450/550, and with 5C3[redacted]B for F250/F350 4x2 ~~only~~.
· Replacement of redundant control steering wheel (if equipped and vehicle built prior to 10/8/2004).

VEHICLE INSPECTION - TIRE PRESSURE

---

1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

NOTE: SETTING TIRE PRESSURE TO DOOR SPECIFICATION IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE.

ROAD TEST

---

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the customer's issue.
3. If no issues are identified during the road test, do not proceed with the rest of this TSB.

~~STEERING DAMPER INSPECTION AND STEERING/~~SUSPENSION FASTENER TORQUE CHECK

---

1. ~~Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.~~
   a. ~~If leaks are present, install a new steering damper.~~
2. Check torques on the following steering and suspension fasteners and adjust to

specification as required (see Table below).

Description	Torque Specification (lb-ft/ Nm) Lb-ft	Nm
Damper nuts (F250/F350 4X2)	59 ~~66~~	80 ~~90~~
Damper-to-bracket (F-250, F-350 4X4)	76	103
Damper-to-bracket (F-450, F-550 4X4)	**25.8**	**35**
Damper-to-drag link	66	90
Drag link-to-pitman arm nut	129	175
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts and bolts	129	175
Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

* Note: F250/350 4x2 will continue using 5C3[redacted]-B, so the torque will remain as carry-over torque.

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE.

FRONT WHEEL ALIGNMENT AND REDUCE FRONT CASTER

NOTE: OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

Measure wheel alignment. Verify that Front Caster, Camber, and Total Toe are within specification. Adjust as required. Refer to the Workshop Manual, Section 204-00 for complete alignment specifications.

REDUCE FRONT CASTER

- Note the current front caster
- Use alignment adjustment bushings to reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit. Use alignment adjustment bushings

F-250/350 4X4:

- 5C3Z-3B440-CCC (0.5 degree bushing)
- 5C3Z-3B440-DDD (0.75 degree bushing)

· 5C3Z-3B440-EEE (1.0 degree bushing)

F-450/550 4X4 and 4X2:

· 5C3Z-3B440-HHH (0.5 degree bushing)
· 5C3Z-3B440-JJJ (0.75 degree bushing)
· 5C3Z-3B440-KKK (1.0 degree bushing)

F-250/350 4X2:
· 5C3Z-3B440-C = 0.5 degree busing
· 5C3Z-3B440-D = 0.75 degree bushing
· 5C3Z-3B440-E = 1.0 degree bushing

For All 4X4 and for F-450/550 4X2
· Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward and inboard position (See Figure 1)
· This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed
· The final caster and camber settings must be within the specification limits
· Maintain the current front camber, cross-camber and cross-caster settings as close as you possibly can
· Adding weight behind the rear axle lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster

For All F-250/350 4X2,
· Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain that position while moving the caster position forward in the truck
· The final caster and camber settings must be within the specification limits

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE.

STEERING DAMPER INSPECTION AND REPLACE STEERING DAMPNER AND FRAME MOUNTING BRACKET

~~For 4x2 applications only:~~
~~---~~

~~Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.~~
~~If leaks are present, install a new steering damper (5C3[redacted]B).~~

For F250/F350 4x4 applications:

Remove existing steering damper and frame attachment bracket. Replace steering damper and frame mounting bracket with steering damper P/N **8C3Z-3E651-C** and frame bracket P/N 7C3[redacted]-C. Attach steering damper to frame bracket (with W7061[redacted] bolt and W5201[redacted] nut) and torque bolt to 103 Nm. Assemble bracket and damper ~~shock~~ assembly to the frame with attachment bolt retainer (W7120[redacted], pointing to rear of vehicle. Torque frame bracket nuts (W5201[redacted]) to 80 Nm. Attach other end of damper

~~shock~~ to the steering drag link and torque to 90 Nm. See figure X. (Needs a number).

Install damper bolt cap (W7115[redacted]) to assure a friendly surface for the battery cable in case of casual contact.

Note: CHECK SURROUNDING ENVIRONMENT TO THE FRAME BRACKET AND DAMPER ASSEMBLY TO ENSURE THAT BATTERY CABLES ARE NOT CONTACTING BRACKET/BOLTS/DAMPER. ALSO, VERIFY THAT TRANSMISSION OIL COOLER LINES HAVE CLEARANCE TO THE DAMPER DUST SHIELD.

(INSERT FIGURE HERE)

For All Other applications (F250/F350 4x2 and All F450/F550):

1. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
2. If leaks are present, install a new steering damper (**5C3[redacted]-D for F450/F550, and 5C3[redacted]-B for F250/350 4x2).**

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 Only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual, Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

NOTE: LABOR OPERATIONS IN THIS TSB CAN BE CLAIMED TOGETHER.

NOTE: OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

Category: Service Fix (10 years - TSB Only)
Request Type: Non-QSF
Would this make a good cost save business case? No
Activity Code: 070 F-Series >8500#
Vehicle Applications:

Vehicle Lines	Model Year Start	Model Year End	Assembly Plants	Body Styles	Engine	Trans Axles	Build From	Build To
F-Super								

Duty (F-250 to 550)	2005	2007						

If SPECS Case, Select all Other Affected Publications:
Changes Needed in Other Pubs:
TSBs to Supersede: 06-15-1
SSMs to Supersede:
ISMs to Supersede:
Other application Articles:
Select the reason for republication: Incorrect Procedure
Procedure verified by CDSID: srepasky
Describe How The Procedure Was Verified: TSB was verified by Steve Repasky.
Do you have access to a vehicle for time study? Yes
If Yes, contact for vehicle CDSID: toconnor
Labor Operations:

Are Illustrations Required? Yes
If Yes, Contact information for illustrations:
CDSID(Ford only): toconnor
Full Name: Tammy O'Connor
Phone: 313/322-3824
Illustration Notes: Please use same illustrations from TSB 06-15-1.

Trustmarks affected: Ford
Additional Trustmarks To Notify:
Article Distribution: WDMO, Canada, Mexico, United States
DTC Codes and OASIS Service Codes: , 303000, 304000, 306000, 703000, 703000, 703200, 703200, 703300, 703300, 703400, 703400

Causal Basic Part # or Finis Code:

Causal Part # or Finis Code	Warranty Condition Codes
3E651 FRONT TIR	Chassis: 42

Calibrations List:

White Paper Numbers:

Parts Request Information

Are Parts Required? Yes
QSF Single Agenda Or Program FRC Date:
Parts List:

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C74-3F563-	No	Not Applicable	STEERING WHEEL ASY	1	100

		AB1D24					
1	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5C7Z-3600-ABA			No

2	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C74-3F563-AB35B8	No	Not Applicable	sTEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5c7z-3600-CBA			No

3	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-NA	No	Not Applicable	.5 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-C			No

4	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-CA	No	Not Applicable	.5 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company

	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-CCC			No

5	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-PA	No	Not Applicable	.75 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-D			No

6	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-DA	No	Not Applicable	-75 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-DDD			No

7	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-RA	No	Not Applicable	1.0 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
		@1st					

@1st Contact	Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			5C3Z-3B440-E			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-EA	No	Not Applicable	1.0 DEGREE SHIM 4X4	1	100
8	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-EEE			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-JA	No	Not Applicable	0.75 DEGREE SHIM	1	100
9	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-JJJ			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-KA	No	Not Applicable	1.0 DEGREE SHIM	1	100
10	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-			

				3B440-KKK			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	W520117-S441	No	Not Applicable	NUT - HEX - RH THREA	1	100
11	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			G229J	W520117-S441			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	W706196-S439	No	Not Applicable	Bolt	1	100
12	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			G229J	W706196-S439			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	7c343e652ac	No	Not Applicable	Bracket	1	100
13	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				7c3z3e652c			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed

	Existing	8C34-3E651-CB	No	Not Applicable	Dampner Asy	1	100
14	***Calculated Forecast**		***@WERS Notice #**		***@WERS Date Released**		***@Supplier Company**
	126						
	@1st Contact	**@1st Contact Phone**	**Source Code**	**Service #**	**Replaced SVC #**	**°Replaced Eng. #**	**°Is Calibration Needed**
			T407H	8C3Z-3E651-C			No

Parts catalog flag needed? No
Part number(s) that require flag:
Is geographic location significant? No
Special instructions/remarks: We want to have 3 causal part numbers as follows:
1. 3E651 = Steering Dampner
2. FRONT = Alignment
3. TIRE = Tire Pressure

Article Number:
BCM Number:

(End automated email)

From: Hwang, Hsiu-Ying (H.Y.)
Sent: Friday, March 02, 2007 9:24 AM
To: O'Connor, Tammy (T.A.); Gompper, Dan (D.B.); Benson, Keith (K.A.); Perry, Adam (A.F.); Memmer, Mark (M.A.)
Cc: Hodges, Cynthia (C.P.); Choe, Mark (M.J.); Barry, Jack (J.E.); Hale, Curt (B.C.); Klump, Robert (R.F.); Hwang, Hsiu-Ying (H.Y.)
Subject: RE: TSB Request for Input: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

As long as the dealer would know to look back from 2005-2007 P131 service manual, then it should be O.K.

(If they refer to 2008 P356 service manual, then the torque could damage the rubber bushing of damper. As long as the part number and torque are checked, then it would be fine.)

Regards,
Hsiu-Ying Hwang
Steering/Chassis Engineer
Certified Integrated Black Belt
Tel/Pager: 313-805-3873

From: O'Connor, Tammy (T.A.)
Sent: Friday, March 02, 2007 9:15 AM
To: Hwang, Hsiu-Ying (H.Y.); Gompper, Dan (D.B.); Benson, Keith (K.A.); Perry, Adam (A.F.); Memmer, Mark (M.A.)
Cc: Hodges, Cynthia (C.P.); Choe, Mark (M.J.); Barry, Jack (J.E.); Hale, Curt (B.C.); Klump, Robert (R.F.)
Subject: RE: TSB Request for Input: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

The 2 part numbers have already been changed -- anything else would require complete re-publication of the TSB -- which is not necessary at this time. The damper for 450/550 is unchanged.

Tammy A. O'Connor
Product Concern Engineer
FCSD Service Engineering Operations
Super Duty F-Series
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Hwang, Hsiu-Ying (H.Y.)
Sent: Friday, March 02, 2007 9:11 AM
To: O'Connor, Tammy (T.A.); Gompper, Dan (D.B.); Benson, Keith (K.A.); Perry, Adam (A.F.); Memmer, Mark (M.A.)
Cc: Hodges, Cynthia (C.P.); Choe, Mark (M.J.); Barry, Jack (J.E.); Hwang, Hsiu-Ying (H.Y.)
Subject: RE: TSB Request for Input: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

I made 3 corrections and marked them in **Blue**.
(Update Service part number for F250/350 4x4 damper and the cap part number, and add torque for F450/550 damper to bracket.)

Regards,
Hsiu-Ying Hwang
Steering/Chassis Engineer
Certified Integrated Black Belt
Tel/Pager: 313-805-3873

From: Hwang, Hsiu-Ying (H.Y.)
Sent: Wednesday, February 14, 2007 5:45 PM
To: O'Connor, Tammy (T.A.); Gompper, Dan (D.B.); Benson, Keith (K.A.); Perry, Adam (A.F.); Memmer, Mark (M.A.)
Cc: Hodges, Cynthia (C.P.); Choe, Mark (M.J.); Barry, Jack (J.E.); Hwang, Hsiu-Ying (H.Y.)
Subject: RE: TSB Request for Input: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Base on the review (from video), It looks like the damper & bracket were **2008.5** P356, not **2008** P356. Could we verify what parts were used on the Vehicle?

If that's the case (2008.5 parts), then the part numbers shown in the TSB are not correct. We need to change to 2008.5 part numbers. Please confirm what's the parts used on the vehicle, then I could update the TSB accordingly.

If we are going to use 2008 P356 parts, then we need evaluate the vehicle with represent-able 2008 P356 parts (damper/bracket) on P131 vehicle.

Regards,
Hsiu-Ying Hwang
Steering/Chassis Engineer
Certified Integrated Black Belt
Tel/Pager: 313-805-3873

From: Hwang, Hsiu-Ying (H.Y.)
Sent: Friday, February 02, 2007 5:14 PM
To: O'Connor, Tammy (T.A.)
Cc: Gompper, Dan (D.B.); Memmer, Mark (M.A.); Hodges, Cynthia (C.P.); Benson, Keith (K.A.); Hwang, Hsiu-Ying (H.Y.); Choe, Mark (M.J.); Barry, Jack (J.E.); Hwang, Hsiu-Ying (H.Y.)
Subject: RE: TSB Request for Input: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

My suggested corrections are marked in RED.

As agreed, the replacing P131 damper & bracket with 2008 P356 part is only for F250/350 4x4, not for others (i.e. not for TIB, neither for F450/550). We should clearly state it. And this TSB could be approved based evaluation on P131 vehicle with 08 P356 steering damper/bracket if there is no contact to surrounding parts. However, the vehicle evaluation data is not reviewed to the affected D&R engineers.

When 2008.5 P356 launched, another Vehicle evaluation (P131 vehicle with 2008.5 P356 steering damper/bracket) should be performed. Since 2008.5 has different damper bracket, the relationship between steering damper and surrounding parts is different from 2008's.

Please let me know if threre is any question. Thank you.

Regards,
Hsiu-Ying Hwang
Steering/Chassis Engineer
Certified Integrated Black Belt
Tel/Pager: 313-805-3873

From: Repasky, Steve (S.)
Sent: Thursday, January 25, 2007 12:33 PM
To: Gompper, Dan (D.B.); Memmer, Mark (M.A.); Hodges, Cynthia (C.P.); Benson, Keith (K.A.); Hwang, Hsiu-Ying (H.Y.)
Cc: O'Connor, Tammy (T.A.); Choe, Mark (M.J.); Barry, Jack (J.E.)
Subject: FW: TSB Request for Input: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

For your review. I think the section under inspect damper for leaks under steering damper inspection in the first part of the TSB needs to be eliminated. Please review and comment directly to Tammy. Also, please verify torques for front end components. Thanks...

Tammy - is a time study required for the 4x4 shock replacement procedure?

From: O'Connor, Tammy (T.A.)
Sent: Thursday, January 25, 2007 10:39 AM
To: Hale, Curt (B.C.); Knapp, David (D.); Repasky, Steve (S.); Welch, Sharon (S.L.); O'Connor, Tammy (T.A.)
Subject: TSB Request for Input: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

TSB Request for Input
*** DRAFT ***

This message is being sent on behalf of TOCONNOR.
Please provide review and feedback for the article below. The person requesting this feedback may have provided further direction in the comment section below. Forward/Send any comments via email to the person who sent this email.
General Information

Last action taken (as of 1/25/2007 3:39:20 PM GMT):	Send for engineering input
Comment:	Please review and forward any suggested changes/comments to Tammy O'Connor no later than Monday, January 29th - at which time it will be submitted for publication.
Author:	TOCONNOR
Tracking Number:	[redacted]
Author Tracking Number:	--
Title:	2005-2007 F-Super Duty - Steering Wheel Oscillation
Article Type:	TSB

TSB Issue:
Some 2005-2007 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion), immediately following front or rear wheel impacts (i.e. pavement

joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer
than five oscillations. This condition occurs mostly on F250/F350 4X4 vehicles, and is more evident on trucks equipped with a gas engine.

TSB Action:

Refer to the tsb Service Procedure to minimize the steering wheel oscillations on impacts, however, there may be some remaining minor oscillation which would be considered normal.

TSB Service Procedure:

SERVICE PROCEDURE SUMMARY

· Set tire pressure, road test vehicle to evaluate vehicle before proceeding with further repairs. If issue is resolved, do not proceed with the rest of this TSB
· If concern still exists, ~~check steering damper for leaks~~; torque steering and suspension fasteners per Workshop Manual.
· If concern still exists, check front alignment and reduce front caster
· If concern still exists, install a new steering damper frame mounted bracket and steering damper assembly (F250/F350 4X4 applications only). For all other ~~4x2~~ applications, inspect damper for leaks and replace as required with damper 5C3[redacted]D for all F450/550, and with 5C3[redacted]B for F250/F350 4x2 ~~only~~.
· Replacement of redundant control steering wheel (if equipped and vehicle built prior to 10/8/2004).

VEHICLE INSPECTION - TIRE PRESSURE

---

1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

NOTE: SETTING TIRE PRESSURE TO DOOR SPECIFICATION IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE.

ROAD TEST

---

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the customer's issue.
3. If no issues are identified during the road test, do not proceed with the rest of this TSB.

~~STEERING DAMPER INSPECTION AND STEERING/~~SUSPENSION FASTENER TORQUE CHECK

---

1. ~~Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.~~
   ~~a. If leaks are present, install a new steering damper.~~
2. Check torques on the following steering and suspension fasteners and adjust to

specification as required (see Table below).

Description	Torque Specification (lb-ft/ Nm) Lb-ft	Nm
Damper nuts (F250/F350 4X2)	59 ~~66~~	80 ~~90~~
Damper-to-bracket (F-250, F-350 4X4)	76	103
Damper-to-bracket (F-450, F-550 4X4)	**25.8**	**35**
Damper-to-drag link	66	90
Drag link-to-pitman arm nut	129	175
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts and bolts	129	175
Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

* Note: F250/350 4x2 will continue using 5C3[redacted]B, so the torque will remain as carry-over torque.

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE.

FRONT WHEEL ALIGNMENT AND REDUCE FRONT CASTER

NOTE: OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

Measure wheel alignment. Verify that Front Caster, Camber, and Total Toe are within specification. Adjust as required. Refer to the Workshop Manual, Section 204-00 for complete alignment specifications.

REDUCE FRONT CASTER

- Note the current front caster
- Use alignment adjustment bushings to reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit. Use alignment adjustment bushings

F-250/350 4X4:

· 5C3Z-3B440-CCC (0.5 degree bushing)
· 5C3Z-3B440-DDD (0.75 degree bushing)

· 5C3Z-3B440-EEE (1.0 degree bushing)

F-450/550 4X4 and 4X2:

· 5C3Z-3B440-HHH (0.5 degree bushing)
· 5C3Z-3B440-JJJ (0.75 degree bushing)
· 5C3Z-3B440-KKK (1.0 degree bushing)

F-250/350 4X2:
· 5C3Z-3B440-C = 0.5 degree busing
· 5C3Z-3B440-D = 0.75 degree bushing
· 5C3Z-3B440-E = 1.0 degree bushing

For All 4X4 and for F-450/550 4X2
· Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward and inboard position (See Figure 1)
· This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed
· The final caster and camber settings must be within the specification limits
· Maintain the current front camber, cross-camber and cross-caster settings as close as you possibly can
· Adding weight behind the rear axle lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster

For All F-250/350 4X2,
· Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain that position while moving the caster position forward in the truck
· The final caster and camber settings must be within the specification limits

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE.

STEERING DAMPER INSPECTION AND REPLACE STEERING DAMPNER AND FRAME MOUNTING BRACKET

~~For 4x2 applications only:~~
~~---~~

~~Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.~~
~~If leaks are present, install a new steering damper (5C3[redacted]B).~~

For F250/F350 4x4 applications:

Remove existing steering damper and frame attachment bracket. Replace steering damper and frame mounting bracket with steering damper P/N **8C3Z-3E651-C** and frame bracket P/N 7C3[redacted]C. Attach steering damper to frame bracket (with W7061[redacted] bolt and W5201[redacted]nut) and torque bolt to 103 Nm. Assemble bracket and damper ~~shock~~ assembly to the frame with attachment bolt retainer (W7120[redacted]) pointing to rear of vehicle. Torque frame bracket nuts (W5201[redacted], to 80 Nm. Attach other end of damper

~~shock~~ to the steering drag link and torque to 90 Nm. See figure X. (Needs a number).

Install damper bolt cap (W7115[redacted]) to assure a friendly surface for the battery cable in case of casual contact.

Note: CHECK SURROUNDING ENVIRONMENT TO THE FRAME BRACKET AND DAMPER ASSEMBLY TO ENSURE THAT BATTERY CABLES ARE NOT CONTACTING BRACKET/BOLTS/DAMPER. ALSO, VERIFY THAT TRANSMISSION OIL COOLER LINES HAVE CLEARANCE TO THE DAMPER DUST SHIELD.

(INSERT FIGURE HERE)

For All Other applications (F250/F350 4x2 and All F450/F550):

1. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
2. If leaks are present, install a new steering damper (**5C3[redacted]D for F450/F550, and 5C3[redacted]B for F250/350 4x2).**

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 Only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual, Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

NOTE: LABOR OPERATIONS IN THIS TSB CAN BE CLAIMED TOGETHER.

NOTE: OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

Category: Service Fix (10 years - TSB Only)
Request Type: Non-QSF
Would this make a good cost save business case? No
Activity Code: 070 F-Series >8500#
Vehicle Applications:

Vehicle Lines	Model Year Start	Model Year End	Assembly Plants	Body Styles	Engine	Trans Axles	Build From	Build To
F-Super								

Duty (F-250 to 550)	2005	2007						

If SPECS Case, Select all Other Affected Publications:
Changes Needed in Other Pubs:
TSBs to Supersede: 06-15-1
SSMs to Supersede:
ISMs to Supersede:
Other application Articles:
Select the reason for republication: Incorrect Procedure
Procedure verified by CDSID: srepasky
Describe How The Procedure Was Verified: TSB was verified by Steve Repasky.
Do you have access to a vehicle for time study? Yes
If Yes, contact for vehicle CDSID: toconnor
Labor Operations:

Are Illustrations Required? Yes
If Yes, Contact information for illustrations:
CDSID(Ford only): toconnor
Full Name: Tammy O'Connor
Phone: 313/322-3824
Illustration Notes: Please use same illustrations from TSB 06-15-1.

Trustmarks affected: Ford
Additional Trustmarks To Notify:
Article Distribution: WDMO, Canada, Mexico, United States
DTC Codes and OASIS Service Codes: , 303000, 304000, 306000, 703000, 703000, 703200, 703200, 703300, 703300, 703400, 703400

Causal Basic Part # or Finis Code:

Causal Part # or Finis Code	Warranty Condition Codes
3E651 FRONT TIR	Chassis: 42

Calibrations List:

White Paper Numbers:

Parts Request Information

Are Parts Required? Yes
QSF Single Agenda Or Program FRC Date:
Parts List:

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C74-3F563-	No	Not Applicable	STEERING WHEEL ASY	1	100

		AB1D24					
1	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5C7Z-3600-ABA			No

2	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C74-3F563-AB35B8	No	Not Applicable	sTEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5c7z-3600-CBA			No

3	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-NA	No	Not Applicable	.5 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-C			No

4	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-CA	No	Not Applicable	.5 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company

	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-CCC			No

5	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-PA	No	Not Applicable	.75 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-D			No

6	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-DA	No	Not Applicable	-75 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-DDD			No

7	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-RA	No	Not Applicable	1.0 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
		@1st					

@1st Contact	Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			5C3Z-3B440-E			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-EA	No	Not Applicable	1.0 DEGREE SHIM 4X4	1	100
8	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-EEE			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-JA	No	Not Applicable	0.75 DEGREE SHIM	1	100
9	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-JJJ			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-KA	No	Not Applicable	1.0 DEGREE SHIM	1	100
10	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-			

				3B440-KKK			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	W520117-S441	No	Not Applicable	NUT - HEX - RH THREA	1	100
11	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			G229J	W520117-S441			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	W706196-S439	No	Not Applicable	Bolt	1	100
12	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			G229J	W706196-S439			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	7c343e652ac	No	Not Applicable	Bracket	1	100
13	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				7c3z3e652c			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed

14	Existing	8C34-3E651-CB	No	Not Applicable	Dampner Asy	1	100
	***Calculated Forecast**		***@WERS Notice #**		***@WERS Date Released**		***@Supplier Company**
	126						
	@1st Contact	**@1st Contact Phone**	**Source Code**	**Service #**	**Replaced SVC #**	**°Replaced Eng. #**	**°Is Calibration Needed**
			T407H	8C3Z-3E651-C			No

Parts catalog flag needed? No
Part number(s) that require flag:
Is geographic location significant? No
Special instructions/remarks: We want to have 3 causal part numbers as follows:
1. 3E651 = Steering Dampner
2. FRONT = Alignment
3. TIRE = Tire Pressure

Article Number:
BCM Number:

(End automated email)

From: O'Connor, Tammy (T.A.)
Sent: Wednesday, January 31, 2007 9:18 AM
To: Gompper, Dan (D.B.); Hasselbring, D Blake (D.B.); Knapp, David (D.); Chiang, John (J.); Repasky, Steve (S.)
Cc: Hale, Curt (B.C.); Rivera, Santos (S.)
Subject: RE: TSB Request for Input: [redacted] 2005-2007 F-Super Duty - Vibration/Hop at 40-48 MPH (8.0Hz) *** need feedback from Engineering ***
Importance: High

I need feedback from Engineering on which direction you want to go with this TSB.

1. If you put in the instructions to perform TSB 05-06-24 -- then you have to pay them for it. Do you want the first TSB performed on every truck before they install the damper.
or do you want to only refer to the TSB and only pay them to install the damper? Please advise. If you want 05-06-24 performed first -- I will copy the contents of that tsb into the repair procedure.

2. I need to know what part you want the warranty binned to? Please forward the base part number.

Tammy A. O'Connor
Product Concern Engineer
FCSD Service Engineering Operations
Super Duty F-Series
Body / Chassis / Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: O'Connor, Tammy (T.A.)
Sent: Wednesday, January 31, 2007 9:13 AM
To: Hale, Curt (B.C.); Gompper, Dan (D.B.); Hasselbring, D Blake (D.B.); Knapp, David (D.); Chiang, John (J.); Repasky, Steve (S.); O'Connor, Tammy (T.A.)
Subject: TSB Request for Input: [redacted] 2005-2007 F-Super Duty - Vibration/Hop at 40-48 MPH (8.0Hz)

TSB Request for Input
*** DRAFT ***

This message is being sent on behalf of TOCONNOR.
Please provide review and feedback for the article below. The person requesting this feedback may have provided further direction in the comment section below. Forward/Send any comments via email to the person who sent this email.

General Information

Last action taken (as of 1/31/2007 2:13:09 PM GMT):	Send for engineering input
Comment:	Please review and forward any suggested comments/changes to TOCONNOR before Friday, February 2nd at which time it will be submitted for publication.

Author: TOCONNOR
Tracking Number: [redacted]
Author Tracking Number: --
Title: 2005-2007 F-Super Duty - Vibration/Hop at 40-48 MPH (8.0Hz)
Article Type: TSB

TSB Issue:
Some 2005-2007 F-Super Duty vehicles with a long wheelbase (172", 158", or 156") may exhibit a vehicle vertical vibration, often described as "hopping", on smooth or coarse road surfaces in the 42 - 48 mph speed range. Although this behavior is considered normal for an O8500 truck, some customers may be sensitive to the concern.

NOTE: THE INSTALLATION OF THIS DAMPER WILL NOT IMPROVE RIDE ON SEGMENTED CONCRETE HIGHWAYS, STEERING WHEEL VIBRATION/SHIMMY, OR GENERAL HARSH RIDE CONCERNS.

To improve the vibration level of the vehicle, please refer to the following TSBs:

1. For steering wheel vibration/shimmy concerns, refer to TSB ??-??-??.
2. Runout Matching TSB 05-06-24, as the issue is sometimes excited by tire and wheel R1H or imbalance.

TSB Action:
To improve the 42 - 48 mph vertical vibration, mount the cage damper directly to the trailer hitch, per the Service Procedure below.

TSB Service Procedure:
Repair Procedure:

1. Remove the spare tire as outlined in the Workshop Manual, Section 204-04.
2. Temporarily remove plastic wiring connector (Figure 2).
3. Position the provided template (Figure 3) to the LH hitch side plate, aligning it with existing holes.
4. Mark location of three holes on hitch for drilling.
5. Drill 14.6 mm diameter mounting holes, 3 places.
6. Place the damper at correct mounting location.
7. Thread the bolts through the side plate into the weld nuts on the damper bracket, and torque to 62.5 N-m.
8. Re-install the plastic wiring connector.
9. Restow the spare tire and tighten to clutch override.

Category: Service Fix (10 years - TSB Only)
Request Type: Non-QSF
Would this make a good cost save business case? No
Activity Code: 070 F-Series >8500#
Vehicle Applications:

Vehicle Lines	Model Year Start	Model Year End	Assembly Plants	Body Styles	Engine	Trans Axles	Build From	Build To
F-Super Duty (F-250 to 550)	2005	2007						

If SPECS Case, Select all Other Affected Publications:
Changes Needed in Other Pubs:
TSBs to Supersede:
SSMs to Supersede:
ISMs to Supersede:
Other application Articles:
Select the reason for republication:
Procedure verified by CDSID:

Describe How The Procedure Was Verified:
Do you have access to a vehicle for time study? No
If Yes, contact for vehicle CDSID:
Labor Operations:

Are Illustrations Required? Yes
If Yes, Contact information for illustrations:
CDSID(Ford only): toconnor
Full Name: Tammy O'Connor
Phone: 313/322-3824
Illustration Notes:

Trustmarks affected: Ford
Additional Trustmarks To Notify:
Article Distribution: WDMO, Canada, Mexico, United States
DTC Codes and OASIS Service Codes: , 303000, 304000, 306000, 703000, 703100, 703200, 703300, 703400
Causal Basic Part # or Finis Code:

Calibrations List:

White Paper Numbers:

Parts Request Information

Are Parts Required? No

Article Number:
BCM Number:

(End automated email)

From: O'Connor, Tammy (T.A.)
Sent: Wednesday, January 31, 2007 9:18 AM
To: Gompper, Dan (D.B.); Hasselbring, D Blake (D.B.); Knapp, David (D.); Chiang, John (J.); Repasky, Steve (S.)
Cc: Hale, Curt (B.C.); Rivera, Santos (S.)
Subject: RE: TSB Request for Input: [redacted] 2005-2007 F-Super Duty - Vibration/Hop at 40-48 MPH (8.0Hz) *** need feedback from Engineering ***
Importance: High

I need feedback from Engineering on which direction you want to go with this TSB.

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or do you want to only refer to the TSB and only pay them to install the damper? Please advise. If you want 05-06-24 performed first -- I will copy the contents of that tsb into the repair procedure.

2. I need to know what part you want the warranty binned to? Please forward the base part number.

Tammy A. O'Connor
Product Concern Engineer
FCSD Service Engineering Operations
Super Duty F-Series
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: O'Connor, Tammy (T.A.)
Sent: Wednesday, January 31, 2007 9:13 AM
To: Hale, Curt (B.C.); Gompper, Dan (D.B.); Hasselbring, D Blake (D.B.); Knapp, David (D.); Chiang, John (J.); Repasky, Steve (S.); O'Connor, Tammy (T.A.)
Subject: TSB Request for Input: [redacted] 2005-2007 F-Super Duty - Vibration/Hop at 40-48 MPH (8.0Hz)

TSB Request for Input
*** DRAFT ***

This message is being sent on behalf of TOCONNOR.
Please provide review and feedback for the article below. The person requesting this feedback may have provided further direction in the comment section below. Forward/Send any comments via email to the person who sent this email.

General Information

Last action taken (as of 1/31/2007 2:13:09 PM GMT): Send for engineering input

Comment: Please review and forward any suggested comments/changes to TOCONNOR before Friday, February 2nd at which time it will be submitted for publication.

Author: TOCONNOR
Tracking Number: [redacted]
Author Tracking Number: --
Title: 2005-2007 F-Super Duty - Vibration/Hop at 40-48 MPH (8.0Hz)
Article Type: TSB

TSB Issue:
Some 2005-2007 F-Super Duty vehicles with a long wheelbase (172", 158", or 156") may exhibit a vehicle vertical vibration, often described as "hopping", on smooth or coarse road surfaces in the 42 - 48 mph speed range. Although this behavior is considered normal for an O8500 truck, some customers may be sensitive to the concern.

NOTE: THE INSTALLATION OF THIS DAMPER WILL NOT IMPROVE RIDE ON SEGMENTED CONCRETE HIGHWAYS, STEERING WHEEL VIBRATION/SHIMMY, OR GENERAL HARSH RIDE CONCERNS.

To improve the vibration level of the vehicle, please refer to the following TSBs:

1. For steering wheel vibration/shimmy concerns, refer to TSB ??-??-??.
2. Runout Matching TSB 05-06-24, as the issue is sometimes excited by tire and wheel R1H or imbalance.

TSB Action:
To improve the 42 - 48 mph vertical vibration, mount the cage damper directly to the trailer hitch, per the Service Procedure below.

TSB Service Procedure:
Repair Procedure:

1. Remove the spare tire as outlined in the Workshop Manual, Section 204-04.
2. Temporarily remove plastic wiring connector (Figure 2).
3. Position the provided template (Figure 3) to the LH hitch side plate, aligning it with existing holes.
4. Mark location of three holes on hitch for drilling.
5. Drill 14.6 mm diameter mounting holes, 3 places.
6. Place the damper at correct mounting location.
7. Thread the bolts through the side plate into the weld nuts on the damper bracket, and torque to 62.5 N-m.
8. Re-install the plastic wiring connector.
9. Restow the spare tire and tighten to clutch override.

Category: Service Fix (10 years - TSB Only)
Request Type: Non-QSF
Would this make a good cost save business case? No
Activity Code: 070 F-Series >8500#
Vehicle Applications:

Vehicle Lines	Model Year Start	Model Year End	Assembly Plants	Body Styles	Engine	Trans Axles	Build From	Build To
F-Super Duty (F-250 to 550)	2005	2007						

If SPECS Case, Select all Other Affected Publications:
Changes Needed in Other Pubs:
TSBs to Supersede:
SSMs to Supersede:
ISMs to Supersede:
Other application Articles:
Select the reason for republication:
Procedure verified by CDSID:

Describe How The Procedure Was Verified:
Do you have access to a vehicle for time study? No
If Yes, contact for vehicle CDSID:
Labor Operations:

Are Illustrations Required? Yes
If Yes, Contact information for illustrations:
CDSID(Ford only): toconnor
Full Name: Tammy O'Connor
Phone: 313/322-3824
Illustration Notes:

Trustmarks affected: Ford
Additional Trustmarks To Notify:
Article Distribution: WDMO, Canada, Mexico, United States
DTC Codes and OASIS Service Codes: , 303000, 304000, 306000, 703000, 703100, 703200, 703300, 703400
Causal Basic Part # or Finis Code:

Calibrations List:

White Paper Numbers:

Parts Request Information

Are Parts Required? No

Article Number:
BCM Number:

(End automated email)

From: Hwang, Hsiu-Ying (H.Y.)

Sent: Tuesday, May 01, 2007 6:05 PM

To: O'Connor, Tammy (T.A.); Hale, Curt (B.C.); Gompper, Dan (D.B.); Knapp, David (D.); Welch, Sharon (S.L.); Rodgers, David (D.L.); Barry, Jack (J.E.)

Cc: Hwang, Hsiu-Ying (H.Y.)

Subject: RE: TSB Request for Input: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Attachments: PartList4TSB.xls

Tammy,

I have difficulty to modify the contents directly in the e-mail you sent.
I notice that you change the Service procedure order. Is there any reason that was changed? I would like to keep the same as before and have replacing the damper & damper bracket as the last result. Please have them in the following sequence. (I notice that you take part number out of your statement, that's fine as long as it's clear what to do.)

- Set tire pressure and road test vehicle to evaluate vehicle before proceeding with further repairs. If issue is resolved, do not proceed with the rest of this TSB

  (Note road test requirement included in above statement and below road test procedure).
- Torque steering and suspension fasteners per Workshop Manual **and torque specifications noted below. (Complete this step prior to damper inspect/change).**
- If concern still exists, check front alignment and reduce front caster.
- **Install new steering damper frame mounted bracket and steering damper assembly (F250/F350 4X4 applications only). For all other applications, inspect damper for leaks and replace as required with damper 5C3Z-3E651-D for all F450/F550, and with 5C3Z-3E651-B for F250/F350 4x2only.**
- Replacement of redundant control steering wheel (if equipped and vehicle built prior to 10/8/2004)

Regarding the torque, I like to add the one for all F450/F550 Damper nuts to bracket.

Torque Specification		
Description	**Lb-ft**	**Nm**
Damper nuts to bracket (F250/F350 4X2)	**59**	**80***
Damper-to-bracket (F250, F-350 4X4)	**76**	**103**
Damper nuts to bracket (all F450/F550)	**26**	**35**
Damper-to-drag link (F250/F350 4x2, 4x4; all F450/F550)	**66**	**90**

Drag link-to-pitman arm nut	**129**	**175**
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts and bolts	129	175
Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

I also attached a file listed the service parts and torques. Please cross reference. Please let me know if there is any question. Thank you.

Regards,
Hsiu-Ying Hwang
Steering/Chassis Engineer
Certified Integrated Black Belt
Tel/Pager: 313-805-3873

From: O'Connor, Tammy (T.A.)
Sent: Wednesday, April 25, 2007 4:05 PM
To: Hale, Curt (B.C.); Hodges, Cynthia (C.P.); Gompper, Dan (D.B.); Knapp, David (D.); Hwang, Hsiu-Ying (H.Y.); Welch, Sharon (S.L.); O'Connor, Tammy (T.A.)
Subject: TSB Request for Input: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

TSB Request for Input

***** NOTE: The system generated the email. *****

This message is being sent on behalf of TOCONNOR.
Please provide review and feedback for the article below. The person requesting this feedback may have provided further direction in the comment section below. Forward/Send any comments via email to the person who sent this email.

General Information

Last action taken (as of 4/25/2007 8:04:59 PM GMT):	Send for engineering input
Comment:	This TSB is being re-published due to incorrect part numbers in text of TSB. Part Numbers should be included in parts list, and not directly in text of TSB. Please review and forward any suggested changes to TOCONNOR no later than COB Friday, April 27th.
Author:	TOCONNOR
Tracking Number:	[redacted]
Author Tracking Number:	--

Title: 2005-2007 F-Super Duty - Steering Wheel Oscillation
Article Type: TSB

TSB Issue:
This article supersedes TSB 07-05-07 to update an incorrect part number.

Some 2005-2007 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion), immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on F-250/F-350 4X4 vehicles, and is more evident on trucks equipped with a gas engine.

TSB Action:
Refer to the Service Procedure to minimize the steering wheel oscillations on impacts, however, there may be some remaining minor oscillation which would be considered normal.

TSB Service Procedure:
SERVICE PROCEDURE SUMMAR

· Set tire pressure, road test vehicle to evaluate vehicle before proceeding with further repairs. If issue is resolved, do not proceed with the rest of this TSB
· If concern still exists, install a new steering damper (frame-mounted bracket and steering damper assembly on F-250/F-350 4X4 applications only). For F-250/F-350 4X2 and all F-450/F-550 applications, inspect damper for leaks and replace if necessary, torque steering and suspension fasteners per Workshop Manual
· If concern still exists, check front alignment and reduce front caster
· Replacement of redundant control steering wheel (if equipped and vehicle built prior to 10/8/2004).

VEHICLE INSPECTION - TIRE PRESSURE
---
1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

NOTE: SETTING TIRE PRESSURE TO DOOR SPECIFICATION IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE.

ROAD TEST
---
1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the customer's issue.
3. If no issues are identified during the road test, do not proceed with the rest of this TSB.

STEERING DAMPER AND FASTENER TORQUE CHECK

Replace Steering Damper & Frame Mounting Bracket (F-250/F-350 4X4); Inspect
---
Steering Damper (F-250/F-350 4X2 & all F-450/F-550):

For F-250/F-350 4x4 applications:

Remove existing steering damper and frame attachment bracket. Replace steering damper and frame mounting

bracket with steering damper and frame bracket. Attach steering damper to frame bracket (with bolt and nut) and torque bolt to 103 Nm. Assemble bracket and shock assembly to the frame with attachment bolt retainer pointing to rear of vehicle. Torque frame bracket nuts to 80 Nm. Attach other end of shock to the steering drag link and torque to 90 Nm. Install damper bolt cap to assure a friendly surface for the battery cable in case of casual contact.

Note: CHECK SURROUNDING ENVIRONMENT TO THE FRAME BRACKET AND DAMPER ASSEMBLY TO ENSURE THAT BATTERY CABLES ARE NOT CONTACTING BRACKET/BOLTS/DAMPER. ALSO, VERIFY THAT TRANSMISSION OIL COOLER LINES HAVE CLEARANCE TO THE DAMPER DUST SHIELD.

For F-250/F-350 4X2 & all F-450/F-550 applications only:

Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
If leaks are present, install a new steering damper.

STEERING/SUSPENSION FASTENER TORQUE CHECK (4X2 & 4X4)
---

1. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table below).

Description	Torque Specification (lb-ft/ Nm)	
	Lb-ft	Nm
Damper nuts (F-250/F-350 4X2)	59	80
Damper-to-bracket (F-250/F-350 4X4)	76	103
Damper-to-drag link	66	90
Drag link-to-pitman arm nut	129	175
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts and bolts	129	175
Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE.

FRONT WHEEL ALIGNMENT AND REDUCE FRONT CASTER

NOTE: OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

Measure wheel alignment. Verify that Front Caster, Camber, and Total Toe are within specification. Adjust as required. Refer to the Workshop Manual, Section 204-00 for complete alignment specifications.

REDUCE FRONT CASTER
· Note the current front caster
· Use alignment adjustment bushings to reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit. Use alignment adjustment bushings

F-250/350 4X4:
· 5C3Z-3B440-CCC (0.5 degree bushing)
· 5C3Z-3B440-DDD (0.75 degree bushing)
· 5C3Z-3B440-EEE (1.0 degree bushing)

F-450/550 4X4 and 4X2:

· 5C3Z-3B440-HHH (0.5 degree bushing)
· 5C3Z-3B440-JJJ (0.75 degree bushing)
· 5C3Z-3B440-KKK (1.0 degree bushing)

F-250/350 4X2:
· 5C3Z-3B440-C = 0.5 degree busing
· 5C3Z-3B440-D = 0.75 degree bushing
· 5C3Z-3B440-E = 1.0 degree bushing

For All 4X4 and for F-450/550 4X2
· Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward and inboard position (See Figure 1)
· This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed
· The final caster and camber settings must be within the specification limits
· Maintain the current front camber, cross-camber and cross-caster settings as close as you possibly can
· Adding weight behind the rear axle lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster

For All F-250/350 4X2,
· Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain that position while moving the caster position forward in the truck
· The final caster and camber settings must be within the specification limits

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To
---
10/8/2004 Only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.
1. Remove driver air bag assembly. Refer to Workshop Manual, Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

NOTE: LABOR OPERATIONS IN THIS TSB CAN BE CLAIMED TOGETHER.

NOTE: OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

Category: Service Fix (10 years - TSB Only)
Request Type: Non-QSF
Would this make a good cost save business case? No
Activity Code: 070 F-Series >8500#
Vehicle Applications:

Vehicle Lines	Model Year Start	Model Year End	Assembly Plants	Body Styles	Engine	Trans Axles	Build From	Build To
F-Super Duty (F-250 to 550)	2005	2007						

If SPECS Case, Select all Other Affected Publications:
Changes Needed in Other Pubs:
TSBs to Supersede: 07-05-07
SSMs to Supersede:
ISMs to Supersede:
Other application Articles:
Select the reason for republication: Incorrect Procedure
Procedure verified by CDSID: srepasky
Describe How The Procedure Was Verified: TSB was verified by Steve Repasky.
Do you have access to a vehicle for time study? Yes
If Yes, contact for vehicle CDSID: toconnor
Labor Operations:

Are Illustrations Required? Yes
If Yes, Contact information for illustrations:
CDSID(Ford only): toconnor
Full Name: Tammy O'Connor
Phone: 313/322-3824
Illustration Notes: Please use same illustrations from TSB 06-15-1.

Trustmarks affected: Ford
Additional Trustmarks To Notify:
Article Distribution: WDMO, Canada, Mexico, United States
DTC Codes and OASIS Service Codes: , 303000, 304000, 306000, 703000, 703000, 703200, 703200, 703300, 703300, 703400, 703400

Causal Basic Part # or Finis Code:

Causal Part # or Finis Code	Warranty Condition Codes
3E651 FRONT TIR	Chassis: 42

Calibrations List:

White Paper Numbers:

Parts Request Information

Are Parts Required? Yes
QSF Single Agenda Or Program FRC Date:
Parts List:

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
1	Existing	5C74-3F563-AB1D24	No	Not Applicable	STEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						

@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
		U5MSK	5C7Z-3600-ABA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
2	Existing	5C74-3F563-AB35B8	No	Not Applicable	sTEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5c7z-3600-CBA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
3	Existing	5C34-3D004-NA	No	Not Applicable	.5 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-C			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
4	Existing	5C34-3D004-CA	No	Not Applicable	.5 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-CCC			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
5	Existing	5C34-3D004-PA	No	Not Applicable	.75 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-D			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
6	Existing	5C34-3D004-DA	No	Not Applicable	-75 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						

@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			5C3Z-3B440-DDD			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
7	Existing	5C34-3D004-RA	No	Not Applicable	1.0 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-E			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
8	Existing	5C34-3D004-EA	No	Not Applicable	1.0 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-EEE			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
9	Existing	5C34-3D004-JA	No	Not Applicable	0.75 DEGREE SHIM	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-JJJ			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
10	Existing	5C34-3D004-KA	No	Not Applicable	1.0 DEGREE SHIM	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-KKK			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
11	Existing	W520117-S441	No	Not Applicable	NUT - HEX - RH THREA	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						

	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			G229J	W520117-S441			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	W706196-S439	No	Not Applicable	Bolt	1	100
12	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			G229J	W706196-S439			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	7c343e652ac	No	Not Applicable	Bracket	1	100
13	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				7c3z3e652c			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	8C34-3E651-CB	No	Not Applicable	Damper 250/350 4X4	1	100
14	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			T407H	8C3Z-3E651-C			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3E651-CH	No	Not Applicable	Damper 450/550 ALL	1	100
15	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			Q29AA	5C3Z- 3E651-D			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3E651-BG	No	Not Applicable	Damper 250/350 4X2	1	100
16	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed

			Q29AA	5C3Z- 3E651-B			No

17	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	W711570-S300	No	Not Applicable	CAP - SHOCK ABSORBER	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				W711570-S300			No

Parts catalog flag needed? No
Part number(s) that require flag:
Is geographic location significant? No
Special instructions/remarks: We want to have 4 causal part numbers as follows:
1. 3E651 = Steering Dampner
2. FRONT = Alignment
3. TIRE = Tire Pressure
4. NPF = No Problem Found

This TSB is being updated to include a revised steering damper.

Article Number:
BCM Number:

(End automated email)

Part Lists for TSB: Based on the direciton that we only replace F250/350 Monobeam Vehicle with 2008MY Steering Damper & Bracket if the issue doesn't go away after through all steps prior replacing with a new 2008MY damper.

Configuration	Service Damper	Engineer Damper PN#	Service Damper Brkt	Engineering Damper BrktPN#	Torque at Brkt End	Torque at Draglink End	Fasteners at Brkt End	Fasteners at Draglink End
F250/F350 Monobeam (4x4)	8C3Z-3E651-C	8C34-3E651-CB	7C3Z-3E652-C	7C34-3E652-AC	103+/- 15.5 Nm	90+/- 13.5 Nm	Boltt: W706196-S439 (103+/- 15.5 Nm) Nut: W520114-S441 (0 Nm)	Nut: W520114-S441 (90 +/- 13.5 Nm)
F250/F350 TIB (4x2)	5C3Z-3E651-B	5C34-3E651-BG	5C3Z-3E652-BA	5C34-3E652-BA	80+/- 12 Nm	90+/- 13.5 Nm	Boltt: N606084-S439 (0 Nm) Nut: W520114-S441 (80 +/- 12 Nm)	Nut: W520114-S441 (90 +/- 13.5 Nm)
All F450/F550	5C3Z-3E651-D	5C34-3E651-CH	5C3Z-3E652-AA	5C34-3E652-AB	35+/- 5.3 Nm	90+/- 13.5 Nm	Nut: N804441-S441 (35 +/- 5.3 Nm)	Nut: W520114-S441 (90 +/- 13.5 Nm)

From: Seufert, David (D.C.)
Sent: Tuesday, May 01, 2007 5:03 PM
To: Hwang, Hsiu-Ying (H.Y.)
Cc: O'Connor, Tammy (T.A.)
Subject: RE: TSB Request for Input: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

The WERS release cannot be set up to supersede the old part for 2005-2007 F250/350 and keep the same damper for F450/550?

From: Hwang, Hsiu-Ying (H.Y.)
Sent: Tuesday, May 01, 2007 5:01 PM
To: Seufert, David (D.C.)
Cc: O'Connor, Tammy (T.A.); Hwang, Hsiu-Ying (H.Y.)
Subject: RE: TSB Request for Input: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

No, since we have F450/550 share the same damper & bracket with F250/350 Monobeam (i.e.4x4). We would not do that for F450/550 due to package issue.

Regards,
Hsiu-Ying Hwang
Steering/Chassis Engineer
Certified Integrated Black Belt
Tel/Pager: 313-805-3873

From: Seufert, David (D.C.)
Sent: Tuesday, May 01, 2007 4:59 PM
To: Hwang, Hsiu-Ying (H.Y.)
Cc: O'Connor, Tammy (T.A.)
Subject: RE: TSB Request for Input: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

It is my understanding that FCSD can note the need to change the bracket when the dealer punches it in the system. Can you change the WERS release? We need that to drive the change for FCSD.

Thanks,

Dave

From: Hwang, Hsiu-Ying (H.Y.)
Sent: Tuesday, May 01, 2007 4:55 PM
To: Seufert, David (D.C.)
Cc: O'Connor, Tammy (T.A.); Hwang, Hsiu-Ying (H.Y.)
Subject: RE: TSB Request for Input: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

No. there is some package concern (originally), so we didn't release to have 08 replace 05.

Regards,

Hsiu-Ying Hwang
Steering/Chassis Engineer
Certified Integrated Black Belt
Tel/Pager: 313-805-3873

From: Seufert, David (D.C.)
Sent: Monday, April 30, 2007 1:29 PM
To: Hwang, Hsiu-Ying (H.Y.)
Cc: O'Connor, Tammy (T.A.)
Subject: FW: TSB Request for Input: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

---

From: O'Connor, Tammy (T.A.)
Sent: Monday, April 30, 2007 12:29 PM
To: Gompper, Dan (D.B.); Hwang, Hsiu-Ying (H.Y.); Rodgers, David (D.L.)
Cc: Hale, Curt (B.C.); Knapp, David (D.); Welch, Sharon (S.L.); Seufert, David (D.C.); Hasselbring, D Blake (D.B.)
Subject: RE: TSB Request for Input: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

I've received no feedback from Engineering, I would like to get this submitted for publication this week. Please respond with any changes no later than Wednesday, May 2nd.

Tammy A. O'Connor
Product Concern Engineer
FCSD Service Engineering Operations
Super Duty F-Series
Body / Chassis / Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSC I, Cube 149 (Tuesday,Wednesday)

From: Gompper, Dan (D.B.)
Sent: Thursday, April 26, 2007 7:58 AM
To: Hwang, Hsiu-Ying (H.Y.); Rodgers, David (D.L.)
Cc: O'Connor, Tammy (T.A.); Hale, Curt (B.C.); Knapp, David (D.); Welch, Sharon (S.L.); Seufert, David (D.C.); Hasselbring, D Blake (D.B.)
Subject: RE: TSB Request for Input: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Dave, Hsiu-Ying --

Can you quickly revise with the correct part numbers so Tammy can re-submit? I'm attaching the earlier note I have from you, Hsiu-Ying.

Please keep us informed on status.

Thanks,

Dan Gompper
SuperDuty Vehicle Dynamics Supervisor
EVB 2E-L01
Cellphone: (313) 805-2039
Email: dgompper@ford.com
text page: 3138052039@sprintpcs.messaging.com

From: O'Connor, Tammy (T.A.)
Sent: Wednesday, April 25, 2007 4:05 PM
To: Hale, Curt (B.C.); Hodges, Cynthia (C.P.); Gompper, Dan (D.B.); Knapp, David (D.); Hwang, Hsiu-Ying (H.Y.); Welch, Sharon (S.L.); O'Connor, Tammy (T.A.)
Subject: TSB Request for Input: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

TSB Request for Input

***** NOTE: The system generated the email. *****

This message is being sent on behalf of TOCONNOR.
Please provide review and feedback for the article below. The person requesting this feedback may have provided further direction in the comment section below. Forward/Send any comments via email to the person who sent this email.

General Information

Last action taken (as of 4/25/2007 8:04:59 PM GMT):	Send for engineering input
Comment:	This TSB is being re-published due to incorrect part numbers in text of TSB. Part Numbers should be included in parts list, and not directly in text of TSB. Please review and forward any suggested changes to TOCONNOR no later than COB Friday, April 27th.
Author:	TOCONNOR
Tracking Number:	[redacted]
Author Tracking Number:	--
Title:	2005-2007 F-Super Duty - Steering Wheel Oscillation
Article Type:	TSB

TSB Issue:
This article supersedes TSB 07-05-07 to update an incorrect part number.

Some 2005-2007 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion), immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on F-250/F-350 4X4 vehicles, and is more evident on trucks equipped with a gas engine.

TSB Action:
Refer to the Service Procedure to minimize the steering wheel oscillations on impacts, however, there may be some remaining minor oscillation which would be considered normal.

TSB Service Procedure:
SERVICE PROCEDURE SUMMARY

· Set tire pressure, road test vehicle to evaluate vehicle before proceeding with further repairs. If issue is resolved, do not proceed with the rest of this TSB
· If concern still exists, install a new steering damper (frame-mounted bracket and steering damper assembly on F-250/F-350 4X4 applications only). For F-250/F-350 4X2 and all F-450/F-550 applications, inspect damper for leaks and replace if necessary, torque steering and suspension fasteners per Workshop Manual
· If concern still exists, check front alignment and reduce front caster
· Replacement of redundant control steering wheel (if equipped and vehicle built prior to 10/8/2004).

VEHICLE INSPECTION - TIRE PRESSURE
---

1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

NOTE: SETTING TIRE PRESSURE TO DOOR SPECIFICATION IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE.

ROAD TEST

---

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the customer's issue.
3. If no issues are identified during the road test, do not proceed with the rest of this TSB.

STEERING DAMPER AND FASTENER TORQUE CHECK

Replace Steering Damper & Frame Mounting Bracket (F-250/F-350 4X4); Inspect

---

Steering Damper (F-250/F-350 4X2 & all F-450/F-550):

For F-250/F-350 4x4 applications:

Remove existing steering damper and frame attachment bracket. Replace steering damper and frame mounting bracket with steering damper and frame bracket. Attach steering damper to frame bracket (with bolt and nut) and torque bolt to 103 Nm. Assemble bracket and shock assembly to the frame with attachment bolt retainer pointing to rear of vehicle. Torque frame bracket nuts to 80 Nm. Attach other end of shock to the steering drag link and torque to 90 Nm. Install damper bolt cap to assure a friendly surface for the battery cable in case of casual contact.

Note: CHECK SURROUNDING ENVIRONMENT TO THE FRAME BRACKET AND DAMPER ASSEMBLY TO ENSURE THAT BATTERY CABLES ARE NOT CONTACTING BRACKET/BOLTS/DAMPER. ALSO, VERIFY THAT TRANSMISSION OIL COOLER LINES HAVE CLEARANCE TO THE DAMPER DUST SHIELD.

For F-250/F-350 4X2 & all F-450/F-550 applications only:

Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
If leaks are present, install a new steering damper.

STEERING/SUSPENSION FASTENER TORQUE CHECK (4X2 & 4X4)

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1. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table below).

Description	Torque Specification (lb-ft/ Nm)	
	Lb-ft	Nm
Damper nuts (F-250/F-350 4X2)	59	80
Damper-to-bracket (F-250/F-350 4X4)	76	103
Damper-to-drag link	66	90
Drag link-to-pitman arm nut	129	175
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts and bolts	129	175

Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE.

FRONT WHEEL ALIGNMENT AND REDUCE FRONT CASTER

NOTE: OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

Measure wheel alignment. Verify that Front Caster, Camber, and Total Toe are within specification. Adjust as required. Refer to the Workshop Manual, Section 204-00 for complete alignment specifications.

REDUCE FRONT CASTER
· Note the current front caster
· Use alignment adjustment bushings to reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit. Use alignment adjustment bushings

F-250/350 4X4:
· 5C3Z-3B440-CCC (0.5 degree bushing)
· 5C3Z-3B440-DDD (0.75 degree bushing)
· 5C3Z-3B440-EEE (1.0 degree bushing)

F-450/550 4X4 and 4X2:

· 5C3Z-3B440-HHH (0.5 degree bushing)
· 5C3Z-3B440-JJJ (0.75 degree bushing)
· 5C3Z-3B440-KKK (1.0 degree bushing)

F-250/350 4X2:
· 5C3Z-3B440-C = 0.5 degree busing
· 5C3Z-3B440-D = 0.75 degree bushing
· 5C3Z-3B440-E = 1.0 degree bushing

For All 4X4 and for F-450/550 4X2
· Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward and inboard position (See Figure 1)
· This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed
· The final caster and camber settings must be within the specification limits
· Maintain the current front camber, cross-camber and cross-caster settings as close as you possibly can
· Adding weight behind the rear axle lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster

For All F-250/350 4X2,
· Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain

that position while moving the caster position forward in the truck

· The final caster and camber settings must be within the specification limits

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To
---
10/8/2004 Only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual, Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

NOTE: LABOR OPERATIONS IN THIS TSB CAN BE CLAIMED TOGETHER.

NOTE: OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

Category: Service Fix (10 years - TSB Only)
Request Type: Non-QSF
Would this make a good cost save business case? No
Activity Code: 070 F-Series >8500#
Vehicle Applications:

Vehicle Lines	Model Year Start	Model Year End	Assembly Plants	Body Styles	Engine	Trans Axles	Build From	Build To
F-Super Duty (F-250 to 550)	2005	2007						

If SPECS Case, Select all Other Affected Publications:
Changes Needed in Other Pubs:
TSBs to Supersede: 07-05-07
SSMs to Supersede:
ISMs to Supersede:
Other application Articles:
Select the reason for republication: Incorrect Procedure
Procedure verified by CDSID: srepasky
Describe How The Procedure Was Verified: TSB was verified by Steve Repasky.
Do you have access to a vehicle for time study? Yes
If Yes, contact for vehicle CDSID: toconnor
Labor Operations:

Are Illustrations Required? Yes
If Yes, Contact information for illustrations:
CDSID(Ford only): toconnor
Full Name: Tammy O'Connor
Phone: 313/322-3824
Illustration Notes: Please use same illustrations from TSB 06-15-1.

Trustmarks affected: Ford
Additional Trustmarks To Notify:
Article Distribution: WDMO, Canada, Mexico, United States
DTC Codes and OASIS Service Codes: , 303000, 304000, 306000, 703000, 703000, 703200, 703200, 703300, 703300, 703400, 703400

Causal Basic Part # or Finis Code:

Causal Part # or Finis Code	Warranty Condition Codes
3E651 FRONT TIR	Chassis: 42

Calibrations List:

White Paper Numbers:

Parts Request Information

Are Parts Required? Yes
QSF Single Agenda Or Program FRC Date:
Parts List:

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
1	Existing	5C74-3F563-AB1D24	No	Not Applicable	STEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5C7Z-3600-ABA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
2	Existing	5C74-3F563-AB35B8	No	Not Applicable	sTEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5c7z-3600-CBA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
3	Existing	5C34-3D004-NA	No	Not Applicable	.5 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-C			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-CA	No	Not Applicable	.5 DEGREE SHIM 4X4	1	100

4	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-CCC			No

5	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-PA	No	Not Applicable	.75 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-D			No

6	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-DA	No	Not Applicable	-75 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-DDD			No

7	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-RA	No	Not Applicable	1.0 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-E			No

8	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-EA	No	Not Applicable	1.0 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-EEE			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-JA	No	Not Applicable	0.75 DEGREE SHIM	1	100

9	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-JJJ			No

10	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-KA	No	Not Applicable	1.0 DEGREE SHIM	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-KKK			No

11	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	W520117-S441	No	Not Applicable	NUT - HEX - RH THREA	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			G229J	W520117-S441			No

12	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	W706196-S439	No	Not Applicable	Bolt	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			G229J	W706196-S439			No

13	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	7c343e652ac	No	Not Applicable	Bracket	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				7c3z3e652c			No

14	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	8C34-3E651-CB	No	Not Applicable	Damper 250/350 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						

	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			T407H	8C3Z-3E651-C			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
15	Existing	5C34-3E651-CH	No	Not Applicable	Damper 450/550 ALL	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			Q29AA	5C3Z- 3E651-D			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
16	Existing	5C34-3E651-BG	No	Not Applicable	Damper 250/350 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			Q29AA	5C3Z- 3E651-B			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
17	Existing	W711570-S300	No	Not Applicable	CAP - SHOCK ABSORBER	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				W711570-S300			No

Parts catalog flag needed? No
Part number(s) that require flag:
Is geographic location significant? No
Special instructions/remarks: We want to have 4 causal part numbers as follows:
1. 3E651 = Steering Dampner
2. FRONT = Alignment
3. TIRE = Tire Pressure
4. NPF = No Problem Found

This TSB is being updated to include a revised steering damper.

Article Number:
BCM Number:

(End automated email)

From: Gompper, Dan (D.B.)
Sent: Thursday, April 26, 2007 9:14 AM
To: Hwang, Hsiu-Ying (H.Y.)
Cc: Seufert, David (D.C.); Memmer, Mark (M.A.); O'Connor, Tammy (T.A.); Knapp, David (D.); Rodgers, David (D.L.)
Subject: RE: TSB Request for Input: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Hsiu-Ying,

Can you better describe the difference for David, including the damper complexity, bracket complexity, and fastener complexity for '05-07MY, the '05-'07 TSB, '08MY, and the upcoming '08.5MY changes? Also, please include a description of the physical differences and the complexity for the F250 through the F550.

If David still wants parts after you describe the differences, would you be able to supply them?

Thanks,

Dan Gompper
SuperDuty Vehicle Dynamics Supervisor
EVB 2E-L01
Email: dgompper@ford.com
text page: 3138052039@sprintpcs.messaging.com

From: O'Connor, Tammy (T.A.)
Sent: Thursday, April 26, 2007 8:59 AM
To: Gompper, Dan (D.B.)
Cc: Knapp, David (D.)
Subject: RE: TSB Request for Input: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Dan:

David is the Super Duty SME at the Tech Hotline. It is extremely helpful for them to have parts to look at.

Is there anyway you can get parts for David (see below)?

Tammy A. O'Connor
Product Concern Engineer
FCSD Service Engineering Operations
Super Duty F-Series
Body / Chassis / Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSC I, Cube 149 (Tuesday,Wednesday)

From: Knapp, David (D.)
Sent: Thursday, April 26, 2007 8:41 AM
To: O'Connor, Tammy (T.A.)
Subject: RE: TSB Request for Input: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Ok so this is what i understand about this tsb.
the 250/350 dampener is different than the 450/550.
Does the bracket get included in that difference as well?
Can we get these parts so we can see old versus new versus 450 versus 250?

David Knapp
Truck Group Service Engineer
F-Superduty/Excursion SME
Ford Technical Hotline
DKnapp7@ford.com
313-317-6316

From: Gompper, Dan (D.B.)
Sent: Thursday, April 26, 2007 7:58 AM
To: Hwang, Hsiu-Ying (H.Y.); Rodgers, David (D.L.)
Cc: O'Connor, Tammy (T.A.); Hale, Curt (B.C.); Knapp, David (D.); Welch, Sharon (S.L.); Seufert, David (D.C.); Hasselbring, D Blake (D.B.)
Subject: RE: TSB Request for Input: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Dave, Hsiu-Ying --

Can you quickly revise with the correct part numbers so Tammy can re-submit? I'm attaching the earlier note I have from you, Hsiu-Ying.

Please keep us informed on status.

Thanks,

Dan Gompper
SuperDuty Vehicle Dynamics Supervisor
EVB 2E-L01
Cellphone: (313) 805-2039
Email: dgompper@ford.com
text page: 3138052039@sprintpcs.messaging.com

From: O'Connor, Tammy (T.A.)
Sent: Wednesday, April 25, 2007 4:05 PM

To: Hale, Curt (B.C.); Hodges, Cynthia (C.P.); Gompper, Dan (D.B.); Knapp, David (D.); Hwang, Hsiu-Ying (H.Y.); Welch, Sharon (S.L.); O'Connor, Tammy (T.A.)
Subject: TSB Request for Input: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

TSB Request for Input

***** NOTE: The system generated the email. *****

This message is being sent on behalf of TOCONNOR.
Please provide review and feedback for the article below. The person requesting this feedback may have provided further direction in the comment section below. Forward/Send any comments via email to the person who sent this email.

General Information

Last action taken (as of 4/25/2007 8:04:59 PM GMT):	Send for engineering input
Comment:	This TSB is being re-published due to incorrect part numbers in text of TSB. Part Numbers should be included in parts list, and not directly in text of TSB. Please review and forward any suggested changes to TOCONNOR no later than COB Friday, April 27th.
Author:	TOCONNOR
Tracking Number:	[redacted]
Author Tracking Number:	--
Title:	2005-2007 F-Super Duty - Steering Wheel Oscillation
Article Type:	TSB

TSB Issue:
This article supersedes TSB 07-05-07 to update an incorrect part number.

Some 2005-2007 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion), immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on F-250/F-350 4X4 vehicles, and is more evident on trucks equipped with a gas engine.
TSB Action:
Refer to the Service Procedure to minimize the steering wheel oscillations on impacts, however, there may be some remaining minor oscillation which would be considered normal.

TSB Service Procedure:
SERVICE PROCEDURE SUMMARY

· Set tire pressure, road test vehicle to evaluate vehicle before proceeding with further repairs. If issue is resolved, do not proceed with the rest of this TSB
· If concern still exists, install a new steering damper (frame-mounted bracket and steering damper assembly on F-250/F-350 4X4 applications only). For F-250/F-350 4X2 and all F-450/F-550 applications, inspect damper for leaks and replace if necessary, torque steering and suspension fasteners per Workshop Manual
· If concern still exists, check front alignment and reduce front caster
· Replacement of redundant control steering wheel (if equipped and vehicle built prior to 10/8/2004).

VEHICLE INSPECTION - TIRE PRESSURE
---
1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

NOTE: SETTING TIRE PRESSURE TO DOOR SPECIFICATION IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE.

ROAD TEST

---

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the customer's issue.
3. If no issues are identified during the road test, do not proceed with the rest of this TSB.

STEERING DAMPER AND FASTENER TORQUE CHECK

Replace Steering Damper & Frame Mounting Bracket (F-250/F-350 4X4); Inspect

---

Steering Damper (F-250/F-350 4X2 & all F-450/F-550):

For F-250/F-350 4x4 applications:

Remove existing steering damper and frame attachment bracket. Replace steering damper and frame mounting bracket with steering damper and frame bracket. Attach steering damper to frame bracket (with bolt and nut) and torque bolt to 103 Nm. Assemble bracket and shock assembly to the frame with attachment bolt retainer pointing to rear of vehicle. Torque frame bracket nuts to 80 Nm. Attach other end of shock to the steering drag link and torque to 90 Nm. Install damper bolt cap to assure a friendly surface for the battery cable in case of casual contact.

Note: CHECK SURROUNDING ENVIRONMENT TO THE FRAME BRACKET AND DAMPER ASSEMBLY TO ENSURE THAT BATTERY CABLES ARE NOT CONTACTING BRACKET/BOLTS/DAMPER. ALSO, VERIFY THAT TRANSMISSION OIL COOLER LINES HAVE CLEARANCE TO THE DAMPER DUST SHIELD.

For F-250/F-350 4X2 & all F-450/F-550 applications only:

Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
If leaks are present, install a new steering damper.

STEERING/SUSPENSION FASTENER TORQUE CHECK (4X2 & 4X4)

---

1. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table below).

Description	Torque Specification (lb-ft/ Nm)	
	Lb-ft	Nm
Damper nuts (F-250/F-350 4X2)	59	80
Damper-to-bracket (F-250/F-350 4X4)	76	103
Damper-to-drag link	66	90
Drag link-to-pitman arm nut	129	175
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts and bolts	129	175
Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250

Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE.

FRONT WHEEL ALIGNMENT AND REDUCE FRONT CASTER

NOTE: OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

Measure wheel alignment. Verify that Front Caster, Camber, and Total Toe are within specification. Adjust as required. Refer to the Workshop Manual, Section 204-00 for complete alignment specifications.

REDUCE FRONT CASTER
· Note the current front caster
· Use alignment adjustment bushings to reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit. Use alignment adjustment bushings

F-250/350 4X4:
· 5C3Z-3B440-CCC (0.5 degree bushing)
· 5C3Z-3B440-DDD (0.75 degree bushing)
· 5C3Z-3B440-EEE (1.0 degree bushing)

F-450/550 4X4 and 4X2:

· 5C3Z-3B440-HHH (0.5 degree bushing)
· 5C3Z-3B440-JJJ (0.75 degree bushing)
· 5C3Z-3B440-KKK (1.0 degree bushing)

F-250/350 4X2:
· 5C3Z-3B440-C = 0.5 degree busing
· 5C3Z-3B440-D = 0.75 degree bushing
· 5C3Z-3B440-E = 1.0 degree bushing

For All 4X4 and for F-450/550 4X2
· Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward and inboard position (See Figure 1)
· This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed
· The final caster and camber settings must be within the specification limits
· Maintain the current front camber, cross-camber and cross-caster settings as close as you possibly can
· Adding weight behind the rear axle lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster

For All F-250/350 4X2,
· Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain that position while moving the caster position forward in the truck
· The final caster and camber settings must be within the specification limits

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To
---
10/8/2004 Only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual, Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

NOTE: LABOR OPERATIONS IN THIS TSB CAN BE CLAIMED TOGETHER.

NOTE: OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

Category: Service Fix (10 years - TSB Only)
Request Type: Non-QSF
Would this make a good cost save business case? No
Activity Code: 070 F-Series >8500#
Vehicle Applications:

Vehicle Lines	Model Year Start	Model Year End	Assembly Plants	Body Styles	Engine	Trans Axles	Build From	Build To
F-Super Duty (F-250 to 550)	2005	2007						

If SPECS Case, Select all Other Affected Publications:
Changes Needed in Other Pubs:
TSBs to Supersede: 07-05-07
SSMs to Supersede:
ISMs to Supersede:
Other application Articles:
Select the reason for republication: Incorrect Procedure
Procedure verified by CDSID: srepasky
Describe How The Procedure Was Verified: TSB was verified by Steve Repasky.
Do you have access to a vehicle for time study? Yes
If Yes, contact for vehicle CDSID: toconnor
Labor Operations:

Are Illustrations Required? Yes
If Yes, Contact information for illustrations:
CDSID(Ford only): toconnor
Full Name: Tammy O'Connor
Phone: 313/322-3824
Illustration Notes: Please use same illustrations from TSB 06-15-1.

Trustmarks affected: Ford

Additional Trustmarks To Notify:
Article Distribution: WDMO, Canada, Mexico, United States
DTC Codes and OASIS Service Codes: , 303000, 304000, 306000, 703000, 703000, 703200, 703200, 703300, 703300, 703400, 703400

Causal Basic Part # or Finis Code:

Causal Part # or Finis Code	Warranty Condition Codes
3E651 FRONT TIR	Chassis: 42

Calibrations List:

White Paper Numbers:

Parts Request Information

Are Parts Required? Yes
QSF Single Agenda Or Program FRC Date:
Parts List:

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
1	Existing	5C74-3F563-AB1D24	No	Not Applicable	STEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5C7Z-3600-ABA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
2	Existing	5C74-3F563-AB35B8	No	Not Applicable	sTEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5c7z-3600-CBA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
3	Existing	5C34-3D004-NA	No	Not Applicable	.5 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-C			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
4	Existing	5C34-3D004-CA	No	Not Applicable	.5 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						

@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			5C3Z-3B440-CCC			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
5	Existing	5C34-3D004-PA	No	Not Applicable	.75 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-D			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
6	Existing	5C34-3D004-DA	No	Not Applicable	-75 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-DDD			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
7	Existing	5C34-3D004-RA	No	Not Applicable	1.0 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-E			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
8	Existing	5C34-3D004-EA	No	Not Applicable	1.0 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-EEE			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
9	Existing	5C34-3D004-JA	No	Not Applicable	0.75 DEGREE SHIM	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						

@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			5C3Z-3B440-JJJ			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
10	Existing	5C34-3D004-KA	No	Not Applicable	1.0 DEGREE SHIM	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-KKK			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
11	Existing	W520117-S441	No	Not Applicable	NUT - HEX - RH THREA	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			G229J	W520117-S441			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
12	Existing	W706196-S439	No	Not Applicable	Bolt	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			G229J	W706196-S439			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
13	Existing	7c343e652ac	No	Not Applicable	Bracket	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				7c3z3e652c			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
14	Existing	8C34-3E651-CB	No	Not Applicable	Damper 250/350 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed

			T407H	8C3Z-3E651-C			No

15	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3E651-CH	No	Not Applicable	Damper 450/550 ALL	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			Q29AA	5C3Z- 3E651-D			No

16	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3E651-BG	No	Not Applicable	Damper 250/350 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			Q29AA	5C3Z- 3E651-B			No

17	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	W711570-S300	No	Not Applicable	CAP - SHOCK ABSORBER	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				W711570-S300			No

Parts catalog flag needed? No
Part number(s) that require flag:
Is geographic location significant? No
Special instructions/remarks: We want to have 4 causal part numbers as follows:
1. 3E651 = Steering Dampner
2. FRONT = Alignment
3. TIRE = Tire Pressure
4. NPF = No Problem Found

This TSB is being updated to include a revised steering damper.

Article Number:
BCM Number:

(End automated email)

From: Gompper, Dan (D.B.)
Sent: Thursday, April 26, 2007 7:58 AM
To: Hwang, Hsiu-Ying (H.Y.); Rodgers, David (D.L.)
Cc: O'Connor, Tammy (T.A.); Hale, Curt (B.C.); Knapp, David (D.); Welch, Sharon (S.L.); Seufert, David (D.C.); Hasselbring, D Blake (D.B.)
Subject: RE: TSB Request for Input: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation
Attachments: RE: [redacted] has gone to FINAL as 07-5-7 (enUSA)

Dave, Hsiu-Ying --

Can you quickly revise with the correct part numbers so Tammy can re-submit? I'm attaching the earlier note I have from you, Hsiu-Ying.

Please keep us informed on status.

Thanks,

Dan Gompper
SuperDuty Vehicle Dynamics Supervisor
EVB 2E-L01
Email: dgompper@ford.com
text page: 3138052039@sprintpcs.messaging.com

From: O'Connor, Tammy (T.A.)
Sent: Wednesday, April 25, 2007 4:05 PM
To: Hale, Curt (B.C.); Hodges, Cynthia (C.P.); Gompper, Dan (D.B.); Knapp, David (D.); Hwang, Hsiu-Ying (H.Y.); Welch, Sharon (S.L.); O'Connor, Tammy (T.A.)
Subject: TSB Request for Input: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

TSB Request for Input

***** NOTE: The system generated the email. *****

This message is being sent on behalf of TOCONNOR.
Please provide review and feedback for the article below. The person requesting this feedback may have provided further direction in the comment section below. Forward/Send any comments via email to the person who sent this email.

General Information

Last action taken (as of 4/25/2007 8:04:59 PM GMT):	Send for engineering input
Comment:	This TSB is being re-published due to incorrect part numbers in text of TSB. Part Numbers should be included in parts list, and not directly in text of TSB. Please review and forward any suggested changes to TOCONNOR no later than COB Friday, April 27th.

Author: TOCONNOR
Tracking Number: [redacted]
Author Tracking Number: --
Title: 2005-2007 F-Super Duty - Steering Wheel Oscillation
Article Type: TSB

TSB Issue:
This article supersedes TSB 07-05-07 to update an incorrect part number.

Some 2005-2007 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion), immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on F-250/F-350 4X4 vehicles, and is more evident on trucks equipped with a gas engine.

TSB Action:
Refer to the Service Procedure to minimize the steering wheel oscillations on impacts, however, there may be some remaining minor oscillation which would be considered normal.

TSB Service Procedure:
SERVICE PROCEDURE SUMMARY

· Set tire pressure, road test vehicle to evaluate vehicle before proceeding with further repairs. If issue is resolved, do not proceed with the rest of this TSB
· If concern still exists, install a new steering damper (frame-mounted bracket and steering damper assembly on F-250/F-350 4X4 applications only). For F-250/F-350 4X2 and all F-450/F-550 applications, inspect damper for leaks and replace if necessary, torque steering and suspension fasteners per Workshop Manual
· If concern still exists, check front alignment and reduce front caster
· Replacement of redundant control steering wheel (if equipped and vehicle built prior to 10/8/2004).

VEHICLE INSPECTION - TIRE PRESSURE
---
1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

NOTE: SETTING TIRE PRESSURE TO DOOR SPECIFICATION IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE.

ROAD TEST
---
1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the customer's issue.
3. If no issues are identified during the road test, do not proceed with the rest of this TSB.

STEERING DAMPER AND FASTENER TORQUE CHECK

Replace Steering Damper & Frame Mounting Bracket (F-250/F-350 4X4); Inspect
---
Steering Damper (F-250/F-350 4X2 & all F-450/F-550):

For F-250/F-350 4x4 applications:

Remove existing steering damper and frame attachment bracket. Replace steering damper and frame mounting bracket with steering damper and frame bracket. Attach steering damper to frame bracket (with bolt and nut) and torque bolt to 103 Nm. Assemble bracket and shock assembly to the frame with attachment bolt retainer pointing to rear of vehicle. Torque frame bracket nuts to 80 Nm. Attach other end of shock to the steering drag link and torque to 90 Nm. Install damper bolt cap to assure a friendly surface for the battery cable in case of casual contact.

Note: CHECK SURROUNDING ENVIRONMENT TO THE FRAME BRACKET AND DAMPER ASSEMBLY TO ENSURE THAT BATTERY CABLES ARE NOT CONTACTING BRACKET/BOLTS/DAMPER. ALSO, VERIFY THAT TRANSMISSION OIL COOLER LINES HAVE CLEARANCE TO THE DAMPER DUST SHIELD.

For F-250/F-350 4X2 & all F-450/F-550 applications only:

Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
If leaks are present, install a new steering damper.

STEERING/SUSPENSION FASTENER TORQUE CHECK (4X2 & 4X4)
---

1. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table below).

Description	Torque Specification (lb-ft/ Nm)	
	Lb-ft	Nm
Damper nuts (F-250/F-350 4X2)	59	80
Damper-to-bracket (F-250/F-350 4X4)	76	103
Damper-to-drag link	66	90
Drag link-to-pitman arm nut	129	175
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts and bolts	129	175
Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE.

FRONT WHEEL ALIGNMENT AND REDUCE FRONT CASTER

NOTE: OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

Measure wheel alignment. Verify that Front Caster, Camber, and Total Toe are within specification. Adjust as required. Refer to the Workshop Manual, Section 204-00 for complete alignment specifications.

REDUCE FRONT CASTER

· Note the current front caster

· Use alignment adjustment bushings to reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit. Use alignment adjustment bushings

F-250/350 4X4:

· 5C3Z-3B440-CCC (0.5 degree bushing)
· 5C3Z-3B440-DDD (0.75 degree bushing)
· 5C3Z-3B440-EEE (1.0 degree bushing)

F-450/550 4X4 and 4X2:

· 5C3Z-3B440-HHH (0.5 degree bushing)
· 5C3Z-3B440-JJJ (0.75 degree bushing)
· 5C3Z-3B440-KKK (1.0 degree bushing)

F-250/350 4X2:

· 5C3Z-3B440-C = 0.5 degree busing
· 5C3Z-3B440-D = 0.75 degree bushing
· 5C3Z-3B440-E = 1.0 degree bushing

For All 4X4 and for F-450/550 4X2

· Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward and inboard position (See Figure 1)

· This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed

· The final caster and camber settings must be within the specification limits

· Maintain the current front camber, cross-camber and cross-caster settings as close as you possibly can

· Adding weight behind the rear axle lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster

For All F-250/350 4X2,

· Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain that position while moving the caster position forward in the truck

· The final caster and camber settings must be within the specification limits

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To
---
10/8/2004 Only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual, Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

NOTE: LABOR OPERATIONS IN THIS TSB CAN BE CLAIMED TOGETHER.

NOTE: OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

Category: Service Fix (10 years - TSB Only)
Request Type: Non-QSF
Would this make a good cost save business case? No
Activity Code: 070 F-Series >8500#
Vehicle Applications:

Vehicle Lines	Model Year Start	Model Year End	Assembly Plants	Body Styles	Engine	Trans Axles	Build From	Build To
F-Super Duty (F-250 to 550)	2005	2007						

If SPECS Case, Select all Other Affected Publications:
Changes Needed in Other Pubs:
TSBs to Supersede: 07-05-07
SSMs to Supersede:
ISMs to Supersede:
Other application Articles:
Select the reason for republication: Incorrect Procedure
Procedure verified by CDSID: srepasky
Describe How The Procedure Was Verified: TSB was verified by Steve Repasky.
Do you have access to a vehicle for time study? Yes
If Yes, contact for vehicle CDSID: toconnor
Labor Operations:

Are Illustrations Required? Yes
If Yes, Contact information for illustrations:
CDSID(Ford only): toconnor
Full Name: Tammy O'Connor
Phone: 313/322-3824
Illustration Notes: Please use same illustrations from TSB 06-15-1.

Trustmarks affected: Ford
Additional Trustmarks To Notify:
Article Distribution: WDMO, Canada, Mexico, United States
DTC Codes and OASIS Service Codes: , 303000, 304000, 306000, 703000, 703000, 703200, 703200, 703300, 703300, 703400, 703400

Causal Basic Part # or Finis Code:

Causal Part # or Finis Code	Warranty Condition Codes
3E651 FRONT TIR	Chassis: 42

Calibrations List:

White Paper Numbers:

Parts Request Information

Are Parts Required? Yes
QSF Single Agenda Or Program FRC Date:
Parts List:

	*Type of	*Eng #	*Is This Part	*Existing	*Part Name	*Qty/veh.	*Engineering Est. Qty.

	Part		a Kit?	Stock#			Needed
	Existing	5C74-3F563-AB1D24	No	Not Applicable	STEERING WHEEL ASY	1	100
1	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5C7Z-3600-ABA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C74-3F563-AB35B8	No	Not Applicable	sTEERING WHEEL ASY	1	100
2	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5c7z-3600-CBA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-NA	No	Not Applicable	.5 DEGREE SHIM 4X2	1	100
3	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-C			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-CA	No	Not Applicable	.5 DEGREE SHIM 4X4	1	100
4	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-CCC			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-PA	No	Not Applicable	.75 DEGREE SHIM 4X2	1	100
5	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-D			No

	*Type of	*Eng #	*Is This Part	*Existing	*Part Name	*Qty/veh.	*Engineering Est. Qty.

	Part		a Kit?	Stock#			Needed
	Existing	5C34-3D004-DA	No	Not Applicable	-75 DEGREE SHIM 4X4	1	100
6	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-DDD			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-RA	No	Not Applicable	1.0 DEGREE SHIM 4X2	1	100
7	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-E			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-EA	No	Not Applicable	1.0 DEGREE SHIM 4X4	1	100
8	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-EEE			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-JA	No	Not Applicable	0.75 DEGREE SHIM	1	100
9	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-JJJ			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-KA	No	Not Applicable	1.0 DEGREE SHIM	1	100
10	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-KKK			No

	*Type of	*Eng #	*Is This Part	*Existing	*Part Name	*Qty/veh.	*Engineering Est. Qty.

	Part		a Kit?	Stock#			Needed
	Existing	W520117-S441	No	Not Applicable	NUT - HEX - RH THREA	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
11	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			G229J	W520117-S441			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	W706196-S439	No	Not Applicable	Bolt	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
12	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			G229J	W706196-S439			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	7c343e652ac	No	Not Applicable	Bracket	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
13	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				7c3z3e652c			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	8C34-3E651-CB	No	Not Applicable	Damper 250/350 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
14	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			T407H	8C3Z-3E651-C			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3E651-CH	No	Not Applicable	Damper 450/550 ALL	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
15	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			Q29AA	5C3Z- 3E651-D			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3E651-BG	No	Not Applicable	Damper 250/350 4X2	1	100

16	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			Q29AA	5C3Z- 3E651-B			No

17	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	W711570-S300	No	Not Applicable	CAP - SHOCK ABSORBER	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				W711570-S300			No

Parts catalog flag needed? No
Part number(s) that require flag:
Is geographic location significant? No
Special instructions/remarks: We want to have 4 causal part numbers as follows:
1. 3E651 = Steering Dampner
2. FRONT = Alignment
3. TIRE = Tire Pressure
4. NPF = No Problem Found

This TSB is being updated to include a revised steering damper.

Article Number:
BCM Number:

(End automated email)

From: Hwang, Hsiu-Ying (H.Y.)
Sent: Thursday, March 01, 2007 2:57 PM
To: O'Connor, Tammy (T.A.); Gompper, Dan (D.B.); Hodges, Cynthia (C.P.)
Cc: Barry, Jack (J.E.); Hwang, Hsiu-Ying (H.Y.)
Subject: RE: [redacted] has gone to FINAL as 07-5-7 (enUSA)

I need update the TSB.
For F250/350 4x4 service part should be 8C3Z-3E651-C.

I didn't catch the error in the earlier version, and intend to update it. Plus there some fastener I need to add for F450/550. My computer was down for 2 days due to moving office.

I will update and send the new TSB to you. Thank you.

Regards,
Hsiu-Ying Hwang
Steering/Chassis Engineer
Certified Integrated Black Belt
Tel/Pager: 313-805-3873
-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Thursday, March 01, 2007 1:21 PM
To: Gompper, Dan (D.B.); Hodges, Cynthia (C.P.); Hwang, Hsiu-Ying (H.Y.)
Cc: Barry, Jack (J.E.)
Subject: RE: [redacted] has gone to FINAL as 07-5-7 (enUSA)

There is also confusion about whether the correct part number for the new 250/350 4x4 damper should be -a or -c? Please confirm that -A is correct.

```
 SMMPGPMA                   Global Part Information            03/01/07 13:13:01
 ==> _________ ____________________________________________________
 SERVICE PART:      8C3Z-   3E651-A____      DAMPER ASY
 ENGINEERING PART:   8C34    3E651 BB_____________      ORIGIN:      WERS
 SUPPLIER LOC:                                         FINIS:       4810509
 Vendor Part:                                          Fam Buy:
 Motorcraft Part:    ASH-    1085-                     Prime Suplr: T407H
 Comparable Part:                                      Packager Cd: H751B
 Replaced Part:     7C3Z-   3E651-B                    Mat Content:
 Replacing Part:                                       Ship Mlt:          0
 Buyer:        06R MIKE KELLY                          NBA Phone:   734-266-9872
 Dmnd Anlyst:  4JC KAREL PAVEK        X77094           NDA Phone:   800-973-3109
 Prod Anlyst:  203 FRANK SELINSKY                      NPA Phone:   734-52-35495
 Price Anlyst: I89 DAN FREMER                          Profs ID:    DFREMER
 Color Name:                                           Pallet Qty:        308
 Pnd Obs:          Svc Disp:     Unit Issue:     1     Overpack Qty:        0
 Obs Not:          Mech Ob Cd:   Trfc Cd:       79     Max Ord Qty:         0
 Obs Eff:          Procure Cd: 2 Hvy Trk App/Cd: 2 /   Min Run Qty:         0
 Eff In:  12/18/06 Rlse Hld:   N Fab/Hold:    N        Min Ship Qty:        0
 Eff Out: 07/30/07 Final Rlse: N Wgt UOM:     LB       Package Wgt:         3.64
 Ord Dte: 12/18/06 Spec Pgm:   Y Dir Ship:             Standard Cst:       18.51
 Commdty: 110301   Volume Grp: D Rack/Plt:    1660B    Dealer Net:         34.96
 F1=Help  F2=GIMA  F4=PrvPart  F5=NxtPart  F6=PIGA  F9=DEEA  F10=HIIA  F11=ARFA
 RECORD FOUND                                                            PD01143
```

Tammy A. O'Connor
Product Concern Engineer
FCSD Service Engineering Operations
Super Duty F-Series

Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

-----Original Message-----
From: Gompper, Dan (D.B.)
Sent: Thursday, March 01, 2007 12:57 PM
To: Hodges, Cynthia (C.P.); Hwang, Hsiu-Ying (H.Y.)
Cc: O'Connor, Tammy (T.A.); Barry, Jack (J.E.)
Subject: FW: [redacted] has gone to FINAL as 07-5-7 (enUSA)
Importance: High

Hsiu-Ying --

This TSB makes reference to a bolt cap for the steering damper at frame bracket bolt where there is reduced clearance to the battery cable. The cap part number is W711670-S300, however the part shows up as an invalid part number when the dealers are looking to obtain it.

Can you confirm the number and availability of this cap? FCSD have gotten a number of calls looking for guidance on this.

Thanks,

Dan Gompper
SuperDuty Vehicle Dynamics Supervisor
EVB 2E-L01
Cellphone: (313) 805-2039
Email: dgompper@ford.com
text page: 3138052039@sprintpcs.messaging.com

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Wednesday, February 28, 2007 12:49 PM
To: Knapp, David (D.); Hale, Curt (B.C.); Johnston, Steven (S.J.); McDonagh, Scot (S.M.)
Cc: Gompper, Dan (D.B.); Repasky, Steve (S.); Hasselbring, D Blake (D.B.)
Subject: FW: [redacted] has gone to FINAL as 07-5-7 (enUSA)
Importance: High

TSB Article Number: 07-5-7 for Steering Wheel Oscillation is now published.

Tammy A. O'Connor
Product Concern Engineer
FCSD Service Engineering Operations
Super Duty F-Series
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

-----Original Message-----
From: Siplus, G (G.)
Sent: Wednesday, February 28, 2007 11:02 AM
To: O'Connor, Tammy (T.A.)
Subject: [redacted] has gone to FINAL as 07-5-7 (enUSA)
Importance: High

English TSB Article 07-5-7 has been released for publication

The following Technical Service Bulletin (TSB) article

has been moved from collaboration and is now final.

Dealers may view this article on the next business day via OASIS and

fmcdealer.com (http://www.fmcdealer.dealerconnection.com).

Company personnel may view it at:

http://www.protechnician.com/.

Concern Tracking Number: [redacted]

TSB Article Number: 07-5-7

Description: Steering Wheel Oscillation.

Vehicles: F-Super Duty

If this message should not have been sent to this address please forward it to gsiplus@ford.com.

From: Hwang, Hsiu-Ying (H.Y.)
Sent: Wednesday, May 02, 2007 8:16 AM
To: O'Connor, Tammy (T.A.); Hale, Curt (B.C.); Gompper, Dan (D.B.); Knapp, David (D.); Welch, Sharon (S.L.); Rodgers, David (D.L.); Barry, Jack (J.E.)
Cc: Hwang, Hsiu-Ying (H.Y.)
Subject: RE: TSB Request for Input: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

If you only want me to check **steering** part numbers, then the part numbers listed for steering are O.K.

I do think the torque for F450/550 Damper to damper bracket should be added.

Damper nuts to bracket (all F450/F550)	**26**	**35**

Regards,
Hsiu-Ying Hwang
Steering/Chassis Engineer
Certified Integrated Black Belt
Tel/Pager: 313-805-3873

From: O'Connor, Tammy (T.A.)
Sent: Wednesday, May 02, 2007 7:45 AM
To: Hwang, Hsiu-Ying (H.Y.); Hale, Curt (B.C.); Gompper, Dan (D.B.); Knapp, David (D.); Welch, Sharon (S.L.); Rodgers, David (D.L.); Barry, Jack (J.E.)
Subject: RE: TSB Request for Input: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

We are re-publishing this TSB to correct part numbers that were wrong. As I previously stated, part numbers will NOT be used in the text of the TSB, but only in the parts list.

Due to no response from Engineering, I resubmitted the TSB to correct the part number I knew was wrong, due to complaints in the field. Are there other incorrect part numbers that Engineering is aware of? If not, we will proceed.

Tammy A. O'Connor
Product Concern Engineer
FCSD Service Engineering Operations
Super Duty F-Series
Body / Chassis / Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSC I, Cube 149 (Tuesday,Wednesday)

From: Hwang, Hsiu-Ying (H.Y.)
Sent: Tuesday, May 01, 2007 6:05 PM
To: O'Connor, Tammy (T.A.); Hale, Curt (B.C.); Gompper, Dan (D.B.); Knapp, David (D.); Welch, Sharon (S.L.); Rodgers, David (D.L.); Barry, Jack (J.E.)
Cc: Hwang, Hsiu-Ying (H.Y.)
Subject: RE: TSB Request for Input: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Tammy,

I have difficulty to modify the contents directly in the e-mail you sent.
I notice that you change the Service procedure order. Is there any reason that was changed? I would like to keep the same as before and have replacing the damper & damper bracket as the last result. Please have them in the following sequence. (I notice that you take part number out of your statement, that's fine as long as it's clear what to do.)

- Set tire pressure and road test vehicle to evaluate vehicle before proceeding with further repairs. If issue is resolved, do not proceed with the rest of this TSB

  (Note road test requirement included in above statement and below road test procedure).

- Torque steering and suspension fasteners per Workshop Manual **and torque specifications noted below. (Complete this step prior to damper inspect/change).**
- If concern still exists, check front alignment and reduce front caster.
- **Install new steering damper frame mounted bracket and steering damper assembly (F250/F350 4X4 applications only). For all other applications, inspect damper for leaks and replace as required with damper 5C3Z-3E651-D for all F450/F550, and with 5C3Z-3E651-B for F250/F350 4x2only.**
- Replacement of redundant control steering wheel (if equipped and vehicle built prior to 10/8/2004)

Regarding the torque, I like to add the one for all F450/F550 Damper nuts to bracket.

Torque Specification		
Description	**Lb-ft**	**Nm**
Damper nuts to bracket (F250/F350 4X2)	**59**	**80***
Damper-to-bracket (F250, F-350 4X4)	**76**	**103**
Damper nuts to bracket (all F450/F550)	**26**	**35**
Damper-to-drag link (F250/F350 4x2, 4x4; all F450/F550)	**66**	**90**
Drag link-to-pitman arm nut	**129**	**175**
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts and bolts	129	175

Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

I also attached a file listed the service parts and torques. Please cross reference. Please let me know if there is any question. Thank you.

Regards,
Hsiu-Ying Hwang
Steering/Chassis Engineer
Certified Integrated Black Belt
Tel/Pager: 313-805-3873

From: O'Connor, Tammy (T.A.)
Sent: Wednesday, April 25, 2007 4:05 PM
To: Hale, Curt (B.C.); Hodges, Cynthia (C.P.); Gompper, Dan (D.B.); Knapp, David (D.); Hwang, Hsiu-Ying (H.Y.); Welch, Sharon (S.L.); O'Connor, Tammy (T.A.)
Subject: TSB Request for Input: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

TSB Request for Input

***** NOTE: The system generated the email. *****

This message is being sent on behalf of TOCONNOR.
Please provide review and feedback for the article below. The person requesting this feedback may have provided further direction in the comment section below. Forward/Send any comments via email to the person who sent this email.

General Information

Last action taken (as of 4/25/2007 8:04:59 PM GMT): Send for engineering input

Comment: This TSB is being re-published due to incorrect part numbers in text of TSB. Part Numbers should be included in parts list, and not directly in text of TSB. Please review and forward any suggested changes to TOCONNOR no later than COB Friday, April 27th.

Author: TOCONNOR
Tracking Number: [redacted]
Author Tracking Number: --
Title: 2005-2007 F-Super Duty - Steering Wheel Oscillation
Article Type: TSB

TSB Issue:
This article supersedes TSB 07-05-07 to update an incorrect part number.

Some 2005-2007 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion), immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on F-250/F-350 4X4 vehicles, and is more evident on trucks equipped with a gas engine.

TSB Action:

Refer to the Service Procedure to minimize the steering wheel oscillations on impacts, however, there may be some remaining minor oscillation which would be considered normal.

TSB Service Procedure:

SERVICE PROCEDURE SUMMAR

· Set tire pressure, road test vehicle to evaluate vehicle before proceeding with further repairs. If issue is resolved, do not proceed with the rest of this TSB

· If concern still exists, install a new steering damper (frame-mounted bracket and steering damper assembly on F-250/F-350 4X4 applications only). For F-250/F-350 4X2 and all F-450/F-550 applications, inspect damper for leaks and replace if necessary, torque steering and suspension fasteners per Workshop Manual

· If concern still exists, check front alignment and reduce front caster

· Replacement of redundant control steering wheel (if equipped and vehicle built prior to 10/8/2004).

VEHICLE INSPECTION - TIRE PRESSURE

---

1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

NOTE: SETTING TIRE PRESSURE TO DOOR SPECIFICATION IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE.

ROAD TEST

---

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the customer's issue.
3. If no issues are identified during the road test, do not proceed with the rest of this TSB.

STEERING DAMPER AND FASTENER TORQUE CHECK

Replace Steering Damper & Frame Mounting Bracket (F-250/F-350 4X4); Inspect

---

Steering Damper (F-250/F-350 4X2 & all F-450/F-550):

For F-250/F-350 4x4 applications:

Remove existing steering damper and frame attachment bracket. Replace steering damper and frame mounting bracket with steering damper and frame bracket. Attach steering damper to frame bracket (with bolt and nut) and torque bolt to 103 Nm. Assemble bracket and shock assembly to the frame with attachment bolt retainer pointing to rear of vehicle. Torque frame bracket nuts to 80 Nm. Attach other end of shock to the steering drag link and torque to 90 Nm. Install damper bolt cap to assure a friendly surface for the battery cable in case of casual contact.

Note: CHECK SURROUNDING ENVIRONMENT TO THE FRAME BRACKET AND DAMPER ASSEMBLY TO ENSURE THAT BATTERY CABLES ARE NOT CONTACTING BRACKET/BOLTS/DAMPER. ALSO, VERIFY THAT TRANSMISSION OIL COOLER LINES HAVE CLEARANCE TO THE DAMPER DUST SHIELD.

For F-250/F-350 4X2 & all F-450/F-550 applications only:

Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
If leaks are present, install a new steering damper.

STEERING/SUSPENSION FASTENER TORQUE CHECK (4X2 & 4X4)

---

1. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table below).

Description	Torque Specification (lb-ft/ Nm)	
	Lb-ft	Nm
Damper nuts (F-250/F-350 4X2)	59	80
Damper-to-bracket (F-250/F-350 4X4)	76	103
Damper-to-drag link	66	90
Drag link-to-pitman arm nut	129	175
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts and bolts	129	175
Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE.

FRONT WHEEL ALIGNMENT AND REDUCE FRONT CASTER

NOTE: OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

Measure wheel alignment. Verify that Front Caster, Camber, and Total Toe are within specification. Adjust as required. Refer to the Workshop Manual, Section 204-00 for complete alignment specifications.

REDUCE FRONT CASTER

· Note the current front caster

· Use alignment adjustment bushings to reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit. Use alignment adjustment bushings

F-250/350 4X4:

· 5C3Z-3B440-CCC (0.5 degree bushing)
· 5C3Z-3B440-DDD (0.75 degree bushing)
· 5C3Z-3B440-EEE (1.0 degree bushing)

F-450/550 4X4 and 4X2:

· 5C3Z-3B440-HHH (0.5 degree bushing)
· 5C3Z-3B440-JJJ (0.75 degree bushing)
· 5C3Z-3B440-KKK (1.0 degree bushing)

F-250/350 4X2:
· 5C3Z-3B440-C = 0.5 degree busing
· 5C3Z-3B440-D = 0.75 degree bushing
· 5C3Z-3B440-E = 1.0 degree bushing

For All 4X4 and for F-450/550 4X2
· Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward and inboard position (See Figure 1)
· This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed
· The final caster and camber settings must be within the specification limits
· Maintain the current front camber, cross-camber and cross-caster settings as close as you possibly can
· Adding weight behind the rear axle lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster

For All F-250/350 4X2,
· Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain that position while moving the caster position forward in the truck
· The final caster and camber settings must be within the specification limits

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To
---
10/8/2004 Only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.
1. Remove driver air bag assembly. Refer to Workshop Manual, Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

NOTE: LABOR OPERATIONS IN THIS TSB CAN BE CLAIMED TOGETHER.

NOTE: OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

Category:	Service Fix (10 years - TSB Only)
Request Type:	Non-QSF
Would this make a good cost save business case?	No

Activity Code: 070 F-Series >8500#

Vehicle Applications:

Vehicle Lines	Model Year Start	Model Year End	Assembly Plants	Body Styles	Engine	Trans Axles	Build From	Build To
F-Super Duty (F-250 to 550)	2005	2007						

If SPECS Case, Select all Other Affected Publications:

Changes Needed in Other Pubs:

TSBs to Supersede: 07-05-07

SSMs to Supersede:

ISMs to Supersede:

Other application Articles:

Select the reason for republication: Incorrect Procedure

Procedure verified by CDSID: srepasky

Describe How The Procedure Was Verified: TSB was verified by Steve Repasky.

Do you have access to a vehicle for time study? Yes

If Yes, contact for vehicle CDSID: toconnor

Labor Operations:

Are Illustrations Required? Yes

If Yes, Contact information for illustrations:

- **CDSID(Ford only):** toconnor
- **Full Name:** Tammy O'Connor
- **Phone:** 313/322-3824

Illustration Notes: Please use same illustrations from TSB 06-15-1.

Trustmarks affected: Ford

Additional Trustmarks To Notify:

Article Distribution: WDMO, Canada, Mexico, United States

DTC Codes and OASIS Service Codes: , 303000, 304000, 306000, 703000, 703000, 703200, 703200, 703300, 703300, 703400, 703400

Causal Basic Part # or Finis Code:

Causal Part # or Finis Code	Warranty Condition Codes
3E651 FRONT TIR	Chassis: 42

Calibrations List:

White Paper Numbers:

Parts Request Information

Are Parts Required? Yes

QSF Single Agenda Or Program FRC Date:

Parts List:

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
1	Existing	5C74-3F563-AB1D24	No	Not Applicable	STEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5C7Z-3600-ABA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
2	Existing	5C74-3F563-AB35B8	No	Not Applicable	sTEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5c7z-3600-CBA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
3	Existing	5C34-3D004-NA	No	Not Applicable	.5 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-C			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
4	Existing	5C34-3D004-CA	No	Not Applicable	.5 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-CCC			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
5	Existing	5C34-3D004-PA	No	Not Applicable	.75 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-D			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
6	Existing	5C34-3D004-DA	No	Not Applicable	-75 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-DDD			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
7	Existing	5C34-3D004-RA	No	Not Applicable	1.0 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-E			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
8	Existing	5C34-3D004-EA	No	Not Applicable	1.0 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-EEE			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
9	Existing	5C34-3D004-JA	No	Not Applicable	0.75 DEGREE SHIM	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-JJJ			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
10	Existing	5C34-3D004-KA	No	Not Applicable	1.0 DEGREE SHIM	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-KKK			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
11	Existing	W520117-S441	No	Not Applicable	NUT - HEX - RH THREA	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			G229J	W520117-S441			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
12	Existing	W706196-S439	No	Not Applicable	Bolt	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			G229J	W706196-S439			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
13	Existing	7c343e652ac	No	Not Applicable	Bracket	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				7c3z3e652c			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
14	Existing	8C34-3E651-CB	No	Not Applicable	Damper 250/350 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			T407H	8C3Z-3E651-C			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
15	Existing	5C34-3E651-CH	No	Not Applicable	Damper 450/550 ALL	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			Q29AA	5C3Z- 3E651-D			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
16	Existing	5C34-3E651-BG	No	Not Applicable	Damper 250/350 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			Q29AA	5C3Z- 3E651-B			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed

	Existing	W711570-S300	No	Not Applicable	CAP - SHOCK ABSORBER	1	100
17	***Calculated Forecast**		***@WERS Notice #**		***@WERS Date Released**		***@Supplier Company**
	126						
	@1st Contact	**@1st Contact Phone**	**Source Code**	**Service #**	**Replaced SVC #**	**°Replaced Eng. #**	**°Is Calibration Needed**
				W711570-S300			No

Parts catalog flag needed? No
Part number(s) that require flag:
Is geographic location significant? No
Special instructions/remarks: We want to have 4 causal part numbers as follows:
1. 3E651 = Steering Dampner
2. FRONT = Alignment
3. TIRE = Tire Pressure
4. NPF = No Problem Found

This TSB is being updated to include a revised steering damper.

Article Number:
BCM Number:

(End automated email)

From: Repasky, Steve (S.)
Sent: Monday, August 29, 2005 8:41 AM
To: O'Connor, Tammy (T.A.)
Subject: RE: Update to TSB 04-26-1

Thanks. Paul is out this week and this will allow some field info to be returned.

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Monday, August 29, 2005 7:40 AM
To: Repasky, Steve (S.); Mayer, Paul (P.A.)
Cc: Choe, Mark (M.J.); Hatt, Jeffrey (J.M.); Hale, Curt (B.C.); Snider, Alex (A.); Knapp, David (D.)
Subject: RE: Update to TSB 04-26-1

Steve/Paul:

I'm going to submit this as an FQE assignment and have the FQE's perform this revised TSB on a few trucks, and see if they have any other suggestions/revisions.

I'll then forward your team any suggested changes/comments after the assignment is complete, and then I'll submit it for publication.

Let me know if you have any questions. Thanks.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thurs,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

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-----Original Message-----
From: Snider, Alex (A.)
Sent: Friday, August 26, 2005 10:42 AM
To: Repasky, Steve (S.); Mayer, Paul (P.A.)
Cc: Choe, Mark (M.J.); Hatt, Jeffrey (J.M.); O'Connor, Tammy (T.A.)
Subject: RE: Update to TSB 04-26-1

Pual/Steve, I made a few additions to your changes. I hope you don't mind. I listed the torque spec and also added the left side frame bracket to frame bolts. We had some of the bracket bolts loose. (i.e. at 90-100 ft-lb rather than 129 ft-lb).

The other item I added was the toe spec. Paul at on time mentioned that the toe would be better set at .1 degree toe in. Has that changed?

"Accelerate Growth Through Customer Satisfaction and Loyalty"

Alex Snider
Ford Motor Company of Canada
Technical Service Support Specialist
Outlook ID: asnider@ford.com
Dial net: 853-1485

Outside #: 905-845-2511, ext: 1485

-----Original Message-----
From: Repasky, Steve (S.)
Sent: Friday, August 26, 2005 9:51 AM
To: O'Connor, Tammy (T.A.); Snider, Alex (A.)
Cc: Mayer, Paul (P.A.); Choe, Mark (M.J.); Hatt, Jeffrey (J.M.)
Subject: FW: Update to TSB 04-26-1

Tammy - Below is the proposed wording for a new TSB to address 2005 and 2006 Superduty vehicles with steering wheel oscillations. Please review and provide comment. Thanks...

-----Original Message-----
From: Mayer, Paul (P.A.)
Sent: Friday, August 19, 2005 4:01 PM
To: Repasky, Steve (S.)
Subject: Update to TSB 04-26-1

Under section titled "ACTION", we add

- Reduce front caster by 0.5 to 0.75 degrees.
- Remove the reference to replacement of redundant steering wheel and applicable sections related to the steering wheel replacement?
- If needed, mention if vehicle built prior to 10/8/2004 reference TSB 04-26-1

Under Section titled "SERVICE PROCEDURES", we add

- EMPHASIS on set tire pressure in **BOLD** letters. (Is it still located on fuel door in 2006?)
- Under item 3 (Check torques) we add the radius arm to axle**(Torque spec: 185 ft-lb),** radius arm to frame bracket**(Torques spec: 406 ft-lb). Radius arm frame bracket to frame bolts (Torque spec: 129 ft-lb)**
- A new item 4. Measure wheel alignment. Verify that Front Caster, Camber & Total Toe**(preferred spec .1degree toe in)** is within specification. Adjust to specification as required.

A new section Titled "REDUCE FRONT CASTER"

- Note the current front caster
- Use alignment adjustment bushings to Reduce front caster by 0.5 to 0.75 degrees (however, verify that the new caster setting is not below the lower specification limit).
- Use Alignment adjustment bushings:
  - 4x4: 5C3Z-3B440-DDD (0.75 Degree bushing) OR 5C3Z-3B440-EEE (1.0 degree bushing)
  - 4x2: 5C3Z-3B440-D (0.75 Degree bushing) OR 5C3Z-3B440-E (1.0 degree bushing)
- Maintain the current front camber, cross-camber & cross-caster settings as close as you possibly can.

<< File: tsb04-26-01 gear meshload.pdf >>

Regards
Paul Mayer
Truck Suspension and Systems Analysis
313-248-9202 Fax:313-317-2349

From: Corlew, Randall (R.L.)
Sent: Friday, August 26, 2005 12:49 PM
To: O'Connor, Tammy (T.A.)
Subject: RE: Update to TSB 04-26-1

Tammy,
Most of it is good. I have a problem with reducing caster by only .5 to .75 degree? What is the caster is up around 4.00 degrees? At 3.00 degrees most F-Super Duty trucks in the right conditions will shimmy.
My suggestion is drop by .75 degrees on both sides and re-verify the customers concern. If the concern still is there it should reduce the shimmy concern. You can lower the caster to the lowest end of the spec. as long as the vehicle drives correctly and will not wear the tires.
Also we need to suggest to check the loading and conditions the shimmy will occur. Remember adding weight to the back raises the front end which in effect raises caster. In other words is this only occurring when loaded?
Randy Corlew - FSE - Pittsburgh

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Friday, August 26, 2005 11:34 AM
To: Corlew, Randall (R.L.)
Subject: FW: Update to TSB 04-26-1

Randy:

Below is a draft TSB on the steering wheel shimmy issue on 05-06 Superduty. Please review and let me know if you would make any changes? I really appreciate your input. Thanks.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thurs,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

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Sent: Friday, August 26, 2005 10:42 AM
To: Repasky, Steve (S.); Mayer, Paul (P.A.)
Cc: Choe, Mark (M.J.); Hatt, Jeffrey (J.M.); O'Connor, Tammy (T.A.)
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Alex Snider
Ford Motor Company of Canada

Technical Service Support Specialist
Outlook ID: asnider@ford.com
Dial net: 853-1485
Outside #: 905-845-2511, ext: 1485

-----Original Message-----
From: Repasky, Steve (S.)
Sent: Friday, August 26, 2005 9:51 AM
To: O'Connor, Tammy (T.A.); Snider, Alex (A.)
Cc: Mayer, Paul (P.A.); Choe, Mark (M.J.); Hatt, Jeffrey (J.M.)
Subject: FW: Update to TSB 04-26-1

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Sent: Friday, August 19, 2005 4:01 PM
To: Repasky, Steve (S.)
Subject: Update to TSB 04-26-1

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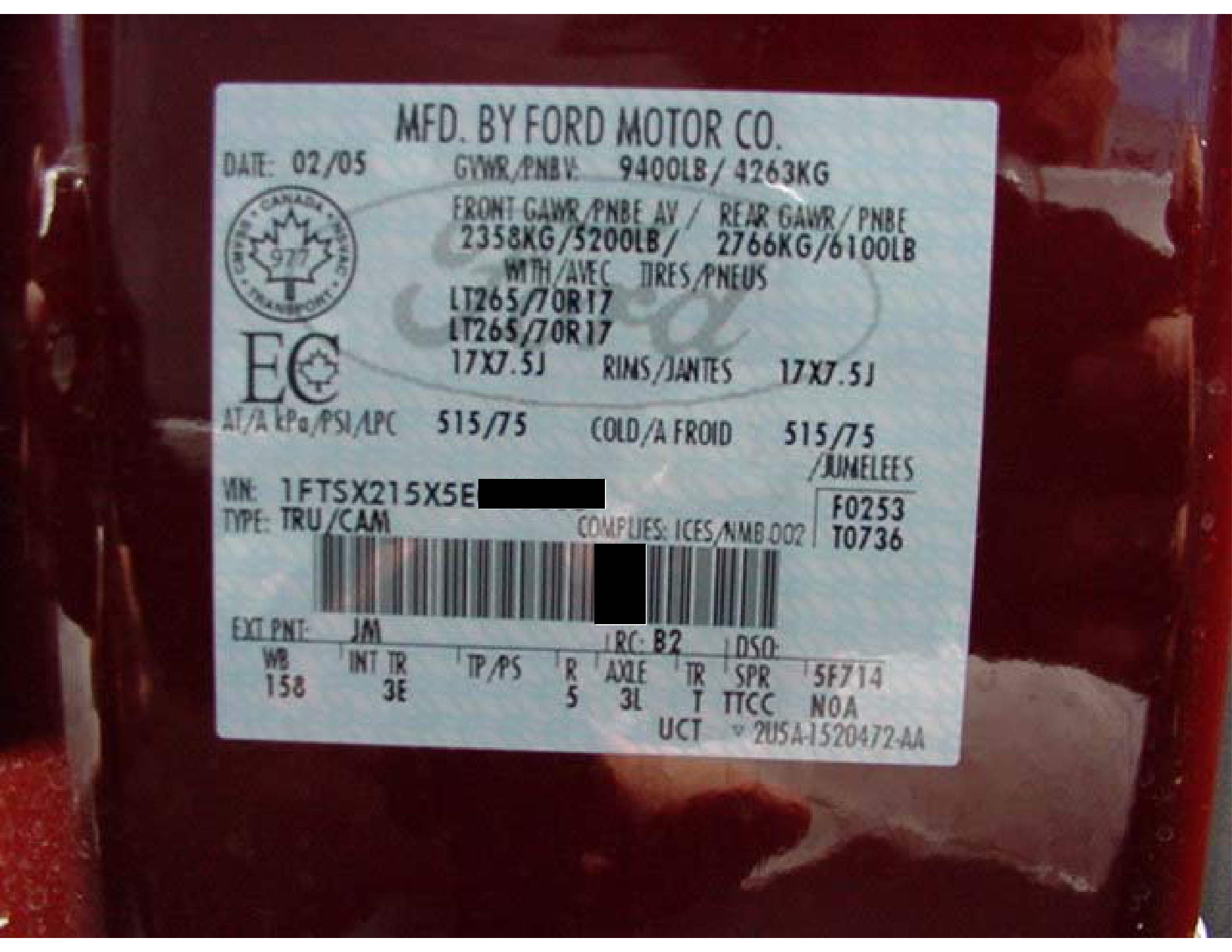
  - 4x2: 5C3Z-3B440-D (0.75 Degree bushing) OR 5C3Z-3B440-E (1.0 degree bushing)
- Maintain the current front camber, cross-camber & cross-caster settings as close as you possibly can.

<< File: tsb04-26-01 gear meshload.pdf >>

Regards
Paul Mayer
Truck Suspension and Systems Analysis
313-248-9202 Fax:313-317-2349

CAUTION

Rugged Trail T/A


MFD. BY FORD MOTOR CO.
DATE: 02/05
GVWR/PNBV: 9400LB/4263KG
FRONT GAWR/PNBE AV / REAR GAWR/PNBE
2358KG/5200LB/ 2766KG/6100LB
WITH/AVEC TIRES/PNEUS
LT265/70R17
LT265/70R17
17X7.5J RIMS/JANTES 17X7.5J
AT/A kPa/PSI/LPC 515/75 COLD/A FROID 515/75
/JUMELEES
VIN: 1FTSX215X5E
TYPE: TRU/CAM
COMPLIES: ICES/NMB 002
F0253
T0736
EXT PNT: JM
RC: B2
DSO:
WB 158
INT TR 3E
TP/PS
R 5
AXLE 3L
TR T UCT
SPR TTCC
5F714 NOA
2U5A-1520472-AA

From: Hale, Curt (B.C.)
Sent: Friday, June 16, 2006 8:52 AM
To: Hodges, Cynthia (C.P.)
Cc: O'Connor, Tammy (T.A.); Welch, Sharon (S.L.); Repasky, Steve (S.); Zeitz, Keith (K.A.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Cindy,

The shimmy issue has been one of our biggest issues since the 05MY launch. Steve Repasky's team developed and validated our published repair procedure. We have proven this TSB time and time again and need this or similar information available to our dealers for the 07MY as we are already getting reports.

We will discuss this at Monday's CMT so please plan on participating.

B. Curtis Hale
FCSD PVT Program Manager
F-Super Duty & Excursion

From: Hale, Curt (B.C.)
Sent: Thursday, June 15, 2006 3:03 PM
To: O'Connor, Tammy (T.A.)
Subject: FW: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

FYI

B. Curtis Hale
FCSD PVT Program Manager
F-Super Duty & Excursion

From: Hodges, Cynthia (C.P.)
Sent: Thursday, June 15, 2006 2:57 PM
To: Repasky, Steve (S.); Zeitz, Keith (K.A.)
Cc: Hale, Curt (B.C.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

All –

Where did we end up on this? Yesterday, at our meeting with Ford VPs at Indy, the warranty teardown results showed a large number of gears returned because of meshload adjustment. It's really easy for a mechanic to mess up meshload so bad that he would need to replace the gear, either because of drift pull wander or leaks. It was agreed that the TSB should not reference resetting meshload at all, and it should just discuss underinflated tires. How can we make this happen?

Cynthia Protas Hodges

RV Gear and Linkage Supervisor
Chassis Engineering
Ford Motor Company

1BD36 Product Development Center
phone (313) 805-3872 fax: (313) 32-29959
textpage chodges1 <http://vm5.dearborn.ford.com/cgi/textpage?PAGETO=CHODGES1>
Email:chodges1@ford.com

From: Repasky, Steve (S.)
Sent: Monday, June 05, 2006 11:26 AM
To: O'Connor, Tammy (T.A.); Hodges, Cynthia (C.P.)
Cc: Hale, Curt (B.C.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Would referencing the meshload setting procedure in the shop manual only and eliminating the actual procedure wording help? Just asking..... I agree with having the TSB updated with 2007 MY.

From: O'Connor, Tammy (T.A.)
Sent: Monday, June 05, 2006 11:21 AM
To: Repasky, Steve (S.)
Cc: Hale, Curt (B.C.)
Subject: FW: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Steve:

If we need to put the TSB on hold, then we'll do that -- but I'm not going to pull that section out and end up re-publishing the TSB. It costs the company money to publish each TSB.

We either publish it, or we put it on hold -- but we need to know time frame - any more than a month would generate too many calls to tech hotline.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Hodges, Cynthia (C.P.)
Sent: Monday, June 05, 2006 11:18 AM
To: Repasky, Steve (S.); Zeitz, Keith (K.A.); Perri, Ron (R.J.); Boals, Shannon (S.D.); Dubaisi, Adnan (A.N.); Kula, Paul (P.K.)
Cc: Pais, Cecil (C.M.); Choe, Mark (M.J.); O'Connor, Tammy (T.A.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

I'd like to revisit this text and see if we can optimize the meshload setting portion of it. I am seeing too much meshload resetting out in the field that results in gears set incorrectly. Can we remove this portion of it now while we investigate it?

Cynthia Protas Hodges
RV Gear and Linkage Supervisor
Chassis Engineering
Ford Motor Company

1BD36 Product Development Center
phone (313) 805-3872 fax: (313) 32-29959
textpage chodges1 <http://vm5.dearborn.ford.com/cgi/textpage?PAGETO=CHODGES1>
Email:chodges1@ford.com

From: Repasky, Steve (S.)
Sent: Monday, June 05, 2006 10:57 AM
To: Hodges, Cynthia (C.P.); Zeitz, Keith (K.A.); Perri, Ron (R.J.); Boals, Shannon (S.D.); Dubaisi, Adnan (A.N.); Kula, Paul (P.K.)
Cc: Pais, Cecil (C.M.); Choe, Mark (M.J.); O'Connor, Tammy (T.A.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

This TSB also addresses SW oscillation when tire pressure is low and is still needed for 2007 vehicles. Replacement of the redundant steering wheel is referenced in this TSB for vehicles built prior to the date when the higher MoI wheel was in plant.

From: Hodges, Cynthia (C.P.)
Sent: Monday, June 05, 2006 10:43 AM
To: Zeitz, Keith (K.A.); Perri, Ron (R.J.); Boals, Shannon (S.D.); Dubaisi, Adnan (A.N.); Kula, Paul (P.K.); Repasky, Steve (S.)
Cc: Pais, Cecil (C.M.)
Subject: RE: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Keith –

I don't think we should continue this – it was originally written until they got the higher moment of inertia steering wheel into production (only a few months of production. With regard to the meshload adjustment, it is already in the service manual.

Steve-

Your thoughts?

Cynthia Protas Hodges
RV Gear and Linkage Supervisor
Chassis Engineering
Ford Motor Company

1BD36 Product Development Center
phone (313) 805-3872 fax: (313) 32-29959
textpage chodges1 <http://vm5.dearborn.ford.com/cgi/textpage?PAGETO=CHODGES1>
Email:chodges1@ford.com

From: Zeitz, Keith (K.A.)
Sent: Friday, June 02, 2006 4:10 PM

To: Perri, Ron (R.J.); Boals, Shannon (S.D.); Hodges, Cynthia (C.P.); Dubaisi, Adnan (A.N.); Kula, Paul (P.K.)
Cc: Pais, Cecil (C.M.)
Subject: FW: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

Team,

The TSB is being extended for 2007 MY. Is this what we want to do?

Paul/Adnan, this will continue to be binned against the steering wheel. Possibly time to change causal part.

Keith A. Zeitz
Steering & Suspension Quality Supervisor
Integrated BB & ASQ SSBB
PDC 2D-G34, ph # (313) 805-3994
"Don't find fault, find a remedy" - Henry Ford
Today's Word On The WaY
"…God's kindness leads you toward repentance."
- Romans 2:4

From: Siplus, G (G.)
Sent: Friday, June 02, 2006 3:59 PM
To: Murray, Al (A.R.); Tews, Bryan (B.H.); Tedone, Damian (D.J.); Jones, Darryl (D.S.); Capoccia, David (D.G.); Parekh, Deepak (D.A.); Smith, Ed (E.J.); Yerke, Eric (E.R.); Hermann, Erik (E.H.); Wood, Faith (F.M.); Wickenheiser, Francis (F.J.); Sopko, Gary (G.M.); Patel, Harendra (H.M.); Willard, Jeremy (J.); Pawloski, John (.); Pommer, John (J.M.); Saieg, John (J.R.); Berry, Joseph (J.P.); Bucec, Julayne (J.L.); Braboy, Julie (J.A.); Roehner, Julie (J.); Zeitz, Keith (K.A.); Gusfa, Kenneth (K.); Spears, Laura (L.); Taylor, Mark (M.K.); Vance, Matthew (M.A.); House, Michael (M.T.); Spencer, Michael (M.T.); Nagy, Vic (V.A.); Cervenan, Neil (N.J.); Souchock, Peter (P.D.); Bzymek, Raymond (R.); McClain, Shawn (S.M.); Sprunger, Jon (J.L.); Echhot, T. (T.); Gieleghem, Tom (T.A.); Watson, Tom (T.M.); Westermann, W Scott (W.S.); Dedecker, William (W.S.); Kovacs, John (J.); O'Connor, Tammy (T.A.); Repasky, Steve (S.); Dwyer, Elizabeth (E.A.); Smith, Janet (J.); Boals, Shannon (S.D.)
Subject: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

TSB Courtesy Copy
*** DRAFT ***

This message is being sent on behalf of RKLUMP.
This is a courtesy copy of the following article to advise you this article is currently being processed for publication.
General Information

Last action taken (as of 6/2/2006 7:58:55 PM GMT):	Accept/Submit to approvers
Comment:	TSB is identical to previous version, only adding model year coverage
Author:	TOCONNOR
Tracking Number:	[redacted]
Author Tracking Number:	--
Title:	2005-2007 F-Super Duty - Steering Wheel Oscillation
Article Type:	TSB

TSB Issue:
This article supersedes TSB 05-22-1 to update the vehicle model years.

Some 2005-2007 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion), immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range

of ± 5 degrees, and typically dampens out in fewer
than five oscillations. This condition occurs mostly on 4x4 vehicles, and is more evident on trucks equipped with a gas engine.

TSB Action:

Refer to the following Service Procedure to minimize the steering wheel oscillations on impacts, however, there may be some remaining minor oscillation which would be considered normal.

TSB Service Procedure:

SERVICE PROCEDURE

Perform the following:

- Vehicle Inspection
- Evaluation Of Vehicle Prior To Repair
- Steering Gear Mesh Load Adjustment
- Front Alignment and Reduce front caster
- Replacement Of Redundant Control Steering Wheel (if equipped and vehicle built prior to 10/8/2004)

VEHICLE INSPECTION

---

1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

NOTE: SETTING TIRE PRESSUE TO DOOR SPEC IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE.

2. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.

a. If leaks are present, install a new steering damper (part number 5C3Z- 3E651-D) and continue with this TSB.

b. If no leaks are present, continue with this TSB.

3. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table # below).

Description	Torque Specification (lb-ft/ Nm)	
	Lb-ft	Nm
Damper nuts (4x2)	59	80
Damper-to-bracket (F-250, F-350 4x4)	26	35
Damper-to-drag link	67	91
Drag link-to-pitman arm nut	148	201
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts and bolts	129	175
Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE.

EVALUATION OF VEHICLE PRIOR TO REPAIR

---

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the severity of wheel oscillation.
3. During the road test, evaluate and note the steering wheel return-ability.

a. Turn steering wheel full lock to lock to confirm no binding.

b. Locate center, and then 45 degrees either side of center on the steering wheel.

c. Driving vehicle at 35 MPH (56 Km/h), on a dry and flat road surface, turn the wheel 45 degrees and release. Note the approximate angle that the steering wheel returns to BEFORE CLEAR VISION. Perform and record the angle for both left and right. It is normal if the angle differs slightly from left to right.

STEERING GEAR MESH LOAD ADJUSTMENT

---

1. Insert hex wrench into steering gear mesh load adjuster screw.
2. While holding the mesh load adjuster screw tight, back off lock nuts two full turns to allow free movement of the adjuster screw.
3. Carefully tighten adjuster screw until a slight increase in resistance is felt, then back off approximately 1/16th of a turn.
4. Hold the adjuster screw in place and tighten lock nut. Do not allow the adjustment screw to turn while tightening the locking nut down.
5. Road test vehicle and evaluate for improvement in steering wheel oscillations.

a. Confirm that there is no objectionable increase in steering efforts, especially at low speeds.
b. Verify that steering wheel return-ability is approximately the same as it was during the original evaluation (within 5 degrees).
c. Turn steering wheel full lock to lock to confirm no binding.

6. Park the vehicle to let it cool down. Road test cold to confirm acceptable parking efforts and return-ability in cold condition. Repeat the mesh load adjustment if needed.

FRONT WHEEL ALIGNEMENT AND REDUCE FRONT CASTER

Measure wheel alignment. Verify that Front Caster, Camber and Total Toe is within specification. Adjust as required. Refer to the Workshop Manual, Section 204-00 for complete alignment specifications.

REDUCE FRONT CASTER

· Note the current front caster
· Use alignment adjustment bushings to Reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit. Use Alignment adjustment bushings:

F-250/350 4x4:

· 5C3Z-3B440-CCC (0.5 degree bushing)
· 5C3Z-3B440-DDD (0.75 degree bushing)
· 5C3Z-3B440-EEE (1.0 degree bushing)

F-450/550 4x4 and 4x2:

· 5C3Z-3B440-HHH (0.5 degree bushing)
· 5C3Z-3B440-JJJ (0.75 degree bushing)
· 5C3Z-3B440-KKK (1.0 degree bushing)

F-250/350 4x2:

· 5C3Z-3B440-C = 0.5 degree busing
· 5C3Z-3B440-D = 0.75 degree bushing
· 5C3Z-3B440-E = 1.0 degree bushing

For All 4x4 and for F-450/550 4x2

· Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward and inboard position (See Figure 1)
· This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed
· The final caster and camber settings must be within the specification limits
· Maintain the current front camber, cross-camber and cross-caster settings as close as you possibly can
· Adding weight behind the rear axle lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster
· Inspect the ball joints for excessive play per the workshop manual, section 204-00.

For All F-350/250 4x2,

· Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain that position while moving the caster position forward in the truck
· The final caster and camber settings must be within the specification limits

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE 2005 OR 2006 SUPER DUTY F-SERIES WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

NOTE: THE WHEEL ALIGNMENT LABOR OPERATIONS MAY BE CLAIMED WITH THE REPAIR OPERATIONS IN THIS ARTICLE.

Category: Service Fix (10 years - TSB Only)
Request Type: Non-QSF
Activity Code: 070 F-Series >8500#
Vehicle Applications:

Vehicle Lines	Model Year Start	Model Year End	Assembly Plants	Body Styles	Engine	Trans Axles	Build From	Build To
F-Super Duty (F-250 to 550)	2005	2007						

If SPECS Case, Select all Other Affected Publications:
Changes Needed in Other Pubs:
TSBs to Supersede: 05-22-01
SSMs to Supersede:
ISMs to Supersede:
Other application Articles:
Select the reason for republication: Concern Carryover to New Model
Procedure verified by CDSID: srepasky
Describe How The Procedure Was Verified: TSB was verified by Steve Repasky, and also by the FQEs.
Do you have access to a vehicle for time study? Yes
If Yes, contact for vehicle CDSID: toconnor
Are Illustrations Required? Yes
If Yes, Contact information for illustrations:
CDSID(Ford only): toconnor
Full Name: Tammy O'Connor
Phone: 313/322-3824
Illustration Notes: Please use same illustrations from TSB 05-22-01.

Trustmarks affected: Ford
Additional Trustmarks To Notify:
Article Distribution: WDMO, Canada, Mexico, United States
DTC Codes and OASIS Service Codes: , 303000, 304000, 306000, 703000, 703000, 703200, 703200, 703300, 703300, 703400, 703400

Causal Basic Part # or Finis Code:

Causal Part # or Finis Code	Warranty Condition Codes
3600	Chassis: 42

Calibrations List:

White Paper Numbers:

Parts Request Information

Are Parts Required? Yes
QSF Single Agenda Or Program FRC Date:
Parts List:

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
1	Existing	5C74-3F563-AB1D24	No	Not Applicable	STEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5C7Z-3600-ABA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
2	Existing	5C74-3F563-AB35B8	No	Not Applicable	sTEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5c7z-3600-CBA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
3	Existing	5C34-3E651-CE	No	Not Applicable	Damper	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			Q29AA	5C3Z-3E651-CA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
4	Existing	5C34-3E651-CH	No	Not Applicable	Damper Asy	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3E651-D			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
5	Existing	5C34-3E651-BG	No	Not Applicable	Damper	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3E651-B			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
6	Existing	5C34-3D004-NA	No	Not Applicable	.5 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-C			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
7	Existing	5C34-3D004-CA	No	Not Applicable	.5 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-CCC			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
8	Existing	5C34-3D004-PA	No	Not Applicable	.75 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-D			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
9	Existing	5C34-3D004-DA	No	Not Applicable	-75 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-DDD			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
10	Existing	5C34-3D004-RA	No	Not Applicable	1.0 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-			

				E			No

11	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-EA	No	Not Applicable	1.0 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-EEE			No

12	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-JA	No	Not Applicable	0.75 DEGREE SHIM	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-JJJ			No

13	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-KA	No	Not Applicable	1.0 DEGREE SHIM	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-KKK			No

Parts catalog flag needed? No
Part number(s) that require flag:

Is geographic location significant? No
Special instructions/remarks:

Article Number:

BCM Number:

(End automated email)

From: Nielsen, Joel (.)
Sent: Thursday, February 15, 2007 6:06 PM
To: 'service@larryslack.com'
Subject: Steering Osc TSB - DRAFT - Tex Parks & Wildlife F250 4x4

Importance: High
Sensitivity: Confidential

Bill,

per engineering, please follow each step complete and full. A revision to the TSB will reflect all the content below any day on OASIS. Please let me know when the customer schedules the appointment. You can go ahead wit the repair and submit under normal guidelines.

TSB Issue: DRAFT DRAFT DRAFT
This article supersedes TSB 06-15-1 to update the Service Procedure.

Some 2005-2007 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion), immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on F-250/F-350 4X4 vehicles, and is more evident on trucks equipped with a gas engine.
TSB Action:
Refer to the Service Procedure to minimize the steering wheel oscillations on impacts, however, there may be some remaining minor oscillation which would be considered normal.

TSB Service Procedure:
SERVICE PROCEDURE SUMMARY

· Set tire pressure, road test vehicle to evaluate vehicle before proceeding with further repairs. If issue is resolved, do not proceed with the rest of this TSB
· If concern still exists, install a new steering damper (frame-mounted bracket and steering damper assembly on 4X4 applications only). For 4x2 applications, inspect damper for leaks and replace if necessary, torque steering and suspension fasteners per Workshop Manual
· If concern still exists, check front alignment and reduce front caster
· Replacement of redundant control steering wheel (if equipped and vehicle built prior to 10/8/2004).

VEHICLE INSPECTION - TIRE PRESSURE
---
1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

NOTE: SETTING TIRE PRESSURE TO DOOR SPECIFICATION IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE

THIS ISSUE WORSE.

ROAD TEST
---
1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the customer's issue.
3. If no issues are identified during the road test, do not proceed with the rest of this TSB.

STEERING DAMPER AND FASTENER TORQUE CHECK

Replace Steering Damper & Frame Mounting Bracket (4X4); Inspect
---
Steering Damper (4X2):

For 4x4 applications:

Remove existing steering damper and frame attachment bracket. Replace steering damper and frame mounting bracket with steering damper P/N 8C3Z-3E651-A and frame bracket P/N 7C3Z-3E652-C. Attach steering damper to frame bracket (with W706196-S439 bolt and W520114S441 nut) and torque bolt to 103 Nm. Assemble bracket and shock assembly to the frame with attachment bolt retainer (W712055-S439) pointing to rear of vehicle. Torque frame bracket nuts (W520114-S441) to 80 Nm. Attach other end of shock to the steering drag link and torque to 90 Nm. Install damper bolt cap (W711670-S300) to assure a friendly surface for the battery cable in case of casual contact.

Note: CHECK SURROUNDING ENVIRONMENT TO THE FRAME BRACKET AND DAMPER ASSEMBLY TO ENSURE THAT BATTERY CABLES ARE NOT CONTACTING BRACKET/BOLTS/DAMPER. ALSO, VERIFY THAT TRANSMISSION OIL COOLER LINES HAVE CLEARANCE TO THE DAMPER DUST SHIELD.

For 4x2 applications only:

Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
If leaks are present, install a new steering damper.

STEERING/SUSPENSION FASTENER TORQUE CHECK (4X2 & 4X4)
---

1. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table below).

Description Torque Specification (lb-ft/ Nm)
Lb-ft Nm
Damper nuts (F-250/F-350 4X2) 59 80

Damper-to-bracket (F-250/F-350 4X4) 76 103
Damper-to-drag link 66 90
Drag link-to-pitman arm nut 129 175
Inner tie-rod end nuts 85 115
Outer tie-rod end nuts 85 115
Track bar bracket-to-frame nuts and bolts 129 175
Track bar-to-track bar bracket bolt 406 550
Track bar-to-axle nut 185 250
Radius arm to axle bolts 222 300
Radius arm to bracket nut 222 300

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE.

FRONT WHEEL ALIGNMENT AND REDUCE FRONT CASTER

NOTE: OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

Measure wheel alignment. Verify that Front Caster, Camber, and Total Toe are within specification. Adjust as required. Refer to the Workshop Manual, Section 204-00 for complete alignment specifications.

REDUCE FRONT CASTER
· Note the current front caster
· Use alignment adjustment bushings to reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit. Use alignment adjustment bushings

F-250/350 4X4:
· 5C3Z-3B440-CCC (0.5 degree bushing)
· 5C3Z-3B440-DDD (0.75 degree bushing)
· 5C3Z-3B440-EEE (1.0 degree bushing)

F-450/550 4X4 and 4X2:

· 5C3Z-3B440-HHH (0.5 degree bushing)
· 5C3Z-3B440-JJJ (0.75 degree bushing)
· 5C3Z-3B440-KKK (1.0 degree bushing)

F-250/350 4X2:
· 5C3Z-3B440-C = 0.5 degree busing
· 5C3Z-3B440-D = 0.75 degree bushing
· 5C3Z-3B440-E = 1.0 degree bushing

For All 4X4 and for F-450/550 4X2
· Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward and inboard position (See Figure 1)
· This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed
· The final caster and camber settings must be within the specification limits
· Maintain the current front camber, cross-camber and cross-caster settings as close as you possibly can
· Adding weight behind the rear axle lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster

For All F-250/350 4X2,
· Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain that position while moving the caster position forward in the truck
· The final caster and camber settings must be within the specification limits

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To
---
10/8/2004 Only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.
1. Remove driver air bag assembly. Refer to Workshop Manual, Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

NOTE: LABOR OPERATIONS IN THIS TSB CAN BE CLAIMED TOGETHER.

NOTE: OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

Joel Nielsen
Commercial Area Field Manager
Ford Customer Service Division - SW Market
ph 281-788-0921 / fax 281-651-2362
jnielse1@ford.com

From: Nielsen, Joel (.)
Sent: Thursday, February 15, 2007 5:57 PM
To: 'guhlig@vtaig.com'
Subject: Steering Osc TSB - DRAFT

Gene, per engineering, please follow each step complete and full. A revision to the TSB will reflect all the content below any day on OASIS. Please let me know when the customer schedules the appointment.

TSB Issue: DRAFT DRAFT DRAFT
This article supersedes TSB 06-15-1 to update the Service Procedure.

Some 2005-2007 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion), immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on F-250/F-350 4X4 vehicles, and is more evident on trucks equipped with a gas engine.
TSB Action:
Refer to the Service Procedure to minimize the steering wheel oscillations on impacts, however, there may be some remaining minor oscillation which would be considered normal.

TSB Service Procedure:
SERVICE PROCEDURE SUMMARY

· Set tire pressure, road test vehicle to evaluate vehicle before proceeding with further repairs. If issue is resolved, do not proceed with the rest of this TSB
· If concern still exists, install a new steering damper (frame-mounted bracket and steering damper assembly on 4X4 applications only). For 4x2 applications, inspect damper for leaks and replace if necessary, torque steering and suspension fasteners per Workshop Manual
· If concern still exists, check front alignment and reduce front caster
· Replacement of redundant control steering wheel (if equipped and vehicle built prior to 10/8/2004).

VEHICLE INSPECTION - TIRE PRESSURE
---
1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

NOTE: SETTING TIRE PRESSURE TO DOOR SPECIFICATION IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE.

ROAD TEST
---

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the customer's issue.
3. If no issues are identified during the road test, do not proceed with the rest of this TSB.

STEERING DAMPER AND FASTENER TORQUE CHECK

Replace Steering Damper & Frame Mounting Bracket (4X4); Inspect
---
Steering Damper (4X2):

For 4x4 applications:

Remove existing steering damper and frame attachment bracket. Replace steering damper and frame mounting bracket with steering damper P/N 8C3Z-3E651-A and frame bracket P/N 7C3Z-3E652-C. Attach steering damper to frame bracket (with W706196-S439 bolt and W520114S441 nut) and torque bolt to 103 Nm. Assemble bracket and shock assembly to the frame with attachment bolt retainer (W712055-S439) pointing to rear of vehicle. Torque frame bracket nuts (W520114-S441) to 80 Nm. Attach other end of shock to the steering drag link and torque to 90 Nm. Install damper bolt cap (W711670-S300) to assure a friendly surface for the battery cable in case of casual contact.

Note: CHECK SURROUNDING ENVIRONMENT TO THE FRAME BRACKET AND DAMPER ASSEMBLY TO ENSURE THAT BATTERY CABLES ARE NOT CONTACTING BRACKET/BOLTS/DAMPER. ALSO, VERIFY THAT TRANSMISSION OIL COOLER LINES HAVE CLEARANCE TO THE DAMPER DUST SHIELD.

For 4x2 applications only:

Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
If leaks are present, install a new steering damper.

STEERING/SUSPENSION FASTENER TORQUE CHECK (4X2 & 4X4)
---

1. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table below).

Description Torque Specification (lb-ft/ Nm)
Lb-ft Nm
Damper nuts (F-250/F-350 4X2) 59 80
Damper-to-bracket (F-250/F-350 4X4) 76 103
Damper-to-drag link 66 90
Drag link-to-pitman arm nut 129 175
Inner tie-rod end nuts 85 115
Outer tie-rod end nuts 85 115
Track bar bracket-to-frame nuts and bolts 129 175

Track bar-to-track bar bracket bolt 406 550
Track bar-to-axle nut 185 250
Radius arm to axle bolts 222 300
Radius arm to bracket nut 222 300

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE.

FRONT WHEEL ALIGNMENT AND REDUCE FRONT CASTER

NOTE: OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

Measure wheel alignment. Verify that Front Caster, Camber, and Total Toe are within specification. Adjust as required. Refer to the Workshop Manual, Section 204-00 for complete alignment specifications.

REDUCE FRONT CASTER
· Note the current front caster
· Use alignment adjustment bushings to reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit. Use alignment adjustment bushings

F-250/350 4X4:
· 5C3Z-3B440-CCC (0.5 degree bushing)
· 5C3Z-3B440-DDD (0.75 degree bushing)
· 5C3Z-3B440-EEE (1.0 degree bushing)

F-450/550 4X4 and 4X2:

· 5C3Z-3B440-HHH (0.5 degree bushing)
· 5C3Z-3B440-JJJ (0.75 degree bushing)
· 5C3Z-3B440-KKK (1.0 degree bushing)

F-250/350 4X2:
· 5C3Z-3B440-C = 0.5 degree busing
· 5C3Z-3B440-D = 0.75 degree bushing
· 5C3Z-3B440-E = 1.0 degree bushing

For All 4X4 and for F-450/550 4X2
· Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward and inboard position (See Figure 1)
· This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed
· The final caster and camber settings must be within the specification limits

· Maintain the current front camber, cross-camber and cross-caster settings as close as you possibly can
· Adding weight behind the rear axle lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster

For All F-250/350 4X2,
· Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain that position while moving the caster position forward in the truck
· The final caster and camber settings must be within the specification limits

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To
---
10/8/2004 Only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.
1. Remove driver air bag assembly. Refer to Workshop Manual, Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

NOTE: LABOR OPERATIONS IN THIS TSB CAN BE CLAIMED TOGETHER.

NOTE: OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

Joel Nielsen
Commercial Area Field Manager
Ford Customer Service Division - SW Market
ph 281-788-0921 / fax 281-651-2362
jnielse1@ford.com

From: GSIPLUS@FORD.COM

Sent: Wednesday, October 25, 2006 9:32 AM

To: Ghiurau, Adrian (A.); Lentini, Craig (C.A.); Pepitone, Gil (J.); Sroka, Joseph (J.); McDonald, Joseph (J.); kpasanen@ford.com; Mueller, Renee (R.); Klump, Robert (R.F.); Echhot, T (T.); whawkin1@ford.com; OConnor, Tammy (T.A.)

Subject: TSB Approved and Released: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

TSB Approved and Released

*** DRAFT ***

This message is being sent on behalf of VNALEY.
This is a courtesy copy of the following article to advise you this article has been approved and released.

General Information

Last action taken (as of 10/25/2006 1:32:05 PM GMT): Final/Complete
Comment:

Author:	TOCONNOR
Tracking Number:	[redacted]
Author Tracking Number:	--
Title:	2005-2007 F-Super Duty - Steering Wheel Oscillation
Article Type:	TSB

TSB Issue:
Some 2005-2007 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion), immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on 4X4 vehicles, and is more evident on trucks equipped with a gas engine.

TSB Action:
Refer to the tsb Service Procedure to minimize the steering wheel oscillations on impacts, however, there may be some remaining minor oscillation which would be considered normal.

TSB Service Procedure:
SERVICE PROCEDURE SUMMARY

· Set tire pressure, road test vehicle to evaluate vehicle before proceeding with further repairs. If issue is resolved, do not proceed with the rest of this TSB
· If concern still exists, check steering damper for leaks; torque steering and suspension fasteners per Workshop Manual
· If concern still exists, check front alignment and reduce front caster
· Replacement of redundant control steering wheel (if equipped and vehicle built prior to 10/8/2004).

VEHICLE INSPECTION - TIRE PRESSURE
---
1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

NOTE: SETTING TIRE PRESSURE TO DOOR SPECIFICATION IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE.

ROAD TEST

---

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the customer's issue.
3. If no issues are identified during the road test, do not proceed with the rest of this TSB.

STEERING DAMPER INSPECTION AND STEERING/SUSPENSION FASTENER TORQUE CHECK

---

1. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.

a. If leaks are present, install a new steering damper.

2. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table below).

Description	Torque Specification (lb-ft/ Nm)	
	Lb-ft	Nm
Damper nuts (4X2)	59	80
Damper-to-bracket (F-250, F-350 4X4)	26	35
Damper-to-drag link	67	91
Drag link-to-pitman arm nut	148	201
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts and bolts	129	175
Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE.

FRONT WHEEL ALIGNMENT AND REDUCE FRONT CASTER

NOTE: OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

Measure wheel alignment. Verify that Front Caster, Camber, and Total Toe are within specification. Adjust as required. Refer to the Workshop Manual, Section 204-00 for complete alignment specifications.

REDUCE FRONT CASTER

· Note the current front caster

· Use alignment adjustment bushings to reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit. Use alignment adjustment bushings

F-250/350 4X4:

· 5C3Z-3B440-CCC (0.5 degree bushing)

· 5C3Z-3B440-DDD (0.75 degree bushing)

· 5C3Z-3B440-EEE (1.0 degree bushing)

F-450/550 4X4 and 4X2:

· 5C3Z-3B440-HHH (0.5 degree bushing)
· 5C3Z-3B440-JJJ (0.75 degree bushing)
· 5C3Z-3B440-KKK (1.0 degree bushing)

F-250/350 4X2:
· 5C3Z-3B440-C = 0.5 degree busing
· 5C3Z-3B440-D = 0.75 degree bushing
· 5C3Z-3B440-E = 1.0 degree bushing

For All 4X4 and for F-450/550 4X2
· Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward and inboard position (See Figure 1)
· This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed
· The final caster and camber settings must be within the specification limits
· Maintain the current front camber, cross-camber and cross-caster settings as close as you possibly can
· Adding weight behind the rear axle lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster

For All F-250/350 4X2,
· Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain that position while moving the caster position forward in the truck
· The final caster and camber settings must be within the specification limits

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 Only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.
1. Remove driver air bag assembly. Refer to Workshop Manual, Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

NOTE: LABOR OPERATIONS IN THIS TSB CAN BE CLAIMED TOGETHER.

NOTE: OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

Category: Service Fix (10 years - TSB Only)
Request Type: Non-QSF
Would this make a good cost save business case? No
Activity Code: 070 F-Series >8500#
Vehicle Applications:

Vehicle Lines	Model Year	Model Year	Assembly	Body	Engine	Trans	Build	Build

	Start	End	Plants	Styles		Axles	From	To
F-Super Duty (F-250 to 550)	2005	2007						

If SPECS Case, Select all Other Affected Publications:
Changes Needed in Other Pubs:
TSBs to Supersede: 06-15-1
SSMs to Supersede:
ISMs to Supersede:
Other application Articles:
Select the reason for republication: Incorrect Procedure
Procedure verified by CDSID: srepasky
Describe How The Procedure Was Verified: TSB was verified by Steve Repasky.
Do you have access to a vehicle for time study? Yes
If Yes, contact for vehicle CDSID: toconnor
Labor Operations:

Labor Operation	Description	Time
A	2005-2007 F-Super Duty: Check Tire Pressure, Road Test To Verify Repair, Concern Resolved, Return To Customer (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	0.4
B	2005-2007 F-Super Duty: Check Tire Pressure, Road Test To Verify Repair, Concern Not Resolved, Check Steering Damper Replace If Necessary, Verify Proper Torque On Steering Components, Road Test If Concern Is Resolved Return To Customer (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	1.4
C	2005-2007 F-Super Duty 250/350 4X2 SINGLE REAR WHEEL: Check And Adjust Front Wheel Alignment, This Labor Operation Can Be Claimed With Operation B Only (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	1.5
C	2005-2007 F-Super Duty 250/350 4X4 SINGLE REAR WHEEL: Check And Adjust Front Wheel Alignment, This Labor Operation Can Be Claimed With Operation B Only (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	1.8
D	2005-2007 F-Super Duty 250/350 4X2 DUAL REAR WHEEL: Check And Adjust Front Wheel Alignment, This Labor Operation Can Be Claimed With Operation B Only (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	1.9
D	2005-2007 F-Super Duty 250/350 4X4 DUAL REAR WHEEL: Check And Adjust Front Wheel Alignment, This Labor Operation Can Be Claimed With Operation B Only (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	2.1
D	2005-2007 F-Super Duty F450/550 4X2/4X4 DUAL REAR WHEEL: Check And Adjust Front Wheel Alignment, This Labor Operation Can Be Claimed With Operation B Only (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	2.3
E	2005-2007 F-Super Duty With Redundant Steering Control Built Prior To 10-8-2004: Replace Steering Wheel, Includes Time To Depower And Repower The Supplemental Restraints System Can Be Claimed With Operation A Or B (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	0.7

Are Illustrations Required? Yes
If Yes, Contact information for illustrations:
CDSID(Ford only): toconnor
Full Name: Tammy O'Connor
Phone: 313/322-3824
Illustration Notes: Please use same illustrations from TSB 05-22-01.

Trustmarks affected: Ford
Additional Trustmarks To Notify:
Article Distribution: WDMO, Canada, Mexico, United States
DTC Codes and OASIS Service Codes: , 303000, 304000, 306000, 703000, 703000, 703200, 703200, 703300, 703300, 703400, 703400

Causal Basic Part # or Finis Code:

Causal Part # or Finis Code	Warranty Condition Codes
3E651 FRONT TIR	Chassis: 42

Calibrations List:

White Paper Numbers:

Parts Request Information

Are Parts Required? Yes

QSF Single Agenda Or Program FRC Date:

Parts List:

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
1	Existing	5C74-3F563-AB1D24	No	Not Applicable	STEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5C7Z-3600-ABA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
2	Existing	5C74-3F563-AB35B8	No	Not Applicable	sTEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5c7z-3600-CBA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
3	Existing	5C34-3E651-CE	No	Not Applicable	Damper	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			Q29AA	5C3Z-3E651-CA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
4	Existing	5C34-3E651-CH	No	Not Applicable	Damper Asy	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3E651-D			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3E651-BG	No	Not Applicable	Damper	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company

	126						
5	**@1st Contact**	**@1st Contact Phone**	**Source Code**	**Service #**	**Replaced SVC #**	**°Replaced Eng. #**	**°Is Calibration Needed**
				5C3Z-3E651-B			No

	***Type of Part**	***Eng #**	***Is This Part a Kit?**	***Existing Stock#**	***Part Name**	***Qty/veh.**	***Engineering Est. Qty. Needed**
	Existing	5C34-3D004-NA	No	Not Applicable	.5 DEGREE SHIM 4X2	1	100
6	***Calculated Forecast**		***@WERS Notice #**		***@WERS Date Released**		***@Supplier Company**
	126						
	@1st Contact	**@1st Contact Phone**	**Source Code**	**Service #**	**Replaced SVC #**	**°Replaced Eng. #**	**°Is Calibration Needed**
				5C3Z-3B440-C			No

	***Type of Part**	***Eng #**	***Is This Part a Kit?**	***Existing Stock#**	***Part Name**	***Qty/veh.**	***Engineering Est. Qty. Needed**
	Existing	5C34-3D004-CA	No	Not Applicable	.5 DEGREE SHIM 4X4	1	100
7	***Calculated Forecast**		***@WERS Notice #**		***@WERS Date Released**		***@Supplier Company**
	126						
	@1st Contact	**@1st Contact Phone**	**Source Code**	**Service #**	**Replaced SVC #**	**°Replaced Eng. #**	**°Is Calibration Needed**
				5C3Z-3B440-CCC			No

	***Type of Part**	***Eng #**	***Is This Part a Kit?**	***Existing Stock#**	***Part Name**	***Qty/veh.**	***Engineering Est. Qty. Needed**
	Existing	5C34-3D004-PA	No	Not Applicable	.75 DEGREE SHIM 4X2	1	100
8	***Calculated Forecast**		***@WERS Notice #**		***@WERS Date Released**		***@Supplier Company**
	126						
	@1st Contact	**@1st Contact Phone**	**Source Code**	**Service #**	**Replaced SVC #**	**°Replaced Eng. #**	**°Is Calibration Needed**
				5C3Z-3B440-D			No

	***Type of Part**	***Eng #**	***Is This Part a Kit?**	***Existing Stock#**	***Part Name**	***Qty/veh.**	***Engineering Est. Qty. Needed**
	Existing	5C34-3D004-DA	No	Not Applicable	-75 DEGREE SHIM 4X4	1	100
9	***Calculated Forecast**		***@WERS Notice #**		***@WERS Date Released**		***@Supplier Company**
	126						
	@1st Contact	**@1st Contact Phone**	**Source Code**	**Service #**	**Replaced SVC #**	**°Replaced Eng. #**	**°Is Calibration Needed**
				5C3Z-3B440-DDD			No

	***Type of Part**	***Eng #**	***Is This Part a Kit?**	***Existing Stock#**	***Part Name**	***Qty/veh.**	***Engineering Est. Qty. Needed**
	Existing	5C34-3D004-RA	No	Not Applicable	1.0 DEGREE SHIM 4X2	1	100
10	***Calculated Forecast**		***@WERS Notice #**		***@WERS Date Released**		***@Supplier Company**

	126						
	@1st Contact	**@1st Contact Phone**	**Source Code**	**Service #**	**Replaced SVC #**	**°Replaced Eng. #**	**°Is Calibration Needed**
				5C3Z-3B440-E			No

	***Type of Part**	***Eng #**	***Is This Part a Kit?**	***Existing Stock#**	***Part Name**	***Qty/veh.**	***Engineering Est. Qty. Needed**
	Existing	5C34-3D004-EA	No	Not Applicable	1.0 DEGREE SHIM 4X4	1	100
11	***Calculated Forecast**		***@WERS Notice #**		***@WERS Date Released**		***@Supplier Company**
	126						
	@1st Contact	**@1st Contact Phone**	**Source Code**	**Service #**	**Replaced SVC #**	**°Replaced Eng. #**	**°Is Calibration Needed**
				5C3Z-3B440-EEE			No

	***Type of Part**	***Eng #**	***Is This Part a Kit?**	***Existing Stock#**	***Part Name**	***Qty/veh.**	***Engineering Est. Qty. Needed**
	Existing	5C34-3D004-JA	No	Not Applicable	0.75 DEGREE SHIM	1	100
12	***Calculated Forecast**		***@WERS Notice #**		***@WERS Date Released**		***@Supplier Company**
	126						
	@1st Contact	**@1st Contact Phone**	**Source Code**	**Service #**	**Replaced SVC #**	**°Replaced Eng. #**	**°Is Calibration Needed**
				5C3Z-3B440-JJJ			No

	***Type of Part**	***Eng #**	***Is This Part a Kit?**	***Existing Stock#**	***Part Name**	***Qty/veh.**	***Engineering Est. Qty. Needed**
	Existing	5C34-3D004-KA	No	Not Applicable	1.0 DEGREE SHIM	1	100
13	***Calculated Forecast**		***@WERS Notice #**		***@WERS Date Released**		***@Supplier Company**
	126						
	@1st Contact	**@1st Contact Phone**	**Source Code**	**Service #**	**Replaced SVC #**	**°Replaced Eng. #**	**°Is Calibration Needed**
				5C3Z-3B440-KKK			No

Parts catalog flag needed? No
Part number(s) that require flag:
Is geographic location significant? No
Special instructions/remarks: We want to have 3 causal part numbers as follows:
1. 3E651 = Steering Dampner
2. FRONT = Alignment
3. TIRE = Tire Pressure

Article Number: 06-22-14
BCM Number: 6391

(End automated email)

From: Siplus, G (G.)

Sent: Wednesday, February 28, 2007 11:26 AM

To: aghiurau@visteon.com; Lentini, Craig (C.A.); Pepitone, Gil (J.); Sroka, Joseph (J.); kpasanen@ford.com; Christianson, Kevin (K.C.); Mueller, Renee (R.); Klump, Robert (R.F.); Echhot, T (T.); whawkin1@ford.com; OConnor, Tammy (T.A.)

Subject: TSB Approved and Released: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

TSB Approved and Released

*** DRAFT ***

This message is being sent on behalf of GSMITH53.
This is a courtesy copy of the following article to advise you this article has been approved and released.

General Information

Last action taken (as of 2/28/2007 4:26:10 PM GMT): Final/Complete
Comment:

Author:	TOCONNOR
Tracking Number:	[redacted]
Author Tracking Number:	--
Title:	2005-2007 F-Super Duty - Steering Wheel Oscillation
Article Type:	TSB

TSB Issue:
This article supersedes TSB 06-15-1 to update the Service Procedure.

Some 2005-2007 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion), immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on F-250/F-350 4X4 vehicles, and is more evident on trucks equipped with a gas engine.

TSB Action:
Refer to the Service Procedure to minimize the steering wheel oscillations on impacts, however, there may be some remaining minor oscillation which would be considered normal.

TSB Service Procedure:
SERVICE PROCEDURE SUMMARY

· Set tire pressure, road test vehicle to evaluate vehicle before proceeding with further repairs. If issue is resolved, do not proceed with the rest of this TSB
· If concern still exists, install a new steering damper (frame-mounted bracket and steering damper assembly on F-250/F-350 4X4 applications only). For F-250/F-350 4X2 and all F-450/F-550 applications, inspect damper for leaks and replace if necessary, torque steering and suspension fasteners per Workshop Manual
· If concern still exists, check front alignment and reduce front caster
· Replacement of redundant control steering wheel (if equipped and vehicle built prior to 10/8/2004).

VEHICLE INSPECTION - TIRE PRESSURE

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1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

NOTE: SETTING TIRE PRESSURE TO DOOR SPECIFICATION IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE.

ROAD TEST

---

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the customer's issue.
3. If no issues are identified during the road test, do not proceed with the rest of this TSB.

STEERING DAMPER AND FASTENER TORQUE CHECK

Replace Steering Damper & Frame Mounting Bracket (F-250/F-350 4X4); Inspect

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Steering Damper (F-250/F-350 4X2 & all F-450/F-550):

For F-250/F-350 4x4 applications:

Remove existing steering damper and frame attachment bracket. Replace steering damper and frame mounting bracket with steering damper P/N 8C3Z-3E651-A and frame bracket P/N 7C3Z-3E652-C. Attach steering damper to frame bracket (with W706196-S439 bolt and W520114S441 nut) and torque bolt to 103 Nm. Assemble bracket and shock assembly to the frame with attachment bolt retainer (W712055-S439) pointing to rear of vehicle. Torque frame bracket nuts (W520114-S441) to 80 Nm. Attach other end of shock to the steering drag link and torque to 90 Nm. Install damper bolt cap (W711670-S300) to assure a friendly surface for the battery cable in case of casual contact.

Note: CHECK SURROUNDING ENVIRONMENT TO THE FRAME BRACKET AND DAMPER ASSEMBLY TO ENSURE THAT BATTERY CABLES ARE NOT CONTACTING BRACKET/BOLTS/DAMPER. ALSO, VERIFY THAT TRANSMISSION OIL COOLER LINES HAVE CLEARANCE TO THE DAMPER DUST SHIELD.

For F-250/F-350 4X2 & all F-450/F-550 applications only:

Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
If leaks are present, install a new steering damper.

STEERING/SUSPENSION FASTENER TORQUE CHECK (4X2 & 4X4)

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1. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table below).

Description	Torque Specification (lb-ft/ Nm)	
	Lb-ft	Nm
Damper nuts (F-250/F-350 4X2)	59	80
Damper-to-bracket (F-250/F-350 4X4)	76	103
Damper-to-drag link	66	90
Drag link-to-pitman arm nut	129	175
Inner tie-rod end nuts	85	115

Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts and bolts	129	175
Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE.

FRONT WHEEL ALIGNMENT AND REDUCE FRONT CASTER

NOTE: OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

Measure wheel alignment. Verify that Front Caster, Camber, and Total Toe are within specification. Adjust as required. Refer to the Workshop Manual, Section 204-00 for complete alignment specifications.

REDUCE FRONT CASTER
- Note the current front caster
- Use alignment adjustment bushings to reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit. Use alignment adjustment bushings

F-250/350 4X4:
- 5C3Z-3B440-CCC (0.5 degree bushing)
- 5C3Z-3B440-DDD (0.75 degree bushing)
- 5C3Z-3B440-EEE (1.0 degree bushing)

F-450/550 4X4 and 4X2:

- 5C3Z-3B440-HHH (0.5 degree bushing)
- 5C3Z-3B440-JJJ (0.75 degree bushing)
- 5C3Z-3B440-KKK (1.0 degree bushing)

F-250/350 4X2:
- 5C3Z-3B440-C = 0.5 degree busing
- 5C3Z-3B440-D = 0.75 degree bushing
- 5C3Z-3B440-E = 1.0 degree bushing

For All 4X4 and for F-450/550 4X2
- Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward and inboard position (See Figure 1)
- This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed
- The final caster and camber settings must be within the specification limits
- Maintain the current front camber, cross-camber and cross-caster settings as close as you possibly can
- Adding weight behind the rear axle lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster

For All F-250/350 4X2,

· Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain that position while moving the caster position forward in the truck

· The final caster and camber settings must be within the specification limits

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To
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10/8/2004 Only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual, Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

NOTE: LABOR OPERATIONS IN THIS TSB CAN BE CLAIMED TOGETHER.

NOTE: OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

Category: Service Fix (10 years - TSB Only)
Request Type: Non-QSF
Would this make a good cost save business case? No
Activity Code: 070 F-Series >8500#
Vehicle Applications:

Vehicle Lines	Model Year Start	Model Year End	Assembly Plants	Body Styles	Engine	Trans Axles	Build From	Build To
F-Super Duty (F-250 to 550)	2005	2007						

If SPECS Case, Select all Other Affected Publications:
Changes Needed in Other Pubs:
TSBs to Supersede: 06-15-1
SSMs to Supersede:
ISMs to Supersede:
Other application Articles:
Select the reason for republication: Incorrect Procedure
Procedure verified by CDSID: srepasky
Describe How The Procedure Was Verified: TSB was verified by Steve Repasky.
Do you have access to a vehicle for time study? Yes
If Yes, contact for vehicle CDSID: toconnor
Labor Operations:

Labor Operation	Description	Time
A	2005-2007 F-Super Duty: Check Tire Pressure, Road Test To Verify Repair, Concern Resolved, Return To Customer: (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	0.4
	2005-2007 F-Super Duty: Check Tire Pressure, Road Test To Verify Repair, Concern Not Resolved,	

B	Check Steering Damper Replace If Necessary, Verify Proper Torque On Steering Components, Road Test If Concern Is Resolved Return To Customer (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	1.4
C	2005-2007 F-Super Duty 250/350 4X2 SINGLE REAR WHEEL: Check And Adjust Front Wheel Alignment, This Labor Operation Can Be Claimed With Operation B Only (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	1.5
C	2005-2007 F-Super Duty 250/350 4X4 SINGLE REAR WHEEL: Check And Adjust Front Wheel Alignment, This Labor Operation Can Be Claimed With Operation B Only (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	1.8
C	2005-2007 F-Super Duty 250/350 4X2 DUAL REAR WHEEL: Check And Adjust Front Wheel Alignment, This Labor Operation Can Be Claimed With Operation B Only (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	1.9
C	2005-2007 F-Super Duty 250/350 4X4 DUAL REAR WHEEL: Check And Adjust Front Wheel Alignment, This Labor Operation Can Be Claimed With Operation B Only (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	2.1
C	2005-2007 F-Super Duty F450/550 4X2/4X4 DUAL REAR WHEEL: Check And Adjust Front Wheel Alignment, This Labor Operation Can Be Claimed With Operation B Only (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	2.3
D	2005-2007 F-Super Duty With Redundant Steering Control Built Prior To 10-8-2004: Replace Steering Wheel, Includes Time To Depower And Repower The Supplemental Restraints System Can Be Claimed With Operation A Or B (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	0.7

Are Illustrations Required? Yes
If Yes, Contact information for illustrations:
CDSID(Ford only): toconnor
Full Name: Tammy O'Connor
Phone: 313/322-3824
Illustration Notes: Please use same illustrations from TSB 06-15-1.

Trustmarks affected: Ford
Additional Trustmarks To Notify:
Article Distribution: WDMO, Canada, Mexico, United States
DTC Codes and OASIS Service Codes: , 303000, 304000, 306000, 703000, 703000, 703200, 703200, 703300, 703300, 703400, 703400

Causal Basic Part # or Finis Code:

Causal Part # or Finis Code	Warranty Condition Codes
3E651 FRONT TIR	Chassis: 42

Calibrations List:

White Paper Numbers:

Parts Request Information

Are Parts Required? Yes
QSF Single Agenda Or Program FRC Date:
Parts List:

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
1	Existing	5C74-3F563-AB1D24	No	Not Applicable	STEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5C7Z-3600-ABA			No

	*Type of	*Eng #	*Is This Part	*Existing	*Part Name	*Qty/veh.	*Engineering Est. Qty.

	Part		a Kit?	Stock#			Needed
	Existing	5C74-3F563-AB35B8	No	Not Applicable	sTEERING WHEEL ASY	1	100
2	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5c7z-3600-CBA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-NA	No	Not Applicable	.5 DEGREE SHIM 4X2	1	100
3	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-C			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-CA	No	Not Applicable	.5 DEGREE SHIM 4X4	1	100
4	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-CCC			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-PA	No	Not Applicable	.75 DEGREE SHIM 4X2	1	100
5	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-D			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-DA	No	Not Applicable	-75 DEGREE SHIM 4X4	1	100
6	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-DDD			No

	*Type of	*Eng #	*Is This Part	*Existing	*Part Name	*Qty/veh.	*Engineering Est. Qty.

	Part		a Kit?	Stock#			Needed
	Existing	5C34-3D004-RA	No	Not Applicable	1.0 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
7	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-E			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-EA	No	Not Applicable	1.0 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
8	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-EEE			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-JA	No	Not Applicable	0.75 DEGREE SHIM	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
9	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-JJJ			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-KA	No	Not Applicable	1.0 DEGREE SHIM	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
10	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-KKK			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	W520117-S441	No	Not Applicable	NUT - HEX - RH THREA	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
11	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			G229J	W520117-S441			No

	*Type of	*Eng #	*Is This Part a	*Existing	*Part Name	*Qty/veh.	*Engineering Est. Qty.

	Part		**Kit?**	**Stock#**			**Needed**
	Existing	W706196-S439	No	Not Applicable	Bolt	1	100
	***Calculated Forecast**		***@WERS Notice #**		***@WERS Date Released**		***@Supplier Company**
12	126						
	@1st Contact	**@1st Contact Phone**	**Source Code**	**Service #**	**Replaced SVC #**	**°Replaced Eng. #**	**°Is Calibration Needed**
			G229J	W706196-S439			No

	***Type of Part**	***Eng #**	***Is This Part a Kit?**	***Existing Stock#**	***Part Name**	***Qty/veh.**	***Engineering Est. Qty. Needed**
	Existing	7c343e652ac	No	Not Applicable	Bracket	1	100
	***Calculated Forecast**		***@WERS Notice #**		***@WERS Date Released**		***@Supplier Company**
13	126						
	@1st Contact	**@1st Contact Phone**	**Source Code**	**Service #**	**Replaced SVC #**	**°Replaced Eng. #**	**°Is Calibration Needed**
				7c3z3e652c			No

	***Type of Part**	***Eng #**	***Is This Part a Kit?**	***Existing Stock#**	***Part Name**	***Qty/veh.**	***Engineering Est. Qty. Needed**
	Existing	8C34-3E651-CB	No	Not Applicable	Damper 250/350 4X4	1	100
	***Calculated Forecast**		***@WERS Notice #**		***@WERS Date Released**		***@Supplier Company**
14	126						
	@1st Contact	**@1st Contact Phone**	**Source Code**	**Service #**	**Replaced SVC #**	**°Replaced Eng. #**	**°Is Calibration Needed**
			T407H	8C3Z-3E651-C			No

	***Type of Part**	***Eng #**	***Is This Part a Kit?**	***Existing Stock#**	***Part Name**	***Qty/veh.**	***Engineering Est. Qty. Needed**
	Existing	5C34-3E651-CH	No	Not Applicable	Damper 450/550 ALL	1	100
	***Calculated Forecast**		***@WERS Notice #**		***@WERS Date Released**		***@Supplier Company**
15	126						
	@1st Contact	**@1st Contact Phone**	**Source Code**	**Service #**	**Replaced SVC #**	**°Replaced Eng. #**	**°Is Calibration Needed**
			Q29AA	5C3Z- 3E651-D			No

	***Type of Part**	***Eng #**	***Is This Part a Kit?**	***Existing Stock#**	***Part Name**	***Qty/veh.**	***Engineering Est. Qty. Needed**
	Existing	5C34-3E651-BG	No	Not Applicable	Damper 250/350 4X2	1	100
	***Calculated Forecast**		***@WERS Notice #**		***@WERS Date Released**		***@Supplier Company**
16	126						
	@1st Contact	**@1st Contact Phone**	**Source Code**	**Service #**	**Replaced SVC #**	**°Replaced Eng. #**	**°Is Calibration Needed**
			Q29AA	5C3Z- 3E651-B			No

Parts catalog flag needed? No
Part number(s) that require flag:
Is geographic location significant? No
Special instructions/remarks: We want to have 4 causal part numbers as follows:

1. 3E651 = Steering Dampner
2. FRONT = Alignment
3. TIRE = Tire Pressure
4. NPF = No Problem Found

This TSB is being updated to include a revised steering damper.

Article Number: 07-05-07
BCM Number: 6901

(End automated email)

From: Siplus, G (G.)

Sent: Wednesday, May 09, 2007 8:36 AM

To: aghiurau@visteon.com; Lentini, Craig (C.A.); Pepitone, Gil (J.); Sroka, Joseph (J.); kpasanen@ford.com; Christianson, Kevin (K.C.); Mueller, Renee (R.); Klump, Robert (R.F.); Echhot, T (T.); whawkin1@ford.com; OConnor, Tammy (T.A.)

Subject: TSB Approved and Released: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

TSB Approved and Released

***** NOTE: The system generated the email. Do not reply to this email *****
***** To be removed from this distribution list, please email Robert Klump at rklump@ford.com *****

This message is being sent on behalf of GSMITH53.
This is a courtesy copy of the following article to advise you this article has been approved and released.

General Information

Last action taken (as of 5/9/2007 12:35:43 PM GMT): Final/Complete
Comment:

Author:	TOCONNOR
Tracking Number:	[redacted]
Author Tracking Number:	--
Title:	2005-2007 F-Super Duty - Steering Wheel Oscillation
Article Type:	TSB

TSB Issue:
This article supersedes TSB 07-05-07 to update an incorrect part number.

Some 2005-2007 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion), immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on F-250/F-350 4X4 vehicles, and is more evident on trucks equipped with a gas engine.

TSB Action:
Refer to the Service Procedure to minimize the steering wheel oscillations on impacts, however, there may be some remaining minor oscillation which would be considered normal.

TSB Service Procedure:
SERVICE PROCEDURE SUMMARY

· Set tire pressure, road test vehicle to evaluate vehicle before proceeding with further repairs. If issue is resolved, do not proceed with the rest of this TSB
· If concern still exists, install a new steering damper (frame-mounted bracket and steering damper assembly on F-250/F-350 4X4 applications only). For F-250/F-350 4X2 and all F-450/F-550 applications, inspect damper for leaks and replace if necessary, torque steering and suspension fasteners per Workshop Manual
· If concern still exists, check front alignment and reduce front caster
· Replacement of redundant control steering wheel (if equipped and vehicle built prior to 10/8/2004).

VEHICLE INSPECTION - TIRE PRESSURE

---

1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

NOTE: SETTING TIRE PRESSURE TO DOOR SPECIFICATION IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE.

ROAD TEST

---

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the customer's issue.
3. If no issues are identified during the road test, do not proceed with the rest of this TSB.

STEERING DAMPER AND FASTENER TORQUE CHECK

Replace Steering Damper & Frame Mounting Bracket (F-250/F-350 4X4); Inspect

---

Steering Damper (F-250/F-350 4X2 & all F-450/F-550):

For F-250/F-350 4x4 applications:

Remove existing steering damper and frame attachment bracket. Replace steering damper and frame mounting bracket with steering damper and frame bracket. Attach steering damper to frame bracket (with bolt and nut) and torque bolt to 103 Nm. Assemble bracket and shock assembly to the frame with attachment bolt retainer pointing to rear of vehicle. Torque frame bracket nuts to 80 Nm. Attach other end of shock to the steering drag link and torque to 90 Nm. Install damper bolt cap to assure a friendly surface for the battery cable in case of casual contact.

Note: CHECK SURROUNDING ENVIRONMENT TO THE FRAME BRACKET AND DAMPER ASSEMBLY TO ENSURE THAT BATTERY CABLES ARE NOT CONTACTING BRACKET/BOLTS/DAMPER. ALSO, VERIFY THAT TRANSMISSION OIL COOLER LINES HAVE CLEARANCE TO THE DAMPER DUST SHIELD.

For F-250/F-350 4X2 & all F-450/F-550 applications only:

Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
If leaks are present, install a new steering damper.

STEERING/SUSPENSION FASTENER TORQUE CHECK (4X2 & 4X4)

---

1. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table below).

Description	Torque Specification (lb-ft/ Nm)	
	Lb-ft	Nm
Damper nuts (F-250/F-350 4X2)	59	80
Damper-to-bracket (F-250/F-350 4X4)	76	103
Damper-to-drag link	66	90
Drag link-to-pitman arm nut	129	175
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115

Track bar bracket-to-frame nuts and bolts	129	175
Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE.

FRONT WHEEL ALIGNMENT AND REDUCE FRONT CASTER

NOTE: OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

Measure wheel alignment. Verify that Front Caster, Camber, and Total Toe are within specification. Adjust as required. Refer to the Workshop Manual, Section 204-00 for complete alignment specifications.

REDUCE FRONT CASTER
- Note the current front caster
- Use alignment adjustment bushings to reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit. Use alignment adjustment bushings

F-250/350 4X4:
- 5C3Z-3B440-CCC (0.5 degree bushing)
- 5C3Z-3B440-DDD (0.75 degree bushing)
- 5C3Z-3B440-EEE (1.0 degree bushing)

F-450/550 4X4 and 4X2:

- 5C3Z-3B440-HHH (0.5 degree bushing)
- 5C3Z-3B440-JJJ (0.75 degree bushing)
- 5C3Z-3B440-KKK (1.0 degree bushing)

F-250/350 4X2:
- 5C3Z-3B440-C = 0.5 degree busing
- 5C3Z-3B440-D = 0.75 degree bushing
- 5C3Z-3B440-E = 1.0 degree bushing

For All 4X4 and for F-450/550 4X2
- Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward and inboard position (See Figure 1)
- This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed
- The final caster and camber settings must be within the specification limits
- Maintain the current front camber, cross-camber and cross-caster settings as close as you possibly can
- Adding weight behind the rear axle lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster

For All F-250/350 4X2,

· Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain that position while moving the caster position forward in the truck
· The final caster and camber settings must be within the specification limits

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To
---
10/8/2004 Only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.
1. Remove driver air bag assembly. Refer to Workshop Manual, Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

NOTE: LABOR OPERATIONS IN THIS TSB CAN BE CLAIMED TOGETHER.

NOTE: OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

Category: Service Fix (10 years - TSB Only)
Request Type: Non-QSF
Would this make a good cost save business case? No
Activity Code: 070 F-Series >8500#
Vehicle Applications:

Vehicle Lines	Model Year Start	Model Year End	Assembly Plants	Body Styles	Engine	Trans Axles	Build From	Build To
F-Super Duty (F-250 to 550)	2005	2007						

If SPECS Case, Select all Other Affected Publications:
Changes Needed in Other Pubs:
TSBs to Supersede: 07-05-07
SSMs to Supersede:
ISMs to Supersede:
Other application Articles:
Select the reason for republication: Incorrect Procedure
Procedure verified by CDSID: DGOMPPER
Describe How The Procedure Was Verified: TSB was verified by Dan Gompper.
Do you have access to a vehicle for time study? Yes
If Yes, contact for vehicle CDSID: toconnor
Labor Operations:

Labor Operation	Description	Time
A	2005-2007 F-Super Duty: Check Tire Pressure, Road Test To Verify Repair, Concern Resolved, Return To Customer (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	0.4
B	2005-2007 F-Super Duty: Check Tire Pressure, Road Test To Verify Repair, Concern Not Resolved, Check Steering Damper Replace If Necessary, Verify Proper Torque On Steering Components, Road	1.4

	Test If Concern Is Resolved Return To Customer (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	
C	2005-2007 F-Super Duty 250/350 4X4 DUAL REAR WHEEL: Check And Adjust Front Wheel Alignment, This Labor Operation Can Be Claimed With Operation B Only (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	2.1
C	2005-2007 F-Super Duty 250/350 4X2 DUAL REAR WHEEL: Check And Adjust Front Wheel Alignment, This Labor Operation Can Be Claimed With Operation B Only (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	1.9
C	2005-2007 F-Super Duty F450/550 4X2/4X4 DUAL REAR WHEEL: Check And Adjust Front Wheel Alignment, This Labor Operation Can Be Claimed With Operation B Only (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	2.3
C	2005-2007 F-Super Duty 250/350 4X2 SINGLE REAR WHEEL: Check And Adjust Front Wheel Alignment, This Labor Operation Can Be Claimed With Operation B Only (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	1.5
C	2005-2007 F-Super Duty 250/350 4X4 SINGLE REAR WHEEL: Check And Adjust Front Wheel Alignment, This Labor Operation Can Be Claimed With Operation B Only (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	1.8
D	2005-2007 F-Super Duty With Redundant Steering Control Built Prior To 10-8-2004: Replace Steering Wheel, Includes Time To Depower And Repower The Supplemental Restraints System Can Be Claimed With Operation A Or B (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	0.7

Are Illustrations Required? Yes
If Yes, Contact information for illustrations:
CDSID(Ford only): toconnor
Full Name: Tammy O'Connor
Phone: 313/322-3824
Illustration Notes: Please use same illustrations from TSB 06-15-1.

Trustmarks affected: Ford
Additional Trustmarks To Notify:
Article Distribution: WDMO, Canada, Mexico, United States
DTC Codes and OASIS Service Codes: , 303000, 304000, 306000, 703000, 703000, 703200, 703200, 703300, 703300, 703400, 703400

Causal Basic Part # or Finis Code:

Causal Part # or Finis Code	Warranty Condition Codes
3E651 FRONT TIR	Chassis: 42

Calibrations List:

White Paper Numbers:

Parts Request Information

Are Parts Required? Yes
QSF Single Agenda Or Program FRC Date:
Parts List:

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
1	Existing	5C74-3F563-AB1D24	No	Not Applicable	STEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5C7Z-3600-ABA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed

	Existing	5C74-3F563-AB35B8	No	Not Applicable	sTEERING WHEEL ASY	1	100
	***Calculated Forecast**		***@WERS Notice #**		***@WERS Date Released**		***@Supplier Company**
2	45						
	@1st Contact	**@1st Contact Phone**	**Source Code**	**Service #**	**Replaced SVC #**	**°Replaced Eng. #**	**°Is Calibration Needed**
			U5MSK	5c7z-3600-CBA			No

	***Type of Part**	***Eng #**	***Is This Part a Kit?**	***Existing Stock#**	***Part Name**	***Qty/veh.**	***Engineering Est. Qty. Needed**
	Existing	5C34-3D004-NA	No	Not Applicable	.5 DEGREE SHIM 4X2	1	100
	***Calculated Forecast**		***@WERS Notice #**		***@WERS Date Released**		***@Supplier Company**
3	126						
	@1st Contact	**@1st Contact Phone**	**Source Code**	**Service #**	**Replaced SVC #**	**°Replaced Eng. #**	**°Is Calibration Needed**
				5C3Z-3B440-C			No

	***Type of Part**	***Eng #**	***Is This Part a Kit?**	***Existing Stock#**	***Part Name**	***Qty/veh.**	***Engineering Est. Qty. Needed**
	Existing	5C34-3D004-CA	No	Not Applicable	.5 DEGREE SHIM 4X4	1	100
	***Calculated Forecast**		***@WERS Notice #**		***@WERS Date Released**		***@Supplier Company**
4	126						
	@1st Contact	**@1st Contact Phone**	**Source Code**	**Service #**	**Replaced SVC #**	**°Replaced Eng. #**	**°Is Calibration Needed**
				5C3Z-3B440-CCC			No

	***Type of Part**	***Eng #**	***Is This Part a Kit?**	***Existing Stock#**	***Part Name**	***Qty/veh.**	***Engineering Est. Qty. Needed**
	Existing	5C34-3D004-PA	No	Not Applicable	.75 DEGREE SHIM 4X2	1	100
	***Calculated Forecast**		***@WERS Notice #**		***@WERS Date Released**		***@Supplier Company**
5	126						
	@1st Contact	**@1st Contact Phone**	**Source Code**	**Service #**	**Replaced SVC #**	**°Replaced Eng. #**	**°Is Calibration Needed**
				5C3Z-3B440-D			No

	***Type of Part**	***Eng #**	***Is This Part a Kit?**	***Existing Stock#**	***Part Name**	***Qty/veh.**	***Engineering Est. Qty. Needed**
	Existing	5C34-3D004-DA	No	Not Applicable	-75 DEGREE SHIM 4X4	1	100
	***Calculated Forecast**		***@WERS Notice #**		***@WERS Date Released**		***@Supplier Company**
6	126						
	@1st Contact	**@1st Contact Phone**	**Source Code**	**Service #**	**Replaced SVC #**	**°Replaced Eng. #**	**°Is Calibration Needed**
				5C3Z-3B440-DDD			No

	***Type of Part**	***Eng #**	***Is This Part a Kit?**	***Existing Stock#**	***Part Name**	***Qty/veh.**	***Engineering Est. Qty. Needed**

	Existing	5C34-3D004-RA	No	Not Applicable	1.0 DEGREE SHIM 4X2	1	100
	***Calculated Forecast**		***@WERS Notice #**		***@WERS Date Released**		***@Supplier Company**
	126						
7	**@1st Contact**	**@1st Contact Phone**	**Source Code**	**Service #**	**Replaced SVC #**	**°Replaced Eng. #**	**°Is Calibration Needed**
				5C3Z-3B440-E			No

	***Type of Part**	***Eng #**	***Is This Part a Kit?**	***Existing Stock#**	***Part Name**	***Qty/veh.**	***Engineering Est. Qty. Needed**
	Existing	5C34-3D004-EA	No	Not Applicable	1.0 DEGREE SHIM 4X4	1	100
	***Calculated Forecast**		***@WERS Notice #**		***@WERS Date Released**		***@Supplier Company**
8	126						
	@1st Contact	**@1st Contact Phone**	**Source Code**	**Service #**	**Replaced SVC #**	**°Replaced Eng. #**	**°Is Calibration Needed**
				5C3Z-3B440-EEE			No

	***Type of Part**	***Eng #**	***Is This Part a Kit?**	***Existing Stock#**	***Part Name**	***Qty/veh.**	***Engineering Est. Qty. Needed**
	Existing	5C34-3D004-JA	No	Not Applicable	0.75 DEGREE SHIM	1	100
	***Calculated Forecast**		***@WERS Notice #**		***@WERS Date Released**		***@Supplier Company**
9	126						
	@1st Contact	**@1st Contact Phone**	**Source Code**	**Service #**	**Replaced SVC #**	**°Replaced Eng. #**	**°Is Calibration Needed**
				5C3Z-3B440-JJJ			No

	***Type of Part**	***Eng #**	***Is This Part a Kit?**	***Existing Stock#**	***Part Name**	***Qty/veh.**	***Engineering Est. Qty. Needed**
	Existing	5C34-3D004-KA	No	Not Applicable	1.0 DEGREE SHIM	1	100
	***Calculated Forecast**		***@WERS Notice #**		***@WERS Date Released**		***@Supplier Company**
10	126						
	@1st Contact	**@1st Contact Phone**	**Source Code**	**Service #**	**Replaced SVC #**	**°Replaced Eng. #**	**°Is Calibration Needed**
				5C3Z-3B440-KKK			No

	***Type of Part**	***Eng #**	***Is This Part a Kit?**	***Existing Stock#**	***Part Name**	***Qty/veh.**	***Engineering Est. Qty. Needed**
	Existing	W520117-S441	No	Not Applicable	NUT - HEX - RH THREA	1	100
	***Calculated Forecast**		***@WERS Notice #**		***@WERS Date Released**		***@Supplier Company**
11	126						
	@1st Contact	**@1st Contact Phone**	**Source Code**	**Service #**	**Replaced SVC #**	**°Replaced Eng. #**	**°Is Calibration Needed**
			G229J	W520117-S441			No

	***Type of Part**	***Eng #**	***Is This Part a Kit?**	***Existing Stock#**	***Part Name**	***Qty/veh.**	***Engineering Est. Qty. Needed**

	Existing	W706196-S439	No	Not Applicable	Bolt	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
12	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			G229J	W706196-S439			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	7c343e652ac	No	Not Applicable	Bracket	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
13	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				7c3z3e652c			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	8C34-3E651-CB	No	Not Applicable	Damper 250/350 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
14	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			T407H	8C3Z-3E651-C			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3E651-CH	No	Not Applicable	Damper 450/550 ALL	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
15	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			Q29AA	5C3Z- 3E651-D			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3E651-BG	No	Not Applicable	Damper 250/350 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
16	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			Q29AA	5C3Z- 3E651-B			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	W711570-S300	No	Not Applicable	CAP - SHOCK ABSORBER	1	100

	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
17	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				W711570-S300			No

Parts catalog flag needed? No
Part number(s) that require flag:
Is geographic location significant? No
Special instructions/remarks: We want to have 4 causal part numbers as follows:
1. 3E651 = Steering Dampner
2. FRONT = Alignment
3. TIRE = Tire Pressure
4. NPF = No Problem Found

This TSB is being updated to include a revised steering damper.

Article Number: 07-10-10
BCM Number: 7180

(End automated email)

From: Siplus, G (G.)

Sent: Monday, December 03, 2007 3:45 PM

To: Abhyankar, Sanjay (S.B.); Murray, Al (A.R.); Whitmyer, Al (A.W.); Caines, Bill (B.); Tews, Bryan (B.H.); Cordoba, Cinthia (C.); Tedone, Damian (D.J.); Wood, Daniel (D.P.); Jones, Darryl (D.S.); Capoccia, David (D.G.); Hughes, Dave (D.J.); Ott, David (D.J.); Ruppert, Dave (D.R.); Werthmann, Dave (D.G.); Smith, Ed (E.J.); Yerke, Eric (E.R.); Hermann, Erik (E.H.); Wood, Faith (F.M.); Patel, Harendra (H.M.); Hansen, James (J.B.); Willard, Jeremy (J.); Kovacs, John (J.); Pawloski, John (.); Saieg, John (J.R.); Zeitz, Keith (K.A.); Pietrzak, Kenneth (K.E.); Weaver, Kirk (E.); Manick, Lawrence (L.A.); Taylor, Mark (M.K.); Trapp, Martin (M.A.); Surella, Matthew (M.M.); House, Michael (M.T.); Singleton, Michael (M.L.); Spencer, Michael (M.T.); Cervenan, Neil (N.J.); Malkowski, Roberta (R.T.); McClain, Shawn (S.M.); Janczak, Stephanie (S.L.); Echhot, T (T.); Wheeler, Todd (T.A.); Gieleghem, Tom (T.A.); Westermann, W Scott (W.S.); OConnor, Tammy (T.A.); Gompper, Dan (D.B.); Dwyer, Elizabeth (E.A.); Smith, Janet (J.); Boals, Shannon (S.D.)

Subject: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

TSB Courtesy Copy

***** NOTE: The system generated the email. Do not reply to this email *****
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This message is being sent on behalf of RKLUMP.
This is a courtesy copy of the following article to advise you this article is currently being processed for publication.

General Information

Last action taken (as of 12/3/2007 8:45:27 PM GMT): Accept/Submit to approvers
Comment:

Author:	TOCONNOR
Tracking Number:	[redacted]
Author Tracking Number:	--
Title:	2005-2007 F-Super Duty - Steering Wheel Oscillation
Article Type:	TSB

TSB Issue:
This article supersedes TSB 07-10-10 to update an incorrect part number.

Some 2005-2007 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion), immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on F-250/F-350 4X4 vehicles, and is more evident on trucks equipped with a gas engine.

TSB Action:
Refer to the Service Procedure to minimize the steering wheel oscillations on impacts, however, there may be some remaining minor oscillation which would be considered normal.

TSB Service Procedure:
SERVICE PROCEDURE SUMMARY

· Set tire pressure, road test vehicle to evaluate vehicle before proceeding with further repairs. If issue is resolved, do not proceed with the rest of this TSB
· If concern still exists, install a new steering damper (frame-mounted bracket and steering damper assembly on F-250/F-350 4X4 applications only). For F-250/F-350 4X2 and all F-450/F-550

applications, inspect damper for leaks and replace if necessary,
torque steering and suspension fasteners per Workshop Manual

- If concern still exists, check front alignment and reduce front caster
- Replacement of redundant control steering wheel

(if equipped and vehicle built prior to 10/8/2004).

VEHICLE INSPECTION - TIRE PRESSURE

---

1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

NOTE: SETTING TIRE PRESSURE TO DOOR SPECIFICATION IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE.

ROAD TEST

---

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the customer's issue.
3. If no issues are identified during the road test, do not proceed with the rest of this TSB.

STEERING DAMPER AND FASTENER TORQUE CHECK

Replace Steering Damper & Frame Mounting Bracket (F-250/F-350 4X4); Inspect

---

Steering Damper (F-250/F-350 4X2 & all F-450/F-550):

For F-250/F-350 4x4 applications:

Remove existing steering damper and frame attachment bracket. Replace steering damper and frame mounting bracket with steering damper and frame bracket. Attach steering damper to frame bracket (with bolt and nut) and torque bolt to 103 Nm. Assemble bracket and shock assembly to the frame with attachment bolt retainer pointing to rear of vehicle. Torque frame bracket nuts to 80 Nm. Attach other end of shock to the steering drag link and torque to 90 Nm. Install damper bolt cap to assure a friendly surface for the battery cable in case of casual contact.

Note: CHECK SURROUNDING ENVIRONMENT TO THE FRAME BRACKET AND DAMPER ASSEMBLY TO ENSURE THAT BATTERY CABLES ARE NOT CONTACTING BRACKET/BOLTS/DAMPER. ALSO, VERIFY THAT TRANSMISSION OIL COOLER LINES HAVE CLEARANCE TO THE DAMPER DUST SHIELD.

For F-250/F-350 4X2 & all F-450/F-550 applications only:

Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
If leaks are present, install a new steering damper.

STEERING/SUSPENSION FASTENER TORQUE CHECK (4X2 & 4X4)

---

1. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table below).

Description	Torque Specification (lb-ft/ Nm)	
	Lb-ft	Nm
Damper nuts (F-250/F-350 4X2)	59	80
Damper-to-bracket (F-250/F-350 4X4)	76	103
Damper-to-bracket (F-450, F-550 4X4)	25.8	35
Damper-to-drag link	66	90
Drag link-to-pitman arm nut	129	175
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts and bolts	129	175
Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE.

FRONT WHEEL ALIGNMENT AND REDUCE FRONT CASTER

NOTE: OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

Measure wheel alignment. Verify that Front Caster, Camber, and Total Toe are within specification. Adjust as required. Refer to the Workshop Manual, Section 204-00 for complete alignment specifications.

REDUCE FRONT CASTER

· Note the current front caster

· Use alignment adjustment bushings to reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit. Use alignment adjustment bushings

F-250/350 4X4:

· 5C3Z-3B440-CCC (0.5 degree bushing)
· 5C3Z-3B440-DDD (0.75 degree bushing)
· 5C3Z-3B440-EEE (1.0 degree bushing)

F-450/550 4X4 and 4X2:

· 5C3Z-3B440-HHH (0.5 degree bushing)
· 5C3Z-3B440-JJJ (0.75 degree bushing)
· 5C3Z-3B440-KKK (1.0 degree bushing)

F-250/350 4X2:

· 5C3Z-3B440-C = 0.5 degree busing
· 5C3Z-3B440-D = 0.75 degree bushing
· 5C3Z-3B440-E = 1.0 degree bushing

For All 4X4 and for F-450/550 4X2

· Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward and inboard position (See Figure 1)

· This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed
· The final caster and camber settings must be within the specification limits
· Maintain the current front camber, cross-camber and cross-caster settings as close as you possibly can
· Adding weight behind the rear axle lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster

For All F-250/350 4X2,
· Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain that position while moving the caster position forward in the truck
· The final caster and camber settings must be within the specification limits

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To
---
10/8/2004 Only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.
1. Remove driver air bag assembly. Refer to Workshop Manual, Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

NOTE: LABOR OPERATIONS IN THIS TSB CAN BE CLAIMED TOGETHER.

NOTE: OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

Category: Service Fix (10 years - TSB Only)
Request Type: Non-QSF
Would this make a good cost save business case? No
Activity Code: 070 F-Series >8500#
Vehicle Applications:

Vehicle Lines	Model Year Start	Model Year End	Assembly Plants	Body Styles	Engine	Trans Axles	Build From	Build To
F-Super Duty (F-250 to 550)	2005	2007						

If SPECS Case, Select all Other Affected Publications:
Changes Needed in Other Pubs:
TSBs to Supersede: 07-10-10
SSMs to Supersede:
ISMs to Supersede:
Other application Articles:
Select the reason for republication: Incorrect or Missing Parts
Procedure verified by CDSID: DGOMPPER
Describe How The Procedure Was Verified: TSB was verified by Dan Gompper.

Do you have access to a vehicle for time study? Yes
If Yes, contact for vehicle CDSID: toconnor
Are Illustrations Required? Yes
If Yes, Contact information for illustrations:
CDSID(Ford only): toconnor
Full Name: Tammy O'Connor
Phone: 313/322-3824
Illustration Notes: Please use same illustrations from TSB 06-15-1.

Trustmarks affected: Ford
Additional Trustmarks To Notify:
Article Distribution: WDMO, Canada, Mexico, United States
DTC Codes and OASIS Service Codes: , 303000, 304000, 306000, 703000, 703000, 703200, 703200, 703300, 703300, 703400, 703400

Causal Basic Part # or Finis Code:

Causal Part # or Finis Code	Warranty Condition Codes
3E651 FRONT TIR	Chassis: 42

Calibrations List:

White Paper Numbers:

Parts Request Information

Are Parts Required? Yes
QSF Single Agenda Or Program FRC Date:
Parts List:

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
1	Existing	5C74-3F563-AB1D24	No	Not Applicable	STEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5C7Z-3600-ABA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
2	Existing	5C74-3F563-AB35B8	No	Not Applicable	sTEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5c7z-3600-CBA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
3	Existing	5C34-3D004-NA	No	Not Applicable	.5 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced	°Is Calibration Needed

						Eng. #	
				5C3Z-3B440-C			No

4	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-CA	No	Not Applicable	.5 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-CCC			No

5	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-PA	No	Not Applicable	.75 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-D			No

6	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-DA	No	Not Applicable	-75 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-DDD			No

7	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-RA	No	Not Applicable	1.0 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-E			No

8	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-EA	No	Not Applicable	1.0 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st	@1st Contact	Source Code	Service #	Replaced SVC #	°Replaced	°Is Calibration Needed

	Contact	Phone				Eng. #	
				5C3Z-3B440-EEE			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-JA	No	Not Applicable	0.75 DEGREE SHIM	1	100
9	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-JJJ			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-KA	No	Not Applicable	1.0 DEGREE SHIM	1	100
10	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-KKK			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	W520114-S441	No	Not Applicable	NUT - HEX - RH THREA	1	100
11	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			G229J	W520114-S441			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	W706196-S439	No	Not Applicable	Bolt	1	100
12	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			G229J	W706196-S439			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	7c343e652ac	No	Not Applicable	Bracket	1	100
13	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				7c3z3e652c			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
14	Existing	8C34-3E651-CB	No	Not Applicable	Damper 250/350 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			T407H	8C3Z-3E651-C			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
15	Existing	5C34-3E651-CH	No	Not Applicable	Damper 450/550 ALL	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			Q29AA	5C3Z- 3E651-D			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
16	Existing	5C34-3E651-BG	No	Not Applicable	Damper 250/350 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			Q29AA	5C3Z- 3E651-B			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
17	Existing	W711570-S300	No	Not Applicable	CAP - SHOCK ABSORBER	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				W711570-S300			No

Parts catalog flag needed? No
Part number(s) that require flag:
Is geographic location significant? No
Special instructions/remarks: We want to have 4 causal part numbers as follows:
1. 3E651 = Steering Dampner
2. FRONT = Alignment
3. TIRE = Tire Pressure
4. NPF = No Problem Found

This TSB is being updated to include a revised steering damper.

Article Number:
BCM Number:

(End automated email)

From: Repasky, Steve (S.)
Sent: Wednesday, December 13, 2006 1:36 PM
To: O'Connor, Tammy (T.A.)
Subject: TSB DRAFT proposal

Attachments: TSB for Superduty front end shake - DRAFT.doc

Tammy - Attached is a proposal for the potential TSB. It basically copies the TSB 06-22-14 and adds section 3 regarding replacing the existing damper and bracket.

Hang on to it ,as I'm not sure where we are headed with this. It may come down to being only for fleet usage and not a TSB? Thanks…

TSB for Superduty front end sh...

ISSUE:

Some 2005-2007 F-Super Duty vehicles may exhibit front end shake immediately following front wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.) when traveling at speeds greater than 55 MPH. This condition occurs mostly on 4x4 gas engine vehicles.

ACTION:

This procedure will minimize the front end shake on impacts; however, there may be some remaining minor oscillation, which would be considered normal. Perform the following:

- Check/set tire pressure
- Check/Set Torque on noted front suspension and steering components.
- Install new bracket and steering damper assembly.
- Front Alignment and Reduce front caster
- Replacement of Redundant Control Steering Wheel (if equipped and vehicle built prior to October 8, 2004).

SERVICE PROCEDURE

Check/Set Tire Pressure

1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

NOTE: SETTING TIRE PRESSUE TO DOOR SPEC IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

Check/Set Front end Torques

2. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table # below).

Description	Torque Specification (lb-ft/ Nm)	
	Lb-ft	Nm
Damper nuts (4x2)	59	80
Damper-to-bracket (F-250, F-350 4x4)	26	35
Damper-to-drag link	67	91
Drag link-to-pitman arm nut	148	201
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts & bolts	129	175

Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

Replace steering damper and frame mounting bracket

3. Remove existing steering damper and frame attachment bracket. Replace steering damper and frame mounting bracket with steering damper P/N # xxxx –yyyyy - zzz and frame bracket P/N # xyz. Attach steering damper to frame bracket and torque nut to x ft.-lbs. Assemble bracket and shock assembly to the frame. Torque frame bracket nuts to x ft-lbs. Attach other end of shock to the steering drag link and torque to 67 ft-lbs (91 Nm). See figure X.

Front end alignment and reduce caster

4. Measure wheel alignment. Verify that Front Caster, Camber & Total Toe is within specification. Adjust as required. Refer to the Workshop Manual, Section 2004-00-1 for complete alignment specifications.

Reduce front caster

- Note the current front caster
- Use alignment adjustment bushings to Reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit.
- Use Alignment adjustment bushings:

  - **F-250/350 4x4 (use one of the below bushings):**
    5C3Z-3B440-CCC (0.5 degree bushing)
    5C3Z-3B440-DDD (0.75 Degree bushing)
    5C3Z-3B440-EEE (1.0 degree bushing)

  - **F-450/550 4x4 & 4x2(use one of the below bushings)**:
    - 5C3Z-3B440-HHH (0.5 Degree bushing)
    - 5C3Z-3B440-JJJ (0.75 Degree bushing)
    - 5C3Z-3B440-KKK (1.0 degree bushing)

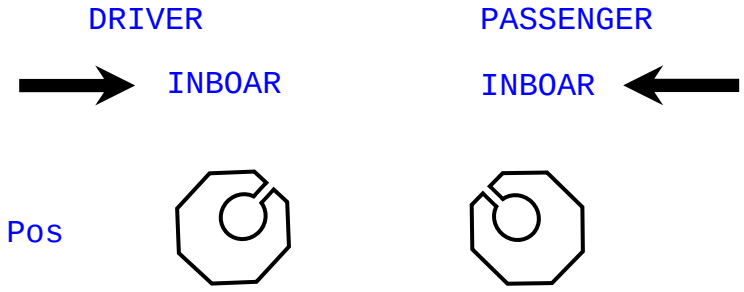
  - F-250/350 4x2**(use one of the below bushings)**:
    - 5C3Z-3B440-C = 0.5 degree busing
    - 5C3Z-3B440-D = 0.75 degree bushing
    - 5C3Z-3B440-E = 1.0 degree bushing

For All 4x4 and for F-450/550 4x2,

- Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward & inboard position (See below picture)

- This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed.
- The final caster & camber settings must be within the specification limits

TOP VIEW (L0OKING DOWN)



- Maintain the current front camber, cross-camber & cross-caster settings as close as you possibly can.
- Adding weight to the back lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster.

For All F-350/250 4x2,

- Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain that position while moving the caster position forward in the truck.
- The final caster & camber settings must be within the specification limits

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE 2005 OR 2006 SUPER DUTY F-SERIES WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

From: Hornick, Paul (P.A.)
Sent: Thursday, October 13, 2005 1:47 PM
To: OConnor, Tammy (T.A.); Hornick, Paul (P.A.)
Subject: TSB Part Approval Complete: [redacted] Steering Wheel Oscillation

TSB Part Approval Complete

*** DRAFT ***

This message is being sent on behalf of PHORNICK.
This is a courtesy copy of the following article to advise you this article has been approved for release by PS&L.

General Information

Last action taken (as of 10/13/2005 5:46:32 PM GMT): Approve for release
Comment: PARTS ARE AVAILABLE, OKAY TO PUBLISH

Author: TOCONNOR
Tracking Number: [redacted]
Author Tracking Number:
Title: Steering Wheel Oscillation
Article Type: TSB

TSB Issue:
Some 2005-2006 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion), immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on 4x4 vehicles, and is more evident on trucks equipped with a gas engine.
TSB Action:
Refer to the following Service Procedure to will minimize the steering wheel oscillations on impacts, however, there may be some remaining minor oscillation which would be considered normal.

Perform the following:

- Vehicle Inspection
- Evaluation Of Vehicle Prior To Repair
- Steering Gear Mesh Load Adjustment
- Front Alignment and Reduce front caster
- Replacement Of Redundant Control Steering Wheel (if equipped and vehicle built prior to 10/8/04)

TSB Service Procedure:
SERVICE PROCEDURE

Perform the following:

- Vehicle Inspection
- Evaluation Of Vehicle Prior To Repair
- Steering Gear Mesh Load Adjustment
- Front Alignment and Reduce front caster
- Replacement Of Redundant Control Steering Wheel (if equipped and vehicle built prior to 10/8/04)

VEHICLE INSPECTION
---

1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

NOTE: SETTING TIRE PRESSUE TO DOOR SPEC IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

2. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
a. If leaks are present, install a new steering damper and continue with this TSB.
b. If no leaks are present, continue with this TSB.

3. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table # below).

Description	Torque Specification (lb-ft/ Nm)	
	Lb-ft	Nm
Damper nuts (4x2)	59	80
Damper-to-bracket (F-250, F-350 4x4)	26	35
Damper-to-drag link	67	91
Drag link-to-pitman arm nut	148	201
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts & bolts	129	175
Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

EVALUATION OF VEHICLE PRIOR TO REPAIR
---
1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the severity of wheel oscillation.
3. During the road test, evaluate and note the steering wheel return-ability.
a. Turn steering wheel full lock to lock to confirm no binding.
b. Locate center, and then 45 degrees either side of center on the steering wheel.
c. Driving vehicle at 35 MPH (56 Km/h), on a dry and flat road surface, turn the wheel 45 degrees and release. Note the approximate angle that the steering wheel returns to BEFORE CLEAR VISION. Perform and record the angle for both left and right. It is normal if the angle differs slightly from left to right.

STEERING GEAR MESH LOAD ADJUSTMENT
---

1. Insert hex wrench into steering gear mesh load adjuster screw.
2. While holding the mesh load adjuster screw tight, back off lock nuts two full turns to allow free movement of the adjuster screw.
3. Carefully tighten adjuster screw until a slight increase in resistance is felt, then back off approximately 1/16th of a turn.
4. Hold the adjuster screw in place and tighten lock nut. Do not allow the adjustment screw to turn while tightening the locking nut down.
5. Road test vehicle and evaluate for improvement in steering wheel oscillations.
a. Confirm that there is no objectionable increase in steering efforts, especially at low speeds.
b. Verify that steering wheel return-ability is approximately the same as it was during the original evaluation

(within 5 degrees).
c. Turn steering wheel full lock to lock to confirm no binding.
6. Park the vehicle to let it cool down. Road test cold to confirm acceptable parking efforts and return-ability in cold condition. Repeat the mesh load adjustment if needed.

FRONT WHEEL ALIGNEMENT AND REDUCE FRONT CASTER

Measure wheel alignment. Verify that Front Caster, Camber & Total Toe is within specification. Adjust as required. Refer to the Workshop Manual, Section 2004-00-1 for complete alignment specifications.

REDUCE FRONT CASTER
· Note the current front caster
· Use alignment adjustment bushings to Reduce front caster by 0.5 to 1.0 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit.
Use Alignment adjustment bushings:

F-250/350 4x4:
· 5C3Z-3B440-CCC (0.5 degree bushing)
· 5C3Z-3B440-DDD (0.75 Degree bushing)
· 5C3Z-3B440-EEE (1.0 degree bushing)

F-450/550 4x4 & 4x2:

· 5C3Z-3B440-HHH (0.5 Degree bushing)
· 5C3Z-3B440-JJJ (0.75 Degree bushing)
· 5C3Z-3B440-KKK (1.0 degree bushing)

F-250/350 4x2:
· 5C3Z-3B440-C = 0.5 degree busing
· 5C3Z-3B440-D = 0.75 degree bushing
· 5C3Z-3B440-E = 1.0 degree bushing

For All 4x4 and for F-450/550 4x2,
· Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward & inboard position (See below picture)
· This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed.
· The final caster & camber settings must be within the specification limits.
· Maintain the current front camber, cross-camber & cross-caster settings as close as you possibly can.
· Adding weight behind the rear axle lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster.

For All F-350/250 4x2,
· Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain that position while moving the caster position forward in the truck.
· The final caster & camber settings must be within the specification limits

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE 2005 OR 2006 SUPER DUTY F-SERIES WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

Category: Service Fix (10 years - TSB Only)
Request Type: Non-QSF
Activity Code: 070 F-Series >8500#
Vehicle Applications:

Vehicle Lines	Model Year Start	Model Year End	Assembly Plants	Body Styles	Engine	Trans Axles	Build From	Build To
F-Super Duty (F-250 to 550)	2005	2006						

If SPECS Case, Select all Other Affected Publications:
Changes Needed in Other Pubs:
TSBs to Supersede: 04-26-01
SSMs to Supersede:
ISMs to Supersede:
Other application Articles:
Select the reason for republication: Concern Carryover to New Model
Procedure verified by CDSID: srepasky
Describe How The Procedure Was Verified: TSB was verified by Steve Repasky, and also by the FQEs.
Do you have access to a vehicle for time study? Yes
If Yes, contact for vehicle CDSID: toconnor
Are Illustrations Required? Yes
If Yes, Contact information for illustrations:
CDSID(Ford only): toconnor
Full Name: Tammy O'Connor
Phone:: 313/322-3824
Illustration Notes:

Trustmarks affected: Ford
Additional Trustmarks To Notify:
Article Distribution: WDMO, Canada, Mexico, United States
DTC Codes and OASIS Service Codes: , 303000, 304000, 306000, 703000, 703000, 703200, 703200, 703300, 703300, 703400, 703400

Causal Basic Part # or Finis Code:

Causal Part # or Finis Code	Warranty Condition Codes
3600	Chassis: 42

Calibrations List:

White Paper Numbers:

Parts Request Information

Are Parts Required? Yes
QSF Single Agenda Or Program FRC Date:
Parts List:

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
1	Existing	5C74-3F563-AB1D24	No	Not Applicable	STEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	
			U5MSK	5C7Z-3600-ABA			

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
2	Existing	5C74-3F563-AB35B8	No	Not Applicable	sTEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	
			U5MSK	5c7z-3600-CBA			

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
3	Existing	5C34-3E651-CE	No	Not Applicable	Damper	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	
			Q29AA	5C3Z-3E651-CA			

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
4	Existing	5C34-3E651-BE	No	Not Applicable	Damper	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	
				5C3Z-3E651-BA			

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
5	Existing	5C34-3E651-BG	No	Not Applicable	Damper	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	
				5C3Z-3E651-B			

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed

	Existing	5C34-3D004-NA	No	Not Applicable	.5 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
6	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	
				5C3Z-3B440-C			

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-CA	No	Not Applicable	.5 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
7	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	
				5C3Z-3B440-CCC			

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-PA	No	Not Applicable	.75 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
8	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	
				5C3Z-3B440-D			

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-DA	No	Not Applicable	-75 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
9	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	
				5C3Z-3B440-DDD			

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-RA	No	Not Applicable	1.0 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
10	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	
				5C3Z-3B440-E			

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed

11	Existing	5C34-3D004-EA	No	Not Applicable	1.0 DEGREE SHIM 4X4	1	100
	***Calculated Forecast**		***@WERS Notice #**		***@WERS Date Released**		***@Supplier Company**
	126						
	@1st Contact	**@1st Contact Phone**	**Source Code**	**Service #**	**Replaced SVC #**	**°Replaced Eng. #**	
				5C3Z-3B440-EEE			

12	***Type of Part**	***Eng #**	***Is This Part a Kit?**	***Existing Stock#**	***Part Name**	***Qty/veh.**	***Engineering Est. Qty. Needed**
	Existing	5C34-3D004-JA	No	Not Applicable	0.75 DEGREE SHIM	1	100
	***Calculated Forecast**		***@WERS Notice #**		***@WERS Date Released**		***@Supplier Company**
	126						
	@1st Contact	**@1st Contact Phone**	**Source Code**	**Service #**	**Replaced SVC #**	**°Replaced Eng. #**	
				5C3Z-3B440-JJJ			

13	***Type of Part**	***Eng #**	***Is This Part a Kit?**	***Existing Stock#**	***Part Name**	***Qty/veh.**	***Engineering Est. Qty. Needed**
	Existing	5C34-3D004-KA	No	Not Applicable	1.0 DEGREE SHIM	1	100
	***Calculated Forecast**		***@WERS Notice #**		***@WERS Date Released**		***@Supplier Company**
	126						
	@1st Contact	**@1st Contact Phone**	**Source Code**	**Service #**	**Replaced SVC #**	**°Replaced Eng. #**	
				5C3Z-3B440-KKK			

Parts catalog flag needed? No
Part number(s) that require flag:
Is geographic location significant? No
Special instructions/remarks: ARE PART NUMBER FOUR AND SEVEN IN THE PARTS LIST SECTION REQUIRED? IF SO PLEASE ADVISE SUPPLIER NAME AND CONTACT INFORMATION FOR PART NUMBER FOUR AND SEVEN IN THE PARTS LIST SECTION. THESE TWO PART NUMBERS ARE NOT ACTIVE.

Article Number:
BCM Number:

(End automated email)

From: Pinkerton, Donna (D.K.)

Sent: Monday, June 05, 2006 9:36 AM

To: Pinkerton, Donna (D.K.); OConnor, Tammy (T.A.); Pinkerton, Donna (D.K.)

Subject: TSB Part Approval Complete: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

TSB Part Approval Complete

*** DRAFT ***

This message is being sent on behalf of DPINKERT.
This is a courtesy copy of the following article to advise you this article has been approved for release by PS&L.

General Information

Last action taken (as of 6/5/2006 1:36:06 PM GMT): Approve for release
Comment:

Author: TOCONNOR
Tracking Number: [redacted]
Author Tracking Number: --
Title: 2005-2007 F-Super Duty - Steering Wheel Oscillation
Article Type: TSB

TSB Issue:
This article supersedes TSB 05-22-1 to update the vehicle model years.

Some 2005-2007 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion), immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on 4x4 vehicles, and is more evident on trucks equipped with a gas engine.

TSB Action:
Refer to the following Service Procedure to minimize the steering wheel oscillations on impacts, however, there may be some remaining minor oscillation which would be considered normal.

TSB Service Procedure:
SERVICE PROCEDURE

Perform the following:

- Vehicle Inspection
- Evaluation Of Vehicle Prior To Repair
- Steering Gear Mesh Load Adjustment
- Front Alignment and Reduce front caster
- Replacement Of Redundant Control Steering Wheel (if equipped and vehicle built prior to 10/8/2004)

VEHICLE INSPECTION
---

1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

NOTE: SETTING TIRE PRESSUE TO DOOR SPEC IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE.

2. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
a. If leaks are present, install a new steering damper (part number 5C3Z- 3E651-D) and continue with this TSB.
b. If no leaks are present, continue with this TSB.

3. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table # below).

Description	Torque Specification (lb-ft/ Nm)	
	Lb-ft	Nm
Damper nuts (4x2)	59	80
Damper-to-bracket (F-250, F-350 4x4)	26	35
Damper-to-drag link	67	91
Drag link-to-pitman arm nut	148	201
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts and bolts	129	175
Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE.

EVALUATION OF VEHICLE PRIOR TO REPAIR
---
1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the severity of wheel oscillation.
3. During the road test, evaluate and note the steering wheel return-ability.
a. Turn steering wheel full lock to lock to confirm no binding.
b. Locate center, and then 45 degrees either side of center on the steering wheel.
c. Driving vehicle at 35 MPH (56 Km/h), on a dry and flat road surface, turn the wheel 45 degrees and release. Note the approximate angle that the steering wheel returns to BEFORE CLEAR VISION. Perform and record the angle for both left and right. It is normal if the angle differs slightly from left to right.

STEERING GEAR MESH LOAD ADJUSTMENT
---

1. Insert hex wrench into steering gear mesh load adjuster screw.
2. While holding the mesh load adjuster screw tight, back off lock nuts two full turns to allow free movement of the adjuster screw.
3. Carefully tighten adjuster screw until a slight increase in resistance is felt, then back off approximately 1/16th of a turn.
4. Hold the adjuster screw in place and tighten lock nut. Do not allow the adjustment screw to turn while tightening the locking nut down.
5. Road test vehicle and evaluate for improvement in steering wheel oscillations.
a. Confirm that there is no objectionable increase in steering efforts, especially at low speeds.
b. Verify that steering wheel return-ability is approximately the same as it was during the original evaluation (within 5 degrees).
c. Turn steering wheel full lock to lock to confirm no binding.
6. Park the vehicle to let it cool down. Road test cold to confirm acceptable parking efforts and return-ability in cold condition. Repeat the mesh load adjustment if needed.

FRONT WHEEL ALIGNEMENT AND REDUCE FRONT CASTER

Measure wheel alignment. Verify that Front Caster, Camber and Total Toe is within specification. Adjust as required. Refer to the Workshop Manual, Section 204-00 for complete alignment specifications.

REDUCE FRONT CASTER

· Note the current front caster

· Use alignment adjustment bushings to Reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit.

Use Alignment adjustment bushings:

F-250/350 4x4:

· 5C3Z-3B440-CCC (0.5 degree bushing)
· 5C3Z-3B440-DDD (0.75 degree bushing)
· 5C3Z-3B440-EEE (1.0 degree bushing)

F-450/550 4x4 and 4x2:

· 5C3Z-3B440-HHH (0.5 degree bushing)
· 5C3Z-3B440-JJJ (0.75 degree bushing)
· 5C3Z-3B440-KKK (1.0 degree bushing)

F-250/350 4x2:

· 5C3Z-3B440-C = 0.5 degree busing
· 5C3Z-3B440-D = 0.75 degree bushing
· 5C3Z-3B440-E = 1.0 degree bushing

For All 4x4 and for F-450/550 4x2

· Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward and inboard position (See Figure 1)

· This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed

· The final caster and camber settings must be within the specification limits

· Maintain the current front camber, cross-camber and cross-caster settings as close as you possibly can

· Adding weight behind the rear axle lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster

· Inspect the ball joints for excessive play per the workshop manual, section 204-00.

For All F-350/250 4x2,

· Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain that position while moving the caster position forward in the truck

· The final caster and camber settings must be within the specification limits

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.

4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE 2005 OR 2006 SUPER DUTY F-SERIES WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

NOTE: THE WHEEL ALIGNMENT LABOR OPERATIONS MAY BE CLAIMED WITH THE REPAIR OPERATIONS IN THIS ARTICLE.

Category: Service Fix (10 years - TSB Only)
Request Type: Non-QSF
Activity Code: 070 F-Series >8500#
Vehicle Applications:

Vehicle Lines	Model Year Start	Model Year End	Assembly Plants	Body Styles	Engine	Trans Axles	Build From	Build To
F-Super Duty (F-250 to 550)	2005	2007						

If SPECS Case, Select all Other Affected Publications:
Changes Needed in Other Pubs:
TSBs to Supersede: 05-22-01
SSMs to Supersede:
ISMs to Supersede:
Other application Articles:
Select the reason for republication: Concern Carryover to New Model
Procedure verified by CDSID: srepasky
Describe How The Procedure Was Verified: TSB was verified by Steve Repasky, and also by the FQEs.
Do you have access to a vehicle for time study? Yes
If Yes, contact for vehicle CDSID: toconnor
Are Illustrations Required? Yes
If Yes, Contact information for illustrations:
CDSID(Ford only): toconnor
Full Name: Tammy O'Connor
Phone:: 313/322-3824
Illustration Notes: Please use same illustrations from TSB 05-22-01.

Trustmarks affected: Ford
Additional Trustmarks To Notify:
Article Distribution: WDMO, Canada, Mexico, United States
DTC Codes and OASIS Service Codes: , 303000, 304000, 306000, 703000, 703000, 703200, 703200, 703300, 703300, 703400, 703400

Causal Basic Part # or Finis Code:

Causal Part # or Finis Code	Warranty Condition Codes
3600	Chassis: 42

Calibrations List:

White Paper Numbers:

Parts Request Information

Are Parts Required? Yes
QSF Single Agenda Or Program FRC Date:
Parts List:

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
1	Existing	5C74-3F563-AB1D24	No	Not Applicable	STEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5C7Z-3600-ABA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
2	Existing	5C74-3F563-AB35B8	No	Not Applicable	sTEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5c7z-3600-CBA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
3	Existing	5C34-3E651-CE	No	Not Applicable	Damper	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			Q29AA	5C3Z-3E651-CA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
4	Existing	5C34-3E651-CH	No	Not Applicable	Damper Asy	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3E651-D			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
5	Existing	5C34-3E651-BG	No	Not Applicable	Damper	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3E651-B			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed

6	Existing	5C34-3D004-NA	No	Not Applicable	.5 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-C			No

7	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-CA	No	Not Applicable	.5 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-CCC			No

8	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-PA	No	Not Applicable	.75 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-D			No

9	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-DA	No	Not Applicable	-75 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-DDD			No

10	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-RA	No	Not Applicable	1.0 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-E			No

*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed

11	Existing	5C34-3D004-EA	No	Not Applicable	1.0 DEGREE SHIM 4X4	1	100
	***Calculated Forecast**		***@WERS Notice #**		***@WERS Date Released**		***@Supplier Company**
	126						
	@1st Contact	**@1st Contact Phone**	**Source Code**	**Service #**	**Replaced SVC #**	**°Replaced Eng. #**	**°Is Calibration Needed**
				5C3Z-3B440-EEE			No

12	***Type of Part**	***Eng #**	***Is This Part a Kit?**	***Existing Stock#**	***Part Name**	***Qty/veh.**	***Engineering Est. Qty. Needed**
	Existing	5C34-3D004-JA	No	Not Applicable	0.75 DEGREE SHIM	1	100
	***Calculated Forecast**		***@WERS Notice #**		***@WERS Date Released**		***@Supplier Company**
	126						
	@1st Contact	**@1st Contact Phone**	**Source Code**	**Service #**	**Replaced SVC #**	**°Replaced Eng. #**	**°Is Calibration Needed**
				5C3Z-3B440-JJJ			No

13	***Type of Part**	***Eng #**	***Is This Part a Kit?**	***Existing Stock#**	***Part Name**	***Qty/veh.**	***Engineering Est. Qty. Needed**
	Existing	5C34-3D004-KA	No	Not Applicable	1.0 DEGREE SHIM	1	100
	***Calculated Forecast**		***@WERS Notice #**		***@WERS Date Released**		***@Supplier Company**
	126						
	@1st Contact	**@1st Contact Phone**	**Source Code**	**Service #**	**Replaced SVC #**	**°Replaced Eng. #**	**°Is Calibration Needed**
				5C3Z-3B440-KKK			No

Parts catalog flag needed? No
Part number(s) that require flag:
Is geographic location significant? No
Special instructions/remarks:

Article Number:
BCM Number:

(End automated email)

From: O'Connor, Tammy (T.A.)

Sent: Wednesday, January 31, 2007 9:13 AM

To: Hale, Curt (B.C.); Gompper, Dan (D.B.); Hasselbring, D Blake (D.B.); Knapp, David (D.); Chiang, John (J.); Repasky, Steve (S.); O'Connor, Tammy (T.A.)

Subject: TSB Request for Input: [redacted] 2005-2007 F-Super Duty - Vibration/Hop at 40-48 MPH (8.0Hz)

TSB Request for Input

*** DRAFT ***

This message is being sent on behalf of TOCONNOR.

Please provide review and feedback for the article below. The person requesting this feedback may have provided further direction in the comment section below. Forward/Send any comments via email to the person who sent this email.

General Information

Last action taken (as of 1/31/2007 2:13:09 PM GMT):	Send for engineering input
Comment:	Please review and forward any suggested comments/changes to TOCONNOR before Friday, February 2nd at which time it will be submitted for publication.
Author:	TOCONNOR
Tracking Number:	[redacted]
Author Tracking Number:	--
Title:	2005-2007 F-Super Duty - Vibration/Hop at 40-48 MPH (8.0Hz)
Article Type:	TSB

TSB Issue:

Some 2005-2007 F-Super Duty vehicles with a long wheelbase (172", 158", or 156") may exhibit a vehicle vertical vibration, often described as "hopping", on smooth or coarse road surfaces in the 42 - 48 mph speed range. Although this behavior is considered normal for an O8500 truck, some customers may be sensitive to the concern.

NOTE: THE INSTALLATION OF THIS DAMPER WILL NOT IMPROVE RIDE ON SEGMENTED CONCRETE HIGHWAYS, STEERING WHEEL VIBRATION/SHIMMY, OR GENERAL HARSH RIDE CONCERNS.

To improve the vibration level of the vehicle, please refer to the following TSBs:

1. For steering wheel vibration/shimmy concerns, refer to TSB ??-??-??.
2. Runout Matching TSB 05-06-24, as the issue is sometimes excited by tire and wheel R1H or imbalance.

TSB Action:

To improve the 42 - 48 mph vertical vibration, mount the cage damper directly to the trailer hitch, per the Service Procedure below.

TSB Service Procedure:

Repair Procedure:

1. Remove the spare tire as outlined in the Workshop Manual, Section 204-04.
2. Temporarily remove plastic wiring connector (Figure 2).
3. Position the provided template (Figure 3) to the LH hitch side plate, aligning it with existing holes.
4. Mark location of three holes on hitch for drilling.

5. Drill 14.6 mm diameter mounting holes, 3 places.
6. Place the damper at correct mounting location.
7. Thread the bolts through the side plate into the weld nuts on the damper bracket, and torque to 62.5 N-m.
8. Re-install the plastic wiring connector.
9. Restow the spare tire and tighten to clutch override.

Category: Service Fix (10 years - TSB Only)
Request Type: Non-QSF
Would this make a good cost save business case? No
Activity Code: 070 F-Series >8500#
Vehicle Applications:

Vehicle Lines	Model Year Start	Model Year End	Assembly Plants	Body Styles	Engine	Trans Axles	Build From	Build To
F-Super Duty (F-250 to 550)	2005	2007						

If SPECS Case, Select all Other Affected Publications:
Changes Needed in Other Pubs:
TSBs to Supersede:
SSMs to Supersede:
ISMs to Supersede:
Other application Articles:
Select the reason for republication:
Procedure verified by CDSID:
Describe How The Procedure Was Verified:
Do you have access to a vehicle for time study? No
If Yes, contact for vehicle CDSID:
Labor Operations:

Are Illustrations Required? Yes
If Yes, Contact information for illustrations:
CDSID(Ford only): toconnor
Full Name: Tammy O'Connor
Phone: 313/322-3824
Illustration Notes:

Trustmarks affected: Ford
Additional Trustmarks To Notify:
Article Distribution: WDMO, Canada, Mexico, United States
DTC Codes and OASIS Service Codes: , 303000, 304000, 306000, 703000, 703100, 703200, 703300, 703400
Causal Basic Part # or Finis Code:

Calibrations List:

White Paper Numbers:

Parts Request Information

Are Parts Required? No

Article Number:
BCM Number:

(End automated email)

From: OConnor, Tammy (T.A.)
Sent: Thursday, November 29, 2007 3:35 PM
To: Hale, Curt (B.C.); Gompper, Dan (D.B.); Knapp, David (D.); OConnor, Tammy (T.A.)
Subject: TSB Request for Input: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation

TSB Request for Input

***** NOTE: The system generated the email. *****

This message is being sent on behalf of TOCONNOR.
Please provide review and feedback for the article below. The person requesting this feedback may have provided further direction in the comment section below. Forward/Send any comments via email to the person who sent this email.

General Information

Last action taken (as of 11/29/2007 8:34:51 PM GMT):	Send for engineering input
Comment:	Submitting for re-publication due to error in part number of nut.
Author:	TOCONNOR
Tracking Number:	[redacted]
Author Tracking Number:	--
Title:	2005-2007 F-Super Duty - Steering Wheel Oscillation
Article Type:	TSB

TSB Issue:
This article supersedes TSB 07-10-10 to update an incorrect part number.

Some 2005-2007 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion), immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on F-250/F-350 4X4 vehicles, and is more evident on trucks equipped with a gas engine.

TSB Action:
Refer to the Service Procedure to minimize the steering wheel oscillations on impacts, however, there may be some remaining minor oscillation which would be considered normal.

TSB Service Procedure:
SERVICE PROCEDURE SUMMARY

· Set tire pressure, road test vehicle to evaluate vehicle before proceeding with further repairs. If issue is resolved, do not proceed with the rest of this TSB
· If concern still exists, install a new steering damper (frame-mounted bracket and steering damper assembly on F-250/F-350 4X4 applications only). For F-250/F-350 4X2 and all F-450/F-550 applications, inspect damper for leaks and replace if necessary, torque steering and suspension fasteners per Workshop Manual
· If concern still exists, check front alignment and reduce front caster
· Replacement of redundant control steering wheel (if equipped and vehicle built prior to 10/8/2004).

VEHICLE INSPECTION - TIRE PRESSURE

---

1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

NOTE: SETTING TIRE PRESSURE TO DOOR SPECIFICATION IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE.

ROAD TEST

---

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the customer's issue.
3. If no issues are identified during the road test, do not proceed with the rest of this TSB.

STEERING DAMPER AND FASTENER TORQUE CHECK

Replace Steering Damper & Frame Mounting Bracket (F-250/F-350 4X4); Inspect

---

Steering Damper (F-250/F-350 4X2 & all F-450/F-550):

For F-250/F-350 4x4 applications:

Remove existing steering damper and frame attachment bracket. Replace steering damper and frame mounting bracket with steering damper and frame bracket. Attach steering damper to frame bracket (with bolt and nut) and torque bolt to 103 Nm. Assemble bracket and shock assembly to the frame with attachment bolt retainer pointing to rear of vehicle. Torque frame bracket nuts to 80 Nm. Attach other end of shock to the steering drag link and torque to 90 Nm. Install damper bolt cap to assure a friendly surface for the battery cable in case of casual contact.

Note: CHECK SURROUNDING ENVIRONMENT TO THE FRAME BRACKET AND DAMPER ASSEMBLY TO ENSURE THAT BATTERY CABLES ARE NOT CONTACTING BRACKET/BOLTS/DAMPER. ALSO, VERIFY THAT TRANSMISSION OIL COOLER LINES HAVE CLEARANCE TO THE DAMPER DUST SHIELD.

For F-250/F-350 4X2 & all F-450/F-550 applications only:

Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
If leaks are present, install a new steering damper.

STEERING/SUSPENSION FASTENER TORQUE CHECK (4X2 & 4X4)

---

1. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table below).

Description	Torque Specification (lb-ft/ Nm)	
	Lb-ft	Nm
Damper nuts (F-250/F-350 4X2)	59	80
Damper-to-bracket (F-250/F-350 4X4)	76	103
Damper-to-bracket (F-450, F-550 4X4)	25.8	35
Damper-to-drag link	66	90
Drag link-to-pitman arm nut	129	175
Inner tie-rod end nuts	85	115

Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts and bolts	129	175
Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE.

FRONT WHEEL ALIGNMENT AND REDUCE FRONT CASTER

NOTE: OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

Measure wheel alignment. Verify that Front Caster, Camber, and Total Toe are within specification. Adjust as required. Refer to the Workshop Manual, Section 204-00 for complete alignment specifications.

REDUCE FRONT CASTER
- Note the current front caster
- Use alignment adjustment bushings to reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit. Use alignment adjustment bushings

F-250/350 4X4:
- 5C3Z-3B440-CCC (0.5 degree bushing)
- 5C3Z-3B440-DDD (0.75 degree bushing)
- 5C3Z-3B440-EEE (1.0 degree bushing)

F-450/550 4X4 and 4X2:

- 5C3Z-3B440-HHH (0.5 degree bushing)
- 5C3Z-3B440-JJJ (0.75 degree bushing)
- 5C3Z-3B440-KKK (1.0 degree bushing)

F-250/350 4X2:
- 5C3Z-3B440-C = 0.5 degree busing
- 5C3Z-3B440-D = 0.75 degree bushing
- 5C3Z-3B440-E = 1.0 degree bushing

For All 4X4 and for F-450/550 4X2
- Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward and inboard position (See Figure 1)
- This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed
- The final caster and camber settings must be within the specification limits
- Maintain the current front camber, cross-camber and cross-caster settings as close as you possibly can
- Adding weight behind the rear axle lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster

For All F-250/350 4X2,

· Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain that position while moving the caster position forward in the truck

· The final caster and camber settings must be within the specification limits

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To
---
10/8/2004 Only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual, Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

NOTE: LABOR OPERATIONS IN THIS TSB CAN BE CLAIMED TOGETHER.

NOTE: OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

Category: Service Fix (10 years - TSB Only)
Request Type: Non-QSF
Would this make a good cost save business case? No
Activity Code: 070 F-Series >8500#
Vehicle Applications:

Vehicle Lines	Model Year Start	Model Year End	Assembly Plants	Body Styles	Engine	Trans Axles	Build From	Build To
F-Super Duty (F-250 to 550)	2005	2007						

If SPECS Case, Select all Other Affected Publications:
Changes Needed in Other Pubs:
TSBs to Supersede: 07-10-10
SSMs to Supersede:
ISMs to Supersede:
Other application Articles:
Select the reason for republication: Incorrect or Missing Parts
Procedure verified by CDSID: DGOMPPER
Describe How The Procedure Was Verified: TSB was verified by Dan Gompper.
Do you have access to a vehicle for time study? Yes
If Yes, contact for vehicle CDSID: toconnor
Labor Operations:

Are Illustrations Required? Yes
If Yes, Contact information for illustrations:
CDSID(Ford only): toconnor
Full Name: Tammy O'Connor

Phone: 313/322-3824
Illustration Notes: Please use same illustrations from TSB 06-15-1.

Trustmarks affected: Ford
Additional Trustmarks To Notify:
Article Distribution: WDMO, Canada, Mexico, United States
DTC Codes and OASIS Service Codes: , 303000, 304000, 306000, 703000, 703000, 703200, 703200, 703300, 703300, 703400, 703400

Causal Basic Part # or Finis Code:

Causal Part # or Finis Code	Warranty Condition Codes
3E651 FRONT TIR	Chassis: 42

Calibrations List:

White Paper Numbers:

Parts Request Information

Are Parts Required? Yes
QSF Single Agenda Or Program FRC Date:
Parts List:

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
1	Existing	5C74-3F563-AB1D24	No	Not Applicable	STEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5C7Z-3600-ABA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
2	Existing	5C74-3F563-AB35B8	No	Not Applicable	sTEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			U5MSK	5c7z-3600-CBA			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
3	Existing	5C34-3D004-NA	No	Not Applicable	.5 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-C			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed

	Existing	5C34-3D004-CA	No	Not Applicable	.5 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
4	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-CCC			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-PA	No	Not Applicable	.75 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
5	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-D			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-DA	No	Not Applicable	-75 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
6	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-DDD			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-RA	No	Not Applicable	1.0 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
7	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-E			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-EA	No	Not Applicable	1.0 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
8	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-EEE			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed

	Existing	5C34-3D004-JA	No	Not Applicable	0.75 DEGREE SHIM	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
9	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-JJJ			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-KA	No	Not Applicable	1.0 DEGREE SHIM	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
10	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				5C3Z-3B440-KKK			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	W520114-S441	No	Not Applicable	NUT - HEX - RH THREA	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
11	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			G229J	W520114-S441			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	W706196-S439	No	Not Applicable	Bolt	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
12	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			G229J	W706196-S439			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	7c343e652ac	No	Not Applicable	Bracket	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
13	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				7c3z3e652c			No

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	8C34-3E651-CB	No	Not Applicable	Damper 250/350 4X4	1	100

14	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			T407H	8C3Z-3E651-C			No

15	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3E651-CH	No	Not Applicable	Damper 450/550 ALL	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			Q29AA	5C3Z- 3E651-D			No

16	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3E651-BG	No	Not Applicable	Damper 250/350 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
			Q29AA	5C3Z- 3E651-B			No

17	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	W711570-S300	No	Not Applicable	CAP - SHOCK ABSORBER	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	°Is Calibration Needed
				W711570-S300			No

Parts catalog flag needed? No
Part number(s) that require flag:
Is geographic location significant? No
Special instructions/remarks: We want to have 4 causal part numbers as follows:
1. 3E651 = Steering Dampner
2. FRONT = Alignment
3. TIRE = Tire Pressure
4. NPF = No Problem Found

This TSB is being updated to include a revised steering damper.

Article Number:
BCM Number:

(End automated email)

From: Mayer, Paul (P.A.)
Sent: Friday, August 19, 2005 4:01 PM
To: Repasky, Steve (S.)
Subject: Update to TSB 04-26-1

Attachments: tsb04-26-01 gear meshload.pdf

Well you had a good idea to update the attached TSB

It makes this very easy. I just can't type it in to the pdf file (maybe we find a young guy who can figure this out)
But this e-mail with this attachment should suffice for a while

Under section titled "ACTION", we add

- Reduce front caster by 0.5 to 0.75 degrees.
- WE HAVE TO DECIDE IF WE WANT TO ADD SOMETHING ABOUT NEW TIRES HERE (i.e. different tires and/or tires with new treads)??? Based on the 265 BFG's in Quebec.

Under Section titled "SERVICE PROCEDURES", we add

- Under item 3 (Check torques) we add the radius arm to axle, radius arm to frame.
- A new item 4. Measure wheel alignment. Verify that Front Caster, Camber & Total Toe is within specification. Adjust to specification as required.

A new section Titled "REDUCE FRONT CASTER"

- Note the current front caster
- Use alignment adjustment bushings to Reduce front caster by 0.5 to 0.75 degrees (however, verify that the new caster setting is not below the lower specification limit).
- Use Alignment adjustment bushings:
  - 4x4: 5C3Z-3B440-DDD (0.75 Degree bushing) OR 5C3Z-3B440-EEE (1.0 degree bushing)
  - 4x2: 5C3Z-3B440-D (0.75 Degree bushing) OR 5C3Z-3B440-E (1.0 degree bushing)
- Maintain the current front camber, cross-camber & cross-caster settings as close as you possibly can.

tsb04-26-01 gear meshload.pdf

Regards
Paul Mayer
Truck Suspension and Systems Analysis
313-248-9202 Fax:313-317-2349

STEERING WHEEL OSCILLATION (BACK AND FORTH MOTION) AFTER RIDING OVER BUMPS/RUTS

TSB 04-26-1

FORD:
2005 F-Super Duty

ISSUE

Some 2005 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion) immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on 4x4 vehicles, equipped with steering wheels which have redundant controls (i.e. climate and radio controls).

ACTION

This procedure will minimize the steering wheel oscillations on impacts, however, there may be some remaining minor oscillation which would be considered normal.

Perform the following:

- Vehicle Inspection
- Evaluation Of Vehicle Prior To Repair
- Steering Gear Mesh Load Adjustment
- Replacement Of Redundant Control Steering Wheel (if equipped and vehicle built prior to 10/8/04)

SERVICE PROCEDURE

VEHICLE INSPECTION

1. Set tire pressures as indicated on the vehicle label (located on fuel door).
2. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
    a. If leaks are present, install a new steering damper and continue with this TSB.
    b. If no leaks are present, continue with this TSB.
3. Check torques on the steering system fasteners (damper nuts (4x2), damper-to-bracket (F-250, F-350 4x4), damper-to-drag link, drag link-to-pitman arm nut, inner tie-rod end nut, outer tie-rod end nuts, and track bar bracket-to-frame nuts & bolts), adjust to specification as required. Refer to Workshop Manual Section 211-03.

EVALUATION OF VEHICLE PRIOR TO REPAIR

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the severity of wheel oscillation.
3. During the road test, evaluate and note the steering wheel return-ability.
    a. Turn steering wheel full lock to lock to confirm no binding.
    b. Locate center, and then 45 degrees either side of center on the steering wheel.
    c. Driving vehicle at 35 MPH (56 Km/h), on a dry and flat road surface, turn the wheel 45 degrees and release. Note the approximate angle that the steering wheel returns to BEFORE CLEAR VISION. Perform and record the angle for both left and right. It is normal if the angle differs slightly from left to right.

STEERING GEAR MESH LOAD ADJUSTMENT

1. Insert hex wrench into steering gear mesh load adjuster screw.
2. While holding the mesh load adjuster screw tight, back off lock nuts two full turns to allow free movement of the adjuster screw.

NOTE: The information in Technical Service Bulletins is intended for use by trained, professional technicians with the knowledge, tools, and equipment to do the job properly and safely. It informs these technicians of conditions that may occur on some vehicles, or provides information that could assist in proper vehicle service. The procedures should not be performed by "do-it-yourselfers". Do not assume that a condition described affects your car or truck. Contact a Ford, Lincoln, or Mercury dealership to determine whether the Bulletin applies to your vehicle. Warranty Policy and Extended Service Plan documentation determine Warranty and/or Extended Service Plan coverage unless stated otherwise in the TSB article.The information in this Technical Service Bulletin (TSB) was current at the time of printing. Ford Motor Company reserves the right to supercede this information with updates.The most recent information is available through Ford Motor Company's on-line technical resources.

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3. Carefully tighten adjuster screw until a slight increase in resistance is felt, then back off approximately 1/16th of a turn.
4. Hold the adjuster screw in place and tighten lock nut. Do not allow the adjustment screw to turn while tightening the locking nut down.
5. Road test vehicle and evaluate for improvement in steering wheel oscillations.
   a. Confirm that there is no objectionable increase in steering efforts, especially at low speeds.
   b. Verify that steering wheel return-ability is approximately the same as it was during the original evaluation (within 5 degrees).
   c. Turn steering wheel full lock to lock to confirm no binding.
6. Park the vehicle to let it cool down. Road test cold to confirm acceptable parking efforts and return-ability in cold condition. Repeat the mesh load adjustment if needed.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 Only

NOTE
THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE
FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE 2005 SUPER DUTY F-SERIES WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

PART NUMBER	PART NAME
5C7Z-3600-ABA	Redundant Control Steering Wheel (King Ranch Tan/Peb)
5C7Z-3600-CBA	Redundant Control Steering Wheel (Charcoal Black)

WARRANTY STATUS: Eligible Under Provisions Of New Vehicle Limited Warranty Coverage

OPERATION	DESCRIPTION	TIME
042601A	F-Super Duty With Gas Engine: Perform Inspection/Evaluation, Adjust Mesh Load	2.2 Hrs.
042601A	F-Super Duty With 6.0L Diesel: Perform Inspection/Evaluation, Adjust Mesh Load	3.2 Hrs.
042601B	F-Super Duty With Gas Engine: Perform Inspection/Evaluation, Adjust Mesh Load, And Replace Damper	2.3 Hrs.
042601B	F-Super Duty With 6.0L Diesel: Perform Inspection/Evaluation, Adjust Mesh Load, And Replace Damper	3.2 Hrs.
042601C	F-Super Duty With Gas Engine: Perform Inspection/Evaluation, Adjust Mesh Load, And Replace Steering Wheel	2.8 Hrs.
042601C	F-Super Duty With 6.0L Diesel: Perform Inspection/Evaluation, Adjust Mesh Load, And Replace Steering Wheel	3.6 Hrs.
042601D	F-Super Duty With Gas Engine: Perform Inspection/Evaluation, Adjust Mesh Load, Replace Damper And Steering Wheel	2.9 Hrs.
042601D	F-Super Duty With 6.0L Diesel: Perform Inspection/Evaluation, Adjust Mesh Load, Replace Damper And Steering Wheel	3.7 Hrs.

DEALER CODING

BASIC PART NO.	CONDITION CODE
3600	42

From: O'Connor, Tammy (T.A.)
Sent: Monday, August 29, 2005 8:05 AM
To: McDonald, Joseph (J.)
Cc: Hale, Curt (B.C.)
Subject: Update to TSB 04-26-1

Attachments: tsb04-26-01.pdf

Joe:

Attached is a copy of the TSB 04-26-1 with the suggested revisions in the e-mail below. I have already received a copy of suggested changes from Alex Snider and Randy Corlew which I'm including.

Please send this out with the FQE Assignment I just submitted. Thanks.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thurs,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

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-----Original Message-----
From: Repasky, Steve (S.)
Sent: Friday, August 26, 2005 9:51 AM
To: O'Connor, Tammy (T.A.); Snider, Alex (A.)
Cc: Mayer, Paul (P.A.); Choe, Mark (M.J.); Hatt, Jeffrey (J.M.)
Subject: FW: Update to TSB 04-26-1

Tammy - Below is the proposed wording for a new TSB to address 2005 and 2006 Superduty vehicles with steering wheel oscillations. Please review and provide comment. Thanks...

-----Original Message-----
From: Mayer, Paul (P.A.)
Sent: Friday, August 19, 2005 4:01 PM
To: Repasky, Steve (S.)
Subject: Update to TSB 04-26-1

Under section titled "ACTION", we add

- Reduce front caster by 0.5 to 0.75 degrees.
- Remove the reference to replacement of redundant steering wheel and applicable sections related to the steering wheel replacement?
- If needed, mention if vehicle built prior to 10/8/2004 reference TSB 04-26-1

Under Section titled "SERVICE PROCEDURES", we add

- EMPHASIS on set tire pressure in **BOLD** letters. (Is it still located on fuel door in 2006?)
- Under item 3 (Check torques) we add the radius arm to axle**(Torque spec: 185 ft-lb),** radius arm to frame bracket**(Torques spec: 406 ft-lb). Radius arm frame bracket to frame bolts (Torque spec: 129 ft-lb)**
- A new item 4. Measure wheel alignment. Verify that Front Caster, Camber & Total Toe**(preferred spec .1degree toe in)** is within specification. Adjust to specification as required.

A new section Titled "REDUCE FRONT CASTER"

- Note the current front caster
- Use alignment adjustment bushings to Reduce front caster by 0.5 to 0.75 degrees (however, verify that the new caster setting is not below the lower specification limit).
- Use Alignment adjustment bushings:
  - 4x4: 5C3Z-3B440-DDD (0.75 Degree bushing) OR 5C3Z-3B440-EEE (1.0 degree bushing)
  - 4x2: 5C3Z-3B440-D (0.75 Degree bushing) OR 5C3Z-3B440-E (1.0 degree bushing)
- Maintain the current front camber, cross-camber & cross-caster settings as close as you possibly can.

Regards
Paul Mayer
Truck Suspension and Systems Analysis
313-248-9202 Fax:313-317-2349

-----Original Message-----
From: Snider, Alex (A.)
Sent: Friday, August 26, 2005 10:42 AM
To: Repasky, Steve (S.); Mayer, Paul (P.A.)
Cc: Choe, Mark (M.J.); Hatt, Jeffrey (J.M.); O'Connor, Tammy (T.A.)
Subject: RE: Update to TSB 04-26-1

Pual/Steve, I made a few additions to your changes. I hope you don't mind. I listed the torque spec and also added the left side frame bracket to frame bolts. We had some of the bracket bolts loose. (i.e. at 90-100 ft-lb rather than 129 ft-lb).

The other item I added was the toe spec. Paul at on time mentioned that the toe would be better set at .1 degree toe in. Has that changed?

"Accelerate Growth Through Customer Satisfaction and Loyalty"

Alex Snider
Ford Motor Company of Canada
Technical Service Support Specialist
Outlook ID: asnider@ford.com
Dial net: 853-1485
Outside #: 905-845-2511, ext: 1485

Tammy,
Most of it is good. I have a problem with reducing caster by only .5 to .75 degree? What is the caster is up around 4.00 degrees? At 3.00 degrees most F-Super Duty trucks in the right conditions will shimmy.
My suggestion is drop by .75 degrees on both sides and re-verify the customers concern. If the concern still is there it should reduce the shimmy concern. You can lower the caster to the lowest end of the spec. as long as the vehicle drives correctly and will not wear the tires.
Also we need to suggest to check the loading and conditions the shimmy will occur. Remember adding weight to the back raises the front end which in effect raises caster. In other words is this only occurring when loaded?
Randy Corlew - FSE - Pittsburgh

---

tsb04-26-01.pdf
(16 KB)

STEERING WHEEL OSCILLATION (BACK AND FORTH MOTION) AFTER RIDING OVER BUMPS/RUTS

TSB 04-26-1

FORD:
2005 F-Super Duty

ISSUE

Some 2005 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion) immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on 4x4 vehicles, equipped with steering wheels which have redundant controls (i.e. climate and radio controls).

ACTION

This procedure will minimize the steering wheel oscillations on impacts, however, there may be some remaining minor oscillation which would be considered normal.

Perform the following:

- Vehicle Inspection
- Evaluation Of Vehicle Prior To Repair
- Steering Gear Mesh Load Adjustment
- Replacement Of Redundant Control Steering Wheel (if equipped and vehicle built prior to 10/8/04)

SERVICE PROCEDURE

VEHICLE INSPECTION

1. Set tire pressures as indicated on the vehicle label (located on fuel door).
2. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
    a. If leaks are present, install a new steering damper and continue with this TSB.
    b. If no leaks are present, continue with this TSB.
3. Check torques on the steering system fasteners (damper nuts (4x2), damper-to-bracket (F-250, F-350 4x4), damper-to-drag link, drag link-to-pitman arm nut, inner tie-rod end nut, outer tie-rod end nuts, and track bar bracket-to-frame nuts & bolts), adjust to specification as required. Refer to Workshop Manual Section 211-03.

EVALUATION OF VEHICLE PRIOR TO REPAIR

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the severity of wheel oscillation.
3. During the road test, evaluate and note the steering wheel return-ability.
    a. Turn steering wheel full lock to lock to confirm no binding.
    b. Locate center, and then 45 degrees either side of center on the steering wheel.
    c. Driving vehicle at 35 MPH (56 Km/h), on a dry and flat road surface, turn the wheel 45 degrees and release. Note the approximate angle that the steering wheel returns to BEFORE CLEAR VISION. Perform and record the angle for both left and right. It is normal if the angle differs slightly from left to right.

STEERING GEAR MESH LOAD ADJUSTMENT

1. Insert hex wrench into steering gear mesh load adjuster screw.
2. While holding the mesh load adjuster screw tight, back off lock nuts two full turns to allow free movement of the adjuster screw.

NOTE: The information in Technical Service Bulletins is intended for use by trained, professional technicians with the knowledge, tools, and equipment to do the job properly and safely. It informs these technicians of conditions that may occur on some vehicles, or provides information that could assist in proper vehicle service. The procedures should not be performed by "do-it-yourselfers". Do not assume that a condition described affects your car or truck. Contact a Ford, Lincoln, or Mercury dealership to determine whether the Bulletin applies to your vehicle. Warranty Policy and Extended Service Plan documentation determine Warranty and/or Extended Service Plan coverage unless stated otherwise in the TSB article.The information in this Technical Service Bulletin (TSB) was current at the time of printing. Ford Motor Company reserves the right to supercede this information with updates.The most recent information is available through Ford Motor Company's on-line technical resources.

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3. Carefully tighten adjuster screw until a slight increase in resistance is felt, then back off approximately 1/16th of a turn.
4. Hold the adjuster screw in place and tighten lock nut. Do not allow the adjustment screw to turn while tightening the locking nut down.
5. Road test vehicle and evaluate for improvement in steering wheel oscillations.
   a. Confirm that there is no objectionable increase in steering efforts, especially at low speeds.
   b. Verify that steering wheel return-ability is approximately the same as it was during the original evaluation (within 5 degrees).
   c. Turn steering wheel full lock to lock to confirm no binding.
6. Park the vehicle to let it cool down. Road test cold to confirm acceptable parking efforts and return-ability in cold condition. Repeat the mesh load adjustment if needed.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 Only

NOTE
THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE
FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE 2005 SUPER DUTY F-SERIES WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

PART NUMBER	PART NAME
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5C7Z-3600-CBA	Redundant Control Steering Wheel (Charcoal Black)

WARRANTY STATUS: Eligible Under Provisions Of New Vehicle Limited Warranty Coverage

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042601B	F-Super Duty With 6.0L Diesel: Perform Inspection/Evaluation, Adjust Mesh Load, And Replace Damper	3.2 Hrs.
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042601C	F-Super Duty With 6.0L Diesel: Perform Inspection/Evaluation, Adjust Mesh Load, And Replace Steering Wheel	3.6 Hrs.
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042601D	F-Super Duty With 6.0L Diesel: Perform Inspection/Evaluation, Adjust Mesh Load, Replace Damper And Steering Wheel	3.7 Hrs.

DEALER CODING

BASIC PART NO.	CONDITION CODE
3600	42

From: Repasky, Steve (S.)
Sent: Thursday, January 04, 2007 9:10 AM
To: Carver, Lewis (L.H.)
Cc: O'Connor, Tammy (T.A.)
Subject: RE: SD Steering Oscillation - Any Further Engineering Information

The 2008 steering damper has corrected the vehicle concern in all of our testing. A package study is being completed and a revised TSB has been written and is being reviewed for content. Once we have the agreed wording, I will work with Tammy to get TSB approval.

Larry Asay is continuing to work with the fleets to get additional verification of vehicle response. Thanks...

From: Carver, Lewis (L.H.)
Sent: Thursday, January 04, 2007 8:53 AM
To: Repasky, Steve (S.)
Subject: RE: SD Steering Oscillation - Any Further Engineering Information

Thanks Steve,

Is a revised damper on the horizon?

From: Repasky, Steve (S.)
Sent: Thursday, January 04, 2007 6:50 AM
To: O'Connor, Tammy (T.A.); Asay, Larry (L.L.)
Cc: Carver, Lewis (L.H.); Hale, Curt (B.C.); Choe, Mark (M.J.)
Subject: RE: SD Steering Oscillation - Any Further Engineering Information

See attached Draft report. Some additional report revisions and report number will be added....

<< File: 2006 Surperduty Dealer visit-Hobbs_NM 2nd Visit_Dec2006.doc >>

From: O'Connor, Tammy (T.A.)
Sent: Thursday, January 04, 2007 8:27 AM
To: Repasky, Steve (S.); Asay, Larry (L.L.)
Cc: Carver, Lewis (L.H.); Hale, Curt (B.C.)
Subject: RE: SD Steering Oscillation - Any Further Engineering Information

Steve/Larry:

Any update would be appreciated, I have not heard anything since shortly before Christmas.

Tammy A. O'Connor
Product Concern Engineer
FCSD Service Engineering Operations
Super Duty F-Series
Body / Chassis / Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Hale, Curt (B.C.)
Sent: Thursday, January 04, 2007 8:09 AM
To: O'Connor, Tammy (T.A.)
Cc: Carver, Lewis (L.H.)
Subject: RE: SD Steering Oscillation - Any Further Engineering Information

Tammy,

Please respond to Lew.

From: Carver, Lewis (L.H.)
Sent: Thursday, January 04, 2007 8:08 AM
To: Hale, Curt (B.C.)
Subject: SD Steering Oscillation - Any Further Engineering Information

Curt,

We are in our Org Meeting going over issues, any update on findings from Hobbs, NM - Engineering visit to the Oil Patch on this issue?

From: Asay, Larry (L.L.)
Sent: Thursday, January 04, 2007 3:47 PM
To: O'Connor, Tammy (T.A.)
Subject: RE: SD Steering Oscillation - Any Further Engineering Information

I am in the process of getting the steering gear and damper off the truck in Hobbs NM sent back to Steve.

From: O'Connor, Tammy (T.A.)
Sent: Thursday, January 04, 2007 6:27 AM
To: Repasky, Steve (S.); Asay, Larry (L.L.)
Cc: Carver, Lewis (L.H.); Hale, Curt (B.C.)
Subject: RE: SD Steering Oscillation - Any Further Engineering Information

Steve/Larry:

Any update would be appreciated, I have not heard anything since shortly before Christmas.

Tammy A. O'Connor
Product Concern Engineer
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Super Duty F-Series
Body/Chassis/Electrical
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From: Hale, Curt (B.C.)
Sent: Thursday, January 04, 2007 8:09 AM
To: O'Connor, Tammy (T.A.)
Cc: Carver, Lewis (L.H.)
Subject: RE: SD Steering Oscillation - Any Further Engineering Information

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Please respond to Lew.

From: Carver, Lewis (L.H.)
Sent: Thursday, January 04, 2007 8:08 AM
To: Hale, Curt (B.C.)
Subject: SD Steering Oscillation - Any Further Engineering Information

Curt,

We are in our Org Meeting going over issues, any update on findings from Hobbs, NM - Engineering visit to the Oil Patch on this issue?

PE07-057

FORD

2-4-2008

APPENDIX I

Non-Confidential Engineering

From: Asay, Larry (L.L.)
Sent: Thursday, August 17, 2006 3:34 PM
To: O'Connor, Tammy (T.A.); Hale, Curt (B.C.)
Cc: Witthar, Mark (M.B.); Eveland, Marty (M.)
Subject: 05-06 F250-350 Front-End Shake

Attachments: Duke 2.txt; duke3.txt; Lews Damper.htm; RE Dual Steering Shock System.htm; Tire PN.rtf; DSCF0155.JPG; DSCF0156.JPG; DSCF0157.JPG; DSCF0158.JPG; DSCF0159.JPG; DSCF0160.JPG

Per your request here is the information. Attached are some E-Mails and pictures. I had some from Canada but you were CC'd on those already. Between My Sales Counterpart and myself we decided it would not be good to go back and ask the fleets for real specific information as it would stir up their concerns even worse. Here are the Fleets with the concerns that I call on and their Ford Truck Count:

Duke- 2200 - Oil Field Services
Charter - 1800
Barrick - Large Gold Mine in Nevada - 100% Ford. Their Cortez Mine is now going to GM because of this issue.
Newmont-Large Gold Mine in Nevada
Kinder Morgan-Pipeline Company
Noble Energy-Oil Field Services
Kerr Mcgee-Oil Field Services - This issue along with the dirt in the fuel tank and canister has them looking at GM

The concerns exist in Extended and Crew Cabs. Gas Engine 5.4L are the most common. Tire Pressure at the high end of the spec will resolve the issue.

Duke 2.txt (6 KB)

duke3.txt (7 KB)

Lews Damper.htm (10 KB)

RE Dual Steering Shock System....

Tire PN.rtf (5 KB)

DSCF0155.JPG (111 KB)

DSCF0156.JPG (104 KB)

DSCF0157.JPG (106 KB)

DSCF0158.JPG (90 KB)

DSCF0159.JPG (118 KB)

DSCF0160.JPG (115 KB)

From: Asay, Larry (L.L.)
Sent: Wednesday, July 05, 2006 8:01 AM
To: 'Adam R Boothroyd'
Subject: RE: Trucks

So if we go down there again they can show us a truck that will shake that has the tire pressure up and the steering stabilizer in good shape?

-----Original Message-----
From: Adam R Boothroyd [mailto:arboothroyd@duke-energy.com]
Sent: Monday, July 03, 2006 11:09 AM
To: Asay, Larry (L.L.)
Subject: Fw: Trucks

Larry - the problem with the front end shake is surfacing again in Hobbs. We need to get the problem resolved as soon as possible. The safety manager is suggesting that we return the trucks to Permian Ford until the problem is resolved. Not good.

Adam Boothroyd
Duke Energy Field Services
Fleet Manager
(303) 605 - 2188 Office
(303) 605 - 2233 Fax

----- Forwarded by Adam R Boothroyd/Denver/PEFS/PEC on 07/03/2006 11:07 AM -----

Dena Ragsdale/Field/PEFS/PEC 06/27/2006 09:35 AM	Adam R Boothroyd/Denver/PEFS/PEC@PEC	To cc Subject
	Trucks	

The air pressure was running what the manufacturer suggest. The truck was for Kevin Duff. He has 5500 miles on it. He almost had a head on collision due to this problem with the trucks.

From: Asay, Larry (L.L.)
Sent: Wednesday, July 05, 2006 8:34 AM
To: Meier, Kenneth (K.W.)
Subject: FW: Trucks

Ken call me on this one and let's talk.

-----Original Message-----
From: Adam R Boothroyd [mailto:arboothroyd@duke-energy.com]
Sent: Wednesday, July 05, 2006 8:04 AM
To: Asay, Larry (L.L.)
Subject: RE: Trucks

Absolutely. I've talked to Travis again and the aftermarket stabilizer they had put on is now leaking and shot.

Adam Boothroyd
Duke Energy Field Services
Fleet Manager
(303) 605 - 2188 Office

(303) 605 - 2233 Fax

"Asay, Larry \(L.L.\)" <lasay@ford.com> 07/05/2006 08:01 AM

To: "Adam R Boothroyd" <arboothroyd@duke-energy.com>
cc:
Subject: RE: Trucks

So if we go down there again they can show us a truck that will shake that has the tire pressure up and the steering stabilizer in good shape?

-----Original Message-----
From: Adam R Boothroyd [mailto:arboothroyd@duke-energy.com]
Sent: Monday, July 03, 2006 11:09 AM
To: Asay, Larry (L.L.)
Subject: Fw: Trucks

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Adam Boothroyd
Duke Energy Field Services
Fleet Manager
(303) 605 - 2188 Office
(303) 887 - 1173 Cellular
(303) 605 - 2233 Fax

----- Forwarded by Adam R Boothroyd/Denver/PEFS/PEC on 07/03/2006 11:07 AM -----

Dena Ragsdale/Field/PEFS/PEC
06/27/2006 09:35 AM

To: Adam R Boothroyd/Denver/PEFS/PEC@PEC
cc:
Subject: Trucks

The air pressure was running what the manufacturer suggest. The truck was for Kevin Duff. He has 5500 miles on it. He almost had a head on collision due to this problem with the trucks.

From: Carver, Lewis (L.H.)
Sent: Friday, July 21, 2006 1:07 PM
To: Dionisi, Anthony (A.J.); Asay, Larry (L.L.)
Subject: FW: Report Summary for the CQIS Report#6GTFP010
Here is some feedback, this seems to be a pretty good fix, but not without it's downside. Larry just curious how the folks at the mines made out with this issue. They should be getting these completed at Gallagher. PS: The PN for the 4X4 Damper is:

5C3Z-3E651-CA

Let me know if you need some help with the mines.

Thanks,

-----Original Message-----
From: Carver, Lewis (L.H.)
Sent: Friday, July 21, 2006 1:03 PM
To: Carver, Lewis (L.H.)
Subject: Report Summary for the CQIS Report#[redacted]

Attachments : 0

Report# :	[redacted]			**Received:**	07/20/2006
CCRG/EPRC:		**Reviewed Status:**		**Date:**	
Vehicle:	2005,F250 4X4,CRW CAB,SRW ,1FTSW21585E[redacted]			**Build Date:**	03/08/2005
Odometer :	17,000 M	**Engine:**	MOD 5.4 3V	**Calibration:**	5F714N0A
Transmission:	5R110W	**Axle:**		**A/C:**	YES
Dealer:	USA 03030 Henry Day Ford, Inc.			**Phone#:**	(801) 973-7030
City:	Salt Lake City	**State:**	Utah	**Country :**	USA
Originator:					
Symptom:	3 03 3 53 CHASS.,STRG/HANDLING ,VIB./SHIMMY,OVER BUMPS				
Status:					
VFG:	V89 RIDE & HANDLING				
Additional Symptom:	SHIMMY IN WHEEL AT HIGH SPEED				
Fix:	**Causal Component :**				
Condition Code:					

Region Code: MT **Region Name:** Mountain West

Comments :

TECH/C 07/20/2006 05:42PM LEWIS CARVER(FSE) MSS - FCSD - REG - DENVER

SM CALLED TO REVIEW THE ISSUE OF HARD STEERING SHIMMY SET OFF BY ROAD

CONDITIONS. I ADVISED OF TSB 06-15-01 AND THE CHANGES MADE IN THE TSB

TO ADDRESS. DIRECTED TO REPLACE THE STEERING SHOCK, RESET ALIGNMENT AS

DIRECTED, GET 4-HEAD READINGS DOCUMENTED, TIRES SHOULD BE CLOSELY

INSPECTED, AND MUST BE SET TO PROPER PRESSURE. SM SAID CUSTOMER HAD

DESTROYED A STEERING GEAR FOLLOWING THE LAST REPAIR, AND IS NOW A

CUSTOMER RELATIONS ISSUE WITH THE DEALER OWNER INVOLVED. SUGGESTED

ALSO A VERY CLOSE CHECK OR REPLACEMENT OF STEERING LINKAGE GIVEN THE

SITUATION. TEST DRIVE TO VERIFY.

ADD-ON 07/21/2006 02:59PM LEWIS CARVER(FSE) MSS - FCSD - REG - DENVER

SM (RICK) CALLED TO REVIEW, HE SAID THEY DID THE TSB, BACKING OFF THE

CASTER, AND PUTTING ON THE REVISED HIGHER RETURN EFFORT DAMPER. SAID

HE DROVE OVER SAME AREA AND WAS NOT ABLE TO GET A SHIMMY OUT OF THE

VEHICLE, FEELS THIS RESOLVED THE ISSUE. CUSTOMOER IS TAKING ON

BUSINESS TO REXBURG. WILL FOLLOW WHEN THEY RETURN. HE ALSO STATED

HE NOTED SOME SLOW RETURN TO CENTER AFTER TURNS, EXPECTED WITH THESE

CHANGES IN ANGLES. WILL PROVIDE FEEDBACK TO ENGINEERING.

From: Hicks, Farley (GoldStrike) [FHicks@barrick.com]
Sent: Wednesday, August 02, 2006 1:33 PM
To: Asay, Larry (L.L.)
Subject: RE: Dual Steering Shock System

Larry,
Here are the pictures. The cost of the mod is about $250.
Thanks,
Farley

From: Asay, Larry (L.L.) [mailto:lasay@ford.com]
Sent: Tuesday, August 01, 2006 8:58 AM
To: Hicks, Farley (GoldStrike)
Subject: Dual Steering Shock System

Can you give me some more details of the dual shock system that you were installing on some of your trucks?

From: Salmon, Douglas (D.J.)
Sent: Wednesday, July 26, 2006 11:53 AM
To: Asay, Larry (L.L.)
Subject: Tire PN

Larry,

Here is the tire PN 9004-78589.

I have dealer perform TSB 05-22-1 (which may have been updated) and if TSB was unsuccessful to replace tires with above PN.

Tire is one size larger and has a stronger side wall. I am sorry but I do not recall particulars (brand, type, etc.)

Good luck and good to see you in Vegas.

Sincerely,

Douglas J. Salmon

Commercial Area Field Manager

Ford Commercial Vehicle Operations

Northeast Market

[redacted] fax 978-922-3946

From: Meier, Kenneth (K.W.)
Sent: Monday, August 07, 2006 8:31 AM
To: O'Connor, Tammy (T.A.)
Subject: 6.0L Steering Osciliation

Tammy,

Here are some 6.0L 4X4 with what appears to be steering oscilation issues.

TECHNICAL SERVICE BULLETINS **06-15-01** 2005-2007 F-SUPER DUTY - STEERING WHEEL OSCILLATION
SOME 2005-2007 F-SUPER DUTY VEHICLES MAY EXHIBIT STEERING WHEEL OSCILLATION (BACK AND FORTH MOTION), IMMEDIATELY FOLLOWING FRONT OR REAR WHEEL IMPACTS (I.E. PAVEMENT JOINTS, FROST HEAVES, ROUGH ROADS, ETC.). STEERING WHEEL MOTION IS TYPICALLY IN THE RANGE OF ± 5 DEGREES, AND TYPICALLY DAMPENS OUT IN FEWER THAN FIVE OSCILLATIONS. THIS CONDITION OCCURS MOSTLY ON 4X4 VEHICLES, AND IS MORE EVIDENT ON TRUCKS EQUIPPED WITH A GAS ENGINE. REFER TO THE TSB SERVICE PROCEDURE TO MINIMIZE THE STEERING WHEEL OSCILLATIONS ON IMPACTS, HOWEVER, THERE MAY BE SOME REMAINING MINOR OSCILLATION WHICH WOULD BE CONSIDERED NORMAL.
See TSB for complete details
EFFECTIVE DATE: 07/17/2006

From: Cramer, Rodney K. (Rod) [mailto:CramerRK@bv.com]
Sent: Thursday, August 03, 2006 2:13 PM
To: Goodman, Jim (J.W.); dhammond5@ford.com
Cc: CHUCK BARNETT
Subject: 05- 06 Ford F350 front end issues
Importance: High

Good day everyone,

In a conference call this morning our Baltimore warehouse manager Jim Blake brought up a troubling issue. The trucks in that region are having some major issues with the front ends on the 05 & 06 Ford F350 Crew cab pickup trucks. I would like to know if there is any word within Ford regarding this concern. Jim Blake can be called at (410)760-2421.

The problem: While driving at speeds of 65 to 70 mph if a driver hits a bump in the road the truck suddenly starts violently shaking uncontrollably. Control is regained when the vehicle is slowed to a speed of 30 to 35 mph. This has the potential of a major accident if the driver cannot regain control of the vehicle. Is there front coil problems?

The fix: The dealership where these trucks are being taken is called Bob Bell Ford in MD. I am unable at this point to track down the cause or the fix to the repairs being done with this issue because my service writer is on vacation. The dealership phone is (410) 766 3606. Below are the VIN numbers to all of our 05 & 06 Ford F350's. As you can see we have bunch. If there is a major issue growing here we need to know about it before some gets hurt or killed. Please advise.

Ford F350 P/U

2006 - 1FDWW37P36E[redacted]

2006 - 1FDWW37P16E[redacted]
2006 - 1FDWW37PX6E[redacted]
2006 - 1FDWW37P86E[redacted]
2006 - 1FDWW37P66E[redacted]
2006 - 1FDWW37P46E[redacted]
2006 - 1FDWW37P06E[redacted]
2006 - 1FDWW37P96E[redacted]
2006 - 1FDWW31P66E[redacted]
2006 - 1FTWW31P46E[redacted]
2006 - 1FTWW31P26E[redacted]
2006 - 1FTWW31P06E[redacted]
2006 - 1FTWW31P96E[redacted]
2006 - 1FDWW37P56E[redacted]
2006 - 1FTWW31P06E[redacted]
2006 - 1FTWW31P26E[redacted]
2006 - 1FTWW31P06E[redacted]
2006 - 1FTWW31P26E[redacted]
2006 - 1FTWW31P96E[redacted]
2006 - 1FTWW31P96E[redacted]

2005 - Ford F350
2005 - 1FDWW37P05E[redacted]
2005 - 1FDWW37P95E[redacted]
2005 - 1FDWW37P75E[redacted]
2005 - 1FDWW37P55E[redacted]
2005 - 1FTWW31P55E[redacted]
2005 - 1FTWW31P35E[redacted]
2005 - 1FTWW31P45E[redacted]
2005 - 1FTWW31P25E[redacted]
2005 - 1FTWW31P05E[redacted]

Thank you.

Rod Cramer
Fleet Manager
913 458 7380
Black & Veatch
Building a World of Difference™

Ken Meier
Commercial Vehicle Operations
Commercial Service Manager
Regent Court Building
16800 Executive Pl. Dr.
Dearborn, MI 48126-4207
Phone: 313-317-1867 Fax: 313-248-3481

From: TSB (.Mac) [brownart_tsb@mac.com]
Sent: Friday, June 30, 2006 1:22 PM
To: OConnor, Tammy (T.A.)
Subject: [redacted]

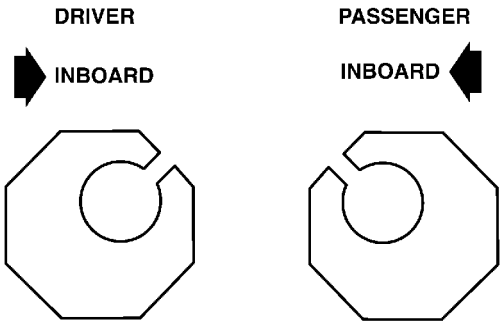
Attachments: TB8348A.tif

TB8348A.tif (223 KB)

Hi Tammy,

I see that [redacted] is in the workbox. Please let me know if the attached art is approved for this article.

Thank you!
Jody Puskarz
313.768.5846



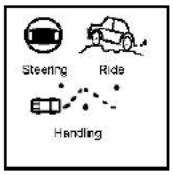
TB-8348-A

From: Nagata, David (D.)
Sent: Wednesday, August 01, 2007 3:09 PM
To: Arnold, Bruce (B.C.)
Cc: Mayer, Paul (P.A.)
Subject: 2005-2007 F-Super Duty Steering Wheel Oscillation

Bruce, this is a follow-up to my voice message. I am meeting with Barrick Mining early tomorrow morning and the issue is the Steering Wheel Oscillation on the 2005 -07 Super Duty. I know there is TSB 07-10-10 out but even with the TSB performed, the tire inflation, tire size, mud on tires, weight distribution will all still affect the steering more than the 2004 model. Their question is why would Ford not change back to the old style suspension if there is this potential steering safety issue.

I need to know what the suspension changes were, and what the benefits of the changes are to the ride and handling of the vehicles. Any information would be greatly appreciated. Thanks.

Dave Nagata
Fleet Zone Manager
Co, Ut, Id, Mt, Wy
Parts of Nv, Sd, Nd
FCSD Los Angeles Hub
[redacted]



Ford Motor Company

BUILT Ford TOUGH

BoF Vehicle Dynamics Development Report

Subject: Visit to Duke Energy Fields Services Superduty Fleet – Midland, Tx. and Hobbs, N.M. – Nov. 8-9, 2006.

Objective:

To conduct an engineering review of a portion of the Duke Energy Field Services Superduty fleet (Six 2005/06 4x4 vehicles) for a steering wheel oscillation and front end shake concern.

Participants: Ford Motor Company

November 8 -9

Steve Repasky, Supervisor Vehicle Dynamics BoF OPD Vehicle Eng.
Mike Wegienka, Vehicle Dynamics Engineer
Alan Fass, Field Technical Specialist for the Region
Larry Asay, Western Region Fleet manager

Duke Energy Field Services

Duke Energy representatives from Safety/Asset management/Field services

Background:

Duke Energy Field Services is a Ford fleet customer with numerous (~200+) 05/06 Superduty vehicles of various configurations. Drivers have expressed a concern on 4x4 vehicles with steering wheel oscillatory motion and front end shake when travelling over local roads/highways in the ordinary course of their job. Vehicle speeds observed ranged from 55+ MPH on local roads to 75+ MPH on the highway.

The FCSD Western Region fleet manager (Larry Asay) contacted Ford FCSD/Vehicle Dynamics requesting an engineering review of the subject Superduty vehicles. The noted participants visited Duke Energy Field Services in Midland, TX. (Nov. 8) and Hobbs, N.M. (Nov. 9) to review (6) of the concern vehicles. Vehicle specifications and comments are noted on Attachment I.

The customer indicated the vehicle concern still existed even after the published Superduty TSB 06-22-14 had been completed. Part of the TSB emphasizes the need to maintain tire pressures at the specified vehicle placard pressures. Our reviews began with a check of initial tire pressure and setting as required to specified placard tire pressures. After setting to placard tire pressures, we asked the customer to demonstrate the noted concern on "typical" road surfaces. The team of Ford and Duke Energy personnel drove (4) of the (6) vehicles and were unable to clearly demonstrate the complaint condition.

Various vehicle checks and adjustments according to the TSB were completed over the 2 day period. As noted on Attachment I, some vehicle modifications such as adding an additional leaf(s) to the rear springs, use of aftermarket road and steering shocks and non-OE tire replacements had been made.

Prior to our departure, one of the Duke Energy Fields Services drivers who had noted the original concern, evaluated his vehicle after the TSB check and adjustments were made and indicated complete satisfaction with the condition of his vehicle i.e. unable to duplicate the concern. When contacted by Alan Fass on Nov. 14, the driver expressed continued satisfaction with his vehicle.

Conclusion Summary:

The following conclusions were reached by the participants:

1) Full and complete application of the TSB does correct the vehicle shake concern. We were unable to duplicate the expressed concern at vehicle placard specified tire pressures.

2) Maintenance of specified placard tire pressure is difficult to maintain for the fleet operators in the normal course of their field work.

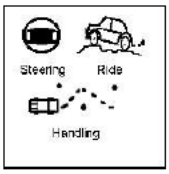
3) Agreement to work with the fleets through FCSD to investigate steering damper improvements to improve robustness of the system to front end shake.

Recommendation:

Continue to work with FCSD and customer Fleet representatives to evaluate any proposed steering damper improvements.

Continue to emphasize to Fleet operators the importance of proper tire inflation pressures.

Date Issued:	**11/17/2006**	**Report Number: 27.60-VD-P131.06-120**		
Prepared by:	**Reviewed by:**	**Circulation:**		
Steve Repasky Mike Wegienka	Manager Mark Choe	P. Frantzeskakis D. Ufford	T. O'Connor L. Asay	A. Fass



Ford Motor Company

BUILT Ford TOUGH

BoF Vehicle Dynamics Development Report

Subject: 2nd Visit to Duke Energy Fields Services Superduty Fleet – Hobbs, N.M. – Dec. 15, 2006.

Objective:

To conduct an engineering review of a specific vehicle (VIN E[redacted]) of the Duke Energy Field Services Superduty fleet located in Hobbs, N.M. for a steering wheel oscillation and front end shake concern.

Participants: Ford Motor Company

December 15 Steve Repasky, Supervisor Vehicle Dynamics BoF OPD Vehicle Eng.

Duke Energy Field Services

Duke Energy representative – Perry Drenen

Background:

Duke Energy Field Services is a Ford fleet customer with numerous (~200+) 05/06 Superduty vehicles of various configurations. Drivers have expressed a concern on 4x4 vehicles with steering wheel oscillatory motion and front end shake when travelling over local roads/highways in the ordinary course of their job. Vehicle speeds observed ranged from 55+ MPH on local roads to 75+ MPH on the highway.

The FCSD Western Region fleet manager (Larry Asay) contacted Ford FCSD/Vehicle Dynamics requesting an engineering review of the subject Superduty vehicles. A team of Ford people first visited Duke Energy Field Services in Midland, TX. (Nov. 8) and Hobbs, N.M. (Nov. 9) to review (6) of the concern vehicles. Installation of a 2008 MY steering damper on one of the vehicles was completed at this time.

Summary:

The customer indicated the vehicle concern was still exhibited on a particular road surface with the vehicle that had the 08 damper installed. I travelled to Hobbs, N.M. to evaluate the particular vehicle noted on the specific road surface. My review began with a verification of initial tire pressure (at placard) and condition of the steering damper (no visible damage). After the vehicle review, I asked the customer to demonstrate the noted concern on the particular road surface.

We travelled approx. 35 miles on highway 180 to highway 176. Between mile markers 1 and 2 the vehicle was driven several times over the particular surface. It was a slight undulating asphalt paved surface for ~ 35 - 45 feet followed by a slightly "tighter" (but still 3-5 ft. long) washboard surface (~ 35 ft. long) at various speeds and brake applications. At speeds less than 65 MPH the front end disturbance was very minor and of short duration. At speeds > 70 up to 75 without brake applications, the concern was noted. It was of short duration and moderate to high intensity. With low to moderate brake application at 65 MPH+, the concern was again of short duration but high amplitude. I then drove the vehicle back to the home office on "typical" roads at various speeds to determine if the concern could be duplicated on other road surfaces (it was not).

I left the Duke Energy home office indicating our desire to have the vehicle serviced at the local Ford dealership for an alignment check and replacement of the steering gear and steering damper for engineering review in Dearborn.

Conclusion Summary:

The following conclusions were reached:

1) Vehicle shake concern was confirmed on this particular vehicle on the specific surface under the noted driving conditions.

2) Agreement to continue work with the fleets through FCSD to investigate effectiveness of the 2008 steering damper for improvements in robustness of the vehicle to front end shake.

Date Issued:	**12/19/2006**	**Report Number: 27.60-VD-P131.06-xxx**		
Prepared by:	**Reviewed by:**	**Circulation:**		
Steve Repasky	Manager Mark Choe	P. Frantzeskakis D. Ufford	T. O'Connor L. Asay	A. Fass

From: Repasky, Steve (S.)
Sent: Monday, May 23, 2005 7:24 PM
To: Choe, Mark (M.J.); Reyes, Pete (P.D.)
Cc: Mayer, Donna (D.P.); Teeley, Nicole (N.)
Subject: Call-Backs on Harsh Ride complaints from GQRS

I called 5 respondants this evening to gather additional data regarding the Superduty GQRS survey box marked for "Harsh Ride". Only 2 of the contacts have the concern vehicle configuration i.e. 142" SRW 4x4 and 172" SRW 4x4. The other 3 customers have either the 156" (1) or 158" vehicles (2). A summary follows:

- I left my office number with (2) of the customers to call me back
- (1) customer was gone for the week and I was to call next week
- (1) customer was busy and wanted a call back on Tuesday
- (1) customer was available to answer questions.

A summary of the one customers comments:

- Ford made a one ton truck out of a 3/4 ton truck and "it rides like a truck".
- Customer removed "Overloads" from his vehicle. I believe he removed the aux spring from the rear springs.
- The standard tire pressure is way too high at 65-70 and would bounce you out of the truck. He did lower his pressures to improve Ride.
- Customer added ~ 400 # of cement bags in the rear of the vehicle and it still rides a little rough, but better
- Most of his driving is on paved roads in town at speeds 20 - ~ 45 MPH
- He pulls a "camper" - a 30' 5th wheel trailer
- "Even with the trailer the rear only sets down about 1 inch"
- He had the steering gear replaced for "front end chatter" and is satisfied with the repair
- When asked his satisfaction level with his vehicle he responded, "Best looking Rough riding truck around". It is a King Ranch model.

From: Yurowski, Daniel (D.E.)
Sent: Monday, May 01, 2006 4:32 PM
To: O'Connor, Tammy (T.A.)
Subject: Concerns on F Series Trucks.

Hey Tammy,

I have two vehicles that are giving me a run for my money.
The first one is a is a Gas vehicle Cqis Report Number 6EAET014. It shakes violently after a succession of bumps unloaded. The dealer has done the enhanced alignment procedure and updated shocks to no avail. Please let me know what my next step is.
the second one has the exhaust pop/creek when heating up and cooling down. CQIS Report # [redacted]
Please call me at (732)685-1323 if you have any suggestions.

From: Eveland, Marty (M.)
Sent: Tuesday, August 15, 2006 7:25 PM
To: OConnor, Tammy (T.A.)
Cc: Eveland, Marty (M.)
Subject: CQIS Report# [redacted]

Tammy: Here is the diesel truck I E-mailed about the other day. I have included alignment info. This truck isn't as bad as the gas trucks as the shaking only lasts about 1 second, but I still consider it excessive as it is a bit scary when it happens.

Attachments : 0

Report# :	[redacted]NHL			**Received:**	08/09/2006
CCRG/EPRC:		**Reviewed Status:**		**Date:**	
Vehicle:	2005,F350 4X4,CRWCAB ,DRW ,1FTWW33P55E[redacted]			**Build Date:**	12/18/2004
Odometer :	29,143 M	**Engine:**	6.0L DI	**Calibration:**	
Transmission:	5R110W DSL	**Axle:**		**A/C:**	YES
Dealer:	USA 03130 Phil Long Ford of Denver, LLC			**Phone#:**	(303) 932-2277
City:	Denver	**State:**	Colorado	**Country :**	USA

Originator: STEVEN LAMBERTSON
Symptom: 3 03 3 51 CHASS.,STRG/HANDLING ,VIB./SHIMMY,ACCEL/DECEL
Status:
VFG: V89 RIDE & HANDLING
Additional Symptom: OSCILATION
Fix: **Causal Component :**
Condition Code:

Hotliner: PBISHO17 **Phone:** 313 248-8233 **Regn Cd:** MT Mountain West
Engineering: **Phone:** **TAR:**
Dlr Contact: STEVEN LAMBERTSON **Phone:** 303 932-2277 **Title Cde:** T

Comments :

REPAIR 08/09/2006 12:56PM PAUL BISHOP MSS - FCSD - TECH SVC HOTLINE
TECH STATES THAT THE VEHICLE HAS A OSCILATION IN THE STEERING WHEEL

WHILE DRIVING. TECH STATES THAT THE LEFT FRONT TIRE HAS ORR MARKED ON

IT. TECH SEEKING ANY KNOWN CONCERNS.

RECOMM 08/09/2006 12:56PM PAUL BISHOP MSS - FCSD - TECH SVC HOTLINE

TSB 06-15-01 THIS PROCEDURE WILL MINIMIZE STEERING WHEEL OSCILLATIONS

ON IMPACTS, HOWEVER, THERE MAY BE SOME REMAINING MINOR OSCILLATION

WHICH WOULD BE CONSIDERED NORMAL ADVISE TECH TO GET THE REAR TIRES

AND RIMS BACK TO THE REAR. ADVISE TECH TO FOLLOW THE TSB. TECH TO

PERFORM FURTHER DIAGNOSIS.

ADD-ON 08/15/2006 07:22PM MARTY EVELAND(FSE) MSS - FCSD - REG - DENVER

ROAD TESTED VEHICLE WITH SERVICE MANAGER. TSB HAS BEEN PERFORMED TO

NO AVAIL. DEALER HAS REPLACED STEERING DAMPER ALSO TO NO AVAIL.

ALIGNMENT SET AS FOLLOWS: LEFT FRONT CAMBER=.6; CASTER=2.8;

TOE=.15...RIGHT FRONT CAMBER=.7; CASTER=2.8; TOE=.14. VERIFIED

STEERING WHEEL/FRONT SUSPENSION SHAKE WHEN DRIVING OVER CERTAIN BUMPS

IN THE ROAD. THE CONCERN WAS WORST WHEN TRAVELING ON FREEWAY

INTERCHANGES WHEN THE FRONT WHEELS HIT THE SEAM IN THE ROAD FROM

GROUND TO BRIDGE. THE SHAKING GENERALLY LASTS ONE FULL SECOND. ADVISE

DEALER NO FURTHER REPAIRS ARE AVAILABLE FROM THE FACTORY AT THIS

TIME. ADVISE DEALER I WOULD MAKE A REPORT OF THE CONCERN.

From: Yurowski, Daniel (D.E.)
Sent: Monday, February 13, 2006 3:51 PM
To: O'Connor, Tammy (T.A.)
Subject: CQIS Reports [redacted] & [redacted]

I need a little help with this one.
The vehicle starts pulsating through the floor at 60 MPH,then by 65 MPH starts hopping over the road surface.
The dealer has performed the hotline recommendations in Report #[redacted] to no avail.
The vehicle feels as though it has too much spring to it.
I can be reached at (732)685-1323.
Thanks in advance for your assistance.

From: Hasselbring, D Blake (D.B.)
Sent: Wednesday, October 11, 2006 2:08 PM
To: O'Connor, Tammy (T.A.)
Subject: CQIS Reports

Hi Tammy,

I spoke to Wes Malik today about some Superduty Vibration CQIS reports he had worked on. I was hoping to look them up before the Friday meeting but realized I don't have access to do this.

Steve Repasky mentioned you might be able to pull the reports. Is this something you could do?

The CQIS numbers are:
6I1GA001
6FECY006
6FPD9009

D. Blake Hasselbring
Truck Vehicle Dynamics
Road NVH / VVWD
Dearborn Office: EVB 2E-M02
[redacted]
Email: dhasselb@ford.com

[redacted]

[redacted]

Ford File Numbe[redacted]

CUSTOMER & VEHICLE INFORMATION

SECTION B INTERVIEW - VEHICLE HISTORY

Name, address & phone number of person(s) being interviewed. Always interview the driver when possible):
PIONEER NATURAL RESOURCES WOULD NOT GIVE OUT THE DRIVERS NAME.

Vehicle modifications or after-market equipment? YesX No☐ (e.g. , hand controls for disabled persons, radio, phone, tires, wheels, trailer hitch/wiring, trailer brake controller, hydraulic lines, alarm system, floor mats, etc.) ***Item(s)***, date installed, and by whom (name, phone):
MAXXIS MUDDER BUCKSHOT TIRES, LT265/70R17, 8 PLY, OWNER INSTALLED.

Prior collision damage? Yes☐ NoX (when, where, extent, repaired by, etc.):
NONE APPARENT

Describe ***existing vehicle conditions*** at time of incident (warning lights "On", strange odors, etc.):
UNKNOWN

Repairs outside of warranty (what, when, by whom?):
N/A

Ford File Number [redacted]

CUSTOMER & VEHICLE INFORMATION

SECTION C INTERVIEW - INCIDENT DETAILS

If the vehicle is a truck, or a car trailering cargo at the time of the incident, estimated total weight of cargo and trailer N/A (lbs) Load description (What was being transported):
PICK UP BED WAS FULL OF EQUIPMENT

Driver's physical description from interview, drivers license or police report (height, disabilities, medical conditions or medications etc.):
UNKNOWN

Drive Length this trip: Hrs. UNKNOWN Minutes UNKNOWN Length of trip in miles: UNKNOWN
Estimated vehicle speed: UNKNOWNMPH Source of estimate: N/A Posted speed: 75MPH

Exact incident location: (Provide the highway name or route number, nearest cross street, and the direction the vehicle was traveling.)
EXIT #10 @ EL MORO EXIT

Weather conditions and visibility:
CLEAR

Approx. ambient temperature 65°F. Any physical visual obstructions? (Signs, Trees, Bushes)
NONE

Surface where incident occurred: (Place an "X" in the appropriate boxes)

Concrete	Asphalt X	Gravel	Dirt	Other

Other, Please Describe:

Surface Conditions: (Place an "X" in all that apply)

Smooth X	Rough	Pot Holes	Wavy	Other
Wet	Dry X	Snow	Icy	Other

Other, Please Describe:

Ford File Number [redacted]

CUSTOMER & VEHICLE INFORMATION

Normally brake with Right or Left foot? UNKNOWN Observe and Photograph the brake pedal pad for evidence of wear.

Describe brake operation (pedal feel, brake pull or grab, vibration, normal, etc.):
UNKNOWN

Any warning lights "On", high/low gauge readings, or messages displayed (☐Y/☐N): Describe:
UNKNOWN

Electrical systems operation (normal/other?):
UNKNOWN

Mark an "X" before all electrical systems/devices which were "On" or "Cycled" immediately prior to the incident (if unknown, enter "U"): ALL FOUND IN THE 'OFF' POSITION.

- ☐ Cruise Control
- ☐ Traction Control Switch "On
- ☐ Low Beam Headlights
- ☐ High Beam Headlights
- ☐ Daytime Running Lights
- ☐ Fog Lamps
- ☐ Turn Signal
- ☐ Hazard Flashers
- ☐ Map Lights, Ft ☐ Rr ☐
- ☐ Other Interior Lights
- ☐ Windshield Wipers
- ☐ Air Conditioner
- ☐ Heater
- ☐ Windshield Defogger
- ☐ Windshield Defroster
- ☐ Rear Window Defroster
- ☐ Outside Mirror Heater
- ☐ Driver Seat Heater
- ☐ Passenger Seat Heater
- ☐ Auxiliary Power Outlet
- ☐ Radio, Tape/CD Player
- ☐ Auxiliary CD Player
- ☐ Telephone
- ☐ CB Radio
- ☐ Power Window Controls
- ☐ Power Mirror Controls
- ☐ Power Seat Controls
- ☐ Power Sun Roof Controls
- ☐ Cigar Lighter
- ☐ Other ____

Steering operation (power assist, pulls, loose, etc.?):
UNKNOWN

Powertrain (any engine miss, sluggish, surge, stall, loss of power or speed, etc.?):
UNKNOWN

Any unusual noises (bang, pop, tick, grinding, metallic, roar, etc.)? From where?
UNKNOWN

Describe any unusual odors or smoke (from where, color, intensity, etc.):
UNKNOWN

(Note: Attach additional pages as necessary to fully describe conditions present or those not covered by this report).

Measure and record the driver's seat positioned during the incident? (Measure distance from brake pedal rest position to front of seat): 18inches.

Ford File Numbe[redacted]

CUSTOMER & VEHICLE INFORMATION

Describe the steering wheel (tilt) position during the incident:

Tilt steering wheel position? ☐ Not equipped Position: Low ☐ Mid ☐ High X

SECTION D DAMAGE TO OTHER VEHICLE OR PROPERTY

Vehicle(s)
Was another vehicle(s) involved? Yes ☐ No X (If No, skip to property damage)
If yes, list the Year, Make and Model____
Owner name and address ____
Driver name and address ____
Vehicle speed estimate: ____M.P.H. Estimate by whom? ____
Describe damage ____

Property
Was property (other than vehicles) damaged? Yes ☐ No X (If No, skip to Section E)
Owner of property ____
Address/Location of property ____
Describe the damaged property (sign, fence, building, etc.) ____
Describe the nature and extent of damage (including measurements)

Ford File Number [redacted]

CUSTOMER & VEHICLE INFORMATION

SECTION E DRIVER DESCRIPTION OF THE INCIDENT

Provide a signed and dated statement written by the driver. If one is not available, provide the driver's description of the incident as provided to you: (Mr. Smith states...)
THIS STATEMENT WAS ASKED FOR. I LEFT ELTON SMITH, SENIOR PRODUCTION SUPERINTENDENT MY FAX # AND ASKED THAT HE SEND DRIVERS STATEMENT TO ME. TO THIS DATE, I HAVE NOT RECEIVED

SECTION F POLICE / FIRE INCIDENT REPORT

***Police** Report Filed:(XY/☐N) Report Number UNKNOWN Copy Attached (☐Y/XN)
Municipality/Agency and Location COLORADO HIGHWAY PATROL, TRINIDAD CO.

***Fire** Report Filed:(☐Y/XN) Report Number_____ Copy Attached (☐Y/☐N)
Municipality/Agency and Location____

*You should always attempt to obtain an official copy of the report from the agency involved. If the agency will not release a copy to you, please indicate below.

SECTION G RECALL CAMPAIGNS

Is the vehicle subject to any recall campaigns? ☐ Yes X No (If no, skip to next section)

If yes, identify all campaigns and whether the inspection/modification has been completed.

Recall Number	Description	Completed?	
		☐ Yes	☐ No
		☐ Yes	☐ No
		☐ Yes	☐ No
		☐ Yes	☐ No

Ford File Numbe [redacted]

CUSTOMER & VEHICLE INFORMATION

SECTION H VEHICLE SYSTEM INSPECTION REPORT

Attach the completed Vehicle System Inspection form(s) to this Customer and Vehicle Information section. The vehicle system inspection forms are provided as a guide to conduct a methodical inspection of the various vehicle systems. Complete the appropriate vehicle system inspection(s) based on the specific inspection request. Take color photographs as necessary to clearly show the areas of concern and your observations.

Provide information only for the vehicle identified in the inspection request and for the allegation made by the claimant. Based on the allegations, it may be appropriate to complete more than one vehicle system inspection form.

Attached to the Customer & Vehicle Information is a vehicle inspection(s) for:
(Check all that apply)

☐ Automatic Transmission/Transaxle (4)	☐ Inadvertent Vehicle Movement (5)
☐ Brake/ABS System (5)	☐ Restraint Systems (6)
☐ Fire (5)	☐ Seats (5)
☐ Hood Latches (4)	X Steering, Suspension Tires & Wheels (4)

( ) indicates the number of pages in the report

SECTION I PHOTOGRAPHS

Attach a Photograph Description sheet to this report describing subject matter of any photographs taken while investigating this matter.

How many photographs were taken?46By whom?JAMES M. ELGAN

To whom were these photographs supplied? ALMA TAYLOR

SECTION J INCIDENT SITE INSPECTION

Incident site inspection performed?	X Yes (attached)	☐ No (not performed)

An incident site inspection should be performed to gather information on physical evidence left by the vehicle(s) involved. The information should reflect only measurements, reference points and location of physical evidence and should not attempt to show the path of the vehicle(s) prior to and after the incident.

Ford Motor Company
Preliminary Vehicle Inspection Report

Ford File Numbe[redacted]

STEERING, SUSPENSION, AXLE, TIRE AND WHEEL SYSTEMS

SECTION A PHOTOGRAPHIC EVIDENCE

Photographs document the physical evidence via color photographs and written observations. By recording your observations in the following section you will be following a methodical inspection format.

Take color photographs of the following:

A. Exterior:
- Front
- Right side
- Rear
- Left side
- Vehicle Identification Number (VIN)

B. Chassis:
- Struts/Shock Absorbers
- Springs
- Control arms
- Ball joints
- Steering knuckles
- Axle Assembly
- Wheels and tires

C. Interior:
- Instrument panel and odometer
- Steering column and flex joint

D. Underhood:
- Power steering pump, lines, hoses and connections
- Steering linkage
- Steering gear/Rack & Pinion
- Intermediate shaft and coupling

E. Underbody:
- Steering linkage
- Exhaust
- Transmission and engine oil pans
- Fuel tank

Ford File Number [redacted]

STEERING, SUSPENSION, AXLE, TIRE AND WHEEL SYSTEMS

F. General:

Any after-market installation
Any modifications

Comments:
DIFFERENT TIRES HAVE REPLACED THE OEM BRAND.

SECTION B VEHICLE INSPECTION - CHASSIS

List the physical location where the inspection was conducted.

List the name, title and company affiliation of anyone who was present during your inspection. (Obtain and attach a business card if possible.)
ROBERT HODNETT, ELTO J. SMITH, JIM YOUNG, ALL OF PIONEER NATURAL RESOURCES. ROY KEISER, OF PHIL LONG FORD, TRINIDAD CO.

Use that area below to identify what you inspected and your observations during the inspection. Identify any tests performed and the results of those tests. Describe anything that is not operating properly and how it relates to the allegation. Identify any non-production component. (Shocks/struts, wheels and tires, etc.)

Component/System	Observation
Power steering pump, pulley, drive belt, hoses and connections	ALL IN PLACE AND TIGHT IN THEIR MOUNTING'S.
Steering gear/Rack &Pinion	N/A
Steering linkage	DOES NOT APPEAR BENT OR BROKEN IN ANY WAY.
Steering knuckle(s)	STEERING KNUCKLES APPEAR IN GOOD WORKING ORDER.
Suspension components: Left front	APPEARS GOOD
Left front	APPEARS GOOD
Right front	APPEARS GOOD
Right rear	APPEARS GOOD

Steering column, intermediate shaft and coupling	APPEARS GOOD, IS NOT COLLAPSED.
Frame deformation	NONE APPARENT
Under carriage damage	NONE APPARENT
Automatic levelling system	N/A

SECTION C TIRES AND WHEELS

TIRE PLACARD DATA:

Record the following data: (located on driver's door edge or inside the deck lid)

	SIZE	PRESSURE (psi)	PRESSURE AT MAXIMUM LOAD (psi)
TIRES	LT265/70R17	75	75
SPARE TIRE	LT265/70R17	75	75

TIRE IDENTIFICATION and WEAR:

	TIRE BRAND (Goodyear)	TIRE TYPE (Eagle GA)	TIRE SIZE (P205/70R15)	PRESSURE (psi)	TREAD DEPTH (average across width of tire) 32nds of inch
LF	MAXXIS	MUDDER BUCKSHOT	LT265/70R17	40	6
RF	MAXXIS	MUDDER BUCKSHOT	LT265/70R17	42	6
LR	MAXXIS	MUDDER BUCKSHOT	LT265/70R17	30	6
RR	MAXXIS	MUDDER BUCKSHOT	LT265/70R17	41	6

Describe any damage to tires, such as scrapes, marks due to impact, cuts, prior repairs, tread separation, flat spots, belt or ply exposure, etc. Record all wheel and tire identification information if the allegation relates to these components.

Left Front
ONE SCRAPE ON RIM, NO TIRE DAMAGE

** INBOUND NOTIFICATION : FAX RECEIVED SUCCESSFULLY **

TIME RECEIVED	REMOTE CSID	DURATION	PAGES	STATUS
Thu, 14 Jun 2007 16:43:18 -0400	9284250734	376	13	Received

06/14/2007 13:57 9284250734 COBRE VALLEY MOTORS PAGE 01

Alma Wyatt
888 683 9899
13 pages

Ford Motor Company
Preliminary Vehicle Inspection Report

Ford File Numbe[redacted]

CUSTOMER & VEHICLE INFORMATION

Year 2007	Make FORD	Model F-250	VIN 1FTSX21547E[redacted]	
Owner Name [redacted]			Address [redacted]	
City DENVER	State CO	Zip [redacted]	Home Telephone	Business Telephone [redacted]
Driver Name NOT AVAILABLE			Address NOT AVAILABLE	
City N/A	State N/A	Zip N/A	Home Telephone N/A	Business Telephone N/A
Attorney Name (X Claimant not represented)			Address	
City	State		Zip Code	Telephone

Inspection Location SWETKY BROS., TRINIDAD CO	Inspection Date 06/07/2007	Current Mileage 12171,01010.1
Date of Incident 06/03/2007	Time of Incident 06:40 AM X PM☐	Repair Estimate (Attach Written, If avail.) $ TOTAL LOSS
Inspected By JAMES M. ELGAN	Organization EAA	Telephone 928-701-4242
Inspectors Signature JAMES M. ELGAN		Date 6-11-2007

SECTION A INSPECTION SUMMARY

Following the vehicle inspection, summarize the facts and your observations (Do not include any opinions, speculation or conclusions.) Attach a copy of the appropriate Vehicle Inspection Report(s) for the allegation(s) being investigated.

IN INSPECTING THIS VEHICLE, I FOUND NO STEERING OR SUSPENSION PARTS BROKEN OR BENT IN ANY WAY. I DID FIND THAT THE POWER STEERING RESERVOIR DIPSTICK WAS LOW ON FLUID AND THERE WAS NO EVIDENCE THAT IT LEAKED OUT DURING THE ROLLOVER INCIDENT. TIRES ON THIS VEHICLE ARE A REPLACEMENT BRAND, MAXXIS AND ARE A 8 PLY RATING. THIS VEHICLE CALLS FOR 75 PSI IN THE TIRES. TIRE PRESSURE'S FOUND WERE LF, 40 PSI. LR, 30 PSI. RF, 42 PSI. RR, 41 PSI.

Right Front ONE SCRAPE ON RIM, NO TIRE DAMAGE.
Left Rear ONE SCRAPE ON RIM, NO TIRE DAMAGE. TIRE IS VERY UNDER INFLATED.
Right Rear ONE SMALL SCRAPE ON RIM, NO TIRE DAMAGE.

SECTION D ROAD TEST

Describe the weather conditions at the time of your road test.

Temperature °F	Conditions ☐ Clear ☐ Cloudy ☐ Rain ☐ Snow ☐ Fog

Road Test:		
	Time: _____ Minutes	Length: _____ Miles

Observations of steering, suspension, tires and wheels system performance while driving: (steering feel, responsiveness, assist, pull and lead) List all tests performed, how many times was the test repeated, results of the test and were the results consistent.

UNABLE TO PERFORM.

Ford Motor Company
Preliminary Vehicle Inspection Report

Ford File Number [redacted]

INCIDENT SITE INSPECTION

Complete this Incident Site Inspection Report and attach it to the Customer and Vehicle Information Report.

Incident site inspection should be conducted if the reported event recently occurred and may reveal tire or impact marks to provide an indication of the path of the vehicle(s) involved. When possible, have the driver go to the scene with you to identify the exact location and marks.

Observe and record key facts of the incident scene showing:

1. All impact points and marks on the road surface, other terrain and property at the site, including measurements from a clearly defined reference points. A clear photograph is required to identify each impact point.
2. Tire marks including measurements from a clearly defined reference point. Measurements must be taken with a measuring tape. Include a photograph clearly defining the reference point in relation to the accident site
3. Include photographs of any other property damage and describe key observations.

Opinions and speculative statements are not to be included under any circumstances. Only clearly define observations and key facts are to be included in your site inspection. Do not diagram the incident site in which you attempt to identify the starting point of vehicles, the path of the vehicle(s), vehicle attitude (pitch, roll, yaw), vehicle speed and direction.

It is appropriate to include a diagram of the incident site to help the reader understand your observations, photographs, measurements and reference points. These must be factually based, supported with photographs and measurements, and not speculative or based on opinion.

If possible, request the driver to create a diagram of the incident as they remember it. Be sure to have the person sign and date the document.

Ford File Numbe [redacted]

INCIDENT SITE INSPECTION

Record your facts and observations:
TIRE MARKS AT THE SCENE [INTERSTATE HIGHWAY 25, SOUTHBOUND] INDICATE THE VEHICLE CHANGED FROM RIGHT LANE TO LEFT, THEN STEERED SHARPLY TO THE RIGHT 85 FEET AND IMPACTED THE GUARD RAIL AT THIS POINT. VEHICLE TRAVELED DOWN GUARD RAIL TO IT'S END AND THEN ROLLED OVER, COMING TO REST ON ALL FOUR TIRES. VEHICLE THEN TRAVELED ANOTHER 55' IN THE GRASSY AREA, STOPPING NEXT TO THE ACCESS ROAD.

(Use additional pages as necessary)

Accident site Inspection (Continued)
EL MORO EXIT #10, NORTH OF TRINIDAD CO.

Subject: F-Super Duty Steering Shimmy - Fleet Concern
Location: Teleconference

Start: Thu 8/3/2006 3:00 PM
End: Thu 8/3/2006 4:00 PM
Show Time As: Tentative

Recurrence: (none)

Meeting Status: Not yet responded

Required Attendees: O'Connor, Tammy (T.A.); Eveland, Marty (M.); Asay, Larry (L.L.); Repasky, Steve (S.); O'Connor, Tammy (T.A.)
Optional Attendees: Hale, Curt (B.C.)

Fordnet Dial-In:	**323-6737**
Toll-free Dial-In:	**1-800-367-3840**
International Dial-In:	**1-313-323-6737**
Passcode:	**18153671#**

Please let me know if this time is not good for you. This meeting is to discuss the e-mail below.

From: O'Connor, Tammy (T.A.)
Sent: Wednesday, July 26, 2006 6:52 AM
To: Eveland, Marty (M.)
Cc: Repasky, Steve (S.); Hale, Curt (B.C.)
Subject: RE: Steering/suspension shake

Marty - I will set up a conference call with Steve Repasky so you can better understand the issue, and work with the fleet to resolve the issue.

However -- tire pressure must be set to door spec - and we will not make any other recommendation.

That being said, we will work with you and the fleet to reduce the concern as much as possible with the tire pressure set to specification.

Marty - what is a good time for you to have a conference call? We'll try to work around your schedule if possible.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Hale, Curt (B.C.)
Sent: Wednesday, July 26, 2006 8:27 AM
To: O'Connor, Tammy (T.A.)
Cc: Eveland, Marty (M.); Repasky, Steve (S.)
Subject: FW: Steering/suspension shake

Tammy,

Please work with Marty and Steve to see if there is anything we can do for this fleet.

B. Curtis Hale
FCSD PVT Program Manager
F-Super Duty & Excursion

From: Eveland, Marty (M.)
Sent: Tuesday, July 25, 2006 10:23 PM
To: Hale, Curt (B.C.)
Cc: Asay, Larry (L.L.)
Subject: Steering/suspension shake

Hi Curt:

I understand you were very involved with the steering/suspension shake on the 2005+ Superduty trucks. I know how critical tire pressure is in minimizing this issue. I have a fleet, Duke Energy Field Services, in Hobbs, New Mexico with 12 + 5.4L 05 and 06MY trucks. These trucks are used extensively off road and frequently require reducing air pressure to get to some sandy locations off road. The trucks are equipped with air compressors and the employees are suppose to be airing the tires back up to 75-80psi afterwards. The employees and management at the fleet are claiming that the trucks will still exhibit the issue even with the correct tire pressure, although I was not able to verify the condition on a recent visit. The fleet has spent several thousand dollars of their own money trying different tires and installing heavy duty steering shocks on the trucks to eliminate the issue. They say that with the tires and steering shocks, the concern is better, but not resolved. The fleet is looking a way to eliminate this issue even with low tire pressure. The trucks regularly get slow leaks in the tires from the extreme off road environment further hampering the efforts to keep tire pressure up to spec. The fleet is extremely upset at this point and is looking to get into another brand of trucks if this can't be resolved to their expectations. They are even willing to spend their own money if needs be to resolve the concern.

The trucks are mostly 5.4L trucks with 5200 pound springs up front with a modest load in the bed.

*Is there any way to modify/upgrade these trucks to eliminate this issue even with low tire pressure? Different shocks or springs?

Any assistance or information you might provide may help us save some business with this fleet. Thanks for your time!

Marty Eveland
Field Service Engineer
Mountain West Market

From: Knapp, David (D.)
Sent: Thursday, July 21, 2005 2:10 PM
To: Cruz, Jose (A.); Ehlert, Marvin (M.); Engstrom, John (J.C.); Geisen, Scott (S.); Giurlanda, Mario (M.); Iuni, Eric (E.); Kahn, Jason (J.); Knapp, David (D.); Nelson, Richard (R.T.); Raasch, Jason (J.); Reddmann, Joseph (J.); Wardle, Jake (J.); Wenninghoff, Thomas (T.); Wolken, Christopher (C.)
Cc: Snider, Alex (A.)
Subject: FW: 2005 'F' SUPER DUTY EXCESSIVE STEERING WHEEL OSCILLATION WHILE DRIVING OVER BUMPS AT SPEEDS BETWEEN 75 AND 100 KPH

Importance: High

Truckers,

To keep you in the know and to make sure that were all on the same page I have some fix info for you. We have tared 4 vehicles in Canada for steering oscillations. According to what the tech told us they did "Everything" but there is always something that is missed. Reducing tire pressure will make this worse. Reason is because its easier to bounce a basketball versus a rock.

Secondly check the track bar mounts. We have an ism out there now on this but no one is using it. Each of these vehicles have been fixed. Make sure that they are following our tsb on this concern first. Meshload and tire pressures then direct them towards the track bar. Thanks guys keep up the good work.

Alex, I really appreciate the fix info!

David Knapp
Truck Group Service Engineer
F-Superduty/Excursion SME
Ford Technical Hotline
DKnapp7@ford.com
313-317-6316

-----Original Message-----
From: Snider, Alex (A.)
Sent: Monday, July 18, 2005 9:46 AM
To: Hale, Curt (B.C.); O'Connor, Tammy (T.A.)
Cc: Repasky, Steve (S.); Bleau, Serge (R.); Mayer, Paul (P.A.); Knapp, David (D.); Laquerre, Mike (M.J.); Parent, James (J.); Davis, Craig (C.B.)
Subject: 2005 'F' SUPER DUTY EXCESSIVE STEERING WHEEL OSCILLATION WHILE DRIVING OVER BUMPS AT SPEEDS BETWEEN 75 AND 100 KPH
Importance: High

This note is meant to bring you up to speed on a situation that is growing in Canada. **The issue is excessive steering wheel oscillation that doesn't stop until you stop the vehicle.** Hitting a pot hole, driving over railway tracks and/or driving on wash board gravel roads sets off this excessive oscillation. In talking with Paul Mayer he advised of an issue that surfaced in the USA. Paul advised that low tire pressure and low torque on the front track bar attaching hardware were a cause of the issue.

The Technical Hotline had opened 4 T.A.R. requests for Canadian Dealers.

Here is the info on three of the vehicles, (**Note:** not all of these units were TAR'd):

1. Vehicle: 1FTSW21545E[redacted], GCQIS #: [redacted]

- Tire Pressure: Set between 40 and 50 PSI.
- Tire Pressure Spec per the door decal: 75 PSI

Torque values on the front track bar:

- Track bar bracket-to-frame nuts and bolts: Spec: 129 ft-lb. Actual: 100 ft-lb.
- Track bar-to-track bar bracket bolt: Spec: 406 ft-lb. Actual: 325 ft-lb.
- Track bar-to-axle nut: Spec 185 ft-lb. Actual: 185 ft-lb.

2. Vehicle: 1FTSX21585E[redacted], GCQIS #: [redacted]

- Tire Pressure: Set 35 psi frt. and 40 psi rear.
- Tire Pressure Spec per the door decal: 75 PSI

Torque values on the front track bar:

- Track bar bracket-to-frame nuts and bolts: Spec: 129 ft-lb. Actual: 2 @ 110 ft-lb. 1 @ 90 ft-lb, 1@ 95 ft-lb and 1 @ 100 ft-lb.
- Track bar-to-track bar bracket bolt: Spec: 406 ft-lb. Actual: 325 ft-lb.
- Track bar-to-axle nut: Spec 185 ft-lb. Actual: 170 ft-lb.

3. Vehicle: 1FTSW21545E[redacted], GCQIS #: [redacted]

- Tire Pressure: Set 50 PSI.
- Tire Pressure Spec per the door decal: 75 PSI
-

Torque values on the front track bar:

-
- Track bar bracket-to-frame nuts and bolts: Spec: 129 ft-lb. Actual: 100 ft-lb.
- Track bar-to-track bar bracket bolt: Spec: 406 ft-lb. Actual: Didn't record value. Had to turn the nut 1/4 of a turn to reach 406 ft-lb spec..
- Track bar-to-axle nut: Spec 185 ft-lb. Actual: 185 ft-lb.

In all these cases when the torque and tire pressure was set correct the issue was resolved. Vehicle # 3 has a minor oscillation still but it now applies to TSB 04-26-01. We have performed the TSB box adjustment 3 times and the oscillation is still present. We are going to replace the steering box on this vehicle.

Why are tire pressures being set low:

- The Customers have purchased an "F" Super Duty vehicle and are not happen with the ride when the vehicle is either empty or not towing a trailer. They are taking it upon themselves to lower the air pressure to get a smoother ride.

What we don't know:

- Is it possible that the track bar and attaching bracket hardware nuts and bolts torque when leaving KTP is being set below specification?
- Is the torque being set correctly at KTP and we are having torque relax over time?

What can the Hotline do?:

- When Dealers are calling the Hotline the specialist is referring the Dealers to TSB 04-26-01. Would it also be possible for the Hotline to advise the Dealer before performing TSB 04-26-01 that they check the **1st:** tire pressure and **2nd:** the front track bar retaining nut and attaching hardware torque.

Regards,

"Accelerate Growth Through Customer Satisfaction and Loyalty"

Alex Snider
Ford Motor Company of Canada

Technical Service Support Specialist
Outlook ID: asnider@ford.com
Dial net: 853-1485
Outside #: 905-845-2511, ext: 1485

From: Hodges, Cynthia (C.P.)
Sent: Tuesday, November 28, 2006 11:25 AM
To: Choe, Mark (M.J.); Boals, Shannon (S.D.)
Subject: FW:

Mark -

We will be discussing this with Dave Rohweder and Ali on Thursday – there are issues with doing what you've proposed. I'll let you know the outcome of that discussion. Also, please include me in emails or call me with questions about Super Duty or Econoline steering so I can make sure you get the best possible response to your questions and concerns.

Cynthia Protas Hodges
Steering Supervisor, RV Gear and Linkage
Chassis Engineering
Ford Motor Company

1BD36 Product Development Center
phone (313) 805-3872 fax: (313) 32-29959
click here to: textpage me email me my personal productivity site

Please note: Due to my email volume, add FYA (For Your Action) subject line to emails sent to me to insure my quickest response. I read those first!

From: Boals, Shannon (S.D.)
Sent: Tuesday, November 28, 2006 11:01 AM
To: Hodges, Cynthia (C.P.)
Subject: FW:

If I remember correctly, we can use the 08 dampers on the 07 vehicles. is that correct? Please reply back to Mark.

Shannon Boals
Steering Gear Manager
Ford North America Chassis Engineering
Building 5, Cube 3A065
Phone/Fax: (313) 390-5163
Email: <mailto:sboals1@ford.com>

From: Choe, Mark (M.J.)
Sent: Tuesday, November 28, 2006 10:42 AM
To: Boals, Shannon (S.D.)
Subject: FW:

Shannon, need help with releasing the 08 dampers for service fix asap - we are at risk of losing some fleet business.
Also, need your help to expedite order for FCSD.
Thanks.

Mark J. Choe
Vehicle Dynamics Manager
Body on Frame Programs

From: Asay, Larry (L.L.)
Sent: Tuesday, November 28, 2006 10:23 AM
To: Repasky, Steve (S.); Fass, Alan (A.L.)
Cc: Kachel, Victor (V.R.); O'Connor, Tammy (T.A.); Hasselbring, D Blake (D.B.); Choe, Mark (M.J.); Gompper, Dan (D.B.); Kachel, Victor (V.R.); Nielsen, Joel (.); Johnson, Ernita (E.D.)
Subject: RE:

We had a conf call yesterday with their Dukes VP in charge of Safety and their Fleet Manager. They are still waiting for us to come out with something else other than tire pressure. Their drivers are expressing concern that they don't have confidence in the truck and feel that it will take more than tire pressure to fix the issue. I told them that if they want to contain the situation they need to do spot inspections to verify that tire pressures are where they should be. They will take this under advisement and are also issuing their own bulletin to the field to have our TSB performed on all their 05-06 Super Duties. Until we can come up with something else all their orders for new trucks are on hold. This is good news as they are giving us a chance before they order from one of our competitors. We've gotten this window because of your visit to the TX. These issues are also starting to bleed over into some of the other Duke companies. Joel Nielsen my counterpart in TX is facing similar concerns with his Duke Energy Branch.

On the damper if you could send them to me I will hand deliver them to Barrick so that they don't get lost in the shuffle.

Larry Asay
7159 Shoreham Dr
Castle Rock, CO 80108

From: Repasky, Steve (S.)
Sent: Tuesday, November 28, 2006 7:05 AM
To: Asay, Larry (L.L.); Fass, Alan (A.L.)
Cc: Kachel, Victor (V.R.); O'Connor, Tammy (T.A.); Hasselbring, D Blake (D.B.); Choe, Mark (M.J.); Gompper, Dan (D.B.)
Subject: RE:

Larry/Alan - I am working on getting 2 sets (bracket and damper) from KTP (starting IB build this week). Please send me a full address of where to send the parts once I get them. Is it best to send to you or directly to the fleet?

I am working with the D&R people to complete the full package study to define any clearance concerns. A meeting/demo was held with Don Ufford last week Tuesday to demonstrate the field concern and effect of the 2008 damper. Don requested D&R to complete the package study ASAP. However, we still need to emphasize the placard tire pressures as the correct

spec for the fleet vehicles.

Any word from Duke Energy ([redacted] vehicle) on the effect of the 08 damper in the field? Thanks...

From: Asay, Larry (L.L.)
Sent: Monday, November 27, 2006 6:07 PM
To: Repasky, Steve (S.)
Cc: Kachel, Victor (V.R.)
Subject: RE:

Steve, What are the chances of getting some more dampers to test out at Barrick?

From: Repasky, Steve (S.)
Sent: Friday, November 17, 2006 10:41 AM
To: Asay, Larry (L.L.)
Cc: Choe, Mark (M.J.)
Subject: RE:

None at this time....Is there any agreement with the Fleets that setting tires to placard air pressures is NOT working? When told the concern was still present at placard PSI we were unable to experience the concern at Duke?

From: Asay, Larry (L.L.)
Sent: Friday, November 17, 2006 7:31 AM
To: Repasky, Steve (S.)
Subject: FW:

Are there any plans to go out to this fleet?

From: Hicks, Farley (GoldStrike) [mailto:FHicks@barrick.com]
Sent: Thursday, November 16, 2006 10:50 AM
To: Asay, Larry (L.L.); Kachel, Victor (V.R.)
Subject:

Vic & Larry,
Newmont is having the same problems with their units as we are having with ours. Dave just called me from Gallagher to see when the engineers are coming out. Any idea? Give me a call.
Thanks,
Farley

From: Gompper, Dan (D.B.)
Sent: Tuesday, May 24, 2005 9:17 AM
To: Reyes, Pete (P.D.); Choe, Mark (M.J.); Memmer, Mark (M.A.)
Subject: FW: 4x4 Testing of 5[redacted]

FYI only.

We will layout the plan for the wheelfight testing with the steering damper. The troubleshooting of the Diesel gear lash will start when we get the vehicle back next week.

Dan Gompper
SuperDuty Vehicle Dynamics Supervisor
Phone/Fax: (313) 84-54891
[redacted]
Email: dgompper@ford.com

-----Original Message-----
From: Gompper, Dan (D.B.)
Sent: Tuesday, May 24, 2005 9:13 AM
To: Rawlins, Harry (H.E.)
Cc: Mongold, Brian (B.D.); Steinman, Doug (D.D.); Nix, Claudia (C.K.)
Subject: RE: 4x4 Testing of [redacted]

Wonderful. Can you call Reliable later today and confirm they actually got them?

Dan Gompper
SuperDuty Vehicle Dynamics Supervisor
Phone/Fax: (313) 84-54891
[redacted]
Email: dgompper@ford.com

-----Original Message-----
From: Rawlins, Harry (H.E.)
Sent: Tuesday, May 24, 2005 9:03 AM
To: Gompper, Dan (D.B.)
Cc: Mongold, Brian (B.D.); Steinman, Doug (D.D.); Nix, Claudia (C.K.)
Subject: RE: 4x4 Testing of [redacted]

Apparently with your (and my) mixing up the shippers. We confused Reliable enough that they forgot the two prototypes. As of yesterday, they were both still at Larry's Place. I called and Reliable said they didn't know they were suppose to pick them up. I corrected this, and I assume they are picking them up today. You will probably see them on Friday if not Monday.

-----Original Message-----
From: Gompper, Dan (D.B.)
Sent: Tuesday, May 24, 2005 8:57 AM
To: Steinman, Doug (D.D.); Nix, Claudia (C.K.); Rawlins, Harry (H.E.)
Cc: Mongold, Brian (B.D.)
Subject: RE: 4x4 Testing of [redacted]

I agree with Doug. We still need the truck for additional development.

Harry -- what is status of shipper? I think the '05 truck is here, but I didn't see any '07s.

Dan Gompper
SuperDuty Vehicle Dynamics Supervisor
Phone/Fax: (313) 84-54891
Cellphone: (313) 805-2039

Email: dgompper@ford.com

-----Original Message-----
From: Steinman, Doug (D.D.)
Sent: Tuesday, May 24, 2005 8:54 AM
To: Nix, Claudia (C.K.)
Cc: Mongold, Brian (B.D.); Gompper, Dan (D.B.)
Subject: RE: 4x4 Testing of [redacted]

Since Don and Pete made it the "target for ride" we will have to keep it for future work. It is also not yet done for base code. Dan or Brian can keep you appraised of it's use but I expect it to be more long term use.

-----Original Message-----
From: Nix, Claudia (C.K.)
Sent: Tuesday, May 24, 2005 8:16 AM
To: Steinman, Doug (D.D.)
Subject: 4x4 Testing of [redacted]

Doug,

Per Harry Rawlins the AP2 Trucks from Borrego Springs will be shipped to MPG this week probably arriving next week. Will you still need to test 5[redacted] or can we return it to the test fleet.

Please advise,
Claudia K. Nix
Vehicle Systems Engineer
2007 Super Duty O/8500
PDC 2J-J33
cnix1@ford.com
Phone (313) 248-2714

STEERING WHEEL OSCILLATION

Concern Tracking# [redacted]

FORD:
2005-2007 F-Super Duty

This article supersedes TSB **05-22-1** to update the vehicle model years, causal part numbers and service procedure.

ISSUE

Some 2005-2007 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion), immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on 4x4 vehicles, and is more evident on trucks equipped with a gas engine.

ACTION

Refer to the following Service Procedure to minimize the steering wheel oscillations on impacts, however, there may be some remaining minor oscillation which would be considered normal.

SERVICE PROCEDURE SUMMARY

- Check Tire Pressure, Road Test Vehicle to evaluate vehicle before proceeding with further repairs. If issue is resolved, do not proceed with the rest of this TSB.
- If concern still exists, check steering damper for leaks; torque steering and suspension fasteners per Workshop Manual.
- If concern still exists, check Front Alignment and Reduce front caster
- Replacement Of Redundant Control Steering Wheel (if equipped and vehicle built prior to 10/8/2004).

VEHICLE INSPECTION - TIRE PRESSURE

1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

NOTE
SETTING TIRE PRESSURE TO DOOR SPECIFICATION IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE.

ROAD TEST

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the customer's issue.
3. During the road test, evaluate and note the steering wheel return-ability.
   a. Turn steering wheel full lock to lock to confirm no binding.
   b. Locate center, and then 45 degrees either side of center on the steering wheel.
   c. Driving vehicle at 35 MPH (56 Km/h), on a dry and flat road surface, turn the wheel 45 degrees and release. Note the approximate angle that the steering wheel returns to BEFORE CLEAR VISION. Perform and record the angle for both left and right. It is normal if the angle differs slightly from left to right.
4. If no issues are identified during the road test, do not proceed with the rest of this TSB.

STEERING DAMPER INSPECTION AND STEERING/SUSPENSION FASTENER TORQUE CHECK

1. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.

NOTE: The information in Technical Service Bulletins is intended for use by trained, professional technicians with the knowledge, tools, and equipment to do the job properly and safely. It informs these technicians of conditions that may occur on some vehicles, or provides information that could assist in proper vehicle service. The procedures should not be performed by "do-it-yourselfers". Do not assume that a condition described affects your car or truck. Contact a Ford, Lincoln, or Mercury dealership to determine whether the Bulletin applies to your vehicle. Warranty Policy and Extended Service Plan documentation determine Warranty and/or Extended Service Plan coverage unless stated otherwise in the TSB article.The information in this Technical Service Bulletin (TSB) was current at the time of printing. Ford Motor Company reserves the right to supercede this information with updates.The most recent information is available through Ford Motor Company's on-line technical resources.

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[redacted]

a. If leaks are present, install a new steering damper.

2. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table below).

Torque Specification		
Description	**Lb-ft**	**Nm**
Damper nuts (4x2)	59	80
Damper-to-bracket (F-250, F-350 4x4)	26	35
Damper-to-drag link	67	91
Drag link-to-pitman arm nut	148	201
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts and bolts	129	175
Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE
ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE.

FRONT WHEEL ALIGNMENT AND REDUCE FRONT CASTER

Measure wheel alignment. Verify that Front Caster, Camber and Total Toe are within specification. Adjust as required. Refer to the Workshop Manual, Section 204-00 for complete alignment specifications.

REDUCE FRONT CASTER

- Note the current front caster
- Use alignment adjustment bushings to Reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit. Use Alignment adjustment bushings:

F-250/350 4x4:

- 5C3Z-3B440-CCC (0.5 degree bushing)
- 5C3Z-3B440-DDD (0.75 degree bushing)
- 5C3Z-3B440-EEE (1.0 degree bushing)

F-450/550 4x4 and 4x2:

- 5C3Z-3B440-HHH (0.5 degree bushing)
- 5C3Z-3B440-JJJ (0.75 degree bushing)
- 5C3Z-3B440-KKK (1.0 degree bushing)

F-250/350 4x2:

- 5C3Z-3B440-C (0.5 degree busing)
- 5C3Z-3B440-D (0.75 degree bushing)
- 5C3Z-3B440-E (1.0 degree bushing)

For All 4x4 and for F-450/550 4x2:

- Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward and inboard position (See Figure 1)

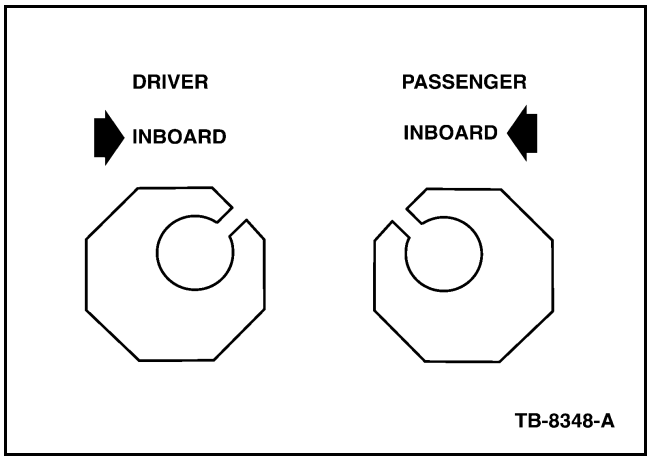


Figure 1 - Article [redacted]

- This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed
- The final caster and camber settings must be within the specification limits
- Maintain the current front camber, cross-camber and cross-caster settings as close as you possibly can
- Adding weight behind the rear axle lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster

For All F-250/350 4x2:

- Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain that position while moving the caster position forward in the truck
- The final caster and camber settings must be within the specification limits

NOTE
CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 Only

NOTE
THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE
FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

NOTE
THE WHEEL ALIGNMENT LABOR OPERATIONS MAY BE CLAIMED WITH THE REPAIR OPERATIONS IN THIS ARTICLE.

PART NUMBER	PART NAME
5C7Z-3600-ABA	Redundant Control Steering Wheel Asy (King Ranch Tan/Peb)
5c7z-3600-CBA	Redundant Control Steering Wheel Asy (Charcoal Black)
5C3Z-3E651-D	Steering Damper
5C3Z-3B440-C	F-250/350 4x2 (0.5 degree bushing)
5C3Z-3B440-D	F-250/350 4x2 (0.75 degree bushing)
5C3Z-3B440-E	F-250/350 4x2 (1.0 degree bushing)
5C3Z-3B440-CCC	F-250/350 4x4 (0.5 degree bushing)
5C3Z-3B440-DDD	F-250/350 4x4 (0.75 degree bushing)
5C3Z-3B440-EEE	F-250/350 4x4 (1.0 degree bushing)
5C3Z-3B440-HHH	F-450/550 4x4 and 4x2 (0.5 degree bushing)
5C3Z-3B440-JJJ	F-450/550 4x4 and 4x2 (0.75 degree bushing)
5C3Z-3B440-KKK	F-450/550 4x4 and 4x2 (1.0 degree bushing)

WARRANTY STATUS: Eligible Under Provisions Of New Vehicle Limited Warranty Coverage

OPERATION	DESCRIPTION	TIME
07006r1A	2005-2007 F-Super Duty: Check Tire Pressure, Road Test To Verify Repair, Concern Resolved, Return To Customer (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	0.4 Hr.
07006r1B	2005-2007 F-Super Duty: Check Tire Pressure, Road Test To Verify Repair, Concern Not Resolved, Check Steering Damper Replace If Necessary, Verify Proper Torque On Steering Components, Road Test If Concern Is Resolved Return To Customer (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	1.4 Hrs.
07006r1C	2005-2007 F-Super Duty 250/350 4X2: Check And Adjust Front Wheel Alignment, This Labor Operation Can Be Claimed With Operation B Only (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	1.9 Hrs.
07006r1C	2005-2007 F-Super Duty 250/350 4X4, F450/550 4X2/4X4: Check And Adjust Front Wheel Alignment, This Labor Operation Can Be Claimed With Operation B Only (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	2.3 Hrs.
07006r1D	2005 F-Super Duty With Redundant Steering Control Built Prior To 10-8-2004: Replace Steering Wheel, Includes Time To Depower And Repower The Supplemental Restraints System Can Be Claimed With Operation A Or B (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	0.7 Hr.

Concern Tracking# [redacted] (Continued)

DEALER CODING

BASIC PART NO.	CONDITION CODE
(OPERATION A) TIRE	42
(OPERATION B) 3E651	42
(OPERATION C) FRONT	W6
(OPERATION D) 3600	42

OASIS CODES: 303000, 304000, 306000, 703000, 703000, 703200, 703200, 703300, 703300, 703400, 703400

From: Boals, Shannon (S.D.)
Sent: Wednesday, June 13, 2007 9:56 PM
To: Barry, Jack (J.E.)
Cc: Oswalt, Greg (G.G.); Jones, Rick (W.P.); Matthews, Steve (S.D.)
Subject: FW: [redacted] F350 Alleged Steering Shimmy caused accident

Attachments: [redacted] F350 Steering Shimmy Vehicle histories.xls

Jack,

Take a look at the following files. Let's discuss on Friday when you return to the office.

Shannon Boals
Steering Gear Manager
Ford North America Chassis Engineering
Office: PDC Room 2B-J80
Phone/Fax:(313) 390-5163
Email: <mailto:sboals1@ford.com>

From: Matthews, Steve (S.D.)
Sent: Wednesday, June 13, 2007 2:42 PM
To: Boals, Shannon (S.D.)
Cc: Oswalt, Greg (G.G.); Jones, Rick (W.P.)
Subject: 2005 - [redacted] Alleged Steering Shimmy caused accident

Shannon,

Attached to this email is an excel file with data relating to 2005 thru 2007 F250 and F350 that exhibit a steering shimmy. The 4 vehicles identified in the excel file allegedly exhibited the steering shimmy and resulted in the customers having an alleged accident. I have included all the reports for each of the identified VINs. I have highlight the text in **RED** where the comments indicate the shimmy condition relates to the alleged loss of vehicle control. The **rows** that are highlighted in yellow, are shimmy/vibration related reports showing any potentially related repairs the dealerships may have made in their attempt(s) to address the concern.

1 report indicates an EAA investigator was sent to examine the vehicle. I have requested a copy of that report and will forward it to you when I receive a copy.

If you have any questions regarding the email or the attachment, please contact me.

[redacted] Steering Shi...

Steve Matthews
Product Concern Analyst
Automotive Safety Office
313.24.83764

2005 thru 2007 F250 F350
Alleged Steering Shimmy with Alleged Accident/Injury
Vehicle Histories

ECI Record ID	Source Code	Time In Service	Repair/Report/ Paid Date	Load Date	Causal Part Prefix	Causal Part Base	Causal Part Suffix	Causal Part Name	Dealer Code	Dealer Name	Dealer City	Dealer State/Province	Dealer Country	VIN	Production Date	Model Year	Vehicle Description	Engine Description	Transmission	Body Cab Style	Drive Line	Plant Description	Warranty Start Date	Mileage	Customer Comments	Technician Comments	CQIS Recommendations
25855616	MORS/CUDL		6/4/2007	6/6/2007 6 07				NOT PROVIDED BY SOURCE	"156200"	PHIL LONG FORD, LLC	COLORADO SPRINGS	CO	USA	1FTSX21547E[redacted]	6/27/2006	2007	F-250 SD	MOD 5.4L-3V SOHC GAS/ESSEX	5 SPD AUTO TRANS NAAO 5R110W	SUPER SINGLE CAB (SUPER CAB)	4 WHL L/H PART TIME DRIVE	KENTUCKY TRUCK PLANT BUILD	9/12/2006	26696	**LPA RECEIVED ISSUE INFORMATION FROM ROY KEISER, SM, PHIL LONG FORD, P/A 03140, PH 719 846-5810. ACCORDING TO THE INFORMATION PROVIDED,THE DRIVER ALLEGES THAT THE FRONT END BEGAN TO VIBRATE, HE LOST CONTROL, AND ROLLED THIS VEHICLE SERVERAL TIMES. THE DRIVER SUSTAINED INJURY.INCIDENT DATE 6-4-2007. VEHICLE IS NOT AT PHIL LONG FORD. **LPA WILL REQUEST AN EAA VEHICLE INSPECTION. **LPA SPOKE TO ROBERT HODNETT [redacted] PH [redacted] HE CONFIRMED THE ISSUE INFORMATION AND ADDED THAT THE DRIVER WAS TRAVELING ON A HWY (SPEED LIMIT 75 MPH), HE ATTEMPTED TO BRAKE, VEHICLE LOCKED UP, WENT INTO A DITCH AND ROLLED. MR. HODNETT INDICATED THAT THERE HAVE BEEN ONGOING STEERING CONCERNS WITH OTHER F 250S IN HIS FLEET AND THE DLRS HAVE NOT BEEN ABLE TO ADDRESS THE CONCERNS. THE DRIVER RECEIVED MEDICAL ATTENTION FOR INJURIES. MR. [redacted] WOULD NOT PROVIDE INFORMATION RE THE EXTENT OF INJURIES. VEHICLE LOC SWETKY BROS. 376 KENTUCKY AVE, TRINADAD, CO. CONTACT JIM, PH 719 846-2888.		
414015515	AWS	4	1/10/2006	1/16/2006 18 12		TWC01		TIRE DEFECT WARRANTY	"05093"	CONKLIN CARS NEWTON	NEWTON	KS	USA	1FTSX21Y16E[redacted]	8/17/2005	2006	F-250 SD	6.8L 3V EFI NA V10 GAS	5 SPD AUTO TRANS NAAO 5R110W	SUPER SINGLE CAB (SUPER CAB)	4 WHL L/H PART TIME DRIVE	KENTUCKY TRUCK PLANT BUILD	9/19/2005	8492	R R TIRE BLEW OUT AT HIGHWAY SPEEDS NO OUTSIDE DAMAGE COULD BE DETECTED.	1 VERIFIED CONCERN. REMOVED AND REPLACED THE R R TIRE AND TESTED OK.	
427504057	AWS	10	7/12/2006	7/16/2006 18 11	6C3Z	10346	AA	ALTERNATOR LESS PULL	"03140"	PHIL LONG FORD, LLC	COLORADO SPRINGS	CO	USA	1FTSX21Y16EA[redacted]	8/17/2005	2006	F-250 SD	6.8L 3V EFI NA V10 GAS	5 SPD AUTO TRANS NAAO 5R110W	SUPER SINGLE CAB (SUPER CAB)	4 WHL L/H PART TIME DRIVE	KENTUCKY TRUCK PLANT BUILD	9/19/2005	25127	CUSTOMER STATES VEHICLE DIED AFTER BATTERY LIGHT FLASHED ON AND OFF SEVERAL TIMES. RECHARGED BATTERIES AND VEHICLE STARTED AND RAN NORMALLY FOR ABOUT 1 MILE AND DIED AGAIN. CUSTOMER AN ELE	CHARGED & TESTED BATTERY PASSED CHARGING 14.3 VOLTS MT TIME TO TEST FOR DRAWS NONE FOUND NO SHORTS ALL CONNECTIONS GOOD & TIGHT WIGGLE TEST ON HARNESSES NO CHAFING LOADED SYSTEM HEAVILY RETEST BATTERY LIGHT LIGHTLY CAME ON VOLTAGE DROPPED AMPS DROPPED TESTED AND REPLACED ALTERNATOR TEST DROVE OK RETEST OK	
428425462	AWS	10	7/27/2006	7/31/2006 18 11		13A409		WIRING ASY-RR LAMP C	"05093"	CONKLIN CARS NEWTON	NEWTON	KS	USA	1FTSX21Y16E[redacted]	8/17/2005	2006	F-250 SD	6.8L 3V EFI NA V10 GAS	5 SPD AUTO TRANS NAAO 5R110W	SUPER SINGLE CAB (SUPER CAB)	4 WHL L/H PART TIME DRIVE	KENTUCKY TRUCK PLANT BUILD	9/19/2005	26741	CUSTOMER IS SEEKING REIMBURSMENT FOR BREAKING DOWN OUT OF STATE. HAD TO HAVE A FRIEND DRIVE FROM KS TO CO TO PICK UP HIS HORSE TRAILER AND BRING IT ANS HIS FAMILY BACK EARLY .	CALLED REGIONAL REP. RECEIVED APPROVAL TOGIVE F ULL REIBURSTMENT TO CUSTOMER FOR RECEIPTS BROGU HT IN. TOTAL AMOUNT IS 738.73. AUTH PER REP IS K08AZ.	
25429789	MORS/CUDL		7/31/2006	8/1/2006 18 11				NOT PROVIDED BY SOURCE	"153643"	CONKLIN CARS NEWTON	NEWTON	KS	USA	1FTSX21Y16E[redacted]	8/17/2005	2006	F-250 SD	6.8L 3V EFI NA V10 GAS	5 SPD AUTO TRANS NAAO 5R110W	SUPER SINGLE CAB (SUPER CAB)	4 WHL L/H PART TIME DRIVE	KENTUCKY TRUCK PLANT BUILD	9/19/2005	27610	**LPA RECEIVED A DEALER REQUEST FOR CONSUMER AFFAIRS REVIEW FORM FROM DON HAGEMAN, CONKLIN CARS, P/A 05093, PH 316 283-1220 X220. ACCORDING TO THE INFORMATION PROVIDED,THE STEERING STARTED TO SHAKE VIOLENTLY, THE DRIVER PULLED OFF THE ROAD TO GET CONTROL, AND HIT A CULVERT. INCIDENT DATE: 7 21 2006. NO INJURIES. VEHICLE LOCATION CONKLIN CARS. **LPA SPOKE TO DON. HE CONFIRMED THE ISSUE INFORMATION AND DUPLICATED THE CONCERNS. --LPA REQUESTED A COPY OF THE RO AND A REVISED EST. **LPA RECEIVED THE REQUESTED RO FROM DON HAGEMEN, CONKLIN CARS. CONKIN CARS WAS ABLE TO DUPLICATE THE CONCERN. IT WAS DETERMINED THAT THE CONCERN WAS RELATED TO SSM 06-15-1. BASED ON THE DLR PROVIDED INFORMATION, LPA OFFERED GOODWILL REPAIRS FOR VEHICLE BODY DAMAGE. REPAIR EST $1,635. --LPA RECEIVED CUSTOMER SIGNED OFFER LETTER AND RELEASE, VIA FAX. DLR WAS AUTH. TO PERFORM REPAIRS. IF REPAIRS EXCEED EST, DLR IS TO CONTACT LPA. AN APPROVAL CODE WILL BE PROVIDED WHEN THE REPAIRS ARE COMPLETED. **LPA SPOKE TO DON @ CONKLIN CARS, P/A 05093. HE INDICATED THAT THE REPAIRS WERE COMPLETED. THE WARRANTY CLERK WILL CONTACT LPA FOR AN APPROVAL C		
25447411	MORS/CUDL		8/10/2006	8/12/2006 14 11				NOT PROVIDED BY SOURCE	"153643"	CONKLIN CARS NEWTON	NEWTON	KS	USA	1FTSX21Y16EA[redacted]	8/17/2005	2006	F-250 SD	6.8L 3V EFI NA V10 GAS	5 SPD AUTO TRANS NAAO 5R110W	SUPER SINGLE CAB (SUPER CAB)	4 WHL L/H PART TIME DRIVE	KENTUCKY TRUCK PLANT BUILD	9/19/2005	27610	**********ATTORNEY DEMAND**********DATE STAMPED 8-7-06. ATTORNEY ALLEGES CLIENT WAS INVOLVED IN AN ACCIDENT WHEN THE VEHICLE STARTED TO VIOLENTLY VIBRATE AND HE PULLED OFF THE ROAD AND HIT A CULVERT.ATTORNEY DEMANDS CONTACT FROM FORD REPRESENTATIVE. ISSUE ALREADY BEING HANDLED		
431299556	AWS	12	8/29/2006	8/31/2006 18 11	5C3Z	17757	BA	BAR-FRONT BUMPER IMP	"05093"	CONKLIN CARS NEWTON	NEWTON	KS	USA	1FTSX21Y16EA[redacted]	8/17/2005	2006	F-250 SD	6.8L 3V EFI NA V10 GAS	5 SPD AUTO TRANS NAAO 5R110W	SUPER SINGLE CAB (SUPER CAB)	4 WHL L/H PART TIME DRIVE	KENTUCKY TRUCK PLANT BUILD	9/19/2005	27875	TRUCK STEERING STARTED TO SHAKE VIOLENTLY HAD. CUSTOMER HAD TO PULL OFF OF ROAD TO GET CONTROL AND HIT A CULVERT	FIXED BODY REPAIRS DUE TO DAMAGED CAUSED BY A WARRANTY REPAIR	
431992272	AWS	11	9/8/2006	9/12/2006 18 12		3E651		ABSORBER-STEERING SH	"05093"	CONKLIN CARS NEWTON	NEWTON	KS	USA	1FTSX21Y16E[redacted]	8/17/2005	2006	F-250 SD	6.8L 3V EFI NA V10 GAS	5 SPD AUTO TRANS NAAO 5R110W	SUPER SINGLE CAB (SUPER CAB)	4 WHL L/H PART TIME DRIVE	KENTUCKY TRUCK PLANT BUILD	9/19/2005	27610	TRUCK SHAKES WHEN HITTING BUMPS	STILL HAD SOME SHAKE IN FRONT END AFTER TIGHTEN ING BOLTS. SET ALIGNMENT PER SERVICE BULLITEN A AND TEST DROVE. HAD TO CHANGE ALIGNMENT SLUGS	
25522992	MORS/CUDL		10/3/2006	10/4/2006 18 11				NOT PROVIDED BY SOURCE	"153643"	CONKLIN CARS NEWTON	NEWTON	KS	USA	1FTSX21Y16E[redacted]	8/17/2005	2006	F-250 SD	6.8L 3V EFI NA V10 GAS	5 SPD AUTO TRANS NAAO 5R110W	SUPER SINGLE CAB (SUPER CAB)	4 WHL L/H PART TIME DRIVE	KENTUCKY TRUCK PLANT BUILD	9/19/2005	26741	ESP PREMIUM CARE PLAN		
25531199	MORS/CUDL		10/9/2006	10/10/2006 18 11				NOT PROVIDED BY SOURCE	"153643"	CONKLIN CARS NEWTON	NEWTON	KS	USA	1FTSX21Y16E[redacted]	8/17/2005	2006	F-250 SD	6.8L 3V EFI NA V10 GAS	5 SPD AUTO TRANS NAAO 5R110W	SUPER SINGLE CAB (SUPER CAB)	4 WHL L/H PART TIME DRIVE	KENTUCKY TRUCK PLANT BUILD	9/19/2005	35300	CCST STEVE SOBKIEWICZ CLOSING CASE AS LEGAL HAS BEEN INVOLVED AND CLOSED THE CASE --- NO FURTHER ACTION FROM CCST AS LEGAL HAS FINALIZED THE RESOLUTION CUSTOMER HAS HAD TWO PROBLEMS WITH THIS VEHICLE. HAS BEEN GIVEN FREE EXT WARRANTY AND OTHER COMPINSATION. CUSTOMER STILL OWES THIS DEALERSHIP MONEY FOR TWO TIRES HE PRUCHASED (ALL OF HIS CREDIT CARDS REJECTED). NO ADDITIONAL HELP RECOMMENED BY US. TYPE OF CUSTOMER TO DO NOTHING BUT YELL AND STIR UP TROUBLE (AND NOT PAY HIS BILLS). SO MUCH MORE- CALL IN TO ME FOR FUTHER REVIEW IF NEEDED. CCST STEVE SOBKIEWICZ ADVISED TO CUSTOMER THAT OUR GOAL IS TO REPAIR THE VEHICLE --- CUSTOMER HAS NOT BEEN INTO THE DLR SINCE BEGINNING OF SEPTEMBER --- ADVISED WE NEED TO GET THE VEHICLE INTO THE DLR --- CUSTOMER STATED HE WILL CONTACT SOME DLR S IN THE AREA AND SET UP AN APPOINTMENT - ONCE CUSTOMER HAS AN APPOINTMENT WILL TRANSFER CASE TO APPROPIATE DLR AND LOOK INTO RENTAL CUSTOMER SAID -CUSTOMER HAS HAD VEHICLE IN AT LEAS SIX TIMES TO DEALERSHIP FOR SAME CONCERN SINCE HE BOUGHT VEHICLE- CUSTOMER HE HAS BEEN TO DIFFERENT DEALERSHIPS AND FRONT END SHOP AND T		
25531200	MORS/CUDL		10/9/2006	10/10/2006 18 11				NOT PROVIDED BY SOURCE	"153643"	CONKLIN CARS NEWTON	NEWTON	KS	USA	1FTSX21Y16EA[redacted]	8/17/2005	2006	F-250 SD	6.8L 3V EFI NA V10 GAS	5 SPD AUTO TRANS NAAO 5R110W	SUPER SINGLE CAB (SUPER CAB)	4 WHL L/H PART TIME DRIVE	KENTUCKY TRUCK PLANT BUILD	9/19/2005	1	CRC ADVISED -OBC TO BRYAN SPIDEL AND HE SAID CUSTOMER OWES THEM MONEY FOR TIRE BLOW OUT- HAS TOLD CUSTOMER TO BRING VEHICLE BACK IN HAS NOT DONE IT SEVERAL TIMES-VIBRATION WAS EVIDENT THRU TEST DRIVE AND REPAIRED AT THAT POINT, BOLTS LOOSE-CUSTOMER HAS BEEN COMPENSATED FOR ALL REPAIRS INCLUDING EXTRAS AND ADDITIONAL TIRE AND HAS BEEN GIVEN EXTENDED WARRANTY ON POWERTRAIN		
435083315	AWS	12	10/31/2006	11/2/2006 18 11	5C3Z	17757	BA	BAR-FRONT BUMPER IMP	"05093"	CONKLIN CARS NEWTON	NEWTON	KS	USA	1FTSX21Y16EA[redacted]	8/17/2005	2006	F-250 SD	6.8L 3V EFI NA V10 GAS	5 SPD AUTO TRANS NAAO 5R110W	SUPER SINGLE CAB (SUPER CAB)	4 WHL L/H PART TIME DRIVE	KENTUCKY TRUCK PLANT BUILD	9/19/2005	27875	VEHICLE WENT INTO DITCH WHEN SUSPENSION TRACK BAR CAME LOOSE	REPLACED DAMAGED BODY PARTS AND REFINISH	
25598404	MORS/CUDL		11/27/2006	11/28/2006 18 11				NOT PROVIDED BY SOURCE	"153643"	CONKLIN CARS NEWTON	NEWTON	KS	USA	1FTSX21Y16EA[redacted]	8/17/2005	2006	F-250 SD	6.8L 3V EFI NA V10 GAS	5 SPD AUTO TRANS NAAO 5R110W	SUPER SINGLE CAB (SUPER CAB)	4 WHL L/H PART TIME DRIVE	KENTUCKY TRUCK PLANT BUILD	9/19/2005	27610	**********ATTORNEY DEMAND**********FAX DATED 11-22-06 ATTORNEY ALLEGES CLIENT CONCERN AS DRIVE SHAFT CAUSES VEHICLE VIBRATION AT HIGHER SPEEDS.ATTORNEY DEMANDS CONTACT FROM FORD REPRESENTATIVE. **********ATTORNEY DEMAND********** FAX DATED 11-22-06 ATTORNEY ALLEGES CLIENT CONCERN AS DRIVE SHAFT CAUSES VEHICLE VIBRATION AT HIGHER SPEEDS.ATTORNEY DEMANDS CONTACT FROM FORD REPRESENTATIVE. ASSIGNED INCORRECTLY. ISSUE WAS TRANSFERRED TO ANOTHER ANALYST INCORRECTLY. WILL CANCEL AND REOPEN.		
25614729	MORS/CUDL		12/7/2006	12/9/2006 14 11				NOT PROVIDED BY SOURCE	"153643"	CONKLIN CARS NEWTON	NEWTON	KS	USA	1FTSX21Y16EA[redacted]	8/17/2005	2006	F-250 SD	6.8L 3V EFI NA V10 GAS	5 SPD AUTO TRANS NAAO 5R110W	SUPER SINGLE CAB (SUPER CAB)	4 WHL L/H PART TIME DRIVE	KENTUCKY TRUCK PLANT BUILD	9/19/2005	27610	E-MAIL TO ZM FAX ACK. **********ATTORNEY DEMAND**********FAX RECEIVED 11-22-06. ATTORNEY ALLEGES CLIENT'S VEHICLE HAS BEEN SERVICED FOR VIBRATIONS CONCERNS.ATTORNEY DEMANDS CONTACT FROM FORD REPRESENTATIVE. BASED ON INFORMATION REVIEW/PROVIDED, DENIED. FAXING DENIAL LETTER TO ATTORNEY. LPA REVIEWED DOCUMENTS FROM PREVIOUS ANANLYST. LPA CONTACTED SM/CONKLIN FORD FOR INFORMATION.		

2005 thru 2007 F250 F350
Alleged Steering Shimmy with Alleged Accident/Injury
Vehicle Histories

440685813	AWS	16	1/30/2007	2/3/2007 14 57	2C3Z	4602	APX	DRIVESHAFT ASY INCL	"07330 "	MIDWAY MOTORS FORD, LINCOLN, M	MCPHERSON	KS	USA	1FTSX21Y16E[redacted]	8/17/2005	2006	F-250 SD	6.8L 3V EFI NA V10 GAS	5 SPD AUTO TRANS NAAO 5R110W	SUPER SINGLE CAB (SUPER CAB)	4 WHL L/H PART TIME DRIVE	KENTUCKY TRUCK PLANT BUILD	9/19/2005	46052	DRIVELINE VIBRATION AT HIGHWAY SPEEDS	TEST DROVE SHAFT MISPHASED.PHASED TEST.VIBRATION STILL PRESENT.DEGREE PHASE.STILL PRES.REPLACED SHAFT AND RETEST.	
440685814	AWS	16	1/30/2007	2/3/2007 14 57		9D653		CANISTER F/VAPOR CNS	"07330 "	MIDWAY MOTORS FORD, LINCOLN, M	MCPHERSON	KS	USA	1FTSX21Y16E[redacted]	8/17/2005	2006	F-250 SD	6.8L 3V EFI NA V10 GAS	5 SPD AUTO TRANS NAAO 5R110W	SUPER SINGLE CAB (SUPER CAB)	4 WHL L/H PART TIME DRIVE	KENTUCKY TRUCK PLANT BUILD	9/19/2005	46052	FUELTANK SLOW TO FILL	PERFORMED TSB 06 19 15.REPLACE CARBON CANISTER AND FRESH HOSE KIT.	
25719382	MORS/CUDL		2/27/2007	2/28/2007 18 11				NOT PROVIDED BY SOURCE	"153553"	MIDWAY MOTORS FORD, LINCOLN, M	MCPHERSON	KS	USA	1FTSX21Y16E[redacted]	8/17/2005	2006	F-250 SD	6.8L 3V EFI NA V10 GAS	5 SPD AUTO TRANS NAAO 5R110W	SUPER SINGLE CAB (SUPER CAB)	4 WHL L/H PART TIME DRIVE	KENTUCKY TRUCK PLANT BUILD	9/19/2005	46052	CUST STATES VIBRATION AT FAST SPEEDS. CUST SEEKS REPAIR, REPLACEMENT OR END OF LEASE. CI SENDING RESPONSE TO AG/KS ADVISING THAT THE VEHICLE DRIVESHAFT WAS REPAIRED AS OF JANUARY 11, 2007 AT WHICH TIME THE VEH MILEAGE WAS 46052. CUSTOMER HAS BEEN PROVIDED AN EXTENDED WARRANTY AND AFTER WARRANTY ASSISTANCE. OUR LITIGATION PREVENTION DEPARTMENT ANALYZED MR. GEHRING'S CONCERNS AS WELL AND ADVISED HIS ATTORNEYS THAT NO FURTHER ASSISTANCE IS AVAILABLE. BASED ON THIS INFORMATION, WE PROPOSE NO FURTHER ACTION.		
421127461	AWS	0	4/12/2006	4/15/2006 8 09		*		[N/A]	"07299 "	FOOTHILL FORD	PILOT MOUNTAIN	NC	USA	1FTWW31P36E[redacted]	6/16/2005	2006	F-350 SD	6.0L 325H/550# OHV DI TC V8 DS	5 SPD AUTO 5R110W - HI/TORQUE	DOUBLE CAB (CREW CAB)	4 WHL L/H PART TIME DRIVE	KENTUCKY TRUCK PLANT BUILD	4/25/2006	72	PERFORM RECALL 05E16	1 1 COMPLETE	
442919822	AWS	9	3/13/2007	3/15/2007 18 11	6C3Z	17D957	BAPTM	FRT BUMPER COVER ASY	"01364 "	JOHNSON FAMILY FORD-MERCURY, I	WOODLAWN	VA	USA	1FTWW31P36E[redacted]	6/16/2005	2006	F-350 SD	6.0L 325H/550# OHV DI TC V8 DS	5 SPD AUTO 5R110W - HI/TORQUE	DOUBLE CAB (CREW CAB)	4 WHL L/H PART TIME DRIVE	KENTUCKY TRUCK PLANT BUILD	4/25/2006	20760	BUMPER COVER TO BE REPLACED	20760 REPLACED FRONT BUMPER AND AMERILLO YELLOW PAINT BY ISOMS COLLISION	
442919823	AWS	9	3/13/2007	3/15/2007 18 11		2520125		DOOR ASY-FRONT L	"01364 "	JOHNSON FAMILY FORD-MERCURY, I	WOODLAWN	VA	USA	1FTWW31P36E[redacted]	6/16/2005	2006	F-350 SD	6.0L 325H/550# OHV DI TC V8 DS	5 SPD AUTO 5R110W - HI/TORQUE	DOUBLE CAB (CREW CAB)	4 WHL L/H PART TIME DRIVE	KENTUCKY TRUCK PLANT BUILD	4/25/2006	20760	SUBLET DOOR NOT IN PROPER ALIGNMENT READJUSTMENT MADE BY ISOMS COLLISION.	20760 DOOR AJUSTMENT TO PASSENGER DOOR BY ISOMS COLLISION	
9773587	GCQIS Ford		3/27/2007	3/28/2007 18 18		Unknown		Unknown	"01364 "	JOHNSON FAMILY FORD-MERCURY, I	WOODLAWN	VA	USA	1FTWW31P36E[redacted]	6/16/2005	2006	F-350 SD	6.0L 325H/550# OHV DI TC V8 DS	5 SPD AUTO 5R110W - HI/TORQUE	DOUBLE CAB (CREW CAB)	4 WHL L/H PART TIME DRIVE	KENTUCKY TRUCK PLANT BUILD	4/25/2006	23203		WEB FORM DATA DESCRIPTION OF VEHICLE CONCERN CUSTOMER STATES TRUCK HAS A SHIMMY DIAGNOSTICS ALREADY COMPLETED CHECK OASIS LOOKED OVER TRUCK TEST DROVE PARTS REPLACED NONE TECHNICIAN QUESTION WILL SHIMMY CAUSE TRUCK TO RUN OFF ROAD CALL DATA CUSTOMER RAN THE VEHICLE OFF THE ROAD AND DAMAGED THE GEAR BOX. NOW THE STEERING WHEEL IS OFF 1/8 OF A TURN. CUSTOMER INDICATES THE HOP CONCERN CAUSED THEM TO LOOSE CONTROL OF THE VEHICLE. UNSURE HOW TO PROCEED. TECH COMMENTS UNABLE TO VERIFIY CUSTOMER COMPLAINT	TSB 07-05-11 INSTALL DAMPER SERVICE KIT - 5C3Z-6D008-A JERRY, WE HAVE NO REPORTS OF VIBRATION CAUSING LOOSE OF CONTROL OF THE VEHICLE. THIS HOP CONCERN SHOULD NOT INHIBIT STEERING. I WOULD HANDLE THE THE STEERING BOX DAMAGE AS AN INSURANCE CLAIM AND TRY TO REPAIR THE HOP USING THE INSTRUCTIONS IN THE TSB. IF THE CONCERN IS STILL PRESENT THEN WE SHOULD USE THE EVA TO HELP REPAIR THE CONCERN, MAY HAVE WHEEL, TIRE, OR HUB ISSUE CAUSING HOP.
25760873	MORS/CUDL		3/27/2007	3/28/2007 18 18				NOT PROVIDED BY SOURCE	"127512"	JOHNSON FAMILY FORD-MERCURY, I	WOODLAWN	VA	USA	1FTWW31P36E[redacted]	6/16/2005	2006	F-350 SD	6.0L 325H/550# OHV DI TC V8 DS	5 SPD AUTO 5R110W - HI/TORQUE	DOUBLE CAB (CREW CAB)	4 WHL L/H PART TIME DRIVE	KENTUCKY TRUCK PLANT BUILD	4/25/2006	22000	LPA CONTACTED DLR. SM WAS OUT FOR LUNCH. LPA LEFT MESSAGE WITH SECRETARY. LPA TO WAIT FOR DLR FOLLOW UP. LPA TO SEND CUST DENIAL LETTER ADVISING THEM TO FOLLOW UP WITH THEIR INSURANCE CARRIER. DLR CONTACTED CA. SM STATED THE CUST COMPLAINED ABOUT A SHIMMY IN THE VEH. SM STATED THERE WAS ATSB FOR THIS CONCERN HOWEVER THIS CONCERNS COULD NOT POSSIBLE LEAD TO A DRIVER LOOSING CONTROL OF THE VEH. SM STATED THE CUST DROVE INTO A DITCH AND THEN THE STEARING BOX WAS DAMAGED. LPA ADVISED WILL BE REFERRING CUST TO INSURANCE CARRIER.CUSTOMER SAID: SHIMMY IN FRONT OF TRUCKWOULDN'T TURN PULLING TOWARD RIGHT WENT IN DITCHMON 3/26NO INJURYCAN'T EVEN TELL THE VEH WENT IN THE DITCH. NO INSURANCE CLAIMSPOKE TO ATTORNEYJIMMY WARD309 N MAIN STHILLSVILLE, VADEALER SAID -NEEDS NEW STEERING BOX-NOT COVERED UNDER WARRANTY DUE TO ACCIDENTCRC ADVISED - I WILL FORWARD THIS INFORMATION TO OUR CONSUMER AFFAIRS GROUP. SOMEBODY FROM CONSUMER AFFAIRS WILL CONTACT YOU WITHIN 7-10 BUSINESS DAYS. PLEASE NOTIFY YOUR INSURANCE CARRIER AND REPORT THIS INCIDENT. CUST ADVISED OF ABOVE CUST WANTS TO KNOW WHAT TO		
443978211	AWS	12	3/29/2007	4/2/2007 18 11	5C3Z	5D008	A	DAMPER ASSY (REAR FRAME SUPPORT)	"01364 "	JOHNSON FAMILY FORD-MERCURY, I	WOODLAWN	VA	USA	1FTWW31P36E[redacted]	6/16/2005	2006	F-350 SD	6.0L 325H/550# OHV DI TC V8 DS	5 SPD AUTO 5R110W - HI/TORQUE	DOUBLE CAB (CREW CAB)	4 WHL L/H PART TIME DRIVE	KENTUCKY TRUCK PLANT BUILD	4/25/2006	23203	CUSTOMER STATES VEHICLE HAS A SHIMMY OR A BOUNCY FEEL WHEN DRIVING AND PULLS TO RIGHT WHILE DRIVING THIS MORNING CUSTOMER STATES WENT INTO	23203 NEEDS DAMPERER KIT DIAG OASIS FOUND TSB NUMBER 07 5 11 PERFORMED TSB NUMBER 07 5 11 TEST DROVE TO VERIFY REPAIR OK AT THIS TIME	
214943	VOQ Ford		4/24/2007	5/2/2007 18 11				NOT PROVIDED BY SOURCE		NOT PROVIDED BY SOURCE			USA	*1FTSW21565E	1/1/1900	2005	F-250 SD	Unknown	Unknown	Unknown	Unknown	Unknown		30300	SHORTLY AFTER I PURCHASED MY 2005 FORD F-250 SUPER DUTY PICKUP I EXPERIENCED A VIOLENT VIBRATION IN THE STEERING, WHEN TRAVELING OVER 55 MPH, AFTER HITTING A SMALL BUMP IN THE ROAD. WHEN I BROUGHT MY TRUCK IN FOR SERVICE AND MENTIONED THIS EPISODE. THE SERVICE MANAGER ACTED AS THOUGH IT WERE AN ANOMALY, MAYBE THE ROAD CONDITIONS OR SOMETHING ELSE. THIS DIDN'T SEEM TO BE THE TRUTH, SINCE IT HAPPENED SEVERAL TIMES SINCE THEN. WHEN I BROUGHT IT TO THE ATTENTION OF THE LOCAL SERVICE MANAGER, HE SAID THAT THIS IS COMMON AMONGST THESES LARGE PICKUP TRUCKS, AND JUST TAP THE BRAKES UNTIL THE VIBRATIONS SUBSIDE, IT SHOULDN'T LAST LONG. YESTERDAY I WAS TRAVELING AT ABOUT 60 MILES AN HOUR ON THE HIGHWAY, WHEN I WENT OVER A SEWER GRATE IN THE LEFT LANE. THE VIBRATION BECAME SO VIOLENT THAT I HAD NO CONTROL OF THE STEERING AT ALL. I NARROWLY AVOIDED A COLLISION WITH A FUEL TRUCK AND SEVERAL OTHER CARS ON MY WAY OFF THE ROAD AND INTO WOODS CAUSING MULTIPLE TIRE DAMAGE, AND SUFFERING DENTS AND DAMAGE TO THE VEHICLE. I THANK GOD NO ONE WAS HURT, INCLUDING ME. I WAS ABLE TO DRIVE THE TRUCK AWAY AFTER CHANGING THE		

From: Barry, Jack (J.E.)
Sent: Monday, July 09, 2007 7:42 AM
To: Gompper, Dan (D.B.); Hodges, Cynthia (C.P.); Memmer, Mark (M.A.)
Subject: FW: 2005 thru 2007 F250/F350 Alleged Steering Shimmy/Shake After Hitting Bumps

Attachments: Combined 05 - 07 F250 F350 Alleged Steering Shimmy or Shake.xls; 05 - 07 FSD Alleged Shimmy Shake VOQ data only.xls

Any thoughts? Sounds like a mixed bag of shimmy and torsional ringdown.

Jack Barry

Truck Chassis Steering
Cell Phone ☎: [redacted]
Fax 🖹: **313-322-0744**
Address: **PDC 2BK43**

From: Boals, Shannon (S.D.)
Sent: Monday, July 09, 2007 6:44 AM
To: Barry, Jack (J.E.)
Subject: FW: 2005 thru 2007 F250/F350 Alleged Steering Shimmy/Shake After Hitting Bumps

Please look at this and get back to me.

Shannon Boals
Steering Gear Manager
Ford North America Chassis Engineering
Office: PDC Room 2B-J80
Phone/Fax:(313) 390-5163
Email: <mailto:sboals1@ford.com>

From: Matthews, Steve (S.D.)
Sent: Friday, July 06, 2007 10:51 AM
To: Oswalt, Greg (G.G.); Boals, Shannon (S.D.)
Cc: Jones, Rick (W.P.); Wickenheiser, Francis (F.J.)
Subject: 2005 thru 2007 F250/F350 Alleged Steering Shimmy/Shake After Hitting Bumps

Greg, Shannon;

I was asked to perform some additional work on the alleged steering shimmy/shake after hitting bumps on 2005 thru 2007 F250 and F350 vehicles concern.
Attached to this email are two data files; One data file has the CDR system output (all source systems) with confirmed steering shimmy/shake after hitting bumps concerns. This file contains a tab showing the data normalized, by body style, by model year. The second data file shows VOQ data only. For the VOQ data, I was asked to include F450 and F550 vehicles in my search. Please review the data as needed or route to the appropriate engineer(s) for their review.

Greg - Joe W would like you to arrange for a teleconference call with the appropriate engineer(s) to discuss this concern further.

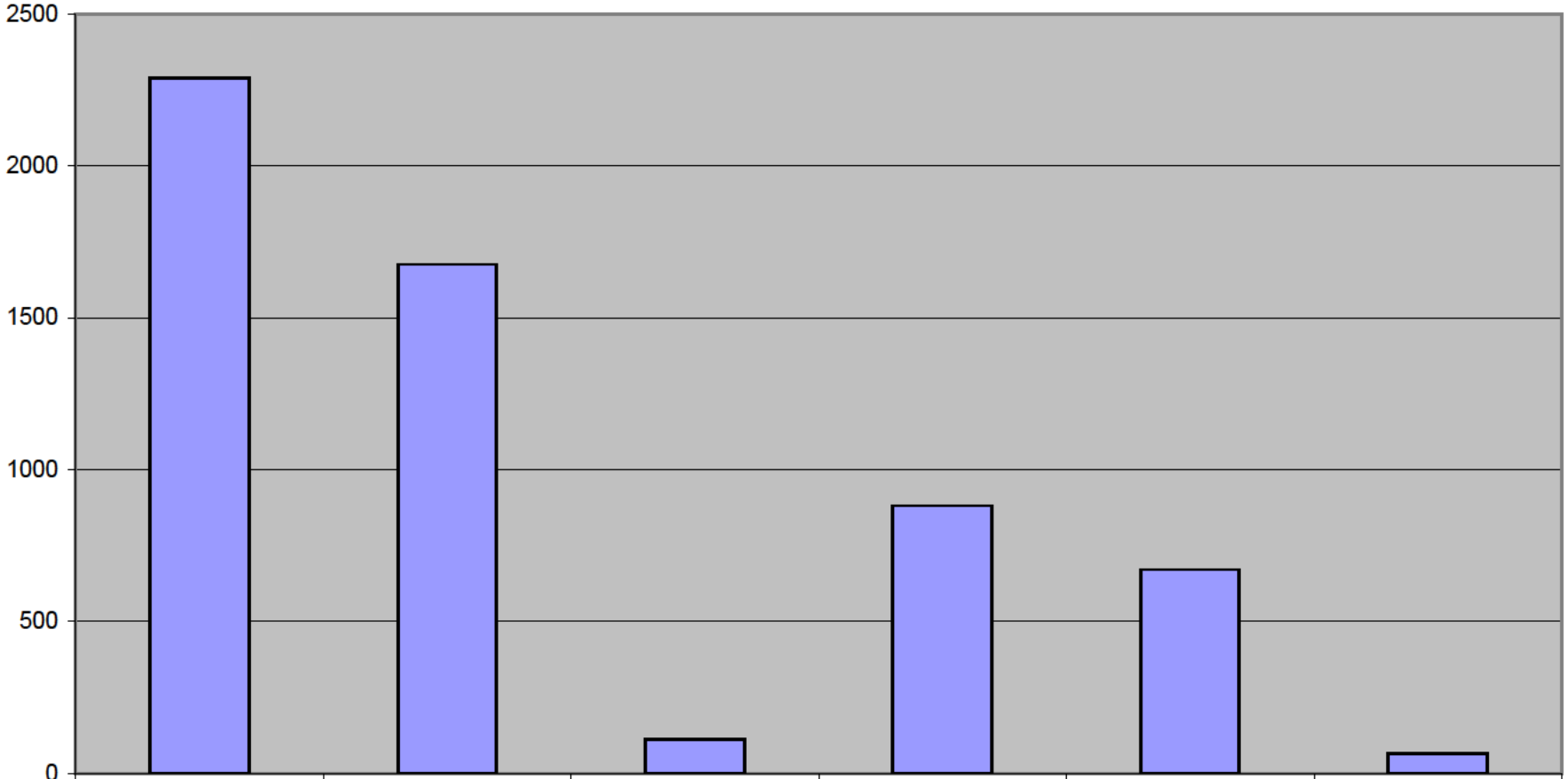
If you have any questions regarding the data files, please contact me.

Combined 05 - 07
F250 F350 All...

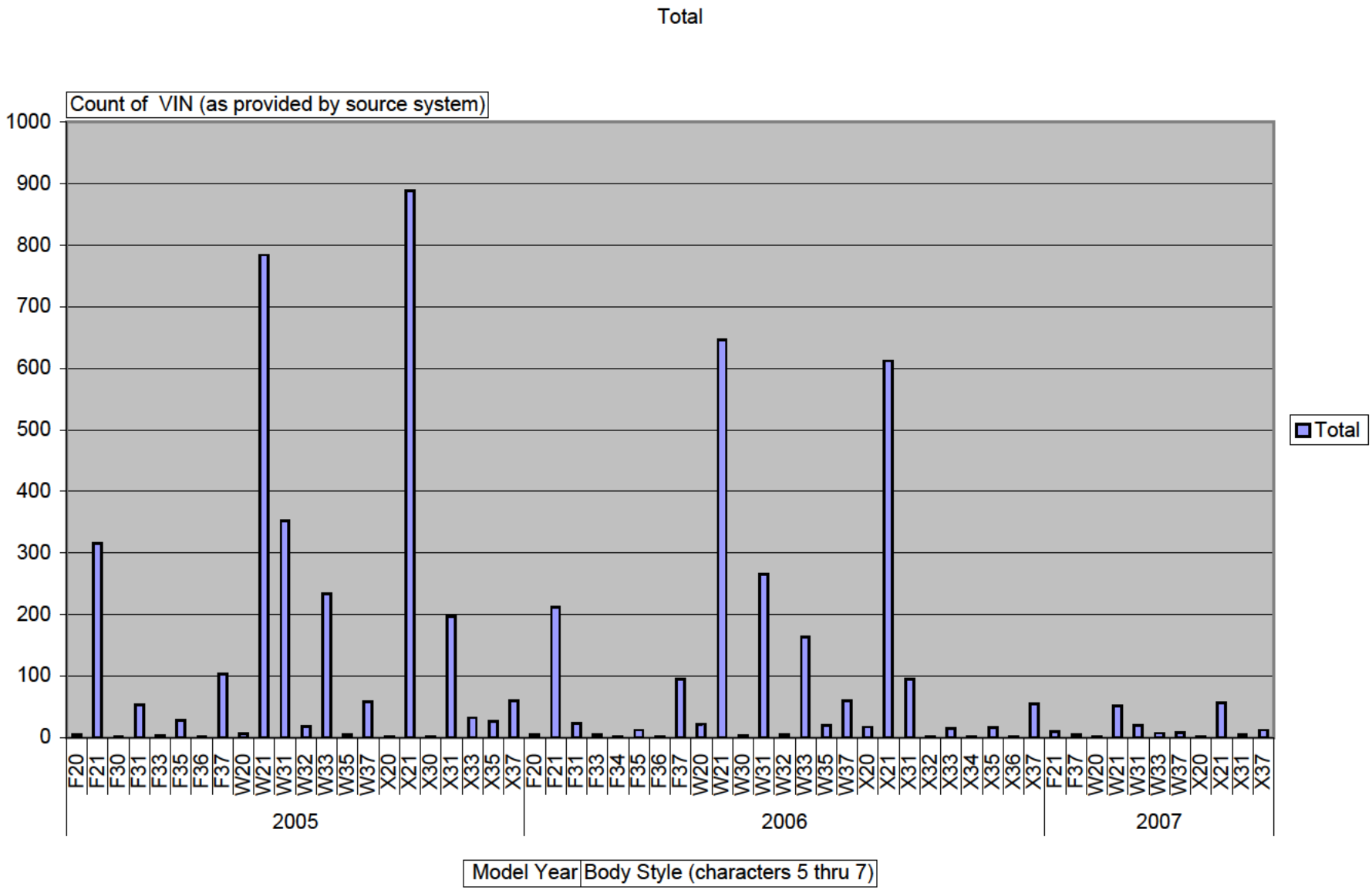
05 - 07 FSD Alleged
Shimmy Sha...

Steve Matthews
Product Concern Analyst
Automotive Safety Office
313.24.83764

2005 thru 2007 f250 and F350
Alleged Steering "Shimmy" or "Shake"
Data Sorted by Customer Symptom/Key Word

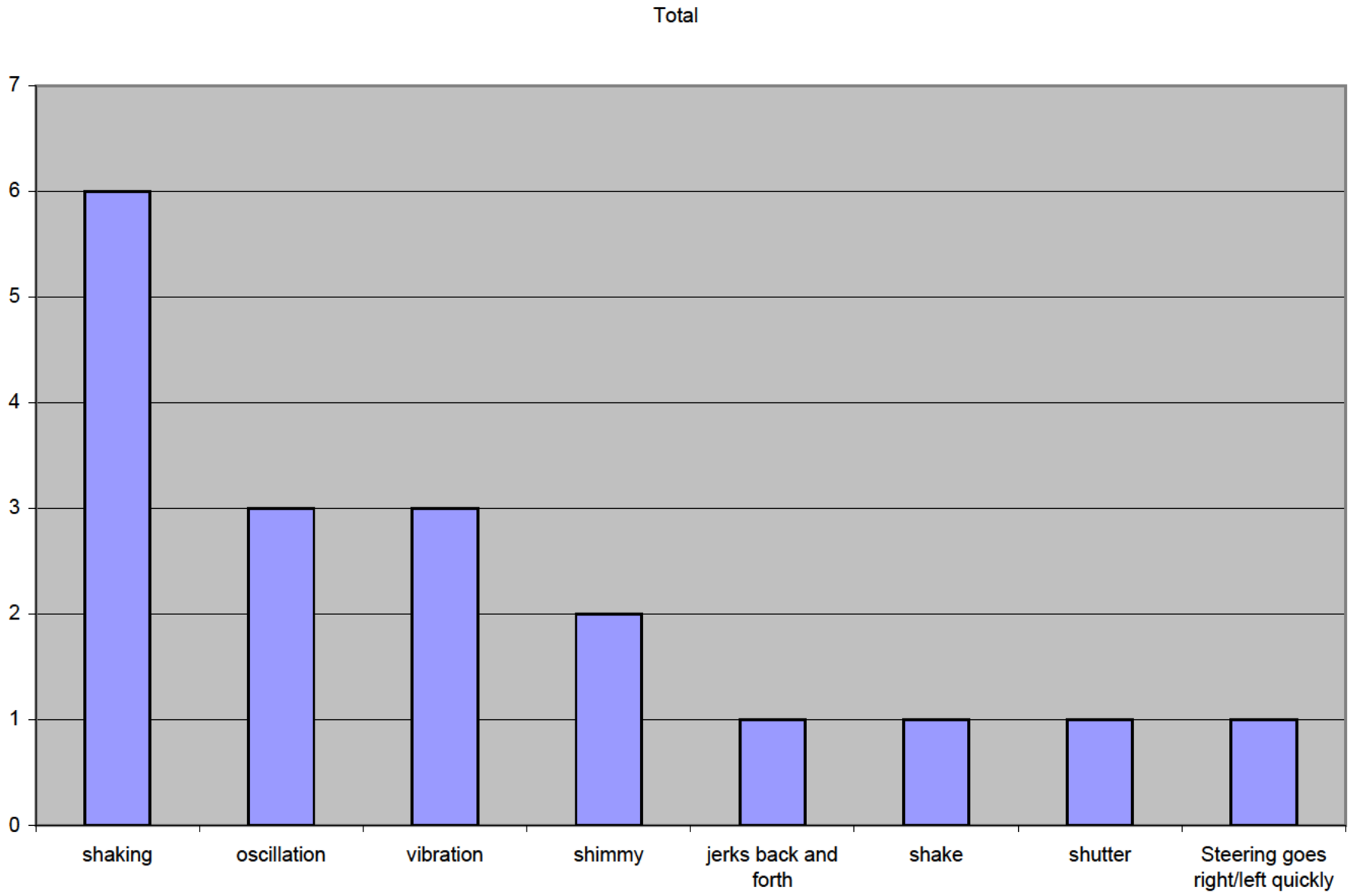


	2005 shake	2006	2007	2005 shimmy	2006	2007
Total	2290	1676	111	881	671	66


Total
Count of VIN (as provided by source system)
1000
900
800
700
600
500
400
300
200
100
0
F20 F21 F30 F31 F33 F35 F36 F37 W20 W21 W31 W32 W33 W35 W37 X20 X21 X30 X31 X33 X35 X37
F20 F21 F31 F33 F34 F35 F36 F37 W20 W21 W30 W31 W32 W33 W35 W37 X20 X21 X31 X32 X33 X34 X35 X36 X37
F21 F37 W20 W21 W31 W33 W37 X20 X21 X31 X37
2005
2006
2007
Total
Model Year
Body Style (characters 5 thru 7)

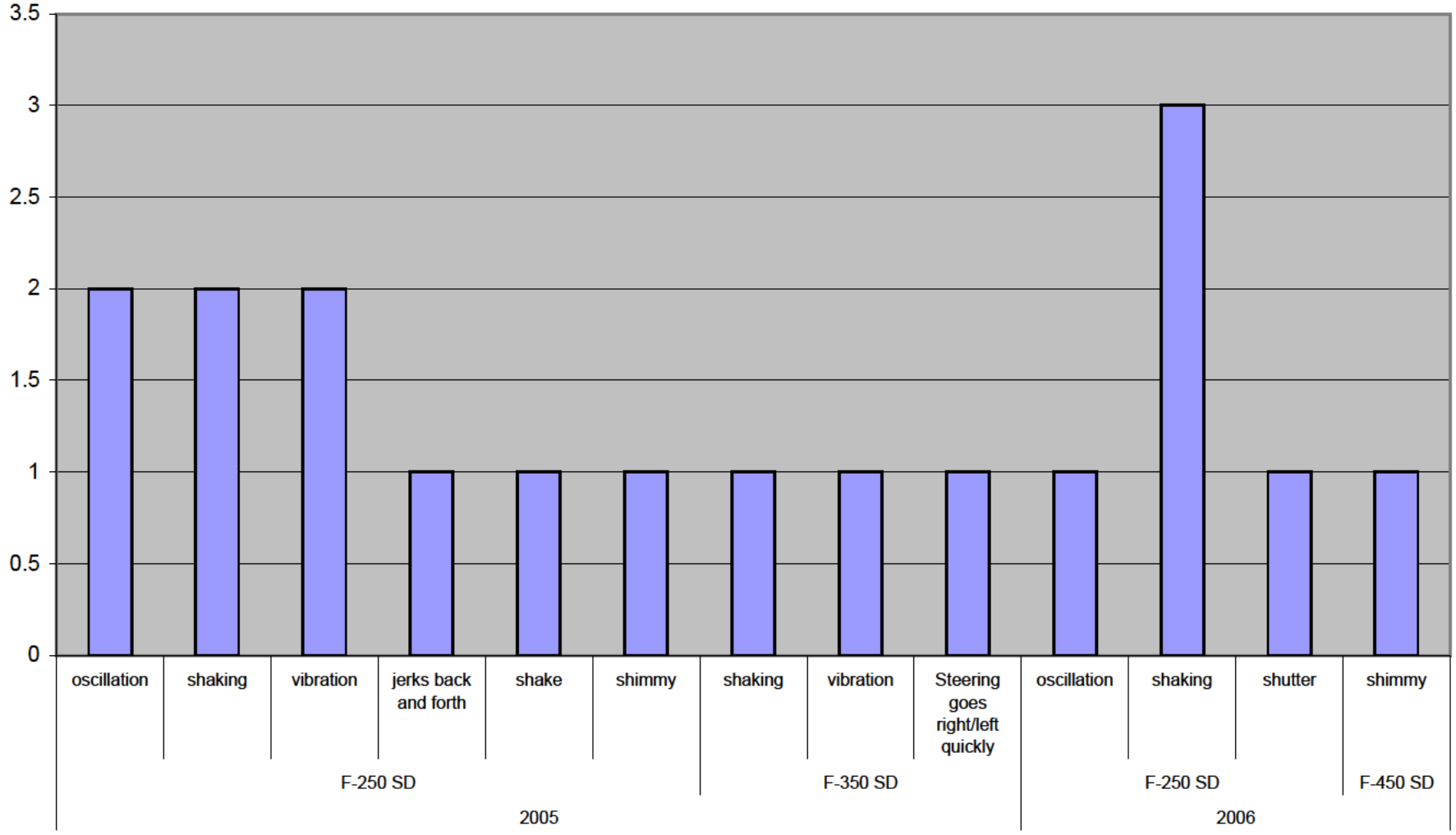
Count of VIN (as provided by source system)			# of records	Vehicle production Volumes (from AWS)	r/1000
Model Year	Body Style (characters 5 thru 7)	Total			
2005	F20	4	4	12760	0.313479624
	F21	316	316	15223	20.75806346
	F30	1	1	2173	0.460193281
	F31	53	53	6768	7.830969267
	F33	3	3	359	8.356545961
	F35	28	28	1215	23.04526749
	F36	2	2	16416	0.121832359
	F37	103	103	9339	11 0290181
	W20	6	6	12764	0.470072078
	W21	784	784	73974	10.59831833
	W31	352	352	45757	7.692812029
	W32	18	18	5927	3.036949553
	W33	233	233	19500	11.94871795
	W35	4	4	331	12.08459215
	W37	58	58	1935	29.97416021
	X20	2	2	12296	0.162654522
	X21	889	889	40722	21.83095133
	X30	1	1	1211	0.825763832
	X31	197	197	11724	16.80313886
	X33	32	32	1964	16.29327902
	X35	26	26	803	32.37858032
	X37	59	59	1851	31.87466234
2005 Total		3171			
2006	F20	4	4	15872	0.252016129
	F21	212	212	17325	12.23665224
	F31	23	23	8261	2.784166566
	F33	4	4	487	8.213552361
	F34	1	1	2425	0.412371134
	F35	12	12	1343	8.935219657
	F36	1	1	23433	0.04267486
	F37	95	95	10276	9.244842351
	W20	22	22	14799	1.486586932
	W21	646	646	87837	7.354531689
	W30	3	3	4138	0.724987917
	W31	265	265	56467	4.693006535
	W32	4	4	6872	0.582072177
	W33	164	164	23952	6.847027388
	W35	19	19	570	33.33333333
	W37	60	60	3056	19.63350785
	X20	17	17	16027	1.060710052
	X21	612	612	44743	13.67811725
	X31	94	94	13683	6.869838486
	X32	1	1	762	1.312335958
	X33	14	14	1994	7.02106319
	X34	1	1	761	1.314060447
	X35	16	16	887	18.03833145
	X36	2	2	1207	1.657000829
	X37	55	55	2679	20.53004853
2006 Total		2347			
2007	F21	10	10	6759	1.479508803
	F37	4	4	4097	0.97632414
	W20	1	1	5758	0.173671414
	W21	51	51	30634	1.66481687
	W31	20	20	22250	0.898876404
	W33	7	7	7071	0.989958987
	W37	8	8	1224	6.535947712
	X20	2	2	5547	0.360555255
	X21	57	57	12959	4.398487538
	X31	5	5	4341	1.151808339
	X37	12	12	1022	11.74168297
2007 Total		177			
Grand Total		5695			

Selection Summary	
make	Ford LM;
model year	2007; 2006; 2005;
vehicle line	F-250; F-250 SD; F-350; F-350 SD; F-450; F-450 SD; F-550; F-550 SD;
source system key	VOQ Ford;
commodity category	chassis;
commodity level1	steering;
Selections	chassis - steering -> Total


Total
7
6
5
4
3
2
1
0
shaking
oscillation
vibration
shimmy
jerks back and forth
shake
shutter
Steering goes right/left quickly

Count of VIN	
Sort Field 1	Total
shaking	6
oscillation	3
vibration	3
shimmy	2
jerks back and forth	1
shake	1
shutter	1
Steering goes right/left quickly	1
Grand Total	18

2005 thru 2007 F250 thru F550
VOQ data; Alleged steering shimmy/shake while driving after hitting bump in road
Data sorted by Model year, then by Body Style, then by Customer Symptom



Count of VIN			
Model Year	Vehicle Description	Sort Field 1	Total
2005	F-250 SD	oscillation	2
		shaking	2
		vibration	2
		jerks back and forth	1
		shake	1
		shimmy	1
	F-250 SD Total		9
	F-350 SD	shaking	1
		vibration	1
		Steering goes right/left quickly	1
	F-350 SD Total		3
2005 Total			12
2006	F-250 SD	oscillation	1
		shaking	3
		shutter	1
	F-250 SD Total		5
	F-450 SD	shimmy	1
	F-450 SD Total		1
2006 Total			6
Grand Total			18

VOQ Analysis

2005 MY - 12 reports

9 - F250
- **5 - W21**
- **2 - X21**
- **1 - missing VIN**

3 - F350
- **2 - W33**
- **1 - W32**

2006 MY - 6 reports

5 - F250
- **3 - X21**
- **1 - W21**
- **1 - missing VIN**

1 - F450
- **1 - bad VIN, Report indicates F450, but cust comments says 2006 F25(**

) 4x4

From: Ryan, Curt (C.A.)
Sent: Monday, September 17, 2007 3:12 PM
To: OConnor, Tammy (T.A.)
Subject: FW: 2006,F250 4X4,SUP CAB,PICKUP ,1FTSX21506E[redacted]

Hello Tammy,

I called and sent the below email to Dan Gompper a week ago, but he has not responded back to me. Is there anyone else that I can contact who can help me with this?

Regards,

Curt Ryan
Field Service Engineer
Seattle Region
(425) 241-8734

From: Ryan, Curt (C.A.)
Sent: Monday, September 10, 2007 10:48 AM
To: Gompper, Dan (D.B.)
Subject: FW: 2006,F250 4X4,SUP CAB,PICKUP ,1FTSX21506[redacted]

Hello,

I am currently dealing with a customer that had a violent shake that would not stop until the vehicle was slowed to 35 mph or less. This was fixed by using the steering dampener from TSB 07-10-10 (as well as performing the rest of the TSB). Now the vehicle still shakes pretty good when hitting a bump at freeway speeds, but the dampener keeps it from shaking for very long and from affecting the steering. I feel that this is probably normal for his set-up (5.4L, manual trans with heavy-duty suspension), but the customer doesn't feel that way and he qualifies for Lemon Law. He will keep the truck if we can soften the front suspension a bit to reduce the suspension stiffness. I want to talk to somebody who can help me to change the appropriate parts to do that (shocks, springs, etc.). Can you help me?

Regards,

Curt Ryan
Field Service Engineer
Seattle Region
(425) 241-8734

From: OConnor, Tammy (T.A.)
Sent: Monday, September 10, 2007 8:47 AM
To: Ryan, Curt (C.A.)
Cc: Gompper, Dan (D.B.); Knapp, David (D.)
Subject: RE: 2006,F250 4X4,SUP CAB,PICKUP ,1FTSX21506E[redacted]

Curt: Has the TSB for Steering Wheel oscillation been performed - and have you verified that it has been completely? When the TSB is done completely, it has resolved the issue.

Please feel free to call Dan Gompper after you verify the the TSB has been followed completely.

Tammy A. O'Connor
Product Concern Engineer
FCSD Service Engineering Operations
Super Duty F-Series
Body / Chassis / Electrical

248/814-8698 Telecommuting Office (Mon,Tue,Fri)
313/322-3824 DSC I, Cube 149 (Wednesday,Thursday)

From: Ryan, Curt (C.A.)
Sent: Monday, September 10, 2007 11:24 AM
To: OConnor, Tammy (T.A.)
Subject: 2006,F250 4X4,SUP CAB,PICKUP ,1FTSX21506E[redacted]

Hello Tammy,

I need to speak with a suspension engineer about the above vehicle. The customer had a violent shake that would not stop until the vehicle was slowed to 35 mph or less. This was fixed by using the steering dampener from TSB 07-10-10. Now the vehicle still shakes pretty good when hitting a good bump at freeway speeds, but the dampener keeps it from shaking very long and from affecting the steering. I feel that this is probably normal for his set-up (5.4L, manual trans with heavy-duty suspension), but the customer doesn't feel that way and he qualifies for Lemon Law. He will keep the truck if we can soften the front suspension a bit to reduce the suspension stiffness. I want to talk to somebody who can help me to change the appropriate parts to do that (shocks, springs, etc.). Can you help me with a contact?

Regards,

Curt Ryan
Field Service Engineer
Seattle Region
(425) 241-8734

From: Sprunger, Jon (J.L.)
Sent: Wednesday, July 12, 2006 1:37 PM
To: Rivera, Santos (S.)
Cc: O'Connor, Tammy (T.A.)
Subject: FW: [redacted]s ready for just in time collaboration review

Attachments: [redacted]pdf

[redacted]
pdf (67 KB)

Santos,

We are being asked to remove step 3 of the road test from this TSB. Do I need to worry about this affecting the labor operations?

Sincerely,
Jon Sprunger
Global Technical Communications - FCSD
TSB/SSM Processing
Phone: (313)32-32272
Fax: (313)24-86449
jsprunge@ford.com

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Wednesday, July 12, 2006 12:45 PM
To: Sprunger, Jon (J.L.)
Subject: FW: [redacted] is ready for just in time collaboration review

FYI.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

-----Original Message-----
From: Zeitz, Keith (K.A.)
Sent: Wednesday, July 12, 2006 11:52 AM
To: Repasky, Steve (S.); Arnold, Bruce (B.C.); O'Connor, Tammy (T.A.)
Cc: Welch, Sharon (S.L.); Hodges, Cynthia (C.P.)
Subject: RE: [redacted] is ready for just in time collaboration review

The section in the Road Test #3 I think can be removed. It is referring to returnability which was put there for the meshload adjustment portion which is no longer a part of this TSB.

Keith A. Zeitz
Steering & Suspension Quality Supervisor Integrated BB & ASQ SSBB PDC 2D-G34, ph # (313) 805-3994
"Don't find fault, find a remedy" - Henry Ford
Today's Word On The WaY
"…God's kindness leads you toward repentance."

- Romans 2:4

-----Original Message-----
From: Repasky, Steve (S.)
Sent: Wednesday, July 12, 2006 11:18 AM
To: Arnold, Bruce (B.C.); Zeitz, Keith (K.A.)
Subject: FW: [redacted] is ready for just in time collaboration review
Importance: High

Bruce/Keith - Revised Superduty SW oscillation TSB for your review and comment. Thanks..

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Wednesday, July 12, 2006 10:55 AM
To: Repasky, Steve (S.)
Cc: Hale, Curt (B.C.); Knapp, David (D.); Welch, Sharon (S.L.)
Subject: FW: [redacted] is ready for just in time collaboration review
Importance: High

Steve:

Attached is draft of TSB which is currently in co-lab. Please review and send any suggested changes by COB 7/13/06 or TSB will be published as is.

Please feel free to forward to other Engineers as appropriate for their review.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

-----Original Message-----
From: Siplus, G (G.)
Sent: Wednesday, July 12, 2006 10:45 AM
To: O'Connor, Tammy (T.A.)
Subject: [redacted] is ready for just in time collaboration review
Importance: High

YOU MUST RESPOND BY CLOSE OF BUSINESS 7/13/2006 Failure to respond by the deadline is considered approval of the article as written.
*** DO NOT REPLY TO THIS NOTE ***

The following Technical Service Bulletin (TSB) is available for viewing at:
http://www.gsi.ford.com/oz/tips/CollabWeb/Collaborator.asp

Concern Tracking Number: [redacted]

Description: Steering Wheel Oscillation.

Vehicles: F-Super Duty

Review all articles that pertain to your area of responsibility for accuracy and completeness and select ONE of the following:
1. Approve the article as written
2. Approve the article with edits
   Note: If a vehicle line or model year has been excluded from the article select this option and list the vehicle line(s) that should be added.
3. Reject the article with attached reason

If this message should not have been sent to this address please forward it to gsiplus@ford.com.

From: Repasky, Steve (S.)
Sent: Tuesday, August 24, 2004 3:17 PM
To: Gompper, Dan (D.B.); Memmer, Mark (M.A.)
Subject: FW: Heavier redundant wheels - Timing Opportunities for PSW

Importance: High

Info...

-----Original Message-----
From: Jablonski, Mary (M.K.)
Sent: Tuesday, August 24, 2004 1:26 PM
To: 'Scott Warhover (E-mail)'
Cc: Fenocketti, Mike (L.M.); Reyes, Pete (P.D.); Repasky, Steve (S.); Halliburton, Rajoielle (R.T.)
Subject: Heavier redundant wheels - Timing Opportunities for PSW
Importance: High

Scott: Key Safety Current timing for PSW parts with the added mass is 10/15/2004.
Need to know the following:

1. What can be done to pull ahead the PSW timing?
2. Ramp up for service - When will parts be available?

Thanks.

Mary Jablonski
TT Airbag, Steering Wheel and RCM Supervisor
313-390-6276, mjablon1@ford.com
(Text) Pager Number 313-814-5984

From: Taylor, Alma (A.)
Sent: Friday, June 15, 2007 8:30 AM
To: Matthews, Steve (S.D.)
Subject: FW: [15009248] Inbound Fax 9284250734

Attachments: 15009248.pdf

15009248.pdf (259 KB)

Hello Steve,

Attached is a copy of the written report from the EAA inspection. The inspector is attempting to address computer problems, so he was unable to send any photos.

Alma Taylor
Litigation Prevention/CVO
Consumer Affairs
Phone: 313 317-1862
Fax: 8886839898

Ford Confidential

-----Original Message-----
From: "CRC Fax Notify" [mailto:auto.notify@mailconnect.com]
Sent: Thursday, June 14, 2007 4:43 PM
To: Taylor, Alma (A.)
Subject: [15009248] Inbound Fax 9284250734

The attached file contains an inbound fax image.
You may view it with any graphic viewer that supports TIF.
Have a nice day!

Pages Received : 13
Time Received : Thu, 14 Jun 2007 16:43:18 -0400
Duration : 376
Remote CSID : 9284250734
DID : 8886839898

** INBOUND NOTIFICATION : FAX RECEIVED SUCCESSFULLY **

TIME RECEIVED	REMOTE CSID	DURATION	PAGES	STATUS
Thu, 14 Jun 2007 16:43:18 -0400	9284250734	376	13	Received

06/14/2007 13:57 9284250734 COBRE VALLEY MOTORS PAGE 01

Alma Wyatt
888 683 9899
13 pages

Ford Motor Company
Preliminary Vehicle Inspection Report

Ford File Number [redacted]

CUSTOMER & VEHICLE INFORMATION

Year 2007	Make FORD	Model F-250	VIN 1FTSX21547E[redacted]	
Owner Name [redacted]			Address [redacted]	
City DENVER	State CO	Zip [redacted]	Home Telephone	Business Telephone [redacted]
Driver Name NOT AVAILABLE			Address NOT AVAILABLE	
City N/A	State N/A	Zip N/A	Home Telephone N/A	Business Telephone N/A
Attorney Name (X Claimant not represented)			Address	
City	State		Zip Code	Telephone

Inspection Location SWETKY BROS., TRINIDAD CO	Inspection Date 06/07/2007	Current Mileage 12171,01010.1
Date of Incident 06/03/2007	Time of Incident 06:40 AM X PM☐	Repair Estimate (Attach Written, If avail.) $ TOTAL LOSS
Inspected By JAMES M. ELGAN	Organization EAA	Telephone 928-701-4242
Inspectors Signature JAMES M. ELGAN		Date 6-11-2007

SECTION A INSPECTION SUMMARY

Following the vehicle inspection, summarize the facts and your observations (Do not include any opinions, speculation or conclusions.) Attach a copy of the appropriate Vehicle Inspection Report(s) for the allegation(s) being investigated.

IN INSPECTING THIS VEHICLE, I FOUND NO STEERING OR SUSPENSION PARTS BROKEN OR BENT IN ANY WAY. I DID FIND THAT THE POWER STEERING RESERVOIR DIPSTICK WAS LOW ON FLUID AND THERE WAS NO EVIDENCE THAT IT LEAKED OUT DURING THE ROLLOVER INCIDENT. TIRES ON THIS VEHICLE ARE A REPLACEMENT BRAND, MAXXIS AND ARE A 8 PLY RATING. THIS VEHICLE CALLS FOR 75 PSI IN THE TIRES. TIRE PRESSURE'S FOUND WERE LF, 40 PSI. LR, 30 PSI. RF, 42 PSI. RR, 41 PSI.

Ford File Number [redacted]

CUSTOMER & VEHICLE INFORMATION

SECTION B INTERVIEW - VEHICLE HISTORY

Name, address & phone number of person(s) being interviewed. Always interview the driver when possible):
PIONEER NATURAL RESOURCES WOULD NOT GIVE OUT THE DRIVERS NAME.

Vehicle modifications or after-market equipment? YesX No☐ (e.g. , hand controls for disabled persons, radio, phone, tires, wheels, trailer hitch/wiring, trailer brake controller, hydraulic lines, alarm system, floor mats, etc.) ***Item(s)***, date installed, and by whom (name, phone):
MAXXIS MUDDER BUCKSHOT TIRES, LT265/70R17, 8 PLY, OWNER INSTALLED.

Prior collision damage? Yes☐ NoX (when, where, extent, repaired by, etc.):
NONE APPARENT

Describe ***existing vehicle conditions*** at time of incident (warning lights "On", strange odors, etc.):
UNKNOWN

Repairs outside of warranty (what, when, by whom?):
N/A

Ford File Number: [redacted]

CUSTOMER & VEHICLE INFORMATION

SECTION C INTERVIEW - INCIDENT DETAILS

If the vehicle is a truck, or a car trailering cargo at the time of the incident, estimated total weight of cargo and trailer N/A (lbs) Load description (What was being transported):
PICK UP BED WAS FULL OF EQUIPMENT

Driver's physical description from interview, drivers license or police report (height, disabilities, medical conditions or medications etc.):
UNKNOWN

Drive Length this trip: Hrs. UNKNOWN Minutes UNKNOWN Length of trip in miles: UNKNOWN
Estimated vehicle speed: UNKNOWNMPH Source of estimate: N/A Posted speed: 75MPH

Exact incident location: (Provide the highway name or route number, nearest cross street, and the direction the vehicle was traveling.)
EXIT #10 @ EL MORO EXIT

Weather conditions and visibility:
CLEAR

Approx. ambient temperature 65°F. Any physical visual obstructions? (Signs, Trees, Bushes)
NONE

Surface where incident occurred: (Place an "X" in the appropriate boxes)

Concrete	Asphalt	Gravel	Dirt	Other
	X			

Other, Please Describe:

Surface Conditions: (Place an "X" in all that apply)

Smooth	Rough	Pot Holes	Wavy	Other
X				
Wet	**Dry**	**Snow**	**Icy**	**Other**
	X			

Other, Please Describe:

Ford File Number [redacted]

CUSTOMER & VEHICLE INFORMATION

Normally brake with Right or Left foot? UNKNOWN Observe and Photograph the brake pedal pad for evidence of wear.

Describe brake operation (pedal feel, brake pull or grab, vibration, normal, etc.):
UNKNOWN

Any warning lights "On", high/low gauge readings, or messages displayed (☐Y/☐N): Describe:
UNKNOWN

Electrical systems operation (normal/other?):
UNKNOWN

Mark an "X" before all electrical systems/devices which were "On" or "Cycled" immediately prior to the incident (if unknown, enter "U"): ALL FOUND IN THE 'OFF' POSITION.

- ☐ Cruise Control
- ☐ Traction Control Switch "On
- ☐ Low Beam Headlights
- ☐ High Beam Headlights
- ☐ Daytime Running Lights
- ☐ Fog Lamps
- ☐ Turn Signal
- ☐ Hazard Flashers
- ☐ Map Lights, Ft ☐ Rr ☐
- ☐ Other Interior Lights
- ☐ Windshield Wipers
- ☐ Air Conditioner
- ☐ Heater
- ☐ Windshield Defogger
- ☐ Windshield Defroster
- ☐ Rear Window Defroster
- ☐ Outside Mirror Heater
- ☐ Driver Seat Heater
- ☐ Passenger Seat Heater
- ☐ Auxiliary Power Outlet
- ☐ Radio, Tape/CD Player
- ☐ Auxiliary CD Player
- ☐ Telephone
- ☐ CB Radio
- ☐ Power Window Controls
- ☐ Power Mirror Controls
- ☐ Power Seat Controls
- ☐ Power Sun Roof Controls
- ☐ Cigar Lighter
- ☐ Other ____

Steering operation (power assist, pulls, loose, etc.?):
UNKNOWN

Powertrain (any engine miss, sluggish, surge, stall, loss of power or speed, etc.?):
UNKNOWN

Any unusual noises (bang, pop, tick, grinding, metallic, roar, etc.)? From where?
UNKNOWN

Describe any unusual odors or smoke (from where, color, intensity, etc.):
UNKNOWN

(Note: Attach additional pages as necessary to fully describe conditions present or those not covered by this report).

Measure and record the driver's seat positioned during the incident? (Measure distance from brake pedal rest position to front of seat): 18inches.

Ford File Numbe[redacted]

CUSTOMER & VEHICLE INFORMATION

Describe the steering wheel (tilt) position during the incident:

Tilt steering wheel position? ☐ Not equipped Position: Low ☐ Mid ☐ High X

SECTION D DAMAGE TO OTHER VEHICLE OR PROPERTY

Vehicle(s)
Was another vehicle(s) involved? Yes ☐ No X (If No, skip to property damage)
If yes, list the Year, Make and Model____
Owner name and address ____
Driver name and address ____
Vehicle speed estimate: ____M.P.H. Estimate by whom? ____
Describe damage ____

Property
Was property (other than vehicles) damaged? Yes ☐ No X (If No, skip to Section E)
Owner of property ____
Address/Location of property ____
Describe the damaged property (sign, fence, building, etc.) ____
Describe the nature and extent of damage (including measurements)

Ford File Number [redacted]

CUSTOMER & VEHICLE INFORMATION

SECTION E DRIVER DESCRIPTION OF THE INCIDENT

Provide a signed and dated statement written by the driver. If one is not available, provide the driver's description of the incident as provided to you: (Mr. Smith states…)
THIS STATEMENT WAS ASKED FOR. I LEFT ELTON SMITH, SENIOR PRODUCTION SUPERINTENDENT MY FAX # AND ASKED THAT HE SEND DRIVERS STATEMENT TO ME. TO THIS DATE, I HAVE NOT RECEIVED

SECTION F POLICE / FIRE INCIDENT REPORT

***Police** Report Filed:(XY/☐N) Report Number UNKNOWN Copy Attached (☐Y/XN)
Municipality/Agency and Location COLORADO HIGHWAY PATROL, TRINIDAD CO.

***Fire** Report Filed:(☐Y/XN) Report Number_____ Copy Attached (☐Y/☐N)
Municipality/Agency and Location____

*You should always attempt to obtain an official copy of the report from the agency involved. If the agency will not release a copy to you, please indicate below.

SECTION G RECALL CAMPAIGNS

Is the vehicle subject to any recall campaigns? ☐ Yes X No (If no, skip to next section)

If yes, identify all campaigns and whether the inspection/modification has been completed.

Recall Number	Description	Completed?	
		☐ Yes	☐ No
		☐ Yes	☐ No
		☐ Yes	☐ No
		☐ Yes	☐ No

Ford File Number [redacted]

CUSTOMER & VEHICLE INFORMATION

SECTION H VEHICLE SYSTEM INSPECTION REPORT

Attach the completed Vehicle System Inspection form(s) to this Customer and Vehicle Information section. The vehicle system inspection forms are provided as a guide to conduct a methodical inspection of the various vehicle systems. Complete the appropriate vehicle system inspection(s) based on the specific inspection request. Take color photographs as necessary to clearly show the areas of concern and your observations.

Provide information only for the vehicle identified in the inspection request and for the allegation made by the claimant. Based on the allegations, it may be appropriate to complete more than one vehicle system inspection form.

Attached to the Customer & Vehicle Information is a vehicle inspection(s) for:
(Check all that apply)

☐ Automatic Transmission/Transaxle (4)	☐ Inadvertent Vehicle Movement (5)
☐ Brake/ABS System (5)	☐ Restraint Systems (6)
☐ Fire (5)	☐ Seats (5)
☐ Hood Latches (4)	X Steering, Suspension Tires & Wheels (4)

( ) indicates the number of pages in the report

SECTION I PHOTOGRAPHS

Attach a Photograph Description sheet to this report describing subject matter of any photographs taken while investigating this matter.

How many photographs were taken?46By whom?JAMES M. ELGAN

To whom were these photographs supplied? ALMA TAYLOR

SECTION J INCIDENT SITE INSPECTION

Incident site inspection performed?	X Yes (attached)	☐ No (not performed)

An incident site inspection should be performed to gather information on physical evidence left by the vehicle(s) involved. The information should reflect only measurements, reference points and location of physical evidence and should not attempt to show the path of the vehicle(s) prior to and after the incident.

Ford Motor Company
Preliminary Vehicle Inspection Report

Ford File Number [redacted]

STEERING, SUSPENSION, AXLE, TIRE AND WHEEL SYSTEMS

SECTION A PHOTOGRAPHIC EVIDENCE

Photographs document the physical evidence via color photographs and written observations. By recording your observations in the following section you will be following a methodical inspection format.

Take color photographs of the following:

A. Exterior:
- Front
- Right side
- Rear
- Left side
- Vehicle Identification Number (VIN)

B. Chassis:
- Struts/Shock Absorbers
- Springs
- Control arms
- Ball joints
- Steering knuckles
- Axle Assembly
- Wheels and tires

C. Interior:
- Instrument panel and odometer
- Steering column and flex joint

D. Underhood:
- Power steering pump, lines, hoses and connections
- Steering linkage
- Steering gear/Rack & Pinion
- Intermediate shaft and coupling

E. Underbody:
- Steering linkage
- Exhaust
- Transmission and engine oil pans
- Fuel tank

Ford File Number [redacted]

STEERING, SUSPENSION, AXLE, TIRE AND WHEEL SYSTEMS

F. General:

Any after-market installation
Any modifications

Comments:
DIFFERENT TIRES HAVE REPLACED THE OEM BRAND.

SECTION B VEHICLE INSPECTION - CHASSIS

List the physical location where the inspection was conducted.

List the name, title and company affiliation of anyone who was present during your inspection. (Obtain and attach a business card if possible.)
ROBERT HODNETT, ELTO J. SMITH, JIM YOUNG, ALL OF PIONEER NATURAL RESOURCES. ROY KEISER, OF PHIL LONG FORD, TRINIDAD CO.

Use that area below to identify what you inspected and your observations during the inspection. Identify any tests performed and the results of those tests. Describe anything that is not operating properly and how it relates to the allegation. Identify any non-production component. (Shocks/struts, wheels and tires, etc.)

Component/System	Observation
Power steering pump, pulley, drive belt, hoses and connections	ALL IN PLACE AND TIGHT IN THEIR MOUNTING'S.
Steering gear/Rack &Pinion	N/A
Steering linkage	DOES NOT APPEAR BENT OR BROKEN IN ANY WAY.
Steering knuckle(s)	STEERING KNUCKLES APPEAR IN GOOD WORKING ORDER.
Suspension components: Left front	APPEARS GOOD
Left front	APPEARS GOOD
Right front	APPEARS GOOD
Right rear	APPEARS GOOD

Steering column, intermediate shaft and coupling	APPEARS GOOD, IS NOT COLLAPSED.
Frame deformation	NONE APPARENT
Under carriage damage	NONE APPARENT
Automatic levelling system	N/A

SECTION C TIRES AND WHEELS

TIRE PLACARD DATA:

Record the following data: (located on driver's door edge or inside the deck lid)

	SIZE	PRESSURE (psi)	PRESSURE AT MAXIMUM LOAD (psi)
TIRES	LT265/70R17	75	75
SPARE TIRE	LT265/70R17	75	75

TIRE IDENTIFICATION and WEAR:

	TIRE BRAND (Goodyear)	TIRE TYPE (Eagle GA)	TIRE SIZE (P205/70R15)	PRESSURE (psi)	TREAD DEPTH (average across width of tire) 32nds of inch
LF	MAXXIS	MUDDER BUCKSHOT	LT265/70R17	40	6
RF	MAXXIS	MUDDER BUCKSHOT	LT265/70R17	42	6
LR	MAXXIS	MUDDER BUCKSHOT	LT265/70R17	30	6
RR	MAXXIS	MUDDER BUCKSHOT	LT265/70R17	41	6

Describe any damage to tires, such as scrapes, marks due to impact, cuts, prior repairs, tread separation, flat spots, belt or ply exposure, etc. Record all wheel and tire identification information if the allegation relates to these components.

Left Front
ONE SCRAPE ON RIM, NO TIRE DAMAGE

Right Front ONE SCRAPE ON RIM, NO TIRE DAMAGE.
Left Rear ONE SCRAPE ON RIM, NO TIRE DAMAGE. TIRE IS VERY UNDER INFLATED.
Right Rear ONE SMALL SCRAPE ON RIM, NO TIRE DAMAGE.

SECTION D ROAD TEST

Describe the weather conditions at the time of your road test.

Temperature °F	Conditions ☐ Clear ☐ Cloudy ☐ Rain ☐ Snow ☐ Fog

Road Test:		
	Time: _____ Minutes	Length: _____ Miles

Observations of steering, suspension, tires and wheels system performance while driving: (steering feel, responsiveness, assist, pull and lead) List all tests performed, how many times was the test repeated, results of the test and were the results consistent.

UNABLE TO PERFORM.

Ford Motor Company
Preliminary Vehicle Inspection Report

Ford File Numbe [redacted]

INCIDENT SITE INSPECTION

Complete this Incident Site Inspection Report and attach it to the Customer and Vehicle Information Report.

Incident site inspection should be conducted if the reported event recently occurred and may reveal tire or impact marks to provide an indication of the path of the vehicle(s) involved. When possible, have the driver go to the scene with you to identify the exact location and marks.

Observe and record key facts of the incident scene showing:

1. All impact points and marks on the road surface, other terrain and property at the site, including measurements from a clearly defined reference points. A clear photograph is required to identify each impact point.
2. Tire marks including measurements from a clearly defined reference point. Measurements must be taken with a measuring tape. Include a photograph clearly defining the reference point in relation to the accident site
3. Include photographs of any other property damage and describe key observations.

Opinions and speculative statements are not to be included under any circumstances. Only clearly define observations and key facts are to be included in your site inspection. Do not diagram the incident site in which you attempt to identify the starting point of vehicles, the path of the vehicle(s), vehicle attitude (pitch, roll, yaw), vehicle speed and direction.

It is appropriate to include a diagram of the incident site to help the reader understand your observations, photographs, measurements and reference points. These must be factually based, supported with photographs and measurements, and not speculative or based on opinion.

If possible, request the driver to create a diagram of the incident as they remember it. Be sure to have the person sign and date the document.

Ford File Number [redacted]

INCIDENT SITE INSPECTION

Record your facts and observations:
TIRE MARKS AT THE SCENE [INTERSTATE HIGHWAY 25, SOUTHBOUND] INDICATE THE VEHICLE CHANGED FROM RIGHT LANE TO LEFT, THEN STEERED SHARPLY TO THE RIGHT 85 FEET AND IMPACTED THE GUARD RAIL AT THIS POINT. VEHICLE TRAVELED DOWN GUARD RAIL TO IT'S END AND THEN ROLLED OVER, COMING TO REST ON ALL FOUR TIRES. VEHICLE THEN TRAVELED ANOTHER 55' IN THE GRASSY AREA, STOPPING NEXT TO THE ACCESS ROAD.

(Use additional pages as necessary)

Accident site Inspection (Continued)
EL MORO EXIT #10, NORTH OF TRINIDAD CO.

From: Hearn, Chet (C.)
Sent: Monday, November 06, 2006 10:16 AM
To: Masel, Dennis (D.M.); Shaver, Tom (T.J.); Evans, Raymond (T.)
Subject: FW: [redacted]

Importance: High

Attachments: [redacted]

Y

Barrick 005.jpg (73 [redacted]

Chet e r

[redacted] nics Supervisor
EVB 1WE02
Mail Drop X16
Desk: (313) 390-2318
Mobile: (313) 805-2063
FAX: (313) 84-51776

-----Original Message-----
From: Repasky, Steve (S.)
Sent: Monday, November 06, 2006 9:07 AM
To: Nilles, Tom (T.J.); Hearn, Chet (C.)
Subject: FW: Barrick Photos
Importance: High

Info. System being used by a fleet customer to minimize the concern.

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Monday, November 06, 2006 8:07 AM
To: Hale, Curt (B.C.); Repasky, Steve (S.); Gompper, Dan (D.B.)
Subject: FW: Barrick Photos
Importance: High

fyi

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical

248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

-----Original Message-----
From: Witthar, Mark (M.B.)
Sent: Monday, November 06, 2006 7:31 AM
To: O'Connor, Tammy (T.A.)
Cc: Asay, Larry (L.L.); Kachel, Victor (V.R.)
Subject: FW: Barrick Photos
Importance: High

I know there are many people you want to send this information so I thought I would share with you so you could forward on to the appropriate engineering folks.

Mark Witthar
Commercial Vehicle Operations Manager
Phone: (313) 248-3882
Fax: (313) 248-3444
[redacted]

-----Original Message-----
From: Kachel, Victor (V.R.)
Sent: Friday, November 03, 2006 2:07 PM
To: Witthar, Mark (M.B.)
Cc: Asay, Larry (L.L.)
Subject: Barrick Photos
Importance: High

These are the photos of the parts that Barrick installed to stop the front end shake.

Thanks for your help and have a great weekend.

TO: BARRICK GOLDSTRIKE
FABTECH

FABTECH
PERFORMANCE SHOCKS
FABTECH
PERFORMANCE SHOCKS
FABTECH
FABTECH

FABTECH
PERFORMANCE SHOCKS
FABTECH
PERFORMANCE SHOCKS

FABTECH
PERFORMANCE SHOCKS
FABTECH
PERFORMANCE SHOCKS

From: Hale, Curt (B.C.)
Sent: Thursday, August 03, 2006 1:37 PM
To: O'Connor, Tammy (T.A.); Repasky, Steve (S.)
Subject: FW: Bethlehem Ford - Bittone F-350 - Steering shake - 1FTWW33P05ED[redacted]

FYI

B. Curtis Hale
FCSD PVT Program Manager
F-Super Duty & Excursion

From: Steward, Gene (E.A.)
Sent: Thursday, August 03, 2006 1:34 PM
To: Gary Cacciatore (service@bethlehemford.com); Gary Cacciatore (bethlehemford@hotmail.com)
Cc: Saucier, Jason (J.D.); Steward, Gene (E.A.); Hale, Curt (B.C.)
Subject: Bethlehem Ford - Bittone F-350 - Steering shake - 1FTWW33P05E[redacted]

The Product Engineer's exact words on the matter are:
"Make sure TSB 06-15-01 has been followed exactly as written. As mentioned in the TSB there will always be some level of shimmy and tire pressure is critical"
Need to be through and attentive to everything in the TSB as we evaluate this vehicle.

Also… The SAI (Steering axis inclination) and Included Angle appear to be way off side to side. Usually this indicates front end damage. Can you verify the printout is correct (according to what they actually measured) and if yes… we need to look for possible damage to either the wheel, tire, wheel bearings, or one of the other front end members. The numbers that I read on the sheet you sent are:

	LEFT	RIGHT
Camber	.8	.8
Caster	1.6	1.9
Toe	.05	-.06
SAI	15.3	7.2
Included Angle	16.1	8.1

I will await feedback from you on this and your assessment to make sure the condition you have verified is indeed a substantial shake that continues as opposed to the characteristic shake after hitting a bump or transition in the road surface.

I believe you mentioned the customer's first complaint about this was approx 10,000 miles

Thanks Gary...

E. A. (Gene) Steward
Ford Motor Company
Field Service Engineer - Mid-Atlantic Market
[redacted]
Fax: 703 818-7771

From: Gompper, Dan (D.B.)
Sent: Tuesday, August 14, 2007 4:27 PM
To: Allen, Mike (M.C.)
Cc: Hale, Curt (B.C.); Rushbrook, Mark (M.A.)
Subject: FW: Buy Back Vehicle

Mike --

Just got the list of this week's buy-backs, and another similar one. A F250 being bought back for T/W vibration after being on the lot for 5 1/2 months (build date 7/20/06, sale date 1/2/07, VIN: 1FTSX20P67[redacted]). While there is a TSB on Superduty vibration which includes road-force balancing the tires (07-04-05), there is no reference to this TSB, even after the dealer called the tech support, nor were the rear tires ever swapped out.

It occurs to me that the hotline may not be aware of the prevalence of tire flat-spotting on the Superduty, as well as the F150 and Expedition. Any way to confirm this awareness?

From a higher perspective, and the basis of my request to Don, is there any way we can trigger engineering contact after a given number of repair attempts or time out of service? For example, if buybacks occur after 7 repairs for the same issue, trigger engineering contact if the vehicle has not been fixed on its 4th or 5th repair. Same with time out of service.

Not saying engineering will be able to fix every item, but it would at least avoid some, I'd hope.

Please let me know your thoughts and if you have any ideas we can pursue.

Thanks,

Dan Gompper
SuperDuty Vehicle Dynamics Supervisor
EVB 2E-L01
[redacted]
Email: dgompper@ford.com
text page: 3138052039@sprintpcs.messaging.com

From: Ufford, Donald (D.A.)
Sent: Friday, August 10, 2007 11:35 AM
To: Gompper, Dan (D.B.)
Cc: Rushbrook, Mark (M.A.); Frantzeskakis, Peter (.); Allen, Mike (M.C.)
Subject: RE: Buy Back Vehicle

Dan - Give Mike Allen a call and see what suggestions he has…..I would like to stop these also.

From: Gompper, Dan (D.B.)
Sent: Friday, August 10, 2007 8:41 AM
To: Ufford, Donald (D.A.)
Cc: Rushbrook, Mark (M.A.); Frantzeskakis, Peter (.)
Subject: FW: Buy Back Vehicle

<< OLE Object: Picture (Metafile) >>

See below for CQIS files and warranty claims.

Don -- Is there any way that engineering can get an opportunity to review potential buy-backs prior to proceeding? I think once the lawyers are involved it may be too late, as FCSD is out of the picture, but how can we ensure involvement on

tough-to-solve issues?

This one, whether T/W or driveline, should have been fixable. Looking through the data, the truck was on the lot for 4 months, through the summer, prior to sale. While T/W assemblies were swapped, there is no reference to R1H or balance measurements, nor confirmation that the T/W were swapped with known good assemblies. There is no reference to Vetronics measurements. Nor, if the T/Ws and driveshaft were eliminated, was there an attempt to fix/swap the transmission or transfer case due to a potential bent flange. This was a $24K net loss, not to mention customer sat and warranty costs on the investigation.

There is no reason that we should not be able to fix, or at least isolate, a vibration that is emanating from the vehicle (rather than the road).

Any process you can think of to avoid potential future buy backs?

I'll talk to Tammy again. She keeps me in the loop on CQIS calls, but it is difficult to recognize when the dealer is handling the concern vs. when the customer is about to involve a lawyer to buy back.

Dan Gompper
SuperDuty Vehicle Dynamics Supervisor
EVB 2E-L01
[redacted]
Email: dgompper@ford.com
text page: 3138052039@sprintpcs.messaging.com

From: O'Connor, Tammy (T.A.)
Sent: Thursday, August 09, 2007 5:25 PM
To: Gompper, Dan (D.B.)
Subject: RE: Buy Back Vehicle

Dan: There were 4 CQIS reports and 2 warranty claims - see attached.

Let me know if you need anything else.

<< Message: Report Summary for the CQIS Report#[redacted] >> << Message: Report Summary for the CQIS Report#[redacted] >> << Message: Report Summary for the CQIS Report#[redacted] >> << Message: Report Summary for the CQIS Report#[redacted] >>

Server Name : AWS QA Database- Claims loaded through 19-JUL-2007

Claim Detail Report

Note: All costs are in US dollars
Model Year = 2006; **Claim Key** = [redacted]

Vehicle Information

Model Year: 2006

Claim Information

Document Number: [redacted]

Market Derived:	F - FORD	Repair Date:	08-JAN-2007
Body/Cab Type:	T/BC - DOUBLE CAB (CREW CAB)	Distance:	5565
Version/Series:	T/BD-250 SERIES	TIS:	5
Drive Type:	T/E-4 WHL L/H PART TIME DRIVE		
Vehicle Line:	T/F7-F250HD/350/450/550 [99-08]		
Warranty Start Date:	31-AUG-2006		
Production Date:	12-APR-2006		
VIN:	1FTSW21576E[redacted]		

Dealer Information:

Expense Information

		Customer Paid Amount:	0
Dealer Name	COLONIAL FORD TRUCK SALES, INC	Deductible Amount:	0
Dealer Code:	06696 - *	Dealer Paid Amount:	0
Address:	1833 COMMERCE	Labor Cost:	940.36
City:	RICHMOND	Misc. Expense Amount:	0
State:	VA Zip Code: 23224	Part Markup Amount:	242.68
Country:	USA Region Code: NA	Material Cost:	849.36
Phone:	(804)232-3492	Total Cost Gross:	1789.72

Cust. Concern Code:	N25 - VEHICLE VIBRATES WHEN DRIVING ABOVE 45 MPH
Condition Code:	D9 - OUT OF BALANCE

Technician Comment: 4874 TEST DRIVE, VERIFY CONCERN, BALANCE TIRES , TEST DRIVE NO CHANGE , SWAP TIRES FROM A NEW STOCK UNIT AND TEST DRIVE NO CHANGE , TAKE EVA READINGS PROP SHAFT AND A TIRE VIBRATION , CHECK WORKING ANGLES OF DRIVE SHAFT, REMOVE AND CHECK U JOINTS REPLACE TRANSMISSION U JOINT, REASSEMBLE AND TEST DRIVE NO CHANGE , CALL HOTLINE, ADVISED TO PUT ON JACK STANDS AND TRY TO

Customer Comment: SEVERE VIBRATION IN FRONT END

Labor Op Code	Labor Op Description	Labor Op Cost
1007D	NOISE/VIBRATION/HARSHNESS DIAGNOSIS	59.46
1007D1	TIRES AND WHEELS CHECK RUN-OUT	33.98
1007D5	DRIVE SHAFT ROTATE AND RECHECK RUNOUT	25.48
1007V6		67.95
1007D2E	TIRE REINDEX	135.9
4602A3	UNIVERSAL JOINT - REAR JOINT - REAR DRIVESHAFT REPLACE	42.47
1007D7	DRIVE SHAFT ASSEMBLY - REAR REPLACE	25.48
MT4R602		84.94
OSL	OUTSIDE LABOR	40
MT1007		424.7

Causal	Full Part Number			Part		Part	Extended
Flag	PREF	BASE	SUFF	Description	CPSC	Quantity	Amount
N	F81Z	4635	AB	SPIDER & BRG ASY-U/J	050101	1	63.25
Y	5C3Z	4R602	H	DRV/SHFT & CPL ASY	050101	1	786.11

Server Name : AWS QA Database- Claims loaded through 19-JUL-2007

Claim Detail Report

Note: All costs are in US dollars
Model Year = 2006; **Claim Key** = [redacted]

Vehicle Information

Model Year: 2006
Market Derived: F - FORD
Body/Cab Type: T/BC - DOUBLE CAB (CREW CAB)
Version/Series: T/BD-250 SERIES
Drive Type: T/E-4 WHL L/H PART TIME DRIVE
Vehicle Line: T/F7-F250HD/350/450/550 [99-08]
Warranty Start Date: 31-AUG-2006
Production Date: 12-APR-2006
VIN: 1FTSW21576E[redacted]

Claim Information

Document Number: [redacted]
Repair Date: 27-NOV-2006
Distance: 3322
TIS: 3

Dealer Information:

Dealer Name: RICHMOND FORD, L.L.C.
Dealer Code: 08799 - *
Address: 4600 WEST BROAD STREET
City: RICHMOND
State: VA Zip Code: 23230
Country: USA Region Code: NA
Phone: (804)358-5521

Expense Information

Customer Paid Amount: 0
Deductible Amount: 0
Dealer Paid Amount: 0
Labor Cost: 38.45
Misc. Expense Amount: 0
Part Markup Amount: 0
Material Cost: 0
Total Cost Gross: 38.45

Cust. Concern Code: N23 - STEERING WHEEL VIBRATION/SHIMMY BELOW 45 MPH

Condition Code: 42 - DOES NOT OPERATE PROPERLY

Technician Comment: PERFORMED DIAG. ROAD TESTED WITH CUSTERMER AND RAISED ON LEFT AND CK SUSPENTION OK.CK TIRE PRESSURE

Customer Comment: C S A VIBRATIONTHAT FEELS LIKE DRIVING OVER A WASHBOARD AT 35 40 MPH. HAS GOTTEN PROGRESSIVLY WORSE. ALSO WORSE IF TURNING TO LEFT.

Labor Op Code	Labor Op Description	Labor Op Cost
MT3078		38.45

Causal Flag	Full Part Number PREF	BASE	SUFF	Part Description	CPSC	Part Quantity	Extended Amount
Y	*	3078	*	ARM ASY-FRONT SUSP L	040102	0	0

Tammy A. O'Connor
Product Concern Engineer
FCSD Service Engineering Operations
Super Duty F-Series
Body / Chassis / Electrical
248/310-6111 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSC I, Cube 149 (Tuesday,Wednesday)

From: Gompper, Dan (D.B.)
Sent: Thursday, August 09, 2007 5:07 PM
To: O'Connor, Tammy (T.A.)
Subject: Buy Back Vehicle

Tammy --

Can you get me the repair history on 1FTSW21576E[redacted] This is a vehicle that Ford is buying back for vibration for number of repair attempts, but when I look at the AWS system, it only shows two repair records.

Thanks,

Dan Gompper
SuperDuty Vehicle Dynamics Supervisor

EVB 2E-L01
[redacted]
Email: dgompper@ford.com
text page: 3138052039@sprintpcs.messaging.com

From: Repasky, Steve (S.)
Sent: Thursday, June 08, 2006 1:58 PM
To: O'Connor, Tammy (T.A.); Menard, Bob (R.J.)
Subject: FW: Conference Call Date
Importance: High
Attachments: Agenda Superduty Baker-Hughes Fleet - June 2006.doc

Attached is a draft agenda for the subject meeting. Please review and revise as you see fit. My goals for the meeting are:

- Have customer describe vehicle usage, surface and speed conditions
- Allow customer to express the concern in their own words
- Carefully listen to customer
- Determine if TSB is effective in correcting some/most/all of the concern? Joint agreement between Ford and customer
- Determine if other Superduty concerns exist
- Satisfy customer with proposed next steps (may include visit or other actions)

Thanks...

-----Original Message-----
From: Repasky, Steve (S.) [mailto:srepasky@ford.com]
Sent: Wednesday, June 07, 2006 8:12 AM
To: Davis, Brenda K.
Cc: Menard, Bob (R.J.); O'Connor, Tammy (T.A.)
Subject: RE: Conference Call Date

Brenda - I received the meeting notice and have sent it out to the Ford team. Thanks for setting up the meeting. Once I get a response from intended Ford participants, I will also inform you.

I will work with Bob/Tammy of our Customer Service Division to set a tentative agenda and then forward to you for review. Again, thanks for all your assistance.

From: Davis, Brenda K. [mailto:Brenda.Davis@bakerhughes.com]
Sent: Tuesday, June 06, 2006 6:04 PM
To: Repasky, Steve (S.)
Subject: Conference Call Date
Importance: High

I sent a meeting request but just in case you didn't get it I thought I would follow-up with an e-mail.

The best time for Lonnie is Monday, June 12 at 11:12:30 Eastern time (9-10:30 Canada time).

Please invite anyone you feel needs to be on the call and I will tell Lonnie to do the same. I will send you a call in number once I have confirmation of the date and time.

Thanks,

Brenda Davis

Strategic Sourcing Commodity Manager

Fleet & Temporary Services

Baker Hughes Business Support Services

15355 Vantage Parkway West, #300

Houston, TX 77032

Fleet Central - 281-209-7667

281-209-7897 - Fax - 713-625-4374

Baker-Hughes Superduty Fleet – Vibration Concern Discussion/Next Steps/Resolution

June 11, 2006
11:00 AM to 12:00 PM
Call-in Conference **passcode # TBD**

Meeting called by: Brenda Davis(Baker-Hughes)/Steve Repasky (Ford)

Type of meeting: Action

Expected Attendees: **Baker-Hughes** Brenda Davis/Lonnie Henry

Ford Steve Repasky/Bruce Arnold/Keith Campbell/Jim Michon/Bob Menard/Tammy O'Connor.etc. /rtq/45yt/wery/e5g/he

----- Agenda Topics -----

Introductions	All	5 minutes
Baker-Hughes Superduty Fleet Description/Usage/Operating conditions	Brenda/Lonnie	10
Concern Description/Field Experience	Brenda/Lonnie/Bob/ Tammy	10
Does TSB fix the concern to customer satisfaction?	All	15
Other Concerns?	All	10
Summary of Discussion/Next steps	Brenda/Steve/All	5-10

Other Information

- TSB 05-22-01
- List of Baker-Hughes Fleet
- Other??

From: Hale, Curt (B.C.)
Sent: Thursday, August 03, 2006 3:08 PM
To: Repasky, Steve (S.); O'Connor, Tammy (T.A.)
Subject: FW: Dual Steering Shock System
Attachments: DSCF0160.JPG; DSCF0155.JPG; DSCF0156.JPG; DSCF0157.JPG; DSCF0158.JPG; DSCF0159.JPG

B. Curtis Hale
FCSD PVT Program Manager
F-Super Duty & Excursion

From: Asay, Larry (L.L.)
Sent: Thursday, August 03, 2006 3:07 PM
To: Hale, Curt (B.C.)
Subject: FW: Dual Steering Shock System

-----Original Message-----
From: Hicks, Farley (GoldStrike) [mailto:FHicks@barrick.com]
Sent: Wednesday, August 02, 2006 1:33 PM
To: Asay, Larry (L.L.)
Subject: RE: Dual Steering Shock System

Larry,
Here are the pictures. The cost of the mod is about $250.
Thanks,
Farley

From: Asay, Larry (L.L.) [mailto:lasay@ford.com]
Sent: Tuesday, August 01, 2006 8:58 AM
To: Hicks, Farley (GoldStrike)
Subject: Dual Steering Shock System

Can you give me some more details of the dual shock system that you were installing on some of your trucks?

From: Nielsen, Joel (J.)
Sent: Tuesday, March 21, 2006 6:02 PM
To: O'Connor, Tammy (T.A.)
Subject: FW: F250 Steering Oscillation

Tammy,

What is the the factory tire brand/model/ load rating/ and pressure that were shipped with this unit? I cannot make this info out to mean anything...

TIRE DOT INFORMATION:

LF:	M3AHDR213504	**RF:**	M3AHDR213504
LR:	M3AHDR213504	**RR:**	M3AHDR213504
LI:	*	**RI:**	*
SPARE:	M3AHDP21????	**DOT Plant Manufacturer:**	M3 - MICHELIN NORTH AMERICA ; INC. ; GREENVILLE ; SOUTH CAROLINA

Thank you,

Joel

Joel Nielsen
Commercial Area Field Manager - South Texas
Ford Motor Company
Ph 281-788-0921
jnielse1@ford.com

-----Original Message-----
From: Getschmann, Gaylynn [mailto:Gaylynn.Getschmann@nov.com]
Sent: Tuesday, March 21, 2006 3:55 PM
To: Nielsen, Joel (J.); Gauthier, Steve
Cc: Haering, Ray (J.R.); Tatum, DyAnna
Subject: RE: F250 Steering Oscillation

Joel,

I will try to get this info for you… Please keep in mind that the dealership has changed the tires I believe twice. The dealer ship will be able to answer.

Steve,

I know it is a hassle, but can you let me know the brand/model and load rating for the tires that are currently on the Ford F250 4x4.

Thanks,
glg

From: Nielsen, Joel (J.) [mailto:jnielse1@ford.com]

Sent: Tuesday, March 21, 2006 3:49 PM
To: Getschmann, Gaylynn
Cc: Haering, Ray (J.R.)
Subject: RE: F250 Steering Oscillation

Gay Lynn,

I hope this is not a difficult request... can you tell me what brand / model and load rating tire is on this truck and the current tire pressure in the tires. In the meantime I talked with engineering and they have been able to bring any affected unit back into conformity with the revised dealer repair procedure, proper tire load rating and consistent appropriate tire pressure.

Thank you,

Joel

-----Original Message-----
From: Getschmann, Gaylynn [mailto:Gaylynn.Getschmann@nov.com]
Sent: Friday, March 17, 2006 9:18 AM
To: Gauthier, Steve
Cc: Nielsen, Joel (J.); Haering, Ray (J.R.)
Subject: FW: F250 Steering Oscillation

Steve,

Please give me a call on Monday to discuss a day you can have the vehicle delivered to Acadiana Ford.

Thanks,

Glg

From: Nielsen, Joel (J.) [mailto:jnielse1@ford.com]
Sent: Friday, March 17, 2006 9:16 AM
To: Getschmann, Gaylynn
Cc: Haering, Ray (J.R.)
Subject: RE: F250 Steering Oscillation

Gay Lynn,

Our service engineers will need about 2 weeks advance notice - they are booked ahead usually that far out. If Steve can accommodate this request it will be helpful and will most certainly prevent leaving the truck at the dealership laid up for a few weeks.

Thank you,

Joel

-----Original Message-----
From: Getschmann, Gaylynn [mailto:Gaylynn.Getschmann@nov.com]
Sent: Friday, March 17, 2006 9:12 AM

To: Nielsen, Joel (J.)
Cc: Gauthier, Steve
Subject: RE: F250 Steering Oscillation

Joel,

I have asked the driver (Steve Gauthier) to take the truck to Acadiana Ford… He is out of town until next week.. As soon as he has delivered the truck to the dealership he will advise and I'll let you know.

Thanks,

glg

From: Nielsen, Joel (J.) [mailto:jnielse1@ford.com]
Sent: Friday, March 17, 2006 8:59 AM
To: Getschmann, Gaylynn
Subject: F250 Steering Oscillation

Gay Lynn,

If your shop is willing to get the truck back to Acadiana Ford I will get and engineer to assist in the review at the dealership. Please let me know how you wish to proceed. I have given the dealership a heads-up hat Varco may be bringing the truck with oscillation back in.

Please advise,

Thank you,

Joel Nielsen
Commercial Area Field Manager - South Texas
Ford Motor Company
Ph 281-788-0921
jnielse1@ford.com

From: Russell, Thomas (T.M.)
Sent: Thursday, May 18, 2006 2:33 PM
To: Repasky, Steve (S.); O'Connor, Tammy (T.A.)
Cc: Knapp, David (D.)
Subject: FW: F-250 Front end issue - FEEDBACK

Both of you have inquired about the shimmy situation at XTO Energy. Steve, the email you sent provides most of the background that includes my direct involvement, including my email summarizing what we spoke about this morning. The following is an additional email, resulting from a visit to XTO energy by a group from Detroit. The meeting was actually set up for a different reason, but when they were made aware of the shimmy situation, they included it in the discussion. You will not that David Knapp of the Ford Technical Hotline was designated as the primary contact for the fleet on this issue. I have cc'd David on this email, to make him aware of the interest/involvement of others in this matter.

As stated this morning, I have a call out to Paul Dorn at XTO asking if additional units with the concern have been identified. I have not heard from Paul. David, I would appreciate being kept in the loop on your discussions/actions with XTO on this subject.

Thanks for any help you can be in resolving this issue for XTO. Feel free to contact me with any additional questions/comments.

Tom Russell
Commercial Area Field Manager
Ford Commercial Vehicle Operations (CVO)
214-289-8967; email trussel9@ford.com

-----Original Message-----
From: Johnston, Maura (M.K.)
Sent: Friday, May 05, 2006 6:15 PM
To: 'paul_dorn@xtoenergy.com'
Cc: Russell, Thomas (T.M.); Morman, Jeffrey (J.L.); Trost, David (P.); Knapp, David (D.)
Subject: FW: F-250 Front end issue - FEEDBACK

Dear Paul,

Thank you to you and the guys at XTO for taking the time to meet with us on Wednesday. The meeting was very helpful us as we move towards the next generation pickup truck. You truly put the trucks to the test with the terrain, altitude and daily 40 degree temperature swings!

We are grateful to have XTO as a customer. We appreciate that your team was willing to spend their time with us, as everyone is very busy these days. Thank you, also, for your list of concerns and suggestions.

During the meeting, I mentioned that David Knapp of the Ford Technical Hotline has volunteered to be your contact on the shimmy issue. He would be pleased to work with you to resolve it.

Sincerely Yours,
Maura Johnston
Global Market Research
Ford Motor Company
work: 1-313-390-6677
[redacted]
e-mail: mjohnst5@ford.com

From: Knapp, David (D.)
Sent: Saturday, April 29, 2006 12:33 PM
To: Morman, Jeffrey (J.L.); Johnston, Maura (M.K.)
Cc: Russell, Thomas (T.M.); Trost, David (P.); Johnson, Susan (S.M.); Michon, Jim (J.B.); Koss, Gerald (G.N.); Byers, Michael (M.R.); Merrell, Robert (R.J.); Zygmontowicz, John (J.L.); O'Connor, Tammy (T.A.)

Subject: RE: F-250 Front end issue - FEEDBACK

We find here at the hotline that the tech has over looked something simple and there has yet to be a vehicle that we have not been able to fix. If the concern is very excessive and approaching loss of control we usually find that the customer has aired down the tires. Spec is on the door sticker but it should be in the 65 to 80 psi range.

We also find that the torque spec of 406 ftlbs for the upper track bar mount is often over looked due to technician lack of tools or the tech thinking that a "good pull" is enough. This track bar is holding the axle from any side to side movement and at 350 ftlbs torque on this bolt the axle will shift with the weight of the vehicle. Some techs try prying on this bushing as a "test" but the concern may still be present. We at that point instruct the tech to loosen all of the bolts and retorque because we want to be sure that we are not trying to torque a cross threaded bolt. The tsb makes it easy for the techs because all of the torque specs are within.

The third major issue we find is that techs say that alignment is "good" or within limits but when asked if they have the heavy or light duty suspension they cant answer the question. There are two separate specs for caster when it comes to the light or heavy duty suspension. HVBOM on fmc dealer will state weather you have a special equipment package and these packages as stated in the work shop manual distinguish between heavy and standard duty suspension. Camper, plow, heavy, extra heavy duty, ect…

There is only one thing that is not in the tsb that we have run into but its not common at all. The ball joint where the trac bar meets the axle will have play allowing the axle side to side movement. Again the tsb fixes 98% of these vehicles. We find that the tech does not perform the tsb as intended.

If more help is needed I am here.

David Knapp
Truck Group Service Engineer
F-Superduty/Excursion SME
Ford Technical Hotline
DKnapp7@ford.com
313-317-6316

From: Morman, Jeffrey (J.L.)
Sent: Saturday, April 29, 2006 10:19 AM
To: Johnston, Maura (M.K.)
Cc: Russell, Thomas (T.M.); Trost, David (P.); Johnson, Susan (S.M.); Michon, Jim (J.B.); Koss, Gerald (G.N.); Byers, Michael (M.R.); Knapp, David (D.); Merrell, Robert (R.J.); Zygmontowicz, John (J.L.)
Subject: RE: F-250 Front end issue - FEEDBACK

I believe that Tom Russell (CVO) has taken the fleet through the known fixes without success for whatever reason…..

THANK YOU FOR YOUR BUSINESS

Jeffrey Morman
National Account Manager
(972)334-1868 work
([redacted]
(972)334-1756 fax
jmorman@ford.com

-----Original Message-----
From: Johnston, Maura (M.K.)
Sent: Friday, April 28, 2006 2:35 PM
To: Morman, Jeffrey (J.L.)
Cc: Russell, Thomas (T.M.); Trost, David (P.); Johnson, Susan (S.M.); Michon, Jim (J.B.); Koss, Gerald (G.N.); Byers, Michael (M.R.); Knapp, David (D.); Merrell, Robert (R.J.)
Subject: FW: F-250 Front end issue - FEEDBACK

Dear Jeff,

The fix to XTO's shimmy problem is identified as Technical Service Bulletin 05-22-01 and is in the attachments in Bob's note below.
Please encourage Paul Dorn of XTO to contact David Knapp on 313-317-6316 for guidance.

Yours,
Maura Johnston
Global Market Research
Ford Motor Company
[redacted]

From: Merrell, Robert (R.J.)
Sent: Friday, April 28, 2006 10:41 AM
To: Johnston, Maura (M.K.)
Subject: F-250 Front end issue - FEEDBACK

Maura, feel free to forward to Jeffrey Morman and the rest of your team.
I have attached contacts with expert knowledge of this issue from chassis and truck service engineering. **David Knapp (313-317-6316 or dknapp7@ford.com)** from service engineering offered to be the point of contact for this issue. I encourage Jeff and or the XTO fleet to get in touch with David. We need to get the right parties talking to one another first hand. Additionally the chassis engineering contacts for this issue are : Mayer, Paul (P.A.) or Repasky, Steve (S.).

There is confidence this issue can be resolved with proper direction and guidance in harmony with service bulletin 05-22-01.

Some of our own powertrain test vehicles have this complaint. As I recall the issue goes back to a major change in the suspension from leaf springs to coil over shock. This was to accommodate the customer want of a better turning radius and ride. It is fixable.

<< Message: FW: F250 Front-End Issue- David Knapp >> << File: tsb05-22-01.pdf >>

Bob Merrell
Superduty Powertrain Quality Responsible Team
PH & fax : (313) 32-31513 PDC 1J-E11
Pager: 313-795-0297

-----Original Message-----
From: Russell, Thomas (T.M.)
Sent: Wednesday, April 26, 2006 1:51 PM
To: Morman, Jeffrey (J.L.); Trost, David (P.); Johnston, Maura (M.K.)
Cc: Johnson, Susan (S.M.); Michon, Jim (J.B.); Koss, Gerald (G.N.); Byers, Michael (M.R.)
Subject: RE: F250 Front-End Issue

This issue was originally raised by XTO Energy on several units in the West Texas/ Eastern New Mexico region, where the units are used in a fairly hostile environment. Paul Dorn of XTO previously sent a listing of vehicles with "known" vibration concerns, which was investigated. Discussions with the primary dealership involved with these concerns, Permian Ford (who by the way does a great deal of fleet work for other fleets in the area with similar units and use), pointed in improper tire pressure as the primary cause, which ultimately resulted in leakage of the stabilizer.

At the end of this email, I am attaching the email sent to Paul with the results of the investigation and proposed action plan to eliminate tire pressure/tire replacements as the cause and get additional engineering support involved with a unit exhibiting the verified concern not related to tire pressure/tires. Since that email and follow-up discussions, I have heard nothing additional from XTO on this subject.

Here is the email previously sent to Paul. Any suggestions or new information on this issue would be greatly appreciated. If Paul has units exhibiting the concern at this time, he should advise us of the units' location and we can get assistance from the local Field Service Engineer (FSE).

Paul:

I've done some investigating and spoken with the primary dealership, Permian Ford, in Hobbs NM and here is what I found and would suggest.

. In looking at the attached listing you sent me, I found that most of the units have never been to a dealership for a vibration concern. Three units were in one time for vibration and have either never been back for any work or have been back for other unrelated work, but not for a vibration concern. That left three units that were in more than 1 time for a vibration concern. My discussions with Detroit indicate that the dealership made no inquiry for diagnostic assistance to the Technical Hotline for any of the units in question.

. I spoke with Detroit concerning any updated or new information concerning the vibration issue. The detailed TSB that you and I both know of is the only thing published. Detroit mentioned they hear more of these concerns being resolved by frequent checking of tire pressure than anything else. This is similar to what I have experienced with other fleets who raised the same concern. Once we got them being sensitive to the tire pressure stated on the door, the problems greatly diminished.

. I spoke with John Harrison at Permian Ford, who was aware of the issue on some of your units. He confirmed that he had not seen that many of your units and that in each case, the failure of the stabilizer shock was caused by improper tire inflation. He also indicated that they work on the same issue for other fleets in the area and have worked with the Technical Hotline and their Field Service Engineer to insure they were doing everything possible to address the problem. In most cases, it came back to tire pressure, that then caused the stabilizer to fail. He also suggested that whoever is doing your oil changes should notice the stabilizer leaking and it should be addressed sooner, which would also reduce the vibration concerns.

Your note indicates the list you provided is of units with known concerns. If there is a verifiable concern, I'd suggest we take one of these units and do several things: 1) Check tire pressure to insure they are set to the proper settings 2) Inspect the stabilizer for leakage 3) If 1 and 2 check out, take the unit to a dealership of your choice (Permian if possible, and ask for John Harrison). If possible, one of your local managers should be present for both the verification of the concern and for the eventual correction confirmation. Either your local manager and/or the dealership should advise me when the unit is in the shop, so I can coordinate to insure they are getting any assistance needed. It is my understanding that there may be a unit with the concern that is not being used. That unit would be preferable, so we can keep the unit until we are all comfortable that we have it fixed.

Tom Russell
Commercial Area Field Manager
Ford Commercial Vehicle Operations (CVO) 214-289-8967; email trussel9@ford.com

-----Original Message-----
From: Morman, Jeffrey (J.L.)
Sent: Wednesday, April 26, 2006 12:27 PM
To: Trost, David (P.); Johnston, Maura (M.K.)
Cc: Johnson, Susan (S.M.); Morman, Jeffrey (J.L.); Russell, Thomas (T.M.); Michon, Jim (J.B.); Koss, Gerald (G.N.); Byers, Michael (M.R.)
Subject: FW: F250 Front-End Issue
Importance: High

Please read the note from XTO regarding a product concern they are dealing with regarding our F250 models. Paul does a great job explaining the issue and detailing the VINs in his spread sheet. I do know that our CVO contact, Tom Russell has been involved without success or at least total customer satisfaction. I also know

this will come up and just wanted to give you a heads up so that you aren't blind sided. I pulled three invoices, one for a 2005 and one for a 2006 model that are having the problem (XTO 1 & XTO 2). I also pulled one invoice for a 2005 model not experiencing a problem (XTO 3) for comparison purposes.

I realize that this is not a subject within you target objective but it is one that must be addressed in order to retain the customer's future business. Please take notice that there are several Chrysler products listed in the spread sheet that are not experiencing the same concern.

THANK YOU FOR YOUR BUSINESS

Jeffrey Morman
National Account Manager
(972)334-1868 work
[redacted]
(972)334-1756 fax
jmorman@ford.com

-----Original Message-----
From: paul_dorn@xtoenergy.com [mailto:paul_dorn@xtoenergy.com]
Sent: Wednesday, April 26, 2006 12:47 PM
To: Johnson, Susan (S.M.); Johnson, Susan (S.M.); Morman, Jeffrey (J.L.)
Subject: F250 Front-End Issue

Susan / Jeff,

We are have MAJOR issues with the 2005 F250 4x4 front ends...and some 2006 like models.

At certain hwy speeds and after hitting a bump or irregularity in the road, the trucks begin to violently shake and shimmy.
We have had some very close calls...the truck is almost uncontrollable and almost wrecks.

Most dealers are now aware of this problem...there are several TSB's out for this issue.

We have not had a true resolution yet.

So many things have been tried from replacing the steering shock, adjusting all items, moving the steering box, alignment, strict tire pressure monitoring, etc...

I would like to opportunity to speak with an engineer one on one.

(See attached file: 2005 F250 Issue.xls)

Paul Dorn
Fleet Administrator
XTO Energy, Inc.
810 Houston Street
Fort Worth, TX 76102
817-885-2298 office
817-887-1205 fax

[redacted]
paul_dorn@xtoenergy.com
(Blackberry & Office)
www.xtoenergy.com

From: Repasky, Steve (S.)
Sent: Thursday, June 01, 2006 12:01 PM
To: Ufford, Donald (D.A.); O'Connor, Tammy (T.A.); Arnold, Bruce (B.C.); Menard, Bob (R.J.); Michon, Jim (J.B.)
Cc: Choe, Mark (M.J.); Frantzeskakis, Petros (Peter.); Parekh, Deepak (D.A.); Gompper, Dan (D.B.); Rocco, Julie (J.E.); Hale, Curt (B.C.)
Subject: FW: F-250 front end shaking problem

All - I talked with Brenda Davis this morning (11:00) regarding the subject Superduty Fleet. We agreed to have a call-in meeting early next week to understand the exact nature and extent of the concern. Also, Brenda plans to have a particular individual available with specific questions regarding his use of his Superduty fleet vehicle(s).

I assume the following individuals (or knowledgeable reps) are key participants during the call-in:

- Bruce Arnold - Chassis Systems
- Deepak Parekh - Tire Quality (Traction has been mentioned as a concern)
- Bob Menard/Tammy O'Connor - Field Manager/FCSD
- Jim Michon - Fleet Marketing Manager
- Peter Frantzeskakis/Mark Choe - Superduty attribute managers

Requests:

1. Please acknowledge your role and/or suggest other appropriate persons to attend the meeting.
2. Provide me by Friday June 2 Noon - A range of times for early next week to have the call-in e.g. Monday 10-Noon and/or Tuesday 1-3 P.M. I will send the appropriate invitees to Brenda with proposed times and she will set up the conference call on Outlook for early next week.

Your pro-active participation is greatly appreciated. Thank you...

-----Original Message-----
From: Ufford, Donald (D.A.)
Sent: Tue 5/23/2006 5:48 PM
To: Repasky, Steve (S.); O'Connor, Tammy (T.A.); Menard, Bob (R.J.); Michon, Jim (J.B.)
Cc: Choe, Mark (M.J.); Rocco, Julie (J.E.); Frantzeskakis, Petros (Peter.)
Subject: RE: F-250 Violent front end shaking problem

> Steve - I understand your feedback but what would it take to get one of our experienced engineers up there to experience the issue both from a shimmy perspective and a traction perspective. Given the size of the fleet, a bit of extra attention would help.
>
> **From:** Repasky, Steve (S.)
> **Sent:** Monday, May 22, 2006 4:08 PM

To: O'Connor, Tammy (T.A.); Menard, Bob (R.J.)
Cc: Mayer, Paul (P.A.); Ufford, Donald (D.A.); Choe, Mark (M.J.); Rocco, Julie (J.E.); Frantzeskakis, Petros (Peter.); Nilles, Tom (T.J.); Dickson, Donna (D.J.)
Subject: FW: F-250 Violent front end shaking problem

Bob/Tammy - As you know, Paul Mayer and I worked together with Bob on our trip to Senchuck Ford in Estevan, Saskatchewan, Canada from August 15-17, 2005. The C. E. Franklin fleet of Superduty vehicles had similar concerns to those noted below (report attached).

As a result of that visit, TSB Article 05-22-1 was issued to cover 2005/06 Superduty vehicles. Part of the TSB reads: "SETTING TIRE PRESSURE TO DOOR SPECIFICATION IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE." I believe all field concerns have been corrected with proper application of the applicable TSB.

As Paul noted below, the released tire pressures are necessary to support the vehicle GAWRs and GVW. As such, a field visit should not be required. As always, we are available to participate in any necessary call-in conferences. Thanks .....

From: Michon, Jim (J.B.)
Sent: Friday, May 19, 2006 4:38 PM
To: Mayer, Paul (P.A.); Rocco, Julie (J.E.); Dickson, Donna (D.J.)
Cc: Fretts, Greg (G.); Menard, Bob (R.J.); Arnold, Bruce (B.C.); Hiltz, Chris (C.M.); Repasky, Steve (S.)
Subject: RE: F-250 Violent front end shaking problem

Paul,

Thanks for the response. I fully understand why you are unable to attend the meeting. Congratulations on the new addition to the family.

I also understand that we may have to tell the customer something that they do not want to hear. However, having an SME at the meeting that can listen to the concern and comment based upon their technical knowledge of the tires/suspension/vehicle would be invaluable at this meeting to maintain the relationship with the customer --- even if we have to tell them (hopefully tactfully) that there is nothing in the near term (or perhaps long term) that we can do to support their request.

Brenda Davis is a key decision maker at Baker Hughes in the determination of which OEM's (Ford, GM, etc.) are chosen to provide vehicles to their operations. I believe supporting her request on this is important to ensure that she remains 'pro-Ford'.

The goal for the meeting would be:

1) Have an SME at the meeting that can actively discuss the concerns and provide feedback. This will certainly help to maintain the relationship; even if we have to tell them what they don't want to hear.
2) Use this meeting to provide definite closure to the concern; i.e. clearly state the reasons why we can, or more likely can not, provide what they are requesting.

The Super Duty team's consideration of this request would be greatly appreciated.

Thanks.

Jim Michon

Truck Fleet Marketing Manager (Ranger, F-150, Super Duty, E-Series)
Ph: (313) 621-2521; Fax: (313) 594-4684

From: Mayer, Paul (P.A.)
Sent: Friday, May 19, 2006 3:22 PM
To: Michon, Jim (J.B.); Rocco, Julie (J.E.); Dickson, Donna (D.J.)
Cc: Fretts, Greg (G.); Menard, Bob (R.J.); Arnold, Bruce (B.C.); Hiltz, Chris (C.M.); Repasky, Steve (S.); Mayer, Paul (P.A.)
Subject: RE: F-250 Violent front end shaking problem

I would prefer not to attend this trip for two reasons
1) Since the last re-org, I no longer work in the truck group. Spending a couple of hours to pass on the history is no problem, but traveling out to the field for a few days is a conflict with my new responsibilities
2) I have a three week old baby at home. So I have a pretty big personal problem with a trip at this time.

Also I do not believe a field trip will resolve this.
- I believe we understand that the fleet wants an over 8500 pick-up that runs on a tire at approx. 50 psi rather than the current 75/80 psi.
  - We do not currently offer this option.
- My gut says that this is possible, but it requires a small program to design & develop this offering (i.e. PDL, budget, headcount, test vehicles, etc.)
  - This is a decision which occurs at a level much higher than the engineer.

An SME in the field is likely going to tell Baker Hughes what they do not want to hear (i.e. you cannot operate this vehicle at 50 psi)

I do not wish to lose these sales, but I do not see how to satisfy this customer without a new offering.

Regards
Paul Mayer
Chassis Systems Engr.
313-248-9202

From: Michon, Jim (J.B.)
Sent: Friday, May 19, 2006 9:31 AM
To: Rocco, Julie (J.E.); Dickson, Donna (D.J.); Mayer, Paul (P.A.)
Cc: Fretts, Greg (G.); Menard, Bob (R.J.)
Subject: FW: F-250 Violent front end shaking problem
Importance: High

Julie, Donna,

Baker Hughes, a large Fleet customer, has had concerns with "front end shaking" on the F-250 for over a year (primarily with the Canadian Fleets but have had some concerns from U.S. Fleets as well). Brenda Davis (Commodity/Vehicle sourcing Manager for Baker Hughes Global operations) is very Pro-Ford and has
worked very hard over the past year to educate the Baker Hughes Fleets in both the U.S. and Canada to properly inflate their tires. However, there is a practice (which we do not endorse) of lowering the tire pressure to achieve greater traction. (Having tires that provide better traction off-road and in mud/snow has been a concern we have heard from other Fleets --- this is a seperate concern that we are trying to dimension)

The threat here is that, with enough pressure from these Fleets, Brenda may be forced to allow these Fleets to puchase from other OEM's (GM, DCX, etc.).

I know the engineering teams are extremely busy working on the proveout and development of our future programs but, as Brenda requests in her attached e-mail, if we could send a "Subject Matter Expert" (SME) on tires/chassis to support a meeting with the Baker Hughes Fleets in Canada (to occur either in the 2nd or 3rd week of June), I believe it would go a long way towards maintaining the relationship with this important Fleet and keeping the business in tact.

Would you be able to help in identifying a SME on the engineering team that could support this meeting?

Paul Mayer, I have included you in this note as well because Greg Fretts mentioned that you, and Steve Ropesky (sp?), have some past experience with this concern and might possibly be able to attend as the Ford SME --- or might know who could support.

For reference, I have provided a summary of Baker Hughes Truck purchases in '04/'05 (U.S. only --- don't have access to the Canadian reporting systems). '06MY purchase levels are about the same. They also purchase cars and suv's from Ford.

2004	E150	E250	E350	E350 Cutaway/Chassis Cab	E450	Ranger	F-150	F-250	F-350	F-450
Baker Hughes							269	152	35	1

2005	E150	E250	E350	E350 Cutaway/Chassis Cab	E450	Ranger	F-150	F-250	F-350	F-450
Baker Hughes		1					227	137	41	1

Any thoughts/support you can provide on this would be greatly appreciated.

Jim Michon
Truck Fleet Marketing Manager (Ranger, F-150, Super Duty, E-Series)
Ph: (313) 621-2521; Fax: (313) 594-4684

From: Davis, Brenda K. [mailto:Brenda.Davis@bakerhughes.com]
Sent: Wednesday, May 17, 2006 7:07 PM
To: Michon, Jim (J.B.)
Cc: Fretts, Greg (G.); Menard, Bob (R.J.)
Subject: FW: F-250 Violent front end shaking problem
Importance: High

Hello Jim, it was a pleasure to see you in Orlando.

I wonder if you were able to come up with anyone who could maybe join our Canada

Ford team to discuss the vibration issue we are experiencing with tires. We probably need a tire expert and an engineer subject matter expert. Tires because if they have to be at exact PSI spec to keep from vibrating and the drivers/managers feel they don't get traction, then maybe the tire person should be present to discuss alternatives.

Greg said he may know someone that would fit the bill as the engineer so you may want to communicate with him directly.

As you can see from the e-mail string below our Canada folks would like to schedule a meeting in Wainwright the second or third week of June if possible. I don't know if I will be able to attend but if not, I'm sure that Greg and Bob will be able to handle the meeting as long as we have the experts as well so that they can address the why's and therefore of the situation.

I appreciate your help and feedback. Hope to see you soon.

Brenda Davis
Strategic Sourcing Commodity Manager
Fleet & Temporary Services
Baker Hughes Business Support Services
15355 Vantage Parkway West, #300
Houston, TX 77032
Fleet Central - 281-209-7667
281-209-7897 - Fax - 713-625-4374

-----Original Message-----
From: Alvarez, Lori M
Sent: Thursday, May 04, 2006 2:19 PM
To: Davis, Brenda K.
Cc: Henry, Lonnie K.; Kaybidge, Allyson N; Young, Stacey - BPC; Bonsteel, Vaughn W.; Whalen, Tom
Subject: RE: F-250 Violent front end shaking problem
Importance: High

Second Request

Brenda,

Just got your EMAIL that you will be out of the office until next Thursday at which time I will be out of the office for a couple of weeks. Have you given any thought or consideration to coordinating a meeting here in Canada with regard to the issues we have with FORD? Also, my first EMAIL mentioned Calgary or Red Deer however managers thought Wainwright would be a better location and we could try and re create the problem so that everyone has a chance to witness the problem.

Cheers!
Lori Alvarez
403-537-3523 Phne
403-537-3796 Fax

-----Original Message-----
From: Alvarez, Lori M
Sent: Thursday, April 27, 2006 8:21 AM
To: Davis, Brenda K.
Cc: Henry, Lonnie K.; Kaybidge, Allyson N; Young, Stacey - BPC; Bonsteel, Vaughn W.; Whalen, Tom
Subject: RE: F-250 Violent front end shaking problem
Importance: High

Brenda,

This Ford Shimmy situation is ongoing and previously we had discussed a meeting between our management team and Ford. Of course as the commodity manager it would be prudent to have you involved as well. If possible could you please set up a meeting with our Ford representative, yourself and our management team for the 2nd or 3rd week in June. Prefer Calgary or Red Deer as a location. Your assistance in bringing this to resolution would be most appreciated.

Cheers!
Lori Alvarez
403-537-3523 Phne
403-537-3796 Fax

-----Original Message-----
From: Bonsteel, Vaughn W.
Sent: Wednesday, April 26, 2006 2:51 PM
To: Whalen, Tom
Cc: Henry, Lonnie K.; Alvarez, Lori M; Kaybidge, Allyson N
Subject: F-250 Violent front end shaking problem

Tom,
While assisting Lonnie with additional issues yesterday in Wainwright, he brought to my attention the complete story regarding the 2005, F-250 XL violent shaking problem. After seeing his frustration from past attempts for acknowledgement and his passion for concern, I agreed to assist them in recreating this. While I was riding in one of these trucks with the employee, we actually recreated the condition.

I know your out of the country right now, but please contact me as soon as possible to discuss this issue. Lonnie's level of passion is fully justified and an issue of corporate liability may exist as well.

Regards,

Vaughn Bonsteel
Health, Safety & Environment Specialist
Northwest / Central Canadian Districts
Baker Petrolite
Cell: 1 780 504 5016
"Nothing is more priceless than arriving home alive" (Self, 01-17-06)

From: Evans, Jane (J.S.)
Sent: Wednesday, February 07, 2007 4:52 PM
To: O'Connor, Tammy (T.A.)
Subject: FW: Ford Truck
Importance: High
Attachments: [redacted] JPG

Tammy: during the conference call I just had with this fleet, one of the fleet managers is convinced the way to solve the steering oscillation concern is through aftermarket wheels. I told him that I could only recommend using the OE ones. He did request that I pass these photos along to engineering, so I am sending them your way. This is just an FYI. Thanks again for your assistance with the TSB.

Jane S. Evans
Ford Motor Company
Commercial Area Field Manager - Chicago
630-782-9263 [redacted]

From: Fabian, Burl [mailto:BFabian@Wheels.com]
Sent: Monday, February 05, 2007 8:19 AM
To: Evans, Jane (J.S.)
Subject: FW: Ford Truck
Importance: High

Jane ?

Burl
-----Original Message-----
From: Stewart, Susan
Sent: Monday, February 05, 2007 8:10 AM
To: Fabian, Burl; Godfrey, Ray; Haxton, Laura
Subject: FW: Ford Truck
Importance: High

Burl, Ray & Laura,
Chuck Eaton wants to hold a conference call with us and the Ford rep (Jane Evans) to discuss problems they are having with their Ford trucks. Please let me know if you are available tomorrow morning at 9am.

From: Chuck_Eaton@oxy.com [mailto:Chuck_Eaton@oxy.com]
Sent: Mon 2/5/2007 7:54 AM
To: Stewart, Susan
Subject: FW: Ford Truck

Hi Susan, would you read Mike Arellano's note below? Could you contact Jane Evans w/Ford and see if we can set up a conference call about this? I would also like to include Eddie Gonzales and Mike if they are available.

Thanks

Chuck Eaton
chuck_eaton@oxy.com
806-229-9776 - office
806-891-3873 - cell
713-985-8723 - fax

> _____
> From: Hardesty, Steve
> Sent: Friday, February 02, 2007 12:04 PM
> To: Eaton, Chuck A.
> Cc: Hardesty, Steve; Olivares, Vicente
> Subject: FW: Ford Truck
> Importance: High
>
> Chuck,
>
> Would you follow-up?
>
> Steve
>
> _____
> From: Hardin, Greg
> Sent: Friday, February 02, 2007 10:28 AM
> To: Hardesty, Steve
> Cc: Gonzales, Eddie
> Subject: FW: Ford Truck
> Importance: High
>
> Let's discuss this issue. Please get details from Eddie so we can
> formulate a plan to address this issue which is ongoing. Wheels nor
> Ford have been willing to address this problem. Welch-Cedar Lake has
> replaced these wheels & it corrected the problem.
>
> Greg Hardin
> Manager HES & Regulatory
> Office Phone - (713) 366-5324
> Fax (713) 985-1566
> 5 Greenway Plaza Suite 110
> Houston, TX 77046
>
>
> _____
> From: Arellano, Michael J.
> Sent: Friday, January 12, 2007 9:12 AM
> To: Gonzales, Eddie
> Cc: Eaton, Chuck A.; Hardin, Greg; Bruton, James C. (Herbie);
> Bledsoe, William B. (Billy)
> Subject: RE: Ford Truck
> Importance: High
>
> Eddie, Update on the Ford Truck issue.
>
> WCL area was having issues and we took the trucks to Gene Messer Ford
> in Lubbock and they performed the recommended fixes as per the service
> bulletin. I and shop manager had a discussion around potential issues
> or causes for the problem. Gene Messer had not experienced this
> problem with other users of pickups and their volume is high for sales
> and service.
>
> We (WCL) since had four to five trucks worked on and the problem was

> corrected but showed back up after a few months. In working on the
> issue and trying to understand what was the cause and what was
> different we have stumbled onto a possible issue with the rims on the
> trucks we are receiving from Fleet Purchase Program (keep in mind I
> said possible).
>
> After the problem showed back up from the repairs at Ford Shop, we
> installed different tires on the vehicles, aligned and balanced with
> results that were good. Problem fixed or so we assumed, in a few
> months the problem started again. When had a vehicle with a flat and
> when we took the tire off the rim was split on the inside and in
> looking at the rim it is a doughnut with a plate with holes for lug
> bolts welded to it. So was the welding process in a controlled
> environment, was metal fatigue an issue, was something going on that
> we haven't recognized, or something else?
>
> We looked at the rim and had to replace it anyway so the cost for a
> Ford replacement was more than purchasing an alloy one piece wheel so
> made the decision to replace all the rims. We have been approximately
> two months with four trucks having replace the rims and no sign of the
> problem.
>
> My thoughts are that the rim maybe inappropriate for the use we
> putting it in. i.e. 3/4 and 1/2 ton vehicles on lease roads with
> weight and the result from the bumping and banging down lease roads
> is that we are flexing the rims and putting them out of round. The
> hitting of two bumps puts the wheel into harmonics and causing the
> vibration till you stop.
>
> Keeping in mind that this is all what we have seen and don't know if
> the fleet purchase program has cheaper rims or the added weight and
> rough roads 80-90 per cent of the time causing this to occur. It maybe
> that the rims are built in a particular location and quality control
> is an issue. We have taken one set of rims to Gene Messer but have not
> heard anything from them on this.
>
> We have a couple of sets of rims and were planning on cutting notches
> out of the rim so no one else uses them.
>
> Here again, this is all our thoughts and experience and so far the new
> rims are working good, it maybe early to claim success. With the old
> rims if we balanced and went back to work we seemed to be ok for a
> time, the same if we got new tires which they balance the tire and
> rim.
>
> I have pictures of the rim that failed and you should be able to see
> the face plate that is welded on the backside to the doughnut in my
> note above. If you zoom the picture you can see the split on the rim.
> Hopefully this may help with the issue.
> <<DSCF0252.JPG>> <<DSCF0267.JPG>>
>
>
> Mike Arellano
> Seminole RMT - OTL
> 806-787-5043
>
>
> _____
> From: Gonzales, Eddie
> Sent: Friday, January 12, 2007 7:14 AM
> To: Eaton, Chuck A.
> Cc: Escobedo, Roy; Hardin, Greg; Bruton, James C. (Herbie); Bledsoe,
> William B. (Billy); Arellano, Michael J.
> Subject: FW: Ford Truck

>
> Chuck,
> While I was attending the Seminole RMT Safety Meeting in Andrews on
> Wednesday, I once again heard complaints about our Ford trucks
> suffering serious vibration and loss of control issues possibly due to
> the stabilizers and shocks. I also heard them say that part of the
> problem is due to some of the trucks being initially equipped with
> Continental Tires. [redacted] is one of our Production Techs from
> Lea County New Mexico. He took his truck in to complain about the
> vibration and the shop there in Hobbs was not very responsive. I'm
> afraid we continue to have a very critical issue with our Ford fleet,
> I'm not sure that we've solidified the process for correcting the
> defects. Is this a Ford Corporation issue or should the RMTs correct
> the problems on their own? Please advise. I'm expecting more Vin
> numbers to roll in from the Seminole RMT. Another thing that really
> bothers me, is that these problems are becoming so common, that it
> appears we may be getting use to living with the unsafe
> condition....not good!!
>
> _____ _____
> From: [redacted]
> Sent: Thursday, January 11, 2007 9:06 AM
> To: Gonzales, Eddie
> Subject: Ford Truck
>
> Eddie here is my vehicle number 1FTSX21517E[redacted] production date is
> 8/06 Thanks[redacted]

From: Hale, Curt (B.C.)
Sent: Monday, June 12, 2006 9:03 AM
To: O'Connor, Tammy (T.A.)
Subject: FW: Ford Truck Vibration - Conference Call scheduled
Attachments: 2005 F250 Concern list - Baker-Hughes.xls; RE: TSB Approved and Released: [redacted] 2005-2006 F-Super Duty - Steering Wheel Oscillation

I don't think you got this.

B. Curtis Hale
FCSD PVT Program Manager
F-Super Duty & Excursion

From: Repasky, Steve (S.)
Sent: Monday, June 12, 2006 8:51 AM
To: Arnold, Bruce (B.C.); Michon, Jim (J.B.); Choe, Mark (M.J.); Frantzeskakis, Petros (Peter.); Parekh, Deepak (D.A.); Rocco, Julie (J.E.); Hale, Curt (B.C.); Taylor, Rich (R.G.); Campbell, Keith (K.A.); Bedard, Michael (M.R.)
Subject: RE: Ford Truck Vibration - Conference Call scheduled

Attached for reference for today's meeting is the wording for the subject TSB 05-22-01. It is in the process of being updated to include 2007 MY. Also attached is a list of Baker-Hughes Superduty vehicles in use. Thanks...

From: Repasky, Steve (S.)
Sent: Friday, June 09, 2006 12:19 PM
To: O'Connor, Tammy (T.A.); Arnold, Bruce (B.C.); Menard, Bob (R.J.); Michon, Jim (J.B.); Choe, Mark (M.J.); Frantzeskakis, Petros (Peter.); Parekh, Deepak (D.A.); Gompper, Dan (D.B.); Rocco, Julie (J.E.); Hale, Curt (B.C.); Taylor, Rich (R.G.); Campbell, Keith (K.A.); Bedard, Michael (M.R.)
Subject: RE: Ford Truck Vibration - Conference Call scheduled

Sorry for the extra note. Attached is the correct proposed agenda with the correct date and call-in number and pass code. ..

From: Repasky, Steve (S.)
Sent: Friday, June 09, 2006 11:55 AM
To: O'Connor, Tammy (T.A.); Arnold, Bruce (B.C.); Menard, Bob (R.J.); Michon, Jim (J.B.); Choe, Mark (M.J.); Frantzeskakis, Petros (Peter.); Parekh, Deepak (D.A.); Gompper, Dan (D.B.); Rocco, Julie (J.E.); Hale, Curt (B.C.); Taylor, Rich (R.G.); Campbell, Keith (K.A.); Bedard, Michael (M.R.)
Subject: FW: Ford Truck Vibration - Conference Call scheduled
Importance: High

All - Below is the call-in pass code for the meeting scheduled for Monday at 11:00 local Dearborn time.
Please let me know if do not plan on calling in. Thanks..

Attached is a proposed agenda, subject to some revision.

From: Davis, Brenda K. [mailto:Brenda.Davis@bakerhughes.com]
Sent: Thursday, June 08, 2006 7:10 PM
To: Repasky, Steve (S.)
Cc: Haering, Ray (J.R.); Menard, Bob (R.J.); Fretts, Greg (G.); Scronce, Michael (M.L.)
Subject: RE: Ford Truck Vibration - Conference Call scheduled
Importance: High

Steve,

The call in number is and the pass code is .

The meeting will be scheduled for 10 - 11:30 CST

Please forward this information to your participants.

Thanks so much.

Brenda Davis

Strategic Sourcing Commodity Manager

Fleet & Temporary Services

Baker Hughes Business Support Services

15355 Vantage Parkway West, #300

Houston, TX 77032

Fleet Central - 281-209-7667

281-209-7897 - Fax - 713-625-4374

2005 Ford, F250, 4x4 - "Possible" Affected Units

XTO #	Vin #	Make	Model	Body Type	Package	Status	Drive	Year	City	Delivery	Driver	Notes
	1FTSX21555E[redacted]	FORD	F250	SUPERCAB	XLT	ACTIVE	4X4	2005	Aledo	10/25/2004	[redacted]	Possible Issues
	1FTSX21525E[redacted]	FORD	F250	SUPERCAB	XLT	ACTIVE	4X4	2005	Aledo	6/27/2005	[redacted]	Possible Issues
	1FTSX21596E[redacted]	FORD	F250	SUPERCAB	XLT	ACTIVE	4x4	2006	Aledo	10/7/2005	[redacted]	Possible Issues
	1FTSX21566E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2006	Aledo	12/12/2005	[redacted]	Possible Issues
	1FTSX21535E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Durango	9/16/2004		Reports No Issue Thus Far
	1FTSW21515E[redacted]	FORD	F250	CREW CAB	XLT	ACTIVE	4X4	2005	Durango	5/16/2005		Reports No Issue Thus Far
	1FTSX215X5E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Durango	3/21/2005		Reports No Issue Thus Far
	1FTSX21555E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Durango	1/24/2005		Reports No Issue Thus Far
	1FTSX21585E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Eunice	9/1/2004	[redacted]	Possible Issues
	1FTXS21515E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Eunice	12/13/2004	[redacted]	Possible Issues
	1FTSX21545E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Eunice	12/13/2004	[redacted]	Possible Issues
	1FTSX21525E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Eunice	12/13/2004	[redacted]	Possible Issues
	1FTSX21565E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Eunice	12/13/2004	[redacted]	Possible Issues
	1FTSX21555E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Eunice	12/13/2004	[redacted]	Possible Issues
	1FTSX21515E[redacted]	FORD	F250	SUPERCAB	XLT	ACTIVE	4X4	2005	Eunice	12/13/2004	[redacted]	Possible Issues
	1FTSX21565E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Eunice	7/5/2005	[redacted]	Possible Issues
	1FTSX21525E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Eunice	7/5/2005	[redacted]	Possible Issues
	1FTSX21545E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Eunice	7/5/2005	[redacted]	Possible Issues
	1FTSX21505E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Eunice	7/5/2005	[redacted]	Possible Issues
	1FTSX21545E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Eunice	9/7/2004	[redacted]	Possible Issues
	1FTSX21525E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Eunice	9/7/2004	[redacted]	Possible Issues
	1FTSX21596E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2006	Eunice	9/2/2005	[redacted]	Possible Issues
	1FTSX21516E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2006	Eunice	8/11/2005	[redacted]	Possible Issues
	1FTSX21536E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2006	Eunice	8/12/2005	[redacted]	Possible Issues
	1FTSX21595E[redacted]	FORD	F250	SUPERCAB	XLT	ACTIVE	4X4	2005	Farmington	12/29/2004		Reports No Issue Thus Far
	1FTSX21565E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Farmington	12/7/2004		Reports No Issue Thus Far
	1FTSX21555E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Farmington	11/24/2004		Reports No Issue Thus Far
	1FTSX21595E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Farmington	10/27/2004	[redacted]	Possible Issues
	1FTSX21525E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Farmington	10/25/2004		Reports No Issue Thus Far
	1FTSX21545E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Farmington	10/25/2004	[redacted]	Possible Issues
	1FTSX21565E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Farmington	10/25/2004	[redacted]	Possible Issues
	1FTSX21575E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Farmington	10/27/2004		Reports No Issue Thus Far
	1FTSX21595E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Farmington	11/12/2004		Reports No Issue Thus Far
	1FTSX21505E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Farmington	10/27/2004		Reports No Issue Thus Far
	1FTSX21575E[redacted]	FORD	F250	SUPERCAB	XLT	ACTIVE	4X4	2005	Farmington	9/1/2004		Reports No Issue Thus Far
	1FTSX21595E[redacted]	FORD	F250	SUPERCAB	XLT	ACTIVE	4X4	2005	Farmington	8/31/2004	[redacted]	Possible Issues
	1FTSX21505E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Farmington	9/3/2004		Reports No Issue Thus Far
	1FTSX21565E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Farmington	9/1/2004	[redacted]	Possible Issues
	1FTSX215X5E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Farmington	9/3/2004		Reports No Issue Thus Far
	1FTSX21515E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Farmington	9/3/2004		Reports No Issue Thus Far
	1FTSX2151[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Farmington	9/1/2004		Reports No Issue Thus Far
	1FTSX21585E[redacted]	FORD	F250	SUPERCAB	XLT	ACTIVE	4X4	2005	Farmington	9/16/2004		Reports No Issue Thus Far
	1FTSX21585E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Farmington	8/31/2004		Reports No Issue Thus Far
	1FTSX21535E[redacted]	FORD	F250	SUPERCAB	XLT	ACTIVE	4X4	2005	Farmington	4/25/2005		Reports No Issue Thus Far
	1FTSX21Y35E[redacted]	FORD	F250	SUPERCAB	XLT	ACTIVE	4X4	2005	Farmington	3/6/2005		Reports No Issue Thus Far
	1FTSX21585E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Farmington	5/20/2005	[redacted]	Possible Issues
	1FTSX21505E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Farmington	3/16/2005		Reports No Issue Thus Far
	1FTSX21525E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Farmington	3/16/2005		Reports No Issue Thus Far
	1FTSX21545E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Farmington	2/11/2005		Reports No Issue Thus Far
	1FTSX21565E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Farmington	3/16/2005		Reports No Issue Thus Far
	1FTSX215X5E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Farmington	3/16/2005		Reports No Issue Thus Far
	1FTSX21515E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Farmington NGO	3/16/2005		Reports No Issue Thus Far
	1FTSW21545E[redacted]	FORD	F250	CREW CAB	XLT	ACTIVE	4X4	2005	FW-Eagle Mountain Facility	1/15/2005		Reports No Issue Thus Far

[redacted]	1FTSX2154E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	FW-Eagle Mountain Facility	5/30/2005	[redacted]	Possible Issues
	1FTSX21525E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	FW-Eagle Mountain Facility	5/30/2005	[redacted]	Possible Issues
	1FTSX21505E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	FW-Eagle Mountain Facility	5/30/2005	[redacted]	Possible Issues
	1FTSX21565E[redacted]	FORD	F250	SUPERCAB	XLT	ACTIVE	4X4	2005	FW-Eagle Mountain Facility	5/30/2005		Reports No Issue Thus Far
	1FTSX2154E5E[redacted]	FORD	F250	SUPERCAB	XLT	ACTIVE	4X4	2005	FW-Eagle Mountain Facility	5/30/2005	[redacted]	Possible Issues
	1FTSX21585E[redacted]	FORD	F250	SUPERCAB	XLT	ACTIVE	4X4	2005	FW-Eagle Mountain Facility	5/30/2005	[redacted]	Possible Issues
	1FTSX215X6E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4x4	2006	FW-Eagle Mountain Facility	9/22/2005	[redacted]	Possible Issues
	1FTSX21506E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4x4	2006	FW-Eagle Mountain Facility	9/22/2005	[redacted]	Possible Issues
	1FTSX21575E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Gillette	4/23/2005		Reports No Issue
	1FTSX21535E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Gillette	4/23/2005		Reports No Issue
	1FTSX21535E[redacted]	FORD	F250	SUPERCAB	XLT	ACTIVE	4X4	2005	Goldsmith	11/9/2004		Reports No Issue Thus Far
	1FTSX21505E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Goldsmith	4/21/2005		Reports No Issue Thus Far
	1FTSX21595E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Goldsmith	4/20/2005		Reports No Issue Thus Far
	1FTSX2153E[redacted]	FORD	F250	SUPERCAB	XLT	ACTIVE	4X4	2005	Goldsmith	6/13/2005		Reports No Issue Thus Far
	1FTSX21505E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Goldsmith	4/26/2005		Reports No Issue Thus Far
	1FTSX21565E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Goldsmith	7/14/2005		Reports No Issue Thus Far
	1FTSX21575E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Goldsmith	9/14/2004		Reports No Issue Thus Far
	1FTSX215X5E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Goldsmith	9/14/2004		Reports No Issue Thus Far
	1FTSX21565E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Goldsmith	9/14/2004		Reports No Issue Thus Far
	1FTSX21515E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Goldsmith	9/7/2004		Reports No Issue Thus Far
	1FTSX21505E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Goldsmith	9/7/2004		Reports No Issue Thus Far
	1FTSX21525E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	LaBarge	5/19/2005		Reports No Issue Thus Far
	1FTSX21535E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	LaBarge	5/19/2005		Reports No Issue Thus Far
	1FTSX21575E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Lakin	9/16/2004		Reports No Issue Thus Far
	1FTSX21555E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Lakin	3/1/2005		Reports No Issue Thus Far
	1FTSX21515E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Lakin	1/19/2005		Reports No Issue Thus Far
	1FTSX21525E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Longview	10/22/2004		Reports No Issue Thus Far
	1FTSW21515E[redacted]	FORD	F250	CREW CAB	XLT	ACTIVE	4X4	2005	Longview	2/16/2005	[redacted]	Possible Issues
	1FTSX21575E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	McAlester	11/23/2004	[redacted]	Possible Issues
	1FTSX215X5E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	McAlester	11/23/2004	[redacted]	Possible Issues
	1FTSX21545E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Mcalester	5/18/2005	[redacted]	Possible Issues
	1FTSX21575E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	McAlester	7/14/2005	[redacted]	Possible Issues
	1FTSX21526E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2006	McAlester	8/24/2005	[redacted]	Possible Issues
	1FTSX21575E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Midland	1/10/2005	[redacted]	Possible Issues
	1FTSX21535E[redacted]	FORD	F250	SUPERCAB	XLT	ACTIVE	4X4	2005	Midland	11/8/2004		Reports No Issue Thus Far
	1FTSX21585E[redacted]	FORD	F250	SUPERCAB	XLT	ACTIVE	4X4	2005	Midland	11/8/2004		Reports No Issue Thus Far
	1FTSX21525E[redacted]	FORD	F250	SUPERCAB	XL	SOLD	4X4	2005	Midland	9/16/2004		Reports No Issue Thus Far
	1FTSX21505E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Midland	8/31/2004	[redacted]	Possible Issues
	1FTSX21595E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Midland	9/1/2004		Reports No Issue Thus Far
	1FTSX21575E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Midland	9/1/2004		Reports No Issue Thus Far
	1FTSX21595E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Midland	9/1/2004		Reports No Issue Thus Far
	1FTSX21555E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Midland	9/14/2004	[redacted]	Possible Issues
	1FTSX21535E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Midland	9/1/2004		Reports No Issue Thus Far
	1FTSX21585E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Midland	9/14/2004	[redacted]	Possible Issues
	1FTSX21565E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Midland	9/14/2004	[redacted]	Possible Issues
	1FTSX21545E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Midland	9/7/2004	[redacted]	Possible Issues
	1FTSX21565E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Midland / PNEU	9/9/2004	[redacted]	Possible Issues
	1FTSX21565E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Midland	9/9/2004		Reports No Issue Thus Far
	1FTSX21595E[redacted]	FORD	F250	SUPERCAB	XLT	ACTIVE	4X4	2005	Midland	4/14/2005		Reports No Issue Thus Far
	1FTSX21595E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Midland	4/26/2005		Reports No Issue Thus Far
	1FTSX21555E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Midland	7/14/2005	[redacted]	Possible Issues
	1FTSX21535E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Midland	7/14/2005		Reports No Issue Thus Far
	1FTSX21515E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Midland	7/14/2005		Reports No Issue Thus Far
	1FTSX215X5E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Midland	7/14/2005		Reports No Issue Thus Far
	1FTSX21585E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Midland	7/14/2005		Reports No Issue Thus Far
	1FTSX215X5E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Midland	7/14/2005		Reports No Issue Thus Far
	1FTSX21526E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4x4	2006	Midland	8/11/2005	[redacted]	Possible Issues

[redacted]	1FTSX21556E[redacted]	FORD	F250	SUPERCAB	XLT	ACTIVE	4x4	2006	Midland	9/2/2005	[redacted]	Possible Issues
	1FTSX21595E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Orangeville	4/16/2005		Reports No Issue Thus Far
	1FTSX21555E[redacted]	FORD	F250	SUPERCAB	XLT	ACTIVE	4X4	2005	Orangeville	4/8/2005		Reports No Issue Thus Far
	1FTSX21565E[redacted]	FORD	F250	SUPERCAB	XLT	ACTIVE	4X4	2005	Orangeville	12/26/2004		Reports No Issue Thus Far
	1FTSX21P45E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4x4	2005	Orangeville	4/18/2005	[redacted]	Possible Issues
	1FTSX21565E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Ozark	11/28/2004	[redacted]	Possible Issues
	1FTSX21535E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Ozark	11/29/2004		Reports No Issue Thus Far
	1FTSX21555E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Ozark	11/23/2004		Reports No Issue Thus Far
	1FTSX21515E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Ozark	11/29/2004	[redacted]	Possible Issues
	1FTSX21575E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Ozark	4/29/2005		Reports No Issue Thus Far
	1FTSX21506E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2006	Ozark	8/24/2005	[redacted]	Possible Issues
	1FTSX21555E[redacted]	FORD	F250	SUPERCAB	XLT	ACTIVE	4X4	2005	Ozark	12/24/2004	[redacted]	Possible Issues
	1FTSX21535E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	RGPC	12/18/2004	[redacted]	Possible Issues
	1FTSX21555E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	RGPC	4/12/2005	[redacted]	Possible Issues
	1FTSX21585E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Ringwood	11/5/2004	[redacted]	Possible Issues
	1FTSX215X5E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Ringwood	11/3/2004		Reports No Issue Thus Far
	1FTSX21515E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Ringwood	11/4/2004		Reports No Issue Thus Far
	1FTSX215X5E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Ringwood	8/25/2004	[redacted]	Possible Issues
	1FTSX21505E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Ringwood	12/28/2004	[redacted]	Possible Issues
	1FTXS21516E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4x4	2006	Ringwood	8/22/2005	[redacted]	Possible Issues
	1FTSX21515E[redacted]	FORD	F250	SUPERCAB	XLT	ACTIVE	4X4	2005	Sherman	11/30/2004		Possible Issues
	1FTSX215X5E[redacted]	FORD	F250	SUPERCAB	XLT	ACTIVE	4X4	2005	Tyler	10/1/2004	[redacted]	Possible Issues
	1FTSX215X5E[redacted]	FORD	F250	SUPERCAB	XLT	ACTIVE	4X4	2005	Tyler	4/14/2005		Reports No Issue Thus Far
	1FTSX21525E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Tyler	9/12/2005		Reports No Issue Thus Far
	1FTSX21515E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Tyler	9/12/2005		Reports No Issue Thus Far
	1FTSX21535E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Tyrone	12/17/2004	[redacted]	Possible Issues
	1FTSX21535E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Tyrone	10/15/2004	[redacted]	Possible Issues
	1FTSX21545E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Tyrone	4/26/2005	[redacted]	Possible Issues
	1FTSX21545E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Tyrone	3/22/2005	[redacted]	Possible Issues
	1FTSX21525E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Tyrone	1/4/2005	[redacted]	Possible Issues
	1FTSX21585E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Tyrone	6/13/2005	[redacted]	Possible Issues
	1FTSX21565E[redacted]	FORD	F250	SUPERCAB	XLT	ACTIVE	4X4	2005	Tyrone	6/6/2005	[redacted]	Possible Issues
	1FTSX21565E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Tyrone	8/25/2004	[redacted]	Possible Issues
	1FTSX21566E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2006	Tyrone	9/9/2005	[redacted]	Possible Issues
	1FTSX21505E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Weston	10/25/2004		Reports No Issue Thus Far
	1FTSX215X5E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Weston	9/22/2004		Reports No Issue Thus Far
	1FTSX21565E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Weston	2/19/2005		Reports No Issue Thus Far
	1FTSX21Y05E[redacted]	FORD	F250	SUPERCAB	XLT	ACTIVE	4X4	2005	Weston	2/19/2005		Reports No Issue Thus Far
	1FTSX21585E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Weston	3/15/2005		Reports No Issue Thus Far
	1FTSX21575E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Weston	3/7/2005		Reports No Issue Thus Far
	1FTSX21565E[redacted]	FORD	F250	SUPERCAB	XL	ACTIVE	4X4	2005	Weston	10/14/2005		Reports No Issue Thus Far

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From: Repasky, Steve (S.)
Sent: Friday, May 26, 2006 10:18 AM
To: O'Connor, Tammy (T.A.)
Cc: Choe, Mark (M.J.); Gompper, Dan (D.B.); Mayer, Paul (P.A.)
Subject: RE: TSB Approved and Released: [redacted] 2005-2006 F-Super Duty - Steering Wheel Oscillation

I agree to include 2007 MY vehicles. I am not aware of any additional 2007 MY Superduty changes that would affect this TSB.

From: O'Connor, Tammy (T.A.)
Sent: Friday, May 26, 2006 9:47 AM
To: Repasky, Steve (S.)
Cc: Knapp, David (D.); Hale, Curt (B.C.); Snider, Alex (A.); Meier, Kenneth (K.W.)
Subject: FW: TSB Approved and Released: [redacted] 2005-2006 F-Super Duty - Steering Wheel Oscillation

I think we need to update this TSB to include 2007 MY.

Steve: Were there any changes for 2007 MY in production that would effect this TSB as written?

Are there any other revisions we need to make? Please let me know.

I'm also going to send it out to the FSE's and FQE's for input.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Siplus, G (G.)
Sent: Thursday, October 20, 2005 9:44 AM
To: Lentini, Craig (C.A.); jcoope12@visteon.com; McDonald, Joseph (J.); Pasanen, Kary (K.L.); Sprunger, Jon (J.L.); Echhot, T. (T.); Hawkins, William (W.); O'Connor, Tammy (T.A.)
Subject: TSB Approved and Released: [redacted] 2005-2006 F-Super Duty - Steering Wheel Oscillation

TSB Approved and Released
*** DRAFT ***

This message is being sent on behalf of VNALEY.
This is a courtesy copy of the following article to advise you this article has been approved and released.

General Information

Last action taken (as of 10/20/2005 1:43:58 PM GMT): Final/Complete
Comment:

Author: TOCONNOR
Tracking Number: [redacted]
Author Tracking Number:
Title: 2005-2006 F-Super Duty - Steering Wheel Oscillation
Article Type: TSB

TSB Issue:
Some 2005-2006 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion), immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on 4x4 vehicles, and is more evident on trucks equipped with a gas engine.

TSB Action:
Refer to the following Service Procedure to minimize the steering wheel oscillations on impacts, however, there may be some remaining minor oscillation which would be considered normal.

TSB Service Procedure:
SERVICE PROCEDURE

Perform the following:

- Vehicle Inspection
- Evaluation Of Vehicle Prior To Repair
- Steering Gear Mesh Load Adjustment
- Front Alignment and Reduce front caster
- Replacement Of Redundant Control Steering Wheel (if equipped and vehicle built prior to 10/8/2004)

VEHICLE INSPECTION
---

1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

NOTE: SETTING TIRE PRESSUE TO DOOR SPEC IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE.

2. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
a. If leaks are present, install a new steering damper and continue with this TSB.
b. If no leaks are present, continue with this TSB.

3. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table # below).

Description	Torque Specification (lb-ft/ Nm)	
	Lb-ft	Nm
Damper nuts (4x2)	59	80
Damper-to-bracket (F-250, F-350 4x4)	26	35
Damper-to-drag link	67	91
Drag link-to-pitman arm nut	148	201
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts and bolts	129	175
Track bar-to-track bar bracket bolt	406	550

Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE.

EVALUATION OF VEHICLE PRIOR TO REPAIR

---

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the severity of wheel oscillation.
3. During the road test, evaluate and note the steering wheel return-ability.

a. Turn steering wheel full lock to lock to confirm no binding.
b. Locate center, and then 45 degrees either side of center on the steering wheel.
c. Driving vehicle at 35 MPH (56 Km/h), on a dry and flat road surface, turn the wheel 45 degrees and release. Note the approximate angle that the steering wheel returns to BEFORE CLEAR VISION. Perform and record the angle for both left and right. It is normal if the angle differs slightly from left to right.

STEERING GEAR MESH LOAD ADJUSTMENT

---

1. Insert hex wrench into steering gear mesh load adjuster screw.
2. While holding the mesh load adjuster screw tight, back off lock nuts two full turns to allow free movement of the adjuster screw.
3. Carefully tighten adjuster screw until a slight increase in resistance is felt, then back off approximately 1/16th of a turn.
4. Hold the adjuster screw in place and tighten lock nut. Do not allow the adjustment screw to turn while tightening the locking nut down.
5. Road test vehicle and evaluate for improvement in steering wheel oscillations.

a. Confirm that there is no objectionable increase in steering efforts, especially at low speeds.
b. Verify that steering wheel return-ability is approximately the same as it was during the original evaluation (within 5 degrees).
c. Turn steering wheel full lock to lock to confirm no binding.

6. Park the vehicle to let it cool down. Road test cold to confirm acceptable parking efforts and return-ability in cold condition. Repeat the mesh load adjustment if needed.

FRONT WHEEL ALIGNEMENT AND REDUCE FRONT CASTER

Measure wheel alignment. Verify that Front Caster, Camber and Total Toe is within specification. Adjust as required. Refer to the Workshop Manual, Section 204-00 for complete alignment specifications.

REDUCE FRONT CASTER

- Note the current front caster
- Use alignment adjustment bushings to Reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit.

Use Alignment adjustment bushings:

F-250/350 4x4:

- 5C3Z-3B440-CCC (0.5 degree bushing)
- 5C3Z-3B440-DDD (0.75 degree bushing)
- 5C3Z-3B440-EEE (1.0 degree bushing)

F-450/550 4x4 and 4x2:

· 5C3Z-3B440-HHH (0.5 degree bushing)
· 5C3Z-3B440-JJJ (0.75 degree bushing)
· 5C3Z-3B440-KKK (1.0 degree bushing)

F-250/350 4x2:
· 5C3Z-3B440-C = 0.5 degree busing
· 5C3Z-3B440-D = 0.75 degree bushing
· 5C3Z-3B440-E = 1.0 degree bushing

For All 4x4 and for F-450/550 4x2
· Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward and inboard position (See Figure 1)
· This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed
· The final caster and camber settings must be within the specification limits
· Maintain the current front camber, cross-camber and cross-caster settings as close as you possibly can
· Adding weight behind the rear axle lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster

For All F-350/250 4x2,
· Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain that position while moving the caster position forward in the truck
· The final caster and camber settings must be within the specification limits

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.
1. Remove driver air bag assembly. Refer to Workshop Manual Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE 2005 OR 2006 SUPER DUTY F-SERIES WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

NOTE: THE WHEEL ALIGNMENT LABOR OPERATIONS MAY BE CLAIMED WITH THE REPAIR OPERATIONS
IN THIS ARTICLE.

Category: Service Fix (10 years - TSB Only)
Request Type: Non-QSF
Activity Code: 070 F-Series >8500#
Vehicle Applications:

Vehicle Lines	Model Year Start	Model Year End	Assembly Plants	Body Styles	Engine	Trans Axles	Build From	Build To
F-Super Duty (F-250 to 550)	2005	2006						

If SPECS Case, Select all Other Affected

Publications:
Changes Needed in Other Pubs:
TSBs to Supersede: 04-26-01
SSMs to Supersede:
ISMs to Supersede:
Other application Articles:
Select the reason for republication: Concern Carryover to New Model
Procedure verified by CDSID: srepasky
Describe How The Procedure Was Verified: TSB was verified by Steve Repasky, and also by the FQEs.
Do you have access to a vehicle for time study? Yes
If Yes, contact for vehicle CDSID: toconnor
Are Illustrations Required? Yes
If Yes, Contact information for illustrations:
CDSID(Ford only): toconnor
Full Name: Tammy O'Connor
Phone: 313/322-3824
Illustration Notes:

Trustmarks affected: Ford
Additional Trustmarks To Notify:
Article Distribution: WDMO, Canada, Mexico, United States
DTC Codes and OASIS Service Codes: , 303000, 304000, 306000, 703000, 703000, 703200, 703200, 703300, 703300, 703400, 703400

Causal Basic Part # or Finis Code:

Causal Part # or Finis Code	Warranty Condition Codes
3600	Chassis: 42

Calibrations List:

White Paper Numbers:

Parts Request Information

Are Parts Required? Yes
QSF Single Agenda Or Program FRC Date:
Parts List:

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
1	Existing	5C74-3F563-AB1D24	No	Not Applicable	STEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	
			U5MSK	5C7Z-3600-ABA			

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
2	Existing	5C74-3F563-AB35B8	No	Not Applicable	sTEERING WHEEL ASY	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	45						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	
			U5MSK	5c7z-3600-			

				CBA			

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3E651-CE	No	Not Applicable	Damper	1	100
3	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	
			Q29AA	5C3Z-3E651-CA			

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3E651-BE	No	Not Applicable	Damper	1	100
4	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	
				5C3Z-3E651-BA			

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3E651-BG	No	Not Applicable	Damper	1	100
5	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	
				5C3Z-3E651-B			

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-NA	No	Not Applicable	.5 DEGREE SHIM 4X2	1	100
6	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	
				5C3Z-3B440-C			

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-CA	No	Not Applicable	.5 DEGREE SHIM 4X4	1	100
7	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	
				5C3Z-3B440-CCC			

8	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-PA	No	Not Applicable	.75 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	
				5C3Z-3B440-D			

9	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-DA	No	Not Applicable	-75 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	
				5C3Z-3B440-DDD			

10	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-RA	No	Not Applicable	1.0 DEGREE SHIM 4X2	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	
				5C3Z-3B440-E			

11	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-EA	No	Not Applicable	1.0 DEGREE SHIM 4X4	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	
				5C3Z-3B440-EEE			

12	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-JA	No	Not Applicable	0.75 DEGREE SHIM	1	100
	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	
				5C3Z-3B440-JJJ			

	*Type of Part	*Eng #	*Is This Part a Kit?	*Existing Stock#	*Part Name	*Qty/veh.	*Engineering Est. Qty. Needed
	Existing	5C34-3D004-KA	No	Not Applicable	1.0 DEGREE SHIM	1	100
13	*Calculated Forecast		*@WERS Notice #		*@WERS Date Released		*@Supplier Company
	126						
	@1st Contact	@1st Contact Phone	Source Code	Service #	Replaced SVC #	°Replaced Eng. #	
				5C3Z-3B440-KKK			

Parts catalog flag needed? No
Part number(s) that require flag:
Is geographic location significant? No
Special instructions/remarks: ARE PART NUMBER FOUR AND SEVEN IN THE PARTS LIST SECTION REQUIRED? IF SO PLEASE ADVISE SUPPLIER NAME AND CONTACT INFORMATION FOR PART NUMBER FOUR AND SEVEN IN THE PARTS LIST SECTION. THESE TWO PART NUMBERS ARE NOT ACTIVE.

Article Number: 05-22-1
BCM Number: 4943

(End automated email)

From: Hammond, Dan (D.J.)
Sent: Thursday, September 28, 2006 9:55 PM
To: Johnston, Steven (S.J.); O'Connor, Tammy (T.A.)
Cc: Meier, Kenneth (K.W.)
Subject: FW: Issues with 2006 F250
Importance: High
Attachments: tsb06-15-01-Steering Wheel Oscillation.pdf

Steve/Tammy: Ken Meier, our CVO Technical Liaison, is out 9/29/06.

Should TSB 06-15-01, attached, resolve this issue?

Please let me know if you might have anything else to suggest.

Thanks!

From: Eggerss, Bob [mailto:bob.eggerss@pioneer.com]
Sent: Thursday, September 28, 2006 10:44 AM
To: Church, Steve; Turner, Mark; Hammond, Dan (D.J.)
Cc: Herman, Renee; Fine, Michelle
Subject: RE: Issues with 2006 F250
Importance: High

Thanks Steve!

Mark, could you also send me the last 6 digits of the VIN # on the truck you are driving?

Thanks
BE

From: Church, Steve
Sent: Thursday, September 28, 2006 9:18 AM
To: Eggerss, Bob; Sato, Mike; 'Hammond, Dan (D.J.)'
Cc: Weber, Rick; Garrison, Garner; Herman, Renee; Fine, Michelle; Turner, Mark
Subject: RE: Issues with 2006 F250

Bob,

My F250 did the same thing. When you hit a rough joint on a bridge or rough road the truck began to shudder violently forcing me to hit the brakes and head for the ditch to get it under control and off the road. I had Ford insert the shims and they re-aligned the truck. I have not had the violent shudder since this service was performed although it does shake more than it should when I hit the bridge joints on the interstate. I was disappointed when I had the truck repaired; Ford covered installing the shims then I had to pay for the re-alignment. I believe that the re-alignment should have been covered by warranty since the problem was caused by the defect in the truck.

I was traveling with my business partner, Mark Turner, last week and I asked him if he was having trouble with his F250. We hit a bridge joint and his did the violent shudder forcing him to slam on the brakes and get it under control. He is having the truck repaired this week.

My VIN: 1FTSW21506E[redacted]

Steve

Benchmark Seeds, Inc.

From: Eggerss, Bob
Sent: Thursday, September 28, 2006 6:11 AM
To: Sato, Mike; 'Hammond, Dan (D.J.)'; Church, Steve
Cc: Weber, Rick; Garrison, Garner; Herman, Renee; Fine, Michelle
Subject: RE: Issues with 2006 F250
Importance: High

Thanks for your comments Mike!

Dan, I really appreciate everything you have helped me with so far but we need to have a lot more discussion around this F250 "Death Shudder" problem! Please e-mail me a copy of the Service Bulletin that describes this problem and what the fix is so that I can send it out to everyone driving 2005 & 2006 Ford F250's which equates to around 125 Pioneer people! Please review the repair history on the following vehicles and let me know what Ford is willing to do to help on. After discussing this problem with some of my drivers, it sounds like this is a very scary situation and we are very lucky that no one has been injured yet because of it!

2005 Ford F250 Super Crew (VIN # 1FTSW21525E[redacted]) – [redacted]
2005 Ford F250 Super Crew (VIN # 1FTSW21YX5E[redacted]) – [redacted]
2006 Ford F250 Super Crew (VIN # 1FTSW21556E[redacted]) – [redacted]

I will be out of the office tomorrow but you can call me on my cell phone which is (515) 360-2362.

Steve, can you please tell me what the last 6 digits of the VIN # on the truck you have had experienced problems with and can you describe the problems you have had?

Thanks
Bob Eggerss
Pioneer Fleet Management

From: Sato, Mike
Sent: Wednesday, September 27, 2006 6:13 PM
To: Eggerss, Bob; Garrison, Garner; 'Hammond, Dan (D.J.)'
Cc: Weber, Rick; Herman, Renee
Subject: RE: Issues with 2006 F250

Ford doesn't want to admit a problem. The service rep was supposed to call me so I could take him for a ride but he never called when he was in the area. When I asked the service dept what happened they just said he recommended bigger tires and higher inflation I did read in a service bulletin intended for tire shops that Ford trucks that shudder needed to have shims installed. I think it for the drive line. I had a 2 wheel drive company rig with twin I beams that did the same, I put a steering stabilizer and new shocks on it and it fixed it. I got ford to put new shocks on but they were the same O.E. ones that came on mine. They tell me the front end on these is extra heavy duty and I wonder if the shocks aren't up to the task when the heavy duty front end absorbs a major jolt. I do know that when I ordered new shocks from a tire shop, they are back ordered. Makes you think that a lot of folks are replacing factory shocks doesn't it??? I have also ordered a double steering stabilizer along with the new shocks to see if that totally eliminates the problem.

I did increase the psi in my tires and it helped it from having death shudders but it is still not as stable as it should be when you hit those big jolts.

I do know Steve Church had the same issue and they put shims in his and realigned the front end.

From: Eggerss, Bob
Sent: Wednesday, September 27, 2006 2:31 PM
To: Garrison, Garner; 'Hammond, Dan (D.J.)'
Cc: Weber, Rick; Sato, Mike; Herman, Renee; Eggerss, Bob
Subject: RE: Issues with 2006 F250

Importance: High

Garner, I sure didn't want to hear, I thought we had your problems taken care of!

Dan, what would you like Garner to do now?

Rick & Mike, I sure would like to hear what is happening with your trucks! Please provide as much information in an e-mail as possible. Have either of you had your truck in to a dealer yet and have it checked out?

Thanks
BE

From: Garrison, Garner
Sent: Wednesday, September 27, 2006 3:19 PM
To: Eggerss, Bob
Cc: Weber, Rick; Sato, Mike
Subject: FW: Issues with 2006 F250

Bob---I hate to send this e-mail but feel I should. Last week my pickup did the shimmy thing again on a very rough state highway in Oklahoma. I was driving about 65 mph and brought it under control. However, this past Sat it did it again when I hit a bump crossing a bridge. This one was a little worse because for a while I thought I might go over the bridge. I again brought it under control but did hit a small pole by the bridge.

I am copying Rick Weber and Mike Sato as I hear they have experienced the same thing with their F 250's. As I mentioned, I had the work done except for the alignment. thanks--Garner

---

From: Garrison, Garner
Sent: Monday, August 07, 2006 7:51 AM
To: Eggerss, Bob
Subject: RE: Issues with 2006 F250

I got the pickup Thur and have driven it around 600 miles so far. The Ford house did not have a machine to align it so I suppose I still need to do that. As I told Bob, the pickup seems 'tighter' at the steering wheel, like a newer pickup does. And so far----it has not done the shimmy thing. Will let you know if it does it again.
Thanks for your help--Garner

From: Eggerss, Bob
Sent: Friday, August 04, 2006 3:17 PM
To: Garrison, Garner
Subject: FW: Issues with 2006 F250

Garner, is everything better?

Thanks
BE

From: Hammond, Dan (D.J.) [mailto:dhammon5@ford.com]
Sent: Friday, August 04, 2006 3:06 PM
To: Eggerss, Bob
Subject: RE: Issues with 2006 F250

Bob: By now I'm assuming that you know that I spoke with Garner and the dealership about our latest Technical Service Bulletin on this issue. The dealership had not performed it. After they did, and gave the truck back, I spoke with Garner and he said that it felt tighter, better. Please let me know if anything else arises on this one, or on any other Ford in your fleet, Bob. Have a great weekend.

From: Eggerss, Bob [mailto:bob.eggerss@pioneer.com]
Sent: Wednesday, August 02, 2006 2:22 PM
To: Hammond, Dan (D.J.)
Cc: Garrison, Garner; Eggerss, Bob
Subject: Issues with 2006 F250
Importance: High

Dan, we are having some problems with the following vehicle. A quick summary; the vehicle will go in to an extreme shimmy situation at highway speeds. There was a repair that was completed that fixed the problem about 99% but it still happens on occasion.

2006 Ford F250 XLT (VIN # 1FTSW21556E[redacted])

I would like to hook you up with our driver so that he can explain the situation. Please call at your earliest convenience. I will not be in the office on Thursday but will be back in on Friday.

Thanks
Bob Eggerss
Pioneer Fleet Management

STEERING WHEEL OSCILLATION | TSB 06-15-1

FORD:
2005-2007 F-Super Duty

This article supersedes TSB **05-22-1** to update the vehicle model years, causal part numbers, and Service Procedure.

ISSUE

Some 2005-2007 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion), immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on 4X4 vehicles, and is more evident on trucks equipped with a gas engine.

ACTION

Refer to the following Service Procedure to minimize the steering wheel oscillations on impacts, however, there may be some remaining minor oscillation which would be considered normal.

SERVICE PROCEDURE SUMMARY

- Set tire pressure and road test vehicle to evaluate vehicle before proceeding with further repairs. If issue is resolved, do not proceed with the rest of this TSB
- If concern still exists, check steering damper for leaks; torque steering and suspension fasteners per Workshop Manual
- If concern still exists, check front alignment and reduce front caster
- Replacement of redundant control steering wheel (if equipped and vehicle built prior to 10/8/2004)

VEHICLE INSPECTION - TIRE PRESSURE

1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

NOTE
SETTING TIRE PRESSURE TO DOOR SPECIFICATION IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE.

ROAD TEST

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the customer's issue.
3. If no issues are identified during the road test, do not proceed with the rest of this TSB.

STEERING DAMPER INSPECTION AND STEERING/SUSPENSION FASTENER TORQUE CHECK

1. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
   a. If leaks are present, install a new steering damper.
2. Check torques on the following steering and suspension fasteners and adjust to specification as required (see following Table).

Torque Specification		
Description	**Lb-ft**	**Nm**
Damper nuts (4X2)	59	80
Damper-to-bracket (F-250, F-350 4X4)	26	35
Damper-to-drag link	67	91
Drag link-to-pitman arm nut	148	201
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts and bolts	129	175
Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE
ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE.

NOTE: The information in Technical Service Bulletins is intended for use by trained, professional technicians with the knowledge, tools, and equipment to do the job properly and safely. It informs these technicians of conditions that may occur on some vehicles, or provides information that could assist in proper vehicle service. The procedures should not be performed by "do-it-yourselfers". Do not assume that a condition described affects your car or truck. Contact a Ford, Lincoln, or Mercury dealership to determine whether the Bulletin applies to your vehicle. Warranty Policy and Extended Service Plan documentation determine Warranty and/or Extended Service Plan coverage unless stated otherwise in the TSB article.The information in this Technical Service Bulletin (TSB) was current at the time of printing. Ford Motor Company reserves the right to supercede this information with updates.The most recent information is available through Ford Motor Company's on-line technical resources.

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FRONT WHEEL ALIGNMENT AND REDUCE FRONT CASTER

NOTE
OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

Measure wheel alignment. Verify that Front Caster, Camber, and Total Toe are within specification. Adjust as required. Refer to the Workshop Manual, Section 204-00 for complete alignment specifications.

REDUCE FRONT CASTER

- Note the current front caster
- Use alignment adjustment bushings to reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit. Use alignment adjustment bushings

F-250/350 4X4:

- 5C3Z-3B440-CCC (0.5 degree bushing)
- 5C3Z-3B440-DDD (0.75 degree bushing)
- 5C3Z-3B440-EEE (1.0 degree bushing)

F-450/550 4X4 and 4X2:

- 5C3Z-3B440-HHH (0.5 degree bushing)
- 5C3Z-3B440-JJJ (0.75 degree bushing)
- 5C3Z-3B440-KKK (1.0 degree bushing)

F-250/350 4X2:

- 5C3Z-3B440-C (0.5 degree busing)
- 5C3Z-3B440-D (0.75 degree bushing)
- 5C3Z-3B440-E (1.0 degree bushing)

For All 4X4 and for F-450/550 4X2:

- Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward and inboard position (See Figure 1)

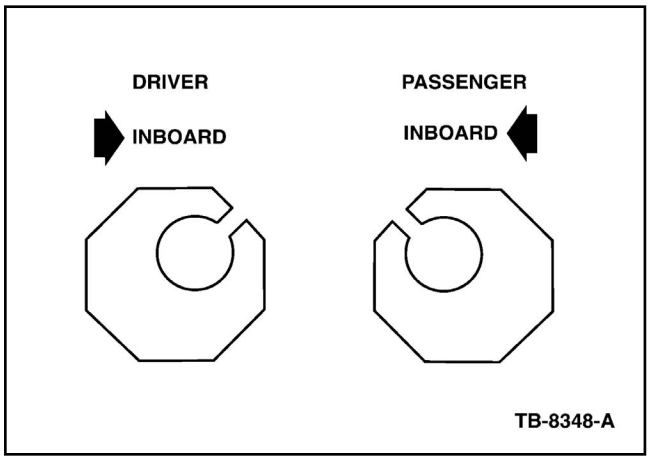

Figure 1 - Article 06-15-1

- This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed
- The final caster and camber settings must be within the specification limits
- Maintain the current front camber, cross-camber and cross-caster settings as close as you possibly can
- Adding weight behind the rear axle lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster

For All F-250/350 4X2:

- Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain that position while moving the caster position forward in the truck
- The final caster and camber settings must be within the specification limits

NOTE
CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 Only

NOTE
THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual, Section 211-04 for complete instructions.
2. Remove the steering wheel.

3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE
FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

PART NUMBER	PART NAME
5C7Z-3600-ABA	Redundant Control Steering Wheel Assy (King Ranch Tan/Peb)
5c7z-3600-CBA	Redundant Control Steering Wheel Assy (Charcoal Black)
5C3Z-3E651-D	Steering Damper
5C3Z-3B440-C	F-250/350 4X2 (0.5 degree bushing)
5C3Z-3B440-D	F-250/350 4X2 (0.75 degree bushing)
5C3Z-3B440-E	F-250/350 4X2 (1.0 degree bushing)
5C3Z-3B440-CCC	F-250/350 4X4 (0.5 degree bushing)
5C3Z-3B440-DDD	F-250/350 4X4 (0.75 degree bushing)
5C3Z-3B440-EEE	F-250/350 4X4 (1.0 degree bushing)
5C3Z-3B440-HHH	F-450/550 4X4 and 4X2 (0.5 degree bushing)
5C3Z-3B440-JJJ	F-450/550 4X4 and 4X2 (0.75 degree bushing)
5C3Z-3B440-KKK	F-450/550 4x4 and 4x2 (1.0 degree bushing)

NOTE
LABOR OPERATIONS IN THIS TSB CAN BE CLAIMED TOGETHER.

NOTE
OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

WARRANTY STATUS: Eligible Under Provisions Of New Vehicle Limited Warranty Coverage

OPERATION	DESCRIPTION	TIME
061501A	2005-2007 F-Super Duty: Check Tire Pressure, Road Test To Verify Repair, Concern Resolved, Return To Customer (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	0.4 Hr.
061501B	2005-2007 F-Super Duty: Check Tire Pressure, Road Test To Verify Repair, Concern Not Resolved, Check Steering Damper Replace If Necessary, Verify Proper Torque On Steering Components, Road Test If Concern Is Resolved Return To Customer (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	1.4 Hrs.
061501C	2005-2007 F-Super Duty 250/350 4X2: Check And Adjust Front Wheel Alignment, This Labor Operation Can Be Claimed With Operation B Only (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	1.9 Hrs.
061501C	2005-2007 F-Super Duty 250/350 4X4, F450/550 4X2/4X4: Check And Adjust Front Wheel Alignment, This Labor Operation Can Be Claimed With Operation B Only (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	2.3 Hrs.
061501D	2005 F-Super Duty With Redundant Steering Control Built Prior To 10-8-2004: Replace Steering Wheel, Includes Time To Depower And Repower The Supplemental Restraints System Can Be Claimed With Operation A Or B (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	0.7 Hr.

DEALER CODING

BASIC PART NO.	CONDITION CODE
(OPERATION A) NPF	82
(OPERATION B) 3E651	42
(OPERATION C) FRONT	W6
(OPERATION D) 3600	42

From: Airington, Connie (C.G.)
Sent: Friday, January 28, 2005 3:18 PM
To: O'Connor, Tammy (T.A.)
Cc: Airington, Connie (C.G.)
Subject: FW: LOOSE CONTROL WHEN HITTING BUMPS

Here are the VIN's for the fleet customer who has a concern with loosing control when hitting bumps. Fleet company states that the vehicle are not drivable.

Connie Airington
Field Service Engineer
Ford Customer Service Division
Voicemail & FAX @ (972) 334-1791
cairingt@ford.com

-----Original Message-----
From: Arthur [mailto:arthurm@sewellford.com]
Sent: Friday, January 28, 2005 8:39 AM
To: Airington, Connie (C.G.)
Subject: LOOSE CONTROL WHEN HITTING BUMPS

VIN #'S
1FTSX21505E[redacted]
1FTSX21545E[redacted]
1FTSX21515E[redacted]
1FTSX21595E[redacted]

From: O'Connor, Tammy (T.A.)
Sent: Thursday, October 27, 2005 4:06 PM
To: Repasky, Steve (S.)
Subject: FW: New Shock part numbers

Steve: Just a couple of questions on these shocks?

Are they going into production?

What is the difference between what is on the truck and these new shocks?

They are not released for 2005 for Service. Can they be used on a 2005 truck? If so, can WERS be corrected to reflect this usage?

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Wed,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Thursday)

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-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Thursday, October 27, 2005 4:02 PM
To: Hornick, Paul (P.A.)
Cc: Hale, Curt (B.C.)
Subject: New Shock part numbers

Paul:

When can we get some of these in stock, I'm going to submit an early parts request.

SMMPGPMA Global Part Information 10/27/05 15:58:28
===> _____ _____
SERVICE PART: 6C3Z- 18124-PBA__ SHOCK ABSORBER ASY
ENGINEERING PART: 6C34 18045 PBA_____ ORIGIN: WERS
SUPPLIER LOC: FINIS: 4763138
Vendor Part: Fam Buy:
Motorcraft Part: ASH- 959- Prime Suplr: M715B
Comparable Part: Packager Cd: H751B
Replaced Part: Mat Content:
Replacing Part: Ship Mlt: 0
Buyer: 2E1 MIKE KELLY NBA Phone: 734-266-9872

```
Dmnd Anlyst:  N1A GENE BUSSE                  NDA Phone:   734-523-5612
Prod Anlyst:  201 MICHAEL BRETSIK             NPA Phone:   734-45-80060
Price Anlyst: I89 DAN FREMER                  Profs ID:    DFREMER
Color Name:                                   Pallet Qty:       0
Pnd Obs:       Svc Disp:    Unit Issue:    1   Overpack Qty:      0
Obs Not:       Mech Ob Cd:  Trfc Cd:     79   Max Ord Qty:       0
Obs Eff:       Procure Cd: 3 Hvy Trk App/Cd: 2 /  Min Run Qty:      0
Eff In:  12/05/05 Rlse Hld:  N Fab/Hold:   N      Min Ship Qty:      0
Eff Out: 10/02/06 Final Rlse: N Wgt UOM:          Package Wgt:      0.00
Ord Dte: 12/05/05 Spec Pgm:  N Dir Ship:          Standard Cst:     0.00
Commdty: 040301   Volume Grp: C Rack/Plt:         Dealer Net:       0.00
F1=Help  F2=GIMA  F4=PrvPart  F5=NxtPart  F6=PIGA  F9=DEEA  F10=HIIA  F11=ARFA
RECORD FOUND                                                  PD01143
--------------------------------------------------------------------------------
SMMPGPMA              Global Part Information         10/27/05 15:59:59
===> _________ ____________________________________________________
SERVICE PART:     6C3Z-  18125-KBA__     SHOCK ABSORBER ASY
ENGINEERING PART:  6C34   18080 KBA_____________     ORIGIN:     WERS
SUPPLIER LOC:                                 FINIS:      4763150
Vendor Part:                                  Fam Buy:
Motorcraft Part:   ASH-     961-                  Prime Suplr: M715B
Comparable Part:                              Packager Cd: H751B
Replaced Part:                                Mat Content:
Replacing Part:                               Ship Mlt:       0
Buyer:       2E1 MIKE KELLY                       NBA Phone:   734-266-9872
Dmnd Anlyst:  N1A GENE BUSSE                      NDA Phone:   734-523-5612
Prod Anlyst:  201 MICHAEL BRETSIK                 NPA Phone:   734-45-80060
Price Anlyst: I89 DAN FREMER                      Profs ID:    DFREMER
Color Name:                                   Pallet Qty:       0
Pnd Obs:       Svc Disp:    Unit Issue:    1   Overpack Qty:      0
Obs Not:       Mech Ob Cd:  Trfc Cd:     79   Max Ord Qty:       0
Obs Eff:       Procure Cd: 3 Hvy Trk App/Cd: 2 /  Min Run Qty:      0
Eff In:  12/05/05 Rlse Hld:  N Fab/Hold:   N      Min Ship Qty:      0
Eff Out: 10/02/06 Final Rlse: N Wgt UOM:          Package Wgt:      0.00
Ord Dte: 12/05/05 Spec Pgm:  N Dir Ship:          Standard Cst:     0.00
Commdty: 040302   Volume Grp: C Rack/Plt:         Dealer Net:       0.00
F1=Help  F2=GIMA  F4=PrvPart  F5=NxtPart  F6=PIGA  F9=DEEA  F10=HIIA  F11=ARFA
RECORD FOUND                                                  PD01143
```

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
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248/814-8698 Telecommuting Office (Mon,Wed,Fri)
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-----Original Message-----
From: Joseph, Charles (C.A.)
Sent: Thursday, October 27, 2005 3:47 PM

To: O'Connor, Tammy (T.A.); Mayer, Paul (P.A.)
Cc: Repasky, Steve (S.)
Subject: RE: Report Summary for the CQIS Report# [redacted] -- Not Steering shimmy issue --

After our discussion with Rick I am now clear on what you need Rick indicates that this is a FX4 package and therefore would get a Rancho shock: the engineering numbers for e front are 6C34-18045-PBA and for e Rear they are 6C34-18080- KBA.

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Thursday, October 27, 2005 9:43 AM
To: Mayer, Paul (P.A.); Joseph, Charles (C.A.)
Cc: Repasky, Steve (S.)
Subject: RE: Report Summary for the CQIS Report# [redacted] -- Not Steering shimmy issue --

Do you have the Engineering part number yet?

Tammy A. O'Connor
Product Concern Engineer
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Super Duty F-Series/Excursion
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-----Original Message-----
From: Mayer, Paul (P.A.)
Sent: Thursday, October 20, 2005 12:35 PM
To: Joseph, Charles (C.A.)
Cc: Repasky, Steve (S.); O'Connor, Tammy (T.A.)
Subject: RE: Report Summary for the CQIS Report# [redacted] -- Not Steering shimmy issue --

Chuck, can you please send Tammy the part numbers for the new 142" 4x4 configuration shocks

see below notes for background

Regards
Paul Mayer
Truck Suspension and Systems Analysis
313-248-9202 Fax:313-317-2349

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Thursday, October 20, 2005 11:05 AM
To: Repasky, Steve (S.)
Cc: Hale, Curt (B.C.); Mayer, Paul (P.A.); Knapp, David (D.); Grozier, Brian (B.D.); Baghdoian, Mitch (M.R.)
Subject: RE: Report Summary for the CQIS Report# [redacted] -- Not Steering shimmy issue --

Steve: We would like to write an ISM with the service part numbers for the new shocks when they

become available. Do you have an Engineering part number yet?

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Wed,Fri)
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-----Original Message-----
From: Repasky, Steve (S.)
Sent: Wednesday, October 19, 2005 11:55 AM
To: O'Connor, Tammy (T.A.); Baghdoian, Mitch (M.R.); Choe, Mark (M.J.)
Cc: Hale, Curt (B.C.); Mayer, Paul (P.A.); Knapp, David (D.); Grozier, Brian (B.D.)
Subject: RE: Report Summary for the CQIS Report# [redacted] -- Not Steering shimmy issue --

Tammy - Thanks for the note. From the VIN, the vehicle is a 5.4L 142" F350 4x4. The noted concern appears to be related to overall harsh ride and steering wheel ringdown (lesser amplitude than wheel fight).

For harsh ride, PD has developed new shock codes for the 142" 4x4 configuration that are expected to be PSW'd on Oct. 24, 2005 to support Superduty 2006 J#2 4PP builds (J#2 is Dec. 2005). These may be available on a limited basis to handle customer concerns.

PD is also currently working to diminish ring down with Engine and Body mount revisions as well as some potential frame changes. However, these would be longer term fixes and not readily available.

I will try to call Brian today to discuss the concern. Thanks..

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Wednesday, October 19, 2005 9:52 AM
To: Repasky, Steve (S.); Baghdoian, Mitch (M.R.)
Cc: Grozier, Brian (B.D.); Hale, Curt (B.C.); Snider, Alex (A.); Mayer, Paul (P.A.); Knapp, David (D.)
Subject: FW: Report Summary for the CQIS Report# [redacted] -- Not Steering shimmy issue --

Steve/Mitch:

Below is a CQIS report from FSE Brian Grozier. We discussed this issue on Monday afternoon in our CMT meeting. Brian says he has driven several trucks with this issue. Brian specifically says it is not the steering shimmy issue. However, the TSB was done and it made little, if no difference. I have seen a few other reports which describe it as a Hop or harsh ride. Several or the reports mention frame flexing/bouncing?

Any recommendations/comments would be appreicated. Please feel free to contact Brian directly also.

Tammy A. O'Conno
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
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-----Original Message-----
From: Grozier, Brian (B.D.)
Sent: Wednesday, October 19, 2005 9:40 AM
To: O'Connor, Tammy (T.A.)
Subject: Report Summary for the CQIS Report#[redacted]

one of my road test shimmy/shake/shudder

Attachments : 0

Report# :	[redacted] FCSDFS			**Received:**	10/19/2005
CCRG/EPRC:		**Reviewed Status:**		**Date:**	
Vehicle:	2005,F350 4X4,SUP CAB,PICKUP ,1FTWX31525E[redacted]			**Build Date:**	03/04/2005
Odometer :	1,286 M	**Engine:**	MOD 5.4 3V	**Calibration:**	5F714C0A
Transmission:	5R110W	**Axle:**		**A/C:**	YES
Dealer:	USA 09131 Muzi Motors Inc			**Phone#:**	(617) 444-5300
City:	Needham Heights	**State:**	Massachusett	**Country :**	USA
Originator:					
Symptom:	3 05 9 99 CHASS.,FRAME CONCERNS,NOT LISTED,OTHER				
Status:					
VFG:	V44 MECHANICAL MALFUNCT INDICATION				
Additional Symptom:	SHUDDER OVER BUMPS				
Fix:	**Causal Component :**				
Condition Code:					

Region Code: 11 **Region Name:** Boston -11

Comments :

VERIFY 10/19/2005 09:36AM BRIAN GROZIER MSS - FCSD - REG - BOSTON
CUSTOMER IS COMPLAINING OF A SHIMMY/SHUDDER OVER BUMPS WHEN

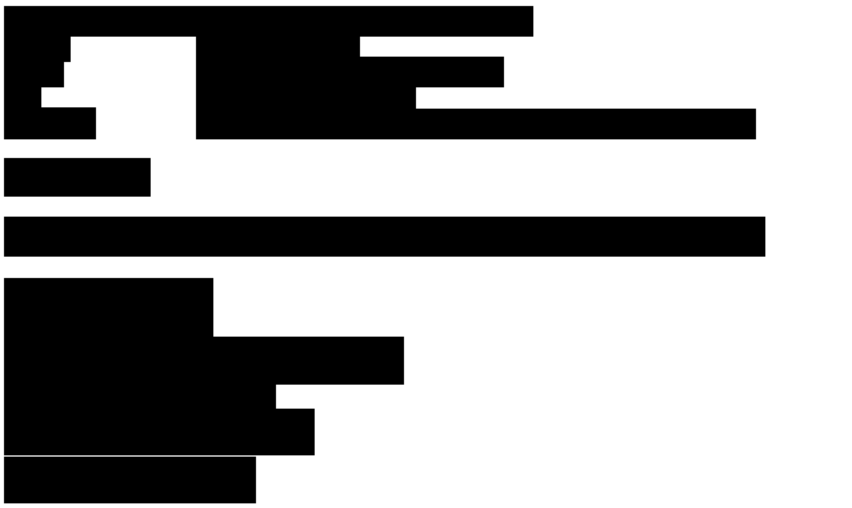
DRIVEN
EMPTY. ROAD TEST FOUNF TIRES TO HAVE FLAT SPOTS FOR THE FIRST 20
MILES, THEN WHILE GOING AT HIGHWAY SPEEDS TRUCK WAS DETRMINED TO HAVE
A SHUDDER IN FRMAE WHEN HITTTING LARGE BUMPS IN ROAD. CONCERN FEELS
LIKE AS IF YOU COULD BE SITTING ON THE END OF A DIVING BOARD AFTER THE
SPRING ACTION WAS ACTIVIATED. CONCERN IS A CHARACTERISTIC OF THE
VEHICLE WHEN DRIVEN UN LOADED.

[redacted]

[redacted]

[redacted]

[redacted]



Ford Motor Company
Preliminary Vehicle Inspection Report

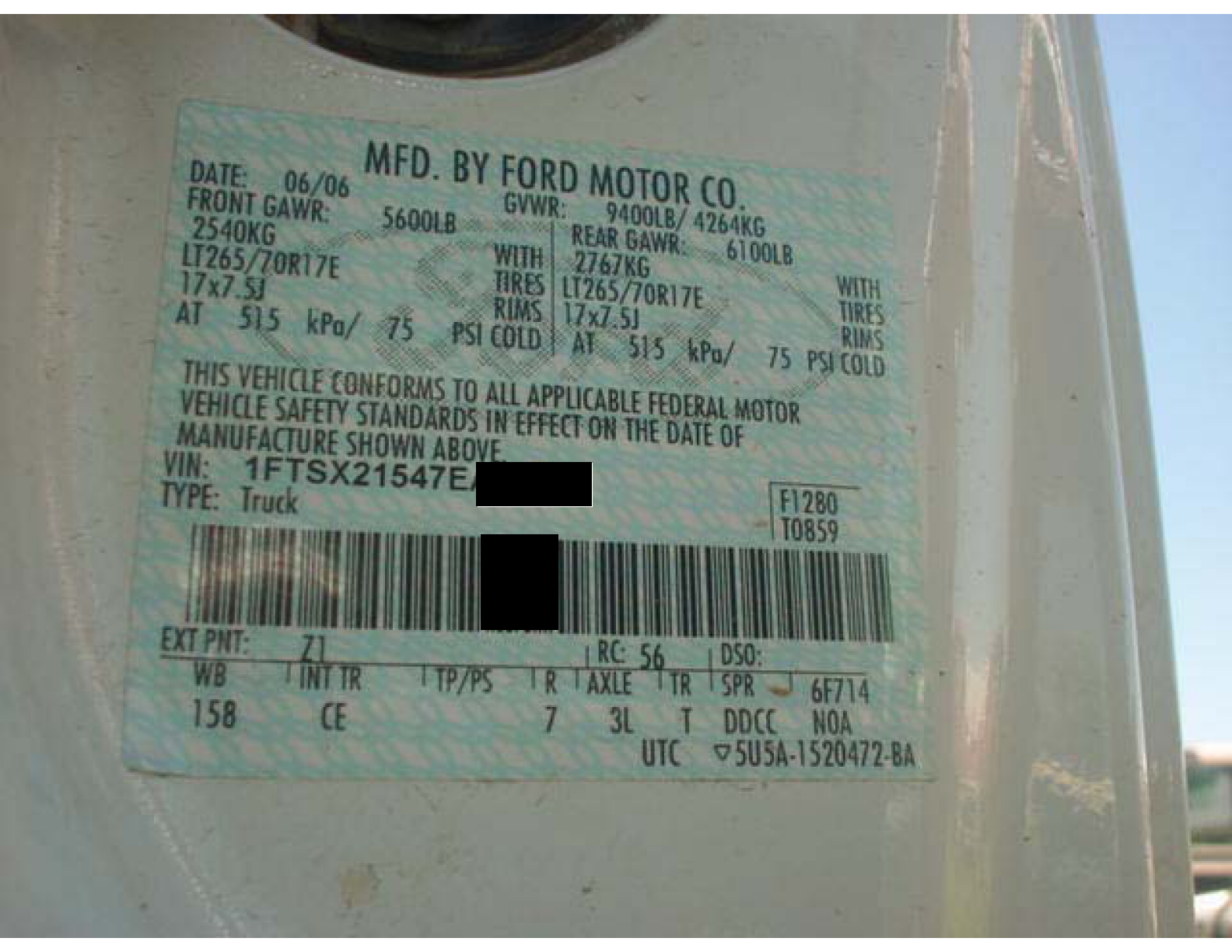
Ford File Number [redacted]

PHOTOGRAPH DESCRIPTION SHEET

Please provide a brief description of the reason for each photograph. Photos should be sent in a zip file in .jpeg format.

Digital Photos:

Photo No.		Description
0		# 38 FIRST ROLLOVER IMPACT AREA
1		# 39 FIRST LANDING AREA
2	MFG. LABEL	# 40-46 ROLL OFF TRAIL
3	TIRE LABEL	
4	LEFT FRONT TIRE	
5	RIGHT FRONT TIRE	
6	RIGHT REAR TIRE	
7	LEFT REAR TIRE	
8	LEFT FRONT CORNER	
9	LEFT FRONT	
10	FRONT	
11	RIGHT FRONT	
12	RIGHT SIDE	
13	RIGHT REAR	
14	REAR	
15	LEFT SIDE	
16	DRIVER INTERIOR	
17	BRAKE PEDAL	
18	PASSENGER INTERIOR	
19	PASSENGER INTERIOR	
20	L FRONT SUSPENSION	
21	CENTER OF SUSPENSION	
22	R FRONT SUSPENSION	
23	R FRONT SUSPENSION	
24	STEERING SECTOR	
25	STEERING SECTOR	
26	P/S RESERVOIR	
27	P/S RESERVOIR	
28	L FRONT SHOCK	
29	R FRONT SHOCK	
30	L FRONT RIM SCRAPE	
31	R FRONT RIM SCRAPE	
32	R REAR RIM SCRAPE	
33	L REAR RIM SCRAPE	
34	UPPER L FRONT SHOCK	
35	UPPER R FRONT SHOCK	
36	BEGINNING OF SKID	
37	GUARD RAIL IMPACT	


MFD. BY FORD MOTOR CO.

DATE: 06/06

FRONT GAWR: 5600LB
2540KG
LT265/70R17E
17x7.5J
AT 515 kPa/ 75 PSI COLD

GVWR: 9400LB/ 4264KG
REAR GAWR: 6100LB
2767KG
WITH TIRES LT265/70R17E
WITH RIMS 17x7.5J
AT 515 kPa/ 75 PSI COLD

THIS VEHICLE CONFORMS TO ALL APPLICABLE FEDERAL MOTOR VEHICLE SAFETY STANDARDS IN EFFECT ON THE DATE OF MANUFACTURE SHOWN ABOVE

VIN: 1FTSX21547E[redacted]

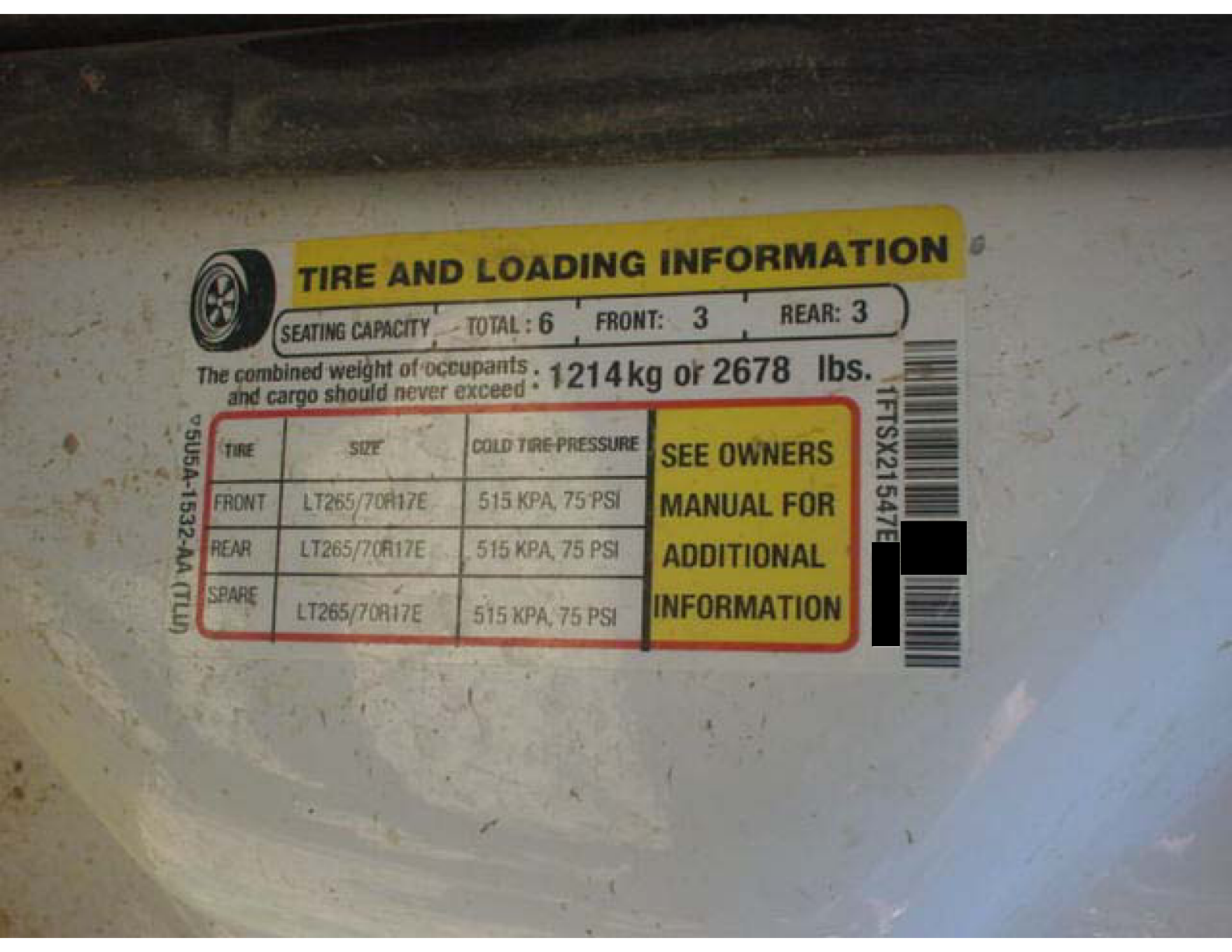
TYPE: Truck

F1280
T0859

EXT PNT: Z1 RC: 56 DSO:

WB	INT TR	TP/PS	R	AXLE	TR	SPR	
158	CE		7	3L	T	DDCC	6F714 NOA

UTC ▽5U5A-1520472-BA


TIRE AND LOADING INFORMATION
SEATING CAPACITY TOTAL : 6 FRONT: 3 REAR: 3
The combined weight of occupants and cargo should never exceed : 1214 kg or 2678 lbs.
TIRE | SIZE | COLD TIRE PRESSURE
FRONT | LT265/70R17E | 515 KPA, 75 PSI
REAR | LT265/70R17E | 515 KPA, 75 PSI
SPARE | LT265/70R17E | 515 KPA, 75 PSI
SEE OWNERS MANUAL FOR ADDITIONAL INFORMATION
5U5A-1532-AA (TLU)
1FTSX21547E

MUD TIRE

F-250

[redacted]

[redacted]

F-250

F250

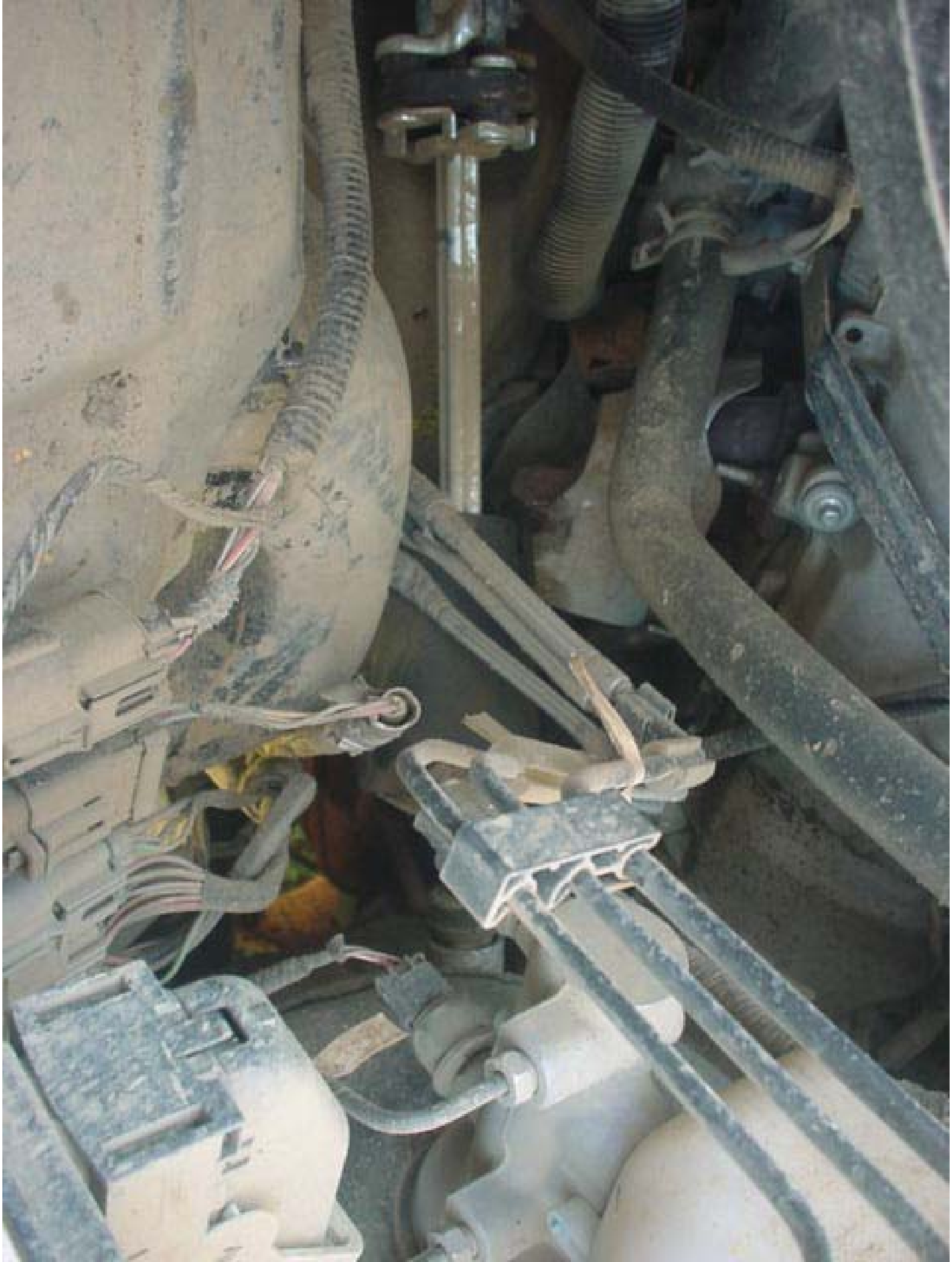
F-250
1296-DFH

4x4

[redacted]

[redacted]

BUCKSHOT



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From: O'Connor, Tammy (T.A.)
Sent: Thursday, August 26, 2004 12:49 PM
To: Gompper, Dan (D.B.)
Subject: FW: Report Summary for the CQIS Report#[redacted]

Tammy A. O'Connor
Product Concern Engineer
Superduty F-Series/Excursion
Body/Chassis/Electrical
FCSD, Service Engineering Operations
248/814-8698 Telecommuting Office (Mon,Tues,Fri)
313/322-3824 DSCII, Cube 468 (Wed & Thurs)
TOCONNOR or 313/795-0116 Text Page & Pager #

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Thursday, August 26, 2004 12:31 PM
To: O'Connor, Tammy (T.A.)
Subject: Report Summary for the CQIS Report#[redacted]

Attachments : 0

Report# :	[redacted] NHL			**Received:**	08/20/2004
CCRG/EPRC:		**Reviewed Status:**		**Date:**	
Vehicle:	2005,F250 4X2,SUP CAB,PICKUP ,1FTSX20PX5E[redacted]			**Build Date:**	08/02/2004
Odometer :	114 M	**Engine:**	6.0L DI	**Calibration:**	
Transmission:	5R110W	**Axle:**		**A/C:**	YES
Dealer:	USA 07686 Ron Drenkow Motors, Inc.			**Phone#:**	(712) 324-5624
City:	Sheldon	**State:**	Iowa	**Country :**	USA
Originator:	DAVE GROEN				
Symptom:	3 03 3 54 CHASS.,STRG/HANDLING ,VIB./SHIMMY,WHEN TURNING				
Status:					
VFG:	V89 RIDE & HANDLING				
Additional Symptom:	EXCESSIVE BODY ROLL				
Fix:	**Causal Component :**				
Condition Code:					

Hotliner: JARNOL41 **Phone:** 313 317-9352 **Regn Cd:** 58 Twin Cities - 58

Engineering: MARK CAMPBELL **Phone:** 313 317-9381 **TAR:** 0-30

Dlr Contact: **Phone:** **Title Cde:** T

Comments :

REPAIR 08/20/2004 04:42PM JAMES ARNOLD MSS - FCSD - TECH SVC HOTLINE
TECH STATES THE VEHICLE HAS E CESSIVE BODY ROLL. TECH SEEKING KNOWNS.

RECOMM 08/20/2004 04:42PM JAMES ARNOLD MSS - FCSD - TECH SVC HOTLINE
ADV TECH NO KNOWN ISSUES AND TO COMPARE TO A LIKE UNIT IF POSSIBLE.

REPAIR 08/21/2004 08:58AM ROBERT GEBHARDT MSS - FCSD - TECH SVC HOTLINE
TECH CALLED BACK WITH SAME.

RECOMM 08/21/2004 08:58AM ROBERT GEBHARDT MSS - FCSD - TECH SVC HOTLINE
ADV IF THE SPRINGS, SHOCKS, SWAYBAR AND TIRES ARE ALL PROPER, THIS IS
CHARACTERISTIC. ADV TO PLAY WITH ALIGNMENT TO MAKE IT BETTER.

REPAIR 08/21/2004 09:32AM JONATHAN OWENS MSS - FCSD - TECH SVC HOTLINE
TECH STATES THE BODY ROLL IS EXCESSIVE. TECH STATES THE VEHICLE IS
NOT SAFE TO DRIVE. TECH STATES ALL STEERING AND SUSPENSION
COMPONENTS ARE TIGHT. TECH STATES THE CONCERN FEELS LIKE THE REAR
TIRES HAVE LOW PRESSURE. TECH STATES HE DROVE A 2005 4X4 SUPER DUTY
TRUCK AND IT WAS SIMILAR, BUT NATO AS BAD. TECH SEEKING ADVICE.

RECOMM 08/21/2004 09:32AM JONATHAN OWENS MSS - FCSD - TECH SVC HOTLINE
ADVISE TECH OF NO KNOWN CONCERNS AT THIS TIME. ADVISE TECH TO
COMPARE THIS VEHICLE WITH A 4X2 MODEL PRIOR TO ANY OTHER REPAIRS.

REPAIR 08/24/2004 11:23AM LLOYD BRUMBAUGH MSS - FCSD - TECH SVC HOTLINE
CALLING BACK ON THE SAME CONCERN. THEY HAVE BEEN UNABLE TO COMPARE TO
A LIKE VEHICLE BECAUSE OF THE CONFIGURATION OF THE VEHICLE. TECH AND
SM BOTH DO NOT THINK THAT THE CONCERN IS NORMAL. SEEKING HELP FROM AN
FSE ON THE CONCERN.

RECOMM 08/24/2004 11:23AM LLOYD BRUMBAUGH MSS - FCSD - TECH SVC HOTLINE
CONSULTED SME, ADVISED TECH TO CHECK FOR THE CORRECT FRONT SPRINGS IN
THE VEHICLE. ADVISED TECH I WOULD TECH ASSIST FOR CUSTOMER SATISFACTI

ON.

ADD-ON **08/25/2004 01:15PM CURT VOGEL MSS - FCSD - VSP C/P SVC ENG**

FORWARDED REPORT TO ENGINEERING. MUST COMPARE TO LIKE VEHICLE.

ADD-ON **08/25/2004 02:14PM TAMMY O'CONNOR MSS - FCSD - VSP C/P SVC ENG**

TALKED WITH RANDY FRICK, FSE, AND HE PLANS ON VISITING DEALER EARLY

NEXT WEEK, IF VEHICLE IS NOT REPAIRED, PLEASE CALL TAMMY OCONNOR AT 3

13/322-3824.

REPAIR **08/26/2004 11:06AM MICHAEL MCMICHAEL MSS - FCSD - TECH SVC HOTLINE**

TECH STATES UNABLE TO CONTACT FSE TO FIND OUT WHEN FSE WILL BE AVAILAB

LE CUSTOMER DOES NOT WANT TO WAIT WANTS ANSWER NOW.

RECOMM **08/26/2004 11:06AM MICHAEL MCMICHAEL MSS - FCSD - TECH SVC HOTLINE**

ADVISED TECH IF UNABLE TO CONTACT FSE CALL REGION CSM.

ISSUE:

Some 2005-2006 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion) immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on 4x4 vehicles, equipped with steering wheels that have redundant controls (i.e. climate and radio controls).

ACTION:

This procedure will minimize the steering wheel oscillations on impacts; however, there may be some remaining minor oscillation, which would be considered normal.
Perform the following:

- Vehicle Inspection
- Evaluation Of Vehicle Prior To Repair
- Steering Gear Mesh Load Adjustment
- Reduce front caster by 0.5 to 0.75 degrees
- Replacement Of Redundant Control Steering Wheel (if equipped and vehicle built prior to 10/8/04)

SERVICE PROCEDURE

VEHICLE INSPECTION

1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

   NOTE: SETTING TIRE PRESSUE TO DOOR SPEC IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

2. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
   a. If leaks are present, install a new steering damper and continue with this TSB.
   b. If no leaks are present, continue with this TSB.

3. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table # below).

Description	Torque Specification (lb-ft/ Nm)	
	Lb-ft	Nm
Damper nuts (4x2)	59	80
Damper-to-bracket (F-250, F-350 4x4)	26	35
Damper-to-drag link	67	91
Drag link-to-pitman arm nut	148	201
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts & bolts	129	175
Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

4. Measure wheel alignment. Verify that Front Caster, Camber & Total Toe is within specification (preferred specification is .1 degree toe in). Adjust to specification as required. Refer to the Workshop Manual, Section 2004-00-1 for complete alignment specifications.

EVALUATION OF VEHICLE PRIOR TO REPAIR

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the severity of wheel oscillation.

3. During the road test, evaluate and note the steering wheel return-ability.
    a. Turn steering wheel full lock to lock to confirm no binding.
    b. Locate center, and then 45 degrees either side of center on the steering wheel.
    c. Driving vehicle at 35 MPH (56 Km/h), on a dry and flat road surface, turn the wheel 45 degrees and release. Note the approximate angle that the steering wheel returns to BEFORE CLEAR VISION. Perform and record the angle for both left and right. It is normal if the angle differs slightly from left to right.

STEERING GEAR MESH LOAD ADJUSTMENT

1. Insert hex wrench into steering gear mesh load adjuster screw.
2. While holding the mesh load adjuster screw tight, back off lock nuts two full turns to allow free movement of the adjuster screw.
3. Carefully tighten adjuster screw until a slight increase in resistance is felt, then back off approximately 1/16th of a turn.
4. Hold the adjuster screw in place and tighten lock nut. Do not allow the adjustment screw to turn while tightening the locking nut down.
5. Road test vehicle and evaluate for improvement in steering wheel oscillations.
    a. Confirm that there is no objectionable increase in steering efforts, especially at low speeds.
    b. Verify that steering wheel return-ability is approximately the same as it was during the original evaluation (within 5 degrees).
    c. Turn steering wheel full lock to lock to confirm no binding.
6. Park the vehicle to let it cool down. Road test cold to confirm acceptable parking efforts and return-ability in cold condition. Repeat the mesh load adjustment if needed.

REDUCE FRONT CASTER

- Note the current front caster
- Use alignment adjustment bushings to Reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit.
- If caster setting is at exact minimum, camber may be below the specification limit.
- Use Alignment adjustment bushings:
    - 4x4: 5C3Z-3B440-DDD (0.75 Degree bushing) OR 5C3Z-3B440-EEE (1.0 degree bushing)
    - 4x2: 5C3Z-3B440-D (0.75 Degree bushing) OR 5C3Z-3B440-E (1.0 degree bushing)
- Maintain the current front camber, cross-camber & cross-caster settings as close as you possibly can.
- If the caster is set to the exact minimum, you may find that the camber is out of spec.
- Adding weight to the back raises the front of the vehicle, which in effect increases caster.

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE 2005 OR 2006 SUPER DUTY F-SERIES WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

From: Memmer, Mark (M.A.)
Sent: Friday, August 13, 2004 12:21 PM
To: Gompper, Dan (D.B.)
Subject: FW: Report Summary for the CQIS Report# [redacted] - Steering wheel nibble over bumps

-----Original Message-----
From: Fenocketti, Mike (L.M.)
Sent: Thursday, August 12, 2004 10:33 AM
To: Memmer, Mark (M.A.); Repasky, Steve (S.)
Subject: RE: Report Summary for the CQIS Report# [redacted] - Steering wheel nibble over bumps

I'm sure the question will be asked soon: can the added intertia redundant steering wheel be released right now as a service fix? And will it attenuate the issue enough to satisfy complaining customers. My suggestion would be for us to kick off this process now before it hits the QSF radar screen.

-----Original Message-----
From: Seufert, David (D.C.)
Sent: Thursday, August 12, 2004 10:26 AM
To: Fenocketti, Mike (L.M.)
Cc: Memmer, Mark (M.A.); Repasky, Steve (S.)
Subject: RE: Report Summary for the CQIS Report# [redacted] - Steering wheel nibble over bumps

It is a Lariat Luxury, so the one with the redundant controls.

-----Original Message-----
From: Fenocketti, Mike (L.M.)
Sent: Thursday, August 12, 2004 10:15 AM
To: Memmer, Mark (M.A.); Repasky, Steve (S.)
Cc: Seufert, David (D.C.)
Subject: FW: Report Summary for the CQIS Report# [redacted] - Steering wheel nibble over bumps

Mark/Steve - info.

Dave - is there a way to find out what type of steering wheel is on the complaint truck.

-----Original Message-----
From: Seufert, David (D.C.)
Sent: Thursday, August 12, 2004 10:11 AM
To: Fenocketti, Mike (L.M.)
Subject: FW: Report Summary for the CQIS Report# [redacted] - Steering wheel nibble over bumps

FYI... Looks like wheel fight.

-----Original Message-----
From: Hale, Curt (B.C.)
Sent: Thursday, August 12, 2004 10:04 AM
To: Willmer, David (D.G.)
Cc: Seufert, David (D.C.); Ulanoski, Mike (M.S.); Vogel, Curt (C.A.)
Subject: FW: Report Summary for the CQIS Report# [redacted] - Steering wheel nibble over bumps

FYI - 2005 CQIS Report

Attachments : 0

Report# :	[redacted] NHL			**Received:**	08/10/2004
CCRG/EPRC:		**Reviewed Status:**		**Date:**	
Vehicle:	2005,F250 4X4,CRW CAB,PICKUP ,1FTSW21P85E[redacted]			**Build Date:**	07/28/2004
Odometer :	121 M	**Engine:**	6.0L DI	**Calibration:**	
Transmission:	5R110W	**Axle:**		**A/C:**	YES
Dealer:	USA 05693 B F Evans Ford Inc			**Phone#:**	(270) 278-2376
City:	Livermore	**State:**	Kentucky	**Country :**	USA

Originator: TOM BLADES
Symptom: 3 03 3 53 CHASS.,STRG/HANDLING ,VIB./SHIMMY,OVER BUMPS
Status:
VFG: V89 RIDE & HANDLING
Additional Symptom: NIBBLE OVER BUMPS
Fix: **Causal Component :**
Condition Code:

Hotliner: CROTH4 **Phone:** 313 317-7052 **Regn Cd:** 47 Cincinnati - 47

Engineering: **Phone:** **TAR:**

Dlr Contact: **Phone:** **Title Cde:** SM

Comments :

REPAIR 08/10/2004 04:33PM CHRIS ROTH MSS - FCSD - TECH SVC HOTLINE
SM STATES THAT CUSTOMER COMPLAINT IS NIBBLE OVER BUMPS, SM STATES
THAT HE HAS DUPLICATED CONCERN AND HAS DRIVEN LIKE UNIT WITH GAS
ENGINE. SM STATES THAT LIKE UNIT WAS SIMILAR BUT CONCERN VEHICLE
WAS WORSE, SM SEEKING KNOWNS ON CONCERN.

RECOMM 08/10/2004 04:33PM CHRIS ROTH MSS - FCSD - TECH SVC HOTLINE
CONSULTED SME MARK CAMPBELL. ADVISED SM TO CHECK ALIGNMENT TO MAKE
SURE WITHIN SPEC. ADVISED IF GOOD INSTALL STEERING STABILIZER.

From: O'Connor, Tammy (T.A.)
Sent: Monday, August 30, 2004 11:21 AM
To: Sprunger, Jon (J.L.)
Cc: Hale, Curt (B.C.); Gompper, Dan (D.B.)
Subject: FW: Report Summary for the CQIS Report#[redacted]

Jon: Please send [redacted] back to me (see e-mails below), the procedure does not fully repair the concern. Thanks. We will submit an SSM, stating that Engineering is investigating the issue. Thanks.

Tammy A. O'Connor
Product Concern Engineer
Superduty F-Series/Excursion
Body/Chassis/Electrical
FCSD, Service Engineering Operations
248/814-8698 Telecommuting Office (Mon,Tues,Fri)
313/322-3824 DSCII, Cube 468 (Wed & Thurs)
TOCONNOR or 313/795-0116 Text Page & Pager #

-----Original Message-----
From: Gompper, Dan (D.B.)
Sent: Friday, August 27, 2004 12:27 PM
To: Jablonski, Mary (M.K.); O'Connor, Tammy (T.A.)
Cc: Mass, Noah (N.B.); Reyes, Pete (P.D.)
Subject: RE: Report Summary for the CQIS Report#[redacted]

Thanks, Mary. Do you think that the service parts (at least a few, not necessarily full stock) could be tracked the same as the 4p's you're working on?

Tammy -- Looks like I missed adding your address to my initial response to your note. Can you take a look at my comments below and let us know what you think?

Thanks,

Dan Gompper
SuperDuty Vehicle Dynamics Supervisor
Phone/Fax: (313) 84-54891
[redacted]
Textpager: (313) 813-9026 (3138139026@airtouch.net)
Email: dgompper@ford.com

-----Original Message-----
From: Jablonski, Mary (M.K.)
Sent: Friday, August 27, 2004 12:10 PM
To: Gompper, Dan (D.B.); Jablonski, Mary (M.K.)
Cc: Mass, Noah (N.B.); Reyes, Pete (P.D.)
Subject: RE: Report Summary for the CQIS Report#[redacted]

PSW timing is still 10/15/2004. The ramp up is the issue for Key Safety.
I am working at getting the 4p's saleable less PSW paper work. I have a reviewed scheduled with Key on Monday

to review the PV data
so that I can declare that and update the Alert.

Mary Jablonski
TT Airbag, Steering Wheel and RCM Supervisor
313-390-6276, mjablon1@ford.com
(Text) Pager Number 313-814-5984

-----Original Message-----
From: Gompper, Dan (D.B.)
Sent: Friday, August 27, 2004 10:12 AM
To: Jablonski, Mary (M.K.)
Cc: Mass, Noah (N.B.); Reyes, Pete (P.D.)
Subject: RE: Report Summary for the CQIS Report#[redacted]

Mary -- Where do you stand on signoff of the higher inertia redundant controls steering wheel? What is feasibility of pull ahead of signed off wheels for dealer calls, potentially prior to PSW? I believe PSW is expected ~10/15?

Please let me know as soon as you can. I'd like to work with Tammy (FCSD) to improve our resolution of any in service calls.

Tammy -- We are working to release a new steering wheel for job#2 and service that will reduce the levels of steering wheel oscillation. I'm hoping Mary can provide more details on timing and potential pull ahead for a service action. What is our potential to tell the dealers that we are working on another solution and have them sit tight until we come back in approx. 1.5 months (ie. We recognize the concern, we are working on a fix, try the mesh load ISM, but in the meantime, do not replace other components)?

Thanks for a quick response,

Dan Gompper
SuperDuty Vehicle Dynamics Supervisor
Phone/Fax: (313) 84-54891
[redacted]
Textpager: (313) 813-9026 (3138139026@airtouch.net)
Email: dgompper@ford.com

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Friday, August 27, 2004 8:20 AM
To: Gompper, Dan (D.B.)
Subject: Report Summary for the CQIS Report#[redacted]

Note: Procedure in ISM (same as in TSB) did not resolve this concern.

Attachments : 0

Report# :	[redacted] NHL			**Received:**	08/26/2004
CCRG/EPRC:		**Reviewed Status:**		**Date:**	
Vehicle:	2005,F250 4X4,CRW CAB,PICKUP ,1FTSW21P05E[redacted]			**Build Date:**	07/29/2004
Odometer :	1,595 M	**Engine:**	6.0L DI	**Calibration:**	

Transmission:	5R110W	**Axle:**		**A/C:**	YES
Dealer:	USA 20305 BERGE FORD			**Phone#:**	(480) 497-7600
City:	Mesa	**State:**	Arizona	**Country :**	USA

Originator: RICHARD FREEMAN
Symptom: 3 03 3 53 CHASS.,STRG/HANDLING ,VIB./SHIMMY,OVER BUMPS
Status:
VFG: V89 RIDE & HANDLING
Additional Symptom: STEERING FIGHT OVER BUMPS
Fix: **Causal Component :**
Condition Code:

Hotliner: BHAIGHT **Phone:** 313 317-6303 **Regn Cd:** 71 Los Angeles - 71
Engineering: **Phone:** **TAR:**
Dlr Contact: **Phone:** **Title Cde:** T

Comments :

REPAIR 08/26/2004 12:10PM BRANDON HAIGHT MSS - FCSD - TECH SVC HOTLINE
TECH STATES WHEEL FIGHTS BACK AFTER HITTING BUMPS OR CRACKS IN THE
ROAD. SEEKING KNOWNS.

RECOMM 08/26/2004 12:10PM BRANDON HAIGHT MSS - FCSD - TECH SVC HOTLINE
ISM 04-08-016 STEERING FIGHT OR SHIMMY OVER BUMPS.
ISM 04-08-015 STEER WHEEL OSCILLATIONS ON ROUGH ROADS OR SURFACES.
ADVISE TECH OF ABOVE INFO. INSTALL DAMPER, INCREASE STEERING GEAR MESH
LOAD. TECH TO ADVISE.

REPAIR 08/26/2004 01:10PM MARIO GIURLANDA MSS - FCSD - TECH SVC HOTLINE
CONCERN STILL PRESENT, ADJUSTED STEERING GEAR 1/8 TURN. SEEKING KNOWNS
. HAS A DAMPER FROM FACTORY ALREADY ON IT.

RECOMM 08/26/2004 01:10PM MARIO GIURLANDA MSS - FCSD - TECH SVC HOTLINE
ISM 04-08-015 STEER WHEEL OSCILLATIONS ON ROUGH ROADS OR SURFACES.
ADJUST GEARBOX TIGHTER. IF CONCERN STILL PRESENT AND CAN FEEL STEERIN
G STARTING TO BIND, REPLACE STEERING GEAR.

From: Hale, Curt (B.C.)
Sent: Monday, October 17, 2005 9:22 AM
To: O'Connor, Tammy (T.A.)
Cc: Repasky, Steve (S.)
Subject: FW: Report Summary for the CQIS Report#[redacted]

Have you seen this before? We may need to get a procedure from the steering group it one doesn't exist.

B. Curtis Hale
FCSD PVT Program Manager
F-Super Duty & Excursion

-----Original Message-----
From: Nelson, Richard (R.T.)
Sent: Monday, October 17, 2005 9:14 AM
To: Hale, Curt (B.C.)
Subject: Report Summary for the CQIS Report#[redacted]

trak bar balljoint removal. supposedly there is a parts listing for it...but no removal process noted in shop manual

Attachments : 0

Report# :	[redacted] NHL			**Received:**	10/13/2005
CCRG/EPRC:		**Reviewed Status:**		**Date:**	
Vehicle:	2005,F250 4X4,CRW CAB,SRW ,1FTSW21595E[redacted]			**Build Date:**	03/30/2005
Odometer :	7,264 M	**Engine:**	MOD 5.4 3V	**Calibration:**	5F714N0A
Transmission:	5R110W	**Axle:**		**A/C:**	YES
Dealer:	USA 20088 Gustafson Ford, Inc.			**Phone#:**	(309) 932-3710
City:	Galva	**State:**	Illinois	**Country :**	USA
Originator:	TOM SIEGEL				
Symptom:	3 03 3 53 CHASS.,STRG/HANDLING ,VIB./SHIMMY,OVER BUMPS				
Status:					
VFG:	V89 RIDE & HANDLING				
Additional Symptom:	BUMP STEERING.				
Fix:	**Causal Component :**				
Condition Code:					

Hotliner: RNELSO28 **Phone:** 313 317-9376 **Regn Cd:** 41 Chicago - 41

Engineering: **Phone:** **TAR:**

Dlr Contact: TOM SIEGEL **Phone:** 309 932-3710 **Title Cde:** T

Comments :

REPAIR 10/13/2005 03:16PM RICHARD NELSON MSS - FCSD - TECH SVC HOTLINE
TECH STATES, CUSTOMER CONCERN IS BUMP STEERING ISSUES. TSB 04 26 1 HAS
BEEN PERFORMED.

RECOMM 10/13/2005 03:16PM RICHARD NELSON MSS - FCSD - TECH SVC HOTLINE
ISM 05-09-001 VERIFY TIRE PRESSURES ARE SET TO SPECIFICATION, BOTH
RADIUS ARMS ARE PROPERLY TORQUED - CHECK ALIGNMENT & SET CASTER 5 TO
.75 BELOW NOMINAL

REPAIR 10/13/2005 04:10PM WILLIAM LEIBENGOOD MSS - FCSD - TECH SVC HOTLINE
TECH STATES THERE APPEARS TO BE EXCESSIVE MOVEMENT IN THE TRACK BAR
BALL JOINT. TECH NOTICED DURING TORQUE INSPECTION OF TRACK BAR.

RECOMM 10/13/2005 04:10PM WILLIAM LEIBENGOOD MSS - FCSD - TECH SVC HOTLINE
SEE SM 204-01B. ADVISE TECH IF TRACK BAR BALL JOINT DEFLECTION EXCEEDS
1.5MM REPLACE. TECH TO ADVISE.

ADD-ON 10/17/2005 09:13AM RICHARD NELSON MSS - FCSD - TECH SVC HOTLINE
FORWARDED REPORT TO FACTORY. TECH TOM SIEGLE STATES HAS A PART OF
5C3Z3050CA FOR THE TRAK BAR BALLJOINT CAN NOT GET PRESENT C-CLAMP
DEVISE IN PLACE TO REMOVE. IN REVIEW OF SHOP MANUAL NO REMOVAL
PROCEDURE NOTED.

From: O'Connor, Tammy (T.A.)
Sent: Wednesday, September 07, 2005 1:17 PM
To: Rhoda, Kevin (K.S.)
Subject: FW: Report Summary for the CQIS Report#[redacted]
Attachments: [redacted] TSB Steering Wheel Shimmy Update 08 31.doc

Kevin: I'm attaching a draft of the TSB to fix this issue. Please review carefully, and call me if you have any questions. If you have any problems repairing, we can get Engineering involved.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thurs,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

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-----Original Message-----
From: Johnston, Steven (S.J.)
Sent: Wednesday, September 07, 2005 1:08 PM
To: O'Connor, Tammy (T.A.)
Subject: Report Summary for the CQIS Report#[redacted]

Attachments : 0

Report# :	[redacted] NHL			**Received:**	08/25/2005
CCRG/EPRC:		**Reviewed Status:**		**Date:**	
Vehicle:	2005,F250 4X4,CRW CAB,SRW ,1FTSW215X5E[redacted]			**Build Date:**	01/26/2005
Odometer :	17,345 M	**Engine:**	MOD 5.4 3V	**Calibration:**	5F714N0A
Transmission:	5R110W	**Axle:**		**A/C:**	YES
Dealer:	USA 05117 Chillicothe Ford-Lincoln-Mercu			**Phone#:**	(660) 646-3263
City:	Chillicothe	**State:**	Missouri	**Country :**	USA
Originator:	WES WATKINS				
Symptom:	3 03 3 53 CHASS.,STRG/HANDLING ,VIB./SHIMMY,OVER BUMPS				
Status:					
VFG:	V89 RIDE & HANDLING				
Additional					

Symptom: STEERING SHIMMY OVER BUMPS.
Fix: **Causal Component :**
Condition Code:

Hotliner: JENGSTRO **Phone:** 313 317-9369 **Regn Cd:** 53 Kansas City - 53
Engineering: DAVID KNAPP **Phone:** 313 317-6316 **TAR:** 0-30
Dlr Contact: WES WATKINS **Phone:** 660 646-3263 **Title Cde:** T

Comments :

REPAIR 08/25/2005 12:56PM JOHN ENGSTROM MSS - FCSD - TECH SVC HOTLINE
STEERING AND BODY SHIMMY OVER BUMPS. PERFORMED TSB 04-26-01. CHECKED
FOR LOOSE STEERING AND SUSPENSION COMPONENTS.

RECOMM 08/25/2005 12:56PM JOHN ENGSTROM MSS - FCSD - TECH SVC HOTLINE
ISM 05-07-034 (MAKE SURE TIRE PRESSURES ARE PROPERLY SET, CHECK FRONT
TRACK BAR FASTENER TORQUES & FOLLOW TSB 04-26-01).

REPAIR 08/26/2005 06:04PM ANDREW BARNES MSS - FCSD - TECH SVC HOTLINE
SM IS CALLING BACK ON THE SAME CONCERN. THEY DROVE THE VEHICLE AND HE
IS ABLE TO DUPLICATE THE CONCERN AND IT IS VERY SEVERE AND WILL NOT
STOP UNTIL THEY SLOW DOWN UNTIL ABOUT 20 MPH. THEY HAVE SET THE TIRE
PRESSURES AND ALSO SWAPPED TIRES FROM A LIKE VEHICLE WITH NO CHANGE.
ALSO THE STEERING STABALIZER WAS REPLACED WITH NO CHANGE. THEY
BORROWED A TORQUE MULTIPLIER AND TORQUED THE TRACK BAR AS WELL WITH NO
CHANGE. SEEKING FURTHER ASSISTANCE.

RECOMM 08/26/2005 06:04PM ANDREW BARNES MSS - FCSD - TECH SVC HOTLINE
ISM 05-07-034 MAKE SURE TIRE PRESSURES ARE PROPERLY SET, CHECK FRONT
TRACK BAR FASTENER TORQUES & FOLLOW TSB 04-26-01 ADVISED THE SM TO
CHECK AND SET THE CASTER MORE - ON THE TRUCK AND RETEST.

REPAIR 09/06/2005 03:10PM ANDREW BARNES MSS - FCSD - TECH SVC HOTLINE
THE TECH WES IS CALLING BACK ON THE SAME CONCERN. THEY HAVE SET THE
CASTER AT 2.6 DEG ON THE L AND 2.5 ON THE RIGHT. THERE IS NO LOOSE
BALL JOINTS, TIE RODS, OR ANY OTHER STEERING COMPONENT. THE GEAR BOX
MESH LOAD WAS ALSO SET PER THE TSB. THE CONCERN IS STILL EXCESSIE.
SEEKING FURTHER ASSISTANCE.

RECOMM 09/06/2005 03:10PM ANDREW BARNES MSS - FCSD - TECH SVC HOTLINE

ADVISED THE TECH OF NO OTHER KNOWNS FOR THE CONCERN. TECH IS GOING TO

CONSULT WITH THE SM AND THEN CALL BACK FOR A POSSIBLE TAR. DID CONSULT

WITH THE SME DAVE KNAPP.

REPAIR 09/06/2005 03:34PM JAKE WARDLE MSS - FCSD - TECH SVC HOTLINE

SM CALLING BACK TO REQUEST THE TAR AFTER TALKING TO DISTRICT REP.

RECOMM 09/06/2005 03:34PM JAKE WARDLE MSS - FCSD - TECH SVC HOTLINE

INFORMED SM THAT A TAR WILL BE OPENED AS PER PREVIOUS REPORT COMMENTS.

ADD-ON 09/06/2005 03:51PM CHRIS WOLKEN-GRPLDR MSS - FCSD - TECH SVC HOTLINE

TAR APPROVED

ADD-ON 09/07/2005 01:07PM STEVE JOHNSTON(PCE) MSS - FCSD - VSP PVT SVC ENG

CONTACT TAMMY OCONNOR FOR ADDITIONAL INFORMATION. TOCONNOR.

ISSUE:

Some 2005-2006 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion) immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on 4x4 vehicles, equipped with steering wheels that have redundant controls (i.e. climate and radio controls).

ACTION:

This procedure will minimize the steering wheel oscillations on impacts; however, there may be some remaining minor oscillation, which would be considered normal.
Perform the following:

- Vehicle Inspection
- Evaluation Of Vehicle Prior To Repair
- Steering Gear Mesh Load Adjustment
- Reduce front caster by 0.5 to 0.75 degrees
- Replacement Of Redundant Control Steering Wheel (if equipped and vehicle built prior to 10/8/04)

SERVICE PROCEDURE

VEHICLE INSPECTION

1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

   NOTE: SETTING TIRE PRESSUE TO DOOR SPEC IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

2. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
   a. If leaks are present, install a new steering damper and continue with this TSB.
   b. If no leaks are present, continue with this TSB.

3. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table # below).

Description	Torque Specification (lb-ft/ Nm)	
	Lb-ft	Nm
Damper nuts (4x2)	59	80
Damper-to-bracket (F-250, F-350 4x4)	26	35
Damper-to-drag link	67	91
Drag link-to-pitman arm nut	148	201
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts & bolts	129	175
Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

4. Measure wheel alignment. Verify that Front Caster, Camber & Total Toe is within specification (preferred specification is .1 degree toe in). Adjust to specification as required. Refer to the Workshop Manual, Section 2004-00-1 for complete alignment specifications.

EVALUATION OF VEHICLE PRIOR TO REPAIR

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the severity of wheel oscillation.

3. During the road test, evaluate and note the steering wheel return-ability.
    a. Turn steering wheel full lock to lock to confirm no binding.
    b. Locate center, and then 45 degrees either side of center on the steering wheel.
    c. Driving vehicle at 35 MPH (56 Km/h), on a dry and flat road surface, turn the wheel 45 degrees and release. Note the approximate angle that the steering wheel returns to BEFORE CLEAR VISION. Perform and record the angle for both left and right. It is normal if the angle differs slightly from left to right.

STEERING GEAR MESH LOAD ADJUSTMENT

1. Insert hex wrench into steering gear mesh load adjuster screw.
2. While holding the mesh load adjuster screw tight, back off lock nuts two full turns to allow free movement of the adjuster screw.
3. Carefully tighten adjuster screw until a slight increase in resistance is felt, then back off approximately 1/16th of a turn.
4. Hold the adjuster screw in place and tighten lock nut. Do not allow the adjustment screw to turn while tightening the locking nut down.
5. Road test vehicle and evaluate for improvement in steering wheel oscillations.
    a. Confirm that there is no objectionable increase in steering efforts, especially at low speeds.
    b. Verify that steering wheel return-ability is approximately the same as it was during the original evaluation (within 5 degrees).
    c. Turn steering wheel full lock to lock to confirm no binding.
6. Park the vehicle to let it cool down. Road test cold to confirm acceptable parking efforts and return-ability in cold condition. Repeat the mesh load adjustment if needed.

REDUCE FRONT CASTER

- Note the current front caster
- Use alignment adjustment bushings to Reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit.
- If caster setting is at exact minimum, camber may be below the specification limit.
- Use Alignment adjustment bushings:
    - 4x4: 5C3Z-3B440-DDD (0.75 Degree bushing) OR 5C3Z-3B440-EEE (1.0 degree bushing)
    - 4x2: 5C3Z-3B440-D (0.75 Degree bushing) OR 5C3Z-3B440-E (1.0 degree bushing)
- Maintain the current front camber, cross-camber & cross-caster settings as close as you possibly can.
- If the caster is set to the exact minimum, you may find that the camber is out of spec.
- Adding weight to the back raises the front of the vehicle, which in effect increases caster.

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE 2005 OR 2006 SUPER DUTY F-SERIES WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

From: Knapp, David (D.)
Sent: Thursday, December 15, 2005 4:42 PM
To: O'Connor, Tammy (T.A.); Hale, Curt (B.C.); Laskowski, Ryan (R.J.)
Cc: Bersuder, Lee (L.C.); Eaton, Rob (E.R.)
Subject: FW: Report Summary for the CQIS Report# [redacted]
Attachments: Fw F250 shutter.htm

Tammy or Curt,
This service manager is concerned because the fse that has become involved seems to be leading him in what he thinks is a different direction. I attached the fse's email and I am cc'ing him on this email. The service manager is describing a trailer hitching concern or a back and forth teeter totter concern and no steering issues at all. I am aware that there was talk of different shocks but those were not available the last I checked. Do we have shock part numbers available for trailer hitching concerns? Steve put no reccomendations in the report but we may have something if we can get those different shocks into the vehicle.
Ryan,
The service manager is quite concerned that this customer will file for buy back soon if not rectified. Have you contacted the dealer since this date of email or have you visited the dealer. We have seen several concerns with handling characteristics or wander characteristics with Pirelli tires just as an fyi. I understand how busy you guys are out there and if you need help please let me know. I don't want to get in the middle of you and the dealership and we are here to help. I am concerned that the issue they are diagnosing is different than what your diagnosing in your email. The service manager is equally concerned which prompted another phone call to the hotline.
Thanks,

David Knapp
Truck Group Service Engineer
F-Superduty/Excursion SME
Ford Technical Hotline
DKnapp7@ford.com
313-317-6316

-----Original Message-----
From: Reddmann, Joseph (J.)
Sent: Thursday, December 15, 2005 4:19 PM
To: Knapp, David (D.)
Subject: Report Summary for the CQIS Report# [redacted]

This one is going to die on the operating table.

Attachments : 0

Report# :	[redacted] NHL	**Received:**	09/06/2005
CCRG/EPRC:	**Reviewed Status:**	**Date:**	
Vehicle:	2005,F250 4X4,CRW	**Build Date:**	09/30/2004

CAB,SRW ,1FTSW21P05E[redacted]

Odometer :	11,000 M	**Engine:**	6.0L DI	**Calibration:**	
Transmission:	5R110W DSL	**Axle:**		**A/C:**	YES
Dealer:	USA 09482 McCormick Motors Inc			**Phone#:**	(605) 425-2331
City:	Salem	**State:**	South Dakota	**Country :**	USA

Originator: TRAVIS ZAPP
Symptom: 3 04 1 51 CHASS.,SUSPENSION,RIDE QUALITY,SOFT/FLOAT
Status:
VFG: V89 RIDE & HANDLING
Additional Symptom: FAST HOPPING
Fix: **Causal Component :**
Condition Code:

Hotliner: ABARNE14 **Phone:** 313 317-9373 **Regn Cd:** CE Central
Engineering: **Phone:** **TAR:** 60+
Dlr Contact: TRAVIS ZAPP **Phone:** 605 425-2331 **Title Cde:** T

Comments :

REPAIR 09/06/2005 11:02AM ANDREW BARNES MSS - FCSD - TECH SVC HOTLINE
TECH STATES THAT WHEN DRIVING THE VEHICLE OVER THE INTERSTATE OR ANY
OTHER BUMPY HIGHWAY IT FEELS LIKE THE VEHICLE WILL START TO HOP AND IT
IS A FAST HOP. IT FEELS ALMOST AS IF THE FRAME WAS HINGED UNDER THE
DRIVERS SEAT AND THE SEAT IS GOING UP AND DOWN. THEY HAVE SET TIRE
PRESSURES TO THE DOOR AND ALSO CHANGED THE TIRE PRESSURES. ALSO THE
SHOCKS HAVE BEEN REPLACED WITH NO CHANGE. THE VEHICLE IS STOCK AND
RIGHT NOW IS EMPTY. THIS IS MORE SEVERE THAN NORMAL. SEEKING KNOWNS OR
ADVICE.

RECOMM 09/06/2005 11:02AM ANDREW BARNES MSS - FCSD - TECH SVC HOTLINE
ADVISED THE TECH TO MAKE SURE THAT ALL OF THE SUSPENSION FOR FRONT AND
REAR IS TIGHT. TRY ASSING WEIGHT TO THE REAR AND SEE IF IT DOES
CHANGE. IF SO TRY SWAPPING THE SPRINGS WITH A LIKE TRUCK.

REPAIR 09/06/2005 05:49PM JOSEPH REDDMANN MSS - FCSD - TECH SVC HOTLINE
SM CALLED BACK WITH SAME CONCERN. SEEKING ADDITIONAL DIRECTION.

RECOMM 09/06/2005 05:49PM JOSEPH REDDMANN MSS - FCSD - TECH SVC HOTLINE

ADVISED ISSUE IS INDER INVESTAGATION.

REPAIR 09/19/2005 03:42PM JCRUZ25

SM CALLING TO FIND OUT IF THERE ARE ANY UPDATES ON CONCERN WITH RIDE

QUALITY. SM STATES THE CUSTOMER REPORTS WITH A 5TH WHEEL THE UNIT IS

WORSE.

RECOMM 09/19/2005 03:42PM JCRUZ25

ADV. SM OF NO OTHER KNOWN CONCERNS AND THAT THIS CONCERN IS NOT UNDER

INVESTIGATION BECAUSE IT IS NOT COMMON. ADV. TO CHECK TRACK BAR

TORQUES, PROVIDE SPECS. ADV. IT WOULD BE BEST TO COMPARE TO AN

IDENTICAL KNOWN GOOD UNIT.

REPAIR 10/03/2005 01:26PM CROTH4

SM CALLING BACK ON SAME CONCERN, SM NOTES THAT VEHICLE HAS NOT BEEN

BACK IN. SM SEEKING DIRECTION.

RECOMM 10/03/2005 01:26PM CROTH4

ADVISED SM TO COMPARE TO KNOWN GOOD UNIT, ADVISED SM IF CONCERN IS

WORSE THAN KNOWN GOOD SWAP COMPONENTS TO SEE IF CAUSE CAN BE ISOLATED.

REPAIR 10/13/2005 07:00PM JOHN HERDZIK MSS - FCSD - TECH SVC HOTLINE

TECH CALLING BACK ON THE SAME CONCERN. TECH STS HE HAS SWAPPED IN

TIRES, PERFORMED AN ALIGNMENT, REPLACED THE FRONT SHOCKS AND TORQUED

THE TRACBAR TO NO AVAIL. TECH STS THE HOPPING CONCERN IS STILL

PRESENT. TECH SEEKING HOTLINE

RECOMM 10/13/2005 07:00PM JOHN HERDZIK MSS - FCSD - TECH SVC HOTLINE

CONSULTED SME DAVE KNAPP. ADVISED TECH HE NEEDS TO REMOVE THE REAR

DRIVESHAFT AND DRIVE IT OFF THE FRONT AND RETEST FOR THE CONCERN.

AUDIT 10/13/2005 07:00PM JOHN HERDZIK MSS - FCSD - TECH SVC HOTLINE

ODOMETER 9700 M CHANGED TO 11000 M BY JHERDZIK

REPAIR 10/14/2005 12:01PM JOHN HERDZIK MSS - FCSD - TECH SVC HOTLINE

CALLED TECH BACK ON THE SAME CONCERN. TECH HAS REMOVED THE REAR

DRIVESHAFT AND DROVE THE VEHICLE OFF THE FRONT AND THE SAME CONCERN

WAS PRESENT. TECH STS HE ALSO SET TIRE PRESSURE'S AT 75 POUNDS TO NO

AVAIL. TECH SEEKING THE ASSISTANCE OF A FSE. TECH STS THE

CUSTOMER IS

WANTING TO GO BUYBACK ON THE VEHICLE. TECH SEEKING HOTLINE ASSISTANCE.

RECOMM 10/14/2005 12:01PM JOHN HERDZIK MSS - FCSD - TECH SVC HOTLINE

CONSULTED SME DAVID KNAPP. CONSULTED LEON DALLAPE. ADVISED TECH DUE TO

THE NUMBER OF REPAIR ATTEMPTS AND AMOUNT OF CALLS INTO THE HOTLINE A

FSE WILL BE CONTACTING THE DEALERSHIP TO FUTHER ASSIST IN FIXING THE

VEHICLE.

ADD-ON 10/14/2005 12:59PM CHRIS WOLKEN-GRPLDR MSS - FCSD - TECH SVC HOTLINE

TAR APPROVED

ADD-ON 10/17/2005 10:07AM STEVE JOHNSTON(PCE) MSS - FCSD - VSP PVT SVC ENG

PVT HAS NO ADDITIONAL COMMENTS AT THIS TIME.

ADD-ON 10/24/2005 08:58PM ED OFSTAD(FSE) MSS - FCSD - REG - TWIN CTY

APPOINTMENT SET FOR NOV 1

REPAIR 12/15/2005 04:18PM JOSEPH REDDMANN MSS - FCSD - TECH SVC HOTLINE

SM CALLED BACK WITH SAME CONCERN. SM STATES FSE E-MAILED INSTRUCTIONS

FOR THE BUMP STEER CONCERN ON SUPER DUTY. SM STATES THE CONCERN WITH

THIS VEHICLE IS FRAME FLEX OR OSCILLATIONS IN THE CENTER OF THE

VEHICLE AFTER HITTING BUMPS. SM STATES THIS VEHICLE IS AT RISK OF BUY

BACK IF CONCERN IS NOT RESOLVED SOON. SEEKING FURTHER DIRECTION.

RECOMM 12/15/2005 04:18PM JOSEPH REDDMANN MSS - FCSD - TECH SVC HOTLINE

FORWARDED REPORT TO DAVE KNAPP FOR FURTHER PVT INVOLVEMENT.

From: McCormick Motors, Inc. [mccormickford@triotel.net]
Sent: Thursday, December 15, 2005 4:19 PM
To: Knapp, David (D.)
Subject: Fw: F250 shutter

Edward Ofstad, the Ford FSE, was in our shop on Tuesday, 11/1/2005. As you can see, we did not receive further instructions until Wednesday, 11/16/2005.

Please contact Philip McCormick (Service Mgr) or Michael McCormick (Dealer Principal) at 605-425-2331 if you have any questions.

McCormick Motors Inc 58X749 (09482)
Salem SD 57058

----- Original Message -----
From: Ofstad, Edward (E.N.)
To: mccormickford@triotel.net
Cc: Laskowski, Ryan (R.J.)
Sent: Wednesday, November 16, 2005 12:24 PM
Subject: F250 shutter

Phil, Sorry about the delay regarding this truck, but the solution appears to be more than what I was told it would be. First, I was informed that there is not a problem with the trucks with 6.0L engine, only the gas 5.4. I can assure you that there is a problem and ask only that you work with me. First this truck has a light suspension, and it does not have a steering damper. I would suggest that we install a 5C3Z3E651CA damper and the attaching hardware. I looked up the alignment specifications for this unit and the shop manual calls for 3.3 degrees positive, plus or minus 1.2 degrees. The alignment should be set at 2.1 degrees and I believe that it was at 3.4 when checked. The other effected unit was much improved after the steering gear mesh was set. Refer to the TSB but also make sure that the gear is on the high point which should be straight ahead. Also drop the linkage when adjusting the preload so you can feel the highpoint. I know you have tried another set of tires from a unit that did not oscillate, however if this does not correct the concern have the tires road force balanced and try to keep them below 30 pounds if LT tires are installed and of course the best ones on the front. Only after this has been done will I have any access to help from Detroit. I will be talking with Ryan & Rick tomorrow and we may have to approach this in a different manner.

Field Service Engineer Markets D1 and D3

No virus found in this incoming message.
Checked by AVG Free Edition.
Version: 7.1.362 / Virus Database: 267.13.3/172 - Release Date: 11/15/2005

From: O'Connor, Tammy (T.A.)
Sent: Thursday, September 08, 2005 8:24 AM
To: Van Beusekom, Michael (M.R.)
Subject: FW: Report Summary for the CQIS Report#[redacted]
Attachments: [redacted] TSB Steering Wheel Shimmy Update 08 31.doc

Mike:

We have a draft TSB for this issue, I'm wondering if you could follow up and if this truck is not totally fixed at this point, you might want to get involved and work with the Tech. I'm looking for feedback, because we've had alot of feedback that techs have not been able to resolve this issue.

The 3 most important things to check and verify for this are tire pressure (usually under inflated, torque on steering and suspension, and caster setting (need to be lowered).

Please review the draft and call me with any questions

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thurs,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

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-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Thursday, September 08, 2005 8:14 AM
To: O'Connor, Tammy (T.A.)
Subject: Report Summary for the CQIS Report#[redacted]

Attachments : 0

Report# :	[redacted] NHL			**Received:**	09/07/2005
CCRG/EPRC:		**Reviewed Status:**		**Date:**	
Vehicle:	2006,F250 4X4,SUP CAB,PICKUP ,1FTSX21556E[redacted]			**Build Date:**	08/12/2005
Odometer :	627 M	**Engine:**	MOD 5.4 3V	**Calibration:**	6F714N0A
Transmission:	5R110W	**Axle:**		**A/C:**	YES

Dealer:	USA 09443 Houston Ford, Inc.			**Phone#:**	(218) 587-4419
City:	Pine River	**State:**	Minnesota	**Country :**	USA

Originator: STEVE JUST
Symptom: 3 03 3 53 CHASS.,STRG/HANDLING ,VIB./SHIMMY,OVER BUMPS
Status:
VFG: V89 RIDE & HANDLING
Additional Symptom: SHIMMY AFTER BUMPS
Fix: **Causal Component :**
Condition Code:

Hotliner: MGIURLAN **Phone:** 313 317-7041 **Regn Cd:** 58 Twin Cities - 58

Engineering: **Phone:** **TAR:**

Dlr Contact: STEVE JUST **Phone:** 218 587-4419 **Title Cde:** T

Comments :

REPAIR 09/07/2005 12:04PM MARIO GIURLANDA MSS - FCSD - TECH SVC HOTLINE
VERIFIED CONCERN, HAS STEERING SHIMMY AFTER GOING OVER BUMPS. TECH
FEELS FRONT END IS LIGHT COMPARED TO SUSPENSION. SEEKING KNOWN.S
CHECKED FRONT END FOR LOOSENESS.

RECOMM 09/07/2005 12:04PM MARIO GIURLANDA MSS - FCSD - TECH SVC HOTLINE
ISM 05-09-001 VERIFY TIRE PRESSURES ARE SET TO SPECIFICATION, BOTH
RADIUS ARMS ARE PROPERLY TORQUED - CHECK ALIGNMENT & SET CASTER 5 TO
.75 BELOW NOMINAL ADVISED ABOVE INFORMATION. TORQUE TRACBAR AND SET
TIRE PRESSURE, ALIGNMENT. RECHECK FOR CONCERN.

ISSUE:

Some 2005-2006 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion) immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on 4x4 vehicles, equipped with steering wheels that have redundant controls (i.e. climate and radio controls).

ACTION:

This procedure will minimize the steering wheel oscillations on impacts; however, there may be some remaining minor oscillation, which would be considered normal.
Perform the following:

- Vehicle Inspection
- Evaluation Of Vehicle Prior To Repair
- Steering Gear Mesh Load Adjustment
- Reduce front caster by 0.5 to 0.75 degrees
- Replacement Of Redundant Control Steering Wheel (if equipped and vehicle built prior to 10/8/04)

SERVICE PROCEDURE

VEHICLE INSPECTION

1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

   NOTE: SETTING TIRE PRESSUE TO DOOR SPEC IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

2. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
   a. If leaks are present, install a new steering damper and continue with this TSB.
   b. If no leaks are present, continue with this TSB.

3. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table # below).

Description	Torque Specification (lb-ft/ Nm)	
	Lb-ft	Nm
Damper nuts (4x2)	59	80
Damper-to-bracket (F-250, F-350 4x4)	26	35
Damper-to-drag link	67	91
Drag link-to-pitman arm nut	148	201
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Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts & bolts	129	175
Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

4. Measure wheel alignment. Verify that Front Caster, Camber & Total Toe is within specification (preferred specification is .1 degree toe in). Adjust to specification as required. Refer to the Workshop Manual, Section 2004-00-1 for complete alignment specifications.

EVALUATION OF VEHICLE PRIOR TO REPAIR

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the severity of wheel oscillation.

3. During the road test, evaluate and note the steering wheel return-ability.
    a. Turn steering wheel full lock to lock to confirm no binding.
    b. Locate center, and then 45 degrees either side of center on the steering wheel.
    c. Driving vehicle at 35 MPH (56 Km/h), on a dry and flat road surface, turn the wheel 45 degrees and release. Note the approximate angle that the steering wheel returns to BEFORE CLEAR VISION. Perform and record the angle for both left and right. It is normal if the angle differs slightly from left to right.

STEERING GEAR MESH LOAD ADJUSTMENT

1. Insert hex wrench into steering gear mesh load adjuster screw.
2. While holding the mesh load adjuster screw tight, back off lock nuts two full turns to allow free movement of the adjuster screw.
3. Carefully tighten adjuster screw until a slight increase in resistance is felt, then back off approximately 1/16th of a turn.
4. Hold the adjuster screw in place and tighten lock nut. Do not allow the adjustment screw to turn while tightening the locking nut down.
5. Road test vehicle and evaluate for improvement in steering wheel oscillations.
    a. Confirm that there is no objectionable increase in steering efforts, especially at low speeds.
    b. Verify that steering wheel return-ability is approximately the same as it was during the original evaluation (within 5 degrees).
    c. Turn steering wheel full lock to lock to confirm no binding.
6. Park the vehicle to let it cool down. Road test cold to confirm acceptable parking efforts and return-ability in cold condition. Repeat the mesh load adjustment if needed.

REDUCE FRONT CASTER

- Note the current front caster
- Use alignment adjustment bushings to Reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit.
- If caster setting is at exact minimum, camber may be below the specification limit.
- Use Alignment adjustment bushings:
    - 4x4: 5C3Z-3B440-DDD (0.75 Degree bushing) OR 5C3Z-3B440-EEE (1.0 degree bushing)
    - 4x2: 5C3Z-3B440-D (0.75 Degree bushing) OR 5C3Z-3B440-E (1.0 degree bushing)
- Maintain the current front camber, cross-camber & cross-caster settings as close as you possibly can.
- If the caster is set to the exact minimum, you may find that the camber is out of spec.
- Adding weight to the back raises the front of the vehicle, which in effect increases caster.

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE 2005 OR 2006 SUPER DUTY F-SERIES WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

From: Walter, Nick (N.)
Sent: Friday, September 16, 2005 1:50 AM
To: O'Connor, Tammy (T.A.)
Subject: FW: Report Summary for the CQIS Report#[redacted]
Attachments: [redacted] TSB Steering Wheel Shimmy Update 08 31.doc

Tammy,
Very Good! I do believe it covers every thing to resolve this issue in the field.
Thanks.
Regards,
Nick Walter
Field Service Engineer
Los Angeles Region
Cell: 949-929-5946
E-Mail: Nwalter2@ford.com

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Monday, September 12, 2005 5:14 AM
To: Walter, Nick (N.)
Subject: FW: Report Summary for the CQIS Report#[redacted]

Nick:

Attached is a draft TSB for this issue, I would appreciate any feedback on this TSB and whether it covers everything needed to resolve this issue. I plan to submit for publication in approx. 2 weeks.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thurs,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

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-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Monday, September 12, 2005 7:44 AM
To: O'Connor, Tammy (T.A.)
Subject: Report Summary for the CQIS Report#[redacted]

Attachments : 0

Report# :	[redacted] NHL			**Received:**	09/09/2005
CCRG/EPRC:		**Reviewed Status:**		**Date:**	
Vehicle:	2006,F250 4X4,CRW CAB,PICKUP ,1FTSW21Y26E[redacted]			**Build Date:**	07/20/2005
Odometer :	2,978 M	**Engine:**	6.8L 3V	**Calibration:**	6F718D0A
Transmission:	5R110W	**Axle:**		**A/C:**	YES
Dealer:	USA 05497 Sunland Ford Lincoln-Mercury			**Phone#:**	(760) 241-7751
City:	Victorville	**State:**	California	**Country :**	USA

Originator: SHELBY NELSEN
Symptom: 3 03 3 53 CHASS.,STRG/HANDLING ,VIB./SHIMMY,OVER BUMPS
Status:
VFG: V89 RIDE & HANDLING
Additional Symptom: STEERING WHEEL SHIMMY
Fix: **Causal Component :**
Condition Code:

Hotliner: SGEISEN1 **Phone:** 313 317-9340 **Regn Cd:** 71 Los Angeles - 71

Engineering: **Phone:** **TAR:**

Dlr Contact: SHELBY NELSEN **Phone:** 760 241-7751 **Title Cde:** T

Comments :

REPAIR 09/09/2005 12:18PM SCOTT GEISEN MSS - FCSD - TECH SVC HOTLINE
CUSTOMER STATES WHEN HITTING BUMPS IN ROAD THE STEERING WHEEL WILL
SHAKE SLIGHTLY. THE VEHICLE ALREADY HAS A DAMPNER.

RECOMM 09/09/2005 12:18PM SCOTT GEISEN MSS - FCSD - TECH SVC HOTLINE
ISM 05-09-001 VERIFY TIRE PRESSURES ARE SET TO SPECIFICATION, BOTH RADIUS ARMS ARE PROPERLY TORQUED - CHECK ALIGNMENT & SET CASTER 5 TO
.75 BELOW NOMINAL

ISSUE:

Some 2005-2006 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion) immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on 4x4 vehicles, equipped with steering wheels that have redundant controls (i.e. climate and radio controls).

ACTION:

This procedure will minimize the steering wheel oscillations on impacts; however, there may be some remaining minor oscillation, which would be considered normal.
Perform the following:

- Vehicle Inspection
- Evaluation Of Vehicle Prior To Repair
- Steering Gear Mesh Load Adjustment
- Reduce front caster by 0.5 to 0.75 degrees
- Replacement Of Redundant Control Steering Wheel (if equipped and vehicle built prior to 10/8/04)

SERVICE PROCEDURE

VEHICLE INSPECTION

1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

   NOTE: SETTING TIRE PRESSUE TO DOOR SPEC IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

2. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
   a. If leaks are present, install a new steering damper and continue with this TSB.
   b. If no leaks are present, continue with this TSB.

3. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table # below).

Description	Torque Specification (lb-ft/ Nm)	
	Lb-ft	Nm
Damper nuts (4x2)	59	80
Damper-to-bracket (F-250, F-350 4x4)	26	35
Damper-to-drag link	67	91
Drag link-to-pitman arm nut	148	201
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts & bolts	129	175
Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

4. Measure wheel alignment. Verify that Front Caster, Camber & Total Toe is within specification (preferred specification is .1 degree toe in). Adjust to specification as required. Refer to the Workshop Manual, Section 2004-00-1 for complete alignment specifications.

EVALUATION OF VEHICLE PRIOR TO REPAIR

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the severity of wheel oscillation.

3. During the road test, evaluate and note the steering wheel return-ability.
    a. Turn steering wheel full lock to lock to confirm no binding.
    b. Locate center, and then 45 degrees either side of center on the steering wheel.
    c. Driving vehicle at 35 MPH (56 Km/h), on a dry and flat road surface, turn the wheel 45 degrees and release. Note the approximate angle that the steering wheel returns to BEFORE CLEAR VISION. Perform and record the angle for both left and right. It is normal if the angle differs slightly from left to right.

STEERING GEAR MESH LOAD ADJUSTMENT

1. Insert hex wrench into steering gear mesh load adjuster screw.
2. While holding the mesh load adjuster screw tight, back off lock nuts two full turns to allow free movement of the adjuster screw.
3. Carefully tighten adjuster screw until a slight increase in resistance is felt, then back off approximately 1/16th of a turn.
4. Hold the adjuster screw in place and tighten lock nut. Do not allow the adjustment screw to turn while tightening the locking nut down.
5. Road test vehicle and evaluate for improvement in steering wheel oscillations.
    a. Confirm that there is no objectionable increase in steering efforts, especially at low speeds.
    b. Verify that steering wheel return-ability is approximately the same as it was during the original evaluation (within 5 degrees).
    c. Turn steering wheel full lock to lock to confirm no binding.
6. Park the vehicle to let it cool down. Road test cold to confirm acceptable parking efforts and return-ability in cold condition. Repeat the mesh load adjustment if needed.

REDUCE FRONT CASTER

- Note the current front caster
- Use alignment adjustment bushings to Reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit.
- If caster setting is at exact minimum, camber may be below the specification limit.
- Use Alignment adjustment bushings:
    - 4x4: 5C3Z-3B440-DDD (0.75 Degree bushing) OR 5C3Z-3B440-EEE (1.0 degree bushing)
    - 4x2: 5C3Z-3B440-D (0.75 Degree bushing) OR 5C3Z-3B440-E (1.0 degree bushing)
- Maintain the current front camber, cross-camber & cross-caster settings as close as you possibly can.
- If the caster is set to the exact minimum, you may find that the camber is out of spec.
- Adding weight to the back raises the front of the vehicle, which in effect increases caster.

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE 2005 OR 2006 SUPER DUTY F-SERIES WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

From: McDonald, Joseph (J.)
Sent: Friday, September 23, 2005 9:53 AM
To: O'Connor, Tammy (T.A.)
Subject: FW: Report Summary for the CQIS Report#[redacted]

-----Original Message-----
From: Domka, John (J.J.)
Sent: Friday, September 23, 2005 7:59 AM
To: McDonald, Joseph (J.)
Cc: Domka, John (J.J.)
Subject: Report Summary for the CQIS Report#[redacted]

For assignment #219

Attachments : 0

Report# :	[redacted] Q1CR --or-- CR 200590051948			**Received:**	09/22/2005
CCRG/EPRC:		**Reviewed Status:**		**Date:**	
Vehicle:	2005,F350 4X4,CREW ,SRW ,1FTWW31P15E[redacted]			**Build Date:**	03/14/2005
Odometer :	15,052 M	**Engine:**	6.0L DI	**Calibration:**	
Transmission:	5R110W DSL	**Axle:**		**A/C:**	YES
Dealer:	USA 02714 Palmer Motor Sales, Inc.			**Phone#:**	(734) 475-1303
City:	Chelsea	**State:**	Michigan	**Country :**	USA
Originator:	MATTHEW VILLEMURE				
Symptom:	3 03 3 53 CHASS.,STRG/HANDLING ,VIB./SHIMMY,OVER BUMPS				
Status:					
VFG:	V89 RIDE & HANDLING				
Additional Symptom:					
Fix:	**Causal Component :**		GEAR ASY-STEERING -- ADJ		
Condition Code:					

Region Code: 48 **Region Name:** Detroit - 48

Comments :

CONCER	09/22/2005 03:13PM front end shakes after hitting bump
TECH/C	**09/22/2005 03:13PM** this is a diesel but it still had the concern of steering wheel oscillations after hitting bumps. not real bad but noticable. we performed the items of a proposed tsb. tire pressure found ok,steering

damper no leaks,all fasteners tight. reduced caster. steering gear sector adjustment is what we feel made the most difference. we ended up with the sector screw being tightened one complete turn. thats a lot compared to sector adjustments we have done on this type of veh. in the past. roadtest now conferms the issue is about 50% better. cust is ok with this and with the little increase in wheel effort.

From: Hale, Curt (B.C.)
Sent: Monday, October 17, 2005 9:22 AM
To: O'Connor, Tammy (T.A.)
Cc: Repasky, Steve (S.)
Subject: FW: Report Summary for the CQIS Report#[redacted]

Have you seen this before? We may need to get a procedure from the steering group it one doesn't exist.

B. Curtis Hale
FCSD PVT Program Manager
F-Super Duty & Excursion

-----Original Message-----
From: Nelson, Richard (R.T.)
Sent: Monday, October 17, 2005 9:14 AM
To: Hale, Curt (B.C.)
Subject: Report Summary for the CQIS Report#[redacted]

trak bar balljoint removal. supposedly there is a parts listing for it...but no removal process noted in shop manual

Attachments : 0

Report# :	[redacted] NHL			**Received:**	10/13/2005
CCRG/EPRC:		**Reviewed Status:**		**Date:**	
Vehicle:	2005,F250 4X4,CRW CAB,SRW ,1FTSW21595E[redacted]			**Build Date:**	03/30/2005
Odometer :	7,264 M	**Engine:**	MOD 5.4 3V	**Calibration:**	5F714N0A
Transmission:	5R110W	**Axle:**		**A/C:**	YES
Dealer:	USA 20088 Gustafson Ford, Inc.			**Phone#:**	(309) 932-3710
City:	Galva	**State:**	Illinois	**Country :**	USA
Originator:	TOM SIEGEL				
Symptom:	3 03 3 53 CHASS.,STRG/HANDLING ,VIB./SHIMMY,OVER BUMPS				
Status:					
VFG:	V89 RIDE & HANDLING				
Additional Symptom:	BUMP STEERING.				
Fix:	**Causal Component :**				
Condition Code:					

Hotliner: RNELSO28 **Phone:** 313 317-9376 **Regn Cd:** 41 Chicago - 41

Engineering: **Phone:** **TAR:**

Dlr Contact: TOM SIEGEL **Phone:** 309 932-3710 **Title Cde:** T

Comments :

REPAIR 10/13/2005 03:16PM RICHARD NELSON MSS - FCSD - TECH SVC HOTLINE
TECH STATES, CUSTOMER CONCERN IS BUMP STEERING ISSUES. TSB 04 26 1 HAS
BEEN PERFORMED.

RECOMM 10/13/2005 03:16PM RICHARD NELSON MSS - FCSD - TECH SVC HOTLINE
ISM 05-09-001 VERIFY TIRE PRESSURES ARE SET TO SPECIFICATION, BOTH
RADIUS ARMS ARE PROPERLY TORQUED - CHECK ALIGNMENT & SET CASTER 5 TO
.75 BELOW NOMINAL

REPAIR 10/13/2005 04:10PM WILLIAM LEIBENGOOD MSS - FCSD - TECH SVC HOTLINE
TECH STATES THERE APPEARS TO BE EXCESSIVE MOVEMENT IN THE TRACK BAR
BALL JOINT. TECH NOTICED DURING TORQUE INSPECTION OF TRACK BAR.

RECOMM 10/13/2005 04:10PM WILLIAM LEIBENGOOD MSS - FCSD - TECH SVC HOTLINE
SEE SM 204-01B. ADVISE TECH IF TRACK BAR BALL JOINT DEFLECTION EXCEEDS
1.5MM REPLACE. TECH TO ADVISE.

ADD-ON 10/17/2005 09:13AM RICHARD NELSON MSS - FCSD - TECH SVC HOTLINE
FORWARDED REPORT TO FACTORY. TECH TOM SIEGLE STATES HAS A PART OF
5C3Z3050CA FOR THE TRAK BAR BALLJOINT CAN NOT GET PRESENT C-CLAMP
DEVISE IN PLACE TO REMOVE. IN REVIEW OF SHOP MANUAL NO REMOVAL
PROCEDURE NOTED.

From: O'Connor, Tammy (T.A.)
Sent: Wednesday, June 14, 2006 9:17 AM
To: Knapp, David (D.)
Cc: Hale, Curt (B.C.)
Subject: FW: Report Summary for the CQIS Report# [redacted]

David:

The TSB for shimmy is being re-published to include 2007 MY. In the mean time, please author an ISM telling them to refer to the TSB for 2005-2006 MY. Also, please tell them not to recommend swapping wheels?

Also, every truck has a steering dampner. This truck is mis-built.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: O'Connor, Tammy (T.A.)
Sent: Wednesday, June 14, 2006 9:00 AM
To: O'Connor, Tammy (T.A.)
Subject: Report Summary for the CQIS Report# [redacted]

Attachments : 0

Report# :	[redacted] NHL			**Received:**	06/08/2006
CCRG/EPRC:		**Reviewed Status:**		**Date:**	
Vehicle:	2007,F350 4X4,CRW CAB,PICKUP ,1FTWW31PX7E[redacted]			**Build Date:**	05/24/2006
Odometer :	8 M	**Engine:**	6.0L DI	**Calibration:**	6F710H0A
Transmission:	5R110W DSL	**Axle:**		**A/C:**	YES
Dealer:	USA 04834 SUNBELT FORD-MERCURY INC			**Phone#:**	(229) 776-7691
City:	Sylvester	**State:**	Georgia	**Country :**	USA

Originator: TIM COOK
Symptom: 3 03 3 51 CHASS.,STRG/HANDLING ,VIB./SHIMMY,ACCEL/DECEL
Status:
VFG: V89 RIDE & HANDLING

Additional Symptom: WHEEL SHIMMY ON ACCEL/DECEL

Fix: **Causal Component :**

Condition Code:

Hotliner: ABARNE14 **Phone:** 313 317-9373 **Regn Cd:** SE Southeast

Engineering: **Phone:** **TAR:**

Dlr Contact: TIM COOK **Phone:** 000 000-0000 **Title Cde:** T

Comments :

REPAIR 06/08/2006 11:21AM ANDREW BARNES MSS - FCSD - TECH SVC HOTLINE
TECH STATES THAT THE VEHICLE HAS A CONCERN OF A SHIMMY IN THE STEERING
WHEEL WHEN AT A HIGHWAY CRUISE AND ON ACCEL AND DECEL. OTHERWISE THERE
IS NO CONCERN. HE NOTICED THAT THERE IS NOT A STEERING DAMPER ON THE
TRUCK AND IS SEEKING IF IT IS MISBUILT.

RECOMM 06/08/2006 11:21AM ANDREW BARNES MSS - FCSD - TECH SVC HOTLINE
ADVISED THE TECH THAT THE DAMPER IS AN OPTION AND COULD COME WITHOUT
IT. MAKE SURE THAT THE HUBS ARE UNLOCKED AND NOT TRYING TO ENGAGE AT
THE TIME. ALSO MAKE SURE THAT THERE ARE NO LOOSE STEERING COMPONENTS
AND THE MESH LOAD IN THE GEAR BOX IS SET CORRECTLY. COULD ALSO TRY
SWAPPING THE WHEELS WITH KNOWN GOOD AND RETEST.

From: Corlew, Randall (R.L.)
Sent: Monday, October 16, 2006 2:37 PM
To: O'Connor, Tammy (T.A.)
Subject: FW: Report Summary for the CQIS Report#[redacted]

Tammy,
Please disregard the dancing comment by the service manager!
You will laugh!
He is frustrated with this truck. Pretty good shop down there.
Randy Corlew - FSE

From: RCORLEW@ford.com [mailto:RCORLEW@ford.com]
Sent: Monday, October 16, 2006 2:36 PM
To: Corlew, Randall (R.L.)
Subject: Report Summary for the CQIS Report#[redacted]

Attachments : 0

Report# :	[redacted] NHL			**Received:**	06/22/2006
CCRG/EPRC:		**Reviewed Status:**		**Date:**	
Vehicle:	2006,F250 4X4,SUP CAB,PICKUP ,1FTSX21596[redacted]			**Build Date:**	08/04/2005
Odometer :	13,000 M	**Engine:**	MOD 5.4 3V	**Calibration:**	6F724P0A
Transmission:	6SP MANUAL	**Axle:**		**A/C:**	YES
Dealer:	USA 07539 Elkins Fordland			**Phone#:**	(304) 636-2222
City:	Elkins	**State:**	West Virgini	**Country :**	USA

Originator: KENT WINN
Symptom: 3 03 3 53 CHASS.,STRG/HANDLING ,VIB./SHIMMY,OVER BUMPS
Status:
VFG: V89 RIDE & HANDLING
Additional Symptom: VIBRATION OVER BUMPS
Fix: **Causal Component :**
Condition Code:
DTCs:
KOEO:
KOEC:
KOER:

Comments :
REPAIR 06/22/2006 03:15PM PAUL BISHOP MSS - FCSD - TECH SVC HOTLINE

S/M STATES THAT THERE IS A VIBRATION IN THE STEERING WHEEL AFTER HITTING BUMPS. S/M STATES THAT THEY DID THE TSB BUT NOT SURE IF THE

TORQUE WAS PROPERLY CHECKED. S/M SEEKING ANY KNOWN CONCERNS.

RECOMM 06/22/2006 03:15PM PAUL BISHOP MSS - FCSD - TECH SVC HOTLINE

TSB 05-22-01 THIS PROCEDURE WILL MINIMIZE STEERING WHEEL OSCILLATIONS

ON IMPACTS, HOWEVER, THERE MAY BE SOME REMAINING MINOR OSCILLATION

WHICH WOULD BE CONSIDERED NORMAL ADVISE S/M TO RECHECK THE TORQUE

USING A TORQUE WRENCH NOT THE IMPACT. S/M TO PERFORM FURTHER DIAGNOSIS

REPAIR 09/27/2006 02:02PM DONAVUN WAGNER MSS - FCSD - TECH SVC HOTLINE

SM CALLING BACK. CUSTOMER STILL EXPERIENCING STEERING OSCILLATION/

BUMP STEER CONCERN. SM DOES NOT BELIEVE TO BE ABNORMAL. STEERING

STABILIZER WAS REPLACED AND TSB PERFORMED PREVIOUSLY. SEEKING KNOWNS.

RECOMM 09/27/2006 02:02PM DONAVUN WAGNER MSS - FCSD - TECH SVC HOTLINE

TSB 06-15-01 THIS PROCEDURE WILL MINIMIZE STEERING WHEEL OSCILLATIONS

ON IMPACTS, HOWEVER, THERE MAY BE SOME REMAINING MINOR OSCILLATION

WHICH WOULD BE CONSIDERED NORMAL ISM 06-02-019 STEERING STABILIZER

LEAKING - VERIFY CONCERN, REPLACE THE STEERING STABALIZER WITH

5C3Z-3E651-D REPORT #: [redacted] REPLACE GEAR

ASY-STEERING----------

ADVISED SM TO VERIFY PROPER TIRE PRESS. ALSO VERIFY PROPER TORQUE OF

THE TRACK BAR AND ATTACHING POINTS. COMPARE TO LIKE UNIT FOR LEVEL OF

FEEDBACK. REPAIR ONLY AS NEEDED.

AUDIT 09/27/2006 02:02PM DONAVUN WAGNER MSS - FCSD - TECH SVC HOTLINE

ODOMETER 11252 M CHANGED TO 13000 M BY DWAGNE33

ADD-ON 10/10/2006 10:50PM RANDALL CORLEW(FSE) MSS - FCSD - REG - PITTSBURGH

REVIEWED REPORT BECAUSE OF SM E-MAIL.

ADD-ON 10/16/2006 02:34PM RANDALL CORLEW(FSE) MSS - FCSD - REG - PITTSBURGH

RANDY. KENT FROM ELKINS FORD. I HAVE A 06 F250 4+4 .AT HIGHWAY SPEED

65 70 WHEN GOING ON INTERSTATE AND HIT ROUGH ROAD THE STEARING WHEEL

WHANTS TO OSCULATE,HAVE CALLED HOT LINE COUPLE OF TIMES AND DID TSBS

AND REGONE BACK OVER THE TSB .I SWOP TIRES AND WHEELS ,IT HELPED BUT

DID NOT CURE .THEY ASKED IF YOU WHERE IN THE AREA SOME TIME WOULD YOU

DRIVE AND ADVISE. SER#1FTSX21596E[redacted] WE DID MAKE SURE THAT THE

TRACK BARS WHERE SET AT 406 FT LBS ,AND TIRES AIR UP AND ALIGNMENT

DONE IF YOU COULD HELP OR ADVISE I WOULD DANCE AT YOUR WEDDING

(NAKED) THANKS ALOT [redacted]

ADD-ON **10/16/2006 02:35PM RANDALL CORLEW(FSE) MSS - FCSD - REG - PITTSBURGH**

E-MAIL FROM DEALERSHIP ABOVE.

From: O'Connor, Tammy (T.A.)
Sent: Tuesday, September 26, 2006 9:33 AM
To: Avery, Kevin (K.); Eveland, Marty (M.)
Cc: Malik, Wesley (W.K.)
Subject: FW: Report Summary for the CQIS Report#[redacted]-Covert Ford
Attachments: Track Bar joint assy 3050.pdf

FYI - Wes Malik was able to resolve issue on truck with attached -- please call Wes if you need additional information.

Wes - Thanks so much for following up on this.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Malik, Wesley (W.K.)
Sent: Monday, September 25, 2006 4:18 PM
To: O'Connor, Tammy (T.A.)
Cc: Hale, Curt (B.C.); Daleo, Joseph (J.L.); Knapp, David (D.)
Subject: FW: Report Summary for the CQIS Report#[redacted]-Covert Ford

This is my updated report on Wheel shimmy on 2006 F250 4X4 we discussed in today's Over 8500 meeting. One of the online FSE's had a wheel shimmy concern but I did not catch the name. So if you could forward I would appreciate it.
This ball joint has a grease zerk fitting which the original did not. Also it appears more robust. I contacted the dealership and review again. This particular customer is still not happy with the ride quality when hitting imperfections in road. I have declared it normal at this time.....customer not happy.

GCAT has several update versions of track bar but I am confused on why production is not using this joint. GCAT exploded view attached and could not copy GCAT information

Wes Malik
Field Service Engineer
Southwest Market
210-269-9065
wmalik@ford.com

From: WMALIK@ford.com [mailto:WMALIK@ford.com]
Sent: Monday, September 25, 2006 3:08 PM
To: Malik, Wesley (W.K.)
Subject: Report Summary for the CQIS Report# [redacted]-Covert Ford

2006 F250 4X4-Front wheel Shimmy

Attachments : 0

Report# :	[redacted] FCSDFS			**Received:**	09/25/2006
CCRG/EPRC:		**Reviewed Status:**		**Date:**	
Vehicle:	2006,F250 4X4,CRW CAB,PICKUP ,1FTSW21P16E[redacted]			**Build Date:**	11/29/2005
Odometer :	10,333 M	**Engine:**	6.0L DI	**Calibration:**	6F710D0A
Transmission:	5R110W DSL	**Axle:**		**A/C:**	YES
Dealer:	USA 04437 Covert Ford, Inc.			**Phone#:**	(512) 345-6070
City:	Austin	**State:**	Texas	**Country :**	USA
Originator:	GENE WEBB				
Symptom:	3 03 3 53 CHASS.,STRG/HANDLING ,VIB./SHIMMY,OVER BUMPS				
Status:					
VFG:	V89 RIDE & HANDLING				
Additional Symptom:	SHIMMY WHEN HITTING BUMPS				
Fix:	**Causal Component :**				
Condition Code:					

Region Code: SW **Region Name:** Southwest

Comments :

OWNER 09/25/2006 04:06PM WESLEY MALIK(FSE) MSS - FCSD - REG - SOUTHWEST
STEERING WHEEL SHIMMY WHEN HITTING BUMPS IN ROAD, NORMAL DRIVING
STRAIGHT DOWN ROAD, IMPERFECTIONS. ETC.

TECH/C 09/25/2006 04:06PM WESLEY MALIK(FSE) MSS - FCSD - REG - SOUTHWEST
PERFORMED TSB 06-15-01. RETORQUED ALL SUSPENSION BOLTS TO PROPER SPEC.
TECH FOUND BALL JOINT 5C3Z-3050-CA WITH EXCESS MOVEMENT. END OF TRACK
BAR. REPLACED THIS BALL JOINT AND CONCERN IMPROVED 90%. THE
REPLACEMENT PART THRU PARTS NOW HAS GREASE ZERK FITTING AND LOOKS MORE
ROBUST COMPARED TO ORIGINAL JOINT. ACCORDING TO GCAT THIS PART IS AS
OF JULY 19, 2004 PRODUCTION.??????THE BUILD DATE ON THIS VEHICLE IS
11/29/05 AND A 2006 F250 4X4. GCAT ALSO HAS REVISIONS TO TRACK BAR

5C34-3B239-AD ON DIFFERENT PRODUCTION DATES?????????THE NEW PART THRU

PARTS IMPROVED CONCERN TO 90 %. CUSTOMER STILL NOT HAPPY. REINSPECTED

AND REPLACED STEERING DAMPER AND SLIGHT IMPROVEMENT. UNIT NOW

CONSIDERED NORMAL.....BUT CUSTOMER STILL NOT HAPPY WITH STEERING

CHARACTERISTICS OF FRONT SUSPENSION. WMALIK-FSE-SOUTHWEST TIRE RUNOUT

LATERAL AND RADIAL CHECKED-WITHIN SPEC, ROAD FORCE BALANCED TIRES ALSO

From: O'Connor, Tammy (T.A.)
Sent: Tuesday, September 26, 2006 9:33 AM
To: Avery, Kevin (K.); Eveland, Marty (M.)
Cc: Malik, Wesley (W.K.)
Subject: FW: Report Summary for the CQIS Report#[redacted]-Covert Ford
Attachments: Track Bar joint assy 3050.pdf

FYI - Wes Malik was able to resolve issue on truck with attached -- please call Wes if you need additional information.

Wes - Thanks so much for following up on this.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Malik, Wesley (W.K.)
Sent: Monday, September 25, 2006 4:18 PM
To: O'Connor, Tammy (T.A.)
Cc: Hale, Curt (B.C.); Daleo, Joseph (J.L.); Knapp, David (D.)
Subject: FW: Report Summary for the CQIS Report#[redacted]-Covert Ford

This is my updated report on Wheel shimmy on 2006 F250 4X4 we discussed in today's Over 8500 meeting. One of the online FSE's had a wheel shimmy concern but I did not catch the name. So if you could forward I would appreciate it.
This ball joint has a grease zerk fitting which the original did not. Also it appears more robust. I contacted the dealership and review again. This particular customer is still not happy with the ride quality when hitting imperfections in road. I have declared it normal at this time.....customer not happy.

GCAT has several update versions of track bar but I am confused on why production is not using this joint. GCAT exploded view attached and could not copy GCAT information

Wes Malik
Field Service Engineer
Southwest Market
210-269-9065
wmalik@ford.com

From: WMALIK@ford.com [mailto:WMALIK@ford.com]
Sent: Monday, September 25, 2006 3:08 PM
To: Malik, Wesley (W.K.)
Subject: Report Summary for the CQIS Report# [redacted]-Covert Ford

2006 F250 4X4-Front wheel Shimmy

Attachments : 0

Report# :	[redacted] FCSDFS			**Received:**	09/25/2006
CCRG/EPRC:		**Reviewed Status:**		**Date:**	
Vehicle:	2006,F250 4X4,CRW CAB,PICKUP ,1FTSW21P16E[redacted]			**Build Date:**	11/29/2005
Odometer :	10,333 M	**Engine:**	6.0L DI	**Calibration:**	6F710D0A
Transmission:	5R110W DSL	**Axle:**		**A/C:**	YES
Dealer:	USA 04437 Covert Ford, Inc.			**Phone#:**	(512) 345-6070
City:	Austin	**State:**	Texas	**Country :**	USA
Originator:	GENE WEBB				
Symptom:	3 03 3 53 CHASS.,STRG/HANDLING ,VIB./SHIMMY,OVER BUMPS				
Status:					
VFG:	V89 RIDE & HANDLING				
Additional Symptom:	SHIMMY WHEN HITTING BUMPS				
Fix:	**Causal Component :**				
Condition Code:					

Region Code: SW **Region Name:** Southwest

Comments :

OWNER 09/25/2006 04:06PM WESLEY MALIK(FSE) MSS - FCSD - REG - SOUTHWEST
STEERING WHEEL SHIMMY WHEN HITTING BUMPS IN ROAD, NORMAL DRIVING
STRAIGHT DOWN ROAD, IMPERFECTIONS. ETC.

TECH/C 09/25/2006 04:06PM WESLEY MALIK(FSE) MSS - FCSD - REG - SOUTHWEST
PERFORMED TSB 06-15-01. RETORQUED ALL SUSPENSION BOLTS TO PROPER SPEC.
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5C34-3B239-AD ON DIFFERENT PRODUCTION DATES?????????THE NEW PART THRU

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AND REPLACED STEERING DAMPER AND SLIGHT IMPROVEMENT. UNIT NOW

CONSIDERED NORMAL.....BUT CUSTOMER STILL NOT HAPPY WITH STEERING

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Sent: Monday, September 25, 2006 4:18 PM
To: O'Connor, Tammy (T.A.)
Cc: Hale, Curt (B.C.); Daleo, Joseph (J.L.); Knapp, David (D.)
Subject: FW: Report Summary for the CQIS Report#[redacted]-Covert Ford
Attachments: Track Bar joint assy 3050.pdf

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GCAT has several update versions of track bar but I am confused on why production is not using this joint. GCAT exploded view attached and could not copy GCAT information

Wes Malik
Field Service Engineer
Southwest Market
210-269-9065
wmalik@ford.com

From: WMALIK@ford.com [mailto:WMALIK@ford.com]
Sent: Monday, September 25, 2006 3:08 PM
To: Malik, Wesley (W.K.)
Subject: Report Summary for the CQIS Report#[redacted]-Covert Ford

2006 F250 4X4-Front wheel Shimmy

Attachments : 0

Report# :	[redacted] FCSDFS			**Received:**	09/25/2006
CCRG/EPRC:		**Reviewed Status:**		**Date:**	
Vehicle:	2006,F250 4X4,CRW CAB,PICKUP ,1FTSW21P16E[redacted]			**Build Date:**	11/29/2005
Odometer :	10,333 M	**Engine:**	6.0L DI	**Calibration:**	6F710D0A
Transmission:	5R110W DSL	**Axle:**		**A/C:**	YES
Dealer:	USA 04437 Covert Ford, Inc.			**Phone#:**	(512) 345-6070
City:	Austin	**State:**	Texas	**Country :**	USA

Originator: GENE WEBB
Symptom: 3 03 3 53 CHASS.,STRG/HANDLING ,VIB./SHIMMY,OVER BUMPS
Status:
VFG: V89 RIDE & HANDLING
Additional Symptom: SHIMMY WHEN HITTING BUMPS
Fix: **Causal Component :**
Condition Code:

Region Code: SW **Region Name:** Southwest

Comments :

OWNER 09/25/2006 04:06PM WESLEY MALIK(FSE) MSS - FCSD - REG - SOUTHWEST
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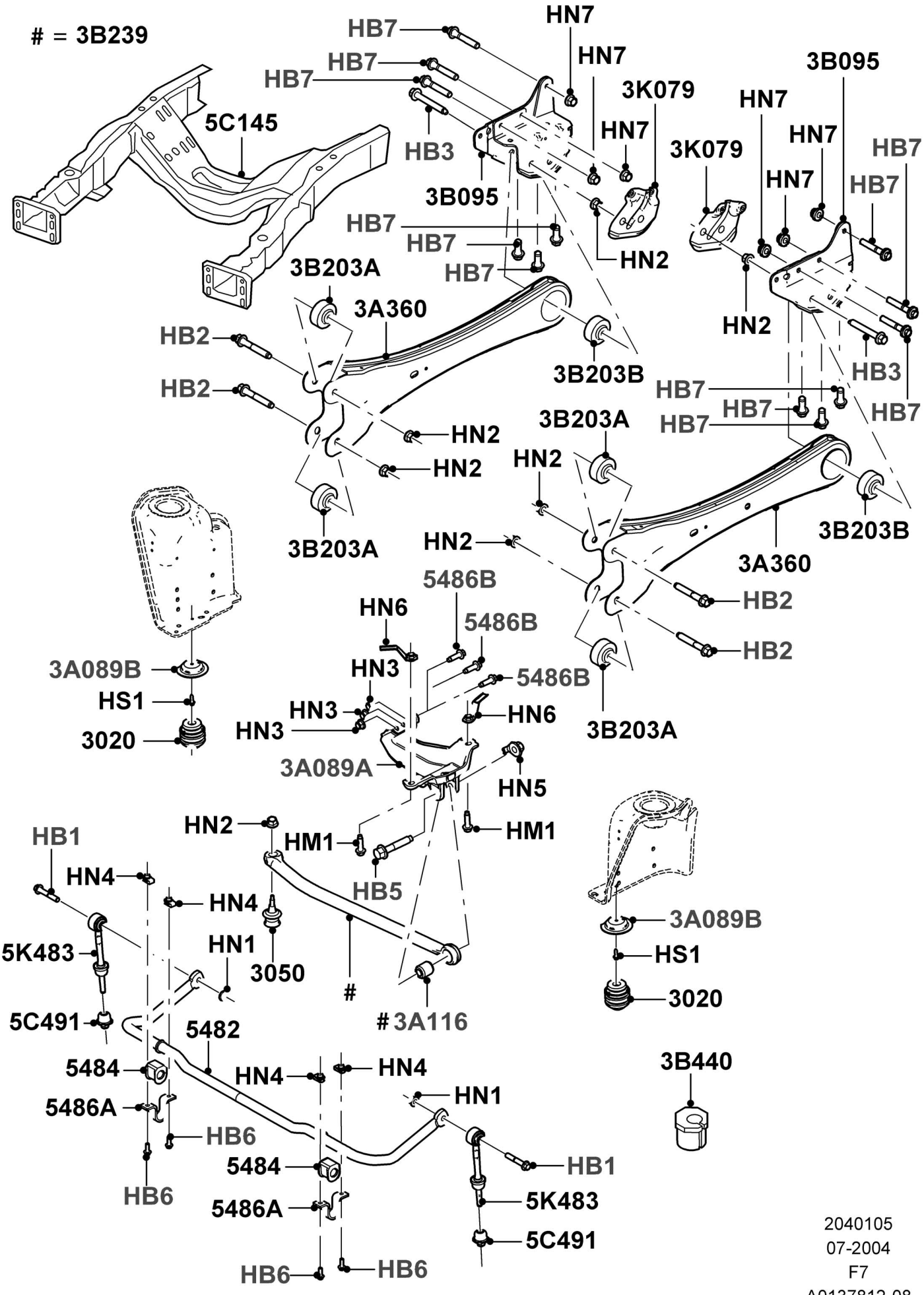
CHARACTERISTICS OF FRONT SUSPENSION. WMALIK-FSE-SOUTHWEST TIRE RUNOUT
LATERAL AND RADIAL CHECKED-WITHIN SPEC, ROAD FORCE BALANCED TIRES ALSO



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From: Avery, Kevin (K.)
Sent: Monday, October 23, 2006 2:46 PM
To: Hale, Curt (B.C.); O'Connor, Tammy (T.A.)
Cc: Corlew, Randall (R.L.)
Subject: FW: Report Summary for the CQIS Report# [redacted] -Covert Ford

This was the message that originated with Wes Malik about the steering damper fixes he's had. There is an engineering part number listed in the CQIS report, difference description above the report. It sounds like there is still something left over as the customer is not satisfied but Wes deemed it normal.

Kevin Avery
Field Service Engineer, Northeast Region
(774) 285-9143
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From: Malik, Wesley (W.K.)
Sent: Tuesday, September 26, 2006 9:44 PM
To: Avery, Kevin (K.); O'Connor, Tammy (T.A.); Eveland, Marty (M.)
Subject: RE: Report Summary for the CQIS Report# [redacted] -Covert Ford

Check all the ball joints, tie rod ends etc for too tight movement with steering pitman arm removed and turn on turn plates. May have tight joint causing the high steering effort.

Wes Malik
Field Service Engineer
Southwest Market
210-269-9065
wmalik@ford.com

From: Avery, Kevin (K.)
Sent: Tuesday, September 26, 2006 8:31 PM
To: O'Connor, Tammy (T.A.); Eveland, Marty (M.)
Cc: Malik, Wesley (W.K.)
Subject: RE: Report Summary for the CQIS Report# [redacted] -Covert Ford

Problem is that the one I'm dealing with doesn't have play in the ball joint. I test drove it today many times and it has a higher steering effort even with the new gearbox, a comparison FX4 didn't have that issue. They are going to loosen the mesh load and retest. We'll revisit the track bar after that. We compared to a non-FX4 which rides smoother, another FX4 has a similar rougher ride (big surprise) but not the high steering effort.

Kevin Avery
Field Service Engineer, Northeast Region
(774) 285-9143
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From: O'Connor, Tammy (T.A.)
Sent: Tuesday, September 26, 2006 9:33 AM
To: Avery, Kevin (K.); Eveland, Marty (M.)
Cc: Malik, Wesley (W.K.)
Subject: FW: Report Summary for the CQIS Report#[redacted]-Covert Ford

FYI - Wes Malik was able to resolve issue on truck with attached -- please call Wes if you need additional information.

Wes - Thanks so much for following up on this.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

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Sent: Monday, September 25, 2006 4:18 PM
To: O'Connor, Tammy (T.A.)
Cc: Hale, Curt (B.C.); Daleo, Joseph (J.L.); Knapp, David (D.)
Subject: FW: Report Summary for the CQIS Report#[redacted]-Covert Ford

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Field Service Engineer

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wmalik@ford.com

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Sent: Monday, September 25, 2006 3:08 PM
To: Malik, Wesley (W.K.)
Subject: Report Summary for the CQIS Report#[redacted]-Covert Ford

2006 F250 4X4-Front wheel Shimmy

Attachments : 0

Report# :	[redacted] FCSDFS			**Received:**	09/25/2006
CCRG/EPRC:		**Reviewed Status:**		**Date:**	
Vehicle:	2006,F250 4X4,CRW CAB,PICKUP ,1FTSW21P16E[redacted]			**Build Date:**	11/29/2005
Odometer :	10,333 M	**Engine:**	6.0L DI	**Calibration:**	6F710D0A
Transmission:	5R110W DSL	**Axle:**		**A/C:**	YES
Dealer:	USA 04437 Covert Ford, Inc.			**Phone#:**	(512) 345-6070
City:	Austin	**State:**	Texas	**Country :**	USA
Originator:	GENE WEBB				
Symptom:	3 03 3 53 CHASS.,STRG/HANDLING ,VIB./SHIMMY,OVER BUMPS				
Status:					
VFG:	V89 RIDE & HANDLING				
Additional Symptom:	SHIMMY WHEN HITTING BUMPS				
Fix:	**Causal Component :**				
Condition Code:					

Region Code: SW **Region Name:** Southwest

Comments :

OWNER 09/25/2006 04:06PM WESLEY MALIK(FSE) MSS - FCSD - REG - SOUTHWEST
STEERING WHEEL SHIMMY WHEN HITTING BUMPS IN ROAD, NORMAL DRIVING
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CHARACTERISTICS OF FRONT SUSPENSION. WMALIK-FSE-SOUTHWEST TIRE RUNOUT

LATERAL AND RADIAL CHECKED-WITHIN SPEC, ROAD FORCE BALANCED TIRES ALSO

From: Repasky, Steve (S.)
Sent: Monday, October 09, 2006 3:37 PM
To: Gompper, Dan (D.B.); Avery, Kevin (K.); Hale, Curt (B.C.)
Cc: O'Connor, Tammy (T.A.)
Subject: FW: Report Summary for the CQIS Report#[redacted]

Dan/Tammy/Curt - Do you want to be online when I call?? I was planning on Tuesday AM.

Kevin - Will Tuesday AM work for you? Would any particular time be better for you? Thanks...

From: O'Connor, Tammy (T.A.)
Sent: Monday, October 09, 2006 2:40 PM
To: Repasky, Steve (S.)
Cc: Hale, Curt (B.C.); Avery, Kevin (K.)
Subject: FW: Report Summary for the CQIS Report#[redacted]

Steve:

Would you please call Kevin Avery - FSE in Boston area. He has a few trucks with issue (not steering wheel shimmy) - but similar -- it would be greatly appreciated.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Avery, Kevin (K.)
Sent: Monday, October 09, 2006 2:35 PM
To: O'Connor, Tammy (T.A.)
Subject: FW: Report Summary for the CQIS Report#[redacted]

Kevin Avery
Field Service Engineer, Northeast Region
(774) 285-9143
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From: Avery, Kevin (K.)
Sent: Wednesday, October 04, 2006 9:16 AM
To: O'Connor, Tammy (T.A.)
Cc: Tricomi, Lynda (L.K.); Petersen, William (W.R.)
Subject: FW: Report Summary for the CQIS Report#[redacted]

Tammy,

Sorry I couldn't make the CMT call on Monday, but I did test drive the truck with the steering wheel fight issue, CQIS report below. I don't think it's abnormal but can't convince anyone at the dealer of that nor the customer. Customer states the vehicle is unsafe and refuses to let his wife drive it and has grounded the truck. The dealer has two other customers with the same complaint and they are a small dealer (just added two more techs for a total of 6). It's the same complaint I've received from other dealers. While I don't see an issue, the real problem is that the customers do. It may be normal but it may not be acceptable to customers. There is a definite sensation when moderate bumps are hit that I don't get with my Explorer. And yes, the affected units are gas V8's as we've discussed.

The spring part numbers for the front springs are 5C34-5310-AEB on both front springs, just want to be sure that is the correct one.

Kevin Avery
Field Service Engineer, Northeast Region
(774) 285-9143
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From: KAVERY3@ford.com [mailto:KAVERY3@ford.com]
Sent: Wednesday, October 04, 2006 9:08 AM
To: Avery, Kevin (K.)
Subject: Report Summary for the CQIS Report#[redacted]

Attachments : 0

Report# :	[redacted] FCSDFS			**Received:**	10/04/2006
CCRG/EPRC:		**Reviewed Status:**		**Date:**	
Vehicle:	2006,F250 4X4,SUP CAB,PICKUP ,1FTSX21546E[redacted]			**Build Date:**	09/12/2005
Odometer :	654 M	**Engine:**	MOD 5.4 3V	**Calibration:**	6F714E0A
Transmission:	5R110W	**Axle:**		**A/C:**	YES
Dealer:	USA 09608 Apple Valley Ford Sales, Inc.			**Phone#:**	(978) 353-2000
City:	Lunenburg	**State:**	Massachusett	**Country :**	USA
Originator:	KEVIN AVERY				
Symptom:	3 03 1 00 CHASS.,STRG/HANDLING ,FUNCTION,OTHER-CODE NA				

Status:

VFG: V89 RIDE & HANDLING

Additional Symptom: WHEEL COMES OUT OF HANDS

Fix: **Causal Component :**

Condition Code:

Region Code: NE **Region Name:** Northeast

Comments :

OWNER 10/04/2006 09:07AM KEVIN AVERY MSS - FCSD - REG - BOSTON

DP, GM, SM, AND SALESMAN FEEL THAT THIS VEHICLE IS NOT ACCEPTABLE AND

IS NOT FUNCTIONING LIKE OTHER UNITS, CUST ALLEGES THE WHEEL COMES OUT

OF HIS HANDS WHEN HITTING MODERATE TO SEVERE BUMPS IN THE ROAD. DEALER

PERFORMED 06-15-01 BEFORE MY ARRIVAL. I TEST DROVE ON 9-27-06 BEFORE

MY RECOMMENDED REPAIRS AND ON 9-29-06 AFTER THE REPAIRS. BEFORE THE

REPAIRS THE VEHICLE DIDN'T SEEM ABNORMAL OR IN ANY WAY UNSAFE BUT THE

STEERING EFFORT WAS A BIT HIGH. ADV SM ON 9-27-06 AFTER TEST DRIVE TO

LOOSEN THE STEERING BOX ADJUSTMENT 1/2 TURN AND TO REPLACE THE TRACK

BAR. DEALER HAS PURCHASED A TORQUE MULTIPLIER AND IS ALLEGEDLY

TORQUING TO 406 FT-LBS. TIRE PRESSURE WAS SET TO DOOR LABEL, VEHICLE

DOESN'T HAVE PERELLI TIRES. AFTER THE RECOMMENDED REPAIRS THE STEERING

EFFORT IS MUCH IMPROVED AND I FEEL THE VEHICLE IS OPERATING AS

DESIGNED, DEALER DISAGREES AS DOES CUSTOMER. DEALER AND CUST ALLEGE

THEY HAVE COMPARED THIS UNIT TO OTHER 06 F-250 5.4L FX4'S THAT DON'T

HAVE THE ISSUE, THEY ALSO HAVE TWO OTHER CUSTOMERS WITH THE SAME

COMPLAINT AND THEY ARE A SMALL DEALER. I CONTACTED DM AND ZM REGARDING

THE MATTER.

From: Corlew, Randall (R.L.)
Sent: Thursday, October 19, 2006 11:23 AM
To: O'Connor, Tammy (T.A.)
Subject: FW: Report Summary for the CQIS Report#[redacted]

Tammy,
Here is another one for you!
Randy Corlew - FSE
P.S. Can I get a bigger steering shock to fix these in the mean time???????
Suggestions????

From: RCORLEW@ford.com [mailto:RCORLEW@ford.com]
Sent: Thursday, October 19, 2006 11:21 AM
To: Corlew, Randall (R.L.)
Subject: Report Summary for the CQIS Report#[redacted]

Attachments : 0

Report# :	[redacted] FCSDFS			**Received:**	10/19/2006
CCRG/EPRC:		**Reviewed Status:**		**Date:**	
Vehicle:	2006,F250 4X4,SUP CAB,PICKUP ,1FTSX21506E[redacted]			**Build Date:**	06/28/2005
Odometer :	11,730 M	**Engine:**	MOD 5.4 3V	**Calibration:**	6F714E0A
Transmission:	5R110W	**Axle:**		**A/C:**	YES
Dealer:	USA 07430 Sturman & Larkin Ford, Inc.			**Phone#:**	(412) 892-2300
City:	Pittsburgh	**State:**	Pennsylvania	**Country :**	USA

Originator: RANDY CORLEW
Symptom: 3 03 3 53 CHASS.,STRG/HANDLING ,VIB./SHIMMY,OVER BUMPS
Status:
VFG: V89 RIDE & HANDLING
Additional Symptom: SLIGHT OSSISLATION AFTER HIT B
Fix: **Causal Component :**
Condition Code:
DTCs:
KOEO:
KOEC:
KOER:

Comments :

OWNER 10/19/2006 11:10AM RANDALL CORLEW(FSE) MSS - FCSD - REG - PITTSBURGH

TSB 06-15-01 THIS PROCEDURE WILL MINIMIZE STEERING WHEEL OSCILLATIONS

ON IMPACTS, HOWEVER, THERE MAY BE SOME REMAINING MINOR OSCILLATION

WHICH WOULD BE CONSIDERED NORMAL

TECH/C **10/19/2006 11:10AM RANDALL CORLEW(FSE) MSS - FCSD - REG - PITTSBURGH**

TSB PERFORMED. CUSTOMER STILL DOES NOT LIKE IT. STEERING WHEEL STILL

OSSILATES AND THEN STOPS AFTER HITTING A BUMP.

From: O'Connor, Tammy (T.A.)
Sent: Tuesday, September 07, 2004 8:31 AM
To: Fenocketti, Mike (L.M.); Gompper, Dan (D.B.); Memmer, Mark (M.A.)
Cc: Hale, Curt (B.C.)
Subject: FW: Report Summary for the CQIS Report#[redacted]

12th vin on this concern.

Tammy A. O'Connor
Product Concern Engineer
Superduty F-Series/Excursion
Body/Chassis/Electrical
FCSD, Service Engineering Operations
248/814-8698 Telecommuting Office (Mon,Tues,Fri)
313/322-3824 DSCII, Cube 468 (Wed & Thurs)
TOCONNOR or 313/795-0116 Text Page & Pager #

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Tuesday, September 07, 2004 8:11 AM
To: O'Connor, Tammy (T.A.)
Subject: Report Summary for the CQIS Report#[redacted]

Attachments : 0

Report# :	[redacted] NHL			**Received:**	09/03/2004
CCRG/EPRC:		**Reviewed Status:**		**Date:**	
Vehicle:	2005,F250 4X4,CRW CAB,PICKUP ,1FTSW21P55E[redacted]			**Build Date:**	08/11/2004
Odometer :	60 M	**Engine:**	6.0L DI	**Calibration:**	
Transmission:	5R110W	**Axle:**		**A/C:**	YES
Dealer:	USA 20037 Browning Ford, Inc.			**Phone#:**	(815) 875-1180
City:	Princeton	**State:**	Illinois	**Country :**	USA

Originator: CHUCK MILLER
Symptom: 3 03 3 53 CHASS.,STRG/HANDLING ,VIB./SHIMMY,OVER BUMPS
Status:
VFG: V89 RIDE & HANDLING
Additional Symptom: NO STEERING DAMPER
Fix: **Causal Component :**
Condition Code:

Hotliner: JWARDLE1 **Phone:** 313 317-9355 **Regn Cd:** 41 Chicago - 41

Engineering: **Phone:** **TAR:**

Dlr Contact: **Phone:** **Title Cde:** SW

Comments :

REPAIR 09/03/2004 11:59AM JAKE WARDLE MSS - FCSD - TECH SVC HOTLINE
TECH STATES THE TRUCK WAS NOT ORDERED WITH A HEAVY DUTY SUSPENSION AND
THE CUSTOMER NOTICE A CONCERN WITH STEERING FIGHT WHEN GOING OVER BUM
PS. SW CALLING TO SAY THAT IT IS HARD TO SELL A 4X4 TRUCK WITHOUT A DA
MPER. SW STATES THE TRUCK DID NOT COME WITH A FACTORY INSTALLED TRAILE
R BRAKE CONTROLLER. SW ASKING IF HE CAN INSTALL A FACTORY TBC.

RECOMM 09/03/2004 11:59AM JAKE WARDLE MSS - FCSD - TECH SVC HOTLINE
INFORMED TECH THAT THE FACTORY TBC WILL BE LOOKING FOR THE BRAKE PRESS
URE INPUT FROM THE SENSOR IN THE MASTER CYLINDER AND WILL SET A FAULT.
INFORMED SW THAT AN AFTER MARKET CONTROLLER CAN BE WIRES IN.
INFORMED SW THAT I WOULD CHECK WITH SME ABOUT INSTALLING A STEERING
DAMPER AND CALL BACK.

ADD-ON 09/03/2004 01:14PM JAKE WARDLE MSS - FCSD - TECH SVC HOTLINE
CALLED SW BACK TO ADVISE ADJUSTING THE GEAR BOX FIRST AND IF THE ADJUS
TMENT DOES NOT CORRECT THE CONCERN, THEN INSTALL A DAMPER AS NEEDED.

From: O'Connor, Tammy (T.A.)
Sent: Thursday, August 09, 2007 2:57 PM
To: Gompper, Dan (D.B.)
Subject: FW: Report Summary for the CQIS Report#[redacted]

fyi - report #20

Tammy A. O'Connor
Product Concern Engineer
FCSD Service Engineering Operations
Super Duty F-Series
Body / Chassis / Electrical
248/310-6111 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSC I, Cube 149 (Tuesday,Wednesday)

From: TOCONNOR@ford.com [mailto:TOCONNOR@ford.com]
Sent: Thursday, August 09, 2007 2:52 PM
To: O'Connor, Tammy (T.A.)
Subject: Report Summary for the CQIS Report#[redacted]

Attachments : 0

Report# :	[redacted] NHL			**Received:**	08/08/2007
CCRG/EPRC:		**Reviewed Status:**		**Date:**	
Vehicle:	2008,F450 4X4 SD,CRWCAB ,4X4 ,1FTXW43R78E[redacted]			**Build Date:**	06/18/2007
Odometer :	1,053 M	**Engine:**	6.4L OHV	**Calibration:**	
Transmission:	5R110W DSL	**Axle:**		**A/C:**	YES
Dealer:	CAN B8049 EXPRESSWAY MOTORS LTD			**Phone#:**	(519) 662-3900
City:	New Hamburg	**Province**	Ontario	**Country :**	CAN
Originator:	ROB KENNEDY				
Symptom:	3 03 3 95 CHASS.,STRG/HANDLING ,VIB./SHIMMY,NOT LISTED				
Status:					
VFG:	V89 RIDE & HANDLING				
Additional Symptom:	SHIMMY/WOBBLE FEEL				
Fix:	**Causal Component :**				

Condition Code:

Hotliner: MMCKAY2 **Phone:** 313 317-4281 **Regn Cd:** 08 08 FCSD REGION-CANADA

Engineering: **Phone:** **TAR:**

Dlr Contact: ROB KENNEDY **Phone:** 519 662-3900 **Title Cde:** T

DTCs:

KOEO:

KOEC:

KOER:

Comments :

REPAIR 08/08/2007 04:10PM MICHAEL MCKAY MSS - FCSD - TECH SVC HOTLINE
WEB FORM DATA - CONCERN: CHECK FOR CAUSE OF STEADY SENSATION, WOBBLE
SENSATION FELT THROUGH WHOLE TRUCK WHILE DRIVING AND HITTING CERTAIN
DIPS IN THE ROAD, CUST REPORTS IT IS WORSE WHEN TOWING TRAILER, CUST
IS CONCERNED ABOUT ALIGNMENT. DIAGNOSTICS: DURING ROADTEST I OBSERVED
THE VEHICL TO BE QUITE WIND SESATIVE AND QUITE ROAD CROWN SENSATIVE,
QUITE SENSATIVE TO DIPS IN THE ROAD, AND STEERING EFFORT QUITE LITE,
ALSO IT SEEMS TO HAVE AN OVER STEER CONCERN RESULTING IN THE REAR END
TO BE LOOSE FEELING TECH QUESTION: DO YOU FEEL ADJUSTING THE SYEERING
BOX PRELOAD WOULD HELP AND HOW ABOUT ADJUSTING CASTOR. I AM AWARE OF
SSM19890 AND SSM19774. UNFORTUNEATELY I DO NOT HAVE A SIMILAR VEHICLE
TO COMPARE TO.

RECOMM 08/08/2007 04:10PM MICHAEL MCKAY MSS - FCSD - TECH SVC HOTLINE
ROB, PLEASE CONTACT THE TECHNICAL HOTLINE TO REVIEW THIS CONCERN IN
FURTHER DETAIL IF YOU DO NOT HAVE A LIKE VEHICLE TO COMPARE TO. USE
CONTACTID 315553597

REPAIR 08/09/2007 08:53AM RICHARD SCHULTZ MSS - FCSD - TECH SVC HOTLINE
ROB STATES THAT VEHICLE HAS WOBBLE/WANDER/OVERSTEER FEELING WHEN AT
HIGHWAY SPEEDS. DOES NOT HAVE A LIKE VEHICLE TO COMPARE TO. TRUCK HAS

BEDCAP AND 700 LBS. OF WEIGHT IN BED. LOOKING FOR DIRECTION.

RECOMM 08/09/2007 08:53AM RICHARD SCHULTZ MSS - FCSD - TECH SVC HOTLINE

ROB, RECOMMEND CHECKING TIRE PRESSURES. FILL TIRES UP TO MAX ON DOOR

STICKER AND RETEST. CHECK ALIGNMENT ANGLES. IF NECESSARY, ADJUST

CASTER TO BE SLIGHTLY MORE POSITIVE. ROAD TEST VEHICLE WITH KNOWN GOOD

WHEELS AND TIRES. IF NO CHANGE, REMOVE REAR AXLESHAFTS AND CHECK REAR

WHEEL BEARINGS FOR EXCESSIVE PLAY.

From: Perri, Ron (R.J.)
Sent: Friday, August 18, 2006 4:05 PM
To: Miller, Todd (T.R.); Annadi, Hari (H.); Hodges, Cynthia (C.P.); Surella, Matthew (M.M.); Jammoul, Ali (A.); Boals, Shannon (S.D.); Griggs, Scott (S.R.); Watts, David (D.E.)
Subject: FW: Revised Copy - Buybacks in Process 08-13-06

Importance: High

Attachments: Buybacks in Process 8-13-06.xls

From attached, it looks like Ford has repurchased another P131 for Freeplay / Wander. I suggest we obtain the vehicle to verify our upcoming changes for improvements. Everyone agree?

8/13/20 06	1FTSW21P26 [redacted]	Florida	RJASON	RYON JASON	2006	**F-250 Crew Cab, Super Duty (4X4)**	24,000 Auction	Lemon La Eligible

Previously we used process below to obtain:

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If we have identified a vehicle that has already been "bought-back" for use in or Super Duty Freeplay/Wander TGW reduction effort. They require a signed PSR and "B" tag number in exchange for use of an RAV.

Info from previous correspondence with Bill:

Ron,

If your activity has specific requirements for a vehicle that has been reacquired, we are willing to make the vehicle available for evaluation and testing. Please keep in mind that our organization is graded on our ability to repair, resell and disclose RAVs in a timely manner to reduce inventory cost to the Company. Reacquired vehicles are not to be utilized for destructive, durability or certification testing. We allow RAVs to be utilized for a period of up to 90 days.

As far as cost, we require a signed PSR and "B" tag number in exchange for use of an RAV. If the vehicle is returned within 90 days in normal wear and tear condition, we do not charge against the PSR. If the vehicle is damaged, abused or not returned, the requesting department will be charged. The requesting activity is responsible for cost of transportation from the RAV's present location to its desired location, and return (each RAV must be returned to location where it was reacquired to conform to applicable state title branding and disclosure requirements). If you need assistance with transportation, you may contact Kathy Lewis in Ford Transportation Services at X29348. Unfortunately, without a "B" tag number and signed PSR, we will not be able to accommodate your request.

Of course, once you obtain the signed PSR and "B" tag number, you will need to forward that information to Shawnta Sigmon @ RAV HQ via fax at (248) 488-3703. For your convenience, I have provided the link that goes into detail concerning Engineering use of RAV vehicles below. Please contact me directly with any questions or concerns you may have.

http://www.mso.ford.com/fcsd/vsp/CURRENT/qsf_home/tools_docs_links/reac_veh.htm

Regards,
Bill Billups
RAV Analyst
FCSD - Consumer Affairs
PH: (313)845-5708 F: (313)337-3167
Email: bbillups@ford.com
==========

Ron Perri
Manager, Chassis Steering-Pump & Hydraulic Systems
2B-C80, Product Development Center
phone/fax: 313-248-4686
cell 313-805-0680
rperri@ford.com

-----Original Message-----
From: Billups, Bill (B.)
Sent: Thursday, August 17, 2006 11:18 AM
To:
Subject: Revised Copy - Buybacks in Process 08-13-06

Please Disregard the Previous Report for 8-13-06. Some problems occurred when converting the report.

RAV Buybacks in Process for w/e 08-13-06:

Please keep in mind that this report is utilized by many departments within the company. All vehicles in this report may or may not be made available for engineering evaluation. Please contact me with any questions regarding this report.

Regards,
Bill Billups
RAV Analyst
FCSD - Consumer Affairs
PH: (313)845-5708 F: (313)337-3167
Email: bbillups@ford.com

Buybacks in Process 8-13-06.xl...

Buybacks in Process Week Ending 8-13-06

Please keep in mind that this report is utilized by many departments within the company. All vehicles in this report may or may not be made available for engineering evaluation.

CLICK HERE for information on obtaining one of the following vehicles for evaluation

Entry Date	VIN	Location	CDS ID of Requester	Name of Requester	Year	Make	Mileage	Disposition	Buyback Rationale	Buyback Concern	Buyback Upload Comments
8/13/2006	2FMDA52473	New York	AMORGA35	AMY GREEN	2003	Windstar SE 4-Dr. Wagon (4X2)	25 393	Auction	Lemon Law Eligible	201126LIGHTING-INTERIOR DOME	
8/13/2006	2FMDA52433	Cal fornia	RPETTIS	ROCHELLE PETRIS	2003	Windstar SE 4-Dr. Wagon (4X2)	18,514	Auction	DRP Mediation	701000WINDNOISE;503351A/T ENGAGEMENT SHFT LVR HIGH EFFORTS;698200INDICATOR CHECK ENGINE;702100NOISE-UNKNOWN SOURCE NOISE FRONT EXTERIOR;	BBB MEDIATED CASE...TOTAL USAGE FEE IS 2,876.31...OTHER CONCERNS WITH VEHICLE INCLUDE REAR ROOF RACK CONCERNS, REAR WIPER ONCERNS, PASSENGER CLIDER DOOR CONCERNS, ACCELERATION OF GEARS, & HIGH IDLE CONCERNS...CUSTOMER HAS SELECTED VEHICLE...CUS TOMER HAS SELECTED VEHICLE...NEW VEHICLE INVOICE INCLUDED...
8/13/2006	1LNHM82W36	Florida	MMARTI33	Mike Martin	2006	Town Car Signature Limited 4-Dr. Sedan	409	Auction	Lemon Law Eligible	601393NO CRANK START ALL ENG TEMP;	NO START CONCERN VERIFIED THE FIRST REPAIR ATTEMPT IN THE SERVICE DRIVE, SECOND AND THIRD REPAIR ATTEMPTS UNABLE TO VERIFY.CUSTOMER STRANDED ON 2 PREVIOUS OCCASIONS VEHICLE TOWED.CUSTOMER WILL FILE LEMONLAW.
8/13/2006	1FAFP53295	Kentucky	MMORRI20	MARQUIS MORRIS	2005	Taurus SE 4-Dr. Sedan	12,617	Auction	DRP Arbitration Award	301552SERVICE BRAKE PEDAL PULSATES;301186SERVICE BRAKE NOISY FRONT;303351STRG/HNDLNG VIB/SHM ACEL/DECEL;607593STALL/QUITS ACCEL ALL ENG TEMP;	
8/13/2006	1FAFP552640	Minnesota	CROOSE	CAROL ROOSE	2004	Taurus 4-Dr. Sedan SES	35 000	Auction	Legal Settlement	102352WINDOW/GLASS BKGLASS PWR FUNC;601391NO CRANK START TEMP COLD ENG;404536FUEL SYSTEM-FUEL SYSTEM ATTACHMENT PUMP ASSEMBLY (	PLAINTIFF COMPLAINED OF HARD START/NO START OF COLD ENGINE.FUELPUMP IDENTIFIED AS PROBLEM.PLAINTIFF ALSO HAD A CONCERN WITH ERRATIC FUEL GAUGE.ADDITIONALLY, PLAINTIFF HAD 5 REPAIRS FOR WINDOW MOTOR FUNCTION/NOISE.FSE VERIFIED CONCERN WITH STARTING THE VEHICLE.VEHICLE HAS 30 DAYS DOWN WITHIN PRESUMPTION PERIOD. OUTSIDE COUNSEL FOR FORD IS MARY HALE OF BAKER & HOSTETLET, 65 EAST STATE STREET, SUITE 2100, COLUMBUS OH 43215.
8/13/2006	1FTZR45E65P	Missouri	RPETTIS	ROCHELLE PETRIS	2005	Ranger Super Cab 4-Dr. (4X4)	37 032	Auction	DRP Mediation	111145PANELS/ALIGNMENT/FIT HOOD;510800FLUID CONCERNS LEAKS;511200DRIVE/HALFSHAFT NOISE 703272VIBRATION ACCEL OVER 50 MPH	BBB MEDIATED CASE...COMPLIANCE DATE IS OCTOBER 4 2006
8/13/2006	1FTZR45E54	New York	JHERN179	JENNIFER HERNANDEZ	2004	Ranger Super Cab 4-Dr. (4X4)	22 259	Auction	Lemon Law Eligible	306800TIRES/WHEELS VIBRATION;	
8/13/2006	1FTYR10D06	Arkansas	RPETTIS	ROCHELLE PETRIS	2006	Ranger Regular Cab (4X2)	4,487	Auction	DRP Arbitration Award	303156STRG/HANDLING WANDER;608593RUNS ROUGH ACCEL ALL ENG TEMP;612591SURGE ACCELERATION COLD ENGINE;703272VIBRATION ACCEL OVER 50 MPH;	BBB MANDATED CASE...ADDITIONAL CONCERN ON VEHICLE BUMPER OUT OF ALIGNMENT...VEHICLE HAS BEEN SELECTED, INVOICE IS ATTACHED TO CONSUMER AFFAIR PACKET...COMPLIANCE DATE IS SEPTEMBER 20, 2006
8/13/2006	5LMFU27RX4	Hawaii	RBERGSRU	RANDY BERGSRUD	2004	Navigator Base 4-Dr. (4X2)	19,191	Salvage	Lemon Law Eligible	607493STALL/QUITS IDLE ALL ENG TEMP;	VEHICLE OUT OF SERVICE FOR WELL OVER 30 DAYS.REPALACEMENT OFFERD TO KEEP CUSTOMER IN A LINCOLN
8/13/2006	5LMFU27R84	Hawaii	RBERGSRU	RANDY BERGSRUD	2004	Navigator Base 4-Dr. (4X2)	17,075	Salvage	Lemon Law Eligible	203418START/BATTERY WON'T HLD CHRG;208250CLIMATE CONTROL-CLIMATE CTRL LACK OF COOLING DUAL ;204233INSTR/DISPLAY ANALOG AMP/VOLT;	VECHILE WELLL WITHIN LEMON LAW REQUIRMENTS, CUSTOMER FILED PAPERWORK
8/13/2006	5LMFU27585	Texas	OMEDINA	OSCAR MEDINA	2005	Navigator Base 4-Dr. (4X2)	14,870	Auction	Discretionary	607491STALL/QUITS AT IDLE COLD ENG;	VEHICLE LOST ALL CUSTOMER CONFIDENCE FOR NAVIGATOR. REPLACEMENT OFFERED FOR CUSTOMER SATISFACTION.
8/13/2006	1ZVFT80N05	New Jersey	TCHERBA	Timothy Cherba	2005	Mustang V6 Coupe	20,101	Auction	Lemon Law/State Award	304586SUSPENSION NOISE FRONT;	THIS IS A LEGAL SETTLEMENT, OFFICAL LETTER FORCOMING.
8/13/2006	1ZVHT84N85	Arkansas	DMARTI49	DAVE MARTIN	2005	Mustang V6 Convertible	8 340	Auction	Discretionary	502400AUTO TRANS DOWNSHIFT HUNTING;504802AUTO TRANS GEN INDCTR DIPSTICK	CUSOTMER HAS LOST ALL CONFIDENCE IN THIS VEHICLE AND IS REQUESTING A REPALCEMENT VEHICLE. THE CONCERNS STARTED WITH A NOISE ISSUE THAT WAS COMING FROM THE BELL HOUSING AND WAS SUSPECTED TO BE RELATED TO THE OIL FILTER, A NEW FILTER DID NOT CORRECT THE ISSUE. THE CONCERN WAS NARROWED DOWN TO THE TRANSMISSION ASSEMBLY AND WAS REPLACED BY THE DEALERSHIP. HOWEVER, SINCE THE LAST REPAIR, THE VEHICLE HAS EXHIBITED AN ERATTIC INTERMITTENT SHIFT CONCERN RESULTING IN A LOSS OF POWER. THIS CONCERN HAS BEE
8/13/2006	1ZVFT82H35	Cal fornia	CROOSE	CAROL ROOSE	2005	Mustang GT Coupe	5,000	Auction	Legal Settlement	404800FUEL SYSTEM INDICATOR;404632FUEL SYS ROUTING FILL NECK/CAP;698200INDICATOR CHECK ENGINE;	PLAINTIFF COMPLAINED THE GAS TANK FILLER NECK REJECTED GASOLINE INPUT, FUEL GAUGE WAS ERRATIC AND CEL IS ILLUMINATED. CONFIRMED BY FSE INSPECTION POST-LITIGATION. OUTSIDE COUNSEL FOR FORD IS NEVIN BROWNFIELD OF BOWMAN AND BROOKE, 879 WEST 190TH STREET, SUITE 700, GARDENA CA 90046.
8/13/2006	1ZVFT82H25	Wisconsin	RPETTIS	ROCHELLE PETRIS	2005	Mustang GT Coupe	1,901	Auction	DRP Mediation	106120PAINT/FINISH CHIPS/SCRATCHES;104450RESTRAINTS AIR BAG FUNC;201298LIGHTING-EXT LAMP-OUT IND;207340ENTERTAINMENT FUNCTION CD;	BBB MEDIATEDE CASE...COMPLIANCE DATE IS SEPTEMBER 8, 2006
8/13/2006	1FAFP45X34	Cal fornia	MMORRI20	MARQUIS MORRIS	2004	Mustang GT Convertible	29,861	Auction	DRP Mediation	303454STRG/HANDLING NOISE TURNING;101259SEATING APPEAR/FIT SEATBACK;203418START/BATTERY WON'T HLD CHRG;601391NO CRANK START TEMP COLD ENG;	
8/13/2006	4M2EU48866	Pennsylvania	SPRIEBE	SHARON PRIEBE	2006	Mountaineer Premier 4-Dr. AWD	14,553	Auction	Legal Settlement	502200AUTO TRANS DOWNSHIFT HARSH;611593HES/STUMBLE ACCEL ALL ENG TEMP;698200INDICATOR CHECK ENGINE;	OUTSIDE COUNSEL DAVID FUNK, BAKER & HOSTETLER, 65 EAST STATE STREET, COLUMBUS, OH 43215.PLAINTIFF LEASED A 2006 MOUNTAINEER AND EXPERIENCED PROBLEMS WITH THE TRANSMISSION -- HARD SHIFT IN ALL GEARS AND JERKING.ALSO EXPERIENCED HESITATION/STUMBLE ON ACCELERATION.
8/13/2006	2MRDA20264	Illinois	SRAPACZ	Steve Rapacz	2004	Montere	7,010	Auction	Lemon Law Eligible	614692LOSS OF POWER CRUISE HOT ENG;	
8/13/2006	1MEHM42165	Cal fornia	MMORRI20	MARQUIS MORRIS	2005	Montego Premier FWD	2 937	Auction	DRP Mediation	111533PANELS/WAVY DOOR-HINGED;301188SERVICE BRAKE NOISY FRT&RR;303289STRG/HANDLING PULL/DRIFT LEFT;204194INSTR/DISPLAY ELECT CHIMES;	
8/13/2006	5LTPW18526F	Maryland	COZYJOWS	Christine Ozyjowski	2006	Mark LT 4x4	14,320	Auction	Lemon Law Eligible	499500ENGINE GEN CONCERN MECH FAILUR;	VEHICLE HAS HAD ENGINE CONCERNS. ENGINE REPLACED AT SHERWOOD FORD EARLIER, THEN HAD TO BE TOWED TO KING AS REPLACEMENT WAS BAD. FORD PARTICIPATED IN TOW BILL.ENGINE WORKED ON AT KING LM UNDER DIRECTION OF FSE E. PACKER AND TECH HOTLINE.ISSUES NEVER RESOLVED, CUSTOMER UNHAPPY AND QUALIFIED FOR LEMON LAW.CUSTOMER IS PROMINENT IN COMMUNITY.
8/13/2006	2MEFM75W55	Illinois	CGILCHRI	Chad Gilchrist	2005	Grand Marquis LS 4-Dr. Sedan	29,553	Auction	Lemon Law Eligible	208500CLIMATE CONTROL ODOR;	VEHICLE WAS BLOWING WHITE FLAKES OUT OF THE HEATING AND COOLING DUCTS.THIS WAS A UNIQUE CONCERN THAT HAD NEVER BEEN EXPERIENCED ANYWHERE ELSE.TRIED MULTIPLE ATTEMPTS THOUGH WORKING WITH HOTLINE.UNABLE TO REPAIR W/IN 4 REPAIR ATTEMPTS.VEHICLE WAS OUT OF SERVICE FOR OVER 40 DAYS.
8/13/2006	1FMDK051X5	Florida	JCHEYNE	Jack Cheyne	2005	Freestyle SEL (AWD)	20,857	Auction	Lemon Law Eligible	204232INSTR/DISPLAY ANALOG SPEEDO;	CUSTOMER BOUGH VEHICLE FROM KENNY ROSS IN PENNSYLVANIA. CUST. HAS RESIDENCE IN FLA. VEHICLE HAS BEEN WORKED ON 2X FOR CONCERN. VEHICLE RETURNED TO DEALER FOR 3RD REPAIR ATTEMPT. CUSTOMER DISSATISFIED WITH VEHICLE. LOST CONFIDENCE IN VEHICLE. KENNY ROSS SOLD VEHICLE AND CUSTOMER WOULD LIKE TO PURCHASE NEW VEHICLE THERE.
8/13/2006	3FAFP37N55F	Florida	FTYLENDA	FRANCES TYLENDA	2005	Focus ZX5 4-Dr. Hatchback	61 348	Auction	Lemon Law Eligible	508450TRANSFER CASE NOISE SHIFTING	LEMON LAW CASE # - PLEASE REDUCE THE REFUND BY ALL NON-FORD WARRANTY POLICIES. CUSTOMER RECEIVED AND ACCEPTED HIS BBB DECISION, HOWEVER ONCE HE RECEIVED NOTICE THAT HE WOULD OWE MONEY, HE REFUSED THE OFFER.THE ATTORNEY GENERAL'S BOARD ATTORNEY DISCUSSED THE OFFER WITH HIM, HOWEVER HE STILL WANTS TO GO THROUGH WITH THE ARBITRATION REQUEST THROUGH THE STATE.THE CONCERN OF THE VEHICLE WHINING NOISES - TENSIONER AND SERPENTINE BELT (WAS NOT SURE OF THE APPROPRIATE SYMPTON TO USE FOR TH
8/13/2006	1FAFP31N86V	Florida	GBATIST3	GUSTAVO BATISTA	2006	Focus ZX3 3-Dr. Hatchback	4 728	Auction	Lemon Law Eligible	108310EXT TRIM-MOLDINGS ATTACHMENT	
8/13/2006	1FAFP24105	Michigan	SLEVITT	LEVITT SHERMAN	2005	Five Hundred SEL FWD	10,885	Auction	Lemon Law Eligible	207340ENTERTAINMENT FUNCTION CD;	
8/13/2006	1F6NF53S04	Cal fornia	CROOSE	CAROL ROOSE	2004	F-550 Motor Home Stripped Chassis	6,300	Auction	Legal Settlement	509295AXLE CONCERNS RR WHL DRV VIB;	PLAINTIFF COMPLAINED OF VIBRATION AT 55 MPH. DIFFERENTIAL REPLACED, WITH REPAIR TAKING OVER 2 MONTHS.QUALIFIES IN CA AS PRESUMPTION AS OVER 30 DAYS OUT OF SERVICE.AFTER DIFF REPAIR, PLAINTIFF STILL COMPLAINED OF VIBRATION UNDER LOAD. VEHICLE WILL BE STORED AT HOMER HELLER FORD PENDING RVIA ARBITRATION.OUTSIDE COUNSEL FOR FORD IS JESSICA CHASIN OF WILSON, PETTY, KOSMO & TURNER, 550 WEST C STREET, SUITE 1050, SAN DIEGO CA 92101.
8/13/2006	1FDAW56P45	Cal fornia	WHILL2	Wannetta Hill	2005	F-550 Crew Chassis, Super Duty (4X2) DRW	80,069	Auction	Pre-Litigation	621193DIESELS RUN-ON ENG ALL TEMPS;	TIN IS 38-3116339
8/13/2006	1FDXF46P13	Ohio	RLAYNE	ROBERT LAYNE	2003	F-450 Regular Chassis, Super Duty (4X2) DRW	61 000	Auction	Discretionary	614593LOSS OF PWR ACCEL ALL ENG TEMP	VEHICLE HAS BEEN INTO DEALERSHIP FOR TURBO RELATED ISSUES 6 TIMES.THE NAVISTAR ENGINEER HAS BEEN INVOLVED IN THE LAST SEVERAL REPAIR ATTEMPTS INCLUDING THE REPALCEMENT OF TURBO WITH A NEWLY RELEASED PART NUMBER (TWICE).IN ADDITION THE DEALERSHIP WAS DIRECTED TO CLEAN THE TURBO ON TWO OTHER OCCASSIONS.CUSTOMER HAS LOST TOTAL CONFIDENCE IN VEHICLE. I AM REQUESTING MILEAGE ASSESSMENT FROM THE FIRST REPAIR AT 13,940 MILES WITH A DENOMINATOR 0F 120,000 MILES IN THE MILEAGE ASSESSMENT.CUSTOMER IS DOWN
8/13/2006	1FDXW46PX	Alabama	ACHABOT	Andrew Chabot	2004	F-450 Crew Chassis, Super Duty (4X2) DRW	23 000	Auction	Legal Settlement	614593LOSS OF PWR ACCEL ALL ENG TEMP	**** PLEASE SEND PAPERWORK TO DEALERSHIP OVERNIGHT **** CUSTOMER IS RESPONSIBLE FOR MILEAGE CHARGE, UPGRADE AND TAX ON UPGRADE.
8/13/2006	1FDSX35P46	Oklahoma	VISSA	Veronica Issa	2006	F-350 Super Chassis, Super Duty (4X4) SRW	6,309	Auction	Lemon Law Eligible	614593LOSS OF PWR ACCEL ALL ENG TEMP;622152FUEL ECONOMY CMPLNT W/LOAD;	$38370 VEH PURCHASE PRICE + $7520 FLAT BED / TOOL BOX + $400 GRILL GUARD.DLR ADV THEY CAN MOVE FLAT BED /TOOL BOX FOR $600.REGION RECOMMENDS WE MOVE THE FLAT BED / TOOL BOX RATHER THAN REIMBURSE CUSTOMER THE COST OF THOSE ITEMS.DLR PROVIDED COPIES OF AFTERMARKET EQUIPMENT PURCHASE RECIEPTS TO THE REGION.
8/13/2006	1FDWX36P8	Cal fornia	MMORRI20	MARQUIS MORRIS	2006	F-350 Super Chassis, Super Duty (4X2) DRW	15,110	Auction	DRP Mediation	401836OIL SYS LEAKS REAR MAIN SEAL;698200INDICATOR CHECK ENGINE;703371VIBRATION CRUISE 31-50 MPH;	

Entry Date	VIN	Location	CDS ID of Requester	Name of Requester	Year	Make	Mileage	Disposition	Buyback Rationale	Buyback Concern	Buyback Upload Comments
8/13/2006	1FDWF37P44[redacted]	Maryland	SHIGGIN1	Scott Higgins	2004	F-350 Regular Chassis, Super Duty (4X4) DRW	54,329	Auction	Discretionary	499500ENGINE GEN CONCERN MECH FAILUR;	VEHICLE OUT OF SERVICE FOR 51 DAYS.DEALERSHIP HAD BACK LOG OF DIESEL VEHICLES AND ONLY ONE DIESEL TECHNICIAN.CUSTOMER AGREED TO PICK UP VEHICLE AFTER ENGINE REPAIR BUT EXPERIENCED A TRANSMISSION PROBLEM UPON RETURNING HOME AND HAD TO BRING THE VEHICLE BACK TO THE DEALERSHIP.VEHICLE CURRENTLY AT DEALERSHIP, TRANSMISSION CONCERN BEING ADDRESSED.CUSTOMER OWNS SEVERAL FORD PRODUCTS.
8/13/2006	1FTWW33P46[redacted]	Cal fornia	KTAYLOR6	Ken Taylor	2006	F-350 Crew Cab, Super Duty (4X4) DRW	12,265	Auction	Lemon Law Eligible	499500ENGINE GEN CONCERN MECH FAILUR;	
8/13/2006	1FTWW33P1[redacted]	Pennsylvania	ACHABOT	Andrew Chabot	2004	F-350 Crew Cab, Super Duty (4X4) DRW	16,500	Auction	Legal Settlement	614593LOSS OF PWR ACCEL ALL ENG TEMP;	THE TAX ID IS 23-2828219.
8/13/2006	1FTWW33P0[redacted]	Cal fornia	CWEAKS	CHARISE WEAKS	2005	F-350 Crew Cab, Super Duty (4X4) DRW	24,000	Auction	DRP Mediation	304152SUSPENSION RIDE QLTY BOTTOM;401832OIL SYS LEAKS HEAD/GASKET;698200INDICATOR CHECK ENGINE;	COMPLIANCE DATE 09-18-2006.
8/13/2006	1FTWW31PX[redacted]	Cal fornia	BKROSS	BRYAN KROSS	2005	F-350 Crew Cab, Super Duty (4X4)	47,852	Auction	Lemon Law Eligible	404534FUEL SYS ATTACHMENT INJECTOR;607493STALL/QUITS IDLE ALL ENG TEMP;404536FUEL SYSTEM-FUEL SYSTEM ATTACHMENT PUMP ASSEMBLY (;	PLEASE EXPIDITE IF POSSIBLE. VEHICLE IS DOWN AT DEALERSHIP, CUSTOMERS' ONLY WORK TRUCK.THANKS!
8/13/2006	1FTSW31P64[redacted]3	Cal fornia	WHILL2	Wannetta Hill	2004	F-350 Crew Cab Super Duty (4X4)	22 779	Auction	Pre-Litigation	621193DIESELS RUN-ON ENG ALL TEMPS	TIN 33-0376196****CUSTOMER IS ORDERING A VEHICLE AND HAS A 72/75 PREMIUMCARE ESP ON HIS 04 F350*****CUSTOMER SEEKS TO HAVE THE REPLACEMENT VEHICLE COVERED BY AN IDENTICAL ESP***
8/13/2006	1FTSW31P73[redacted]	Idaho	CHURLEY8	CHRISTOPHER HURLEY	2003	F-350 Crew Cab Super Duty (4X4)	39 277	Auction	Lemon Law Eligible	614593LOSS OF PWR ACCEL ALL ENG TEMP	ACCOUNT NUMBER NOT AVAILABLE AT TIME OF UPLOAD - OK'D PER SANDY TO PROCESS
8/13/2006	1FTSW31P24[redacted]	Cal fornia	WHILL2	Wannetta Hill	2004	F-350 Crew Cab Super Duty (4X4)	32 268	Auction	Pre-Litigation	621193DIESELS RUN-ON ENG ALL TEMPS	TIN IS 33-0875803
8/13/2006	1FTSW31P1[redacted]	Cal fornia	BKROSS	BRYAN KROSS	2004	F-350 Crew Cab, Super Duty (4X4)	31,463	Auction	Lemon Law Eligible	607593STALL/QUITS ACCEL ALL ENG TEMP;611593HES/STUMBLE ACCEL ALL ENG TEMP;	THANKS!
8/13/2006	1FTSW31P13[redacted]	Colorado	CWEAKS	CHARISE WEAKS	2003	F-350 Crew Cab, Super Duty (4X4)	33,898	Auction	DRP Mediation	401830OIL SYS LEAKS OIL PAN/GSKT;611593HES/STUMBLE ACCEL ALL ENG TEMP;614593LOSS OF PWR ACCEL ALL ENG TEMP;	COMPLIANCE DATE 09-14-2006.
8/13/2006	1FTSW31P04[redacted]	Cal fornia	RJOHNS72	REGINA JOHNSON	2004	F-350 Crew Cab, Super Duty (4X4)	37,000	Auction	Pre-Litigation	208500CLIMATE CONTROL ODOR;402300COOLING SYS OVERHEATING;402848COOLING SYS LEAKS CYL HEAD;	95-4746476
8/13/2006	1FTWW32PX[redacted]	Cal fornia	MMORRI20	MARQUIS MORRIS	2004	F-350 Crew Cab, Super Duty (4X2) DRW	89,554	Salvage	DRP Arbitration Award	608593RUNS ROUGH ACCEL ALL ENG TEMP;698200INDICATOR CHECK ENGINE;	
8/13/2006	1FTWW32P24[redacted]	Cal fornia	RPETTIS	ROCHELLE PETRIS	2004	F-350 Crew Cab, Super Duty (4X2) DRW	26,532	Auction	DRP Mediation	401836OIL SYS LEAKS REAR MAIN SEAL;603393CRANKS/NO START ALL ENG TEMP;612593SURGE ACCELERATE ALL ENG TEMP;698200INDICATOR CHECK ENGINE;	BBB MEDIATED CASE...CUSTOMER'S USAGE FEE SHOULD BE 2, 506.54...OTHER ISSUES WITH VEHICLE INCLUDE SHIMMY AT STEERING...BRUCE IS AN ADDITIONAL DEALER CONTACT...A VEHICLE HAS BEEN ORDERED... (ORDER NUMBER 1000, ORDER DATE AUGUST 8, 2006, ORDER ETA 8 WEEKS)COMPLIANCE DATE 09-14-2006
8/13/2006	1FTNX21P34[redacted]	Cal fornia	MMORRI20	MARQUIS MORRIS	2004	F-250 Super Cab, Super Duty (4X4)	35 100	Auction	DRP Mediation	304717SUSPENSION SHOCKS/STRUTS LEAKS;104597RESTRAINTS RR BLT - MNL NOISE;304586SUSPENSION NOISE FRONT 510300FLUID CONCERNS FILL LEVEL	
8/13/2006	1FTSW21Y85[redacted]	Cal fornia	WHILL2	Wannetta Hill	2005	F-250 Crew Cab Super Duty (4X4)	9 862	Auction	Pre-Litigation	618493ROLLING IDLE TEMP ALL ENG TEMP	TIN 95-4774214***MARIA M. DIAZ-CASTILLO IS ALSO ON THE FINANCE AGREEMENT***
8/13/2006	1FTSW21Y66[redacted]7	Cal fornia	ARINCON	ANA RINCON	2006	F-250 Crew Cab Super Duty (4X4)	12 000	Auction	Lemon Law Eligible	499500ENGINE GEN CONCERN MECH FAILUR	
8/13/2006	1FTSW21P86[redacted]	South Carolina	MSCHALL6	MARK SCHALLER	2006	F-250 Crew Cab, Super Duty (4X4)	24,879	Auction	Discretionary	497200NOISE ENGINE (UPPER);499500ENGINE GEN CONCERN MECH FAILUR;	THIS CUSTOMER BROKE DOWN IN FLORIDA AND HAD THE VEHICLE TOWED BACK TO THE DEALERSHIP IN AUGUSTA TO BE REPAIRED.THE CUSTOMER WENT TO THE DEALER PRINCIPAL ABOUT THE PROBLEM AND DEMANDED A REPLACEMENT VEHICLE.THE DEALER PRINCIPAL PROMISED THE CUSTOMER THAT FORD WOULD REPLACE THE VEHICLE BEFORE TALKING WITH ANYONE FROM FORD.THIS CUSTOMER NOW EXPECTS A REPLACEMENT VEHICLE ON THE WORD OF THE DEALER (DAVID KARANGU).
8/13/2006	1FTSW21P85[redacted]	Florida	FTYLENDA	FRANCES TYLENDA	2005	F-250 Crew Cab, Super Duty (4X4)	70,585	Auction	Lemon Law Eligible	404107Injector;	LEMON LAW CASE #[redacted]TPA - 51 DAYS OUT OF SERVICE AND THE ENGINE HAS BEEN REPLACED.THERE WERE THREE SERVICING DEALERSHIPS INVOLVED WITH THE REPAIRS. CUSTOMER'S MVDN STATES CONTINUOUS REPAIR OF INJECTORS GOING BAD, AT LEAST THREE TIMES IN 4 MONTHS, ALSO CLUTCH FAN STAYING LOCKED, EGR VLAUE AND HEAD GASKET HAVE BEEN REPLACED, 3 OR MORE REPAIR ATTEMPTS AND DAYS OUT OF SERVICE.PAPERWORK BEING SENT TO RAV VIA DHL ON 8/10/2006.
8/13/2006	1FTSW21P26[redacted]	Florida	RJASON	RYON JASON	2006	F 250 Crew Cab, Super Duty (4X4)	24,000	Auction	Lemon Law Eligible	303153STRG/HANDLING EXCESSIVE PLAY;	THIS CUSTOMER HAS HAD NUMEROUS REPAIR ATTEMPTS FOR STEERING CONCERNS.THE FSE HAS TEST DRIVEN THE VEHICLE AND OFFERED A RECOMMENDATION FOR A SOLUTION.UNFORTUNATELY, NO REPAIRS HAVE BEEN ADEQUATE; AND, THE DEALERSHIP HAS RUN OUT OF RECOMMENDATIONS.THERE IS ALSO A SINCE OF URGENCY SINCE THE CUSTOMER IS MOVING OUT OF THE STATE.
8/13/2006	1FTNW21PX4[redacted]	Cal fornia	JHOLLING	JESSIE HOLLINGSWORTH	2004	F-250 Crew Cab Super Duty (4X4)	25 918	Auction	Legal Settlement	401832OIL SYS LEAKS HEAD/GASKET	HUGH KIM WILSON PETTY KOSMO & TURNER (619) 236-9600
8/13/2006	1FTNW21PX3[redacted]3	Cal fornia	MMORRI20	MARQUIS MORRIS	2003	F-250 Crew Cab, Super Duty (4X4)	22,699	Auction	DRP Mediation	497200NOISE ENGINE (UPPER);612593SURGE ACCELERATE ALL ENG TEMP;614593LOSS OF PWR ACCEL ALL ENG TEMP;698200INDICATOR CHECK ENGINE;	
8/13/2006	1FTNW21P94[redacted]	Cal fornia	AHOWARD5	ANDREA HOWARD	2004	F-250 Crew Cab, Super Duty (4X4)	14,200	Auction	Lemon Law Eligible	620793ENG SPEED-UP DECEL ALL TEMPS;	VEHICLE HAS 4 REPAIR ATTEMPTS FOR LACK OF POWER/NO ACCELERATION AND VEHICLE IS STILL NOT FIXED. VEHICLE HAS 14,200 MILES.
8/13/2006	1FTNW21P34[redacted]	Cal fornia	MPAWELEK	Maureen Pawelek	2004	F-250 Crew Cab, Super Duty (4X4)	45,000	Auction	Pre-Litigation	401830OIL SYS LEAKS OIL PAN/GSKT;611593HES/STUMBLE ACCEL ALL ENG TEMP;698200INDICATOR CHECK ENGINE;	ATTORNEY TAX I.D. 36-406555
8/13/2006	1FTNW21P33[redacted]	Cal fornia	JISENBE1	JASON ISENBERG	2003	F-250 Crew Cab, Super Duty (4X4)	40,019	Salvage	Lemon Law Eligible	401836OIL SYS LEAKS REAR MAIN SEAL;503351A/T ENGAGEMENT SHFT LVR HIGH EFFORTS;614593LOSS OF PWR ACCEL ALL ENG TEMP;	VEHICLE IS A PREVIOUS RAV. MILEAGE CHARGE IS BASED ON 1ST REPAIR ATTEMPT FOR THE SECOND OWNER. SECOND OWNER PURCHASED VEHICLE WITH 3420 MILES AND RETURNED FOR FIRST REPAIR ATTEMPT WITH 4500 MILES.
8/13/2006	1FTNW21P14[redacted]	Cal fornia	JKENNE15	JASON KENNEDY	2004	F-250 Crew Cab, Super Duty (4X4)	41,000	Auction	Lemon Law Eligible	499500ENGINE GEN CONCERN MECH FAILUR;	
8/13/2006	1FTNW21P14[redacted]	Michigan	ADANOWSK	ANNE DANOWSKI	2004	F-250 Crew Cab Super Duty (4X4)	16 863	Auction	Legal Settlement	608593RUNS ROUGH ACCEL ALL ENG TEMP;609591MISSES ACCEL COLD ENGINE;614693LOSS OF PWR CRUISE ALL ENG TEM	FORD S OUTSIDE COUNSEL IS SCOTT ERSKINE 248-601-4499.
8/13/2006	1FTNW21P13[redacted]	Oklahoma	RPETTIS	ROCHELLE PETRIS	2003	F-250 Crew Cab Super Duty (4X4)	38 065	Auction	DRP Mediation	701000WINDNOISE;612593SURGE ACCELERATE ALL ENG TEMP;614593LOSS OF PWR ACCEL ALL ENG TEMP;208347CLIMATE CTRL AIR DIST AUTO TMP	BBB MEDIATED CASE...TOTAL USAGE FEE IS 8099.44...COMPLIANCE DATE IS SEPTEMBER 16 2006
8/13/2006	1FTSW20P85[redacted]	Texas	DAGIUS	DAVID AGIUS	2005	F-250 Crew Cab, Super Duty (4X2)	65,818	Auction	Lemon Law Eligible	499500ENGINE GEN CONCERN MECH FAILUR;	
8/13/2006	1FTSW20P55[redacted]	Florida	MMARTI33	Mike Martin	2005	F-250 Crew Cab, Super Duty (4X2)	13,080	Auction	Lemon Law Eligible	608491RUNS ROUGH IDLE COLD ENGINE;620993ENG SPEED-UP SUD ACEL ALL TEMP;	CUSTOMER FILED MVDN FOR STATE ARBITRATION, RESOLVED PRIOR DUE TO THE VEHICLE DOWN FOR OVER 30 DAYS
8/13/2006	1FTPW145X6[redacted]	Cal fornia	JTSE	JUDY TSE	2006	F-150 Super Crew, Style Side (4X4	14,647	Auction	Lemon Law Eligible	401371OIL SYS ACTUAL PRESSURE LOW;	CUSTOMER'S SERVICING DEALERSHIP IS TIFFANY FORD.HOWEVER CUSTOMER REFUSES TO WORK WITH TIFFANY FORD, WILL PROCESS REPLACEMENT VEHICLE AT THE FORD STORE OF MORGAN HILL.
8/13/2006	1FTPW14566[redacted]	Rhode Island	MBEEZER	MICHELLE BEEZER	2006	F-150 Super Crew, Style Side (4X4	17,420	Auction	Lemon Law Eligible	511300DRIVE/HALFSHAFT VIBRATION;	MUST SWAP TONNEAU COVER IF POSSIBLE OTHERWISE PROVIDE A NEW ONE.
8/13/2006	1FTPW14525[redacted]	Virginia	KOGDIN	Ken Ogdin	2005	F-150 Super Crew, Style Side (4X4	27,814	Auction	Discretionary	502200AUTO TRANS DOWNSHIFT HARSH;	
8/13/2006	1FTVX14524[redacted]	Missouri	MMORRI20	MARQUIS MORRIS	2004	F-150 Style Side Super Cab (4X4)	35,825	Auction	DRP Arbitration Award	703272VIBRATION ACCEL OVER 50 MPH;	
8/13/2006	1FTPX14555[redacted]	Vermont	MMORRI20	MARQUIS MORRIS	2005	F-150 Style Side Super Cab (4X4)	30,425	Auction	DRP Mediation	301552SERVICE BRAKE PEDAL PULSATES;301486SERVICE BRAKE LOCK-UP/GRAB FRT;304587SUSPENSION NOISE REAR;	
8/13/2006	1FTPX1450[redacted]	Florida	MLEDUC	Mark Leduc	2004	F-150 Style Side Super Cab (4X4)	35 966	Auction	Lemon Law Eligible	612593SURGE ACCELERATE ALL ENG TEMP	THE NEW VEHICLE HAS ADDED RUNNING BOARDS AND A SPRAY IN BEDLINER.THE DEALERSHIP WILL BE SENDING THE INVOICE ON THOSE ITEMS TO ROCHELLE AT RAV SO THAT THEY CAN BE CREDITED AS DISCUSSED YESTERDAY. THE TIRE/WHEEL THAT I LISTED IN THE AFTER MARKET ITEMS IS ON THE BUYERS ORDER FOR THE OLD VEHICLE.THE CHARGE FOR THE TIRE/WHEEL WAS 299.PLEASE CONTACT ME IF THERE ARE ANY QUESTIONS REGARDING THIS INFORMATION THEA NELSON - C3 ZONE MANAGER - (407)467-5057 OR TNELSO38@FORD.COM.THANK YOU!
8/13/2006	1FTRX12505[redacted]	Kentucky	RPETTIS	ROCHELLE PETRIS	2005	F-150 Style Side Super Cab (4X2)	11,649	Auction	DRP Arbitration Award	703161VIBRATION RPM 1001-3000 RPM;	BBB MANDATED CASE...AFTER MARKET ITEMS HAVE BEEN APPROVED BY T.HAYWARD...COMPLIANCE DATE IS 09-01-2006
8/13/2006	1FTPX12586[redacted]	Florida	MEKON	MARYA EKON	2006	F-150 Style Side Super Cab (4X2)	3,500	Auction	Discretionary	303351STRG/HNDLNG VIB/SHM ACEL/DECEL;	
8/13/2006	1FMDU63W2[redacted]	Cal fornia	CROOSE	CAROL ROOSE	2002	Explorer XLT, 4X2	47,000	Auction	Legal Settlement	503151AUTO TRANS NO ENGAGEMENT - NO FORWARD;203350START/STARTING INOPERATIVE;402701COOLING SYS NOISE COOLING FAN;	PLAINTIFF HAD VEHICLE IN FOR 22 SERVICE VISITS IN 4 YEARS.EARLY IN DRIVING HISTORY, 4X FOR ENGINE FAN CLUTCH.LATER IN HISTORY, 4X FOR TRANSMISSION REPAIRS, INCLUDING 3 OVERHAULS.ALSO HAD 2 VISITS FOR NO START CONDITION, ONCE RE DEAD BATTERY AND OTHER FOR SYSTEM WIRING. VARIOIUS OTHER SINGLEREPAIRS TO FOR CEL,TRIM, UPHOLSTERY, A/C AND REAR WINDOW LEAK CONCERNS.PLAINTIFF HAD PREMIUM ESP.OUTSIDE COUNSEL FOR FORD IS PAYAM SHAHIAN OF BOWMAN AND BROOKE, 879 WEST 190TH STREET, SUITE 700, GARDENA CA 90
8/13/2006	1FMZU73W8[redacted]	Virginia	SPRIEBE	SHARON PRIEBE	2004	Explorer XLT 4-Dr. (4x4)	69,633	Auction	Legal Settlement	501700AUTO TRANS UPSHIFT SKIPS GEAR;502500AUTO TRANS DWNSHFT GR JUMP-OUT;509297AXLE CONCERNS RR WHL DRV NOISE;	OUTSIDE COUNSEL DAVID FUNK, BAKER & HOSTETLER, 65 EAST STATE STREET, COLUMBUS, OH 43215. PLAINTIFF'S PRIMARY COMPLAINT WAS THE REAR DIFFERENTIAL.ALONG WITH THIS CONCERNS, PLAINTIFF HAD CONCERNS ABOUT THE HARSH SHIFTING OF THE TRANSMISSION.
8/13/2006	1FMZU73K04[redacted]	New Jersey	ADANOWSK	ANNE DANOWSKI	2004	Explorer XLT 4-Dr. (4x4)	66 000	Auction	Legal Settlement	503200AUTO TRANS ENGAGE DELAY/SLIP;607693STALL/QUITS CRUIS ALL ENG TEMP	FORD S ATTORNEY IS MEGAN PEAR 973-740-2474.

Entry Date	VIN	Location	CDS ID of Requester	Name of Requester	Year	Make	Mileage	Disposition	Buyback Rationale	Buyback Concern	Buyback Upload Comments
8/13/2006	1FMEU63E0 [redacted]	Florida	RPETTIS	ROCHELLE PETRIS	2006	Explorer XLT 4-Dr. (4X2)	14,428	Auction	DRP Mediation	104498RESTRAINTS AIR BAG INDICATOR;111233PANELS/ATTACH DOOR-HINGED;	BBB MEDIATED CASE...AFTER MARKET ITEMS HAVE BEEN APPROVED TO CREDIT BY T.HAYWARD...COMPLIANCE DATE IS SEPTEMBER 15, 2006
8/13/2006	1FMEU75E3 [redacted]	Massachusetts	MBEEZER	MICHELLE BEEZER	2006	Explorer LTD 4-Dr. (4X4)	337	Auction	Lemon Law Eligible	610593BUCK/JERK ACCEL ALL ENG TEMP;	FORD DOES NOT HAVE A FIX FOR THE VEHICLE AT THIS TIME.
8/13/2006	1FMFU1756 [redacted]	Nevada	RJOHNS72	REGINA JOHNSON	2005	Expedition Eddie Bauer/King Ranch (4X2)	24,797	Auction	Pre-Litigation	611593HES/STUMBLE ACCEL ALL ENG TEMP;	TIN #38-3116339
8/13/2006	1FMNU40P3 [redacted]	Cal fornia	CHURLEY8	CHRISTOPHER HURLEY	2003	Excursion XLT (4X2)	33,108	Salvage	Lemon Law Eligible	614593LOSS OF PWR ACCEL ALL ENG TEMP;	VEH WAS PURCHASED AS RAV. RAV INSPECTION WAS PERFORMED AT 10,780 MILES
8/13/2006	1FMSU45P3 [redacted]	Cal fornia	RPETTIS	ROCHELLE PETRIS	2003	Excursion Eddie Bauer (4X4)	41,600	Auction	DRP Arbitration Award	497100NOISE ACCESSORY DRIVE;702300UNKNOWN SOURCE NOISE PASS COMP;698200INDICATOR CHECK ENGINE;702200NOISE-UNKNOWN SOURCE NOISE REAR EXTERIOR;	BBB MANDATED CASE...OTHER VEHICLE CONCERNS INCLUDE REAR BUMPER LOWER ON LEFT SIDE, REAR SEAT LOOSE, REVERSE LIGHTS STAY ON, ENGINE SMELL, ENGINE LIGHT, ENGINE NO POWER...COMPLIANCE DATE 09-04-2006
8/13/2006	1FDXE45P9 [redacted]	Florida	JCARUSO3	JENNY CARUSO	2005	E-450 SD Cutaway	16,531	Auction	Discretionary	499500ENGINE GEN CONCERN MECH FAILUR;	

From: Snider, Alex (A.)
Sent: Tuesday, September 13, 2005 12:36 PM
To: Mayer, Paul (P.A.); Repasky, Steve (S.)
Cc: O'Connor, Tammy (T.A.); Menard, Bob (R.J.); Carey, John (J.P.)
Subject: FW: Shudder After Bumps

Importance: High

Paul/Steve, I just received a phone message from Bob Menard in Calgary. He advised that he was speaking with Tom King. Tom stated that we're going the wrong way with caster. He states that we should go to 5 degrees caster to resolve the issue. I don't know if you would like to speak with Tom but I thought I should advise you of this.

Tammy, on a side note, I just finished talking with John Carey (Florida). The vehicle we assisted on is fixed. The tire pressure was at 38-40 psi, the steering damper was replaced and the caster was reduced.

"Accelerate Growth Through Customer Satisfaction and Loyalty"

Alex Snider
Ford Motor Company of Canada
Technical Service Support Specialist
Outlook ID: asnider@ford.com
Dial net: 853-1485
Outside #: 905-845-2511, ext: 1485

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Tuesday, September 13, 2005 11:24 AM
To: Brandt, Andrew (D.)
Cc: Hale, Curt (B.C.); King, Tom (T.F.)
Subject: RE: Shudder After Bumps

Andrew:

I have spoken with Tom King and Alex Snider about Ron's concern (the trucks Ron is referring to are up in Canada) with this issue. We currently have a revised draft that we are circulating for feedback from the FQEs/FSEs.

There are no trucks we have not been able to resolve this issue on, when the revised TSB is followed.

If there are, then someone needs to contact me.

I left a voice mail message for Ron.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thurs,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

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-----Original Message-----

From: Brandt, Andrew (D.)
Sent: Tuesday, September 13, 2005 11:13 AM
To: O'Connor, Tammy (T.A.)
Subject: Shudder After Bumps

Tammy, I was just sorting an issue with Ron Canal in the Southwest Region and he mentioned he is having trouble with F250 SD after going over bumps. He said all other vehicles do fine with a TSB fix but not the 250's. Does this sound familiar?

Andrew Brandt
Ford Customer Service Division
Product Concern Engineer - E Series
Service Engineering Office
416 Diagnostic Service Center II (DSCII)
Phone/Fax: 313-323-2381

From: Hale, Curt (B.C.)
Sent: Monday, November 28, 2005 1:25 PM
To: O'Connor, Tammy (T.A.)
Subject: FW: Steering wheel oscillation concern 2006 F-250

Work with this FSE for resolution if possible.

B. Curtis Hale
FCSD PVT Program Manager
F-Super Duty & Excursion

-----Original Message-----
From: Lien, Rob (R.L.)
Sent: Monday, November 28, 2005 1:17 PM
To: Hale, Curt (B.C.)
Subject: Steering wheel oscillation concern 2006 F-250

Kurt,

I am a field service engineer in the Central Market (Kansas City) and I am currently in the process of assisting a dealership resolve a steering wheel oscillation/feedback concern on a 2006 F-250 King Ranch vehicle, vin:1FTSW21P06E[redacted]. To date the dealership has performed all of the steps listed in TSB 05-22-01 including a steering gear, gear mesh load adjustment and a front alignment to reduce caster which has minimized the severity of the concern, however perceivable oscillation and or sharp steering wheel feedback is still present when the vehicle is driven over uneven pavement.

I realize that the GVW of this vehicle is significantly over 7700 lbs, which dictates that this vehicle will always exhibit a harsher ride than a SUV or passenger car, however the vehicle owner is not willing to accept our explanation that this concern is a consequence of the GVW and class of the vehicle because his prior vehicle, a 2003 F-250 King Ranch, did not demonstrate this particular concern despite the fact that the prior vehicle featured a leaf spring front suspension versus the coil spring front suspension on the 2006 vehicle.

Please let me know if engineering has identified any additional repair options which can be performed to further reduce the steering wheel oscillation/feedback concern on this vehicle.

Thanks in advance,

Robert Lien
Field Service Engineer
Central Market
(913) 481-5489

From: Hale, Curt (B.C.)
Sent: Wednesday, July 26, 2006 8:27 AM
To: O'Connor, Tammy (T.A.)
Cc: Eveland, Marty (M.); Repasky, Steve (S.)
Subject: FW: Steering/suspension shake

Tammy,

Please work with Marty and Steve to see if there is anything we can do for this fleet.

B. Curtis Hale
FCSD PVT Program Manager
F-Super Duty & Excursion

From: Eveland, Marty (M.)
Sent: Tuesday, July 25, 2006 10:23 PM
To: Hale, Curt (B.C.)
Cc: Asay, Larry (L.L.)
Subject: Steering/suspension shake

Hi Curt:

I understand you were very involved with the steering/suspension shake on the 2005+ Superduty trucks. I know how critical tire pressure is in minimizing this issue. I have a fleet, Duke Energy Field Services, in Hobbs, New Mexico with 12 + 5.4L 05 and 06MY trucks. These trucks are used extensively off road and frequently require reducing air pressure to get to some sandy locations off road. The trucks are equipped with air compressors and the employees are suppose to be airing the tires back up to 75-80psi afterwards. The employees and management at the fleet are claiming that the trucks will still exhibit the issue even with the correct tire pressure, although I was not able to verify the condition on a recent visit. The fleet has spent several thousand dollars of their own money trying different tires and installing heavy duty steering shocks on the trucks to eliminate the issue. They say that with the tires and steering shocks, the concern is better, but not resolved. The fleet is looking a way to eliminate this issue even with low tire pressure. The trucks regularly get slow leaks in the tires from the extreme off road environment further hampering the efforts to keep tire pressure up to spec. The fleet is extremely upset at this point and is looking to get into another brand of trucks if this can't be resolved to their expectations. They are even willing to spend their own money if needs be to resolve the concern.

The trucks are mostly 5.4L trucks with 5200 pound springs up front with a modest load in the bed.

*Is there any way to modify/upgrade these trucks to eliminate this issue even with low tire pressure? Different shocks or springs?

Any assistance or information you might provide may help us save some business with this fleet. Thanks for your time!

Marty Eveland
Field Service Engineer
Mountain West Market

From: Choe, Mark (M.J.)
Sent: Monday, December 04, 2006 7:28 PM
To: Repasky, Steve (S.); Gompper, Dan (D.B.)
Subject: FW: Super-Duty RAVs

Attachments: Bump.xls

FYI.

Mark J. Choe
Vehicle Dynamics Manager
Body on Frame Programs

From: Ufford, Donald (D.A.)
Sent: Monday, December 04, 2006 5:40 PM
To: Billups, Bill (B.); Teeley, Nicole (N.); Mayer, Donna (D.P.)
Cc: Choe, Mark (M.J.)
Subject: Super-Duty RAVs

Bill/Nicole/Donna

The attached file has 5 2006 4x4 trucks that we bought back from customers for Shimmy/Bumps

Can one of you get me:
- a more detailed description of the customer issue
- what was done during the attempted repairs
- did they try TSB 06-22-14 or TSB 06-15-1

Thank you

Bump.xls

1FTSW21P06E[redacted]	F-Series	F-250 Crew Cab- Super Duty (4X4)	New	Y
1FTSW21PX6E[redacted]	F-Series	F-250 Crew Cab- Super Duty (4X4)	New	Y
1FTSW21P16E[redacted]	F-Series	F-250 Crew Cab- Super Duty (4X4)	New	Y
1FTSX21P26E[redacted]	F-Series	F-250 Super Cab- Super Duty (4X4)	New	Y
1FTNF21546E[redacted]	F-Series	F-250 Regular Cab- Super Duty (4X4)	New	N

Open	[redacted]	Central	2006
Open		Midwest	2006
Open		California	2006
Open		Midwest	2006
Open		Midwest	2006

NE	Auction	14,437	Lemon Law Eligible	1/23/2006
WI	Auction	19,254	Lemon Law Eligible	5/16/2006
AZ	Auction	17,084	DRP Arbitration Award	7/20/2006
WV	Auction	31,723	Lemon Law Eligible	10/3/2006
WV	Auction	13,140	Lemon Law Eligible	10/3/2006

FINANCE	07116	Anderson Bros Ford L-M	53027	NE
CASH	06360	Griffin Ford Inc	41343	WI
FINANCE	20346	Bradley Ford Lincoln-Mercury	54539	AZ
FINANCE	02067	Jack Garrett Ford Inc	47552	WV
FINANCE	02067	Jack Garrett Ford Inc	47552	WV

Replacement	3/9/2006	$46,213.95	$37,240.16	$8,973.79
Replacement	10/16/2006	$43,309.29	$36,561.86	$6,747.43
Refund	8/9/2006	$41,678.86	$34,980.86	$6,698.00
Replacement	10/23/2006	$34,196.58	$27,143.86	$7,052.72
Replacement	10/17/2006	$25,340.50	$21,603.00	$3,737.50

4/19/2006	5/9/2006	$36,600.00	52203	Reynolds Ford
11/1/2006				
11/1/2006				

6/1/2006	303353-STRG/HNDLNG VIB/SHIMMY BUMPS	5		
	303353-STRG/HNDLNG VIB/SHIMMY BUMPS	4		
	303353-STRG/HNDLNG VIB/SHIMMY BUMPS	1	204219-INSTR/DISPLAY ANALOG ODOMETER	1
	303353-STRG/HNDLNG VIB/SHIMMY BUMPS	6		
	303353-STRG/HNDLNG VIB/SHIMMY BUMPS	3		

		Unable to Repair
401842-OIL SYS LEAKS PCV SYSTEM AREA	1	Number of Repair Attempts
		Number of Repair Attempts
		Number of Repair Attempts
		Number of Repair Attempts

1FTWW33P56E[redacted]	F-350 Crew Cab- Super Duty (4X4) DRW	5KGDE039
1FTSW31P87E[redacted]	F-350 Crew Cab- Super Duty (4X4)	6DCP6012
1FTSX21P77E[redacted]	F-250 Super Cab- Super Duty (4X4)	6HNBI005
1FTRX14W87N[redacted]	F-150 Style Side Super Cab (4X4)	6HNBI005

From: Choe, Mark (M.J.)
Sent: Monday, December 04, 2006 7:28 PM
To: Repasky, Steve (S.); Gompper, Dan (D.B.)
Subject: FW: Super-Duty RAVs

Attachments: Bump.xls

FYI.

Mark J. Choe
Vehicle Dynamics Manager
Body on Frame Programs

From: Ufford, Donald (D.A.)
Sent: Monday, December 04, 2006 5:40 PM
To: Billups, Bill (B.); Teeley, Nicole (N.); Mayer, Donna (D.P.)
Cc: Choe, Mark (M.J.)
Subject: Super-Duty RAVs

Bill/Nicole/Donna

The attached file has 5 2006 4x4 trucks that we bought back from customers for Shimmy/Bumps

Can one of you get me:
- a more detailed description of the customer issue
- what was done during the attempted repairs
- did they try TSB 06-22-14 or TSB 06-15-1

Thank you

Bump.xls (22 KB)

1FTSW21P06E[redacted]	F-Series	F-250 Crew Cab- Super Duty (4X4)	New
1FTSW21PX6E[redacted]	F-Series	F-250 Crew Cab- Super Duty (4X4)	New
1FTSW21P16E[redacted]	F-Series	F-250 Crew Cab- Super Duty (4X4)	New
1FTSX21P26E[redacted]	F-Series	F-250 Super Cab- Super Duty (4X4)	New
1FTNF21546E[redacted]	F-Series	F-250 Regular Cab- Super Duty (4X4)	New

Y	Open	[redacted]	Central
Y	Open		Midwest
Y	Open		California
Y	Open		Midwest
N	Open		Midwest

2006	NE	Auction	14,437	Lemon Law Eligible
2006	WI	Auction	19,254	Lemon Law Eligible
2006	AZ	Auction	17,084	DRP Arbitration Award
2006	WV	Auction	31,723	Lemon Law Eligible
2006	WV	Auction	13,140	Lemon Law Eligible

1/23/2006	FINANCE	07116	Anderson Bros Ford L-M	53027
5/16/2006	CASH	06360	Griffin Ford Inc	41343
7/20/2006	FINANCE	20346	Bradley Ford Lincoln-Mercury	54539
10/3/2006	FINANCE	02067	Jack Garrett Ford Inc	47552
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NE	Replacement	3/9/2006	$46,213.95	$37,240.16
WI	Replacement	10/16/2006	$43,309.29	$36,561.86
AZ	Refund	8/9/2006	$41,678.86	$34,980.86
WV	Replacement	10/23/2006	$34,196.58	$27,143.86
WV	Replacement	10/17/2006	$25,340.50	$21,603.00

$8,973.79	4/19/2006	5/9/2006	$36,600.00	52203
$6,747.43	11/1/2006			
$6,698.00	11/1/2006			
$7,052.72				
$3,737.50				

Reynolds Ford	6/1/2006	303353-STRG/HNDLNG VIB/SHIMMY BUMPS	5	
		303353-STRG/HNDLNG VIB/SHIMMY BUMPS	4	
		303353-STRG/HNDLNG VIB/SHIMMY BUMPS	1	204219-INSTR/DISPLAY ANALOG ODOMETER
		303353-STRG/HNDLNG VIB/SHIMMY BUMPS	6	
		303353-STRG/HNDLNG VIB/SHIMMY BUMPS	3	

1	401842-OIL SYS LEAKS PCV SYSTEM AREA	1

Unable to Repair	1FTWW33[redacted]769	F-350 Crew Cab-Super Duty (4X4) DRW	5KGDE039
Number of Repair Attempts	1FTSW31P[redacted]621	F-350 Crew Cab-Super Duty (4X4)	6DCP6012
Number of Repair Attempts			
Number of Repair Attempts	1FTSX21P7[redacted]81	F-250 Super Cab-Super Duty (4X4)	6HNBI005
Number of Repair Attempts	1FTRX14W[redacted]125	F-150 Style Side Super Cab (4X4)	6HNBI005

From: O'Connor, Tammy (T.A.)
Sent: Monday, December 04, 2006 10:19 AM
To: Hale, Curt (B.C.); Knapp, David (D.); Snider, Alex (A.)
Subject: FW: Trip report of Visit to Duke Energy Field Services Superduty Fleet - Midland, TX. And Hobbs, N.M.

Attachments: 2006 Surperduty Dealer visit-Midland_Tx and Hobbs_NM Rev3.doc

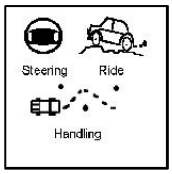
FYI - copy of trip report.

Tammy A. O'Connor
Product Concern Engineer
FCSD Service Engineering Operations
Super Duty F-Series
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Repasky, Steve (S.)
Sent: Monday, December 04, 2006 10:10 AM
To: Ufford, Donald (D.A.); Fass, Alan (A.L.); Asay, Larry (L.L.); O'Connor, Tammy (T.A.); Frantzeskakis, Petros (Peter.)
Cc: Wegienka, Michael (M.J.); Gompper, Dan (D.B.); Choe, Mark (M.J.)
Subject: Trip report of Visit to Duke Energy Field Services Superduty Fleet - Midland, TX. And Hobbs, N.M.

Attached is the subject trip report from our visit to the Duke Energy Field Services fleet on Nov. 8/9 , 2006.

2006 Surperduty Dealer visit-M...



Ford Motor Company

BUILT Ford TOUGH

BoF Vehicle Dynamics Development Report

Subject: Visit to Duke Energy Fields Services Superduty Fleet – Midland, Tx. and Hobbs, N.M. – Nov. 8-9, 2006.

Objective:

To conduct an engineering review of a portion of the Duke Energy Field Services Superduty fleet (Six 2005/06 4x4 vehicles) for a steering wheel oscillation and front end shake concern.

Participants: Ford Motor Company

November 8 -9

Steve Repasky, Supervisor Vehicle Dynamics BoF OPD Vehicle Eng.
Mike Wegienka, Vehicle Dynamics Engineer
Alan Fass, Field Technical Specialist for the Region
Larry Asay, Western Region Fleet manager

Duke Energy Field Services

Duke Energy representatives from Safety/Asset management/Field services

Background:

Duke Energy Field Services is a Ford fleet customer with numerous (~200+) 05/06 Superduty vehicles of various configurations. Drivers have expressed a concern on 4x4 vehicles with steering wheel oscillatory motion and front end shake when travelling over local roads/highways in the ordinary course of their job. Vehicle speeds observed ranged from 55+ MPH on local roads to 75+ MPH on the highway.

The FCSD Western Region fleet manager (Larry Asay) contacted Ford FCSD/Vehicle Dynamics requesting an engineering review of the subject Superduty vehicles. The noted participants visited Duke Energy Field Services in Midland, TX. (Nov. 8) and Hobbs, N.M. (Nov. 9) to review (6) of the concern vehicles. Vehicle specifications and comments are noted on Attachment I.

The customer indicated the vehicle concern still existed even after the published Superduty TSB 06-22-14 had been completed. Part of the TSB emphasizes the need to maintain tire pressures at the specified vehicle placard pressures. Our reviews began with a check of initial tire pressure and setting as required to specified placard tire pressures. After setting to placard tire pressures, we asked the customer to demonstrate the noted concern on "typical" road surfaces. The team of Ford and Duke Energy personnel drove (4) of the (6) vehicles and were unable to clearly demonstrate the complaint condition.

Various vehicle checks and adjustments according to the TSB were completed over the 2 day period. As noted on Attachment I, some vehicle modifications such as adding an additional leaf(s) to the rear springs, use of aftermarket road and steering shocks and non-OE tire replacements had been made.

Prior to our departure, one of the Duke Energy Fields Services drivers who had noted the original concern, evaluated his vehicle after the TSB check and adjustments were made and indicated complete satisfaction with the condition of his vehicle i.e. unable to duplicate the concern. When contacted by Alan Fass on Nov. 14, the driver expressed continued satisfaction with his vehicle.

Conclusion Summary:

The following conclusions were reached by the participants:

1) Full and complete application of the TSB does correct the vehicle shake concern. We were unable to duplicate the expressed concern at vehicle placard specified tire pressures.

2) Maintenance of specified placard tire pressure is difficult to maintain for the fleet operators in the normal course of their field work.

3) Agreement to work with the fleets through FCSD to investigate steering damper improvements to improve robustness of the system to front end shake.

Recommendation:

Continue to work with FCSD and customer Fleet representatives to evaluate any proposed steering damper improvements.

Continue to emphasize to Fleet operators the importance of proper tire inflation pressures.

Date Issued:	**11/17/2006**	**Report Number: 27.60-VD-P131.06-120**		
Prepared by:	**Reviewed by:**	**Circulation:**		
Steve Repasky	Manager	P. Frantzeskakis	T. O'Connor	A. Fass
Mike Wegienka	Mark Choe	D. Ufford	L. Asay	

From: Repasky, Steve (S.)
Sent: Thursday, January 04, 2007 9:05 AM
To: Choe, Mark (M.J.); Gompper, Dan (D.B.)
Cc: Wegienka, Michael (M.J.); Fass, Alan (A.L.); O'Connor, Tammy (T.A.)
Subject: FW: Truck Front Ends

Info....Late last year, we sent Larry ~ (12) 2008 steering dampers/brackets to send to select fleets for trial and confirmation of vehicle improvement.

From: Asay, Larry (L.L.)
Sent: Wednesday, January 03, 2007 10:11 PM
To: 'gkincheloe@nobleenergyinc.com'
Cc: Repasky, Steve (S.)
Subject: RE: Truck Front Ends

Gene, I have some new steering dampers that I would like to install on 3 trucks down in Canadian. Who would be the dealer that they use down there and I will send them out. We would like to have the dealer perform the latest TSB and install these dampers on 3 of your worst trucks to see if they fix the concern.

From: gkincheloe@nobleenergyinc.com [mailto:gkincheloe@nobleenergyinc.com]
Sent: Wednesday, January 03, 2007 7:41 AM
To: Asay, Larry (L.L.)
Cc: gpachner@nobleenergyinc.com
Subject: Re: Truck Front Ends

Yes I did. The trucks in the Weatherford, OK and Canadian, TX area are still experiencing the front end shake. They even brought a truck to the office in Canadian, TX, checked the tire pressure making sure it had at least 75 psi and took the truck on the road. It did not take long for the truck to start the front end shaking. I was also told that a new truck that just arrived in Clinton, OK for out Canadian, TX office was driven to Canadian, TX and experienced the problem as it was on the highway. Let me know if you have any questions.

Gene

Gene Kincheloe
Financial Analyst
Noble Energy Production, Inc.
e-mail: gkincheloe@nobleenergyinc.com
Telephone: (303) 228-4094
Fax: (303) 228-4280
Please note the new e-mail address
Please note the new telephone and fax numbers which are effective Friday, January 13, 2006

"Asay, Larry \(L.L.\)" <lasay@ford.com>

01/02/2007 07:09 PM

To <gkincheloe@nobleenergyinc.com>
cc
Subject Truck Front Ends

Gene did you ever hear anymore from the drivers on Front end shake?

From: Johnston, Steven (S.J.)
Sent: Tuesday, April 24, 2007 9:49 AM
To: Crichton, Mike (M.P.); O'Connor, Tammy (T.A.)
Subject: FW: W JACKSON AND SONS
Attachments: tsb07-05-07.pdf

Tammy can you assist?

Steve Johnston
Product Concern Engineer
Super Duty and Excursion Powertrain
FCSD, Service Engineering Operations
Phone - 313-322-1785

From: **Sent:** Monday, April 23, 2007 6:21 PM
To: Johnston, Steven (S.J.)
Subject: FW: W JACKSON AND SONS

Steven,

Mark contacted me about a shimming problem with a fleet. Is this something you might get involved with, or if not, can you recommend someone?

From: Cooley, Mark (M.S.)
Sent: Thursday, April 19, 2007 2:44 PM
To: Crichton, Mike (M.P.)
Subject: FW: W JACKSON AND SONS

Mike,

Patrick Bridjlall is the fleet manager of this moderate fleet (110 units) and he is deeply concerned with ongoing front end "shimming" problems with his F250 trucks. Patrick does carry loads of approximately 1000 lbs., however, as we both know, we have a TSB on Front-end shimming problems and I believe he is a good candidate for the prescribed repair on each of his 2006/2007 models.

Will you please request a Service Engineer get involved, check a sample of these trucks and recommend the TSB repair with a dependable dealer?

Thank you.

PS, I recently experienced this problem with F250's in Montana - Lewis Carver, Service Engineer did a great job in ensuring local dealers were completing the TSB (with sign-offs, etc) and the fix worked. But, it looks like Carver is no longer on the payroll -

Mark S. Cooley
Select Account Manager East

North American Fleet, Lease and Remarketing
313-390-1596 Fax: 313-594-3006
mcooley@ford.com

From: Redler, Phyllis A [mailto:Phyllis.A.Redler@erac.com]
Sent: Wednesday, April 18, 2007 8:56 AM
To: Cooley, Mark (M.S.)
Subject: RE: W JACKSON AND SONS

His cell phone number is 954-275-2098 Patrick Bridjlall – They have been having numerous problems with the 150-250's jumping….They have over 100 units and
like attention…I am sure that Bill Rhodes must have had a huge file on them..

Thank you,

Phyllis A Redler
Customer Service Representative
Main/ (954) 354-5400Direct/ (954) 354-5450 Fax/ (954) 354-5401
New Email Fax 888-708-5724
Email/ phyllis.a.redler@erac.com
"Complete Customer Satisfaction is My Highest Priority"

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From: Cooley, Mark (M.S.) [mailto:mcooley@ford.com]
Sent: Wednesday, April 18, 2007 8:24 AM
To: Redler, Phyllis A
Subject: RE: W JACKSON AND SONS

Phyllis,

Please provide his contact information - and do you know what his Service issues are?

Mark S. Cooley
Select Account Manager East
North American Fleet, Lease and Remarketing
313-390-1596 Fax: 313-594-3006
mcooley@ford.com

From: Redler, Phyllis A [mailto:Phyllis.A.Redler@erac.com]
Sent: Tuesday, April 17, 2007 3:57 PM

To: Cooley, Mark (M.S.)
Subject: W JACKSON AND SONS

Hi Mark,

Have you had an opportunity to call Patrick at W Jackson and Sons re his service issues?
Thank you,

Phyllis A Redler
Customer Service Representative
Main/ (954) 354-5400Direct/ (954) 354-5450 Fax/ (954) 354-5401
New Email Fax 888-708-5724
Email/ phyllis.a.redler@erac.com
"Complete Customer Satisfaction is My Highest Priority"

Notice: This message may contain confidential and proprietary information, and is only for use by the intended recipient. If you are not the intended recipient, any use or dissemination of this message is strictly prohibited. If you have received this message in error, please notify the sender immediately by reply e-mail. Thank you

STEERING WHEEL OSCILLATION | TSB 07-5-7

FORD:
2005-2007 F-Super Duty

This article supersedes TSB **06-22-14** to update the Service Procedure.

ISSUE

Some 2005-2007 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion), immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on F-250/F-350 4X4 vehicles, and is more evident on trucks equipped with a gas engine.

ACTION

Refer to the following Service Procedure to minimize the steering wheel oscillations on impacts, however, there may be some remaining minor oscillation which would be considered normal.

SERVICE PROCEDURE SUMMARY

1. Set tire pressure and road test vehicle to evaluate vehicle before proceeding with further repairs. If issue is resolved, do not proceed with the rest of this TSB.
2. If concern still exists, install a new steering damper (frame-mounted bracket and steering damper assembly on F-250/F-350 4X4 applications only). For F-250/F-350 4X2 and all F-450/F-550 applications, inspect damper for leaks and replace if necessary, torque steering and suspension fasteners per Workshop Manual.
3. If concern still exists, check front alignment and reduce front caster.
4. Replacement of redundant control steering wheel (if equipped and vehicle built prior to 10/8/2004).

VEHICLE INSPECTION - TIRE PRESSURE

1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

NOTE
SETTING TIRE PRESSURE TO DOOR SPECIFICATION IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE.

ROAD TEST

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the customer's issue.
3. If no issues are identified during the road test, do not proceed with the rest of this TSB.

STEERING DAMPER INSPECTION/REPLACEMENT AND STEERING/SUSPENSION FASTENER TORQUE CHECK

F-250/F-350 4X4 Applications:

1. Remove existing steering damper and frame attachment bracket.
2. Replace steering damper and frame mounting bracket with steering damper P/N 8C3Z-3E651-C and frame bracket P/N 7C3Z-3E652-C.
3. Attach steering damper to frame bracket (with W706196-S439 bolt and W520114-S441 nut) and torque bolt to 76 lb-ft (103 N•m).
4. Assemble bracket and shock assembly to the frame with attachment bolt retainer (W712055-S439) pointing to rear of vehicle. Torque frame bracket nuts (W520114-S441) to 59 lb-ft (80 N•m).
5. Attach other end of shock to the steering drag link and torque to 66 lb-ft (90 N•m).

NOTE: The information in Technical Service Bulletins is intended for use by trained, professional technicians with the knowledge, tools, and equipment to do the job properly and safely. It informs these technicians of conditions that may occur on some vehicles, or provides information that could assist in proper vehicle service. The procedures should not be performed by "do-it-yourselfers". Do not assume that a condition described affects your car or truck. Contact a Ford, Lincoln, or Mercury dealership to determine whether the Bulletin applies to your vehicle. Warranty Policy and Extended Service Plan documentation determine Warranty and/or Extended Service Plan coverage unless stated otherwise in the TSB article.The information in this Technical Service Bulletin (TSB) was current at the time of printing. Ford Motor Company reserves the right to supercede this information with updates.The most recent information is available through Ford Motor Company's on-line technical resources.

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6. Install damper bolt cap (W711570-S300) to assure a friendly surface for the battery cable in case of casual contact.

NOTE
CHECK SURROUNDING ENVIRONMENT TO THE FRAME BRACKET AND DAMPER ASSEMBLY TO ENSURE THAT BATTERY CABLES ARE NOT CONTACTING BRACKET/BOLTS/DAMPER. ALSO, VERIFY THAT TRANSMISSION OIL COOLER LINES HAVE CLEARANCE TO THE DAMPER DUST SHIELD.

F-250/F-350 4X2 And All F-450/F-550 Applications:

1. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.

   a. If leaks are present, install a new steering damper.

Steering/Suspension Fastener Torque Check (4X2 And 4X4)

1. Check torques on the following steering and suspension fasteners and adjust to specification as required (see following Table).

Torque Specification		
Description	**Lb-ft**	**Nm**
Damper nuts (F-250/F-350 4X2)	59	80
Damper-to-bracket (F-250/ F-350 4X4)	76	103
Damper-to-drag link	66	90
Drag link-to-pitman arm nut	129	175
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts and bolts	129	175
Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE
ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE.

FRONT WHEEL ALIGNMENT AND REDUCE FRONT CASTER

NOTE
OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

Measure wheel alignment. Verify that front caster, camber, and total toe are within specification. Adjust as required. Refer to the Workshop Manual, Section 204-00 for complete alignment specifications.

REDUCE FRONT CASTER

- Note the current front caster
- Use alignment adjustment bushings to reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit. Use alignment adjustment bushings

F-250/350 4X4:

- 5C3Z-3B440-CCC (0.5 degree bushing)
- 5C3Z-3B440-DDD (0.75 degree bushing)
- 5C3Z-3B440-EEE (1.0 degree bushing)

F-450/550 4X4 and 4X2:

- 5C3Z-3B440-HHH (0.5 degree bushing)
- 5C3Z-3B440-JJJ (0.75 degree bushing)
- 5C3Z-3B440-KKK (1.0 degree bushing)

F-250/350 4X2:

- 5C3Z-3B440-C (0.5 degree busing)
- 5C3Z-3B440-D (0.75 degree bushing)
- 5C3Z-3B440-E (1.0 degree bushing)

For All 4X4 and for F-450/550 4X2:

- Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward and inboard position (See Figure 1)

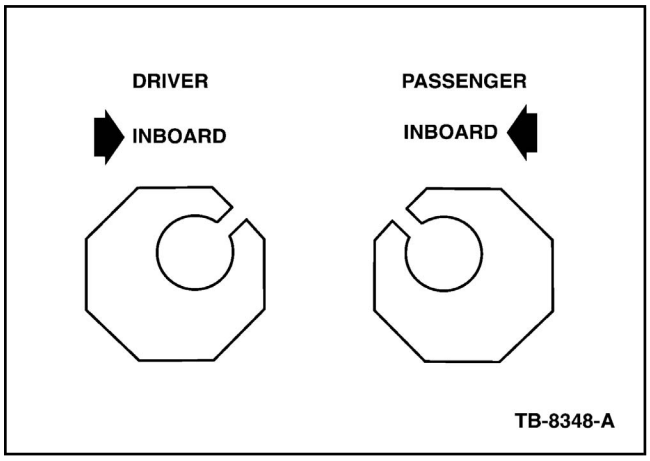

Figure 1 - Article 07-5-7

- This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed
- The final caster and camber settings must be within the specification limits
- Maintain the current front camber, cross-camber and cross-caster settings as close as you possibly can
- Adding weight behind the rear axle lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster

For All F-250/350 4X2:

- Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain that position while moving the caster position forward in the truck
- The final caster and camber settings must be within the specification limits

NOTE
CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 Only

NOTE
THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual, Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE
FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

PART NUMBER	PART NAME
5C7Z-3600-ABA	Redundant Control Steering Wheel Asy (King Ranch Tan/Peb)
5C7Z-3600-CBA	Redundant Control Steering Wheel Asy (Charcoal Black)
5C3Z-3B440-C	F-250/350 4X2 (0.5 degree bushing)
5C3Z-3B440-D	F-250/350 4X2 (0.75 degree bushing)
5C3Z-3B440-E	F-250/350 4X2 (1.0 degree bushing)
5C3Z-3B440-CCC	F-250/350 4X4 (0.5 degree bushing)
5C3Z-3B440-DDD	F-250/350 4X4 (0.75 degree bushing)
5C3Z-3B440-EEE	F-250/350 4X4 (1.0 degree bushing)
5C3Z-3B440-HHH	F-450/550 4X4 and 4X2 (0.5 degree bushing)
5C3Z-3B440-JJJ	F-450/550 4X4 and 4X2 (0.75 degree bushing)
5C3Z-3B440-KKK	F-450/550 4x4 and 4x2 (1.0 degree bushing)
W520117-S441	Nut - Hex - RH Thread
W706196-S439	Bolt
7C3Z-3E652-C	Bracket
5C3Z-3E651-B	Steering Damper (F-250/F-350 4X2)
8C3Z-3E651-C	Steering Damper (F-250/F-350 4X4)
5C3Z-3E651-D	Steering Damper (F-450/F-550)
W711570-S300	Bolt Cap

NOTE
LABOR OPERATIONS IN THIS TSB CAN BE CLAIMED TOGETHER.

NOTE
OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

WARRANTY STATUS: Eligible Under Provisions Of New Vehicle Limited Warranty Coverage IMPORTANT: Warranty coverage limits/policies are not altered by a TSB. Warranty coverage limits are determined by the identified causal part.

OPERATION	DESCRIPTION	TIME
070507A	2005-2007 F-Super Duty: Check Tire Pressure, Road Test To Verify Repair, Concern Resolved, Return To Customer (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	0.4 Hr.

070507B	2005-2007 F-Super Duty: Check Tire Pressure, Road Test To Verify Repair, Concern Not Resolved, Check Steering Damper Replace If Necessary, Verify Proper Torque On Steering Components, Road Test If Concern Is Resolved Return To Customer (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	1.4 Hrs.
070507C	2005-2007 F-Super Duty 250/350 4X4 DUAL REAR WHEEL: Check And Adjust Front Wheel Alignment, This Labor Operation Can Be Claimed With Operation B Only (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	2.1 Hrs.
070507C	2005-2007 F-Super Duty 250/350 4X2 DUAL REAR WHEEL: Check And Adjust Front Wheel Alignment, This Labor Operation Can Be Claimed With Operation B Only (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	1.9 Hrs.
070507C	2005-2007 F-Super Duty F450/550 4X2/4X4 DUAL REAR WHEEL: Check And Adjust Front Wheel Alignment, This Labor Operation Can Be Claimed With Operation B Only (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	2.3 Hrs.
070507C	2005-2007 F-Super Duty 250/350 4X2 SINGLE REAR WHEEL: Check And Adjust Front Wheel Alignment, This Labor Operation Can Be Claimed With Operation B Only (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	1.5 Hrs.
070507C	2005-2007 F-Super Duty 250/350 4X4 SINGLE REAR WHEEL: Check And Adjust Front Wheel Alignment, This Labor Operation Can Be Claimed With Operation B Only (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	1.8 Hrs.
070507D	2005-2007 F-Super Duty With Redundant Steering Control Built Prior To 10-8-2004: Replace Steering Wheel, Includes Time To Depower And Repower The Supplemental Restraints System Can Be Claimed With Operation A Or B (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	0.7 Hr

DEALER CODING

BASIC PART NO.	CONDITION CODE
(OPERATION A) NPF	82
(OPERATION B) 3E651	42
(OPERATION C) FRONT	W6
(OPERATION D) 3600	42

From: Crichton, Mike (M.P.)
Sent: Wednesday, April 25, 2007 5:24 PM
To: O'Connor, Tammy (T.A.)
Subject: FW: W JACKSON AND SONS

Tammy,

Here is the info on Jackson & Sons. Thanks for your help.

From: Cooley, Mark (M.S.)
Sent: Wednesday, April 25, 2007 8:48 AM
To: Crichton, Mike (M.P.)
Subject: RE: W JACKSON AND SONS

Mike,

W. Jackson & Sons Construction is located in Pompano Beach - 1888 NW 21st Street, Pompano Beach, FL 33069 - contact name: Patrick Bridjlall patrick.bridjlall@wjsonco.com

Thank you,

M

Mark S. Cooley
Select Account Manager East
North American Fleet, Lease and Remarketing
313-390-1596 Fax: 313-594-3006
mcooley@ford.com

From: Crichton, Mike (M.P.)
Sent: Tuesday, April 24, 2007 11:56 AM
To: Cooley, Mark (M.S.)
Subject: FW: W JACKSON AND SONS

Mark,

Can you let us know where the fleet is located and who the contact person is? Once we have that, Tammy will contact them.

Thanks

From: O'Connor, Tammy (T.A.)
Sent: Tuesday, April 24, 2007 10:56 AM
To: Johnston, Steven (S.J.); Crichton, Mike (M.P.)
Subject: RE: W JACKSON AND SONS

I need to know exactly where this fleet is located. Then I can get you in touch with the correct

person.

Tammy A. O'Connor
Product Concern Engineer
FCSD Service Engineering Operations
Super Duty F-Series
Body / Chassis / Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSC I, Cube 149 (Tuesday,Wednesday)

From: Johnston, Steven (S.J.)
Sent: Tuesday, April 24, 2007 9:49 AM
To: Crichton, Mike (M.P.); O'Connor, Tammy (T.A.)
Subject: FW: W JACKSON AND SONS

Tammy can you assist?

Steve Johnston
Product Concern Engineer
Super Duty and Excursion Powertrain
FCSD, Service Engineering Operations
Phone - 313-322-1785

From: **Sent:** Monday, April 23, 2007 6:21 PM
To: Johnston, Steven (S.J.)
Subject: FW: W JACKSON AND SONS

Steven,

Mark contacted me about a shimming problem with a fleet. Is this something you might get involved with, or if not, can you recommend someone?

From: Cooley, Mark (M.S.)
Sent: Thursday, April 19, 2007 2:44 PM
To: Crichton, Mike (M.P.)
Subject: FW: W JACKSON AND SONS

Mike,

Patrick Bridjlall is the fleet manager of this moderate fleet (110 units) and he is deeply concerned with ongoing front end "shimming" problems with his F250 trucks. Patrick does carry loads of approximately 1000 lbs., however, as we both know, we have a TSB on Front-end shimming problems and I believe he is a good candidate for the prescribed repair on each of his 2006/2007 models.

Will you please request a Service Engineer get involved, check a sample of these trucks and recommend the TSB repair with a dependable dealer?

Thank you.

PS, I recently experienced this problem with F250's in Montana - Lewis Carver, Service Engineer did a great job in ensuring local dealers were completing the TSB (with sign-offs, etc) and the fix worked. But, it looks like Carver is no longer on the payroll -

Mark S. Cooley
Select Account Manager East
North American Fleet, Lease and Remarketing
313-390-1596 Fax: 313-594-3006
mcooley@ford.com

From: Redler, Phyllis A [mailto:Phyllis.A.Redler@erac.com]
Sent: Wednesday, April 18, 2007 8:56 AM
To: Cooley, Mark (M.S.)
Subject: RE: W JACKSON AND SONS

His cell phone number is 954-275-2098 Patrick Bridjlall – They have been having numerous problems with the 150-250's jumping….They have over 100 units and
like attention…I am sure that Bill Rhodes must have had a huge file on them..

Thank you,
Phyllis A Redler
Customer Service Representative
Main/ (954) 354-5400Direct/ (954) 354-5450 Fax/ (954) 354-5401
New Email Fax 888-708-5724
Email/ phyllis.a.redler@erac.com
"Complete Customer Satisfaction is My Highest Priority"

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From: Cooley, Mark (M.S.) [mailto:mcooley@ford.com]
Sent: Wednesday, April 18, 2007 8:24 AM
To: Redler, Phyllis A
Subject: RE: W JACKSON AND SONS

Phyllis,

Please provide his contact information - and do you know what his Service issues are?

Mark S. Cooley
Select Account Manager East
North American Fleet, Lease and Remarketing

313-390-1596 Fax: 313-594-3006
mcooley@ford.com

From: Redler, Phyllis A [mailto:Phyllis.A.Redler@erac.com]
Sent: Tuesday, April 17, 2007 3:57 PM
To: Cooley, Mark (M.S.)
Subject: W JACKSON AND SONS

Hi Mark,

Have you had an opportunity to call Patrick at W Jackson and Sons re his service issues?
Thank you,

Phyllis A Redler
Customer Service Representative
Main/ (954) 354-5400Direct/ (954) 354-5450 Fax/ (954) 354-5401
New Email Fax 888-708-5724
Email/ phyllis.a.redler@erac.com
"Complete Customer Satisfaction is My Highest Priority"

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From: Norton, John (J.K.)
Sent: Thursday, September 29, 2005 12:39 PM
To: Liskey, Marcus (M.E.)
Cc: Johnston, Steven (S.J.); Hale, Curt (B.C.); O'Connor, Tammy (T.A.)
Subject: FW: Wisconsin Super-Duty

Marc,

Can you provide us with the background on this vehicle and the reasons why it was bought back. Please give me a call when you get a chance! Thanks!

Regards,

John Norton

Manager, Pickup Truck & Commercial Platforms
Customer Service Engineering
Ford Customer Service Division
Phone: (313) 337-3639
Email: jnorton@ford.com

-----Original Message-----
From: Billups, Bill (B.)
Sent: Thursday, September 29, 2005 9:05 AM
To: Johnston, Steven (S.J.)
Cc: Hale, Curt (B.C.); Norton, John (J.K.)
Subject: RE: Wisconsin Super-Duty

Steve,

Not sure as to what information you are looking for. I am limited to whatever the requester (Marcus Liskey-mliskey) placed in the upload as the reason for the buyback of the vehicle. Based on this information, the vehicle was bought back due to 6 repair attempts for a steering/handling issue. (symptom code 303156)

Below is a copy of the AWS repair history. I would suggest contacting either Marcus (Requester) or the servicing dealer, Gordie Boucher Ford L-M of Janesville, NC, Inc. (608-754-5511) for detailed information pertaining to the vehicle and or customer. Ler me know if you need anything else from me.

http://www.quality.ford.com/aws/cgi-bin/jlu/clmlist20.pl?srvr=eccdb2x&modelyr=2005&vin_cd=1FTSW21575[redacted]

Regards,

Bill Billups
RAV Analyst
FCSD - Consumer Affairs
PH: (313)845-5708 F: (313)337-3167
Email: bbillups@ford.com

-----Original Message-----
From: Johnston, Steven (S.J.)
Sent: Thursday, September 29, 2005 8:05 AM
To: Billups, Bill (B.)

Cc: Hale, Curt (B.C.); Norton, John (J.K.)
Subject: FW: Wisconsin Super-Duty

Bill, could you please send any documentation or information you have on this RAV please, it has become a hot topic, thanks. 1FTSW21575[redacted]

Steve Johnston
Product Concern Engineer
Super Duty and Excursion Powertrain
FCSD, Service Engineering Operations
Phone - 313-322-1785

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Wednesday, September 28, 2005 5:33 PM
To: Carpender, Mark (M.A.)
Cc: Johnston, Steven (S.J.); Norton, John (J.K.); Hale, Curt (B.C.)
Subject: RE: Wisconsin Super-Duty

Mark: Can you provide any additional detail on this truck?

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Wed,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Thursday)

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-----Original Message-----
From: Johnston, Steven (S.J.)
Sent: Wednesday, September 28, 2005 4:16 PM
To: Norton, John (J.K.); Hale, Curt (B.C.); O'Connor, Tammy (T.A.)
Subject: RE: Wisconsin Super-Duty

Here's all the info I found, I was never involved. Read the FSE's comments in the CQIS report, interesting, I never heard of any one else having this issue and a lot of people tow with these things.

<< Message: Report Summary for the CQIS Report#[redacted] >> << File: Claims List Report.htm >>

Steve Johnston
Product Concern Engineer
Super Duty and Excursion Powertrain
FCSD, Service Engineering Operations
Phone - 313-322-1785

-----Original Message-----
From: Norton, John (J.K.)

Sent: Wednesday, September 28, 2005 4:01 PM
To: Hale, Curt (B.C.); Johnston, Steven (S.J.); O'Connor, Tammy (T.A.)
Subject: FW: Wisconsin Super-Duty

FYI.. More info.

Regards,

John Norton

Manager, Pickup Truck & Commercial Platforms
Customer Service Engineering
Ford Customer Service Division
Phone: (313) 337-3639
Email: jnorton@ford.com

-----Original Message-----
From: Repasky, Steve (S.)
Sent: Wednesday, September 28, 2005 3:58 PM
To: Ufford, Donald (D.A.); Perri, Ron (R.J.); Jammoul, Ali (A.); Choe, Mark (M.J.); Norton, John (J.K.)
Cc: Mayer, Paul (P.A.); Hatt, Jeffrey (J.M.); Hale, Curt (B.C.)
Subject: RE: Wisconsin Super-Duty

Attached is a **draft** summary of known events for the subject vehicle. Some prior e-mail correspondence may have occurred without my knowledge. Please review and revise as appropriate. Thanks..

<< File: Janesville buyback vehicle.xls >>

-----Original Message-----
From: Ufford, Donald (D.A.)
Sent: Wednesday, September 28, 2005 2:35 PM
To: Perri, Ron (R.J.); Jammoul, Ali (A.); Choe, Mark (M.J.); Repasky, Steve (S.); Norton, John (J.K.)
Subject: FW: Wisconsin Super-Duty

If in fact this truck is as nice as stated below, I am not happy that it was an RAV.

I would like to have an audio with the FSE that was involved in trouble shooting this truck so I can understand exactly how we interacted with the customer and the dealership. My recollection of the features and options tells me that the customer used to have a 6.8L with the camper package……he saved some money and bought a 5.4L without a camper package when we did not have big rebates…..once the big rebates came on, he wanted out from under the truck so he could take advantage of the new rebates and did it by saying his new truck (lower functional option content) did not perform as well as his old truck (higher functional option content).

Steve - you have the lead to pull together the facts so we all can get on the same page and determine how to avoid this in the future.

-----Original Message-----
From: Repasky, Steve (S.)
Sent: Wednesday, September 28, 2005 9:57 AM
To: Ufford, Donald (D.A.)
Cc: Baghdoian, Mitch (M.R.); Choe, Mark (M.J.); Mayer, Paul (P.A.)
Subject: RE: Wisconsin Super-Duty

Don - Mitch evaluated the buyback vehicle at MPG as received both with and without a trailer. His summary is noted below. All indications point to low Right Rear tire pressure as the potential root cause however, it seems the dealer would have checked tire pressure as one of the first items to repair. Vehicle has been returned to Dearborn. If desired, I will locate vehicle and keys for your evaluation. Thanks..

Subject: Grey F350 Findings

156" 4x4 5.4L Auto 19800 miles

275/70/18 Conti A/T Tires	Specs
LF- 63psi	65
LR- 62	65
RF- 62	75
RR- 23	75

Rear Spring- FA
Rear Shocks (FX4)- KCE
Rear Bar - 29mm

Front Spring- AGB
Front Shocks (FX4)- PCD

Track Bar Bracket - 3 horiz bolts slightly loose, everything else tight

Alignment:
0.02 toe in
0.11 cross caster
0.18 cross camber

Clear vision off to left
Drifts left out of lane in 5 sec
Secondary Shake- lots

Trailer Tow- perfect, great lateral stiffness and damping, did 87mph (vmax) double lane changes no problem with and without load bars

Loading for trailer tow (load bars off, no driver):	Customer Loading
3630 front axle	3740
4040 rear axle	4320
6940 trailer axles	6780

-Mitch Baghdoian
F-Series Vehicle Dynamics

-----Original Message-----
From: Ufford, Donald (D.A.)
Sent: Monday, September 26, 2005 12:36 PM
To: Repasky, Steve (S.)
Subject: Wisconsin Super-Duty

Did you drive the buy-back truck and what was it like?

Can I drive it some time.

From: Asay, Larry (L.L.)
Sent: Monday, October 30, 2006 1:35 PM
To: Hale, Curt (B.C.)
Cc: Kachel, Victor (V.R.); Johnson, Ernita (E.D.); Trest, Jim (W.J.)
Subject: FW: Anadarko - Vehicle Steering Oscillation - Vernal, UT

Curt, Vic Kachel (Fleet Sales) just received a call from Duke Energy. They're legal department has told them to park all of their F-Super Duties (250-300) because they are worried about safety issues with the Front end Shimmy. He was told that if Ford doesn't do something to get this repaired among other things they will turn the fleet to GM.
Vic and I also have a meeting with Barrick Gold Strike this Wednesday and the first thing that is on their list is Front End Shimmy and what they are doing to correct the issue. They would like Ford to do the same in production.
Also see below the chain of notes concerning another fleet with the issue.

From: Trest, Jim (W.J.)
Sent: Friday, October 27, 2006 6:39 AM
To: Valicevic, David (D.M.)
Cc: 'Mapula, Valerie - Anadarko'; Kachel, Victor (V.R.)
Subject: RE: Anadarko - Vehicle Steering Oscillation - Vernal, UT

David, I ran all of the VINs in our AWS system to see what work had been performed under warranty at the dealerships. There were no reports of this concern at the dealerships during the warranty period. There were individual reports of other concerns on some of the vehicles such as check engine light on. Most of the service seems to be performed at Showalter Motor Company in Utah.

I will enter reports of this concern in the Ford system. I suggest that the vehicles be taken to a dealership, such as Showalter, and have the TSB performed. If a conern still exists, the dealer can contact the technical hotline for assistance to possibly include a request for a field service engineer.

The notes indicate that that Larry Asay, our local commercial field manager has also provided assistance. If a concern still exists, I will work with the dealer and technical hotline to provide assistance. The next step for the fleet is to get the dealer and technical hotline actively involved.

Jim

W. J. (Jim) Trest, Jr., PMP
Select Fleet Manager (EAST)
Ford Commercial Vehicle Operations
1-800-34 Fleet, Option #3, Pick 4
Customer Satisfaction is our priority!
Alt: **(313) 317-1869** web: **www.fleet.ford.com**
http://www.genuineservice.com/default.asp

From: Valicevic, David (D.M.)
Sent: Friday, October 27, 2006 7:26 AM
To: Trest, Jim (W.J.)
Cc: 'Mapula, Valerie - Anadarko'; Kachel, Victor (V.R.)
Subject: Anadarko - Vehicle Steering Oscillation - Vernal, UT
Importance: High

Jim, here are the associated VINs. Please keep us informed of your direction/guidance. Let me know if you need anything else.

Thanks!

David Valicevic
Ford North American Fleet, Lease and Remarketing -
Houston/San Antonio/Austin/Louisiana Markets
E -mail: dvalicev@ford.com
Website: http://www.fleet.ford.com
Phone: (936) 321-6617 Fax: (936) 273-6611 Cell: (936) 203-1794

From: Kachel, Victor (V.R.)
Sent: Thursday, October 26, 2006 3:03 PM
To: Valicevic, David (D.M.)
Subject: FW: Anadarko - Vehicle Steering Oscillation - Vernal, UT

Here are the vins you can forward to the parts and service guys.

-----Original Message-----
From: Aruanno, Donna [mailto:DAruanno@arifleet.com]
Sent: Thursday, October 26, 2006 11:03 AM
To: 'Bartels, Calvin'
Cc: Kachel, Victor (V.R.); Valicevic, David (D.M.); 'valerie.mapula@anadarko.com'
Subject: RE: Anadarko - Vehicle Steering Oscillation - Vernal, UT

SERIAL # 1FTSX21575E[redacted]
ODOMETER 30,356 AS OF 10/06

SERIAL # 1FTSX21565E[redacted]
ODOMETER 60,588 AS OF 10/06

SERIAL # 1FTSX21595E[redacted]
ODOMETER 53,289 AS OF 10/06

SERIAL # 1FTSX21555E[redacted]
ODOMETER 37,882 AS OF 10/06

SERIAL # 1FTSX21506E[redacted]
ODOMETER 18,051 AS OF 10/06

SERIAL # 1FTSX21566E[redacted]
ODOMETER 22,953 AS OF 10/06

SERIAL # 1FTSX21566E[redacted]
ODOMETER 13,304 AS OF 10/06

SERIAL # 1FTSX21506E[redacted]

ODOMETER 9,305 AS OF 10/06

Donna Aruanno
Fleet Administration
856-914-7508
Fax 856-914-7607
daruanno@arifleet.com

From: Kachel, Victor (V.R.) [mailto:vkachel@ford.com]
Sent: Wednesday, October 25, 2006 9:34 AM
To: Bartels, Calvin
Subject: RE: Anadarko - Vehicle Steering Oscillation - Vernal, UT
Hi, Cal. If you'll please send the vins, it'll help get things rolling. We cannot identify ari or internal unit numbers.

Thanks for your note about the transfer to Houston for fleet ops. If that's the case, then my counterpart David Valicevic will handle the account and any service related issues since he calls on Anadarko. I've updated him on this situation and I'll forward any vins you can send over to him and the service guys.

Please let me know when the transfer is complete and you're no longer involved in the fleet ops and I'll officially transfer everything to David. From the sound of your note, it sounds like you'll still be with the company but just in a different roll…

Thanks for your help and thanks for your business.

Vic Kachel
National Account Manager
Ford Motor Company
6312 South Fiddler's Green Circle
suite 503 East
Englewood, CO 80111
Phone 303-694-8709
Fax 303-804-8280

From: Kachel, Victor (V.R.)
Sent: Wednesday, October 25, 2006 10:50 AM
To: Valicevic, David (D.M.)
Subject: RE: Anadarko - Vehicle Steering Oscillation - Vernal, UT

I've asked the customer for vins and will forward them asap.

From: Valicevic, David (D.M.)
Sent: Wednesday, October 25, 2006 9:52 AM
To: Kachel, Victor (V.R.); Trest, Jim (W.J.)
Cc: Byers, Michael (M.R.); Asay, Larry (L.L.)
Subject: Anadarko - Vehicle Steering Oscillation - Vernal, UT
Importance: High

Vic, pasted your note to the previous note string for a unit in Utah…waiting on some VINs.

Jim, you may want to contact Larry on this one.

From: Bullock, Shayn
Sent: Wednesday, October 25, 2006 7:37 AM
To: Mapula, Valerie

Cc: Bartels, Calvin; Freeman, Joe; Salazar, Rick; Bullock, Shayn; Bonnie, Mark; DeHerrera, Charlie; Braithwaite, B.J.; Allen, Chuck; Hixson, Jordan; McPherson, Steve
Subject: RE: Anadarko - Vehicle Steering Oscillation - Vernal, UT
Val,

We are still working on getting the info you requested. I have checked through the ARI Web page and came up with seven so far that have had their steering damper / Shock replaced. Unit number 010560, 010502, 010545, 010568, 010583, 010645, 010697. [redacted] vehicle is at Showalter Ford now for this steering problem. Its unit # is 010707 so this makes eight vehicles.

There will be more as we round up the near miss safety reports and this will give us an idea of the ones that Ford repaired on warranty. I will let you know on them soon and give you a complete list.

Thanks Val

David "Shayn" Bullock
Operations Support Foreman
Anadarko Petroleum Corp.
1368 South 1200 East
Vernal, Utah 84078
Phone 435-781-706[redacted]7
Fax 435-781-7092
Shayn.Bullock@anadarko.com

From: Kachel, Victor (V.R.)
Sent: Tuesday, October 24, 2006 6:45 PM
To: Byers, Michael (M.R.); Valicevic, David (D.M.); Asay, Larry (L.L.)
Subject: Vehicle steering oscillation

This is another report of shaking front end problems from Kerr McGee/Anadarko.

We have met with them about this and presented them with the TSB's and Larry Asay has tried to help them resolve the problem.

Just to reiterate, there are multiple customers who have expressed this concern. We have a meeting with a great Ford customer over in NV next week to look at this same issue. This problem will cause us to lose business as fleets are saying it's a safety concern.

The customer in NV has designed a fix for this that involves two steering dampners. I'd be happy to send in pictures to engineering if that would be helpful. They say the fix costs about $300 but it works.

From: Mapula, Valerie
Sent: Monday, October 23, 2006 8:35 AM
To: Bullock, Shayn
Subject: FW: Anadarko - Vehicle Steering Oscillation - Vernal, UT
Importance: High

FYI - Response from Ford Rep in Houston.

Valerie Mapula
ANADARKO PETROLEUM
Office 281-673-6306
Fax 281-673-4306
[redacted]

From: Valicevic, David (D.M.)
Sent: Thursday, October 19, 2006 7:08 PM
To: 'Mapula, Valerie - Anadarko'; Trest, Jim (W.J.)
Cc: 'Harvin, Barbara - Anadarko'
Subject: Anadarko - Vehicle Steering Oscillation - Vernal, UT
Importance: High

Val, as discussed, please reply all with the associated VINs with their respective mileages. Jim Trest is your fleet service representative and he will investigate this situation and let us know how we will resolve the apparent on-going problem.

Jim, Valerie is the new fleet administrator for Anadarko.

From: Mapula, Valerie [mailto:Valerie.Mapula@anadarko.com]
Sent: Thursday, October 19, 2006 1:38 PM
To: Valicevic, David (D.M.)
Cc: Bullock, Shayn; Harvin, Barbara
Subject: Anadarko - Vehicle Steering Oscillation - Vernal, UT
Importance: High

Hi David, I am following-up on a voicemail I left you earlier regarding a vehicle steering oscillation problem we were encountering in the Vernal, UT area on the F250 3/4 ton Super Duty trucks. Attached is a copy of the Technical Service Bulletin on Steering Wheel Oscillation.

Based on feedback from the field, repairs are temporary before the problems begin to reoccur.

Can you assist with a follow-up to your contact in UT to see if there is something that we may need to evaluate further or can you direct me to your service rep for guidance on how to isolate or manage the steering problem on our vehicles?

Please advise. Thanks.

<<STEERING DAMPER tsb06-15-01.pdf>>

Valerie Mapula
ANADARKO PETROLEUM
Office 281-673-6306
Fax 281-673-4306
[redacted]

From: Mapula, Valerie
Sent: Thursday, October 19, 2006 1:06 PM
To: Bullock, Shayn
Subject: RE: Vehicle steering oscillation
Importance: High

Hi Shayn, please let me know when we get the maintenance reports and the near miss reports in hand.

I have contacted our Ford contact in Houston to see if he can help follow-up on the problem with his contacts in Vernal, but have I am still waiting on his return call.

I am certain I will need your documentation to help him evaluate our situation, especially the maintenance records and the vin numbers for the vehicles in question.

Please keep me posted. Thanks. Val.

From: Bullock, Shayn
Sent: Thursday, October 19, 2006 1:01 PM
To: Mapula, Valerie; Bartels, Calvin
Cc: Bayne, Randy; McPherson, Steve; Williams, Alan; Salazar, Rick; Estes, Carroll; Hixson, Jordan; Bonnie, Mark; Braithwaite, B.J.; DeHerrera, Charlie; Allen, Chuck

Subject: Vehicle steering oscillation

Val,

Just confirming our conversation this morning about the problem we are having with the Ford trucks and the steering oscillation problem. This has been going on for some time and we have been in contact with Cal Bartels and Vic Kachel the local Ford Fleet Rep. and the answer we got from Ford is the Technical Service Bulletin attached below for trying to solve the problem. We are trying to get a copy of the work orders from Showalter Ford which is the Ford dealer here locally and trying to see just how many trucks have been brought in for this problem and what they are doing to correct it. We are also having all the drivers that have had this problem fill out a near miss report and submitting it to Rick Salazar which is our local safety specialist.

The incident yesterday with Randy Clowards vehicle was severe enough it almost caused an accident. He has since dropped it off at Showalter Ford to see if they can correct it. His truck has around 700 pounds of weight in the bed so we do not think it is a weight issue and it has only 9000 miles on it. We have other report of this happening to vehicles with only 400 miles on them.

The issues I have heard of is that they take them into the dealer and it stops for a short time but then the oscillation starts up again. With them only replacing the steering damper.

We have contacted Alan Williams to get him involved since he is our regional EH&S manager to make him be aware of the problem we are having. We are considering this a safety issue now and hope with your help we can get this problem resolved soon.

Let me know if there is anything I can do.

Thanks for your help.

<< File: STEERING DAMPER tsb06-15-01.pdf >>

Please note my E-Mail Address has changed. Please update your contact list

---

Anadarko Confidentiality Notice:
This electronic transmission and any attached documents or other writings are intended only for the person or entity to which it is addressed and may contain information that is privileged, confidential or otherwise protected from disclosure. If you have received this communication in error, please immediately notify sender by return e-mail and destroy the communication. Any disclosure, copying, distribution or the taking of any action concerning the contents of this communication or any attachments by anyone other than the named recipient is strictly prohibited.

From: Norton, John (J.K.)
Sent: Tuesday, October 31, 2006 9:51 AM
To: Hale, Curt (B.C.)
Subject: FW: Barrick Thursday meeting

Curt,

Have you been involved with this issue? Please call me to discuss before I call Mark.

Regards,

John Norton

Manager, Pickup Trucks & SUV's
Truck Service Engineering
Ford Customer Service Division
Phone: (313) 337-3639
Email: jnorton@ford.com

From: Witthar, Mark (M.B.)
Sent: Tuesday, October 31, 2006 8:44 AM
To: Norton, John (J.K.)
Cc: Witthar, Mark (M.B.)
Subject: FW: Barrick Thursday meeting

I need your assistance with this concern.

As you can see from the attached the front-end shake and shimmy issue is getting to be problem in the field.

Please read the attached notes - you can see that some customers are starting to buy other brands of trucks as a result. We have been working with your team on this and performing the TSB but as you can see on some units it appears to be coming back.

My request is that someone from Service Engineering accompany my CAFM, Larry Asay on a contact at Barrick and possibly Duke Energy to address this concern with the customer.

Please call me so we can discuss.

Thanks.

Mark Witthar
Commercial Vehicle Operations Manager
Phone: (313) 248-3882
Fax: (313) 248-3444
Cell: (313) 595-0226

From: Asay, Larry (L.L.)
Sent: Monday, October 30, 2006 5:04 PM
To: Kachel, Victor (V.R.); Byers, Michael (M.R.)
Cc: Witthar, Mark (M.B.); Johnson, Ernita (E.D.); Eveland, Marty (M.)
Subject: RE: Barrick Thursday meeting

I flew down there with Adam and we performed the TSB on their worst truck. The concern did go away however the driver complained that the problem came back. At that time I had Marty Eveland (FSE) drive some other trucks that had the issue. He had to air the tires up and drove them without a problem. They still say the concern comes back and that's the issue. I believe that the concern will go away if the dampener is healthy and the tires are aired up, however the customer is airing the tires down to go out and service oil pumps on sandy roads. They have an air compressor in the back of the truck that they can air the tires up with when they get back out to the pavement. I think that they are not doing this. Problem is they are not the only fleet complaining of this and some like Barrick are still having the issue with the TSB performed per their words.

From: Kachel, Victor (V.R.)
Sent: Monday, October 30, 2006 2:40 PM
To: Byers, Michael (M.R.)
Cc: Asay, Larry (L.L.); Kachel, Victor (V.R.)
Subject: RE: Barrick Thursday meeting

I just saw Adam…he said that their 'committee' is serious about this. AND now they've started raising the issue on F350 as well. This had been limited to F250's up to this point, but it's starting to spread.

He said that Conoco-Phillips (partners with Duke in many areas of pipeline), Duke Energy Field Services, and the Texas Railroad Commission (they have a fleet of trucks because they monitor pipeline right of ways in TX) are all having the same problems with front end shake and the lawyers are calling it a safety issue.

Mike, Thanks for your note to the product and service groups. I'm confident that they'll be able to provide us with guidance and a solution to this to keep these customers buying Fords.

Duke has 200+ F250's and those are the trucks that they are talking about having to replace with other OEM product (possibly as soon as next week).

Larry Asay has been involved in this investigation for a long time and I'm cc'ing him on this note as well.

Larry, I think Adam indicated that you'd sent a FSE to some of their operations to check their trucks earlier this year…maybe those findings would be helpful.

We need to work with Ron Edelen (Adam's boss) to make sure they know about all these kinds of

investigations and results of the investigations.

I am calling Ron this afternoon to let him know that we'll put product and CVO resources into this and get it resolved.

Thanks!

Vic Kachel
National Account Manager
Ford Motor Company
6312 South Fiddler's Green Circle
suite 503 East
Englewood, CO 80111
Phone 303-694-8709
Fax 303-804-8280

This communication contains confidential information which is intended only for the use of the addressee. It may contain Privileged and Confidential information that is protected. Copying or distribution of this communication by persons other than the addressee is proh bited. If you have received this communication in error, please notify us immediately by telephone and destroy the original message and any attachments. Thank you.

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From: Byers, Michael (M.R.)
Sent: Monday, October 30, 2006 1:08 PM
To: Witthar, Mark (M.B.)
Cc: Kachel, Victor (V.R.); Michon, Jim (J.B.); Bedard, Michael (M.R.); Koss, Gerald (G.N.)
Subject: FW: Barrick Thursday meeting
Importance: High

Mark, although this is not a new issue, it has reached a critical point where it is costing Ford business. We have many loyal Ford customers who believe we are walking away from the problem. We either have to change customer perceptions, find an engineering fix, or accept the fact that customers will buy competitive products.

Your insights are welcome. Do you know if there have been any changes to the 08 Super Duty which would correct the front end shaking issue?

Mike Byers

Western Regional Sales Manager
North American Fleet, Lease, and Remarketing Operations
313-390-0974

From: Kachel, Victor (V.R.)
Sent: Monday, October 30, 2006 11:58 AM
To: Byers, Michael (M.R.)
Cc: Michon, Jim (J.B.)
Subject: Barrick Thursday meeting
Importance: High

Hi, Mike and Jim.

Here are a list of concerns that Barrick Gold has identified. They are once again raising the issue of the front end shaking among other things. Please forward this to the engineering community so we can look at solutions for these things.

This has been ongoing for the past year with many customers. Today I learned that Duke Energy Field Services will be parking 200+ Ford super duty trucks and will be forced by their lawyers to buy GM's if we cannot provide them with some sort of 'fix' for this.

Barrick says they've come up with a stabilizer system that will fix the problem. We will see them on Thursday and I'll take pictures of their solution.

Thanks for your help.

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From: Hicks, Farley (GoldStrike) [mailto:FHicks@barrick.com]
Sent: Monday, October 30, 2006 11:21 AM
To: Asay, Larry (L.L.); Kachel, Victor (V.R.)
Subject: Thursday meeting

Larry & Vic,
Here's a heads up on some of the questions the reps from the new Barrick sites will have for you. The first two are genuine safety concerns. The others are more maintenance and convenience issues.

#1 on the list will be, what has been done on the 2008 Super Duty to correct the front end shaking issue?
While airing the tires to a higher pressure drastically reduces the problem, it continues to be an issue.

#2 is the external fuel pump module is located in a position where it is exposed to gravel coming up from the wheels and,
when damaged, has caused vehicles to loose power, making steering and braking very difficult. The potential for
accidents exists under these conditions.

#3 is the carbon filter canister location. The canister gets filled with mud, making in nearly impossible to get the fuel tank
full. The interim solution for this has been to remove the carbon from the canister.

#4 is the age old issue with the dome light switches. This has been an issue sense 1999. Any help here?

#5 is premature universal joint failure, especially in the front drivelines. This is mostly caused by the inability to grease the
factory joints.

I hope this will enable you to prepare some information to have available at the time of the meeting. I think it is important to have a positive response to some or all of these issues. It will go a long way in building the trust in the other sites that we at Goldstrike have.

Looking forward to seeing you both.
Farley Hicks
Asset Recovery
Barrick North America
(775) 778-8351
[redacted]
fhicks@barrick.com

From: O'Connor, Tammy (T.A.)
Sent: Tuesday, October 31, 2006 9:48 AM
To: Johnston, Steven (S.J.); McDonagh, Scot (S.M.)
Cc: Meier, Kenneth (K.W.); Hale, Curt (B.C.)
Subject: FW: Barrick Thursday meeting
Importance: High

Steve/Scot/Curt:

I've already set up a meeting with Engineering to address the shimmy issue - but they have several other issues listed below which are not in my area.

Any information/recommendations you have on the other items would be greatly appreciated.

I believe you may want to put together an e-mail to send to CVO with the latest information on the other issues.

I will work on #1, 4, and 5.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Meier, Kenneth (K.W.)
Sent: Monday, October 30, 2006 2:51 PM
To: O'Connor, Tammy (T.A.)
Subject: FW: Barrick Thursday meeting
Importance: High

Tammy,

Just sending this as an F-Y-I. The concern is so big with Duke Energy that they are parking their vehicles. See below. Maybe engineering wants to get involved with this one?

Ken Meier
Commercial Vehicle Operations
Commercial Service Manager
Regent Court Building
16800 Executive Pl. Dr.
Dearborn, MI 48126-4207

Phone: 313-317-1867 Fax: 313-248-3481

From: Witthar, Mark (M.B.)
Sent: Monday, October 30, 2006 1:47 PM
To: Meier, Kenneth (K.W.)
Subject: FW: Barrick Thursday meeting
Importance: High

Mark Witthar
Commercial Vehicle Operations Manager
Phone: (313) 248-3882
Fax: (313) 248-3444
Cell: (313) 595-0226

From: Byers, Michael (M.R.)
Sent: Monday, October 30, 2006 1:08 PM
To: Witthar, Mark (M.B.)
Cc: Kachel, Victor (V.R.); Michon, Jim (J.B.); Bedard, Michael (M.R.); Koss, Gerald (G.N.)
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Your insights are welcome. Do you know if there have been any changes to the 08 Super Duty which would correct the front end shaking issue?

Mike Byers
Western Regional Sales Manager
North American Fleet, Lease, and Remarketing Operations
313-390-0974

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To: Byers, Michael (M.R.)

Cc: Michon, Jim (J.B.)
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Thanks for your help.

Vic Kachel
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Sent: Monday, October 30, 2006 11:21 AM
To: Asay, Larry (L.L.); Kachel, Victor (V.R.)

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Farley Hicks
Asset Recovery
Barrick North America
(775) 778-8351
(775) 778-1606 Cellular
fhicks@barrick.com

From: Hearn, Chet (C.)
Sent: Tuesday, October 31, 2006 1:03 PM
To: Shaver, Tom (T.J.)
Cc: Hodges, Cynthia (C.P.)
Subject: FW: Barrick Thursday meeting
Importance: High

Tom,

This issue might be elevated to a QSF. Per our 1:1 discussion, please consult Cynthia Hodges & Tokico regarding a P131 service fix.

Chet Hearn
Vehicle Dynamics Supervisor
EVB 1WE02
Mail Drop X16
Desk: (313) 390-2318
[redacted]
FAX: (313) 84-51776

From: Hearn, Chet (C.)
Sent: Tuesday, October 31, 2006 12:01 PM
To: Shaver, Tom (T.J.); Masel, Dennis (D.M.); Evans, Raymond (T.)
Subject: FW: Barrick Thursday meeting
Importance: High

Not good...

Chet Hearn
Vehicle Dynamics Supervisor
EVB 1WE02
Mail Drop X16
Desk: (313) 390-2318
Mobile: (313) 805-2063
FAX: (313) 84-51776

From: Nilles, Tom (T.J.)
Sent: Tuesday, October 31, 2006 10:54 AM
To: Hearn, Chet (C.)
Subject: FW: Barrick Thursday meeting
Importance: High

Regards,
Tom Nilles
Supvsr, Vehicle Dynamics Core Quality
313-805-5878, EVB 1W-K04

From: Repasky, Steve (S.)
Sent: Tuesday, October 31, 2006 9:04 AM
To: Nilles, Tom (T.J.)
Subject: FW: Barrick Thursday meeting
Importance: High

Tom - Info. I have some additional info from Tammy regrading field concerns...

From: O'Connor, Tammy (T.A.)
Sent: Tuesday, October 31, 2006 8:42 AM
To: Repasky, Steve (S.)
Subject: FW: Barrick Thursday meeting
Importance: High

fyi.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
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Farley Hicks
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(775) 778-8351
([redacted]
fhicks@barrick.com

STEERING WHEEL OSCILLATION | TSB 06-22-14

FORD:
2005-2007 F-Super Duty

This article supersedes TSB **06-15-1** to update the service labor operations.

ISSUE

Some 2005-2007 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion), immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on 4X4 vehicles, and is more evident on trucks equipped with a gas engine.

ACTION

Refer to the following Service Procedure to minimize the steering wheel oscillations on impacts, however, there may be some remaining minor oscillation which would be considered normal.

SERVICE PROCEDURE SUMMARY

- Set tire pressure and road test vehicle to evaluate vehicle before proceeding with further repairs. If issue is resolved, do not proceed with the rest of this TSB
- If concern still exists, check steering damper for leaks; torque steering and suspension fasteners per Workshop Manual
- If concern still exists, check front alignment and reduce front caster
- Replacement of redundant control steering wheel (if equipped and vehicle built prior to 10/8/2004)

VEHICLE INSPECTION - TIRE PRESSURE

1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

NOTE
SETTING TIRE PRESSURE TO DOOR SPECIFICATION IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE.

ROAD TEST

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the customer's issue.
3. If no issues are identified during the road test, do not proceed with the rest of this TSB.

STEERING DAMPER INSPECTION AND STEERING/SUSPENSION FASTENER TORQUE CHECK

1. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
   a. If leaks are present, install a new steering damper.
2. Check torques on the following steering and suspension fasteners and adjust to specification as required (see following Table).

Torque Specification		
Description	**Lb-ft**	**Nm**
Damper nuts (4X2)	59	80
Damper-to-bracket (F-250, F-350 4X4)	26	35
Damper-to-drag link	67	91
Drag link-to-pitman arm nut	148	201
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts and bolts	129	175
Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE
ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE.

NOTE: The information in Technical Service Bulletins is intended for use by trained, professional technicians with the knowledge, tools, and equipment to do the job properly and safely. It informs these technicians of conditions that may occur on some vehicles, or provides information that could assist in proper vehicle service. The procedures should not be performed by "do-it-yourselfers". Do not assume that a condition described affects your car or truck. Contact a Ford, Lincoln, or Mercury dealership to determine whether the Bulletin applies to your vehicle. Warranty Policy and Extended Service Plan documentation determine Warranty and/or Extended Service Plan coverage unless stated otherwise in the TSB article.The information in this Technical Service Bulletin (TSB) was current at the time of printing. Ford Motor Company reserves the right to supercede this information with updates.The most recent information is available through Ford Motor Company's on-line technical resources.

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FRONT WHEEL ALIGNMENT AND REDUCE FRONT CASTER

NOTE
OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

Measure wheel alignment. Verify that Front Caster, Camber, and Total Toe are within specification. Adjust as required. Refer to the Workshop Manual, Section 204-00 for complete alignment specifications.

REDUCE FRONT CASTER

- Note the current front caster
- Use alignment adjustment bushings to reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit. Use alignment adjustment bushings

F-250/350 4X4:

- 5C3Z-3B440-CCC (0.5 degree bushing)
- 5C3Z-3B440-DDD (0.75 degree bushing)
- 5C3Z-3B440-EEE (1.0 degree bushing)

F-450/550 4X4 and 4X2:

- 5C3Z-3B440-HHH (0.5 degree bushing)
- 5C3Z-3B440-JJJ (0.75 degree bushing)
- 5C3Z-3B440-KKK (1.0 degree bushing)

F-250/350 4X2:

- 5C3Z-3B440-C (0.5 degree busing)
- 5C3Z-3B440-D (0.75 degree bushing)
- 5C3Z-3B440-E (1.0 degree bushing)

For All 4X4 and for F-450/550 4X2:

- Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward and inboard position (See Figure 1)

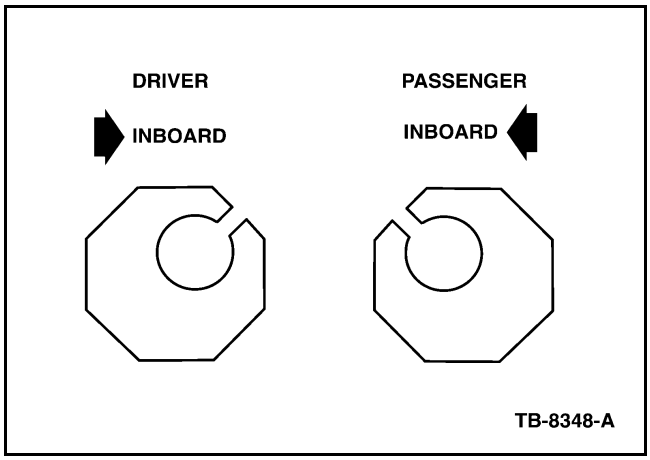

Figure 1 - Article 06-22-14

- This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed
- The final caster and camber settings must be within the specification limits
- Maintain the current front camber, cross-camber and cross-caster settings as close as you possibly can
- Adding weight behind the rear axle lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster

For All F-250/350 4X2:

- Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain that position while moving the caster position forward in the truck
- The final caster and camber settings must be within the specification limits

NOTE
CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 Only

NOTE
THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual, Section 211-04 for complete instructions.
2. Remove the steering wheel.

3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE
FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

PART NUMBER	PART NAME
5C7Z-3600-ABA	Redundant Control Steering Wheel Assy (King Ranch Tan/Peb)
5c7z-3600-CBA	Redundant Control Steering Wheel Assy (Charcoal Black)
5C3Z-3E651-D	Steering Damper
5C3Z-3B440-C	F-250/350 4X2 (0.5 degree bushing)
5C3Z-3B440-D	F-250/350 4X2 (0.75 degree bushing)
5C3Z-3B440-E	F-250/350 4X2 (1.0 degree bushing)
5C3Z-3B440-CCC	F-250/350 4X4 (0.5 degree bushing)
5C3Z-3B440-DDD	F-250/350 4X4 (0.75 degree bushing)
5C3Z-3B440-EEE	F-250/350 4X4 (1.0 degree bushing)
5C3Z-3B440-HHH	F-450/550 4X4 and 4X2 (0.5 degree bushing)
5C3Z-3B440-JJJ	F-450/550 4X4 and 4X2 (0.75 degree bushing)
5C3Z-3B440-KKK	F-450/550 4x4 and 4x2 (1.0 degree bushing)

NOTE
LABOR OPERATIONS IN THIS TSB CAN BE CLAIMED TOGETHER.

NOTE
OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

WARRANTY STATUS: Eligible Under Provisions Of New Vehicle Limited Warranty Coverage

OPERATION	DESCRIPTION	TIME
062214A	2005-2007 F-Super Duty: Check Tire Pressure, Road Test To Verify Repair, Concern Resolved, Return To Customer (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	0.4 Hr.
062214B	2005-2007 F-Super Duty: Check Tire Pressure, Road Test To Verify Repair, Concern Not Resolved, Check Steering Damper Replace If Necessary, Verify Proper Torque On Steering Components, Road Test If Concern Is Resolved Return To Customer (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	1.4 Hrs.
062214C	2005-2007 F-Super Duty 250/350 4X2 SINGLE REAR WHEEL: Check And Adjust Front Wheel Alignment, This Labor Operation Can Be Claimed With Operation B Only (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	1.5 Hrs.
062214C	2005-2007 F-Super Duty 250/350 4X4 SINGLE REAR WHEEL: Check And Adjust Front Wheel Alignment, This Labor Operation Can Be Claimed With Operation B Only (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	1.8 Hrs.
062214D	2005-2007 F-Super Duty 250/350 4X2 DUAL REAR WHEEL: Check And Adjust Front Wheel Alignment, This Labor Operation Can Be Claimed With Operation B Only (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	1.9 Hrs.
062214D	2005-2007 F-Super Duty 250/350 4X4 DUAL REAR WHEEL: Check And Adjust Front Wheel Alignment, This Labor Operation Can Be Claimed With Operation B Only (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	2.1 Hrs.

062214D	2005-2007 F-Super Duty F450/550 4X2/4X4 DUAL REAR WHEEL: Check And Adjust Front Wheel Alignment, This Labor Operation Can Be Claimed With Operation B Only (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	2.3 Hrs.	**DEALER CODING**	
			BASIC PART NO.	CONDITION CODE
			(OPERATION A) NPF	82
			(OPERATION B) 3E651	42
			(OPERATION C) FRONT	W6
			(OPERATION D) FRONT	W6
			(OPERATION E) 3600	42
062214E	2005-2007 F-Super Duty With Redundant Steering Control Built Prior To 10-8-2004: Replace Steering Wheel, Includes Time To Depower And Repower The Supplemental Restraints System Can Be Claimed With Operation A Or B (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	0.7 Hr.		

From: O'Connor, Tammy (T.A.)
Sent: Tuesday, October 31, 2006 10:29 AM
To: Asay, Larry (L.L.); Kachel, Victor (V.R.)
Cc: Hale, Curt (B.C.); Johnston, Steven (S.J.); McDonagh, Scot (S.M.); Meier, Kenneth (K.W.)
Subject: FW: Barrick Thursday meeting
Attachments: tsb06-22-14.pdf; tsb06-19-15.pdf

Larry/Vic:

Please see e-mail below and attachments concerning #2 and #3 on Barricks list of issues.

We have set up a meeting on Wednesday afternoon with Engineering to discuss the Steering Wheel Oscillation issue on 2005-2007 Super Duty.

However, we need some additional detail on # 4 and #5.

#4 - I need additional information - I have very few reports of dome light issues on 2004-2007 MY trucks.

In #5 - what model years are they referring to? For 1999-2004 a new ball joint was released for service in 09/2006 (it's what is now in production for 2005-2007), the quality is greatly improved. If the issue is on a 2005-2007 F-250/F-350 - we have no reports of ball joint issues on these model years. We need more information.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: McDonagh, Scot (S.M.)
Sent: Tuesday, October 31, 2006 9:21 AM
To: Johnston, Steven (S.J.); O'Connor, Tammy (T.A.); Meier, Kenneth (K.W.)
Cc: Hale, Curt (B.C.); Knapp, David (D.); Lightner, Shawn (S.E.); Conroy, Jerry (J.R.); Hofman, Michael (M.V.); Cowley, Mike (M.D.)
Subject: RE: Barrick Thursday meeting

I agree this sounds like Severe-Duty application. Why weren't we in the loop before this escalated to vehicles parked, switching to other OEM status ?

Front End Shaking- TSB 06-22-14 ?

Revised Canisters and Fresh Air vent kit- TSB 06-19-15

Scot G. McDonagh
Super-Duty/Excursion
Powertrain Quality Leader
Phone: (313)337-8091
smcdonag@ford.com

From: Johnston, Steven (S.J.)
Sent: Tuesday, October 31, 2006 8:57 AM
To: O'Connor, Tammy (T.A.); McDonagh, Scot (S.M.)
Cc: Meier, Kenneth (K.W.); Hale, Curt (B.C.)
Subject: RE: Barrick Thursday meeting

Scot anything to add?

#2 The external fuel pump module is located in a position where it is exposed to gravel coming up from the wheels and,
when damaged, has caused vehicles to loose power, making steering and braking very difficult. The potential for
accidents exists under these conditions. Only unprotected if the spare tire is not in place. If this is a special cause failure for this fleet they should work with dealer to install a shield.

#3 is the carbon filter canister location. The canister gets filled with mud, making in nearly impossible to get the fuel tank
full. The interim solution for this has been to remove the carbon from the canister. TSB out for this concern, need to install revised canister and relocate fresh air intake to a non-dirty area.

#4 is the age old issue with the dome light switches. This has been an issue sense 1999. Any help here?

#5 is premature universal joint failure, especially in the front drivelines. This is mostly caused by the inability to grease the
factory joints. Mostly? Whats premature? 1000 miles or 60,000 miles? Need more info. Has not been something I have seen, but it sounds like these vehicles operate in very dirty conditions and this may be normal for those conditions.

Steve Johnston
Product Concern Engineer
Super Duty and Excursion Powertrain
FCSD, Service Engineering Operations
Phone - 313-322-1785

From: O'Connor, Tammy (T.A.)
Sent: Tuesday, October 31, 2006 8:48 AM
To: Johnston, Steven (S.J.); McDonagh, Scot (S.M.)
Cc: Meier, Kenneth (K.W.); Hale, Curt (B.C.)

Subject: FW: Barrick Thursday meeting
Importance: High

Steve/Scot/Curt:

I've already set up a meeting with Engineering to address the shimmy issue - but they have several other issues listed below which are not in my area.

Any information/recommendations you have on the other items would be greatly appreciated.

I believe you may want to put together an e-mail to send to CVO with the latest information on the other issues.

I will work on #1, 4, and 5.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Meier, Kenneth (K.W.)
Sent: Monday, October 30, 2006 2:51 PM
To: O'Connor, Tammy (T.A.)
Subject: FW: Barrick Thursday meeting
Importance: High

Tammy,

Just sending this as an F-Y-I. The concern is so big with Duke Energy that they are parking their vehicles. See below. Maybe engineering wants to get involved with this one?

Ken Meier
Commercial Vehicle Operations
Commercial Service Manager
Regent Court Building
16800 Executive Pl. Dr.
Dearborn, MI 48126-4207
Phone: 313-317-1867 Fax: 313-248-3481

From: Witthar, Mark (M.B.)
Sent: Monday, October 30, 2006 1:47 PM
To: Meier, Kenneth (K.W.)
Subject: FW: Barrick Thursday meeting

Importance: High

Mark Witthar
Commercial Vehicle Operations Manager
Phone: (313) 248-3882
Fax: (313) 248-3444
[redacted]

From: Byers, Michael (M.R.)
Sent: Monday, October 30, 2006 1:08 PM
To: Witthar, Mark (M.B.)
Cc: Kachel, Victor (V.R.); Michon, Jim (J.B.); Bedard, Michael (M.R.); Koss, Gerald (G.N.)
Subject: FW: Barrick Thursday meeting
Importance: High

Mark, although this is not a new issue, it has reached a critical point where it is costing Ford business. We have many loyal Ford customers who believe we are walking away from the problem. We either have to change customer perceptions, find an engineering fix, or accept the fact that customers will buy competitive products.

Your insights are welcome. Do you know if there have been any changes to the 08 Super Duty which would correct the front end shaking issue?

Mike Byers
Western Regional Sales Manager
North American Fleet, Lease, and Remarketing Operations
313-390-0974

From: Kachel, Victor (V.R.)
Sent: Monday, October 30, 2006 11:58 AM
To: Byers, Michael (M.R.)
Cc: Michon, Jim (J.B.)
Subject: Barrick Thursday meeting
Importance: High

Hi, Mike and Jim.

Here are a list of concerns that Barrick Gold has identified. They are once again raising the issue of the front end shaking among other things. Please forward this to the engineering community so we can look at solutions for these things.

This has been ongoing for the past year with many customers. Today I learned that Duke Energy Field Services will be parking 200+ Ford super duty trucks and will be forced by their lawyers to buy GM's if we cannot provide them with some sort of 'fix' for this.

Barrick says they've come up with a stabilizer system that will fix the problem. We will see them on Thursday and I'll take pictures of their solution.

Thanks for your help.

Vic Kachel
National Account Manager
Ford Motor Company
6312 South Fiddler's Green Circle
suite 503 East
Englewood, CO 80111
Phone 303-694-8709
Fax 303-804-8280

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-----Original Message-----
From: Hicks, Farley (GoldStrike) [mailto:FHicks@barrick.com]
Sent: Monday, October 30, 2006 11:21 AM
To: Asay, Larry (L.L.); Kachel, Victor (V.R.)
Subject: Thursday meeting

Larry & Vic,
Here's a heads up on some of the questions the reps from the new Barrick sites will have for you. The first two are genuine safety concerns. The others are more maintenance and convenience issues.

#1 on the list will be, what has been done on the 2008 Super Duty to correct the front end shaking issue?
While airing the tires to a higher pressure drastically reduces the problem, it continues to be an issue.

#2 is the external fuel pump module is located in a position where it is exposed to gravel coming up from the

wheels and,
when damaged, has caused vehicles to loose power, making steering and braking very difficult. The potential for
accidents exists under these conditions.

#3 is the carbon filter canister location. The canister gets filled with mud, making in nearly impossible to get the fuel tank
full. The interim solution for this has been to remove the carbon from the canister.

#4 is the age old issue with the dome light switches. This has been an issue sense 1999. Any help here?

#5 is premature universal joint failure, especially in the front drivelines. This is mostly caused by the inability to grease the
factory joints.

I hope this will enable you to prepare some information to have available at the time of the meeting. I think it is important to have a positive response to some or all of these issues. It will go a long way in building the trust in the other sites that we at Goldstrike have.

Looking forward to seeing you both.
Farley Hicks
Asset Recovery
Barrick North America
(775) 778-8351
[redacted]
fhicks@barrick.com

SLOW FUEL FILL | TSB 06-19-15

FORD:
2005-2007 F-250, F-350

ISSUE

Some 2005-2007 F-Super Duty 250/350 vehicles may experience premature automatic shut off of the fuel fill nozzle, or repeated fuel shut off at the fuel station delivery nozzle. Vehicles operated in muddy or dusty environments can encounter a dirt-clogged carbon canister system. More specifically, the carbon canister's vent, fresh-air box, and filters, clogged with dirt from operating in such environments.

ACTION

Use the following Service Procedure to resolve the concern if the carbon canister system is dirt clogged.

NOTE
THIS TSB ONLY APPLIES TO F-250/350 PICKUPS, AND F-250/350 PICKUP BOX DELETE / CHASSIS CAB VEHICLES.

SERVICE PROCEDURE

Inspect the vehicle carbon canister system and if it is found to be dirt clogged then continue with this TSB.

NOTE
IF THE VEHICLES CARBON CANISTER SYSTEM IS NOT DIRT CLOGGED, THEN PROCEED WITH NORMAL DIAGNOSTICS AND DO NOT CONTINUE WITH THIS TSB.

Vehicles with Pick Up Boxes:

1. If the vehicle was built on or after 9/14/2006, proceed to Step 2. If the vehicle was built prior to 9/14/2006, replace the carbon canister assembly. This carbon canister has a revised internal filter media.
2. Relocate the fresh-air intake port to a more protected location using the Fresh Air Hose Kit, for pick up applications only.

Vehicles with Pick Up Box Removed or Chassis Cab:

1. If the vehicle was built on or after 9/14/2006, proceed to Step 2. If the vehicle was built prior to 9/14/2006, replace the carbon canister assembly. This carbon canister has a revised internal filter media.
2. Relocate the fresh-air intake port to a more protected location using QVM bulletin Q-132 at the body builder's website - https://www.fleet.ford.com/truckbbas/index.htm for fresh air intake routing recommendations.

PART NUMBER	PART NAME
7C3Z-9049-A	Fresh Air Kit
6C3Z-9D653-AB	Carbon Canister - Pick up
6C3Z-9D653-DB	Carbon Canister - Chassis Cab

WARRANTY STATUS: Eligible Under Provisions Of New Vehicle Limited Warranty Coverage And Emissions Warranty Coverage

OPERATION	DESCRIPTION	TIME
061915A	2005-2007 F-Super Duty 250/350: Inspect Canister Vent Fresh-Air Box, Replace The Carbon Canister Assembly, Install Fresh-Air Kit (Do Not Use With 9653A)	1.2 Hrs.
061915B	2005-2007 F-Super Duty 250-350 Built On/Or After 09-14-2006: Inspect Canister Vent Fresh Air box, Install Fresh Air Kit:(Do Not Use With 9653A)	0.4 Hr.

DEALER CODING

BASIC PART NO.	CONDITION CODE
9D653	55

NOTE: The information in Technical Service Bulletins is intended for use by trained, professional technicians with the knowledge, tools, and equipment to do the job properly and safely. It informs these technicians of conditions that may occur on some vehicles, or provides information that could assist in proper vehicle service. The procedures should not be performed by "do-it-yourselfers". Do not assume that a condition described affects your car or truck. Contact a Ford, Lincoln, or Mercury dealership to determine whether the Bulletin applies to your vehicle. Warranty Policy and Extended Service Plan documentation determine Warranty and/or Extended Service Plan coverage unless stated otherwise in the TSB article.The information in this Technical Service Bulletin (TSB) was current at the time of printing. Ford Motor Company reserves the right to supercede this information with updates.The most recent information is available through Ford Motor Company's on-line technical resources.

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From: Johnson, Dan (D.W.)
Sent: Wednesday, February 15, 2006 9:04 PM
To: O'Connor, Tammy (T.A.)
Subject: FW: CA96,CA97,CA98 Front Ends

Tammy,

See the note below. I'm not sure we will EVER satisfy this customer. Thoughts?

Teamwork Works!

Dan Johnson
Field Manager
Ford Motor Company
Commercial Vehicle Operations-California/Arizona Market

Phone: 480-964-4592

-----Original Message-----
From: Steve Carspecken [mailto:SCarspecken@azdot.gov]
Sent: Wednesday, February 15, 2006 2:05 PM
To: Dennis Halachoff
Cc: Dave Beidleman; Larry Presnall; Johnson, Dan (D.W.); William G. Kohn
Subject: RE: CA96,CA97,CA98 Front Ends

After warra llow up at Colorado River Ford in Kingman on CA97 vin # 1FTSX21535E [redacted] 2005 F250 Super Duty 4X4 extended cab pickup it was determined that all the TSBs ha updated on this vehicle all front end settings were within specifications. It was noted on Colorado River Ford invoice number [redacted] that technician did test drive vehicle and minor oscillation did still exist and was normal per TSB 05-22-1 Jim Smith the Service Writer stated he contacted Dan Johnson, Ford Field Manager and notified him of their findings and they are looking into the matter. In the mean time the problem is not considered a safety issue and the vehicle has been released back to the user. I will follow up with Ford in a couple of weeks to inquire if they have found something to remedy the situation. I will also proceed to send the other two units in question to the dealer to verify that all TSBs have been updated and that the vehicles front end settings are within specs.

Thanks

Steve Carspecken
Equipment Shop Supervisor
Kingman Equipment Shop
928-681-6211

> -----Original Message-----
> From: Dennis Halachoff
> Sent: Friday, January 13, 2006 7:21 AM
> To: Steve Carspecken
> Cc: Dave Beidleman; Larry Presnall; 'djohns19@ford.com'; William G. Kohn
> Subject: RE: CA96,CA97,CA98 Front Ends
>
> Steve proceed with the warranty follow-up. I have cc: Dan Johnson on this issue - see below. My only suggestion at this time is that tire air pressure must be correct as stated on drivers door.
>
> Advise all listed upon determining finds and actions to be taken.
>

>
>
> Dan Johnson
> Field Manager
> Ford Motor Company
> Commercial Vehicle Operations-California/Arizona Market
>
> Phone: 480-964-4592
>
> Thanks
>
>
>
> Dennis G. Halachoff
> Fleet Management Manager
> Arizona Department of Transportation
> Equipment Services
> Office: 602.712.7284
> Cellular: 602.616.3410
> Fax: 602.258.5193
>
>   -----Original Message-----
>   From: Steve Carspecken
>   Sent: Wednesday, January 11, 2006 3:58 PM
>   To: Dennis Halachoff
>   Cc: Dave Beidleman; Larry Presnall
>   Subject: CA96,CA97,CA98 Front Ends
>
>   Dennis FYI, we again are experiencing front end drivability complaints of a shimmy or steering wheel oscillation when entering or exiting a semi rough bridge deck or even hitting a minor pot hole in the road on these new F250 4X4 extended cab pickups. I know that the first thing Ford is going to check is tire pressure. The users assure me that the tire air pressures are up to specifications 75Lbs in the front and 80Lbs in the rear on these vehicles. At this time I am going to ask each supervisor to bring in their vehicle at their convenience and I will take the vehicle back to ford for warranty repair.
>
>   Thanks
>
>   Steve Carspecken
>   Equipment Shop Supervisor
>   Kingman Equipment Shop
>   928-681-6211
>
****
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From: O'Connor, Tammy (T.A.)
Sent: Wednesday, February 15, 2006 8:38 AM
To: Snider, Alex (A.)
Subject: FW: F250 Front Ends Issue *** CVO Reqesting Engineering Assistance on Fleet with Shimmy issue ***

fyi.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

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-----Original Message-----
From: Mayer, Paul (P.A.)
Sent: Thursday, February 02, 2006 1:47 PM
To: Menard, Bob (R.J.)
Cc: Scronce, Michael (M.L.); Hale, Curt (B.C.); Gunlock, George (G.W.); Parekh, Deepak (D.A.); Repasky, Steve (S.); O'Connor, Tammy (T.A.)
Subject: RE: F250 Front Ends Issue *** CVO Reqesting Engineering Assistance on Fleet with Shimmy issue ***

Bob, I recognize the customer want to drive around town at 45-50 PSI with load range C & D tires
But the truck was simply not designed for that.

Engineering's official position is load range E tires at 75Psi. Thats how we designed and validated the truck, so we have to stick with that.

The subject really moves us into a marketing question of should we have an F-250/350 offering with load range C & D tires at 50 psi because a majority of customers want that. If the answer is yes that management allocates the funds to go get it done.
But engineering does not make those decisions, we just carry them out once we get the marching orders.

If you need to discuss, give me a ring.

And if you want to see me in Canada, you better find a problem truck in a ski town outside of Calgary ..... Not in Estevan !!!

Regards
Paul Mayer
Chassis Systems Engineering
313-248-9202 Fax:313-317-2349

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Tuesday, January 31, 2006 9:16 AM
To: Repasky, Steve (S.); Mayer, Paul (P.A.)
Cc: Scronce, Michael (M.L.); Menard, Bob (R.J.); Hale, Curt (B.C.); Gunlock, George (G.W.)
Subject: RE: F250 Front Ends Issue *** CVO Reqesting Engineering Assistance on Fleet with Shimmy issue ***
Importance: High

Steve/Paul:

Please read the string of e-mails below. We had a general discussion on tire issues with a group of FSE's and George Gunlock yesterday afternoon, and Bob Menard and Michael Scronce (both from CVO (Commercial Vehicle Operations)) called into the meeting.

They are aware of the TSB for the Steering Shimmy issue on Super Duty.

They are requesting additional assistance from Engineering on a couple of fleets up in Canada.

Would you please contact Bob on Thursday and discuss what else, if anything can be done to assist/resolve this issue?

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

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-----Original Message-----
From: Menard, Bob (R.J.)
Sent: Monday, January 30, 2006 7:25 PM
To: O'Connor, Tammy (T.A.)
Cc: Menard, Bob (R.J.); Scronce, Michael (M.L.)
Subject: FW: F250 Front Ends Issue

Tammy,
Subsequent to your conference call of today, I am sending you a copy of the email I sent to Brenda at Baker Hughes

Their issue started with the shimmy concern reported out here by another Company called CE Franklin. That is when we had some frt.end engineers come out to evaluate the situation.

It was observed that the Conti tires run for a 10,000 kms or higher at low air pressure (say 45

to 50 PSI) that the truck would shimy over most some potholes and bridge deck abutments.

Now the immediate fix was to install Toyo tires as per the request of the customer..... at 75 PSI as recommended , little to no shimy was felt.... at 45 PSI ... a little shimmy was felt but acceptable....

If you took same truck and put on Conti with 45 PSI..... shimmy is severe and you have to drive out of it .... either increase or decrease.

Now Baker reported some similar concerns with their trucks.... I believe because of it and the fact that the Conti does not have the traction required for the off road, the drivers have been requesting tires swaps and some places are installing the C and or D rated tires... both those tire ratings allow max. air pressure of 50 psi.... we call for 75psi on the decal for load Range E tires.

The following note was sent to Brenda from Baker stating the above... the reason I have the dealers involved again is that they are stating the vehicle shimmys and they are afraid to drive them...according to a service manager, they do shimmy on bumps and he tends to agree with the driver however, he is unable to increase tire pressure as he is afraid of exceeding the tire recommended max.

Therefore the unit was returned to the driver and the cycle starts over.

I am off moving for a few days but will be back on Thursday... please call me or email me if you require some additional info.

Thanks

Robert (Bob) Menard
Commercial Area Field Manager
for: Southern Alberta and British Columbia
Ford Motor Company of Canada Limited
North American Fleet Services
403-255-0292 ext 590 **Cel: 403-803-9079**
Fax 403-255-0164
Email: bmenard@ford.com
Ford Fleet: We're There For you !
"Accelerate Growth Through Customer Satisfaction and Loyalty"

Please note new Suite number on address:
Suite **520** 7015 MacLeod Tr S.W.
Calgary AB T2H 2K6

-----Original Message-----
From: Menard, Bob (R.J.)
Sent: Friday, January 20, 2006 5:16 PM
To: 'Davis, Brenda K.'
Cc: Haering, Ray (J.R.); Menard, Bob (R.J.); Fretts, Greg (G.)

Subject: RE: F250 Front Ends Issue

Brenda,
I spoke to Fred... here is a recap:
-truck has 28000kms on it
-he has never booked it in at a Ford dealer
-he spoke to a dealer in general terms ... that dealer suggested bigger shocks
-tires were replaced with BFG when new before the unit was delivered to him
-no Ford dealer has experienced the concern
-he can make it happen 3 kms outside of Grande Prairie

I instructed him to supply me with a vin, and to book it in at Windosr Ford and to advise me when it will be going in... I will get the service manager involved and I will have a report for you.

For Gerard's unit, dealer called me... unit was in their shop.... the steering shock was leaking therefore I suggested we replace it..... this is the 3rd on this unit.....

Furthermore, the dealer looked at the tires and established the tire pressure was 40, 42 ,42 and 45 PSI. I had him check further and the tires on the unit are LT235/70/Rx17 C rated tires and call for 50 PSI inflation max.

Problem is that the unit was built with LT265/70Rx17 E rated tires ... based on that tire, we recommend inflation to be 75PSI front and 80 PSI rear. With the C rated tires, you would be exceeding the max tire inflation for that tire should you follow our factory spec. However, vehicles with 40 to 50 PSI in their tires have a potential tendency to exhibit the concern the driver is referring to.

Bottom line, we are unable to proceed to diagnose the root cause with the tires that are currently mounted on this truck.

Thanks

Robert (Bob) Menard
Commercial Area Field Manager
for: Southern Alberta and British Columbia
Ford Motor Company of Canada Limited
North American Fleet Services
403-255-0292 ext 590 **Cel: 403-803-9079**
Fax 403-255-0164
Email: bmenard@ford.com
Ford Fleet: We're There For you !
"Accelerate Growth Through Customer Satisfaction and Loyalty"

Please note new Suite number on address:
Suite **520** 7015 MacLeod Tr S.W.
Calgary AB T2H 2K6

-----Original Message-----
From: Davis, Brenda K. [mailto:Brenda.Davis@bakerhughes.com]
Sent: Tuesday, January 17, 2006 5:02 PM
To: Menard, Bob (R.J.); Fretts, Greg (G.)
Cc: Haering, Ray (J.R.)
Subject: FW: F250 Front Ends Issue

Bob,

Here is another one. Could you please contact Fred and discuss his issue? Thanks again. 780-539-0013

Brenda Davis
Strategic Sourcing Commodity Manager
Fleet & Temporary Services
Baker Hughes Business Support Services
15355 Vantage Parkway West, #300
Houston, TX 77032
Fleet Central - 281-209-7667
281-209-7897 - Fax - 713-625-4374

-----Original Message-----
From: Alvarez, Lori M
Sent: Tuesday, January 17, 2006 1:37 PM
To: Davis, Brenda K.
Cc: Robinson, Fred G
Subject: FW: F250 Front Ends Issue

Brenda,

Here is another vehicle with a problem. As before if you could put the Ford rep in touch with Fred to assist with resolution with his issue it would be appreciated. Thanks.

Cheers!
Lori Alvarez
403-537-3523 Phne
403-537-3796 Fax

-----Original Message-----
From: Robinson, Fred G
Sent: Tuesday, January 17, 2006 11:34 AM
To: Alvarez, Lori M
Subject: RE: F250 Front Ends Issue

Yes I have a shake that sometimes last as long as three to four seconds every-time I cross something like a railway tracks on the highway

> -----Original Message-----
> **From:** Alvarez, Lori M
> **Sent:** Monday, January 16, 2006 10:02 AM

To: BPC All Canada
Cc: Davis, Brenda K.
Subject: F250 Front Ends Issue
Importance: High

Drivers of BPC Ford 250's

If any of you are experiencing trouble with the front end of your F250's and is having difficulty having the issue resolved, please advise as soon as possible. Brenda Davis, Strategic Sourcing Manager for BPC Fleet will have our Ford representative in Canada get in touch with you to help with the service of this issue.

Cheers!
Lori Alvarez
403-537-3523 Phne
403-537-3796 Fax

-----Original Message-----
From: Davis, Brenda K.
Sent: Monday, January 16, 2006 8:11 AM
To: Alvarez, Lori M
Cc: Rissling, Gerard T
Subject: RE: F250 Front Ends
Importance: High

I have asked Bob Menard to contact Gerard regarding this issue. Do you know who else has experienced or is experiencing this particular issue that I might be able to follow-up on as well?

Brenda Davis
Strategic Sourcing Commodity Manager
Fleet & Temporary Services
Baker Hughes Business Support Services
15355 Vantage Parkway West, #300
Houston, TX 77032
Fleet Central - 281-209-7667
281-209-7897 - Fax - 713-625-4374

> -----Original Message-----
> **From:** Alvarez, Lori M
> **Sent:** Friday, January 13, 2006 3:44 PM
> **To:** Davis, Brenda K.
> **Cc:** Rissling, Gerard T
> **Subject:** FW: F250 Front Ends
>
> Brenda,
>
> Could you please put Ford in touch with Gerard, we definitely need resolution this is taking up way too much of our people's valuable time. Thanks.

Cheers!
Lori Alvarez
403-537-3523 Phne
403-537-3796 Fax

-----Original Message-----
From: Rissling, Gerard T
Sent: Friday, January 13, 2006 1:33 PM
To: Alvarez, Lori M
Subject: F250 Front Ends

I am wondering if anyone else is still having problems with the front ends on their F250's. I am taking mine in to get fixed again for the third time.

Gerard Rissling
Service Representative
Redcliff Alta
[redacted]
Fax: (403) 526-2721

From: O'Connor, Tammy (T.A.)
Sent: Tuesday, May 23, 2006 10:11 AM
To: Snider, Alex (A.)
Subject: FW: F-250 Violent front end shaking problem
Attachments: 2005 Surperduty Dealer visit-Senchuk FordRev3.doc

fyi.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Repasky, Steve (S.)
Sent: Monday, May 22, 2006 4:08 PM
To: O'Connor, Tammy (T.A.); Menard, Bob (R.J.)
Cc: Mayer, Paul (P.A.); Ufford, Donald (D.A.); Choe, Mark (M.J.); Rocco, Julie (J.E.); Frantzeskakis, Petros (Peter.); Nilles, Tom (T.J.); Dickson, Donna (D.J.)
Subject: FW: F-250 Violent front end shaking problem

Bob/Tammy - As you know, Paul Mayer and I worked together with Bob on our trip to Senchuck Ford in Estevan, Saskatchewan, Canada from August 15-17, 2005. The C. E. Franklin fleet of Superduty vehicles had similar concerns to those noted below (report attached).

As a result of that visit, TSB Article 05-22-1 was issued to cover 2005/06 Superduty vehicles. Part of the TSB reads: "SETTING TIRE PRESSURE TO DOOR SPECIFICATION IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE." I believe all field concerns have been corrected with proper application of the applicable TSB.

As Paul noted below, the released tire pressures are necessary to support the vehicle GAWRs and GVW. As such, a field visit should not be required. As always, we are available to participate in any necessary call-in conferences. Thanks .....

From: Michon, Jim (J.B.)
Sent: Friday, May 19, 2006 4:38 PM
To: Mayer, Paul (P.A.); Rocco, Julie (J.E.); Dickson, Donna (D.J.)
Cc: Fretts, Greg (G.); Menard, Bob (R.J.); Arnold, Bruce (B.C.); Hiltz, Chris (C.M.); Repasky, Steve (S.)
Subject: RE: F-250 Violent front end shaking problem

Paul,

Thanks for the response. I fully understand why you are unable to attend the meeting. Congratulations on the new addition to the family.

I also understand that we may have to tell the customer something that they do not want to hear. However, having an SME at the meeting that can listen to the concern and comment based upon their technical knowledge of the tires/suspension/vehicle would be invaluable at this meeting to maintain the relationship with the customer --- even if we have to tell them (hopefully tactfully) that there is nothing in the near term (or perhaps long term) that we can do to support their request.

Brenda Davis is a key decision maker at Baker Hughes in the determination of which OEM's (Ford, GM, etc.) are chosen to provide vehicles to their operations. I believe supporting her request on this is important to ensure that she remains 'pro-Ford'.

The goal for the meeting would be:

1) Have an SME at the meeting that can actively discuss the concerns and provide feedback. This will certainly help to maintain the relationship; even if we have to tell them what they don't want to hear.
2) Use this meeting to provide definite closure to the concern; i.e. clearly state the reasons why we can, or more likely can not, provide what they are requesting.

The Super Duty team's consideration of this request would be greatly appreciated.

Thanks.

Jim Michon
Truck Fleet Marketing Manager (Ranger, F-150, Super Duty, E-Series)
Ph: (313) 621-2521; Fax: (313) 594-4684

From: Mayer, Paul (P.A.)
Sent: Friday, May 19, 2006 3:22 PM
To: Michon, Jim (J.B.); Rocco, Julie (J.E.); Dickson, Donna (D.J.)
Cc: Fretts, Greg (G.); Menard, Bob (R.J.); Arnold, Bruce (B.C.); Hiltz, Chris (C.M.); Repasky, Steve (S.); Mayer, Paul (P.A.)
Subject: RE: F-250 Violent front end shaking problem

I would prefer not to attend this trip for two reasons
1) Since the last re-org, I no longer work in the truck group. Spending a couple of hours to pass on the history is no problem, but traveling out to the field for a few days is a conflict with my new responsibilities
2) I have a three week old baby at home. So I have a pretty big personal problem with a trip at this time.

Also I do not believe a field trip will resolve this.
- I believe we understand that the fleet wants an over 8500 pick-up that runs on a tire at approx. 50 psi rather than the current 75/80 psi.
  - We do not currently offer this option.
- My gut says that this is possible, but it requires a small program to design & develop this offering (i.e. PDL, budget, headcount, test vehicles, etc.)
  - This is a decision which occurs at a level much higher than the engineer.

An SME in the field is likely going to tell Baker Hughes what they do not want to hear (i.e. you cannot operate this vehicle at 50 psi)

I do not wish to lose these sales, but I do not see how to satisfy this customer without a new offering.

Regards
Paul Mayer
Chassis Systems Engr.
313-248-9202

From: Michon, Jim (J.B.)
Sent: Friday, May 19, 2006 9:31 AM
To: Rocco, Julie (J.E.); Dickson, Donna (D.J.); Mayer, Paul (P.A.)
Cc: Fretts, Greg (G.); Menard, Bob (R.J.)
Subject: FW: F-250 Violent front end shaking problem
Importance: High

Julie, Donna,

Baker Hughes, a large Fleet customer, has had concerns with "front end shaking" on the F-250 for over a year (primarily with the Canadian Fleets but have had some concerns from U.S. Fleets as well). Brenda Davis (Commodity/Vehicle sourcing Manager for Baker Hughes Global operations) is very Pro-Ford and has worked very hard over the past year to educate the Baker Hughes Fleets in both the U.S. and Canada to properly inflate their tires. However, there is a practice (which we do not endorse) of lowering the tire pressure to achieve greater traction. (Having tires that provide better traction off-road and in mud/snow has been a concern we have heard from other Fleets --- this is a seperate concern that we are trying to dimension)

The threat here is that, with enough pressure from these Fleets, Brenda may be forced to allow these Fleets to puchase from other OEM's (GM, DCX, etc.).

I know the engineering teams are extremely busy working on the proveout and development of our future programs but, as Brenda requests in her attached e-mail, if we could send a "Subject Matter Expert" (SME) on tires/chassis to support a meeting with the Baker Hughes Fleets in Canada (to occur either in the 2nd or 3rd week of June), I believe it would go a long way towards maintaining the relationship with this important Fleet and keeping the business in tact.

Would you be able to help in identifying a SME on the engineering team that could support this meeting?

Paul Mayer, I have included you in this note as well because Greg Fretts mentioned that you, and Steve Ropesky (sp?), have some past experience with this concern and might possibly be able to attend as the Ford SME --- or might know who could support.

For reference, I have provided a summary of Baker Hughes Truck purchases in '04/'05 (U.S. only --- don't have access to the Canadian reporting systems). '06MY purchase levels are about the same. They also purchase cars and suv's from Ford.

2004	E150	E250	E350	E350 Cutaway/Chassis Cab	E450	Ranger	F-150	F-250	F-350	F-450	F-55
Baker Hughes							269	152	35	1	2

2005	E150	E250	E350	E350 Cutaway/Chassis Cab	E450	Ranger	F-150	F-250	F-350	F-450	F-55

Baker Hughes		1					227	137	41	1	4

Any thoughts/support you can provide on this would be greatly appreciated.

Jim Michon
Truck Fleet Marketing Manager (Ranger, F-150, Super Duty, E-Series)
Ph: (313) 621-2521; Fax: (313) 594-4684

From: Davis, Brenda K. [mailto:Brenda.Davis@bakerhughes.com]
Sent: Wednesday, May 17, 2006 7:07 PM
To: Michon, Jim (J.B.)
Cc: Fretts, Greg (G.); Menard, Bob (R.J.)
Subject: FW: F-250 Violent front end shaking problem
Importance: High

Hello Jim, it was a pleasure to see you in Orlando.

I wonder if you were able to come up with anyone who could maybe join our Canada Ford team to discuss the vibration issue we are experiencing with tires. We probably need a tire expert and an engineer subject matter expert. Tires because if they have to be at exact PSI spec to keep from vibrating and the drivers/managers feel they don't get traction, then maybe the tire person should be present to discuss alternatives.

Greg said he may know someone that would fit the bill as the engineer so you may want to communicate with him directly.

As you can see from the e-mail string below our Canada folks would like to schedule a meeting in Wainwright the second or third week of June if possible. I don't know if I will be able to attend but if not, I'm sure that Greg and Bob will be able to handle the meeting as long as we have the experts as well so that they can address the why's and therefore of the situation.

I appreciate your help and feedback. Hope to see you soon.

Brenda Davis
Strategic Sourcing Commodity Manager
Fleet & Temporary Services
Baker Hughes Business Support Services
15355 Vantage Parkway West, #300
Houston, TX 77032
Fleet Central - 281-209-7667
281-209-7897 - Fax - 713-625-4374

-----Original Message-----
From: Alvarez, Lori M

Sent: Thursday, May 04, 2006 2:19 PM
To: Davis, Brenda K.
Cc: Henry, Lonnie K.; Kaybidge, Allyson N; Young, Stacey - BPC; Bonsteel, Vaughn W.; Whalen, Tom
Subject: RE: F-250 Violent front end shaking problem
Importance: High

Second Request

Brenda,

Just got your EMAIL that you will be out of the office until next Thursday at which time I will be out of the office for a couple of weeks. Have you given any thought or consideration to coordinating a meeting here in Canada with regard to the issues we have with FORD? Also, my first EMAIL mentioned Calgary or Red Deer however managers thought Wainwright would be a better location and we could try and re create the problem so that everyone has a chance to witness the problem.

Cheers!
Lori Alvarez
403-537-3523 Phne
403-537-3796 Fax

-----Original Message-----
From: Alvarez, Lori M
Sent: Thursday, April 27, 2006 8:21 AM
To: Davis, Brenda K.
Cc: Henry, Lonnie K.; Kaybidge, Allyson N; Young, Stacey - BPC; Bonsteel, Vaughn W.; Whalen, Tom
Subject: RE: F-250 Violent front end shaking problem
Importance: High

Brenda,

This Ford Shimmy situation is ongoing and previously we had discussed a meeting between our management team and Ford. Of course as the commodity manager it would be prudent to have you involved as well. If possible could you please set up a meeting with our Ford representative, yourself and our management team for the 2nd or 3rd week in June. Prefer Calgary or Red Deer as a location. Your assistance in bringing this to resolution would be most appreciated.

Cheers!
Lori Alvarez
403-537-3523 Phne
403-537-3796 Fax

-----Original Message-----
From: Bonsteel, Vaughn W.
Sent: Wednesday, April 26, 2006 2:51 PM
To: Whalen, Tom
Cc: Henry, Lonnie K.; Alvarez, Lori M; Kaybidge, Allyson N
Subject: F-250 Violent front end shaking problem

Tom,
While assisting Lonnie with additional issues yesterday in Wainwright, he brought to my attention

the complete story regarding the 2005, F-250 XL violent shaking problem. After seeing his frustration from past attempts for acknowledgement and his passion for concern, I agreed to assist them in recreating this. While I was riding in one of these trucks with the employee, we actually recreated the condition.

I know your out of the country right now, but please contact me as soon as possible to discuss this issue. Lonnie's level of passion is fully justified and an issue of corporate liability may exist as well.

Regards,

Vaughn Bonsteel
Health, Safety & Environment Specialist
Northwest / Central Canadian Districts
[redacted]

"Nothing is more priceless than arriving home alive" (Self, 01-17-06)

From: Vollhoffer, Glenn (J.G.)
Sent: Thursday, October 18, 2007 11:56 AM
To: Snider, Alex (A.)
Subject: FW: Ford Steering Wheel Oscillation

Hi Alex
Here is a question from the BC Government fleet regarding tires. Have a look & give me a call. 604-908-4583

Regards;

Glenn

From: MacKay, Andy E ENV:EX [mailto:Andy.Mackay@gov.bc.ca]
Sent: Wednesday, October 17, 2007 4:44 PM
To: Vollhoffer, Glenn (J.G.)
Cc: Tancock, Randy ENV:EX
Subject: RE: Ford Steering Wheel Oscillation

A new question Glen. I looked at tires today and I wonder what your engineering department would say about the size of the tire. The plate on the door says 245./75 R17. The current tires I have in the warehouse for Winter use are 245/70 R17. (Cooper studded). In addition the tires recommended by Kal tire was an all season Goelander (Yokohama)but is 265/70 R17. Could you let me know if I have to stick with the plate or can we very a bit with the wider tire and shorter sidewall?
If you could let me know ASAP that would be Great.
Thanks Andy

From: Vollhoffer, Glenn (J.G.) [mailto:gvollhof@ford.com]
Sent: October 11, 2007 2:35 PM
To: MacKay, Andy E ENV:EX
Subject: RE: Ford Steering Wheel Oscillation

Hi Andy 1:00pm at the dealership would be perfect.

Regards;

Glenn

From: MacKay, Andy E ENV:EX [mailto:Andy.Mackay@gov.bc.ca]
Sent: Thursday, October 11, 2007 10:47 AM
To: Vollhoffer, Glenn (J.G.)
Subject: RE: Ford Steering Wheel Oscillation

Tuesday afternoon works for me. Do you have a particular time after 12.00 noon, or do I just show up?

Andy

From: Vollhoffer, Glenn (J.G.) [mailto:gvollhof@ford.com]
Sent: October 9, 2007 2:37 PM
To: MacKay, Andy E ENV:EX
Cc: Sugrue, Brian LCS:EX; Tancock, Randy ENV:EX; Fredo, Mike (H.)
Subject: RE: Ford Steering Wheel Oscillation

Hi Andy,
I will be in Kamloops next week & Tuesday October 16th anytime after 12:00p.m. I was hoping we could get together to inspect your truck at Dearborn Motors.

Please let me know if this works for you?

Regards;

Glenn

From: MacKay, Andy E ENV:EX [mailto:Andy.Mackay@gov.bc.ca]
Sent: Wednesday, September 26, 2007 11:14 AM
To: Vollhoffer, Glenn (J.G.)
Subject: RE: Ford Steering Wheel Oscillation

Rugged Trail T/A
BF Goodrich
LT 245/75R17 m+s
Max load 1450kg @ 80 PSI Cold
(these tires came with the truck from the Factory)
Andy

From: Vollhoffer, Glenn (J.G.) [mailto:gvollhof@ford.com]
Sent: September 26, 2007 10:50 AM
To: MacKay, Andy E ENV:EX
Cc: Sugrue, Brian LCS:EX; Tancock, Randy ENV:EX
Subject: RE: Ford Steering Wheel Oscillation

Hi Andy,
Could you verify the tires on this vehicle for us. I need the tire make size & load range.

Regards;

Glenn

From: MacKay, Andy E ENV:EX [mailto:Andy.Mackay@gov.bc.ca]
Sent: Wednesday, September 26, 2007 9:49 AM
To: Vollhoffer, Glenn (J.G.)
Cc: Tancock, Randy ENV:EX
Subject: FW: Ford Steering Wheel Oscillation

Glen, The following VIN is for Andy Mackay, Merritt BC
1FTSX21516E[redacted]
Randy, not reported but Chris Walder's old truck that is currently parked also had an episode when the Conservation Corp Student was driving it. Happened on the Coquihalla on a overpass expansion joint. The same spot that my most violent death wobble happened.

Andy

From: Tancock, Randy ENV:EX

Sent: September 25, 2007 2:38 PM

To: Heusen, Ron ENV:EX; MacKay, Andy E ENV:EX

Cc: Hitchcock, Gord ENV:EX; Olsen, Rod ENV:EX; Sundquist, Lance ENV:EX; Hildebrand, Rick ENV:EX; Hayden, Mark ENV:EX; 'gvollhof@ford.com'

Subject: Ford Steering Wheel Oscillation

Ron / Andy:
I have just got off a conference call with the Ford Reps. Regarding the steering wheel oscillation. As the two of you seem to be having the most issues, they would like to inspect your vehicles with one of their technicians.

They require the VIN #'s of your vehicle so that they can do some background research before they come to look at them.

Ron: They would like to come over to Nanaimo either next Wed., Thurs, or possibly Friday to take a look at your truck.
Andy: They said they would probably have to look at your truck in Kamloops, but did not give a date as to when they could look at it.

Please send your VIN number to Glen Vollhoffer @ gvollhof@ford.com . Glen will then set something up to inspect these two vehicles.

Thanks
Randy

From: Hearn, Chet (C.)
Sent: Tuesday, August 29, 2006 8:32 AM
To: Shaver, Tom (T.J.)
Subject: FW: Ford Superduty Truck Vibration - Conference Call held Monday June 12 - meeting minutes
Importance: High

A little more info before you talk to Repasky...

Chet Hearn
Vehicle Dynamics Supervisor
EVB 1WE02
Mail Drop X16
Desk: (313) 390-2318
[redacted]
FAX: (313) 84-51776

From: Arnold, Bruce (B.C.)
Sent: Monday, August 28, 2006 4:09 PM
To: Hearn, Chet (C.)
Subject: FW: Ford Superduty Truck Vibration - Conference Call held Monday June 12 - meeting minutes
Importance: High

Info,
Steve R. has a lot more background on this issue. Coupled with Alex's data, we need to be extremely careful if we want to entertain changes to the roll steer (unless other de-sensitizing actions are in place). The Baker-Hughes fleet is ~1200 vehicles/year of Ford business.

Regards,

Bruce C. Arnold
Supervisor, Chassis Systems Engineering
Pickup, Commercial, & Large SUV Chassis Engineering
2B-B59 PDC, MD 127
TEL: 313-805-3845
Email: barnold2@ford.com
Textpage: <<mailto [redacted] @messaging.sprintpcs.com>>

From: Repasky, Steve (S.)
Sent: Thursday, June 15, 2006 10:47 AM
To: Arnold, Bruce (B.C.); Michon, Jim (J.B.); Choe, Mark (M.J.); Frantzeskakis, Petros (Peter.); Rocco, Julie (J.E.);

Hale, Curt (B.C.); Taylor, Rich (R.G.); Campbell, Keith (K.A.); Bedard, Michael (M.R.); Haering, Ray (J.R.); Fretts, Greg (G.); O'Connor, Tammy (T.A.); Menard, Bob (R.J.); 'Davis, Brenda K.'
Subject: FW: Ford Superduty Truck Vibration - Conference Call held Monday June 12 - meeting minutes
Importance: High

Brenda - Please forward to appropriate people at Baker - Hughes. Thanks...

The subject meeting between Baker-Hughes and Ford was conducted on Monday June 12, 2006 as scheduled. Topics covered included the following:

- Introduction of attendees: **Ford** - Steve Repasky, Bob Menard, Tammy O'Connor, Keith Campbell, Rich Taylor, Jim Michon, Bruce Arnold, Greg Fretts, Ray Haering. **Baker-Hughes** - Brenda Davis, Lonnie Henry, Curtis Longmuir, Allison Kaybidge
-
- Brenda provided a brief description of Baker-Hughes and the services they provide to the oil industry. Lonnie and Curtis described specific field road surfaces and operating conditions for their fleet of Superduty (Supercab 142" wb 5.4L engine with 17" A/T tires) vehicles (Wainwright, Alberta, Canada). They mentioned the vehicles are equipped with tool boxes and the occasional need to haul 2-3 barrels (~200 Kg each) of chemical products.
-
- Two vehicle concerns were discussed. The first, vehicle front end vibration with tire pressure lowered to ~ 50 PSI and the second noted as "lack of traction" with tire pressure at placard setting. The first concern was agreed to be corrected with application of TSB 05-22-01. A key portion of the TSB is " NOTE: SETTING TIRE PRESSURE TO DOOR SPEC IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE". The second concern is noticed with the vehicle in near-curb condition i.e. without any barrels loaded, on typical rough and washboard type roads (speed varies with road conditions). A rough ride and vehicle "bouncing around" phenomenon occurs specifically with 2 noted "XL" trim vehicles. (Experiencing with other vehicles in the area for this divisions as well but more prominent with the 2 XL trim levels reported)
-
- Vehicle build configuration was discussed and revealed all are ordered with the camper package which provides the vehicle with a one-up front spring and auxiliary leaf rear spring. Ford offered to provide additional front and rear springs for Lonnie to try to determine if the ride concern is improved. Timing subsequently provided by Bob Menard is tenatively June 21 pending vehicle availability. Also, Brenda agreed to investigate availability of 18" tires currently released on Superduty that run at 65/65 PSI (F-250 4x4). (Brenda contacted the local leasing company and found limited availability with the 18" tire and also reported concerns from the leasing company about the one up tire size impacting speed odometer etc.)
-
- Bruce Arnold provided an excellent explanation of chassis changes from 2004 to 2005 MY Superduty in response to a question from Lonnie.
-
- Agreement was reached to set-up a follow-up call once the supplied springs have been installed and driven by Lonnie/Curtis.

Thanks to all participants.

From: Laquerre, Mike (M.J.)
Sent: Monday, September 18, 2006 8:38 AM
To: Snider, Alex (A.)
Cc: Burdick, Jeff (J.)
Subject: FW: Report Summary for the CQIS Report#[redacted]

Alex,
This is the CQIS file for the unit Jeff Burdick is questionning. Read comment dated 1/19/06 by Scott Geisen.

From: MLAQUERR@ford.com [mailto:MLAQUERR@ford.com]
Sent: Friday, September 15, 2006 9:37 AM
To: Laquerre, Mike (M.J.)
Subject: Report Summary for the CQIS Report#[redacted]

Attachments : 0

Report# :	[redacted] NHL			**Received:**	01/19/2006
CCRG/EPRC:		**Reviewed Status:**		**Date:**	
Vehicle:	2005,F250 4X4,SUP CAB,SRW ,1FTSX21535E[redacted]			**Build Date:**	02/14/2005
Odometer :	47,942 K	**Engine:**	MOD 5.4 3V	**Calibration:**	5F714N0A
Transmission:	5R110W	**Axle:**		**A/C:**	YES
Dealer:	CAN B1397 EMBRUN FORD SALES LTD.			**Phone#:**	(613) 443-2985
City:	Embrun	**Province**	Ontario	**Country :**	CAN
Originator:	CHRIS GAUVREAU				
Symptom:	3 03 3 53 CHASS.,STRG/HANDLING ,VIB./SHIMMY,OVER BUMPS				
Status:					
VFG:	V89 RIDE & HANDLING				
Additional Symptom:	VIBRATION IN THE STEERING WHEE				
Fix:	**Causal Component :**				
Condition Code:					

Hotliner: PVALLEY **Phone:** **Regn Cd:** 01 01 FCSD REGION-CANADA

Engineering: **Phone:** **TAR:**

Dlr Contact: CHRISTIAN GAUVREAU **Phone:** 613 443-2985 **Title Cde:** T

Comments :

REPAIR 01/19/2006 09:30AM PVALLEY

TECH STATES THAT HE HAS A VIBRATION IN THE STEERING WHEEL WHEN

HE GOES

OVER BUMPS AT HIGHWAY SPEEDS

RECOMM 01/19/2006 09:30AM PVALLEY

TSB 05-22-01 THIS PROCEDURE WILL MINIMIZE STEERING WHEEL OSCILLATIONS

ON IMPACTS, HOWEVER, THERE MAY BE SOME REMAINING MINOR OSCILLATION

WHICH WOULD BE CONSIDERED NORMAL ADVISED TECH TO PAY CLOSE ATTENTION

TO THE TORQUE OF THE FRONT SUSPENSION COMPONENTS AND AIR PRESSURE IN

THE TIRES

REPAIR 01/19/2006 01:13PM SCOTT GEISEN MSS - FCSD - TECH SVC HOTLINE

CORRECTION** THE TRUCK STARTS VIBRATING IN THE PASSENGER'S SEAT

AND BOX AFTER HITTING A BUMP IN THE ROAD******THE STEERING WHEEL NEVER

DID OSCILLATE***** TECH HAS INSTALLED NEW SHOCKS IN THE FRONT AND REAR

SHOCKS ARE FINE; THE COMPLETE FRONT END IS TORQUED CORRECLY AND

ALIGNMENT IS FINE (NO READINGS COULD BE PROVIDED). NEW TIRES FROM KG

UNIT HAVE BEEN ADDED.

RECOMM 01/19/2006 01:13PM SCOTT GEISEN MSS - FCSD - TECH SVC HOTLINE

ADVISED TECH TO COMPARE THE ALIGNMENT READINGS TO THE WSM, CHECK AGAIN

FOR ANY LOOSE SUSPENSION COMPOENTS.

From: O'Connor, Tammy (T.A.)
Sent: Thursday, August 09, 2007 2:57 PM
To: Gompper, Dan (D.B.)
Subject: FW: Report Summary for the CQIS Report#[redacted]

fyi - report #20

Tammy A. O'Connor
Product Concern Engineer
FCSD Service Engineering Operations
Super Duty F-Series
Body / Chassis / Electrical
248/310-6111 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSC I, Cube 149 (Tuesday,Wednesday)

From: TOCONNOR@ford.com [mailto:TOCONNOR@ford.com]
Sent: Thursday, August 09, 2007 2:52 PM
To: O'Connor, Tammy (T.A.)
Subject: Report Summary for the CQIS Report#[redacted]

Attachments : 0

Report# :	[redacted] NHL			**Received:**	08/08/2007
CCRG/EPRC:		**Reviewed Status:**		**Date:**	
Vehicle:	2008,F450 4X4 SD,CRWCAB ,4X4 ,1FTXW43R78E[redacted]			**Build Date:**	06/18/2007
Odometer :	1,053 M	**Engine:**	6.4L OHV	**Calibration:**	
Transmission:	5R110W DSL	**Axle:**		**A/C:**	YES
Dealer:	CAN B8049 EXPRESSWAY MOTORS LTD			**Phone#:**	(519) 662-3900
City:	New Hamburg	**Province**	Ontario	**Country :**	CAN
Originator:	ROB KENNEDY				
Symptom:	3 03 3 95 CHASS.,STRG/HANDLING ,VIB./SHIMMY,NOT LISTED				
Status:					
VFG:	V89 RIDE & HANDLING				
Additional Symptom:	SHIMMY/WOBBLE FEEL				
Fix:	**Causal Component :**				
Condition Code:					

Hotliner: MMCKAY2 **Phone:** 313 317-4281 **Regn Cd:** 08 08 FCSD REGION-CANADA

Engineering: **Phone:** **TAR:**

Dlr Contact: ROB KENNEDY **Phone:** 519 662-3900 **Title Cde:** T

DTCs:

KOEO:

KOEC:

KOER:

Comments :

REPAIR 08/08/2007 04:10PM MICHAEL MCKAY MSS - FCSD - TECH SVC HOTLINE
WEB FORM DATA - CONCERN: CHECK FOR CAUSE OF STEADY SENSATION, WOBBLE
SENSATION FELT THROUGH WHOLE TRUCK WHILE DRIVING AND HITTING CERTAIN
DIPS IN THE ROAD, CUST REPORTS IT IS WORSE WHEN TOWING TRAILER, CUST
IS CONCERNED ABOUT ALIGNMENT. DIAGNOSTICS: DURING ROADTEST I OBSERVED
THE VEHICL TO BE QUITE WIND SESATIVE AND QUITE ROAD CROWN SENSATIVE,
QUITE SENSATIVE TO DIPS IN THE ROAD, AND STEERING EFFORT QUITE LITE,
ALSO IT SEEMS TO HAVE AN OVER STEER CONCERN RESULTING IN THE REAR END
TO BE LOOSE FEELING TECH QUESTION: DO YOU FEEL ADJUSTING THE SYEERING
BOX PRELOAD WOULD HELP AND HOW ABOUT ADJUSTING CASTOR. I AM AWARE OF
SSM19890 AND SSM19774. UNFORTUNEATELY I DO NOT HAVE A SIMILAR VEHICLE
TO COMPARE TO.

RECOMM 08/08/2007 04:10PM MICHAEL MCKAY MSS - FCSD - TECH SVC HOTLINE
ROB, PLEASE CONTACT THE TECHNICAL HOTLINE TO REVIEW THIS CONCERN IN
FURTHER DETAIL IF YOU DO NOT HAVE A LIKE VEHICLE TO COMPARE TO. USE
CONTACTID [redacted]

REPAIR 08/09/2007 08:53AM RICHARD SCHULTZ MSS - FCSD - TECH SVC HOTLINE
ROB STATES THAT VEHICLE HAS WOBBLE/WANDER/OVERSTEER FEELING WHEN AT
HIGHWAY SPEEDS. DOES NOT HAVE A LIKE VEHICLE TO COMPARE TO. TRUCK HAS
BEDCAP AND 700 LBS. OF WEIGHT IN BED. LOOKING FOR DIRECTION.

RECOMM 08/09/2007 08:53AM RICHARD SCHULTZ MSS - FCSD - TECH SVC HOTLINE
ROB, RECOMMEND CHECKING TIRE PRESSURES. FILL TIRES UP TO MAX ON

DOOR

STICKER AND RETEST. CHECK ALIGNMENT ANGLES. IF NECESSARY, ADJUST

CASTER TO BE SLIGHTLY MORE POSITIVE. ROAD TEST VEHICLE WITH KNOWN GOOD

WHEELS AND TIRES. IF NO CHANGE, REMOVE REAR AXLESHAFTS AND CHECK REAR

WHEEL BEARINGS FOR EXCESSIVE PLAY.

From: King, Robert (R.F.)
Sent: Monday, September 19, 2005 10:42 AM
To: O'Connor, Tammy (T.A.)
Subject: GQCIS 5HYCO006

Tammy,

This dlr already did TSB 04-26-01 per the GCQIS report and after my discussion w/Gary the service manager. Before I drive 200 miles, you have any other recommendations or knowns? Thanks

Bob King
FSE FCSD-KC Region 53, District Zones A3 & B3
913-217-2137 W
816-539-3252 F
816-678-6004 M

From: Nielsen, Joel (.)
Sent: Monday, February 12, 2007 6:41 PM
To: O'Connor, Tammy (T.A.)
Cc: Repasky, Steve (S.)
Subject: New dampener - revised TSB

Tammy,

I have a fleet that has been very patient on this oscillation matter and has had at least two trucks demonstrate the concern on multiple occasions with a TSB completed and tire pressure checked daily.

I wish to move ahead with the use for the revised dampener (per forthcoming TSB). Will the TSB released any day? The fleet currently has both units at dealerships awaiting a repair. I informed them we have a new dampener coming out and that I would get the part installed through the new TSB or dialogue with the dealer.

Here is the e-mail sting and vins. Both have repair history in AWS. Please let me know if I can proceed to advise the dealer to order the parts:

Joel Nielsen
Commercial Area Field Manager
Ford Customer Service Division - SW Market
ph 281-788-0921 / fax 281-651-2362
jnielse1@ford.com

From: Garry Collins
Sent: Sunday, February 11, 2007 1:54 PM
To: Doug Schonberner
Cc: Scott Snyder
Subject: RE: Steering Dampener

[redacted] vehicle is PN 175825 **VIN 1FTSX2156SE**[redacted] The dealership is Grand Prairie Ford in Grand Prairie Phone is 972-859-5400

Garry K Collins
Captain Game Warden
Texas Parks and Wildlife
346 Oaks Trail Suite 100
Garland, Texas 75043
972-226-9966
Fax 972-226-2926

From: Doug Schonberner
Sent: Friday, February 09, 2007 9:29 AM
To: Scott Snyder; Garry Collins; Rick Medford
Subject: RE: Steering Dampener

To clarify, I don't need you to choose the part number. Just provide the property numbers so we can pull the VIN and provide it to Ford. We also need you to provide us the dealership name, city, phone number, that you will be taking the truck.

Thanks for heading this up Scott!

Doug

Here is another one.

Scott Snyder

Asst. Fleet Manager

Texas Parks and Wildlife

(512) 389-8668 Office

([redacted]

(512) 389-8669 Fax

From: Rick Medford
Sent: Sunday, February 11, 2007 7:15 PM
To: Doug Schonberner; Scott Snyder
Subject: FW: Steering Dampener

Doug and Scott,

Here's the information you've requested regarding Trent Herchman's Ford, F250.

1 Ford, F250-----currently with 42,000 miles

2 Property #------175806

3 VIN #------1FTSX21595E[redacted]

4 Dealership------Larry Slack Ford

5 City----------Bowie, TX

6 Phone----------940-872-1133

Joel Nielsen

Commercial Area Field Manager
Ford Customer Service Division - SW Market
ph 281-788-0921 / fax 281-651-2362
jnielse1@ford.com

From: Masel, Dennis (D.M.)
Sent: Monday, October 09, 2006 4:16 PM
To: Lam, Hao (H.C.)
Cc: Hearn, Chet (C.); Gompper, Dan (D.B.); Wegienka, Michael (M.J.)
Subject: ODS (Shimmy)

Attachments: Shimmy ODS channels.xls

All of the transducers are on, logged into the Megadac computer and on the Excel spreadsheet. No testing has been done.

Tests will be as follows:

Test	Front Pressure	Rear Pressure
1	35	35
2	35	55
3	35	75
4	55	55
5	55	75
6	75	75

Shimmy ODS channels.xls

Dennis M. Masel
Core Vehicle Dynamics
Pager & Phone Number: 313-805-2209
text pager: dmasel

Ch#	Cable#	Location	Dir	PROSIG & LMS ID'S	SERIAL#	Ref	Sensitivity	Geometry		
1	1	Left Front Spindle	-x	SPDL:LF:X	10523	-X	10.054	73.0	-74.0	25.0
2			y	SPDL:LF:Y		+Z	10.208			
3			z	SPDL:LF:Z		+Y	9.885			
4	3	Right Front Spindle	-x	SPDL:RF:X	11105	-X	10.64	73.0	74.0	25.0
5			-y	SPDL:RF:Y		-Z	9.125			
6			-z	SPDL:RF:Z		-Y	10.315			
7	4	Left Rear Spindle	x	SPDL:LR:X	11108	+X	9.479	402.0	-75.0	36.5
8			y	SPDL:LR:Y		+Z	9.362			
9			-z	SPDL:LR:Z		-Y	9.916			
10	46	Right Rear Spindle	x	SPDL:RR:X	11138	+X	10.231	402.0	75.0	36.5
11			-y	SPDL:RR:Y		-Z	9.533			
12			z	SPDL:RR:Z		+Y	10.663			
13	C	LH outer Tie Rod End	-y	SUSP:LTRD:Y	4922	-Y	10.655	45.0	-67.5	34.0
14	6	Outer Drag Link/RH Outer Tie Rod End	-y	SUSP:RTRD:Y	20623	-Y	10.665	45.0	67.5	34.0
15	61	Steering Linkage Damper Bracket	-x	SUSP:STRL:X	11212	-Y	9.782	46.0	40.0	55.0
16			-y	SUSP:STRL:Y		-X	11.099			
17			-z	SUSP:STRL:Z		-Z	9.904			
18	19	Steer Damper/Drag Link Connection	x	SUSP:STRD:X	11200	X	10.351	29.5	-23.0	53.5
19			-y	SUSP:STRD:Y		-Z	10.658			
20			z	SUSP:STRD:Z		Y	10.261			
21	30	Sector Shaft Arm	x	SUSP:SHTA:X	11211	-Y	9.908	27.0	-36.5	53.0
22			-y	SUSP:SHTA:Y		-Z	9.721			
23			z	SUSP:SHTA:Z		X	9.658			
24	66	Arm Side Radius Arm Attachment RH	z	FRAM:RRAD:Z	8245	Z	11.327	158.0	48.5	35.5
25	67	Arm Side Radius Arm Attachment LH	z	FRAM:LRAD:Z	4815	Z	10.916	158.0	-48.5	35.5
26	70	LF Shock to Radius Arm	z	SUSP:LRAD:Z	20627	Z	10.221	76.5	-55.0	36.0
27	68	LF Shock to Frame	z	SUSP:LFRM:Z	4934	Z	10.816	79.0	-56.0	57.5
28	63	RF Shock to Radius Arm	z	SUSP:RRAD:Z	8200	Z	10.67	76.5	55.0	36.0
29	13	RF Shock to Frame	z	SUSP:RFRM:Z	4870	Z	11.202	79.0	56.5	57.5
30	62	S/W 9 o'clock Vertical	z	SW:9:Z	4818	Z	10.855	162.0	-67.5	140.0
31	26	S/W 3 o'clock Vertical	z	SW:3:Z	20643	Z	10.396	162.0	-27.5	140.0
32	20	Seat Track	x	SEAT:TRCK:X	11226	X	10.352	188.0	-61.5	86.0
33			y	SEAT:TRCK:Y		Y	10.272			
34			z	SEAT:TRCK:Z		Z	10.138			
35	5	Engine RF Upper	x	ENG:RFUP:X	15988	X	3.246	40.5	33.0	112.0
36	6		y	ENG:RFUP:Y		Y	3.297			
37	7		z	ENG:RFUP:Z		Z	3.035			
38	9	Engine LF Upper	x	ENG:LFUP:X	12251	X	3.023	45.0	-26.0	112.5
39	12		y	ENG:LFUP:Y		Y	3.068			
40	13		z	ENG:LFUP:Z		Z	3.041			

41	1	Engine Rear Center Upper	x	ENG:RCNT:X	15185	X	3.024	85.5	15.0	118.0
42	2		y	ENG:RCNT:Y		Y	3.2			
43	3		z	ENG:RCNT:Z		Z	2.9			
44	48	Track Bar (RH)	x	SUSP:PITA:X	11230	X	10.445	54.5	47.0	36.0
45			-y	SUSP:PITA:Y		-Y	10.799			
46			-z	SUSP:PITA:Z		-Z	11.006			
47	2	Track Bar (LH)	-y	SUSP:TRCB:Y	4832	-Y	10.759	44.0	-48.0	51.0
48	2	Left FESM (on frame side)	-x	FRAM:LFSM:X	11146	-X	10.194	11.0	-44.0	59.0
49			y	FRAM:LFSM:Y		+Y	10.225			
50			-z	FRAM:LFSM:Z		-Z	10.297			
51	6	Left BM1 (on frame side)	x	FRAM:LBM1:X	11147	-X	10.037	128.0	-52.0	59.0
52			y	FRAM:LBM1:Y		+Y	10.671			
53			-z	FRAM:LBM1:Z		-Z	10.62			
54	5	Left BM2 (on frame side)	-x	FRAM:LBM2:X	11148	-X	9.521	253.0	-51.5	75.0
55			y	FRAM:LBM2:Y		Y	9.963			
56			-z	FRAM:LBM2:Z		-Z	10.692			
57	11	Left Bed (on frame side)	x	FRAM:LBM3:X	11759	X	9.814	372.0	-49.0	88.0
58			-y	FRAM:LBM3:Y		-Y	10.928			
59			-z	FRAM:LBM3:Z		-Z	10.906			
60	18	Left Rear Frame	x	FRAM:LRR:X	11196	X	9.654	512.0	-48.5	72.5
61			-y	FRAM:LRR:Y		-Z	10.476			
62			z	FRAM:LRR:Z		Y	10.713			
63	53	Right FESM (on frame side)	-x	FRAM:RFSM:X	11224	-X	9.585	11.0	44.0	59.0
64			y	FRAM:RFSM:Y		Y	10.096			
65			-z	FRAM:RFSM:Z		-Z	9.512			
66	25	Right BM1 (on frame side)	x	FRAM:RBM1:X	11229	X	10.05	128.0	52.0	59.0
67			-y	FRAM:RBM1:Y		-Y	10.643			
68			-z	FRAM:RBM1:Z		-Z	10.886			
69	20	Right BM2 (on frame side)	x	FRAM:RBM2:X	11203	X	10.717	253.0	51.5	75.0
70			-y	FRAM:RBM2:Y		-Y	10.014			
71			-z	FRAM:RBM2:Z		-Z	9.477			
72	43	Right Bed (on frame side)	x	FRAM:RBM3:X	11218	X	10.52	323.0	49.0	81.5
73			-y	FRAM:RBM3:Y		-Y	9.829			
74			-z	FRAM:RBM3:Z		-Z	10.253			
75	7	Right Rear Frame	x	FRAM:RR:X	11214	X	10.171	512.0	48.5	73.0
76			y	FRAM:RR:Y		Z	9.988			
77			-z	FRAM:RR:Z		-Y	10.261			

From: Chaulk, Michael (M.G.)
Sent: Wednesday, November 16, 2005 10:43 AM
To: Hatt, Jeffrey (J.M.)
Cc: Chaulk, Michael (M.G.)
Subject: P221 field issue

Jeff,

Have you had any experience in the field with 2005 MY F-250 4X4 standard cab trucks with front suspension issues? A fleet in Michigan reported to me they have:

Fleet #	Mileage	VIN #
269	7,622	1FTNF21545E[redacted]
297	5,669	1FTNF21515E[redacted]

Both trucks are 2005 F250s With 5.4L 4X4
Standard cabs With Automatic Trans

Both trucks will shake violently at speeds ranging from 55 mph. to 75 mph. normally need to slow down below 45-50 mph. to get it to stop. Drivers say shakes violently enough to almost lose control. Normally can make it happen by hitting any size bump in the road.

They returned one vehicle which they were leasing. The dealership working on the issue says there is nothing that can be done - I.E. they don't know how to repair it? The contact at the fleet (Torre & Buglio) is Tom Walters and he can be contacted at (248) 303-2742 or (810) 814-7032. I believe they tow trailers on a fairly consistent basis. Any chance someone could talk to them? Thanks.

Michael G. Chaulk (mchaulk@ford.com)
V-Engine Fleet Test Coordinator
Instrumentation CTR / PT Fleet Section
Vehicle Evaluation and Verification
Office (313) 845-2501
[redacted]

From: Eveland, Marty (M.)
Sent: Thursday, September 21, 2006 11:01 PM
To: O'Connor, Tammy (T.A.)
Subject: RE: 1FTSX21Y45E[redacted]

I will personally go over the truck Oct. 2. I will perform the TSB again so I can see it. I will attempt to obtain alignment settings ASAP.

Marty Eveland
FSE-Mountain West
District A
720-253-3774
meveland@ford.com

From: O'Connor, Tammy (T.A.)
Sent: Thursday, September 21, 2006 6:00 AM
To: Eveland, Marty (M.)
Cc: Johnson, Jennifer (J.P.); Hale, Curt (B.C.); Knapp, David (D.)
Subject: RE: 1FTSX21Y45E[redacted]

Marty:

Have you personally gone over this truck and confirmed that everything is to spec. and the TSB has been done correctly.

It's not that I don't trust the dealership, but it would be very embarrassing to have Engineering make a trip to New Mexico (especially in today's business climate), and find that something had been overlooked.

I need confirmation that you have personally gone over this truck in detail, and that you have verified that everything has been done.

Caster should be set to bottom of spec for this truck.
All steering & suspension torque should be verified -- they should be loosened and then re-torqued to spec.
Steering dampner is not leaking, etc.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Eveland, Marty (M.)

Sent: Wednesday, September 20, 2006 10:46 PM
To: O'Connor, Tammy (T.A.)
Cc: Johnson, Jennifer (J.P.)
Subject: FW: 1FTSX21Y45E[redacted]

Tammy: Please review the note below. The dealer has already been through the front suspension on this vehicle multiple times for the steering shake. I was unable to confirm the issue on my last visit to the dealer, but I know these trucks can be very inconsistent on when they act up. I believe the customer has this problem even with tire pressures up. Please advise on how I should proceed. The only idea I have at this point is to recommend a dual-steering shock system that is currently available in the aftermarket. I am confident that would fix this truck per feedback from other dealers and individuals that have performed that modification.

Maybe someone from steering engineering would like to visit Santa Fe, New Mexico to review this vehicle over several days?

CQIS report attached.

Marty Eveland
FSE-Mountain West
District A
720-253-3774
meveland@ford.com

From: Eveland, Marty (M.)
Sent: Wednesday, September 20, 2006 8:36 PM
To: 'MICHAEL BRANDT'
Cc: Johnson, Jennifer (J.P.); Geno
Subject: RE: 1FTSX21Y45E[redacted]

I need you guys to verify the concern with him. I need you to verify tire pressures are up to spec as it is critical. I will see if I can make an opportunity to come down, but it will be at least 2 weeks out. If you guys can verify the concern, with tire pressure up, I can proceed with some options, but I need you to see it...and I need you to verify tire pressures before the drive. If the pressures are lower than the door sticker, it will shake.

I know this sounds stupid, but it has now been two weeks since I drove it with you and the customer on Sep. 5, which is enough time for the air pressure to have dropped in the tire(s).

I also need you guys to get the current alignment settings on the truck for me as Detroit wants them.

I would prefer we act now via telephone rather than later, in person.

Marty Eveland
FSE-Mountain West
District A
720-253-3774
meveland@ford.com

From: MICHAEL BRANDT [mailto:michael.brandt@capitolmotor.com]
Sent: Wednesday, September 20, 2006 3:49 PM

To: Eveland, Marty (M.)
Cc: Johnson, Jennifer (J.P.); Geno
Subject: 1FTSX21Y45[redacted]

Marty,

The customer with the F-250 that shakes when hitting bumps at 75 on the interstate is reporting that the concern is still happening. When can you come back to check out the truck?

Sincerely,

Michael Brandt
Service Director
Capitol Motor Co.
505-428-7460

From: Hasselbring, D Blake (D.B.)
Sent: Monday, January 29, 2007 4:09 PM
To: O'Connor, Tammy (T.A.); Doss, Jacob (J.E.); McCall, Kris (K.J.)
Cc: Hale, Curt (B.C.); Gompper, Dan (D.B.); Repasky, Steve (S.)
Subject: RE: 46MPH HOP-2006 F350 172" WB

Jacob clarified the issue with Dan and I over the phone. Thanks Jacob!

The damper did little to reduce California Freeway Hop. Possibly a 10% improvement. We agreed to add a sentence in the TSB saying the damper does not improve vibration from "segmented concrete highways".

The damper did help reduce the broken surface vibration (40-48 mph) by about 50 - 60% (the damper's intent for this TSB). The vehicle was noticeably better, but the concern was still present. This is consistent with what we have seen in other trials.

Concern unit was a Crew Cab 172" 6.0L 4x4 SRW w/ 20" Tires/Wheels.

D. Blake Hasselbring
Truck Vehicle Dynamics
Dearborn Office: EVB 2E-M02
[redacted]
Email: dhasselb@ford.com

From: O'Connor, Tammy (T.A.)
Sent: Monday, January 29, 2007 4:28 AM
To: Doss, Jacob (J.E.); McCall, Kris (K.J.)
Cc: Hale, Curt (B.C.); Gompper, Dan (D.B.); Repasky, Steve (S.); Hasselbring, D Blake (D.B.)
Subject: RE: 46MPH HOP-2006 F350 172" WB

We appreciate your feedback - I'm sending this over to Engineering. Thanks.

Tammy A. O'Connor
Product Concern Engineer
FCSD Service Engineering Operations
Super Duty F-Series
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Doss, Jacob (J.E.)
Sent: Sunday, January 28, 2007 9:07 PM
To: McCall, Kris (K.J.)
Cc: O'Connor, Tammy (T.A.)
Subject: RE: 46MPH HOP-2006 F350 172" WB

I put this on my truck with little to no improvement.

From: McCall, Kris (K.J.)
Sent: Wednesday, November 08, 2006 3:00 PM
To: Carey, John (J.P.); Kuffel, Adam (A.B.); Hanson, Chris (C.)
Cc: Christoff, Donald (D.A.); Tiernan, Dennis (D.R.); Conroy, David (D.J.); Haley, Jonathan (J.C.); Morrison, Bill (B.E.); Jenkins, Bryan (B.); Doss, Jacob (J.E.); Wilde, Chris (L.C.)
Subject: FW: 46MPH HOP-2006 F350 172" WB

Guys,

This looks like it might work on some of these tough to resolve 1st order tire vibrations/bed hop on Super Duty trucks. We are installing this damper on a truck at World Ford in Pensacola. We shall see, but it looks like Wes Malik had some luck…

Kris McCall
Field Service Engineer
FCSD -- Florida Market
407-467-4980
kmccall1@ford.com

From: O'Connor, Tammy (T.A.)
Sent: Wednesday, November 08, 2006 11:03 AM
To: McCall, Kris (K.J.)
Subject: FW: 46MPH HOP-2006 F350 172" WB

Fyi.

Tammy A. O'Connor
Product Concern Engineer
FCSD Service Engineering Operations
Super Duty F-Series
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Malik, Wesley (W.K.)
Sent: Friday, November 03, 2006 7:25 PM
To: McDonagh, Scot (S.M.); Merrell, Robert (R.J.); Johnston, Steven (S.J.); O'Connor, Tammy (T.A.)
Cc: Knapp, David (D.); Repasky, Steve (S.); Hasselbring, D Blake (D.B.); Barrett, Malcolm (M.C.); Hale, Curt (B.C.); Kromberg, Arnold (A.W.)
Subject: RE: 46MPH HOP-2006 F350 172" WB

I installed Engineering number 4L34-5D008-BB which crosses to Ford Service Part #-4L3Z-5D008-BA which is for F450 per Parts. This is 8.0 HZ to 9.5HZ range and quite heavier than the 2004-2005 F150 damper in TSB 06-12-2 which is for 9.0-10.5 HZ range and Engineering number 4L34-5D008-AC which crosses to Ford Service Part number 4L3Z-5D008-AA. The Frame damper kit for a 2006 F150 is Ford Service Part # 6L3Z-5D008-B. This damper mounts on top of left frame rail. Is that confusing or what?

Anyway, we mounted it on left rear frame rail, behind left rear spring hanger and 46 mph hop 85% fixed and customer stated so. We had to drill 2 holes in frame rail and mounted with grade 8 bolts. The inside damper mounts outward from frame rail which is different on F150. I am including the mount photos previously provided as an attachment. Customer [redacted] VIN # 1FTWW30P96E[redacted]

BBB case FRD0656997-1R CuDL# 509341636 resolution has offered customer to trade out of this unit into 2007 similar unit at no cost to him, and that is what he prefers to do.
Customer stated: "Can you install this on my new replacement truck also"?

Adding this damper also corrected a vibration felt frequency in unit when driving 5 mph over a speed bump, and feel oscillation thru seats and floorboard for approx 5 seconds.……smoothed it right out.

With Vetronic 4100 EVA my EVA readings at 46 mph were 8.5 HZ fluctuating from .012 G to .043G severe hop up & down within 3 Seconds prior to installing damper. After damper readings-8.5 HZ .016G to .019G……and even, indicating minimal hop, I guess.

On a separate subject I am going to test this same damper on F150's with similar felt vibration at slow speeds of speed bumps, and in same range.

Also, could this frame flex be an issue related to buck jerk concerns with 6.0L with goose neck trailers?
Could it also be revelant to steering wheel shimmy also?

<< File: 4L34-5D008-BB_9pt5 Hz Damper.ppt >>

Thanks for all your help!

Wes Malik
Field Service Engineer
Southwest Market
210-269-9065
wmalik@ford.com

From: McDonagh, Scot (S.M.)
Sent: Friday, November 03, 2006 7:17 AM
To: Merrell, Robert (R.J.); Johnston, Steven (S.J.); O'Connor, Tammy (T.A.)
Cc: Knapp, David (D.); Repasky, Steve (S.); Hasselbring, D Blake (D.B.); Malik, Wesley (W.K.)
Subject: RE: 46MPH HOP

Anyone need a Damper for their riding lawn mower ? Let's order (1) BB suffix part and try it on Steve's truck.

Wes- Did you install the "BB" Damper on the customer truck ?

Scot G. McDonagh
Super-Duty/Excursion
Powertrain Quality Leader
Phone: (313)337-8091
smcdonag@ford.com

From: Merrell, Robert (R.J.)
Sent: Friday, November 03, 2006 8:10 AM
To: McDonagh, Scot (S.M.); Johnston, Steven (S.J.); O'Connor, Tammy (T.A.)
Cc: Knapp, David (D.); Repasky, Steve (S.); Hasselbring, D Blake (D.B.); Malik, Wesley (W.K.)
Subject: RE: 46MPH HOP

No, you had me order 4L34-5D008-BB. Oh my god, not my fault for a change. Scott had made an error.

<< Message: FW: 46 mph Smooth Road Vehicle "Hop" >>

From: McDonagh, Scot (S.M.)
Sent: Friday, November 03, 2006 7:52 AM
To: Merrell, Robert (R.J.); Johnston, Steven (S.J.); O'Connor, Tammy (T.A.)
Cc: Knapp, David (D.); Repasky, Steve (S.); Hasselbring, D Blake (D.B.); Malik, Wesley (W.K.)
Subject: RE: 46MPH HOP

What part number did we order ….. 4L3Z-6G092-BB ? I thought it was a current production F-450 part ?

<< Message: RE: 46 mph Smooth Road Vehicle "Hop" >>

Scot G. McDonagh
Super-Duty/Excursion
Powertrain Quality Leader

Phone: (313)337-8091
smcdonag@ford.com

From: Merrell, Robert (R.J.)
Sent: Thursday, November 02, 2006 2:49 PM
To: Johnston, Steven (S.J.); O'Connor, Tammy (T.A.); McDonagh, Scot (S.M.)
Cc: Knapp, David (D.); Repasky, Steve (S.)
Subject: RE: 46MPH HOP

The part given to me to install on the truck was for F-150.
We would have to modify the frame to make it work. Can't do that.

Bob Merrell
Superduty Powertrain Quality Responsible Team
PH & fax : (313) 32-31513 Pager: 313-795-0297
PDC 1J-E11 & Six Sigma Center Garage

From: Johnston, Steven (S.J.)
Sent: Thursday, November 02, 2006 2:38 PM
To: O'Connor, Tammy (T.A.); McDonagh, Scot (S.M.); Merrell, Robert (R.J.)
Cc: Knapp, David (D.); Repasky, Steve (S.)
Subject: RE: 46MPH HOP

No my truck was not upfitted, they couldn't make it work.

Steve Johnston
Product Concern Engineer
Super Duty and Excursion Powertrain
FCSD, Service Engineering Operations
Phone - 313-322-1785

From: O'Connor, Tammy (T.A.)
Sent: Thursday, November 02, 2006 2:26 PM
To: McDonagh, Scot (S.M.); Merrell, Robert (R.J.); Johnston, Steven (S.J.)
Cc: Knapp, David (D.); Repasky, Steve (S.)
Subject: RE: 46MPH HOP

Scot:

What is the tag# of the truck you are talking about - and who has it right now?

Tammy A. O'Connor
Product Concern Engineer
FCSD Service Engineering Operations
Super Duty F-Series
Body / Chassis / Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: McDonagh, Scot (S.M.)
Sent: Thursday, November 02, 2006 2:24 PM

To: Merrell, Robert (R.J.); Johnston, Steven (S.J.)
Cc: Knapp, David (D.); O'Connor, Tammy (T.A.); Repasky, Steve (S.)
Subject: RE: 46MPH HOP

Did we get the Damper mounted on Steve's truck ? That crew cab 172" Gasser I drove up north last weekend is terrible at 70-75MPH with CC engaged. Northbound US-23 between Brighton & Flint and Southbound I-75 between Standish & Linwood.

Scot G. McDonagh
Super-Duty/Excursion
Powertrain Quality Leader
Phone: (313)337-8091
smcdonag@ford.com

From: O'Connor, Tammy (T.A.)
Sent: Thursday, November 02, 2006 12:15 PM
To: Repasky, Steve (S.)
Cc: Knapp, David (D.); McDonagh, Scot (S.M.)
Subject: RE: 46MPH HOP

Steve:

What is the latest status on this issue -- not sure if we need to have another meeting?

Tammy O'Connor
Product Concern Engineer
FCSD Service Engineering Operations
Super Duty F-Series
Body / Chassis / Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: McDonagh, Scot (S.M.)
Sent: Thursday, November 02, 2006 11:05 AM
To: O'Connor, Tammy (T.A.); Knapp, David (D.)
Subject: 46MPH HOP

Are we having a follow-up meeting ?

ISM 06-10-054 2005-07 F-Super-duty 45-49mph Narrow Band Vibration/Hop
Some 2005-2007 F Super-duty may have a narrow band vibration from 46-48 mph. To help engineering identify issues please help by using "46-48mph hop" in the additional symptom line. Please identify hop as up and down or side to side, whether or not it happens when induced by a bump, if the concern seems to be related to pavement conditions. If possible obtain hz reading from an EVA or Vetronix. Also inquire if the concern is induced by throttle response. To try and help engineering determine root cause use at least 250 lbs weight in the bed of the truck to see if the concern is different. Document weight and location if they have already done this. Engineering is presently investigating. (10/26/06)

Scot G. McDonagh
Super-Duty/Excursion
Powertrain Quality Leader
Phone: (313)337-8091
smcdonag@ford.com

From: O'Connor, Tammy (T.A.)
Sent: Monday, July 18, 2005 10:07 AM
To: Snider, Alex (A.); Knapp, David (D.)
Cc: Repasky, Steve (S.); Bleau, Serge (R.); Mayer, Paul (P.A.); Laquerre, Mike (M.J.); Parent, James (J.); Davis, Craig (C.B.); Hale, Curt (B.C.)
Subject: RE: 2005 'F' SUPER DUTY EXCESSIVE STEERING WHEEL OSCILLATION WHILE DRIVING OVER BUMPS AT SPEEDS BETWEEN 75 AND 100 KPH

Alex: Thanks so much for this information.

- David: Can you put together an ISM for the Hotline that advises the Dealer before performing TSB 04-26-01 that they check **1st:** tire pressure and **2nd:** the front track bar retaining nut and attaching hardware torque.
- If we continue to receive reports of this, we can update the TSB to include 2006 MY and add this information.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thurs,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

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-----Original Message-----
From: Snider, Alex (A.)
Sent: Monday, July 18, 2005 9:46 AM
To: Hale, Curt (B.C.); O'Connor, Tammy (T.A.)
Cc: Repasky, Steve (S.); Bleau, Serge (R.); Mayer, Paul (P.A.); Knapp, David (D.); Laquerre, Mike (M.J.); Parent, James (J.); Davis, Craig (C.B.)
Subject: 2005 'F' SUPER DUTY EXCESSIVE STEERING WHEEL OSCILLATION WHILE DRIVING OVER BUMPS AT SPEEDS BETWEEN 75 AND 100 KPH
Importance: High

This note is meant to bring you up to speed on a situation that is growing in Canada. **The issue is excessive steering wheel oscillation that doesn't stop until you stop the vehicle.** Hitting a pot hole, driving over railway tracks and/or driving on wash board gravel roads sets off this excessive oscillation. In talking with Paul Mayer he advised of an issue that surfaced in the USA. Paul advised that low tire pressure and low torque on the front track bar attaching hardware were a cause of the issue.

The Technical Hotline had opened 4 T.A.R. requests for Canadian Dealers.

Here is the info on three of the vehicles, (**Note:** not all of these units were TAR'd):

1. Vehicle: 1FTSW21545E[redacted], GCQIS #: 5FCC9001

- Tire Pressure: Set between 40 and 50 PSI.
- Tire Pressure Spec per the door decal: 75 PSI

Torque values on the front track bar:

- Track bar bracket-to-frame nuts and bolts: Spec: 129 ft-lb. Actual: 100 ft-lb.
- Track bar-to-track bar bracket bolt: Spec: 406 ft-lb. Actual: 325 ft-lb.
- Track bar-to-axle nut: Spec 185 ft-lb. Actual: 185 ft-lb.

2. Vehicle: 1FTSX21585E[redacted], GCQIS #: 5GHDM002

- Tire Pressure: Set 35 psi frt. and 40 psi rear.
- Tire Pressure Spec per the door decal: 75 PSI

Torque values on the front track bar:

- Track bar bracket-to-frame nuts and bolts: Spec: 129 ft-lb. Actual: 2 @ 110 ft-lb. 1 @ 90 ft-lb, 1@ 95 ft-lb and 1 @ 100 ft-lb.
- Track bar-to-track bar bracket bolt: Spec: 406 ft-lb. Actual: 325 ft-lb.
- Track bar-to-axle nut: Spec 185 ft-lb. Actual: 170 ft-lb.

3. Vehicle: 1FTSW21545E[redacted], GCQIS #: 5F2GG003

- Tire Pressure: Set 50 PSI.
- Tire Pressure Spec per the door decal: 75 PSI
-

Torque values on the front track bar:

-
- Track bar bracket-to-frame nuts and bolts: Spec: 129 ft-lb. Actual: 100 ft-lb.
- Track bar-to-track bar bracket bolt: Spec: 406 ft-lb. Actual: Didn't record value. Had to turn the nut 1/4 of a turn to reach 406 ft-lb spec..
- Track bar-to-axle nut: Spec 185 ft-lb. Actual: 185 ft-lb.

In all these cases when the torque and tire pressure was set correct the issue was resolved. Vehicle # 3 has a minor oscillation still but it now applies to TSB 04-26-01. We have performed the TSB box adjustment 3 times and the oscillation is still present. We are going to replace the steering box on this vehicle.

Why are tire pressures being set low:

- The Customers have purchased an "F" Super Duty vehicle and are not happen with the ride when the vehicle is either empty or not towing a trailer. They are taking it upon themselves to lower the air pressure to get a smoother ride.

What we don't know:

- Is it possible that the track bar and attaching bracket hardware nuts and bolts torque when leaving KTP is being set below specification?
- Is the torque being set correctly at KTP and we are having torque relax over time?

What can the Hotline do?:

- When Dealers are calling the Hotline the specialist is referring the Dealers to TSB 04-26-01. Would it also be possible for the Hotline to advise the Dealer before performing TSB 04-26-01 that they check the **1st:** tire pressure and **2nd:** the front track bar retaining nut and attaching hardware torque.

Regards,

"Accelerate Growth Through Customer Satisfaction and Loyalty"

Alex Snider
Ford Motor Company of Canada
Technical Service Support Specialist

Outlook ID: asnider@ford.com
Dial net: 853-1485
Outside #: 905-845-2511, ext: 1485

From: Rooker, Heather (H.R.)
Sent: Wednesday, February 28, 2007 2:32 PM
To: O'Connor, Tammy (T.A.)
Cc: Manning, Justin (J.E.)
Subject: RE: 1FTWX31575E[redacted] MR [redacted] Parts Delay

SERVICE PART: 7C3Z- 3E652-C____ BRACKET
S

A REC C LOC	Total Salable	Alloc	Intrans Avail	Special Asn/Xfr	--Un--- Pgm	-Recv-- Salable	NYS	Rst D Rework Ind I
AF1JA	83	0	83	0	0	0	0	0 1
AF2LA	0	0	0	0	0	0	0	0 7
P7AKA	0	0	0	0	0	0	0	0 1

Stock available.

Heather Rooker
QSF/Critical Parts Specialist
Parts, Supply & Logistics
Ford Customer Service Division
Phone: (734)523-5612
Fax: (734)523-6044
hrooker@ford.com
"The happiest people don't have the best of everything.
They just make the best of everything."

From: O'Connor, Tammy (T.A.)
Sent: Wednesday, February 28, 2007 10:07 AM
To: Rooker, Heather (H.R.)
Cc: Manning, Justin (J.E.)
Subject: RE: 1FTWX31575E[redacted] MR [redacted] Parts Delay

Heather:

This is for the bracket for the steering shimmy TSB 7c3z3e652c

[redacted]

Tammy A. O'Connor
Product Concern Engineer
FCSD Service Engineering Operations
Super Duty F-Series
Body / Chassis / Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Manning, Justin (J.E.)
Sent: Wednesday, February 28, 2007 9:38 AM
To: O'Connor, Tammy (T.A.)
Subject: FW: 1FTWX31575E[redacted] MR [redacted] Parts Delay

Tammy,

It appears the bracket for the new steering dampener is on backorder. Do you have any additional info on the part availability?

The part information is as follows:

- Vin — 1FTWX31575E[redacted]
- Make Model and Year — 2005 F-SERIES SUPER DUTY
- Dealers P&A Code — 03750 GRIFFIN FORD
- Part # — 8C3Z-3E652-A
- DOR/FPSD# — emergency ordered on 1/20/07
- Part release date — none as of yet
- Dealer contact and phone # — 203-966-4546 Peter

Thanks again for all your assistance!

Justin E Manning
Field Service Engineer
Northeast Market, District C
(201) 529-7293 (work)
(845) 313-9093 (cell)

From: Pemberton, David (D.)
Sent: Monday, February 26, 2007 10:12 AM
To: Manning, Justin (J.E.); Hughes, Mitchell (M.R.)
Cc: griffinfordsvc@optonline.net; Williams, Terry (T.L.)
Subject: 1FTWX31575E[redacted] MR [redacted] Parts Delay

Justin and all,

Mitch, do you think you could look into this for me??

Paul, here is the email you requested will forward any response asap...

Justin, please email me asap with any new info you can also call 8666313788 ext 7391

Terry, any possibility you could look into this as well, customer has been waiting for this part since 1/19/

Thanks to you all!

Griffin Ford is looking for a part Justin was assisting with:

- Vin 1FTWX31575E[redacted]
- Make Model and Year 2005 F-SERIES SUPER DUTY
- Dealers P&A Code 03750 GRIFFIN FORD
- Part # 8C3Z3E652A
- DOR/FPSD# emergency ordered on 1/20/07
- Part release date none as of yet
- Dealer contact and phone # 203-966-4546 Peter

David Pemberton
Customer Care Solutions Team
Northeast Market
1-866-631-3788 x 7391
Dpember3@Ford.com
"In order to arrive at what you are not,
you must first go thru the way in which you are not"

From: Avery, Kevin (K.)
Sent: Monday, October 23, 2006 3:10 PM
To: Repasky, Steve (S.)
Cc: O'Connor, Tammy (T.A.); Gompper, Dan (D.B.)
Subject: RE: 06 F-250 Steering wheel fight

1FTSW21556E[redacted]

Original BFG tires. I have a video clip of one event but of course video files are large, this 23 second clip is 17.6 MB. It shows nothing exciting since like most, it's not severe but we can't convince the customer of that.

The truck has 888.9 engine hours and 30739 miles.

Kevin Avery
Field Service Engineer, Northeast Region
(774) 285-9143

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From: Repasky, Steve (S.)
Sent: Friday, October 20, 2006 4:24 PM
To: Avery, Kevin (K.)
Cc: O'Connor, Tammy (T.A.); Gompper, Dan (D.B.)
Subject: RE: 06 F-250 Steering wheel fight

Thanks for the heads up. The VIN would be helpful. Also, any alignment info and repair history. I assume these are also factory tires on a non-modified vehicle. I'll try to get with you on Monday..

From: Avery, Kevin (K.)
Sent: Friday, October 20, 2006 3:36 PM
To: Repasky, Steve (S.)
Cc: O'Connor, Tammy (T.A.); Tricomi, Lynda (L.K.)
Subject: 06 F-250 Steering wheel fight

Steve,

I just got a call from a dealer regarding a 2006 F-250 5.4L with the steering wheel fight (not the minor oscillation issue) at one of my bigger truck dealers in Concord, NH. They've done the TSB and still have the issue. I'm going up there Monday morning to evaluate and will take my personal camera along to document some video of the events as well as still shots where necessary. Anything additional or unusual that you can think of that you want documented just let me know.

Tammy,

If I have anything new I'll try to get it in for the CMT call. If I just the usual scenario where the TSB can't address the issue then I won't bother.

Lynda,

Just a heads up that we have another, this time at Grappone.

Kevin Avery
Field Service Engineer, Northeast Region
(774) 285-9143

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From: Eveland, Marty (M.)
Sent: Monday, August 14, 2006 1:44 PM
To: O'Connor, Tammy (T.A.)
Subject: RE: 6.0L Steering Osciliation

I just drove a customer unit this morning with this issue…although it is not as severe as other trucks I have driven. The steering shakes for about one full second before calming down. Vehicle is a diesel with 6000 pound front springs. Odometer=29143. TSB has been performed to no avail. I verified tire pressure set to 75 pounds before I drove the vehicle. This truck will exhibit the concern mostly on freeway interchanges at the seams in the road. I will file a cqis report ASAP…I believe the dealer has already contacted the hotline.

I told the dealer this condition is a vehicle characteristic right now as the TSB states it will only minimize the concern, not eliminate it.

VIN 1FTWW33P55E[redacted]

I have another vehicle (customer unit) I am going to drive in Santa Fe, New Mexico in the next week or so which I will let you know about once I drive it.

Marty Eveland
FSE-Mountain West
District A
720-253-3774
meveland@ford.com

From: O'Connor, Tammy (T.A.)
Sent: Monday, August 07, 2006 7:01 AM
To: Meier, Kenneth (K.W.)
Cc: Asay, Larry (L.L.); Eveland, Marty (M.); Repasky, Steve (S.); Hale, Curt (B.C.)
Subject: RE: 6.0L Steering Osciliation

Ken:

We are going to work on a business case to present to Engineering on the steering wheel oscillation issue on many of our fleets. We recently had a meeting with Mary Eveland and Larry Asay on this issue. We have ask them to pull together the following information. Just forwarding me a list of vins will not help. I need the following information gathered:

1. Name of fleet, contact name, and phone number
2. Vins of all Super Duty Trucks in Fleet with the following information: engine, body style, wheel base, etc.
3. Confirmation that tire pressure is set to door label
4. Confirmation that TSB has been done completely (each step, especially caster on gas engines)
5. A complete list of any/all modifications that has been done to truck
6. Describe where/how each truck that has an issue is being driven
7. What has fleet done on each truck to try and resolve issue - for example - different tires, shocks, springs?
8. We want comments on each truck - exact complaint from fleet - we want to know what they are saying, but tire pressure must be set to door spec. Please don't just send a list of duplicate verbatims.

This will help us move this issue forward.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Asay, Larry (L.L.)
Sent: Tuesday, October 31, 2006 2:27 PM
To: O'Connor, Tammy (T.A.)
Subject: RE: 2005 - 2007 Superduty trucks

Both Vic and I will be out in the middle of Nevada meeting with Barrick Gold Strike. We'll try and find a town with a phone in it!!

From: O'Connor, Tammy (T.A.)
Sent: Tuesday, October 31, 2006 11:22 AM
To: Asay, Larry (L.L.); Hale, Curt (B.C.)
Cc: Witthar, Mark (M.B.); Meier, Kenneth (K.W.); Johnson, Ernita (E.D.); Repasky, Steve (S.)
Subject: RE: 2005 - 2007 Superduty trucks

Larry:

Thanks for forwarding the e-mail.

We have a meeting on Wednesday afternoon at 4pm, I hope that you will be able to call into the meeting.

We'll decide next steps then.

We need your assistance in getting our hands around how big this issue actually is.

We need CVO to provide data so we can move this issue forward.

What we need (in the form of data)

- Names of fleets with issue, and where they are located
- number of trucks, body style, wheelbase, etc.
- has tsb been done, severity of issue after tsb
- is this minor shimmy or severe wheel fight
- is issue that customers do not want to have tire pressure to spec
- what has been done behind the scenes to correct issue
- are customers purchasing other brands

What we don't need:

- tsb doesn't work (need data if this is true)
- no data
- issue has not been confirmed by FSE, CVO

Worst case senario would be to take this issue forward to Engineering, Engineering makes trip to Fleet, and Engineering finds TSB has not been completed or done at all.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations

Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Asay, Larry (L.L.)
Sent: Tuesday, October 31, 2006 12:55 PM
To: O'Connor, Tammy (T.A.); Hale, Curt (B.C.)
Cc: Witthar, Mark (M.B.); Meier, Kenneth (K.W.); Johnson, Ernita (E.D.)
Subject: FW: 2005 - 2007 Superduty trucks

FYI. Here's another fleet with the issue. Noble buys about 100 trucks per year.

From: gkincheloe@nobleenergyinc.com [mailto:gkincheloe@nobleenergyinc.com]
Sent: Tuesday, October 31, 2006 9:08 AM
To: Kachel, Victor (V.R.); Asay, Larry (L.L.)
Cc: gpachner@nobleenergyinc.com; sreasoner@nobleenergyinc.com; bfanning@nobleenergyinc.com; mduckworth@nobleenergyinc.com
Subject: 2005 - 2007 Superduty trucks

Vic/Larry:

The problem with the stabilizer bar on the Ford 2005 - 2007 Superduty truck has hit a critical point in our company. It is becoming a major safety issue. I sent you a list of the problems with the trucks in the Canadian, TX and Weatherford, OK areas earlier and have been told that the same problem is occurring in our Illinois operations as well. We need to have Larry make a trip to our Canadian, TX office ASAP to see the severity of the problem. Some of our managers are requesting that we do not order any more Ford's until this issue has been resolved in a satisfactory manner. We have spent a large amount of time and money having the vehicles fixed and feel that Ford should reimburse Noble for what appears to be a design problem. I have been assured that the tires are inflated to the proper pressure, the proper tires are on the vehicles and the steering dampers are not leaking. We are also concerned that this issue will continue with the 2008 Superduty. Please let me know when Larry plans to visit our Canadian, TX office and if you have any questions.

Gene Kincheloe
Financial Analyst
Noble Energy Production, Inc.
e-mail: gkincheloe@nobleenergyinc.com
Telephone: (303) 228-4094
Fax: (303) 228-4280
Please note the new e-mail address
Please note the new telephone and fax numbers which are effective Friday, January 13, 2006

From: Repasky, Steve (S.)
Sent: Tuesday, October 31, 2006 4:35 PM
To: O'Connor, Tammy (T.A.)
Subject: RE: 2005 - 2007 Superduty trucks
Attachments: Superduty List of names for Ford_Fleet.xls

Tammy - Attached is a list of names from the e-mails on this Superduty subject. Anyone I should add? Who might be the local person to actually meet with Fleet and observe the concern? Thanks...

From: O'Connor, Tammy (T.A.)
Sent: Tuesday, October 31, 2006 1:22 PM
To: Asay, Larry (L.L.); Hale, Curt (B.C.)
Cc: Witthar, Mark (M.B.); Meier, Kenneth (K.W.); Johnson, Ernita (E.D.); Repasky, Steve (S.)
Subject: RE: 2005 - 2007 Superduty trucks

Larry:

Thanks for forwarding the e-mail.

We have a meeting on Wednesday afternoon at 4pm, I hope that you will be able to call into the meeting.

We'll decide next steps then.

We need your assistance in getting our hands around how big this issue actually is.

We need CVO to provide data so we can move this issue forward.

What we need (in the form of data)

- Names of fleets with issue, and where they are located
- number of trucks, body style, wheelbase, etc.
- has tsb been done, severity of issue after tsb
- is this minor shimmy or severe wheel fight
- is issue that customers do not want to have tire pressure to spec
- what has been done behind the scenes to correct issue
- are customers purchasing other brands

What we don't need:

- tsb doesn't work (need data if this is true)
- no data
- issue has not been confirmed by FSE, CVO

Worst case senario would be to take this issue forward to Engineering, Engineering makes trip to Fleet, and Engineering finds TSB has not been completed or done at all.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Asay, Larry (L.L.)
Sent: Tuesday, October 31, 2006 12:55 PM
To: O'Connor, Tammy (T.A.); Hale, Curt (B.C.)
Cc: Witthar, Mark (M.B.); Meier, Kenneth (K.W.); Johnson, Ernita (E.D.)
Subject: FW: 2005 - 2007 Superduty trucks

FYI. Here's another fleet with the issue. Noble buys about 100 trucks per year.

From: gkincheloe@nobleenergyinc.com [mailto:gkincheloe@nobleenergyinc.com]
Sent: Tuesday, October 31, 2006 9:08 AM
To: Kachel, Victor (V.R.); Asay, Larry (L.L.)
Cc: gpachner@nobleenergyinc.com; sreasoner@nobleenergyinc.com; bfanning@nobleenergyinc.com; mduckworth@nobleenergyinc.com
Subject: 2005 - 2007 Superduty trucks

Vic/Larry:

The problem with the stabilizer bar on the Ford 2005 - 2007 Superduty truck has hit a critical point in our company. It is becoming a major safety issue. I sent you a list of the problems with the trucks in the Canadian, TX and Weatherford, OK areas earlier and have been told that the same problem is occurring in our Illinois operations as well. We need to have Larry make a trip to our Canadian, TX office ASAP to see the severity of the problem. Some of our managers are requesting that we do not order any more Ford's until this issue has been resolved in a satisfactory manner. We have spent a large amount of time and money having the vehicles fixed and feel that Ford should reimburse Noble for what appears to be a design problem. I have been assured that the tires are inflated to the proper pressure, the proper tires are on the vehicles and the steering dampers are not leaking. We are also concerned that this issue will continue with the 2008 Superduty. Please let me know when Larry plans to visit our Canadian, TX office and if you have any questions.

Gene Kincheloe
Financial Analyst
Noble Energy Production, Inc.
e-mail: gkincheloe@nobleenergyinc.com
Telephone: (303) 228-4094
Fax: (303) 228-4280
Please note the new e-mail address
Please note the new telephone and fax numbers which are effective Friday, January 13, 2006

Ford Names	Activity	Phone
Larry Asay	Commercial Field Mgr.	
Victor Kachel	National Acct Mgr - Colorado	303 694-8709
Cal Bartels		
Mike Byers	Western regional Sales Mgr.	313 390-0974
Jim Michon		
Mark Witthar	Commercial Vehicle Operations Mgr.	313 595-0226
Ken Meier	Comm. Veh. Opers. Service Mgr.	313 248-3481
David Valicevic	Ford N.A. Fleet	936 321-6617
		936 203-1794
Jim Trest	Select Fleet Mgr.(East)	313 317-1869
FCSD		
Curt Hale	PVT - KTP	
Tammy O'Connor	Superduty Program	248 814-8698
Lewis Carver		
John Norton	FCSD Mgr.	
PD		
Steve Repasky	Supervisor F-Series OPD Vdyn	313 805-2119
Mark Choe	BoF Vdyn Mgr.	313 805-2045

Fleet Name	Contact	Phone
Barrick North America	Farley Hicks	775 778-8351
		775 778-1606
Anadarko Petroleum	Shayn Bullock	435 828-8927
		435 828-8927
	Valerie Mapula (Fleet Admin.)	713 816-8398
	Donna Aruanno (Fleet Admin.)	856 914-7607
Duke Energy		
Noble Energy		
Canadian, Tx	Gene Kincheloe	303 228-4280
Weatherford, OK	(Financial Analyst)	
???, Ill.		
Ford Dealers		
Showalter Ford	Vernal, Utah	

From: Manning, Justin (J.E.)
Sent: Tuesday, December 19, 2006 4:24 PM
To: O'Connor, Tammy (T.A.)
Subject: RE: 2005 F-350 steering wheel nibble

Tammy,

When was the part shipped to me? It has not yet been delivered to me.

Any info will be helpful.

Justin E Manning
Field Service Engineer
Northeast Market, District C
(201) 529-7293 (work)
(845) 313-9093 (cell)

From: Hale, Curt (B.C.)
Sent: Thursday, December 14, 2006 9:31 AM
To: O'Connor, Tammy (T.A.)
Cc: Seufert, David (D.C.); Repasky, Steve (S.); Manning, Justin (J.E.)
Subject: FW: 2005 F-350 steering wheel nibble

Tammy,

Please follow up with Justin.

Justin - There may be to much weight aft rear axle.

From: Manning, Justin (J.E.)
Sent: Thursday, December 14, 2006 8:58 AM
To: Hale, Curt (B.C.)
Subject: 2005 F-350 steering wheel nibble

Curt,

I have a 2005 F-250, VIN 1FTWE33P25E[redacted] GCQIS # 6H5BO004, with approximately 54,000 miles. The vehicle is experiencing the steering wheel nibble after hitting bumps with the front end at speeds of 60 mph. The nibble will not stop until the vehicle is slowed to mph. The TSB for this concern was done and ALL the steering components was well as ball joints(upper and lower) were replaced. The customer stated the concern was gone for a few weeks but it now back. The vehicle is also a 6.0L and has a large aftermarket body attached. The vehicle is under it's weight rating for both axles and vehicle overall. The front tires are worn rather well but cannot see any defects in them. The caster on the front is at it's minimum specs at this time.

Is there anything else you can think of that would cause this concern that I may have overlooked?

Justin E Manning
Field Service Engineer
Northeast Market, District C
(201) 529-7293 (work)
(845) 313-9093 (cell)

From: Boswell, Theresa (T.)
Sent: Wednesday, December 13, 2006 2:27 PM
To: Manning, Justin (J.E.)
Subject: RACZ, cust-///1FTWW33P25E[redacted], vin

Justin,

Thank you so much for everything. All your help is much appreciated. Mr. [redacted] vin is 1FTWW33P25E[redacted]
Have a wonderful day!!!

Theresa Boswell
Customer Care Specialist
Northeast Market
Zones: C4, D1-4, E1-3
1-866-631-3788 EXT. 7194
tboswel3@ford.com

From: Rooker, Heather (H.R.)
Sent: Tuesday, December 19, 2006 2:33 PM
To: O'Connor, Tammy (T.A.)
Subject: RE: 2005 F-350 steering wheel nibble

I received it - Thanks

Heather Rooker
QSF/Critical Parts Specialist
Critical Parts Handling
Parts, Supply & Logistics
Ford Customer Service Division
Phone: (734)523-5612
Fax: (734)523-6044
hrooker@ford.com

From: O'Connor, Tammy (T.A.)
Sent: Tuesday, December 19, 2006 2:32 PM
To: Seufert, David (D.C.); Rooker, Heather (H.R.)
Cc: Repasky, Steve (S.); Hasselbring, D Blake (D.B.); Choe, Mark (M.J.)
Subject: RE: 2005 F-350 steering wheel nibble

We do not have any of the brackets in stock -- I did submit an early parts request to Heather Rooker.

Tammy A. O'Connor
Product Concern Engineer
FCSD Service Engineering Operations
Super Duty F-Series
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248/814-8698 Telecommuting Office (Mon,Thur,Fri)
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Tammy:

These parts should be available in service. They are online at KTP (as of yesterday), but I should not ship them out to service if they are available to service. He will need:

Part	Engr. Part Number	Service Part Number
Damper	7C34-3E652-AC	7C3Z-3E652-C
Bracket	8C34-3E651-CB	8C3Z-3E651-C
Fastener	W520117-S441	W520117-S441
Fastener	W706196-S439	W706196-S439

From: Repasky, Steve (S.)
Sent: Tuesday, December 19, 2006 12:59 PM
To: Hasselbring, D Blake (D.B.)
Cc: Seufert, David (D.C.)
Subject: FW: 2005 F-350 steering wheel nibble

Blake/Dave - Are either of you at KTP this week?? If so, could you see if this happened? Thanks...

From: O'Connor, Tammy (T.A.)
Sent: Thursday, December 14, 2006 11:02 AM
To: Repasky, Steve (S.); Hale, Curt (B.C.)
Cc: Seufert, David (D.C.); Gompper, Dan (D.B.)
Subject: RE: 2005 F-350 steering wheel nibble

Please ship to:

Justin Manning
23 Magnolia Lane
Warwick, NY 10990

Thanks so much for you help.

Tammy A. O'Connor
Product Concern Engineer
FCSD Service Engineering Operations
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From: Repasky, Steve (S.)
Sent: Thursday, December 14, 2006 10:42 AM
To: Hale, Curt (B.C.); O'Connor, Tammy (T.A.)
Cc: Seufert, David (D.C.); Gompper, Dan (D.B.)
Subject: RE: 2005 F-350 steering wheel nibble

May be a good candidate for the 08 Superduty Tokico steering damper and bracket? If agreeable, could KTP ship parts to Justin?

From: Hale, Curt (B.C.)

Sent: Thursday, December 14, 2006 9:31 AM
To: O'Connor, Tammy (T.A.)
Cc: Seufert, David (D.C.); Repasky, Steve (S.); Manning, Justin (J.E.)
Subject: FW: 2005 F-350 steering wheel nibble

Tammy,

Please follow up with Justin.

Justin - There may be to much weight aft rear axle.

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Subject: 2005 F-350 steering wheel nibble

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Is there anything else you can think of that would cause this concern that I may have overlooked?

Justin E Manning
Field Service Engineer
Northeast Market, District C
(201) 529-7293 (work)
[redacted]

From: Boswell, Theresa (T.)
Sent: Wednesday, December 13, 2006 2:27 PM
To: Manning, Justin (J.E.)
Subject: RACZ, cust-///1FTWW33P25E[redacted], vin

Justin,

Thank you so much for everything. All your help is much appreciated. Mr. Racz's vin is 1FTWW33P25E[redacted]
Have a wonderful day!!!

Theresa Boswell
Customer Care Specialist

Northeast Market
Zones: C4, D1-4, E1-3
1-866-631-3788 EXT. 7194
tboswel3@ford.com

From: Rooker, Heather (H.R.)
Sent: Tuesday, December 19, 2006 4:38 PM
To: Seufert, David (D.C.); O'Connor, Tammy (T.A.)
Cc: Repasky, Steve (S.); Hasselbring, D Blake (D.B.); Choe, Mark (M.J.)
Subject: RE: 2005 F-350 steering wheel nibble

Tammy -
Please give me a call... concerning part number 8C3Z3E652A on the early parts request..... Would you like me to "Return to Author" to change the part to the replaced part mentioned below: 7C3Z3E652C? If you want to keep 8C3Z3E652A the part will not be PPAP'd till April, unavailable to ship till July.
Please advise.
Thanks,

Heather Rooker
QSF/Critical Parts Specialist
Critical Parts Handling
Parts, Supply & Logistics
Ford Customer Service Division
Phone: (734)523-5612
Fax: (734)523-6044
hrooker@ford.com

From: Seufert, David (D.C.)
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Cc: Repasky, Steve (S.); Hasselbring, D Blake (D.B.); Choe, Mark (M.J.)
Subject: RE: 2005 F-350 steering wheel nibble

OK. The damper, bracket, and fasteners are on their way. DHL Airbill # 3579629222. Parts should arrive to Justin by noon tomorrow.

From: O'Connor, Tammy (T.A.)
Sent: Tuesday, December 19, 2006 2:32 PM
To: Seufert, David (D.C.); Rooker, Heather (H.R.)
Cc: Repasky, Steve (S.); Hasselbring, D Blake (D.B.); Choe, Mark (M.J.)
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We do not have any of the brackets in stock -- I did submit an early parts request to Heather Rooker.

Tammy A. O'Connor
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Please ship to:

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Thanks so much for you help.

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Subject: RE: 2005 F-350 steering wheel nibble

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Cc: Seufert, David (D.C.); Repasky, Steve (S.); Manning, Justin (J.E.)
Subject: FW: 2005 F-350 steering wheel nibble

Tammy,

Please follow up with Justin.

Justin - There may be to much weight aft rear axle.

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Sent: Thursday, December 14, 2006 8:58 AM
To: Hale, Curt (B.C.)
Subject: 2005 F-350 steering wheel nibble

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Field Service Engineer
Northeast Market, District C
(201) 529-7293 (work)
([redacted])

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To: Manning, Justin (J.E.)
Subject: RACZ, cust-///1FTWW33P25E[redacted], vin

Justin,

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Have a wonderful day!!!

Theresa Boswell
Customer Care Specialist
Northeast Market
Zones: C4, D1-4, E1-3
1-866-631-3788 EXT. 7194
tboswel3@ford.com

From: McDonald, Joseph (J.)
Sent: Wednesday, September 28, 2005 3:10 PM
To: O'Connor, Tammy (T.A.)
Subject: RE: 2005 steering shimmy

He probably would that's what worries me. When I was there Thursday he had your name and number written on the RO, so there are no excuses.

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Wednesday, September 28, 2005 2:31 PM
To: McDonald, Joseph (J.)
Subject: RE: 2005 steering shimmy

I did call him and ask him to call me, but I have not heard anything. I don't have any messages from him. I would hope he didn't just give the truck back with no feedback?

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Wed,Fri)
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-----Original Message-----
From: McDonald, Joseph (J.)
Sent: Wednesday, September 28, 2005 2:29 PM
To: O'Connor, Tammy (T.A.)
Subject: RE: 2005 steering shimmy

Did Barry Moses contact you? I asked him to contact you or I when the truck was finished. I know it went to the alignment rack Thursday afternoon but have not heard anything more.

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Monday, September 19, 2005 3:23 PM
To: Campbell, Mark (M.A.); Mayer, Paul (P.A.); Repasky, Steve (S.)
Cc: Domka, John (J.J.); McDonald, Joseph (J.); Hale, Curt (B.C.); Knapp, David (D.)
Subject: RE: 2005 steering shimmy
Importance: High

<< File: [redacted] TSB Steering Wheel Shimmy Update 09 14 05.doc >>

Mark: Attached is the draft TSB for this issue. We have been able to resolve the issue with this draft. We need to get this truck to a company garage and have it repaired using this draft.

Paul/Steve: Are you interested in this truck at all? If not, we will proceed with repairing it.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion

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-----Original Message-----
From: Campbell, Mark (M.A.)
Sent: Monday, September 19, 2005 3:14 PM
To: O'Connor, Tammy (T.A.)
Subject: 2005 steering shimmy

Tammy, I have an 2005 truck that is used at the ford estate for garden maintenance, The hotline has been called to fix the steering wheel shimmy after hitting bumps, I drove the vehicle today and the concern is very bad, I see why they said they are not willing to drive the vehicle any more, Can you give me a contact person for the this steering shimmy concern that my want to drive this vehicle, I can duplicate the concern for anyone that would like to feel this steering shimmy.

let me know what you think

Mark A.Campbell
Ford National Hotline
Service Engineering
Diesel Group-F650/F750
Truck Body Chassis
DSC I, Allen Park, MI
313 31-79381
mcampb17@ford.com

From: Mayer, Paul (P.A.)
Sent: Monday, September 19, 2005 4:11 PM
To: O'Connor, Tammy (T.A.); Campbell, Mark (M.A.)
Cc: Repasky, Steve (S.)
Subject: RE: 2005 steering shimmy

Go ahead and repair the truck.

Regards
Paul Mayer
Truck Suspension and Systems Analysis
313-248-9202 Fax:313-317-2349

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Monday, September 19, 2005 3:23 PM
To: Campbell, Mark (M.A.); Mayer, Paul (P.A.); Repasky, Steve (S.)
Cc: Domka, John (J.J.); McDonald, Joseph (J.); Hale, Curt (B.C.); Knapp, David (D.)
Subject: RE: 2005 steering shimmy
Importance: High

<< File: [redacted] TSB Steering Wheel Shimmy Update 09 14 05.doc >>

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-----Original Message-----
From: Campbell, Mark (M.A.)
Sent: Monday, September 19, 2005 3:14 PM
To: O'Connor, Tammy (T.A.)
Subject: 2005 steering shimmy

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Attachments: [redacted]TSB Steering Wheel Shimmy Update 09 14 05.doc

[redacted]TSB Steering Whe...

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Ford National Hotline
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ISSUE:

Some 2005-2006 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion) immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on 4x4 vehicles, equipped with steering wheels that have redundant controls (i.e. climate and radio controls).

ACTION:

This procedure will minimize the steering wheel oscillations on impacts; however, there may be some remaining minor oscillation, which would be considered normal.
Perform the following:

- Vehicle Inspection
- Evaluation Of Vehicle Prior To Repair
- Steering Gear Mesh Load Adjustment
- Reduce front caster by 0.5 to 0.75 degrees
- Replacement Of Redundant Control Steering Wheel (if equipped and vehicle built prior to 10/8/04)

SERVICE PROCEDURE

VEHICLE INSPECTION

1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

   NOTE: SETTING TIRE PRESSUE TO DOOR SPEC IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

2. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
   a. If leaks are present, install a new steering damper and continue with this TSB.
   b. If no leaks are present, continue with this TSB.

3. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table # below).

Description	Torque Specification (lb-ft/ Nm)	
	Lb-ft	Nm
Damper nuts (4x2)	59	80
Damper-to-bracket (F-250, F-350 4x4)	26	35
Damper-to-drag link	67	91
Drag link-to-pitman arm nut	148	201
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts & bolts	129	175
Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

4. Measure wheel alignment. Verify that Front Caster, Camber & Total Toe is within specification (preferred specification is .1 degree toe in). Adjust to specification as required. Refer to the Workshop Manual, Section 2004-00-1 for complete alignment specifications.

EVALUATION OF VEHICLE PRIOR TO REPAIR

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the severity of wheel oscillation.

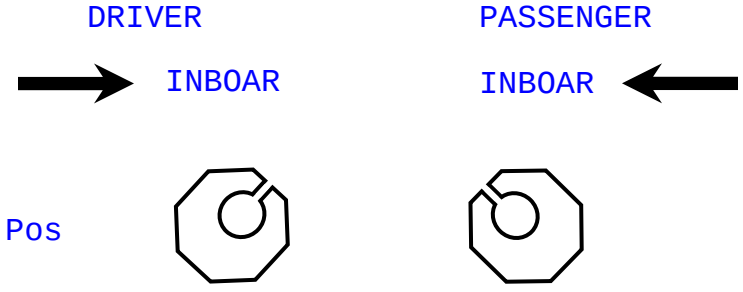
3. During the road test, evaluate and note the steering wheel return-ability.
    a. Turn steering wheel full lock to lock to confirm no binding.
    b. Locate center, and then 45 degrees either side of center on the steering wheel.
    c. Driving vehicle at 35 MPH (56 Km/h), on a dry and flat road surface, turn the wheel 45 degrees and release. Note the approximate angle that the steering wheel returns to BEFORE CLEAR VISION. Perform and record the angle for both left and right. It is normal if the angle differs slightly from left to right.

STEERING GEAR MESH LOAD ADJUSTMENT

1. Insert hex wrench into steering gear mesh load adjuster screw.
2. While holding the mesh load adjuster screw tight, back off lock nuts two full turns to allow free movement of the adjuster screw.
3. Carefully tighten adjuster screw until a slight increase in resistance is felt, then back off approximately 1/16th of a turn.
4. Hold the adjuster screw in place and tighten lock nut. Do not allow the adjustment screw to turn while tightening the locking nut down.
5. Road test vehicle and evaluate for improvement in steering wheel oscillations.
    a. Confirm that there is no objectionable increase in steering efforts, especially at low speeds.
    b. Verify that steering wheel return-ability is approximately the same as it was during the original evaluation (within 5 degrees).
    c. Turn steering wheel full lock to lock to confirm no binding.
6. Park the vehicle to let it cool down. Road test cold to confirm acceptable parking efforts and return-ability in cold condition. Repeat the mesh load adjustment if needed.

REDUCE FRONT CASTER

- Note the current front caster
- Use alignment adjustment bushings to Reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit.
- Use Alignment adjustment bushings:
    - 4x4: 5C3Z-3B440-DDD (0.75 Degree bushing) OR 5C3Z-3B440-EEE (1.0 degree bushing)
    - 4x2: 5C3Z-3B440-D (0.75 Degree bushing) OR 5C3Z-3B440-E (1.0 degree bushing)
- Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward & inboard position (See below picture)
    - This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed.
    - The final camber setting must be within the specification limits



- Maintain the current front camber, cross-camber & cross-caster settings as close as you possibly can.
- Adding weight to the back lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster.

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE 2005 OR 2006 SUPER DUTY F-SERIES WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

From: McDonald, Joseph (J.)
Sent: Friday, September 30, 2005 8:58 AM
To: O'Connor, Tammy (T.A.)
Subject: RE: 2005 steering shimmy

I talked to the tech about this truck yesterday. They released the truck but said they drove it 60 miles and felt the concern was gone. He said he drove it down the freeway at 80 MPH hitting every bump he could find. Previously hitting any pothole would cause it to shimmy.

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Monday, September 19, 2005 3:23 PM
To: Campbell, Mark (M.A.); Mayer, Paul (P.A.); Repasky, Steve (S.)
Cc: Domka, John (J.J.); McDonald, Joseph (J.); Hale, Curt (B.C.); Knapp, David (D.)
Subject: RE: 2005 steering shimmy
Importance: High

<< File: [redacted] TSB Steering Wheel Shimmy Update 09 14 05.doc >>

Mark: Attached is the draft TSB for this issue. We have been able to resolve the issue with this draft. We need to get this truck to a company garage and have it repaired using this draft.

Paul/Steve: Are you interested in this truck at all? If not, we will proceed with repairing it.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Wed,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Thursday)

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-----Original Message-----
From: Campbell, Mark (M.A.)
Sent: Monday, September 19, 2005 3:14 PM
To: O'Connor, Tammy (T.A.)
Subject: 2005 steering shimmy

Tammy, I have an 2005 truck that is used at the ford estate for garden maintenance, The hotline has been called to fix the steering wheel shimmy after hitting bumps, I drove the vehicle today and the concern is very bad, I see why they said they are not willing to drive the vehicle any more, Can you give me a contact person for the this steering shimmy concern that my want to drive this vehicle, I can duplicate the concern for anyone that would like to feel this steering shimmy.

let me know what you think

Mark A.Campbell
Ford National Hotline
Service Engineering

Diesel Group-F650/F750
Truck Body Chassis
DSC I, Allen Park, MI
313 31-79381
mcampb17@ford.com

From: Ryan, Curt (C.A.)
Sent: Monday, September 10, 2007 12:04 PM
To: OConnor, Tammy (T.A.)
Subject: RE: 2006,F250 4X4,SUP CAB,PICKUP ,1FTSX21506E[redacted]

Yes, TSB 07-10-10 has been performed completely. I will call Dan.

Thank You,

Curt Ryan
Field Service Engineer
Seattle Region
(425) 241-8734

From: OConnor, Tammy (T.A.)
Sent: Monday, September 10, 2007 8:47 AM
To: Ryan, Curt (C.A.)
Cc: Gompper, Dan (D.B.); Knapp, David (D.)
Subject: RE: 2006,F250 4X4,SUP CAB,PICKUP ,1FTSX21506E[redacted]

Curt: Has the TSB for Steering Wheel oscillation been performed - and have you verified that it has been completely? When the TSB is done completely, it has resolved the issue.

Please feel free to call Dan Gompper after you verify the the TSB has been followed completely.

Tammy A. O'Connor
Product Concern Engineer
FCSD Service Engineering Operations
Super Duty F-Series
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Tue,Fri)
313/322-3824 DSC I, Cube 149 (Wednesday,Thursday)

From: Ryan, Curt (C.A.)
Sent: Monday, September 10, 2007 11:24 AM
To: OConnor, Tammy (T.A.)
Subject: 2006,F250 4X4,SUP CAB,PICKUP ,1FTSX21506E[redacted]

Hello Tammy,

I need to speak with a suspension engineer about the above vehicle. The customer had a violent shake that would not stop until the vehicle was slowed to 35 mph or less. This was fixed by using the steering dampener from TSB 07-10-10. Now the vehicle still shakes pretty good when hitting a good bump at freeway speeds, but the dampener keeps it from shaking very long and from affecting the steering. I feel that this is probably normal for his set-up (5.4L, manual trans with heavy-duty suspension), but the customer doesn't feel that way and he qualifies for Lemon Law. He will keep the truck if we can soften the front suspension a bit to reduce the suspension stiffness. I want to talk to somebody who can help me to change the appropriate parts to do that (shocks, springs, etc.). Can you help me with a contact?

Regards,

Curt Ryan
Field Service Engineer
Seattle Region
(425) 241-8734

From: Carver, Lewis (L.H.)
Sent: Tuesday, October 31, 2006 3:27 PM
To: O'Connor, Tammy (T.A.)
Cc: Tobey, Jeffrey (J.J.)
Subject: RE: Anadarko - Vehicle Steering Oscillation - Vernal, UT

I will check into this one and review with the Dealer to try to get some additional information. Technically this is one that Jeff Tobey would interface with from Denver (Select Dealer Region). First time I have heard of the issue from this Dealer. Some advice is to get some hands-on contact at this store and out to the fleet to find out exactly what their issues are, evaluate operation issues that may be accentuating the shimmy, and find out what is behind the check engine light concern. I suspect this is either random misfires (injectors), or plugged evap canisters (severe dirt environment).

From: O'Connor, Tammy (T.A.)
Sent: Tuesday, October 31, 2006 8:35 AM
To: Carver, Lewis (L.H.)
Cc: Repasky, Steve (S.); Hale, Curt (B.C.)
Subject: FW: Anadarko - Vehicle Steering Oscillation - Vernal, UT

Lew:

I spoke to Ren, Service Manager at Showalter Motors in Vernal, Utah.

He is going to call Anadrokal and ask them if they are still having issues with the Shimmy on Super Duty.

I'm have a meeting Wednesday at 4pm (EST), you may want to call in if you have the time.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Repasky, Steve (S.)
Sent: Tuesday, October 31, 2006 10:01 AM
To: O'Connor, Tammy (T.A.)
Subject: RE: Anadarko - Vehicle Steering Oscillation - Vernal, UT

Tammy - one of the notes below from Victor Kachel indicates he has pictures of dual steering dampers that alleviate the concern. Would you mind contacting Victor to get the pictures? Thanks..

From: Hale, Curt (B.C.)
Sent: Tuesday, October 31, 2006 8:02 AM

To: O'Connor, Tammy (T.A.)
Cc: Kachel, Victor (V.R.); Johnson, Ernita (E.D.); Trest, Jim (W.J.); Asay, Larry (L.L.); Repasky, Steve (S.)
Subject: RE: Anadarko - Vehicle Steering Oscillation - Vernal, UT

Tammy,

Engage engineering to address Duke Energy's concern. This is a huge fleet and we can't afford to loose their business.

B. Curtis Hale
FCSD PVT Program Manager
F-Super Duty & Excursion

From: Asay, Larry (L.L.)
Sent: Monday, October 30, 2006 12:35 PM
To: Hale, Curt (B.C.)
Cc: Kachel, Victor (V.R.); Johnson, Ernita (E.D.); Trest, Jim (W.J.)
Subject: FW: Anadarko - Vehicle Steering Oscillation - Vernal, UT

Curt, Vic Kachel (Fleet Sales) just received a call from Duke Energy. They're legal department has told them to park all of their F-Super Duties (250-300) because they are worried about safety issues with the Front end Shimmy. He was told that if Ford doesn't do something to get this repaired among other things they will turn the fleet to GM.
Vic and I also have a meeting with Barrick Gold Strike this Wednesday and the first thing that is on their list is Front End Shimmy and what they are doing to correct the issue. They would like Ford to do the same in production.
Also see below the chain of notes concerning another fleet with the issue.

From: Trest, Jim (W.J.)
Sent: Friday, October 27, 2006 6:39 AM
To: Valicevic, David (D.M.)
Cc: 'Mapula, Valerie - Anadarko'; Kachel, Victor (V.R.)
Subject: RE: Anadarko - Vehicle Steering Oscillation - Vernal, UT

David, I ran all of the VINs in our AWS system to see what work had been performed under warranty at the dealerships. There were no reports of this concern at the dealerships during the warranty period. There were individual reports of other concerns on some of the vehicles such as check engine light on. Most of the service seems to be performed at Showalter Motor Company in Utah.

I will enter reports of this concern in the Ford system. I suggest that the vehicles be taken to a dealership, such as Showalter, and have the TSB performed. If a conern still exists, the dealer can contact the technical hotline for assistance to possibly include a request for a field service engineer.

The notes indicate that that Larry Asay, our local commercial field manager has also provided assistance. If a concern still exists, I will work with the dealer and technical hotline to provide assistance. The next step for the fleet is to get the dealer and technical hotline actively involved.

Jim

W. J. (Jim) Trest, Jr., PMP
Select Fleet Manager (EAST)
Ford Commercial Vehicle Operations
1-800-34 Fleet, Option #3, Pick 4

Customer Satisfaction is our priority!
Alt: **(313) 317-1869** web: **www.fleet.ford.com**
http://www.genuineservice.com/default.asp

From: Valicevic, David (D.M.)
Sent: Friday, October 27, 2006 7:26 AM
To: Trest, Jim (W.J.)
Cc: 'Mapula, Valerie - Anadarko'; Kachel, Victor (V.R.)
Subject: Anadarko - Vehicle Steering Oscillation - Vernal, UT
Importance: High

Jim, here are the associated VINs. Please keep us informed of your direction/guidance. Let me know if you need anything else.

Thanks!

David Valicevic
Ford North American Fleet, Lease and Remarketing -
Houston/San Antonio/Austin/Louisiana Markets
E -mail: dvalicev@ford.com
Website: http://www.fleet.ford.com
Phone: (936) 321-6617 Fax: (936) 273-6611 Cell: (936) 203-1794

From: Kachel, Victor (V.R.)
Sent: Thursday, October 26, 2006 3:03 PM
To: Valicevic, David (D.M.)
Subject: FW: Anadarko - Vehicle Steering Oscillation - Vernal, UT

Here are the vins you can forward to the parts and service guys.

-----Original Message-----
From: Aruanno, Donna [mailto:DAruanno@arifleet.com]
Sent: Thursday, October 26, 2006 11:03 AM
To: 'Bartels, Calvin'
Cc: Kachel, Victor (V.R.); Valicevic, David (D.M.); 'valerie.mapula@anadarko.com'
Subject: RE: Anadarko - Vehicle Steering Oscillation - Vernal, UT

SERIAL # 1FTSX21575E[redacted]
ODOMETER 30,356 AS OF 10/06

SERIAL # 1FTSX21565E[redacted]
ODOMETER 60,588 AS OF 10/06

SERIAL # 1FTSX21595E[redacted]
ODOMETER 53,289 AS OF 10/06

SERIAL # 1FTSX21555E[redacted]
ODOMETER 37,882 AS OF 10/06

SERIAL # 1FTSX21506E[redacted]
ODOMETER 18,051 AS OF 10/06

SERIAL # 1FTSX21566E[redacted]
ODOMETER 22,953 AS OF 10/06

SERIAL # 1FTSX21566E[redacted]
ODOMETER 13,304 AS OF 10/06

SERIAL # 1FTSX21506E[redacted]
ODOMETER 9,305 AS OF 10/06

Donna Aruanno
Fleet Administration
856-914-7508
Fax 856-914-7607
daruanno@arifleet.com

From: Kachel, Victor (V.R.) [mailto:vkachel@ford.com]
Sent: Wednesday, October 25, 2006 9:34 AM
To: Bartels, Calvin
Subject: RE: Anadarko - Vehicle Steering Oscillation - Vernal, UT
Hi, Cal. If you'll please send the vins, it'll help get things rolling. We cannot identify ari or internal unit numbers.

Thanks for your note about the transfer to Houston for fleet ops. If that's the case, then my counterpart David Valicevic will handle the account and any service related issues since he calls on Anadarko. I've updated him on this situation and I'll forward any vins you can send over to him and the service guys.

Please let me know when the transfer is complete and you're no longer involved in the fleet ops and I'll officially transfer everything to David. From the sound of your note, it sounds like you'll still be with the company but just in a different roll...

Thanks for your help and thanks for your business.

Vic Kachel
National Account Manager
Ford Motor Company
6312 South Fiddler's Green Circle
suite 503 East
Englewood, CO 80111
Phone 303-694-8709
Fax 303-804-8280

From: Kachel, Victor (V.R.)
Sent: Wednesday, October 25, 2006 10:50 AM
To: Valicevic, David (D.M.)
Subject: RE: Anadarko - Vehicle Steering Oscillation - Vernal, UT

I've asked the customer for vins and will forward them asap.

From: Valicevic, David (D.M.)
Sent: Wednesday, October 25, 2006 9:52 AM
To: Kachel, Victor (V.R.); Trest, Jim (W.J.)
Cc: Byers, Michael (M.R.); Asay, Larry (L.L.)
Subject: Anadarko - Vehicle Steering Oscillation - Vernal, UT
Importance: High

Vic, pasted your note to the previous note string for a unit in Utah...waiting on some VINs.

Jim, you may want to contact Larry on this one.

From: Bullock, Shayn

Sent: Wednesday, October 25, 2006 7:37 AM
To: Mapula, Valerie
Cc: Bartels, Calvin; Freeman, Joe; Salazar, Rick; Bullock, Shayn; Bonnie, Mark; DeHerrera, Charlie; Braithwaite, B.J.; Allen, Chuck; Hixson, Jordan; McPherson, Steve
Subject: RE: Anadarko - Vehicle Steering Oscillation - Vernal, UT
Val,

We are still working on getting the info you requested. I have checked through the ARI Web page and came up with seven so far that have had their steering damper / Shock replaced. Unit number 010560, 010502, 010545, 010568, 010583, 010645, 010697. [redacted] vehicle is at Showalter Ford now for this steering problem. Its unit # is 010707 so this makes eight vehicles.

There will be more as we round up the near miss safety reports and this will give us an idea of the ones that Ford repaired on warranty. I will let you know on them soon and give you a complete list.

Thanks Val

David "Shayn" Bullock
Operations Support Foreman
Anadarko Petroleum Corp.
1368 South 1200 East
Vernal, Utah 84078
Phone 435-781-7061
[redacted]
Fax 435-781-7092
Shayn.Bullock@anadarko.com

From: Kachel, Victor (V.R.)
Sent: Tuesday, October 24, 2006 6:45 PM
To: Byers, Michael (M.R.); Valicevic, David (D.M.); Asay, Larry (L.L.)
Subject: Vehicle steering oscillation

This is another report of shaking front end problems from Kerr McGee/Anadarko.

We have met with them about this and presented them with the TSB's and Larry Asay has tried to help them resolve the problem.

Just to reiterate, there are multiple customers who have expressed this concern. We have a meeting with a great Ford customer over in NV next week to look at this same issue. This problem will cause us to lose business as fleets are saying it's a safety concern.

The customer in NV has designed a fix for this that involves two steering dampners. I'd be happy to send in pictures to engineering if that would be helpful. They say the fix costs about $300 but it works.

From: Mapula, Valerie
Sent: Monday, October 23, 2006 8:35 AM
To: Bullock, Shayn
Subject: FW: Anadarko - Vehicle Steering Oscillation - Vernal, UT
Importance: High

FYI - Response from Ford Rep in Houston.

Valerie Mapula
ANADARKO PETROLEUM
Office 281-673-6306
Fax 281-673-4306
[redacted]

From: Valicevic, David (D.M.)

Sent: Thursday, October 19, 2006 7:08 PM
To: 'Mapula, Valerie - Anadarko'; Trest, Jim (W.J.)
Cc: 'Harvin, Barbara - Anadarko'
Subject: Anadarko - Vehicle Steering Oscillation - Vernal, UT
Importance: High

Val, as discussed, please reply all with the associated VINs with their respective mileages. Jim Trest is your fleet service representative and he will investigate this situation and let us know how we will resolve the apparent on-going problem.

Jim, Valerie is the new fleet administrator for Anadarko.

From: Mapula, Valerie [mailto:Valerie.Mapula@anadarko.com]
Sent: Thursday, October 19, 2006 1:38 PM
To: Valicevic, David (D.M.)
Cc: Bullock, Shayn; Harvin, Barbara
Subject: Anadarko - Vehicle Steering Oscillation - Vernal, UT
Importance: High

Hi David, I am following-up on a voicemail I left you earlier regarding a vehicle steering oscillation problem we were encountering in the Vernal, UT area on the F250 3/4 ton Super Duty trucks. Attached is a copy of the Technical Service Bulletin on Steering Wheel Oscillation.

Based on feedback from the field, repairs are temporary before the problems begin to reoccur.

Can you assist with a follow-up to your contact in UT to see if there is something that we may need to evaluate further or can you direct me to your service rep for guidance on how to isolate or manage the steering problem on our vehicles?

Please advise. Thanks.

<<STEERING DAMPER tsb06-15-01.pdf>>

Valerie Mapula
ANADARKO PETROLEUM
Office 281-673-6306
Fax 281-673-4306
[redacted]

From: Mapula, Valerie
Sent: Thursday, October 19, 2006 1:06 PM
To: Bullock, Shayn
Subject: RE: Vehicle steering oscillation
Importance: High

Hi Shayn, please let me know when we get the maintenance reports and the near miss reports in hand.

I have contacted our Ford contact in Houston to see if he can help follow-up on the problem with his contacts in Vernal, but have I am still waiting on his return call.

I am certain I will need your documentation to help him evaluate our situation, especially the maintenance records and the vin numbers for the vehicles in question.

Please keep me posted. Thanks. Val.

From: Bullock, Shayn
Sent: Thursday, October 19, 2006 1:01 PM
To: Mapula, Valerie; Bartels, Calvin

Cc: Bayne, Randy; McPherson, Steve; Williams, Alan; Salazar, Rick; Estes, Carroll; Hixson, Jordan; Bonnie, Mark; Braithwaite, B.J.; DeHerrera, Charlie; Allen, Chuck

Subject: Vehicle steering oscillation

Val,

Just confirming our conversation this morning about the problem we are having with the Ford trucks and the steering oscillation problem. This has been going on for some time and we have been in contact with Cal Bartels and Vic Kachel the local Ford Fleet Rep. and the answer we got from Ford is the Technical Service Bulletin attached below for trying to solve the problem. We are trying to get a copy of the work orders from Showalter Ford which is the Ford dealer here locally and trying to see just how many trucks have been brought in for this problem and what they are doing to correct it. We are also having all the drivers that have had this problem fill out a near miss report and submitting it to Rick Salazar which is our local safety specialist.

The incident yesterday with [redacted] vehicle was severe enough it almost caused an accident. He has since dropped it off at Showalter Ford to see if they can correct it. His truck has around 700 pounds of weight in the bed so we do not think it is a weight issue and it has only 9000 miles on it. We have other report of this happening to vehicles with only 400 miles on them.

The issues I have heard of is that they take them into the dealer and it stops for a short time but then the oscillation starts up again. With them only replacing the steering damper.

We have contacted Alan Williams to get him involved since he is our regional EH&S manager to make him be aware of the problem we are having. We are considering this a safety issue now and hope with your help we can get this problem resolved soon.

Let me know if there is anything I can do.

Thanks for your help.

<< File: STEERING DAMPER tsb06-15-01.pdf >>

Please note my E-Mail Address has changed. Please update your contact list

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From: Evans, Jane (J.S.)
Sent: Wednesday, June 06, 2007 4:34 PM
To: Gompper, Dan (D.B.); O'Connor, Tammy (T.A.); Michon, Jim (J.B.); Meier, Kenneth (K.W.)
Cc: Barker, Ed (E.); Olson, Natalie (N.I.); Valicevic, David (D.M.); Royle, Bill (W.K.); Christie, Michelle (M.L.); Fournier, Lisa (L.A.); Naro, Kevin (K.S.); Koss, Gerald (G.N.); Bruce, Mike (M.V.); Hale, Curt (B.C.); Hasselbring, D Blake (D.B.)
Subject: RE: Baker Hughes - Ford Fleet Preview Invitation/Mark Fields Breakfast/Meeting Request

I have closed the loop on the one steering issue recently reported to me. Below is what I sent to Brenda Davis:

Brenda: I did speak with Ron today. He mentioned that the problem occurred twice in one day, but hasn't happened since. After thinking back, he feels the way the cargo was distributed in the vehicle may have contributed to the problem. I told him this was a good reminder to always check the basics of weight distribution and tire pressure when he is having a problem. I also recommended that he have the new damper installed (as per the new TSB 07-10-10). I faxed a copy to him and told him to call me when he has a moment to schedule the vehicle for service at a dealer.

Please keep me posted of any other issues.

Jane Evans

From: Gompper, Dan (D.B.)
Sent: Wednesday, June 06, 2007 1:55 PM
To: O'Connor, Tammy (T.A.); Michon, Jim (J.B.); Evans, Jane (J.S.); Meier, Kenneth (K.W.)
Cc: Barker, Ed (E.); Olson, Natalie (N.I.); Valicevic, David (D.M.); Royle, Bill (W.K.); Christie, Michelle (M.L.); Fournier, Lisa (L.A.); Naro, Kevin (K.S.); Koss, Gerald (G.N.); Bruce, Mike (M.V.); Hale, Curt (B.C.); Hasselbring, D Blake (D.B.)
Subject: RE: Baker Hughes - Ford Fleet Preview Invitation/Mark Fields Breakfast/Meeting Request

I concur with Jim's summary. The TSB was trialed with success on a fleet in New Mexico. Being up to speed on the TSB development, and having not heard any complaints since the actions described in the TSB were put out into the field, I too thought that this concern had been closed. Additionally, the actions described in the TSB were incorporated into the nominal design of the '08 Superduty.

As you learn more, please continue to advise me to the level of concern.

Thanks,

Dan Gompper
SuperDuty Vehicle Dynamics Supervisor
[redacted]
Email: dgompper@ford.com
text page: 3138052039@sprintpcs.messaging.com

From: O'Connor, Tammy (T.A.)
Sent: Wednesday, June 06, 2007 2:31 PM
To: Michon, Jim (J.B.); Evans, Jane (J.S.); Meier, Kenneth (K.W.)
Cc: Barker, Ed (E.); Olson, Natalie (N.I.); Valicevic, David (D.M.); Royle, Bill (W.K.); Christie, Michelle (M.L.); Fournier, Lisa (L.A.); Naro, Kevin (K.S.); Koss, Gerald (G.N.); Bruce, Mike (M.V.); Hale, Curt (B.C.); Gompper, Dan (D.B.); Hasselbring, D Blake (D.B.)
Subject: RE: Baker Hughes - Ford Fleet Preview Invitation/Mark Fields Breakfast/Meeting Request

TSB 07-10-10 was published on 5/9/07 and includes a revised damper. I have not heard of any shimmy complaints on 2005-2007 Super Duty trucks with the installation of this new damper.

Dan/Blake: Please feel free to respond also.

Tammy A. O'Connor
Product Concern Engineer
FCSD Service Engineering Operations
Super Duty F-Series
Body / Chassis / Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSC I, Cube 149 (Tuesday,Wednesday)

From: Michon, Jim (J.B.)
Sent: Tuesday, June 05, 2007 5:38 PM
To: Evans, Jane (J.S.); O'Connor, Tammy (T.A.); Meier, Kenneth (K.W.)
Cc: Barker, Ed (E.); Olson, Natalie (N.I.); Valicevic, David (D.M.); Royle, Bill (W.K.); Christie, Michelle (M.L.); Fournier, Lisa (L.A.); Naro, Kevin (K.S.); Koss, Gerald (G.N.); Bruce, Mike (M.V.)
Subject: RE: Baker Hughes - Ford Fleet Preview Invitation/Mark Fields Breakfast/Meeting Request

Jane,

I have provided some background on the "vibration/front end shaking" issue below that may be helpful:

- This concern was originally brought up by Baker Hughes last year on their SD pickups
- Mainly it was their Canadian Fleets that had the most concern with this but there were some concerns from the U.S. Fleets as well. I have a VIN for one of the Canadian units that exhibited the concern (5EB46462).
    - Greg Fretts and Bob Menard were involved on the Canadian side but I no longer see them in CDIS so I assume they have left the company.
- Starting in June of 2006, there were several meetings between Baker Hughes, Ford Service, Engineering, & Marketing to discuss the concern and work towards resolution.
    - One key finding during these discussions was that the drivers were lowering the tire pressure to get better traction (obviously, TPMS will be a deterrent to this on 08MY SD's). The drivers indicated that with the tires inflated to the "door specification" that the vehicle was unsafe and would not hold the road. However, when they lowered the tire pressure, they experienced the shaking thus substituting one concern for another.
    - The Service team indicated that there were TSB's (TSB 05-22-1, TSB 04-26-1) that may help to address the front end shaking concern; however, one of the inspection items of this TSB is to 'check tire pressure' and make sure they were at the pressures indicated on the door.
- There was quite a bit of other testing done on the Baker Hughes Canadian units that I don't have all the details on regarding what tests were done or the results (Greg Fretts and Bob Manard were involved).
- A significant degree of attention and resources were devoted by Ford to try and address this concern last year --- For a while, it seemed like Baker Hughes was pleased with the Ford response --- we did not hear back on any continuing issues (at least on the Marketing end). Unfortunately, based upon this recent request from Brenda Davis, looks like it is still a concern for them.

Ken, Tammy,

I believe you may have been involved in some of the meetings and/or e-mails on this concern last year --- if you have anything to add or feel that I have mis-stated anything above, can you let us know.

Jim Michon
Truck Fleet Marketing Manager (Ranger, F-150, Super Duty, E-Series)
Ph: (313) 621-2521; Fax: (313) 594-4684

From: Evans, Jane (J.S.)
Sent: Tuesday, June 05, 2007 10:45 AM
To: Valicevic, David (D.M.); Royle, Bill (W.K.); Christie, Michelle (M.L.); Fournier, Lisa (L.A.); Naro, Kevin (K.S.); Koss, Gerald (G.N.); Michon, Jim (J.B.); Bruce, Mike (M.V.)
Cc: Barker, Ed (E.); Olson, Natalie (N.I.)
Subject: RE: Baker Hughes - Ford Fleet Preview Invitation/Mark Fields Breakfast/Meeting Request

I am new to Baker Hughes, but I have been working with an engineer, Scott Szymusiak, on addressing their fuel pump

concerns. Attached are the notes from a conference call we held with Brenda in April to dimension the concern and discuss next steps. Current status: Scott is running a pilot with a few of their vehicles for some newly designed parts. The vibration issue is new to me, so I have some research to do on that. I will provide an update to the team before we meeting in Vegas.

<< File: BAKER HUGHES.doc >>

Jane S. Evans

Ford Motor Company

Fleet Zone Manager - Chicago Region
Phone/Fax 630-782-9263 [redacted]

From: Valicevic, David (D.M.)
Sent: Monday, June 04, 2007 3:07 PM
To: Davis, Brenda - Baker Hughes; Royle, Bill (W.K.); Christie, Michelle (M.L.)
Cc: Barker, Ed (E.); Olson, Natalie (N.I.); Evans, Jane (J.S.)
Subject: Baker Hughes - Ford Fleet Preview Invitation/Mark Fields Breakfast/Meeting Request

Brenda, thank you for responding to my request for your note.

Bill, in order for Brenda to rationalize her trip to Las Vegas, as we discussed today, she would like me to set-up a meeting to address the Baker Hughes service concerns. She is looking for CVO (Jane and her upper management - to discuss front-end vibration/tire pressure and fuel pump issues), the Brand Team (Gerry and Jim - to discuss off-road/more robust tire tread options or alternative cost-effective dealer swap-out options upon delivery) and the Sales Team (Ed, myself, you and possibly someone from our upper management) to attend, during any available non-scheduled time during the Fleet Preview. I will be glad to be the point person in coordinating.

Michelle, I have not yet received an itinerary. Would you send me something that might assist us in setting this up and allowing Brenda to make the appropriate reservations/registration? She would like to be included in any Focus Group discussions pertaining to trucks, as well.

Brenda is being faced with increased pressure, from both her US and Canadian customers, as a result of perceived Ford safety and reliability issues. We need to be able to address this as soon as possible to avoid any potential loss of business, as a result.

Thanks!
David Valicevic
Ford North American Fleet, Lease and
Remarketing Operations - Houston Market
E-Mail: dvalicev@ford.com
[redacted]
Web Site: www.fleet.ford.com
Fleet Hotline: 1-800-343-5338

-----Original Message-----
From: Davis, Brenda K. [mailto:Brenda.Davis@bakerhughes.com]
Sent: Monday, June 04, 2007 1:40 PM
To: Valicevic, David (D.M.)
Cc: Royle, Bill (W.K.)
Subject: Ford Fleet Preview - Invitation
Importance: High

Dave,

As you know, I am dealing with some frustrating service issues that are reoccurring and wondered what value I could get or bring to Ford by attending this years Fleet Preview. My issues are directly related to 1) "vibration" and tire traction both in the US and Canada and 2) fuel pumps.

I have been struggling with whether to attend the preview and how to

get/give value and have determined that if you would agree to set-up a meeting with decision makers who can action these issues for resolution then it would definitely be worth it to attend.

If you agree to my request, let me know who, where and what time and I will make myself available.

Let me know what you think and I will get my bio and make the reservations today.

Thanks for considering my request.

Brenda Davis
Strategic Sourcing Commodity Manager
Fleet & Temporary Services
Baker Hughes Business Support Services
15355 Vantage Parkway West, #300
Houston, TX 77032
Fleet Central - 281-209-7667
281-209-7897 - Fax - 713-625-4374

<< OLE Object: Picture (Metafile) >>
From: Valicevic, David (D.M.)
Sent: Mon 5/21/2007 8:24 PM
To: Davis, Brenda - Baker Hughes
Subject: Valicevic/Davis - Mark Fields Breakfast @ Fleet Preview - Action Requested

Ms. Brenda, could you please provide me a brief bio of yourself, beyond the particulars listed in the attached? Tenure with Baker, fleet responsibilities, any special awards/corporate acknowledgements, FAB/NAFA experience, outside interests. Regarding the fleet - current UIO, annual purchases, general vehicle types, volume of any driver reimbursement. I will capture this information for future use, as well. Nothing more than a short paragraph. Let me know if you have any questions.
<< File: Davis Brenda - Baker Hughes.vcf >>

<< OLE Object: Picture (Metafile) >>
From: Olson, Natalie (N.I.)
Sent: Monday, May 21, 2007 10:59 AM
To: Valicevic, David (D.M.); Morman, Jeffrey (J.L.); Ryan, Terry (T.M.); Sanseverino, Robert (R.J.); Kachel, Victor (V.R.); Corcoran, James (J.T.); Morabito, Gene (E.L.); Smith, Tracy Renee (T.R.); Mooney, Pamela (P.J.); Klink, Kris (K.C.); Lively, Brian (B.S.)
Cc: MacDonald, Allan (A.G.); Bedard, Michael (M.R.); Royle, Bill (W.K.); Koss, Gerald (G.N.)
Subject: Mark Fields Breakfast @ Fleet Preview - Action Requested

Good Morning!

The following customers have been selected to attend the Mark Fields Breakfast at Fleet Preview. I have been asked to compile information on each of the customers. Can the NAM responsible, please send me the title and a **short** paragraph about their customers? The NAMs are shown below:

1. Brenda Davis - Baker Hughes (Dave Valicevic)
2. Pete Silva - Pepsi/Frito Lay (Jeff Morman)
3. John Drozd - Kinder Morgan (Terry Ryan)
4. Mike Dingman – Valleycrest (Bob Sanseverino)
5. Shirley Collins – GSK (Vic Kachel)
6. Stephen Levine – Pfizer (Jim Corcoran)
7. Bud Reuter – Comcast (Gene Morabito)
8. Patsy Brownson – Cox Communications (Tracy Smith)
9. Travis King – Shelter Insurance (Pam Mooney)
10. Kathy Schulz – Progressive Insurance (Kris Klink)
11. Cotton Tar – Cardinal Health (Brian Lively)

Please send to me by COB, Friday, May 25th. Thanks.

Natalie Olson
NAFLRO Events
Phone (313) 390-6416
[redacted]
Fax (313) 594-4684
nolson1@ford.com

From: Repasky, Steve (S.)
Sent: Friday, November 03, 2006 3:37 PM
To: Choe, Mark (M.J.); Ufford, Donald (D.A.); Norton, John (J.K.); Asay, Larry (L.L.)
Cc: Arbitter, Daniel (D.S.); O'Connor, Tammy (T.A.); Hodges, Cynthia (C.P.); Boals, Shannon (S.D.); Kachel, Victor (V.R.); Malik, Wesley (W.K.); Hale, Curt (B.C.)
Subject: RE: Barrick Thursday meeting
Attachments: FW: F250 problem

I have made arrangements to meet with the Duke Energy Field Services fleet representatives (Attached note) in Midland, Texas on Wednesday Nov. 8 - Friday Nov. 10. My flight is scheduled to arrive in Midland at 10:37 AM. I talked briefly with Larry and he will set up the local Ford dealership to accommodate any vehicle work that may be required.

As noted below, even with the TSB performed, there is a small number of vehicles that continue to have a concern. As part of a potential improvement, I would like to try the P356 steering damper with the vehicle at placard tire pressures to determine any value in diminishing the concern.

Larry - Is it possible for Duke Energy to set up a call-in conference such that interested people in Dearborn may participate? Thanks...

From: Choe, Mark (M.J.)
Sent: Friday, November 03, 2006 1:50 PM
To: Ufford, Donald (D.A.); Norton, John (J.K.)
Cc: Repasky, Steve (S.); Arbitter, Daniel (D.S.)
Subject: RE: Barrick Thursday meeting

I believe Steve has already made contact and making arrangements with help from Core.

Mark J. Choe
Vehicle Dynamics Manager
Body on Frame Programs

From: Ufford, Donald (D.A.)
Sent: Friday, November 03, 2006 12:37 PM
To: Norton, John (J.K.); Choe, Mark (M.J.)
Subject: RE: Barrick Thursday meeting

Mark - I suggest we go and visit with FCSD and collect data and use our kitchen sink approach.

From: Norton, John (J.K.)
Sent: Friday, November 03, 2006 9:17 AM
To: Ufford, Donald (D.A.)
Subject: FW: Barrick Thursday meeting

Don,

I need your team's support on this Super Duty front end shimmy/shake issue. The issue is that some vehicles continue to have the concern after the TSB has been performed. This is becoming significant issue. Our Commercial Vehicle account Manager (Larry Asay) is arranging a visit with two large fleets that are both experiencing this concern.

I know that Steve Repasky has been working on the issue and is fully aware of the concerns. Is it possible for Steve to accompany Larry on these fleet visits? I know that one of the fleets (Barrick) has stated they developed a damper that fixes it.

If you have any questions, please let me know! Thanks for your support!

Regards,

John Norton

Manager, Pickup Trucks & SUV's
Truck Service Engineering
Ford Customer Service Division
Phone: (313) 337-3639
Email: jnorton@ford.com

From: Witthar, Mark (M.B.)
Sent: Tuesday, October 31, 2006 8:44 AM
To: Norton, John (J.K.)
Cc: Witthar, Mark (M.B.)
Subject: FW: Barrick Thursday meeting

I need your assistance with this concern.

As you can see from the attached the front-end shake and shimmy issue is getting to be problem in the field.

Please read the attached notes - you can see that some customers are starting to buy other brands of trucks as a result. We have been working with your team on this and performing the TSB but as you can see on some units it appears to be coming back.

My request is that someone from Engineering accompany my CAFM, Larry Asay on a contact at Barrick and possibly Duke Energy to address this concern with the customer.

Please call me so we can discuss.

Thanks.

Mark Witthar
Commercial Vehicle Operations Manager

Phone: (313) 248-3882
Fax: (313) 248-3444
[redacted]

From: Asay, Larry (L.L.)
Sent: Monday, October 30, 2006 5:04 PM
To: Kachel, Victor (V.R.); Byers, Michael (M.R.)
Cc: Witthar, Mark (M.B.); Johnson, Ernita (E.D.); Eveland, Marty (M.)
Subject: RE: Barrick Thursday meeting

I flew down there with Adam and we performed the TSB on their worst truck. The concern did go away however the driver complained that the problem came back. At that time I had Marty Eveland (FSE) drive some other trucks that had the issue. He had to air the tires up and drove them without a problem. They still say the concern comes back and that's the issue. I believe that the concern will go away if the dampener is healthy and the tires are aired up, however the customer is airing the tires down to go out and service oil pumps on sandy roads. They have an air compressor in the back of the truck that they can air the tires up with when they get back out to the pavement. I think that they are not doing this. Problem is they are not the only fleet complaining of this and some like Barrick are still having the issue with the TSB performed per their words.

From: Kachel, Victor (V.R.)
Sent: Monday, October 30, 2006 2:40 PM
To: Byers, Michael (M.R.)
Cc: Asay, Larry (L.L.); Kachel, Victor (V.R.)
Subject: RE: Barrick Thursday meeting

I just saw Adam…he said that their 'committee' is serious about this. AND now they've started raising the issue on F350 as well. This had been limited to F250's up to this point, but it's starting to spread.

He said that Conoco-Phillips (partners with Duke in many areas of pipeline), Duke Energy Field Services, and the Texas Railroad Commission (they have a fleet of trucks because they monitor pipeline right of ways in TX) are all having the same problems with front end shake and the lawyers are calling it a safety issue.

Mike, Thanks for your note to the product and service groups. I'm confident that they'll be able to provide us with guidance and a solution to this to keep these customers buying Fords.

Duke has 200+ F250's and those are the trucks that they are talking about having to replace with other OEM product (possibly as soon as next week).

Larry Asay has been involved in this investigation for a long time and I'm cc'ing him on this note as well.

Larry, I think Adam indicated that you'd sent a FSE to some of their operations to check their trucks earlier this year…maybe those findings would be helpful.

We need to work with Ron Edelen (Adam's boss) to make sure they know about all these kinds of investigations and results of the investigations.

I am calling Ron this afternoon to let him know that we'll put product and CVO resources into this and get it resolved.

Thanks!

Vic Kachel
National Account Manager
Ford Motor Company
6312 South Fiddler's Green Circle
suite 503 East
Englewood, CO 80111
Phone 303-694-8709
Fax 303-804-8280

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-----Original Message-----
From: Byers, Michael (M.R.)
Sent: Monday, October 30, 2006 1:08 PM
To: Witthar, Mark (M.B.)
Cc: Kachel, Victor (V.R.); Michon, Jim (J.B.); Bedard, Michael (M.R.); Koss, Gerald (G.N.)
Subject: FW: Barrick Thursday meeting
Importance: High

Mark, although this is not a new issue, it has reached a critical point where it is costing Ford business. We have many loyal Ford customers who believe we are walking away from the problem. We either have to change customer perceptions, find an engineering fix, or accept the fact that customers will buy competitive products.

Your insights are welcome. Do you know if there have been any changes to the 08 Super Duty which would correct the front end shaking issue?

Mike Byers
Western Regional Sales Manager
North American Fleet, Lease, and Remarketing Operations
313-390-0974

From: Kachel, Victor (V.R.)

Sent: Monday, October 30, 2006 11:58 AM
To: Byers, Michael (M.R.)
Cc: Michon, Jim (J.B.)
Subject: Barrick Thursday meeting
Importance: High

Hi, Mike and Jim.

Here are a list of concerns that Barrick Gold has identified. They are once again raising the issue of the front end shaking among other things. Please forward this to the engineering community so we can look at solutions for these things.

This has been ongoing for the past year with many customers. Today I learned that Duke Energy Field Services will be parking 200+ Ford super duty trucks and will be forced by their lawyers to buy GM's if we cannot provide them with some sort of 'fix' for this.

Barrick says they've come up with a stabilizer system that will fix the problem. We will see them on Thursday and I'll take pictures of their solution.

Thanks for your help.

Vic Kachel
National Account Manager
Ford Motor Company
6312 South Fiddler's Green Circle
suite 503 East
Englewood, CO 80111
Phone 303-694-8709
Fax 303-804-8280

This communication contains confidential information which is intended only for the use of the addressee. It may contain Privileged and Confidential information that is protected. Copying or distribution of this communication by persons other than the addressee is proh bited. If you have received this communication in error, please notify us immediately by telephone and destroy the original message and any attachments. Thank you.

-----Original Message-----
From: Hicks, Farley (GoldStrike) [mailto:FHicks@barrick.com]
Sent: Monday, October 30, 2006 11:21 AM
To: Asay, Larry (L.L.); Kachel, Victor (V.R.)
Subject: Thursday meeting

Larry & Vic,
Here's a heads up on some of the questions the reps from the new Barrick sites will have for you. The first two are genuine safety concerns. The others are more maintenance and convenience issues.

#1 on the list will be, what has been done on the 2008 Super Duty to correct the front end shaking issue?
While airing the tires to a higher pressure drastically reduces the problem, it continues to be an issue.

#2 is the external fuel pump module is located in a position where it is exposed to gravel coming up from the wheels and,
when damaged, has caused vehicles to loose power, making steering and braking very difficult. The potential for
accidents exists under these conditions.

#3 is the carbon filter canister location. The canister gets filled with mud, making in nearly impossible to get the fuel tank
full. The interim solution for this has been to remove the carbon from the canister.

#4 is the age old issue with the dome light switches. This has been an issue sense 1999. Any help here?

#5 is premature universal joint failure, especially in the front drivelines. This is mostly caused by the inability to grease the
factory joints.

I hope this will enable you to prepare some information to have available at the time of the meeting. I think it is important to have a positive response to some or all of these issues. It will go a long way in building the trust in the other sites that we at Goldstrike have.

Looking forward to seeing you both.
Farley Hicks
Asset Recovery
Barrick North America
(775) 778-8351
[redacted]
fhicks@barrick.com

From: Asay, Larry (L.L.)
Sent: Friday, November 03, 2006 2:22 PM
To: Repasky, Steve (S.)
Cc: Johnson, Ernita (E.D.); 'Adam Boothroyd (arboothroyd@duke-energy.com)'; Kachel, Victor (V.R.)
Subject: FW: F250 problem

Steve, I talked to Adam and they will have the trucks there all day Wednesday, and half a day Thursday and they will have to cut the drivers loose to get them home. They will have some trucks there that will be some of the local trucks that we could work on after that.

From: Boothroyd, Adam [mailto:ABoothroyd@duke-energy.com]
Sent: Friday, November 03, 2006 8:51 AM
To: Asay, Larry (L.L.)
Cc: Edelen, Ronald G; Boles, Burnace J
Subject: F250 problem

Larry – the people who are leading the team concerning the front end safety problem on the F250s would like the Ford representation to be in Midland, Texas this coming Wednesday (11/08/2006). There will be an assortment of F250s from across the company, not just New Mexico, that have experienced the problem. Representative from Duke Energy Field Services will be in attendance to include the working group as well as the Safety coordinator for this division. Please plan on having yourself and the Ford team to be in attendance.

Burnace – can you give some type of itinerary to Larry Asay (Ford Motor Company) on where to meet Wednesday morning and accommodations that are in the area?

Thank you,
Adam Boothroyd
Fleet Manager
Duke Energy Field Services
(303) 605 - 2188 Office
([redacted]
(303) 605 - 2233

From: Johnston, Steven (S.J.)
Sent: Tuesday, October 31, 2006 2:23 PM
To: Asay, Larry (L.L.); O'Connor, Tammy (T.A.)
Cc: Hale, Curt (B.C.); McDonagh, Scot (S.M.); Meier, Kenneth (K.W.)
Subject: RE: Barrick Thursday meeting

Thanks for the info. I'm sure the unique operating conditions are not helping.

FYI, the dealer by all means has many different avenues to determine which door switch is sticking. WDS/IDS monitoring, volt meter, pp test, unplug it! Replacing all four is over repair.

Steve Johnston
Product Concern Engineer
Super Duty and Excursion Powertrain
FCSD, Service Engineering Operations
Phone - 313-322-1785

From: Asay, Larry (L.L.)
Sent: Tuesday, October 31, 2006 1:16 PM
To: O'Connor, Tammy (T.A.)
Cc: Hale, Curt (B.C.); Johnston, Steven (S.J.); McDonagh, Scot (S.M.); Meier, Kenneth (K.W.)
Subject: RE: Barrick Thursday meeting

Our big issue is the Steering Wheel Oscillation. I can dance around most of these other issues. This Fleet is a Severe Duty Fleet so some of the issues will be specific to them and may not be fixable at your level. A good example is the fuel pump issue. On the U-Joint issue they run the trucks on a mine sight 24 hrs per day the trucks never leave the sight. They have Mag Chloride in the dirt roads which does not help the issue. I don't think you will fix this one either. We'll have them install after market U-Joints that can be greased. On the Door Switches we have had that issue since 99. The switches will stick leaving the dome light on intermittently. When the truck comes in for repair you have no idea which door switch is bad so the dealer has to replace all 4 to prevent a comeback. I thought this was fixed as I had not heard of the issue for some time.

From: O'Connor, Tammy (T.A.)
Sent: Tuesday, October 31, 2006 7:29 AM
To: Asay, Larry (L.L.); Kachel, Victor (V.R.)
Cc: Hale, Curt (B.C.); Johnston, Steven (S.J.); McDonagh, Scot (S.M.); Meier, Kenneth (K.W.)
Subject: FW: Barrick Thursday meeting

Larry/Vic:

Please see e-mail below and attachments concerning #2 and #3 on Barricks list of issues.

We have set up a meeting on Wednesday afternoon with Engineering to discuss the Steering Wheel Oscillation issue on 2005-2007 Super Duty.

However, we need some additional detail on # 4 and #5.

#4 - I need additional information - I have very few reports of dome light issues on 2004-2007 MY trucks.

In #5 - what model years are they referring to? For 1999-2004 a new ball joint was released for service in 09/2006 (it's what is now in production for 2005-2007), the quality is greatly improved. If the issue is on a 2005-2007 F-250/F-350 - we have no reports of ball joint issues on these model years. We need more information.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: McDonagh, Scot (S.M.)
Sent: Tuesday, October 31, 2006 9:21 AM
To: Johnston, Steven (S.J.); O'Connor, Tammy (T.A.); Meier, Kenneth (K.W.)
Cc: Hale, Curt (B.C.); Knapp, David (D.); Lightner, Shawn (S.E.); Conroy, Jerry (J.R.); Hofman, Michael (M.V.); Cowley, Mike (M.D.)
Subject: RE: Barrick Thursday meeting

I agree this sounds like Severe-Duty application. Why weren't we in the loop before this escalated to vehicles parked, switching to other OEM status ?

Front End Shaking- TSB 06-22-14 ?

Revised Canisters and Fresh Air vent kit- TSB 06-19-15

Scot G. McDonagh
Super-Duty/Excursion
Powertrain Quality Leader
Phone: (313)337-8091
smcdonag@ford.com

From: Johnston, Steven (S.J.)
Sent: Tuesday, October 31, 2006 8:57 AM
To: O'Connor, Tammy (T.A.); McDonagh, Scot (S.M.)
Cc: Meier, Kenneth (K.W.); Hale, Curt (B.C.)
Subject: RE: Barrick Thursday meeting

Scot anything to add?

#2 The external fuel pump module is located in a position where it is exposed to gravel coming up from the wheels and,
when damaged, has caused vehicles to loose power, making steering and braking very difficult. The potential for

accidents exists under these conditions. Only unprotected if the spare tire is not in place. If this is a special cause failure for this fleet they should work with dealer to install a shield.

#3 is the carbon filter canister location. The canister gets filled with mud, making in nearly impossible to get the fuel tank
full. The interim solution for this has been to remove the carbon from the canister. TSB out for this concern, need to install revised canister and relocate fresh air intake to a non-dirty area.

#4 is the age old issue with the dome light switches. This has been an issue sense 1999. Any help here?

#5 is premature universal joint failure, especially in the front drivelines. This is mostly caused by the inability to grease the
factory joints. Mostly? Whats premature? 1000 miles or 60,000 miles? Need more info. Has not been something I have seen, but it sounds like these vehicles operate in very dirty conditions and this may be normal for those conditions.

Steve Johnston
Product Concern Engineer
Super Duty and Excursion Powertrain
FCSD, Service Engineering Operations
Phone - 313-322-1785

From: O'Connor, Tammy (T.A.)
Sent: Tuesday, October 31, 2006 8:48 AM
To: Johnston, Steven (S.J.); McDonagh, Scot (S.M.)
Cc: Meier, Kenneth (K.W.); Hale, Curt (B.C.)
Subject: FW: Barrick Thursday meeting
Importance: High

Steve/Scot/Curt:

I've already set up a meeting with Engineering to address the shimmy issue - but they have several other issues listed below which are not in my area.

Any information/recommendations you have on the other items would be greatly appreciated.

I believe you may want to put together an e-mail to send to CVO with the latest information on the other issues.

I will work on #1, 4, and 5.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Meier, Kenneth (K.W.)
Sent: Monday, October 30, 2006 2:51 PM
To: O'Connor, Tammy (T.A.)
Subject: FW: Barrick Thursday meeting
Importance: High

Tammy,

Just sending this as an F-Y-I. The concern is so big with Duke Energy that they are parking their vehicles. See below. Maybe engineering wants to get involved with this one?

Ken Meier
Commercial Vehicle Operations
Commercial Service Manager
Regent Court Building
16800 Executive Pl. Dr.
Dearborn, MI 48126-4207
Phone: 313-317-1867 Fax: 313-248-3481

From: Witthar, Mark (M.B.)
Sent: Monday, October 30, 2006 1:47 PM
To: Meier, Kenneth (K.W.)
Subject: FW: Barrick Thursday meeting
Importance: High

Mark Witthar
Commercial Vehicle Operations Manager
Phone: (313) 248-3882
Fax: (313) 248-3444
[redacted]

From: Byers, Michael (M.R.)
Sent: Monday, October 30, 2006 1:08 PM
To: Witthar, Mark (M.B.)
Cc: Kachel, Victor (V.R.); Michon, Jim (J.B.); Bedard, Michael (M.R.); Koss, Gerald (G.N.)
Subject: FW: Barrick Thursday meeting
Importance: High

Mark, although this is not a new issue, it has reached a critical point where it is costing Ford business. We have many loyal Ford customers who believe we are walking away from the problem. We either have to change customer perceptions, find an engineering fix, or accept the fact that customers will buy competitive products.

Your insights are welcome. Do you know if there have been any changes to the 08 Super Duty which would correct the front end shaking issue?

Mike Byers
Western Regional Sales Manager
North American Fleet, Lease, and Remarketing Operations
313-390-0974

From: Kachel, Victor (V.R.)
Sent: Monday, October 30, 2006 11:58 AM
To: Byers, Michael (M.R.)
Cc: Michon, Jim (J.B.)
Subject: Barrick Thursday meeting
Importance: High

Hi, Mike and Jim.

Here are a list of concerns that Barrick Gold has identified. They are once again raising the issue of the front end shaking among other things. Please forward this to the engineering community so we can look at solutions for these things.

This has been ongoing for the past year with many customers. Today I learned that Duke Energy Field Services will be parking 200+ Ford super duty trucks and will be forced by their lawyers to buy GM's if we cannot provide them with some sort of 'fix' for this.

Barrick says they've come up with a stabilizer system that will fix the problem. We will see them on Thursday and I'll take pictures of their solution.

Thanks for your help.

Vic Kachel
National Account Manager
Ford Motor Company
6312 South Fiddler's Green Circle
suite 503 East
Englewood, CO 80111
Phone 303-694-8709
Fax 303-804-8280

This communication contains confidential information which is intended only for the use of the addressee. It may contain Privileged and Confidential information that is protected. Copying or distribution of this communication by persons other than the addressee is proh bited. If you have received this communication in error, please notify us immediately by telephone and destroy the original message and any attachments. Thank you.

-----Original Message-----
From: Hicks, Farley (GoldStrike) [mailto:FHicks@barrick.com]
Sent: Monday, October 30, 2006 11:21 AM
To: Asay, Larry (L.L.); Kachel, Victor (V.R.)
Subject: Thursday meeting

Larry & Vic,
Here's a heads up on some of the questions the reps from the new Barrick sites will have for you. The first two are genuine safety concerns. The others are more maintenance and convenience issues.

#1 on the list will be, what has been done on the 2008 Super Duty to correct the front end shaking issue?
While airing the tires to a higher pressure drastically reduces the problem, it continues to be an issue.

#2 is the external fuel pump module is located in a position where it is exposed to gravel coming up from the wheels and,
when damaged, has caused vehicles to loose power, making steering and braking very difficult. The potential for
accidents exists under these conditions.

#3 is the carbon filter canister location. The canister gets filled with mud, making in nearly impossible to get the fuel tank
full. The interim solution for this has been to remove the carbon from the canister.

#4 is the age old issue with the dome light switches. This has been an issue sense 1999. Any help here?

#5 is premature universal joint failure, especially in the front drivelines. This is mostly caused by the inability to grease the
factory joints.

I hope this will enable you to prepare some information to have available at the time of the meeting. I think it is important to have a positive response to some or all of these issues. It will go a long way in building the trust in the other sites that we at Goldstrike have.

Looking forward to seeing you both.
Farley Hicks
Asset Recovery
Barrick North America
(775) 778-8351
([redacted])
fhicks@barrick.com

From: Hale, Curt (B.C.)
Sent: Wednesday, October 18, 2006 8:07 AM
To: Steward, Gene (E.A.)
Cc: O'Connor, Tammy (T.A.)
Subject: RE: BBB Case - Baldoni Construction - 2006 F250 Super Duty Crew Cab

The front suspension is completely different we went to coil springs in 2005.

Follow the TSB as written to minimize wheel fight.

B. Curtis Hale
FCSD PVT Program Manager
F-Super Duty & Excursion

From: Steward, Gene (E.A.)
Sent: Wednesday, October 18, 2006 7:37 AM
To: Hale, Curt (B.C.)
Subject: BBB Case - Baldoni Construction - 2006 F250 Super Duty Crew Cab

Pressures were at 56-58 psi. Decal calls for 65psi.

Spoke to customer last night. He is comparing to 2002 and 2003 Super Duty 250s that they have in his fleet. His perception is that there is something wrong with this truck and describes the issue as what happens when he encounters bumps at speed, especially in corners. He says the steering wheel "jumps".

To me.. It felt like a truck with stiff suspension.

Two questions:

1) What types of changes did we make to the newer Crew Cab F250 gas powered 4x4 trucks that I can refer to when speaking with the customer?

2) Are there any "ride improvement" options available to better the ride and lessen steering shock?

I believe what I felt was a "characteristic" ride. The customer bases his perception on his prior vehicle and others in their fleet.

Thanks a bunch Curt!

E. A. (Gene) Steward
Ford Motor Company
Field Service Engineer - Mid-Atlantic Market
[redacted]
Fax: 703 818-7771

From: Hale, Curt (B.C.)
Sent: Wednesday, October 18, 2006 7:31 AM
To: Steward, Gene (E.A.)
Subject: FW: Your message

Make sure the tire pressure is correct per placard. The 05 and up do have a little more harsh ride due to the GVW increase which required us to raise the tire pressures.

B. Curtis Hale
FCSD PVT Program Manager
F-Super Duty & Excursion

From: O'Connor, Tammy (T.A.)
Sent: Wednesday, August 23, 2006 3:07 PM
To: Repasky, Steve (S.); Ufford, Donald (D.A.); Choe, Mark (M.J.); Gompper, Dan (D.B.)
Subject: RE: Buy Back Info

Attachments: Picture (Metafile)

I will find out who the FSE is and call him right away.

I'll let you know the outcome.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Repasky, Steve (S.)
Sent: Wednesday, August 23, 2006 3:05 PM
To: Ufford, Donald (D.A.); Choe, Mark (M.J.); Gompper, Dan (D.B.)
Cc: O'Connor, Tammy (T.A.)
Subject: RE: Buy Back Info

Don - I reviewed the subject vehicle's repair history and the attached CQIS reports (Attachment from Tammy O'Connor). It is a 5.4L M/T 4x4 S/C with BFG LT245/75R17E tires. The vehicle was serviced on two of the three service dates for Vehicle shimmy by performing TSB 05-22-01. In all prior Superduty cases, any shimmy concern was resolved with application of the TSB.

One of the attached CQIS reports indicate a lawyer contacted the dealership on July 20, 2006 regarding this vehicle. The vehicle upload date for buyback was entered as Aug. 4, 2006 with no entries for check paid, value of reacquired vehicle or net cost.

I don't believe a shock change would have prevented the buyback. I called the dealership and spoke to Don Boone (Service Manager) and he indicated the TSB actions did not resolve the concern, but the customer as far as he knew still had possession of the vehicle.

Tammy - would it be possible to have the appropriate Field engineer review this particular vehicle? The service manager thought the customer would be open to bring his vehicle in for review. Thanks...

<< Message: RE: CQIS Report - Superduty buyback >>

From: Ufford, Donald (D.A.)
Sent: Tuesday, August 08, 2006 2:28 PM
To: Repasky, Steve (S.); Choe, Mark (M.J.); Gompper, Dan (D.B.)
Subject: Buy Back Info

Steve - could someone make a call to the dealership and find out what the issue was and what they tried to repair.

I can guess it was a 142 FX4. If so, do we have a TSB out with the new shock code you folks developed to smooth out the ride and would have it saved this buyback?

Thanks

8/6/200 6	1FTSX215X5E [redacted]	West Virginia	EPAWELEK	[redacted]	2005	F-250 Super Cab, Super Duty (4X4)	23,526	Auction	Pre-Litiga

From: O'Connor, Tammy (T.A.)
Sent: Wednesday, August 23, 2006 4:53 PM
To: Repasky, Steve (S.); Ufford, Donald (D.A.); Choe, Mark (M.J.); Gompper, Dan (D.B.)
Subject: RE: Buy Back Info

Attachments: Picture (Metafile)

I called and spoke with Joe Bingaman, FSE and also Jim Glass, Supervisor for the RAV group.

Jim said that since the attorneys have been involved, there is no way to prevent this from buy-back. The FSE was not involved.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

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Sent: Wednesday, August 23, 2006 3:05 PM
To: Ufford, Donald (D.A.); Choe, Mark (M.J.); Gompper, Dan (D.B.)
Cc: O'Connor, Tammy (T.A.)
Subject: RE: Buy Back Info

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8/6/200 6	1FTSX215X5E C[redacted]	West Virginia	EPAWELEK	[redacted]	2005	F-250 Super Cab, Super Duty (4X4)	23,526	Auction	Pre-Litiga

From: Jay, Brian (B.L.)
Sent: Friday, November 11, 2005 3:17 PM
To: Daleo, Joseph (J.L.)
Cc: O'Connor, Tammy (T.A.)
Subject: RE: Chris Wimmer 1FTWW31PX5E[redacted] Bill McRae Ford

Joe / Tammy.

The steering wheel is definitely not involved in this case. The entire vehicle hops up and down after hitting the right kind of road surface. There is no movement of the wheel visible anytime. I do not see why a different shock would be a bad idea to try to change the handling characteristics. Does anyone have any part numbers available?

I may have forgot to tell you that if the customer puts a 300 to 500 lb ATV in the bed, the issue is totally resolved. The customer does have a fuel tank in the bed, I may have the dealer remove it and test drive if we do not get anywhere with trying a different set of tires.

Thanks.

Brian Jay
Field Technical Specialist
Southwest Market
[redacted]
Office / Fax: 972-334-1806
bjay1@ford.com

-----Original Message-----
From: Daleo, Joseph (J.L.)
Sent: Friday, November 11, 2005 4:11 AM
To: Jay, Brian (B.L.)
Cc: O'Connor, Tammy (T.A.)
Subject: RE: Chris Wimmer 1FTWW31PX5EA[redacted]Bill McRae Ford

I spoke to Tammy O'Connor about the shimmy issue, she asked if the issue was a steering wheel shake or did the whole vehicle shake? On ones that the steering wheel is not involved there is a different shock absorber available to change the ride characteristics. Do you think a different shock would help in this instance?
-----Original Message-----
From: Jay, Brian (B.L.)
Sent: Thursday, November 10, 2005 7:30 PM
To: Daleo, Joseph (J.L.)
Subject: Chris Wimmer 1FTWW31PX5E[redacted] Bill McRae Ford

Hi Joe.

The Bill McRae Super Duty has a tire/wheel oscillation or hop, 1st order, 7 hz at 35 mph, concern is also present at 70 mph. This is not a steering fight or shimmy concern. It only occurs on certain roads. I test drove a stock unit with the same wheelbase and 275/70R18 Continental tires and it has a similar hop when driven on the same roads, although

the stock unit is probably only 50% as severe. Three of the tires on the concern vehicle had over 30 lbs of road force, the other tire was at 7. I did some searching through CQIS and found similar reports of this issue.

I spent most of my time evaluating the vehicle on the two specific roads in question vs. other roads around the area, and also varying tire pressure. I found the concern is a little better with the tire pressure set to the label spec (75 psi rear, 65 psi front) however the truck rides pretty rough in general at that psi. I see why so many of our dealers lower tire pressures on these trucks before delivery. The stock unit I compared with seemed to ride much smoother at label spec, so I am going to have the dealer swap tires and wheels with the stock unit and re-test. This dealer does not have the proper drive on hoists to make this happen in a timely manner (I watched them mess around with floor jacks and bumper hoists for over an hour until I got bored and left to visit another dealer while they completed the swap). However I think I trained the Service Manager pretty well on where I want the trucks driven and what kind of feedback I am looking for. I suspect this issue is somewhat characteristic of this wheelbase and the18 inch tire in question but I want to try a few things before I am totally convinced it cannot be improved.

I spoke with the customer at length and he was a little edgy about the whole deal but since he knows Amy McMillen pretty well and she can help explain this type of stuff to him I think we should be OK. I also think that I got the point across that he understands that this is not really a durability or risk of future breakdowns type of issue and he seemed OK with this direction and was more than willing to stop by the dealer when they have the other tires on and see what he thinks. I guess he has pneumonia right now anyway and is not working so he will not exactly need the truck at this present time.

The dealer will call me if they have anything new to update me on, I'll let you know.

Thanks.

Brian Jay
Field Technical Specialist
Southwest Market
[redacted]
Office / Fax: 972-334-1806
bjay1@ford.com

From: Johnston, Steven (S.J.)
Sent: Tuesday, October 25, 2005 1:21 PM
To: Barnes, Andrew (A.); O'Connor, Tammy (T.A.); Hale, Curt (B.C.)
Subject: RE: CQIS report tar [redacted]

Attachments: Report Summary for the CQIS Report[redacted]; Report Summary for the CQIS Report# [redacted]

There was another report in today's run for Hop. Have you seen any others Tammy? I started a folder.

Report Summary for the CQIS Re...

Report Summary for the CQIS Re...

Steve Johnston
Product Concern Engineer
Super Duty and Excursion Powertrain
FCSD, Service Engineering Operations
Phone - 313-322-1785

-----Original Message-----
From: Ofstad, Edward (E.N.)
Sent: Monday, October 24, 2005 9:05 PM
To: Johnston, Steven (S.J.); Barnes, Andrew (A.)
Subject: CQIS report tar 5IFBV005

Please fill me in on the upcoming TSB regarding this concern. Randy Frick received some information for the Subject Mater Expert on this concern.

From: Johnston, Steven (S.J.)
Sent: Tuesday, October 25, 2005 8:02 AM
To: Johnston, Steven (S.J.)
Subject: Report Summary for the CQIS Report# [redacted]

Attachments : 0

Report# :	[redacted] NHL			**Received:**	09/06/2005
CCRG/EPRC:		**Reviewed Status:**		**Date:**	
Vehicle:	2005,F250 4X4,CRW CAB,SRW ,1FTSW21P05E[redacted]			**Build Date:**	09/30/2004
Odometer :	11,000 M	**Engine:**	6.0L DI	**Calibration:**	
Transmission:	5R110W DSL	**Axle:**		**A/C:**	YES
Dealer:	USA 09482 McCormick Motors Inc			**Phone#:**	(605) 425-2331
City:	Salem	**State:**	South Dakota	**Country :**	USA

Originator: TRAVIS ZAPP
Symptom: 3 04 1 51 CHASS.,SUSPENSION,RIDE QUALITY,SOFT/FLOAT
Status:
VFG: V89 RIDE & HANDLING
Additional Symptom: FAST HOPPING
Fix: **Causal Component :**
Condition Code:

Hotliner: ABARNE14 **Phone:** 313 317-9373 **Regn Cd:** 58 Twin Cities - 58

Engineering: **Phone:** **TAR:** 0-30

Dlr Contact: TRAVIS ZAPP **Phone:** 605 425-2331 **Title Cde:** T

Comments :

REPAIR 09/06/2005 11:02AM ANDREW BARNES MSS - FCSD - TECH SVC HOTLINE
TECH STATES THAT WHEN DRIVING THE VEHICLE OVER THE INTERSTATE OR ANY
OTHER BUMPY HIGHWAY IT FEELS LIKE THE VEHICLE WILL START TO HOP AND IT
IS A FAST HOP. IT FEELS ALMOST AS IF THE FRAME WAS HINGED UNDER THE
DRIVERS SEAT AND THE SEAT IS GOING UP AND DOWN. THEY HAVE SET TIRE
PRESSURES TO THE DOOR AND ALSO CHANGED THE TIRE PRESSURES.

ALSO THE
SHOCKS HAVE BEEN REPLACED WITH NO CHANGE. THE VEHICLE IS STOCK AND
RIGHT NOW IS EMPTY. THIS IS MORE SEVERE THAN NORMAL. SEEKING KNOWNS OR
ADVICE.

RECOMM 09/06/2005 11:02AM ANDREW BARNES MSS - FCSD - TECH SVC HOTLINE
ADVISED THE TECH TO MAKE SURE THAT ALL OF THE SUSPENSION FOR FRONT AND
REAR IS TIGHT. TRY ASSING WEIGHT TO THE REAR AND SEE IF IT DOES
CHANGE. IF SO TRY SWAPPING THE SPRINGS WITH A LIKE TRUCK.

REPAIR 09/06/2005 05:49PM JOSEPH REDDMANN MSS - FCSD - TECH SVC HOTLINE
SM CALLED BACK WITH SAME CONCERN. SEEKING ADDITIONAL DIRECTION.

RECOMM 09/06/2005 05:49PM JOSEPH REDDMANN MSS - FCSD - TECH SVC HOTLINE
ADVISED ISSUE IS INDER INVESTAGATION.

REPAIR 09/19/2005 03:42PM JCRUZ25
SM CALLING TO FIND OUT IF THERE ARE ANY UPDATES ON CONCERN WITH RIDE
QUALITY. SM STATES THE CUSTOMER REPORTS WITH A 5TH WHEEL THE UNIT IS
WORSE.

RECOMM 09/19/2005 03:42PM JCRUZ25
ADV. SM OF NO OTHER KNOWN CONCERNS AND THAT THIS CONCERN IS NOT UNDER
INVESTIGATION BECAUSE IT IS NOT COMMON. ADV. TO CHECK TRACK BAR
TORQUES, PROVIDE SPECS. ADV. IT WOULD BE BEST TO COMPARE TO AN
IDENTICAL KNOWN GOOD UNIT.

REPAIR 10/03/2005 01:26PM CHRIS ROTH MSS - FCSD - TECH SVC HOTLINE
SM CALLING BACK ON SAME CONCERN, SM NOTES THAT VEHICLE HAS NOT BEEN
BACK IN. SM SEEKING DIRECTION.

RECOMM 10/03/2005 01:26PM CHRIS ROTH MSS - FCSD - TECH SVC HOTLINE
ADVISED SM TO COMPARE TO KNOWN GOOD UNIT, ADVISED SM IF CONCERN IS
WORSE THAN KNOWN GOOD SWAP COMPONENTS TO SEE IF CAUSE CAN BE ISOLATED.

REPAIR 10/13/2005 07:00PM JOHN HERDZIK MSS - FCSD - TECH SVC HOTLINE
TECH CALLING BACK ON THE SAME CONCERN. TECH STS HE HAS SWAPPED IN
TIRES, PERFORMED AN ALIGNMENT, REPLACED THE FRONT SHOCKS AND TORQUED
THE TRACBAR TO NO AVAIL. TECH STS THE HOPPING CONCERN IS STILL
PRESENT. TECH SEEKING HOTLINE

RECOMM 10/13/2005 07:00PM JOHN HERDZIK MSS - FCSD - TECH SVC HOTLINE

CONSULTED SME DAVE KNAPP. ADVISED TECH HE NEEDS TO REMOVE THE REAR

DRIVESHAFT AND DRIVE IT OFF THE FRONT AND RETEST FOR THE CONCERN.

AUDIT **10/13/2005 07:00PM JOHN HERDZIK MSS - FCSD - TECH SVC HOTLINE**

ODOMETER 9700 M CHANGED TO 11000 M BY JHERDZIK

REPAIR **10/14/2005 12:01PM JOHN HERDZIK MSS - FCSD - TECH SVC HOTLINE**

CALLED TECH BACK ON THE SAME CONCERN. TECH HAS REMOVED THE REAR

DRIVESHAFT AND DROVE THE VEHICLE OFF THE FRONT AND THE SAME CONCERN

WAS PRESENT. TECH STS HE ALSO SET TIRE PRESSURE'S AT 75 POUNDS TO NO

AVAIL. TECH SEEKING THE ASSISTANCE OF A FSE. TECH STS THE CUSTOMER IS

WANTING TO GO BUYBACK ON THE VEHICLE. TECH SEEKING HOTLINE ASSISTANCE.

RECOMM **10/14/2005 12:01PM JOHN HERDZIK MSS - FCSD - TECH SVC HOTLINE**

CONSULTED SME DAVID KNAPP. CONSULTED LEON DALLAPE. ADVISED TECH DUE TO

THE NUMBER OF REPAIR ATTEMPTS AND AMOUNT OF CALLS INTO THE HOTLINE A

FSE WILL BE CONTACTING THE DEALERSHIP TO FUTHER ASSIST IN FIXING THE

VEHICLE.

ADD-ON **10/14/2005 12:59PM CHRIS WOLKEN-GRPLDR MSS - FCSD - TECH SVC HOTLINE**

TAR APPROVED

ADD-ON **10/17/2005 10:07AM STEVE JOHNSTON(PCE) MSS - FCSD - VSP PVT SVC ENG**

PVT HAS NO ADDITIONAL COMMENTS AT THIS TIME.

ADD-ON **10/24/2005 08:58PM ED OFSTAD(FSE) MSS - FCSD - REG - TWIN CTY**

APPOINTMENT SET FOR NOV 1

From: Johnston, Steven (S.J.)
Sent: Tuesday, October 25, 2005 1:18 PM
To: Johnston, Steven (S.J.)
Subject: Report Summary for the CQIS Report# [redacted]

Attachments : 0

Report# :	[redacted] NHL			**Received:**	10/24/2005
CCRG/EPRC:		**Reviewed Status:**		**Date:**	
Vehicle:	2006,F350 4X4,CRW CAB,PICKUP ,1FTWW31P16E[redacted]			**Build Date:**	09/16/2005
Odometer :	1,090 M	**Engine:**	6.0L DI	**Calibration:**	
Transmission:	5R110W DSL	**Axle:**		**A/C:**	YES
Dealer:	USA 03134 Phil Long Ford of Chapel Hills			**Phone#:**	(719) 572-2300
City:	Colorado Springs	**State:**	Colorado	**Country :**	USA

Originator: ROY KEISER
Symptom: 7 03 0 00 UKN SRC ,VIBRATION,OTHER-CODE NA,OTHER-CODE NA
Status:
VFG: V89 RIDE & HANDLING
Additional Symptom: HOPS AT 45 MPH
Fix: **Causal Component :**
Condition Code:

Hotliner: JOWENS28 **Phone:** 313 317-4276 **Regn Cd:** 56 Denver - 56
Engineering: **Phone:** **TAR:**
Dlr Contact: ROY KEISER **Phone:** 719 572-2300 **Title Cde:** SM

Comments :

REPAIR 10/24/2005 07:01PM JONATHAN OWENS MSS - FCSD - TECH SVC HOTLINE
SM STATES THE CUSTOMERS CONCERN IS THE VEHICLE SEEMS TO BOUNCE A LOT
WHEN UNLOADED. SM STATES HE DID VERIFY THE CONCERN. SM STATES HE
THINKS THE CONCERN IS NORMAL. SM STATES THE TIRES WERE BALANCED TO NO
AVAIL. SM SEEKING ADVICE.

RECOMM 10/24/2005 07:01PM JONATHAN OWENS MSS - FCSD - TECH SVC HOTLINE

ADVISE SM TO COMPARE THIS TRUCK WITH OTHER LIKE UNITS TO DETERMINE IF

THE CONCERN IS A NORMAL VEHICLE CHARACTERISTIC. ADVISE SM TO ADD

WEIGHT TO THE BED AND RETEST.

From: Johnston, Steven (S.J.)
Sent: Tuesday, October 25, 2005 8:04 AM
To: Ofstad, Edward (E.N.); Barnes, Andrew (A.); O'Connor, Tammy (T.A.)
Subject: RE: CQIS report tar [redacted]

Attachments: Report Summary for the CQIS Report# [redacted]

I am not aware of any TSB for this concern. This is the first I've heard of this complaint. Only suspension issue I'm aware of is the steering wheel shimmy over bumps, and that's primarily with gas engines.

Report Summary
for the CQIS Re...

Steve Johnston
Product Concern Engineer
Super Duty and Excursion Powertrain
FCSD, Service Engineering Operations
Phone - 313-322-1785

-----Original Message-----
From: Ofstad, Edward (E.N.)
Sent: Monday, October 24, 2005 9:05 PM
To: Johnston, Steven (S.J.); Barnes, Andrew (A.)
Subject: CQIS report tar [redacted]

Please fill me in on the upcoming TSB regarding this concern. Randy Frick received some information for the Subject Mater Expert on this concern.

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Sent: Tuesday, October 25, 2005 8:02 AM
To: Johnston, Steven (S.J.)
Subject: Report Summary for the CQIS Report# [redacted]

Attachments : 0

Report# :	[redacted] NHL			**Received:**	09/06/2005
CCRG/EPRC:		**Reviewed Status:**		**Date:**	
Vehicle:	2005,F250 4X4,CRW CAB,SRW ,1FTSW21P05E[redacted]			**Build Date:**	09/30/2004
Odometer :	11,000 M	**Engine:**	6.0L DI	**Calibration:**	
Transmission:	5R110W DSL	**Axle:**		**A/C:**	YES
Dealer:	USA 09482 McCormick Motors Inc			**Phone#:**	(605) 425-2331
City:	Salem	**State:**	South Dakota	**Country :**	USA

Originator: TRAVIS ZAPP
Symptom: 3 04 1 51 CHASS.,SUSPENSION,RIDE QUALITY,SOFT/FLOAT
Status:
VFG: V89 RIDE & HANDLING
Additional Symptom: FAST HOPPING
Fix: **Causal Component :**
Condition Code:

Hotliner: ABARNE14 **Phone:** 313 317-9373 **Regn Cd:** 58 Twin Cities - 58

Engineering: **Phone:** **TAR:** 0-30

Dlr Contact: TRAVIS ZAPP **Phone:** 605 425-2331 **Title Cde:** T

Comments :

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TECH STATES THAT WHEN DRIVING THE VEHICLE OVER THE INTERSTATE OR ANY
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DRIVERS SEAT AND THE SEAT IS GOING UP AND DOWN. THEY HAVE SET TIRE
PRESSURES TO THE DOOR AND ALSO CHANGED THE TIRE PRESSURES.

ALSO THE
SHOCKS HAVE BEEN REPLACED WITH NO CHANGE. THE VEHICLE IS STOCK AND
RIGHT NOW IS EMPTY. THIS IS MORE SEVERE THAN NORMAL. SEEKING KNOWNS OR
ADVICE.

RECOMM 09/06/2005 11:02AM ANDREW BARNES MSS - FCSD - TECH SVC HOTLINE
ADVISED THE TECH TO MAKE SURE THAT ALL OF THE SUSPENSION FOR FRONT AND
REAR IS TIGHT. TRY ASSING WEIGHT TO THE REAR AND SEE IF IT DOES
CHANGE. IF SO TRY SWAPPING THE SPRINGS WITH A LIKE TRUCK.

REPAIR 09/06/2005 05:49PM JOSEPH REDDMANN MSS - FCSD - TECH SVC HOTLINE
SM CALLED BACK WITH SAME CONCERN. SEEKING ADDITIONAL DIRECTION.

RECOMM 09/06/2005 05:49PM JOSEPH REDDMANN MSS - FCSD - TECH SVC HOTLINE
ADVISED ISSUE IS INDER INVESTAGATION.

REPAIR 09/19/2005 03:42PM JCRUZ25
SM CALLING TO FIND OUT IF THERE ARE ANY UPDATES ON CONCERN WITH RIDE
QUALITY. SM STATES THE CUSTOMER REPORTS WITH A 5TH WHEEL THE UNIT IS
WORSE.

RECOMM 09/19/2005 03:42PM JCRUZ25
ADV. SM OF NO OTHER KNOWN CONCERNS AND THAT THIS CONCERN IS NOT UNDER
INVESTIGATION BECAUSE IT IS NOT COMMON. ADV. TO CHECK TRACK BAR
TORQUES, PROVIDE SPECS. ADV. IT WOULD BE BEST TO COMPARE TO AN
IDENTICAL KNOWN GOOD UNIT.

REPAIR 10/03/2005 01:26PM CHRIS ROTH MSS - FCSD - TECH SVC HOTLINE
SM CALLING BACK ON SAME CONCERN, SM NOTES THAT VEHICLE HAS NOT BEEN
BACK IN. SM SEEKING DIRECTION.

RECOMM 10/03/2005 01:26PM CHRIS ROTH MSS - FCSD - TECH SVC HOTLINE
ADVISED SM TO COMPARE TO KNOWN GOOD UNIT, ADVISED SM IF CONCERN IS
WORSE THAN KNOWN GOOD SWAP COMPONENTS TO SEE IF CAUSE CAN BE ISOLATED.

REPAIR 10/13/2005 07:00PM JOHN HERDZIK MSS - FCSD - TECH SVC HOTLINE
TECH CALLING BACK ON THE SAME CONCERN. TECH STS HE HAS SWAPPED IN
TIRES, PERFORMED AN ALIGNMENT, REPLACED THE FRONT SHOCKS AND TORQUED
THE TRACBAR TO NO AVAIL. TECH STS THE HOPPING CONCERN IS STILL
PRESENT. TECH SEEKING HOTLINE

RECOMM 10/13/2005 07:00PM JOHN HERDZIK MSS - FCSD - TECH SVC HOTLINE

CONSULTED SME DAVE KNAPP. ADVISED TECH HE NEEDS TO REMOVE THE REAR

DRIVESHAFT AND DRIVE IT OFF THE FRONT AND RETEST FOR THE CONCERN.

AUDIT **10/13/2005 07:00PM JOHN HERDZIK MSS - FCSD - TECH SVC HOTLINE**

ODOMETER 9700 M CHANGED TO 11000 M BY JHERDZIK

REPAIR **10/14/2005 12:01PM JOHN HERDZIK MSS - FCSD - TECH SVC HOTLINE**

CALLED TECH BACK ON THE SAME CONCERN. TECH HAS REMOVED THE REAR

DRIVESHAFT AND DROVE THE VEHICLE OFF THE FRONT AND THE SAME CONCERN

WAS PRESENT. TECH STS HE ALSO SET TIRE PRESSURE'S AT 75 POUNDS TO NO

AVAIL. TECH SEEKING THE ASSISTANCE OF A FSE. TECH STS THE CUSTOMER IS

WANTING TO GO BUYBACK ON THE VEHICLE. TECH SEEKING HOTLINE ASSISTANCE.

RECOMM **10/14/2005 12:01PM JOHN HERDZIK MSS - FCSD - TECH SVC HOTLINE**

CONSULTED SME DAVID KNAPP. CONSULTED LEON DALLAPE. ADVISED TECH DUE TO

THE NUMBER OF REPAIR ATTEMPTS AND AMOUNT OF CALLS INTO THE HOTLINE A

FSE WILL BE CONTACTING THE DEALERSHIP TO FUTHER ASSIST IN FIXING THE

VEHICLE.

ADD-ON **10/14/2005 12:59PM CHRIS WOLKEN-GRPLDR MSS - FCSD - TECH SVC HOTLINE**

TAR APPROVED

ADD-ON **10/17/2005 10:07AM STEVE JOHNSTON(PCE) MSS - FCSD - VSP PVT SVC ENG**

PVT HAS NO ADDITIONAL COMMENTS AT THIS TIME.

ADD-ON **10/24/2005 08:58PM ED OFSTAD(FSE) MSS - FCSD - REG - TWIN CTY**

APPOINTMENT SET FOR NOV 1

From: Johnston, Steven (S.J.)
Sent: Tuesday, October 25, 2005 8:02 AM
To: Johnston, Steven (S.J.)
Subject: Report Summary for the CQIS Report# [redacted]

Attachments : 0

Report# :	[redacted] NHL			**Received:**	09/06/2005
CCRG/EPRC:		**Reviewed Status:**		**Date:**	
Vehicle:	2005,F250 4X4,CRW CAB,SRW ,1FTSW21P05E[redacted]			**Build Date:**	09/30/2004
Odometer :	11,000 M	**Engine:**	6.0L DI	**Calibration:**	
Transmission:	5R110W DSL	**Axle:**		**A/C:**	YES
Dealer:	USA 09482 McCormick Motors Inc			**Phone#:**	(605) 425-2331
City:	Salem	**State:**	South Dakota	**Country :**	USA

Originator: TRAVIS ZAPP
Symptom: 3 04 1 51 CHASS.,SUSPENSION,RIDE QUALITY,SOFT/FLOAT
Status:
VFG: V89 RIDE & HANDLING
Additional Symptom: FAST HOPPING
Fix: **Causal Component :**
Condition Code:

Hotliner: ABARNE14 **Phone:** 313 317-9373 **Regn Cd:** 58 Twin Cities - 58

Engineering: **Phone:** **TAR:** 0-30

Dlr Contact: TRAVIS ZAPP **Phone:** 605 425-2331 **Title Cde:** T

Comments :

REPAIR 09/06/2005 11:02AM ANDREW BARNES MSS - FCSD - TECH SVC HOTLINE
TECH STATES THAT WHEN DRIVING THE VEHICLE OVER THE INTERSTATE OR ANY
OTHER BUMPY HIGHWAY IT FEELS LIKE THE VEHICLE WILL START TO HOP AND IT
IS A FAST HOP. IT FEELS ALMOST AS IF THE FRAME WAS HINGED UNDER THE
DRIVERS SEAT AND THE SEAT IS GOING UP AND DOWN. THEY HAVE SET TIRE
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TAR APPROVED

ADD-ON **10/17/2005 10:07AM STEVE JOHNSTON(PCE) MSS - FCSD - VSP PVT SVC ENG**

PVT HAS NO ADDITIONAL COMMENTS AT THIS TIME.

ADD-ON **10/24/2005 08:58PM ED OFSTAD(FSE) MSS - FCSD - REG - TWIN CTY**

APPOINTMENT SET FOR NOV 1

From: Johnston, Steven (S.J.)
Sent: Tuesday, October 25, 2005 1:33 PM
To: O'Connor, Tammy (T.A.)
Subject: RE: CQIS report tar [redacted]

050128910000

Steve Johnston
Product Concern Engineer
Super Duty and Excursion Powertrain
FCSD, Service Engineering Operations
Phone - 313-322-1785

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Tuesday, October 25, 2005 1:30 PM
To: Johnston, Steven (S.J.); Hale, Curt (B.C.)
Subject: RE: CQIS report tar [redacted]

Steve: I already had a folder, just send me the report numbers and I'll file them. Thanks.

06 V89 C50 REAR OF TRUCK BOUNCES HOPS 05012038 0000

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Wed,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Thursday)

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-----Original Message-----
From: Johnston, Steven (S.J.)
Sent: Tuesday, October 25, 2005 1:21 PM
To: Barnes, Andrew (A.); O'Connor, Tammy (T.A.); Hale, Curt (B.C.)
Subject: RE: CQIS report tar [redacted]

There was another report in today's run for Hop. Have you seen any others Tammy? I started a folder.

<< Message: Report Summary for the CQIS Report# [redacted] >> << Message: Report Summary for the CQIS Report# [redacted] >>

Steve Johnston
Product Concern Engineer
Super Duty and Excursion Powertrain

FCSD, Service Engineering Operations
Phone - 313-322-1785

-----Original Message-----
From: Ofstad, Edward (E.N.)
Sent: Monday, October 24, 2005 9:05 PM
To: Johnston, Steven (S.J.); Barnes, Andrew (A.)
Subject: CQIS report tar [redacted]

Please fill me in on the upcoming TSB regarding this concern. Randy Frick received some information for the Subject Mater Expert on this concern.

From: Matthews, Steve (S.D.)
Sent: Monday, June 18, 2007 3:44 PM
To: Barry, Jack (J.E.); King, Fred (F.W.)
Cc: Oswalt, Greg (G.G.); Jones, Rick (W.P.); Boals, Shannon (S.D.)
Subject: RE: EAA report for Alleged Front End Vibration and Rollover

There are no (zero) claims in AWS for this VIN. The only records I have for this vehicle was this initial report (from MORS/CuDL), until this morning (6/18/2007). This morning, I received a report with the EAA inspection information. A copy of the EAA report was forwarded to you on Friday. I am having photos taken during the inspection sent to me. I will forward those to you as well, when I receive them.

Steve

-----Original Message-----
From: Barry, Jack (J.E.)
Sent: Monday, June 18, 2007 2:01 PM
To: Matthews, Steve (S.D.); King, Fred (F.W.)
Cc: Oswalt, Greg (G.G.); Jones, Rick (W.P.); Boals, Shannon (S.D.)
Subject: RE: EAA report for Alleged Front End Vibration and Rollover

Steve - do you know if this vehicle had the TSB performed?

Fred - not sure if you have been involved, but you may want to coordinate our efforts on this .....

>Jack Barry
>
>Truck Chassis Steering
Cell Phone *: 313-805-0193
>Fax *: 313-322-0744
>Address: PDC 2BK43
>

-----Original Message-----
From: Matthews, Steve (S.D.)
Sent: Friday, June 15, 2007 10:31 AM
To: Barry, Jack (J.E.); Boals, Shannon (S.D.)
Cc: Oswalt, Greg (G.G.); Jones, Rick (W.P.)
Subject: EAA report for Alleged Front End Vibration and Rollover

Attached to this email copy of the EAA report for ECI record number [redacted] 2006 F250, VIN; 1FTSX21Y16E[redacted] The driver alleged the front end began to vibrate. The drive lost control of the ve[redacted] resulting in the vehicle hitting a guard rail and rolling over.

Steve Matthews
Product Concern Analyst
Automotive Safety Office
313.24.83764

-----Original Message-----
From: Taylor, Alma (A.)
Sent: Friday, June 15, 2007 8:30 AM
To: Matthews, Steve (S.D.)
Subject: FW: [redacted] Inbound Fax 9284250734

Hello Steve,

Attached is a copy of the written report from the EAA inspection. The inspector is

attempting to address computer problems, so he was unable to send any photos.

Alma Taylor
Litigation Prevention/CVO
Consumer Affairs
Phone: 313 317-1862
Fax: 8886839898

Ford Confidential

-----Original Message-----
From: "CRC Fax Notify" [mailto:auto.notify@mailconnect.com]
Sent: Thursday, June 14, 2007 4:43 PM
To: Taylor, Alma (A.)
Subject: [redacted] Inbound Fax 9284250734

The attached file contains an inbound fax image.
You may view it with any graphic viewer that supports TIF.
Have a nice day!

Pages Received : 13
Time Received : Thu, 14 Jun 2007 16:43:18 -0400
Duration : 376
Remote CSID : 9284250734
DID : 8886839898

From: Mayer, Paul (P.A.)
Sent: Thursday, February 02, 2006 1:47 PM
To: Menard, Bob (R.J.)
Cc: Scronce, Michael (M.L.); Hale, Curt (B.C.); Gunlock, George (G.W.); Parekh, Deepak (D.A.); Repasky, Steve (S.); O'Connor, Tammy (T.A.)
Subject: RE: F250 Front Ends Issue *** CVO Reqesting Engineering Assistance on Fleet with Shimmy issue ***

Bob, I recognize the customer want to drive around town at 45-50 PSI with load range C & D tires
But the truck was simply not designed for that.

Engineering's official position is load range E tires at 75Psi. Thats how we designed and validated the truck, so we have to stick with that.

The subject really moves us into a marketing question of should we have an F-250/350 offering with load range C & D tires at 50 psi because a majority of customers want that. If the answer is yes that management allocates the funds to go get it done.
But engineering does not make those decisions, we just carry them out once we get the marching orders.

If you need to discuss, give me a ring.

And if you want to see me in Canada, you better find a problem truck in a ski town outside of Calgary ..... Not in Estevan !!!

Regards
Paul Mayer
Chassis Systems Engineering
313-248-9202 Fax:313-317-2349

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Tuesday, January 31, 2006 9:16 AM
To: Repasky, Steve (S.); Mayer, Paul (P.A.)
Cc: Scronce, Michael (M.L.); Menard, Bob (R.J.); Hale, Curt (B.C.); Gunlock, George (G.W.)
Subject: RE: F250 Front Ends Issue *** CVO Reqesting Engineering Assistance on Fleet with Shimmy issue ***
Importance: High

Steve/Paul:

Please read the string of e-mails below. We had a general discussion on tire issues with a group of FSE's and George Gunlock yesterday afternoon, and Bob Menard and Michael Scronce (both from CVO (Commercial Vehicle Operations)) called into the meeting.

They are aware of the TSB for the Steering Shimmy issue on Super Duty.

They are requesting additional assistance from Engineering on a couple of fleets up in Canada.

Would you please contact Bob on Thursday and discuss what else, if anything can be done to assist/resolve this issue?

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

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-----Original Message-----
From: Menard, Bob (R.J.)
Sent: Monday, January 30, 2006 7:25 PM
To: O'Connor, Tammy (T.A.)
Cc: Menard, Bob (R.J.); Scronce, Michael (M.L.)
Subject: FW: F250 Front Ends Issue

Tammy,
Subsequent to your conference call of today, I am sending you a copy of the email I sent to Brenda at Baker Hughes

Their issue started with the shimmy concern reported out here by another Company called CE Franklin. That is when we had some frt.end engineers come out to evaluate the situation.

It was observed that the Conti tires run for a 10,000 kms or higher at low air pressure (say 45 to 50 PSI) that the truck would shimy over most some potholes and bridge deck abutments.

Now the immediate fix was to install Toyo tires as per the request of the customer..... at 75 PSI as recommended , little to no shimy was felt.... at 45 PSI ... a little shimmy was felt but acceptable....

If you took same truck and put on Conti with 45 PSI..... shimmy is severe and you have to drive out of it .... either increase or decrease.

Now Baker reported some similar concerns with their trucks.... I believe because of it and the fact that the Conti does not have the traction required for the off road, the drivers have been requesting tires swaps and some places are installing the C and or D rated tires... both those tire ratings allow max. air pressure of 50 psi.... we call for 75psi on the decal for load Range E tires.

The following note was sent to Brenda from Baker stating the above... the reason I have the dealers involved again is that they are stating the vehicle shimmys and they are afraid to drive them...according to a service manager, they do shimmy on bumps and he tends to agree with the driver however, he is unable to increase tire pressure as he is afraid of exceeding the tire recommended max.

Therefore the unit was returned to the driver and the cycle starts over.

I am off moving for a few days but will be back on Thursday... please call me or email me if you require some additional info.

Thanks

Robert (Bob) Menard
Commercial Area Field Manager
for: Southern Alberta and British Columbia
Ford Motor Company of Canada Limited
North American Fleet Services
403-255-0292 ext 590 [redacted]
Fax 403-255-0164
Email: bmenard@ford.com
Ford Fleet: We're There For you !
"Accelerate Growth Through Customer Satisfaction and Loyalty"

Please note new Suite number on address:
Suite **520** 7015 MacLeod Tr S.W.
Calgary AB T2H 2K6

-----Original Message-----
From: Menard, Bob (R.J.)
Sent: Friday, January 20, 2006 5:16 PM
To: 'Davis, Brenda K.'
Cc: Haering, Ray (J.R.); Menard, Bob (R.J.); Fretts, Greg (G.)
Subject: RE: F250 Front Ends Issue

Brenda,
I spoke to Fred... here is a recap:
-truck has 28000kms on it
-he has never booked it in at a Ford dealer
-he spoke to a dealer in general terms ... that dealer suggested bigger shocks
-tires were replaced with BFG when new before the unit was delivered to him
-no Ford dealer has experienced the concern
-he can make it happen 3 kms outside of Grande Prairie

I instructed him to supply me with a vin, and to book it in at Windosr Ford and to advise me when it will be going in... I will get the service manager involved and I will have a report for you.

For Gerard's unit, dealer called me... unit was in their shop.... the steering shock was leaking therefore I suggested we replace it..... this is the 3rd on this unit.....

Furthermore, the dealer looked at the tires and established the tire pressure was 40, 42 ,42 and 45 PSI. I had him check further and the tires on the unit are LT235/70/Rx17 C rated tires and call for 50 PSI inflation max.

Problem is that the unit was built with LT265/70Rx17 E rated tires ... based on that tire, we recommend inflation to be 75PSI front and 80 PSI rear. With the C rated tires, you would be exceeding the max tire inflation for that tire should you follow our factory spec. However, vehicles with 40 to 50 PSI in their tires have a potential tendency to exhibit the concern the driver is referring to.

Bottom line, we are unable to proceed to diagnose the root cause with the tires that are currently mounted on this truck.

Thanks

Robert (Bob) Menard
Commercial Area Field Manager
for: Southern Alberta and British Columbia
Ford Motor Company of Canada Limited
North American Fleet Services
403-255-0292 ext 590 **Cel: 403-803-9079**
Fax 403-255-0164
Email: bmenard@ford.com
Ford Fleet: We're There For you !
"Accelerate Growth Through Customer Satisfaction and Loyalty"

Please note new Suite number on address:
Suite **520** 7015 MacLeod Tr S.W.
Calgary AB T2H 2K6

-----Original Message-----
From: Davis, Brenda K. [mailto:Brenda.Davis@bakerhughes.com]
Sent: Tuesday, January 17, 2006 5:02 PM
To: Menard, Bob (R.J.); Fretts, Greg (G.)
Cc: Haering, Ray (J.R.)
Subject: FW: F250 Front Ends Issue

Bob,

Here is another one. Could you please contact Fred and discuss his issue? Thanks again. 780-539-0013

Brenda Davis
Strategic Sourcing Commodity Manager
Fleet & Temporary Services
Baker Hughes Business Support Services
15355 Vantage Parkway West, #300
Houston, TX 77032
Fleet Central - 281-209-7667
281-209-7897 - Fax - 713-625-4374

-----Original Message-----
From: Alvarez, Lori M
Sent: Tuesday, January 17, 2006 1:37 PM
To: Davis, Brenda K.
Cc: Robinson, Fred G
Subject: FW: F250 Front Ends Issue

Brenda,

Here is another vehicle with a problem. As before if you could put the Ford rep in touch with Fred to assist with resolution with his issue it would be appreciated. Thanks.

Cheers!
Lori Alvarez
403-537-3523 Phne
403-537-3796 Fax

-----Original Message-----
From: Robinson, Fred G
Sent: Tuesday, January 17, 2006 11:34 AM
To: Alvarez, Lori M
Subject: RE: F250 Front Ends Issue

Yes I have a shake that sometimes last as long as three to four seconds every-time I cross something like a railway tracks on the highway

> -----Original Message-----
> **From:** Alvarez, Lori M
> **Sent:** Monday, January 16, 2006 10:02 AM
> **To:** BPC All Canada
> **Cc:** Davis, Brenda K.
> **Subject:** F250 Front Ends Issue
> **Importance:** High
>
> Drivers of BPC Ford 250's
>
> If any of you are experiencing trouble with the front end of your F250's and is having difficulty having the issue resolved, please advise as soon as possible. Brenda Davis, Strategic Sourcing Manager for BPC Fleet will have our Ford representative in Canada get in touch with you to help with the service of this issue.
>
> Cheers!
> Lori Alvarez
> 403-537-3523 Phne
> 403-537-3796 Fax
>
> -----Original Message-----
> **From:** Davis, Brenda K.
> **Sent:** Monday, January 16, 2006 8:11 AM
> **To:** Alvarez, Lori M
> **Cc:** Rissling, Gerard T
> **Subject:** RE: F250 Front Ends
> **Importance:** High
>
> I have asked Bob Menard to contact Gerard regarding this issue. Do you know who else has experienced or is experiencing this particular issue that I might be able to follow-up on as well?
>
> **Brenda Davis**
> Strategic Sourcing Commodity Manager

Fleet & Temporary Services
Baker Hughes Business Support Services
15355 Vantage Parkway West, #300
Houston, TX 77032
Fleet Central - 281-209-7667
281-209-7897 - Fax - 713-625-4374

-----Original Message-----
From: Alvarez, Lori M
Sent: Friday, January 13, 2006 3:44 PM
To: Davis, Brenda K.
Cc: Rissling, Gerard T
Subject: FW: F250 Front Ends

Brenda,

Could you please put Ford in touch with Gerard, we definitely need resolution this is taking up way too much of our people's valuable time. Thanks.

Cheers!
Lori Alvarez
403-537-3523 Phne
403-537-3796 Fax

-----Original Message-----
From: Rissling, Gerard T
Sent: Friday, January 13, 2006 1:33 PM
To: Alvarez, Lori M
Subject: F250 Front Ends

I am wondering if anyone else is still having problems with the front ends on their F250's. I am taking mine in to get fixed again for the third time.

Gerard Rissling
Service Representative
Redcliff Alta
[redacted]
Fax: (403) 526-2721

From: Nielsen, Joel (J.)
Sent: Tuesday, March 21, 2006 5:09 PM
To: O'Connor, Tammy (T.A.)
Subject: RE: F250 Steering Oscillation

Got your call... c an you call my c ell phone at [redacted]? I would like to understand the CQIS report regarding different tires...

Joel

Joel Nielsen
Commercial Area Field Manager - South Texas
Ford Motor Company
Ph 281-788-0921
jnielse1@ford.com

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Monday, March 20, 2006 8:06 AM
To: Nielsen, Joel (J.); Meier, Kenneth (K.W.)
Subject: RE: F250 Steering Oscillation

Joel:

I left you a voice mail message, please call me when you have an opportunity.

The CQIS report on this truck says it had non-factory tires -- have those been replaced? If not, I cannot offer any assistance.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

-----Original Message-----
From: Nielsen, Joel (J.)
Sent: Friday, March 17, 2006 2:43 PM
To: Meier, Kenneth (K.W.); O'Connor, Tammy (T.A.)
Subject: RE: F250 Steering Oscillation

To clarify:
Here is the original fleet communication (indented e-mail below) to the original CAFM involved who has since retired. Vehicle has had the TSB completed but still shows the condition. Any

thoughts or comments are appreciated:

GayLynn,
I have attached a TSB that addresses the concern you described. When your driver does bring the vehicle in have him reference the TSB.4-26-01

"Teamwork Makes Things Happen"
Ron Canal
Commercial Area Field Manager
Commercial Vehicle Operations
Phone: 281-290-8362 FAX: 281-290-0816
e-mail : (rcanal@ford.com)

-----Original Message-----
From: Getschmann, Gaylynn [mailto:GGetschmann@varco.com]
Sent: Friday, August 19, 2005 7:38 AM
To: Canal, Ron (R.J.)
Cc: DyAnna Tatum; Gauthier, Steve
Subject: FW: New Ford truck ven#1FTSW21585E[redacted] Ford F-250 4X4 SD Crew Cab 2005
Importance: High

Ron,

Here is another problem that we need to have corrected ASAP as this is a Safety Issue. According to Steve after talking with him, the Ford Dealerships CAN NOT determine the cause and therefore CAN NOT FIX. Please HELP…. The vehicle is not a dealership at this time, but if we need to take to one let me know.

Thanks,

Glg

From: Gauthier, Steve
Sent: Thursday, August 18, 2005 10:17 AM
To: Getschmann, Gaylynn
Subject: New Ford truck ven#1FTSW21585E[redacted] Ford F-250 4X4 SD Crew Cab 2005

Gaylynn i received this truck on 5/19/05 . I was driving the truck when the front tires started a violent shake almost out of control. I went to

Bubba Oustalet Ford to have it looked at they said it was the front tires . So they put four new tires and it still shakes.So i went to Sims alignment in Lafayette and they did not find anything wrong. So i went to Acadiana Ford in Kaplan Louisiana and they could not find anything wrong.You never know when it will start to shake.It always start after a bump in the road.I was passing a car when it started one day.This truck is very unsafe to drive if anybody with Ford Knows how to fix it please let me know.Thanks Gaylynn for the Phone Call.

Thanks Stephen Gauthier

-----Original Message-----
From: Meier, Kenneth (K.W.)
Sent: Friday, March 17, 2006 1:11 PM
To: Nielsen, Joel (J.)
Cc: O'Connor, Tammy (T.A.)
Subject: RE: F250 Steering Oscillation

Joel,

Can't call out or else I would call you...we are having problems with making out bound calls. In bound are ok. Anyway, I would get an FSE involved. I am also .cc Tammy on this as well. I still think there is something being left out by the dealer, and he is not following TSB to the letter.

Ken Meier
Commercial Vehicle Operations
Commercial Service Manager
Regent Court Building
16800 Executive Pl. Dr.
Dearborn, MI 48126-4207
Phone: 313-317-1867 Fax: 313-248-3481

From: Nielsen, Joel (J.)
Sent: Friday, March 17, 2006 1:38 PM
To: Meier, Kenneth (K.W.)
Subject: FW: F250 Steering Oscillation

Ken,

FYI... The fleet driver of this unit has refused to drive the truck due to its excessive oscillation condition even after the TSB fix. I have given an FYI to the dealer that a TAR may need to be opened with and FSE. I asked the customer to allow us to send the truck back to Acadiana Ford for a FSE review. The driver has taken a GM truck as his replacement. Any chance we can get any further information on this condition beyond the TSB?

I have had a dealer in Corpus Christi TX who does 50% fleet service work in the shop and has had several units exhibit this condition.

Thank Ken,

Joel

-----Original Message-----
From: Getschmann, Gaylynn [mailto:Gaylynn.Getschmann@nov.com]
Sent: Friday, March 17, 2006 9:18 AM
To: Gauthier, Steve

Cc: Nielsen, Joel (J.); Haering, Ray (J.R.)
Subject: FW: F250 Steering Oscillation

Steve,

Please give me a call on Monday to discuss a day you can have the vehicle delivered to Acadiana Ford.

Thanks,

Glg

From: Nielsen, Joel (J.) [mailto:jnielse1@ford.com]
Sent: Friday, March 17, 2006 9:16 AM
To: Getschmann, Gaylynn
Cc: Haering, Ray (J.R.)
Subject: RE: F250 Steering Oscillation

Gay Lynn,

Our service engineers will need about 2 weeks advance notice - they are booked ahead usually that far out. If Steve can accommodate this request it will be helpful and will most certainly prevent leaving the truck at the dealership laid up for a few weeks.

Thank you,

Joel

-----Original Message-----
From: Getschmann, Gaylynn [mailto:Gaylynn.Getschmann@nov.com]
Sent: Friday, March 17, 2006 9:12 AM
To: Nielsen, Joel (J.)
Cc: Gauthier, Steve
Subject: RE: F250 Steering Oscillation

Joel,

I have asked the driver (Steve Gauthier) to take the truck to Acadiana Ford… He is out of town until next week.. As soon as he has delivered the truck to the dealership he will advise and I'll let you know.

Thanks,

glg

From: Nielsen, Joel (J.) [mailto:jnielse1@ford.com]
Sent: Friday, March 17, 2006 8:59 AM
To: Getschmann, Gaylynn
Subject: F250 Steering Oscillation

Gay Lynn,

If your shop is willing to get the truck back to Acadiana Ford I will get and engineer to assist in the review at the dealership. Please let me know how you wish to proceed. I have given the dealership a heads-up hat Varco may be bringing the truck with oscillation back in.

Please advise,

Thank you,

Joel Nielsen
Commercial Area Field Manager - South Texas
Ford Motor Company
Ph 281-788-0921
jnielse1@ford.com

From: Nielsen, Joel (J.)
Sent: Monday, March 27, 2006 1:25 PM
To: O'Connor, Tammy (T.A.)
Subject: RE: F250 Steering Oscillation

The new RO for this vin should be in the system now... The dealer just closed out a final RO with approved tires as of 3/21....an FSE was involved.

Joel

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Monday, March 27, 2006 10:54 AM
To: Nielsen, Joel (J.)
Subject: RE: F250 Steering Oscillation

I believe the TSB should fix it, if the caster is set to low end of spec -- unless there is another issue happening at the same time.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Nielsen, Joel (J.)
Sent: Monday, March 27, 2006 11:23 AM
To: O'Connor, Tammy (T.A.)
Subject: RE: F250 Steering Oscillation

I am elevating and will have a FSE attend to ensure the TSB is followed completely. I still would like your thoughts on the matter now that we have confirmed the tire.

Thank you,

Joel

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Monday, March 27, 2006 10:17 AM
To: Nielsen, Joel (J.)

Cc: Haering, Ray (J.R.)
Subject: RE: F250 Steering Oscillation

Joel:

They need to do everything in the TSB before we get an FSE involved.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Nielsen, Joel (J.)
Sent: Monday, March 27, 2006 10:47 AM
To: O'Connor, Tammy (T.A.)
Cc: Haering, Ray (J.R.)
Subject: RE: F250 Steering Oscillation

Tammy,

Below is the tire info from the fleet driver. These are the same tires as the Bill of Material show. Please review and provide your thoughts. The fleet is prepared to take the unit back to the dealer for and FSE review.

Joel

Joel Nielsen
Commercial Area Field Manager - South Texas
Ford Motor Company
Ph 281-788-0921
jnielse1@ford.com

-----Original Message-----
From: Getschmann, Gaylynn [mailto:Gaylynn.Getschmann@nov.com]
Sent: Thursday, March 23, 2006 3:44 PM
To: Nielsen, Joel (J.); Haering, Ray (J.R.)
Cc: Gauthier, Steve
Subject: FW: F250 Steering Oscillation

Gentlemen

Below is the info you requested. Also, who should Steve ask for Acadiana Ford?

Thanks,
glg

From: Gauthier, Steve
Sent: Thursday, March 23, 2006 3:27 PM
To: Getschmann, Gaylynn
Subject: RE: F250 Steering Oscillation

Gaylynn they did change tires twice the tires they put on now is B.F. Goodrich LT 265/70R17 with load range 3195 @80 psi. I have not driven it enough to know if it fix it. But these tires are what it came with. They said to keep 80 psi in the tires at all times. I will bring it to Acadiana Ford tomorrow .Thank you SG.

Stephen Gauthier
Senior Project Sales
Solids Control/Waste Management
Brandt NOV
Office 1- 800- 359-593 |
[redacted]
E-Mail stephen.gauthier@nov.com

From: Getschmann, Gaylynn
Sent: Tuesday, March 21, 2006 3:55 PM
To: Nielsen, Joel (J.); Gauthier, Steve
Cc: Haering, Ray (J.R.); Tatum, DyAnna
Subject: RE: F250 Steering Oscillation

Joel,

I will try to get this info for you… Please keep in mind that the dealership has changed the tires I believe twice. The dealer ship will be able to answer.

Steve,

I know it is a hassle, but can you let me know the brand/model and load rating for the tires that are currently on the Ford F250 4x4.

Thanks,
glg

From: Nielsen, Joel (J.) [mailto:jnielse1@ford.com]
Sent: Tuesday, March 21, 2006 3:49 PM
To: Getschmann, Gaylynn
Cc: Haering, Ray (J.R.)
Subject: RE: F250 Steering Oscillation

Gay Lynn,

I hope this is not a difficult request... can you tell me what brand / model and load rating tire is on this truck and the current tire pressure in the tires. In the meantime I talked with engineering and they have been able to bring any affected unit back into conformity with the revised dealer repair procedure, proper tire load rating and consistent appropriate tire pressure.

Thank you,

Joel

-----Original Message-----

From: Getschmann, Gaylynn [mailto:Gaylynn.Getschmann@nov.com]
Sent: Friday, March 17, 2006 9:18 AM
To: Gauthier, Steve
Cc: Nielsen, Joel (J.); Haering, Ray (J.R.)
Subject: FW: F250 Steering Oscillation

Steve,

Please give me a call on Monday to discuss a day you can have the vehicle delivered to Acadiana Ford.

Thanks,

Glg

From: Nielsen, Joel (J.) [mailto:jnielse1@ford.com]
Sent: Friday, March 17, 2006 9:16 AM
To: Getschmann, Gaylynn
Cc: Haering, Ray (J.R.)
Subject: RE: F250 Steering Oscillation

Gay Lynn,

Our service engineers will need about 2 weeks advance notice - they are booked ahead usually that far out. If Steve can accommodate this request it will be helpful and will most certainly prevent leaving the truck at the dealership laid up for a few weeks.

Thank you,

Joel

-----Original Message-----
From: Getschmann, Gaylynn [mailto:Gaylynn.Getschmann@nov.com]
Sent: Friday, March 17, 2006 9:12 AM
To: Nielsen, Joel (J.)
Cc: Gauthier, Steve
Subject: RE: F250 Steering Oscillation

Joel,

I have asked the driver (Steve Gauthier) to take the truck to Acadiana Ford… He is out of town until next week.. As soon as he has delivered the truck to the dealership he will advise and I'll let you know.

Thanks,

glg

From: Nielsen, Joel (J.) [mailto:jnielse1@ford.com]
Sent: Friday, March 17, 2006 8:59 AM
To: Getschmann, Gaylynn
Subject: F250 Steering Oscillation

Gay Lynn,

If your shop is willing to get the truck back to Acadiana Ford I will get and engineer to assist in

the review at the dealership. Please let me know how you wish to proceed. I have given the dealership a heads-up hat Varco may be bringing the truck with oscillation back in.

Please advise,

Thank you,

Joel Nielsen
Commercial Area Field Manager - South Texas
Ford Motor Company
Ph 281-788-0921
jnielse1@ford.com

From: Hale, Curt (B.C.)
Sent: Wednesday, November 15, 2006 8:16 AM
To: Meier, Kenneth (K.W.)
Cc: O'Connor, Tammy (T.A.); Repasky, Steve (S.)
Subject: RE: F250 Vibration 4x4 application

We can't bless adding the aftermarket parts but we are pushing engineering for a solution other than the TSB.

B. Curtis Hale
FCSD PVT Program Manager
F-Super Duty & Excursion

-----Original Message-----
From: Meier, Kenneth (K.W.)
Sent: Wednesday, November 15, 2006 7:35 AM
To: O'Connor, Tammy (T.A.); Hale, Curt (B.C.)
Subject: FW: F250 Vibration 4x4 application

Tammy and Curt,

See below. I know there are other customers/ fleets putting on the additional aftermarket stabilizer kit that consists of two shock absorbers on the front drive axle to correct the steering oscillation issue. I am not sure how we can handle the "Action Requested"? And/or get engineering approval for adding the stabilizer kit? Your thoughts.

Ken Meier
Commercial Vehicle Operations
Commercial Service Manager
Regent Court Building
16800 Executive Pl. Dr.
Dearborn, MI 48126-4207
Phone: 313-317-1867 Fax: 313-248-3481

-----Original Message-----
From: Motola, David (D.M.)
Sent: Tuesday, November 14, 2006 8:00 PM
To: Meier, Kenneth (K.W.)
Cc: Gibula, Jeff (J.P.); Gadomski, Roy (R.D.); Trest, Jim (W.J.); Hammond, Dan (D.J.); Trest, Jim (W.J.)
Subject: FW: F250 Vibration 4x4 application

I was asked to assist with a Enterprise Leasing Customer with a fleet of F250's experiencing an intermittent front end vibration. In total three vehicles were brought in for service with this concern. The attached note provides a detail of what we did to address this concern:

1. Identified a driving scenario where we would be able to duplicate the concern.
2. Installed an aftermarket stabilizer kit that consists of two shock absorbers mounted on the front drive axle and connected to the steering linkage for both wheel ends. Please note these aftermarket kits are very common and typically installed by customers that use "lift kits" that raise the total height of the vehicle. In total, three absorbers were on the truck, the one factory one and the two aftermarket ones.
* With three absorbers the vehicle did not exhibit any vibration.
3. The aftermarket kit was removed and the vehicle was returned to the stock condition.
4. The dealership performed the TSB as outlined below, in their opinion the vibration was reduced but not at a level they considered acceptable.

ACTION REQUESTED

Please provide direction as to whether we can release this vehicle back to the customer with installation of the aftermarket installation kit? The customer will not accept delivery at this time.

-----Original Message-----
From: Sutton, Jim [mailto:SuttonJ@AutoNation.com]
Sent: Tuesday, November 14, 2006 5:01 PM
To: Motola, David (D.M.)
Subject: F250 Vibration

Dave,
Here is the info on the F250 we experimented with; VIN # 1FTNF21526E[redacted], Miles 11,923
We were able to road test this truck and get the severe vibration to[redacted].
At highway speeds if you hit the right bumps, the entire truck will go into a violent shake, to the point that you have to try and slow down to 30 - 40 mph. Even if you hold the steering wheel as hard as you can straight ahead, the entire truck goes into a violent side to side oscillation.
We installed a aftermarket double steering stabilizer onto the frt axle.
This has one stabilizer shock for each side of axle. We road tested with this set up and the truck drove 100% better over the same road test area.
The steering wheel would quiver going over bumps, but would never go into the violent shake as previous.
Next we removed the aftermarket stabilizer set up and performed TSB 06-22-14, tires were checked to 75 frt and 80 psi rear, we went down the list of torque specs for all frt end components. We checked the frt end alignment and installed 1 degree slugs on both sides.
We road tested over the same route and found that when hitting the same bumps the truck would still shake severely, but was more controllable. I would say that it is 50% improved, still very unnerving when driving at highway speeds but not the out of control feel that it first had.
Hope this info helps.
Thanks,

Jim Sutton
Service Manager
Maroone Ford of Delray Beach
561-454-1466
suttonj@autonation.com

From: Repasky, Steve (S.)
Sent: Thursday, September 01, 2005 9:08 AM
To: Berardi, Paul (.)
Cc: Baghdoian, Mitch (M.R.); Mayer, Paul (P.A.)
Subject: RE: F-250

We have heard of similar comments. I have assumed this is a 4x4. First, check and adjust tire pressures to spec. If concern still exists, check front suspension torques, adjust meshload as required and check alignment. Slight reduction in caster (still in spec range) will help.

-----Original Message-----
From: Berardi, Paul (.)
Sent: Wednesday, August 31, 2005 10:05 PM
To: Repasky, Steve (S.)
Subject: FW: F-250

Any suggestions? Have heard of these before?

-----Original Message-----
From: ED BAKER [mailto:ebaker@bergeford.com]
Sent: Wednesday, August 31, 2005 8:17 PM
To: Berardi, Paul (.)
Subject: F-250

PAUL,
HERE IS THE INFO ON THE 250 THAT JUMPS WHEN HITTING A POTHOLE AND VIBRATES AT 70-80 MPH.

| X. R/O NO. [redacted]
|---| 12. DATE IN 08/24/2005|
1. CUSTOMER [redacted]	13. TIME IN 03:25pm
[redacted]	14. DATE PR 08/24/2005
MESA AZ [redacted]	15. TIME PR 07:00pm
PHONE(B[redacted] PHONE(H)[redacted]	16. TAG NO. 1230
---	17. MI I/O 2843/
2. SERIAL# 1FTSW21P76E[redacted]
LICENSE# STK#[redacted] DEL 08/02/2005
DESC. FT S-DTY F-250 BLAZING YELLOW BLACK 0

Ed Baker
Service Director
Berge Ford
Mesa, AZ
480 497-7601
ebaker@bergeford.com

From: Menard, Bob (R.J.)
Sent: Thursday, June 01, 2006 4:38 PM
To: Repasky, Steve (S.)
Cc: O'Connor, Tammy (T.A.)
Subject: RE: F-250 front end shaking problem

I did not get a name.....but I believe so..... the S/M tells me there are 2 trucks from Baker in the area he believes are sharing the same thoughts.

!!!!!REVISED April 3rd 2006!!!!!!
Robert (Bob) Menard
Commercial Area Field Manager
for: Southern Alberta and British Columbia
Ford Motor Company of Canada Limited
North American Fleet Services
403-255-0292 [redacted]
Fax 403-532-4318
Email: bmenard@ford.com
Ford Fleet: We're There For you !

Ford Motor Company of Canada Limited
#16, 2520 23rd St N.E.
Mayfield Business Park
Calgary AB T2E 8L2

-----Original Message-----
From: Repasky, Steve (S.)
Sent: Thursday, June 01, 2006 2:37 PM
To: Menard, Bob (R.J.)
Cc: O'Connor, Tammy (T.A.)
Subject: RE: F-250 front end shaking problem

Thanks for the update. Is this the same driver that has been very vocal in his description of the Superduty concern?

From: Menard, Bob (R.J.)
Sent: Thursday, June 01, 2006 4:29 PM
To: Repasky, Steve (S.)
Cc: Menard, Bob (R.J.); O'Connor, Tammy (T.A.)
Subject: RE: F-250 front end shaking problem

Steve,
I called the dealer in Wainright today an here is what I have been told....
- driver was there recently with same concern..... shimmy over bumps .... first question he was

asked was about tire pressure.... answer was less than recommended but not at 50 psi.... S/M explained to him again and driver refuses to inflate because of what was described as lack of control, on gravel roads with tires inflated.

-unit was in at dealership for body damage last week and has some 88000 kms on it... S/M went back in history file and found that TSB was done back in Sept at about 42000kms..... dealer stated that we also replaced tires back then with BFG as would be equipped on the AT tire option.

-S/M stated that to his knowledge driver had not been in to complain about issue since the repair done back in Sept..... and driver allegedly stated he drove with tires under inflated since then but the issue is worst now.....

Thanks

!!!!!REVISED April 3rd 2006!!!!!!

Robert (Bob) Menard

Commercial Area Field Manager
for: Southern Alberta and British Columbia
Ford Motor Company of Canada Limited
North American Fleet Services
403-255-0292
[redacted]
Fax 403-532-4318

Email: bmenard@ford.com
Ford Fleet: We're There For you !

Ford Motor Company of Canada Limited
#16, 2520 23rd St N.E.
Mayfield Business Park
Calgary AB T2E 8L2

-----Original Message-----
From: Repasky, Steve (S.)
Sent: Thursday, June 01, 2006 10:39 AM
To: Menard, Bob (R.J.); O'Connor, Tammy (T.A.)
Subject: RE: F-250 front end shaking problem

Bob/Tammy - Thanks for the quick response. I hope to set up a tentative agenda for the meeting and review it with you prior to the meeting. Bob - I was hoping that you and Brenda being so close to the concern would take a lead role in:

1) Giving a brief background of the size/vehicle config./usage of the Baker Hughes fleet in US/Canada (Brenda)
2) History of the current concern (when it occurs, veh. speed, road surface, etc.) (Brenda/Bob)
3) Success rate of the TSB fix and any repeat repairs (Brenda/Bob)
4) Define additional concerns i.e. when tires are set at placard pressure.

Any other suggestions? Of course, we all want the call-in meeting to be informative and not degrade into a defense of the vehicle vs. customer usage.

From: Menard, Bob (R.J.)
Sent: Thursday, June 01, 2006 12:04 PM
To: Repasky, Steve (S.)
Cc: Menard, Bob (R.J.)
Subject: RE: F-250 front end shaking problem

Steve,
Monday June 5th only restriction is not before 11:00am your time.... Tuesday wide open..... Wednesday ...I am at a meeting but could break away for conference call.

Thanks

!!!!!REVISED April 3rd 2006!!!!!!
Robert (Bob) Menard
Commercial Area Field Manager
for: Southern Alberta and British Columbia
Ford Motor Company of Canada Limited
North American Fleet Services
403-255-0292
[redacted]
Fax 403-532-4318
Email: bmenard@ford.com
Ford Fleet: We're There For you !

Ford Motor Company of Canada Limited
#16, 2520 23rd St N.E.
Mayfield Business Park
Calgary AB T2E 8L2

-----Original Message-----
From: Repasky, Steve (S.)
Sent: Thursday, June 01, 2006 10:01 AM
To: Ufford, Donald (D.A.); O'Connor, Tammy (T.A.); Arnold, Bruce (B.C.); Menard, Bob (R.J.); Michon, Jim (J.B.)
Cc: Choe, Mark (M.J.); Frantzeskakis, Petros (Peter.); Parekh, Deepak (D.A.); Gompper, Dan (D.B.); Rocco, Julie (J.E.); Hale, Curt (B.C.)
Subject: FW: F-250 front end shaking problem

All - I talked with Brenda Davis this morning (11:00) regarding the subject Superduty Fleet. We agreed to have a call-in meeting early next week to understand the exact nature and extent of the concern. Also, Brenda plans to have a particular individual available with specific questions regarding his use of his Superduty fleet vehicle(s).

I assume the following individuals (or knowledgeable reps) are key participants during the call-in:

- Bruce Arnold - Chassis Systems
- Deepak Parekh - Tire Quality (Traction has been mentioned as a concern)
- Bob Menard/Tammy O'Connor - Field Manager/FCSD
- Jim Michon - Fleet Marketing Manager
- Peter Frantzeskakis/Mark Choe - Superduty attribute managers

Requests:

1. Please acknowledge your role and/or suggest other appropriate persons to attend the meeting.
2. Provide me by Friday June 2 Noon - A range of times for early next week to have the call-in e.g. Monday 10-Noon and/or Tuesday 1-3 P.M. I will send the appropriate invitees to Brenda with proposed times and she will set up the conference call on Outlook for early next week.

Your pro-active participation is greatly appreciated. Thank you...

-----Original Message-----
From: Ufford, Donald (D.A.)
Sent: Tue 5/23/2006 5:48 PM
To: Repasky, Steve (S.); O'Connor, Tammy (T.A.); Menard, Bob (R.J.); Michon, Jim (J.B.)
Cc: Choe, Mark (M.J.); Rocco, Julie (J.E.); Frantzeskakis, Petros (Peter.)
Subject: RE: F-250 Violent front end shaking problem

Steve - I understand your feedback but what would it take to get one of our experienced engineers up there to experience the issue both from a shimmy perspective and a traction perspective. Given the size of the fleet, a bit of extra attention would help.

From: Repasky, Steve (S.)
Sent: Monday, May 22, 2006 4:08 PM
To: O'Connor, Tammy (T.A.); Menard, Bob (R.J.)
Cc: Mayer, Paul (P.A.); Ufford, Donald (D.A.); Choe, Mark (M.J.); Rocco, Julie (J.E.); Frantzeskakis, Petros (Peter.); Nilles, Tom (T.J.); Dickson, Donna (D.J.)
Subject: FW: F-250 Violent front end shaking problem

Bob/Tammy - As you know, Paul Mayer and I worked together with Bob on our trip to Senchuck Ford in Estevan, Saskatchewan, Canada from August 15-17, 2005. The C. E. Franklin fleet of Superduty vehicles had similar concerns to those noted below (report attached).

As a result of that visit, TSB Article 05-22-1 was issued to cover 2005/06 Superduty vehicles. Part of the TSB reads: "SETTING TIRE PRESSURE TO DOOR SPECIFICATION IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE." I believe all field concerns have been corrected with proper application of the applicable TSB.

As Paul noted below, the released tire pressures are necessary to support the vehicle GAWRs and GVW. As such, a field visit should not be required. As always, we are available to participate in any necessary call-in conferences. Thanks .....

From: Michon, Jim (J.B.)
Sent: Friday, May 19, 2006 4:38 PM
To: Mayer, Paul (P.A.); Rocco, Julie (J.E.); Dickson, Donna (D.J.)
Cc: Fretts, Greg (G.); Menard, Bob (R.J.); Arnold, Bruce (B.C.); Hiltz, Chris (C.M.); Repasky, Steve (S.)
Subject: RE: F-250 Violent front end shaking problem

Paul,

Thanks for the response. I fully understand why you are unable to attend the meeting. Congratulations on the new addition to the family.

I also understand that we may have to tell the customer something that they do not want to hear. However, having an SME at the meeting that can listen to the concern and comment based upon their technical knowledge of the tires/suspension/vehicle would be invaluable at this meeting to maintain the relationship with the customer --- even if we have to tell them (hopefully tactfully) that there is nothing in the near term (or perhaps long term) that we can do to support their request.

Brenda Davis is a key decision maker at Baker Hughes in the determination of which OEM's (Ford, GM, etc.) are chosen to provide vehicles to their operations. I believe supporting her request on this is important to ensure that she remains 'pro-Ford'.

The goal for the meeting would be:

1) Have an SME at the meeting that can actively discuss the concerns and provide feedback. This will certainly help to maintain the relationship; even if we have to tell them what they don't want to hear.
2) Use this meeting to provide definite closure to the concern; i.e. clearly state the reasons why we can, or more likely can not, provide what they are requesting.

The Super Duty team's consideration of this request would be greatly appreciated.

Thanks.

Jim Michon
Truck Fleet Marketing Manager (Ranger, F-150, Super Duty, E-Series)
Ph: (313) 621-2521; Fax: (313) 594-4684

From: Mayer, Paul (P.A.)
Sent: Friday, May 19, 2006 3:22 PM
To: Michon, Jim (J.B.); Rocco, Julie (J.E.); Dickson, Donna (D.J.)
Cc: Fretts, Greg (G.); Menard, Bob (R.J.); Arnold, Bruce (B.C.); Hiltz, Chris (C.M.); Repasky, Steve (S.); Mayer, Paul (P.A.)
Subject: RE: F-250 Violent front end shaking problem

I would prefer not to attend this trip for two reasons
1) Since the last re-org, I no longer work in the truck group. Spending a couple of hours to pass on the history is no problem, but traveling out to the field for a few days is a conflict with my new responsibilities
2) I have a three week old baby at home. So I have a pretty big personal problem with a trip at this time.

Also I do not believe a field trip will resolve this.
- I believe we understand that the fleet wants an over 8500 pick-up that runs on a tire at approx. 50 psi rather than the current 75/80 psi.
  - We do not currently offer this option.
- My gut says that this is possible, but it requires a small program to design & develop this offering (i.e. PDL, budget, headcount, test vehicles, etc.)
  - This is a decision which occurs at a level much higher than the engineer.

An SME in the field is likely going to tell Baker Hughes what they do not want to hear (i.e. you cannot operate this vehicle at 50 psi)

I do not wish to lose these sales, but I do not see how to satisfy this customer without a new offering.

Regards
Paul Mayer
Chassis Systems Engr.
313-248-9202

From: Michon, Jim (J.B.)
Sent: Friday, May 19, 2006 9:31 AM
To: Rocco, Julie (J.E.); Dickson, Donna (D.J.); Mayer, Paul (P.A.)
Cc: Fretts, Greg (G.); Menard, Bob (R.J.)
Subject: FW: F-250 Violent front end shaking problem
Importance: High

Julie, Donna,

Baker Hughes, a large Fleet customer, has had concerns with "front end shaking" on the F-250 for over a year (primarily with the Canadian Fleets but have had some concerns from U.S. Fleets as well). Brenda Davis (Commodity/Vehicle sourcing Manager for Baker Hughes Global operations) is very Pro-Ford and has
worked very hard over the past year to educate the Baker Hughes Fleets in both the U.S. and Canada to properly inflate their tires. However, there is a practice (which we do not endorse) of lowering the tire pressure to achieve greater traction. (Having tires that provide better traction off-road and in mud/snow has been a concern we have heard from other Fleets --- this is a seperate concern that we are trying to dimension)

The threat here is that, with enough pressure from these Fleets, Brenda may be forced to allow these Fleets to puchase from other OEM's (GM, DCX, etc.).

I know the engineering teams are extremely busy working on the proveout and development of our future programs but, as Brenda requests in her attached e-mail, if we could send a "Subject Matter Expert" (SME) on tires/chassis to support a meeting with the Baker Hughes Fleets in Canada (to occur either in the 2nd or 3rd week of June), I believe it would go a long way towards maintaining the relationship with this important Fleet and keeping the business in tact.

Would you be able to help in identifying a SME on the engineering team that could support this meeting?

Paul Mayer, I have included you in this note as well because Greg Fretts mentioned that you, and Steve Ropesky (sp?), have some past experience with this concern and might possibly be able to attend as the Ford SME --- or might know who could support.

For reference, I have provided a summary of Baker Hughes Truck purchases in '04/'05 (U.S. only --- don't have access to the Canadian reporting systems). '06MY purchase levels are about the same. They also purchase cars and suv's from Ford.

2004	E150	E250	E350	E350 Cutaway/Chassis Cab	E450	Ranger	F-150	F-250	F-350	F-450
Baker Hughes							269	152	35	1

2005	E150	E250	E350	E350 Cutaway/Chassis Cab	E450	Ranger	F-150	F-250	F-350	F-450
Baker Hughes		1					227	137	41	1

Any thoughts/support you can provide on this would be greatly appreciated.

Jim Michon
Truck Fleet Marketing Manager (Ranger, F-150, Super Duty, E-Series)
Ph: (313) 621-2521; Fax: (313) 594-4684

From: Davis, Brenda K. [mailto:Brenda.Davis@bakerhughes.com]
Sent: Wednesday, May 17, 2006 7:07 PM
To: Michon, Jim (J.B.)
Cc: Fretts, Greg (G.); Menard, Bob (R.J.)
Subject: FW: F-250 Violent front end shaking problem
Importance: High

Hello Jim, it was a pleasure to see you in Orlando.

I wonder if you were able to come up with anyone who could maybe join our Canada Ford team to discuss the vibration issue we are experiencing with tires. We probably need a tire expert and an engineer subject matter expert. Tires because if they have to be at exact PSI spec to keep from vibrating and the drivers/managers feel they don't get traction, then maybe the tire person should be present to discuss alternatives.

Greg said he may know someone that would fit the bill as the engineer so you may want to communicate with him directly.

As you can see from the e-mail string below our Canada folks would like to schedule a meeting in Wainwright the second or third week of June if possible. I don't know if I will be able to attend but if not, I'm sure that Greg and Bob will be able to handle the meeting as long as we have the experts as well so that they can address the why's and therefore of the situation.

I appreciate your help and feedback. Hope to see you soon.

Brenda Davis
Strategic Sourcing Commodity Manager
Fleet & Temporary Services
Baker Hughes Business Support Services
15355 Vantage Parkway West, #300
Houston, TX 77032
Fleet Central - 281-209-7667
281-209-7897 - Fax - 713-625-4374

-----Original Message-----
From: Alvarez, Lori M
Sent: Thursday, May 04, 2006 2:19 PM
To: Davis, Brenda K.
Cc: Henry, Lonnie K.; Kaybidge, Allyson N; Young, Stacey - BPC; Bonsteel, Vaughn W.; Whalen, Tom
Subject: RE: F-250 Violent front end shaking problem
Importance: High

Second Request

Brenda,

Just got your EMAIL that you will be out of the office until next Thursday at which time I will be out of the office for a couple of weeks. Have you given any thought or consideration to coordinating a meeting here in Canada with regard to the issues we have with FORD? Also, my first EMAIL mentioned Calgary or Red Deer however managers thought Wainwright would be a better location and we could try and re create the problem so that everyone has a chance to witness the problem.

Cheers!
Lori Alvarez
403-537-3523 Phne
403-537-3796 Fax

-----Original Message-----
From: Alvarez, Lori M
Sent: Thursday, April 27, 2006 8:21 AM
To: Davis, Brenda K.
Cc: Henry, Lonnie K.; Kaybidge, Allyson N; Young, Stacey - BPC; Bonsteel, Vaughn W.; Whalen, Tom
Subject: RE: F-250 Violent front end shaking problem
Importance: High

Brenda,

This Ford Shimmy situation is ongoing and previously we had discussed a meeting between our management team and Ford. Of course as the commodity manager it would be prudent to have you involved as well. If possible could you please set up a meeting with our Ford representative, yourself and our management team for the 2nd or 3rd week in June. Prefer Calgary or Red Deer as a location. Your assistance in bringing this to resolution would be most appreciated.

Cheers!
Lori Alvarez
403-537-3523 Phne
403-537-3796 Fax

-----Original Message-----
From: Bonsteel, Vaughn W.
Sent: Wednesday, April 26, 2006 2:51 PM
To: Whalen, Tom
Cc: Henry, Lonnie K.; Alvarez, Lori M; Kaybidge, Allyson N
Subject: F-250 Violent front end shaking problem

Tom,
While assisting Lonnie with additional issues yesterday in Wainwright, he brought to my attention the complete story regarding the 2005, F-250 XL violent shaking problem. After seeing his frustration from past attempts for acknowledgement and his passion for concern, I agreed to assist them in recreating this. While I was riding in one of these trucks with the employee, we actually recreated the condition.

I know your out of the country right now, but please contact me as soon as possible to discuss this issue. Lonnie's level of passion is fully justified and an issue of corporate liability may exist as well.

Regards,

Vaughn Bonsteel
Health, Safety & Environment Specialist
Northwest / Central Canadian Districts
Baker Petrolite
Cell: 1 780 504 5016

"Nothing is more priceless than arriving home alive" (Self, 01-17-06)

From: Memmer, Mark (M.A.)
Sent: Monday, October 04, 2004 2:07 PM
To: Fenocketti, Mike (L.M.)
Cc: Repasky, Steve (S.); Gompper, Dan (D.B.)
Subject: RE: Feedback from Gilmour FLM on steering wheel fight

We had feedback from the trailer tow drive that Leo was on during launch (Ashville??) that concurred that a vehicle with significant wheelfight had no wheelfight when a trailer was attached. We also have loaded bad wheelfight vehicles at MPG and had the issue disappear. Giant frame damper.

Mark Memmer
2007 P356 Vehicle Dynamics
MMEMMER@Ford.Com
Tel: (313) 59-41746
Page (313) 795-3661

-----Original Message-----
From: Fenocketti, Mike (L.M.)
Sent: Monday, October 04, 2004 2:00 PM
To: Memmer, Mark (M.A.)
Cc: Repasky, Steve (S.)
Subject: FW: Feedback from Gilmour FLM on steering wheel fight

Mark, note the comment about lack of wheel fight when towing a 3K trailer. In prior testing, did you find that loading the vehicle reduced the issue?

Thanks.

Mike Fenocketti
Office: (313) 621-6078
[redacted]

-----Original Message-----
From: Avery, Kevin (K.)
Sent: Thursday, September 30, 2004 10:55 AM
To: O'Connor, Tammy (T.A.); Berardi, Mike (M.A.); Hale, Curt (B.C.); Johnston, Steven (S.J.)
Cc: Fenocketti, Mike (L.M.); Repasky, Steve (S.); Schemanske, Jennifer (J.H.)
Subject: Feedback from Gilmour FLM on steering wheel fight

Jen & I were at Gilmour FLM yesterday for this concern and I wanted to fill everyone in on what we concluded. We test drove three different trucks, one was the salesman's vehicle (diesel F350 manual) where he noticed the concern at highway speeds over seams in the pavement, such as overpasses. We didn't notice too severe of a concern under those parameters. We also tested the truck that John Gilmour drove but the tech had made a steering gear adjustment afterwards and John had not driven it since. That truck was adjusted very tight, we loosened it and after a few different settings finally obtained the best balance of steering effort and road feedback. I noticed that on our dirt road test that there was a noticeable difference in wheel movement if I was steady on the throttle around a washboard surface corner as compared to letting it coast around the corner. The last truck we tested we had the service manager drive since he hadn't driven any yet. I then went back out and had the salesman drive his vehicle as I had him demonstrate his concern (regular cab manual tranny so only the two of us could go). As he described his steering wheel movement concern, it sounded like the real issue was in the rear of the vehicle. **He revealed that when he towed a 3000 pound trailer that the concern was all but gone.** When we got back to the dealer, the salesman, Jen, and I discussed the concern and what we had experienced and all felt that the real source of the wheel movement was because the rear of the vehicle was moving. If the wheels stayed straight with the road while the rear moved, the front wheels would actually be moving back and forth as compared to the rest of the vehicle, thus it would be the same as the vehicle staying straight and the front end turning which would induce a brief steering wheel movement. The more stability that was given to the rear of the vehicle would reduce the ability of the rear to move, thus eliminating the concern.

We didn't know for sure if a stiffer steering damper was an option, thus didn't propose that to the dealer. The salesman's vehicle was set up with about the best balance of steering gear mesh load, thus we didn't alter it any.

We advised John Gilmour that based on what we know that the trucks were at their best possible setup at this time.

Kevin Avery
Field Service Engineer, Boston Region, Markets D1 & D2
Office: (508) 490-6170
Cell: (774) 285-9143

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Monday, September 27, 2004 11:16 AM
To: Berardi, Mike (M.A.); Hale, Curt (B.C.); Johnston, Steven (S.J.); Avery, Kevin (K.)
Subject: RE: Hot - Please contact Gilmore Ford in Vermont (Owned by Allan Gilmore) for Wheel fight

Mike: Kevin Avery has a conference call with Steve and Mike Fenocketti this afternoon, Kevin will be at the dealership for their visit there.

Tammy A. O'Connor
Product Concern Engineer
Superduty F-Series/Excursion
Body/Chassis/Electrical
FCSD, Service Engineering Operations
248/814-8698 Telecommuting Office (Mon,Tues,Fri)
313/322-3824 DSCII, Cube 468 (Wed & Thurs)
TOCONNOR or 313/795-0116 Text Page & Pager #

-----Original Message-----
From: Berardi, Mike (M.A.)
Sent: Monday, September 27, 2004 11:13 AM
To: Hale, Curt (B.C.); O'Connor, Tammy (T.A.); Johnston, Steven (S.J.)
Subject: FW: Hot - Please contact Gilmore Ford in Vermont (Owned by Allan Gilmore) for Wheel fight

FYI.

Mike Berardi
FCSD - Tough Truck Service Engineering Mgr
Administrative Assistant - Lynn Rogers (84404)
Phone - (313) 337-3639
Fax - (313) 317-7252

-----Original Message-----
From: Repasky, Steve (S.)
Sent: Friday, September 24, 2004 12:27 PM
To: Reyes, Pete (P.D.); Fenocketti, Mike (L.M.)
Cc: Choe, Mark (M.J.); Reed, Bill (W.P.); Berardi, Mike (M.A.); Ufford, Donald (D.A.)
Subject: RE: Hot - Please contact Gilmore Ford in Vermont (Owned by Allan Gilmore) for Wheel fight

Bill - Below are the 10 VINs supplied from the dealership. Do you have a method to determine type of steering wheel i.e. redundant or not as well as color ? Thanks for any assistance. The VINs are:

- 1FTWF31T55E[redacted]
- 1FTSX21565E[redacted]
- 1FTNF21555E[redacted]
- 1FTNF21L44E[redacted] (He said ED and not EA???)
- 1FTSX21515E[redacted]

- 1FTWX31T25E[redacted]
- 1FTSX21T55E[redacted]
- 1FTSX21P75E[redacted]
- 1FTWX31P45E[redacted]
- 1FTSX21575E[redacted]

-----Original Message-----
From: Repasky, Steve (S.)
Sent: Friday, September 24, 2004 12:18 PM
To: Reyes, Pete (P.D.); Gompper, Dan (D.B.); Fenocketti, Mike (L.M.)
Cc: Choe, Mark (M.J.); Reed, Bill (W.P.)
Subject: RE: Hot - Please contact Gilmore Ford in Vermont (Owned by Allan Gilmore) for Wheel fight

I called the subject dealership Service Dept. this morning and report the following:

- I called Gilmour Ford in ST. Johnsbury, Vermont at 11:07 A.M. and talked to the service Tech. (Jarrett Daigneault).
- Jarrett reported that Sales Dept. had noticed the wheel fight condition "over bumps/washboard surfaces"
- He mentioned that at least 6 SDs in their inventory had the same concern.
- He did call the hotline on Thursday and received the ISM to tighten steering gear mesh load.
- He performed the ISM on one vehicle and felt it had not improved the wheel fight condition and was beginning to affect steering efforts.
- I asked for and received the VINs of SD vehicles the dealership had in inventory that may have the concern (10). As far as he knew, none have been sold yet.
- I then told Jarrett we would ship the dealership steering wheels for those vehicles with redundant wheels early next week. (I don't have any in my possession as of this writing).
- I said I would follow-up on Monday morning with estimated timing.

Next steps:

- From VINs determine type of steering wheel on vehicle (Bill Reed - Can you assist? I will send VINs in separate note)
- Obtain steering wheels either direct from supplier of if available from KTP and send to dealership
- If enough wheels available, set up dealer visit for mid to late next week

-----Original Message-----
From: Reyes, Pete (P.D.)
Sent: Friday, September 24, 2004 6:53 AM
To: Repasky, Steve (S.); Gompper, Dan (D.B.); Fenocketti, Mike (L.M.)
Subject: Hot - Please contact Gilmore Ford in Vermont (Owned by Allan Gilmore) for Wheelfight

Mike - Please call the service manager there today and talk him through the proceedure. He has wheelfight on one (or more?) trucks. Bill Osborne got a personal call from Allan yesterday afternoon. Let me know the outcome. If we have to travel there with a heavier wheel, we will. Thank You.

Pete Reyes
Manager, Vehicle Engineering - Super Duty
(313) 31-72218 / fax (313) 84-56041
2J-K06 / MD 214 / PDC

From: Knapp, David (D.)

Sent: Friday, August 19, 2005 8:38 AM

To: O'Connor, Tammy (T.A.)

Subject: RE: File 2005MM, Main Vin: 1FTSW21545E[redacted], 24980 Kms, Severe vibration after hit bump, 80 - 100 kms / hour, Dealer B2211, over 8 units now

Tammy,
1st is the revised tsb also going to include checking the track bar mounts?
What is the proposed or preferred caster? If you have a horrible shimmy how much is caster going to help? We have to use our heads about it but a slight shimmy I would agree. The shimmy that this fse was going after was a two cycles back and fourth and it is done. I would not consider that excessive. If you hit a bump the steering wheel is going to move in my eyes.
Why did this dealer reduce tire pressures when we have been emphasizing keeping them to the door sticker value? Do we want tires at 40 or door sticker?

David Knapp
Truck Group Service Engineer
F-Superduty/Excursion SME
Ford Technical Hotline
DKnapp7@ford.com
313-317-6316

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Friday, August 19, 2005 8:20 AM
To: Knapp, David (D.)
Subject: FW: File 2005MM, Main Vin: 1FTSW21545E[redacted] 24980 Kms, Severe vibration after hit bump, 80 - 100 kms / hour, Dealer B2211, over 8 units now

fyi - let the guys at the hotline know, we're going to revise the TSB, but they should emphasize caster at this point on these trucks.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thurs,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

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-----Original Message-----
From: Bleau, Serge (R.)

Sent: Friday, August 19, 2005 8:16 AM
To: O'Connor, Tammy (T.A.); Repasky, Steve (S.); Mayer, Paul (P.A.)
Subject: FW: File 2005MM, Main Vin: 1FTSW21545E[redacted]24980 Kms, Severe vibration after hit bump, 80 - 100 kms / hour, Dealer B2211, over 8 units now

Alex is away on vacation.
Here's a report out from one of our FSE in Quebec - looked at 8 trucks:
- Shimmy confirmed by FSE with customers (found a gravel road not far from dealership as test bed)
- Shimmy was present regardless of tire types (Continental or Goodrich)
- TSB was performed and road tested (still had some shimmy in certain conditions: +/- 5 degree wheel oscillation for 2 cycles)
- Change caster on all units and road tested - units were fixed
- After caster adjustment he dropped tire pressure on 4 unites (down to 40 psi) and there was just a hint of shimmy.

-----Original Message-----
From: St Germain, Claude (C.M.)
Sent: August 16, 2005 3:21 PM
To: Snider, Alex (A.)
Cc: Laquerre, Mike (M.J.); Martin, Richard (R.); Corbeil, Martin (M.); Lessard, Bertrand (B.); Bleau, Serge (R.)
Subject: RE: File 2005MM, Main Vin: 1FTSW21545E[redacted], 24980 Kms, Severe vibration after hit bump, 80 - 100 kms / hour, Dealer B2211, over 8 units now

Alex,
Here is the report on the other two units we did while I was there (Note the F-350 but with same Springs But Red Tag With T).
There is one other unit that we were going to look at but client never showed at dealer B2476 in Roberval but I think we proved the point with these four.

Third Truck:
1FTWX31545E[redacted], F-350 4X4 2005 Color, Toreador Red
Kms 27076 (Now has 34348 Kms)
Front Shock ID: C34 18045 PCD
Tires B.F. Goodrich Rugged trail T/A, LT265 70 R17, 121 118 R M+S
Frt Spring Tag, 5C34 5310 AEB (5AE) (Red Tag with : T :).
Client Transport La Dore
Wheels, Styled Steel Type (Silver See Photo 14)
Sway Bar ID, 5C34-5494-CC
Bracket ID, 5C34-3A094-AC bracket at frame area where rod attaches to, bracket is bolted to frame 5 Bolts 129 ft lbs torque
Suspension type, Non Heavy Duty Does not have 764 option.
Pitman Arm ID, 5C34-3590-BD
Spring Tag ID, TT, This is on tag at left door post.

Data Before and after:

Torq Specs:	Actual	Spec
Torq Rod bracket to Frame:	100 Ft Lbs	129 Ft Lbs
Torq Rod At Bracket End:	380 Ft Lbs	406 Ft Lbs
Torq Rod At Axle End:	185 Ft Lbs	185 Ft Lbs at spec area in Shop Manual (Note this spec is at 183 Ft lbs on Page 20401b 11?)

Alignment Specs:	Before	After	Note: This is a

F-350 and specs are different in book.

Camber Left:	0.10	0.10
Camber Right:	0.10	0.24
Caster Left:	2.58	1.71 (Used 5C3Z 3B440 EEE 1.0 Adjuster)
Caster Right:	2.79	2.20 (Used 5C3Z 3B440 CCC 1/2 Adjuster)

Tire Pressure:

Left Frt:	50 Psi	75 Psi
Right Frt:	50 Psi	75 Psi
Left Rear:	50 Psi	75 Psi
Right Rear:	40 Psi	75 Psi

Alex This one we will be replacing steering gear and Pitman arm tomorrow on and it will be shipped to you like the first one we sent.
Note: That the first Steering gear and pitman arm come from unit 1FTSX21545E[redacted] Silver F-250 .

Fourth Truck:

1FTSW21565E[redacted], F-250 4X4 2005 Color, Silver
Kms 5323 (Now Has 15,436)
Front Shock ID: C34 18045 PCD
Tires, B.F. Goodrich Rugged trail T/A, LT265 70 R17, 121 118 R M+S
Frt Spring Tag, 5C34 5310 AEB (5AE) (Red Tag with : T :), Note this one is just like F-350?
Client, Maison Mobile R.L.
Wheels, Aluminum Round hole style.
Sway Bar ID, 5C34-5494-CC
Bracket ID, 5C34-3A094-AC bracket at frame area where rod attaches to, bracket is bolted to frame 5 Bolts 129 ft lbs torque
Suspension type, Non Heavy Duty Does not have 764 option.
Pitman Arm ID, 5C34-3590-BD
Spring Tag ID, TT, This is on tag at left door post.

Data Before and after:

Torq Specs:	Actual	Spec
Torq Rod bracket to Frame:	100 Ft Lbs	129 Ft Lbs
Torq Rod At Bracket End:	406 Ft Lbs	406 Ft Lbs
Torq Rod At Axle End:	185 Ft Lbs	185 Ft Lbs at spec area in Shop Manual (Note this spec is at 183 Ft

lbs on Page 20401b 11?)
Alignment Specs:

Camber Left:	0.11	0.48
Camber Right:	-0.06	0.01
Caster Left:	2.34	2.34
Caster Right:	2.51	2.28

Tire Pressure:

Left Frt:	74 Psi	75 Psi
Right Frt:	74 Psi	75 Psi
Left Rear:	35 Psi	75 Psi
Right Rear:	35 Psi	75 Psi

Conclusion:

All four units of which were done not one had shimmy concern after corrections on same roads even at 100 Kms / Hour.
As a test only ,
We lowered the tire pressures to 40 psi and re tried on same road, at this pressure of which is not recommended there was a hint of shimmy but vehicle did not engage in the severe shimmy as before and full control was there.

In my opinion the Caster change corrected noticeably the issue especially at low tire pressure and is much better at required tire pressure.

One thing to note is the different specs we have for different units and even different suspension types on this model,
This dealer did not have the specs we recommend in his machine we had to manually input them according to suspension type and then used the lower side of caster spec.

I have attached a photo of the roads they commonly drive on and the posted speed of this type road as I was curious what it was and thought you may want to know also. (Photo Number 17)

Alex, Call me when you are back if any questions, also I wanted to talk to you about spring types on these units

I will close this file now unless you have others for me to evaluate, Thanks

-----Original Message-----
From: St Germain, Claude (C.M.)
Sent: Friday, August 12, 2005 10:28 AM
To: Snider, Alex (A.)
Cc: Laquerre, Mike (M.J.); Martin, Richard (R.); Corbeil, Martin (M.); Lessard, Bertrand (B.)
Subject: RE: File 2005MM, Main Vin: 1FTSW21545E[redacted] 24980 Kms, Severe vibration after hit bump, 80 - 100 kms / hour, Dealer B2211, over 8 units now

Alex , here is the report I promised on two trucks done yesterday, .

First truck is the following with what was found and done to it.

1FTSX215X5E[redacted], F-250 4X4 2005 Color, Toreador Red

Kms 5323 (Now has 8969 Kms)
Front Shock ID: C34 18045 PCD
Tires B.F. Goodrich Rugged trail T/A, LT265 70 R17, 121 118 R M+S
Frt Spring Tag, 5C34 5310 AEB (5AE) (White Tag No T).
Client Luc Rondeau (Correction Clients name is Luc Bonneau)
Wheels, Styled Steel Type (Silver See Photo 14)
Sway Bar ID, 5C34-5494-CC
Bracket ID, 5C34-3A094-AC bracket at frame area where rod attaches to, bracket is bolted to frame 5 Bolts 129 ft lbs torque
Suspension type, Non Heavy Duty Does not have 764 option.
Pitman Arm ID, 5C34-3590-BD
Spring Tag ID, TT, This is on tag at left door post.

Data Before and after:

Torq Specs:	**Actual**	**Spec**
Torq Rod bracket to Frame:	115 Ft Lbs	129 Ft Lbs
Torq Rod At Bracket End:	390 Ft Lbs	406 Ft Lbs
Torq Rod At Axle End:	185 Ft Lbs	185 Ft Lbs at spec area in Shop Manual (Note this spec is at 183 Ft lbs on Page 20401b 11?)

Alignment Specs:

Camber Left:	0.03	0.44	
Camber Right:	0.21	0.59	
Caster Left:	2.99	2.51	(Used 5C3Z 3B440 DDD 3/4 Adjuster)
Caster Right:	3.00	2.59	(Used 5C3Z 3B440 DDD 3/4 Adjuster)

Tire Pressure:

Left Frt:	52 Psi	75 Psi
Right Frt:	52 Psi	75 Psi
Left Rear:	52 Psi	75 Psi
Right Rear:	52 Psi	75 Psi

Second Truck:

1FTSX21545E[redacted], F-250 4X4 2005 Color, Silver
Kms 24,890 (Now Has 27,982)
Front Shock ID: C34 18045 PCD
Tires, Continental, M+S, LT 245 75R17
Frt Spring Tag, 5C34 5310 AEB (5AE) (White Tag No T).
Client, Regean Bouchard
Wheels, Styled Steel Type (Silver See Photo 14)
Sway Bar ID, 5C34-5494-CC
Bracket ID, 5C34-3A094-AC bracket at frame area where rod attaches to, bracket is bolted to frame 5 Bolts 129 ft lbs torque
Suspension type, Non Heavy Duty Does not have 764 option.
Pitman Arm ID, 5C34-3590-BD

Spring Tag ID, TT, This is on tag at left door post.

Data Before and after:

	Actual	Spec
Torq Specs:		
Torq Rod bracket to Frame:	129 Ft Lbs	129 Ft Lbs
Torq Rod At Bracket End:	406 Ft Lbs	406 Ft Lbs
Torq Rod At Axle End:	185 Ft Lbs	185 Ft Lbs at spec area in Shop Manual (Note this spec is at 183 Ft lbs on Page 20401b 11?)
Alignment Specs:		
Camber Left:	-0.30	0.04
Camber Right:	-0.26	-0.13
Caster Left:	3.47	2.29 (Used 5C3Z 3B440 DDD 3/4 Adjuster) (See Photos 13 and 16)
Caster Right:	3.27	2.23 (Used 1/2 Adjuster)
Tire Pressure:		
Left Frt:	50 Psi (See photo 21 at 50 Psi)	75 Psi (See photo 22 at 75 Psi)
Right Frt:	50 Psi	75 Psi
Left Rear:	50 Psi	75 Psi
Right Rear:	50 Psi	75 Psi

Alex, I will have more details for you later with info from three other trucks, Two Of which I will see today (Looks like I will be leaving later than I had expected again,)

P.S. I still did not get a new cell so you cant reach me on it I will call you from the two dealers I am today to see if all is clear for you in this note.

-----Original Message-----
From: St Germain, Claude (C.M.)
Sent: Monday, August 01, 2005 11:40 AM
To: Snider, Alex (A.)
Cc: Laquerre, Mike (M.J.); Martin, Richard (R.); Corbeil, Martin (M.)
Subject: RE: File 2005MM, Main Vin: 1FTSW21545E[redacted] 24980 Kms, Severe vibration after hit bump, 80 - 100 kms / hour, Dealer B2211, over 8 units now

Hi Guys,
I am back on this file now my last trip was changed as I was re directed to Magog ford for another unit.
Any way I have planned to be at this dealer on the 9th and 10th of August to continue with this file and get latest info.
I tried to set it up for this week but Dealer has personnel on Vacation (Alignment Guy) and it

was best for them The week Of Aug 8th.
Two or three of the trucks will be at one location in St Felicien to avoid extra traveling.
Alex I will give all the info you requested on the first day I am there.

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From: St Germain, Claude (C.M.)
Sent: Tuesday, July 19, 2005 1:47 PM
To: Corbeil, Martin (M.)
Cc: Laquerre, Mike (M.J.); Snider, Alex (A.); Martin, Richard (R.)
Subject: RE: File 2005MM, Main Vin: 1FTSW21545E[redacted], 24980 Kms, Severe vibration after hit bump, 80 - 100 kms / hour, Dealer B2211, over 8 units now

Update :
Dealer has verified 3 other units and torqued to spec the components required.
However dealer states that one new unit still has concern with correct tire pressures and all components are torqued to spec.

New unit info is:

VIN: 1FTSX21535E[redacted]
Client: Normand Lamothe
Dealer: B2211, Dolbeau
Dealer Contact: Gervais Bouchard

Martin are you aware of this one?
-----Original Message-----
From: StGermain, Claude (C.M.)
Sent: Thursday, July 14, 2005 10:29 AM
To: Corbeil, Martin (M.)
Cc: Laquerre, Mike (M.J.); Snider, Alex (A.); Martin, Richard (R.)
Subject: RE: File 2005MM, Main Vin: 1FTSW21545E[redacted]24980 Kms, Severe vibration after hit bump, 80 - 100 kms / hour, Dealer B2211, over 8 units now

Martin , have you instructed the dealers (Dolbeau and St Felicien) to check and correct the other remaining units? and if so are they all ok now?
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Sent: Wednesday, July 13, 2005 2:49 PM
To: StGermain, Claude (C.M.)
Cc: Laquerre, Mike (M.J.); Snider, Alex (A.); Martin, Richard (R.)
Subject: RE : File 2005MM, Main Vin: 1FTSW21545E[redacted] 24980 Kms, Severe vibration after hit bump, 80 - 100 kms / hour, Dealer B2211, over 8 units now

B2211 Dolbeau Gervais Bouchard svc mgr vin 1FTSW21545E[redacted]

-------- Message d'origine--------
De: StGermain, Claude (C.M.)
Date: mer. 2005-07-13 14:01
À: Corbeil, Martin (M.)
Cc: Laquerre, Mike (M.J.); Snider, Alex (A.); Martin, Richard (R.)
Objet: RE: File 2005MM, Main Vin: 1FTSW21545E[redacted], 24980 Kms, Severe vibration after hit bump, 80 - 100 kms / hour, Dealer B2211, over 8 units now

Would it be possible to get the Vin: and or Repairing dealer name of the unit you worked with yesterday ?.

-----Original Message-----
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Sent: Tuesday, July 05, 2005 11:41 AM

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Cc: Corbeil, Martin (M.); Laquerre, Mike (M.J.); Snider, Alex (A.)

Subject: RE: File 2005MM, Main Vin: 1FTSW21545E[redacted] 24980 Kms, Severe vibration after hit bump, 80 - 100 kms / hour, Dealer B2211, over 8 units now

Update:
I plan to be at this dealer again on Wednesday July 13th:
On this day I will work with two units 1) (1FTSW21545E[redacted] from Dolbeau) and the other (1FTWX31545E[redacted] From St Felicien) ,

Both Units will be at L.D. Auto In St. Felicien
These are the two most critical units at this time.
On one unit we will verify torque rod, (As per dealer seems week? Unit from Dolbeau).
On the other we will do many tests of which consists of the following:

- Replace Steering Box and possibly Pitman Arm (Steering gear lash was tightened with no results)
- Verify Thrust Angles goal for 0 Deg
- Work With Toe In Adj + .1 Deg
- Loosen all suspension components + re secure
- Also with the above it will be necessary to perform 2 or three full 4 wheel alignments.

I will let you know out come of all the above when done , Thanks
P.S. Thanks again for your help Alex.

-----Original Message-----

From: StGermain, Claude (C.M.)

Sent: Monday, July 04, 2005 2:43 PM

To: Martin, Richard (R.)

Cc: Corbeil, Martin (M.); Laquerre, Mike (M.J.); Snider, Alex (A.)

Subject: I: File 2005MM, Main Vin: 1FTSW21545E[redacted], 24980 Kms, Severe vibration after hit bump, 80 - 100 kms / hour, Dealer B2211, over 8 units now

On June 23ird I was at B2211 (Both their Locations one in St Felicien, and the other in Dolbeau Quebec),
The issue is a severe vibration at front end during speeds of approx 80 to 100 kms / hour.
Once a bump and or a pothole is hit the front end seems to wind into a violent type shaking of which stops only when the unit comes down to a very slow speed.

All the front end was verified for play, tiers were substituted , tire pressures were lowered to 35 psi and then increased to 90 psi over and below the spec of 75 psi.

TSB for steer wheel replacement was tried also, Caster cams were installed to try and cheat alignment .

All the above was done with no results.

Next week I plan to go back to dealer for more test's of which I will supply to Alex to

continue with this file.

Note: I have photos of front end configuration I will send in next note with video requested.

Following are all of the units with same concern in this dealer's area and the info I retrieved on them. (The first one is main unit we are working with).

1FTSW21545E[redacted], F-250 4X4 2005
kMS: 24980
Front Shock Id: C34 18045 PCD
Tires: Continental M+S LT 245 75R17
Frt Spring Tag: 5C34 5310 AEB
Client Rejean Bouchard

1FTSX215X5E[redacted], F-250 4X4 2005
Kms 5323
Front Shock ID: C34 18045 PCD
Tires B.F. Goodrich Rugged trail T/A, LT265 70 R17, 121 118 R M+S
Frt Spring Tag, 5C34 5310 AEB
Client Luc Rondeau

1FTWX31545E[redacted] F-350 4X4 2005
Kms 27076
Frt Shock ID: C34 18045 PCD
Tires N/A
Frt Spring Tag, 5C34 5310 AEB
Client Transport La Dore Inc

1FTSW215X5E[redacted] F-250 4X4 2005
Kms 33200
Front Shock ID: C34 18045 PCD
Tires N/A
Frt Spring Tag, 5C34 5310 AEB
Client Forestiers Lambec Inc

1FTSW21575E[redacted] F-250 4X4 2005
Kms 5323
Front Shock ID: C34 18045 PCD
Tires N/A
Frt Spring Tag, 5C34 5310 AEB
Client Transport Mont-Jean Dolbeau Inc

1FTSW21YX5E[redacted] F-250 4X4 2005
Kms 5323
Front Shock ID: C34 18045 PCD
Tires N/A
Frt Spring Tag, 5C34 5310 AEB

Client Picines turc-Hot

1FTSW21565E[redacted] F-250 4X4 2005
Kms 5323
Front Shock ID: C34 18045 PCD
Tires B.F. Goodrich Rugged trail T/A, LT265 70 R17, 121 118 R M+S
Frt Spring Tag, 5C34 5310 AEB
Client Maison Mobile RL

From: O'Connor, Tammy (T.A.)
Sent: Friday, August 19, 2005 8:34 AM
To: Repasky, Steve (S.); Mayer, Paul (P.A.)
Cc: Hale, Curt (B.C.); Knapp, David (D.)
Subject: RE: File 2005MM, Main Vin: 1FTSW21545E[redacted], 24980 Kms, Severe vibration after hit bump, 80 - 100 kms / hour, Dealer B2211, over 8 units now

Steve/Paul: I think we need to update the TSB we have to include 2006 MY, and include all the information we have learned lately. Who should I work with to get this done?

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thurs,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

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-----Original Message-----
From: Bleau, Serge (R.)
Sent: Friday, August 19, 2005 8:16 AM
To: O'Connor, Tammy (T.A.); Repasky, Steve (S.); Mayer, Paul (P.A.)
Subject: FW: File 2005MM, Main Vin: 1FTSW21545E[redacted], 24980 Kms, Severe vibration after hit bump, 80 - 100 kms / hour, Dealer B2211, over 8 units now

Alex is away on vacation.
Here's a report out from one of our FSE in Quebec - looked at 8 trucks:
- Shimmy confirmed by FSE with customers (found a gravel road not far from dealership as test bed)
- Shimmy was present regardless of tire types (Continental or Goodrich)
- TSB was performed and road tested (still had some shimmy in certain conditions: +/- 5 degree wheel oscillation for 2 cycles)
- Change caster on all units and road tested - units were fixed
- After caster adjustment he dropped tire pressure on 4 unites (down to 40 psi) and there was just a hint of shimmy.

-----Original Message-----
From: St Germain, Claude (C.M.)
Sent: August 16, 2005 3:21 PM
To: Snider, Alex (A.)
Cc: Laquerre, Mike (M.J.); Martin, Richard (R.); Corbeil, Martin (M.); Lessard, Bertrand (B.); Bleau, Serge (R.)
Subject: RE: File 2005MM, Main Vin: 1FTSW21545E[redacted], 24980 Kms, Severe vibration after hit bump, 80 - 100 kms / hour, Dealer B2211, over 8 units now

Alex,
Here is the report on the other two units we did while I was there (Note the F-350 but with

same Springs But Red Tag With T).
There is one other unit that we were going to look at but client never showed at dealer B2476 in Roberval but I think we proved the point with these four.

Third Truck:
1FTWX31545E[redacted], F-350 4X4 2005 Color, Toreador Red
Kms 27076 (Now has 34348 Kms)
Front Shock ID: C34 18045 PCD
Tires B.F. Goodrich Rugged trail T/A, LT265 70 R17, 121 118 R M+S
Frt Spring Tag, 5C34 5310 AEB (5AE) (Red Tag with : T :).
Client Transport La Dore
Wheels, Styled Steel Type (Silver See Photo 14)
Sway Bar ID, 5C34-5494-CC
Bracket ID, 5C34-3A094-AC bracket at frame area where rod attaches to, bracket is bolted to frame 5 Bolts 129 ft lbs torque
Suspension type, Non Heavy Duty Does not have 764 option.
Pitman Arm ID, 5C34-3590-BD
Spring Tag ID, TT, This is on tag at left door post.

Data Before and after:

Torq Specs:	Actual	Spec
Torq Rod bracket to Frame:	100 Ft Lbs	129 Ft Lbs
Torq Rod At Bracket End:	380 Ft Lbs	406 Ft Lbs
Torq Rod At Axle End:	185 Ft Lbs	185 Ft Lbs at spec area in Shop Manual (Note this spec is at 183 Ft lbs on Page 20401b 11?)

Alignment Specs:	Before	After	Note: This is a F-350 and specs are different in book.
Camber Left:	0.10	0.10	
Camber Right:	0.10	0.24	
Caster Left:	2.58	1.71 (Used 5C3Z 3B440 EEE 1.0 Adjuster)	
Caster Right:	2.79	2.20 (Used 5C3Z 3B440 CCC 1/2 Adjuster)	

Tire Pressure:

Left Frt:	50 Psi	75 Psi
Right Frt:	50 Psi	75 Psi
Left Rear:	50 Psi	75 Psi
Right Rear:	40 Psi	75 Psi

Alex This one we will be replacing steering gear and Pitman arm tomorrow on and it will be shipped to you like the first one we sent.
Note: That the first Steering gear and pitman arm come from unit 1FTSX21545E[redacted],

Silver F-250 .

Fourth Truck:

1FTSW21565E[redacted], F-250 4X4 2005 Color, Silver

Kms 5323 (Now Has 15,436)
Front Shock ID: C34 18045 PCD
Tires, B.F. Goodrich Rugged trail T/A, LT265 70 R17, 121 118 R M+S
Frt Spring Tag, 5C34 5310 AEB (5AE) (Red Tag with : T :), Note this one is just like F-350?
Client, Maison Mobile R.L.
Wheels, Aluminum Round hole style.
Sway Bar ID, 5C34-5494-CC
Bracket ID, 5C34-3A094-AC bracket at frame area where rod attaches to, bracket is bolted to frame 5 Bolts 129 ft lbs torque
Suspension type, Non Heavy Duty Does not have 764 option.
Pitman Arm ID, 5C34-3590-BD
Spring Tag ID, TT, This is on tag at left door post.

Data Before and after:

Torq Specs:	**Actual**	**Spec**
Torq Rod bracket to Frame:	100 Ft Lbs	129 Ft Lbs
Torq Rod At Bracket End:	406 Ft Lbs	406 Ft Lbs
Torq Rod At Axle End:	185 Ft Lbs	185 Ft Lbs at spec area in Shop Manual (Note this spec is at 183 Ft lbs on Page 20401b 11?)
Alignment Specs:		
Camber Left:	0.11	0.48
Camber Right:	-0.06	0.01
Caster Left:	2.34	2.34
Caster Right:	2.51	2.28
Tire Pressure:		
Left Frt:	74 Psi	75 Psi
Right Frt:	74 Psi	75 Psi
Left Rear:	35 Psi	75 Psi
Right Rear:	35 Psi	75 Psi

Conclusion:

All four units of which were done not one had shimmy concern after corrections on same roads even at 100 Kms / Hour.
As a test only ,
We lowered the tire pressures to 40 psi and re tried on same road, at this pressure of which is not recommended there was a hint of shimmy but vehicle did not engage in the severe shimmy as before and full control was there.

In my opinion the Caster change corrected noticeably the issue especially at low tire pressure and is much better at required tire pressure.

One thing to note is the different specs we have for different units and even different suspension types on this model,
This dealer did not have the specs we recommend in his machine we had to manually input them according to suspension type and then used the lower side of caster spec.

I have attached a photo of the roads they commonly drive on and the posted speed of this type road as I was curious what it was and thought you may want to know also. (Photo Number 17)

Alex, Call me when you are back if any questions, also I wanted to talk to you about spring types on these units

I will close this file now unless you have others for me to evaluate, Thanks

-----Original Message-----
From: St Germain, Claude (C.M.)
Sent: Friday, August 12, 2005 10:28 AM
To: Snider, Alex (A.)
Cc: Laquerre, Mike (M.J.); Martin, Richard (R.); Corbeil, Martin (M.); Lessard, Bertrand (B.)
Subject: RE: File 2005MM, Main Vin: 1FTSW21545E[redacted] 24980 Kms, Severe vibration after hit bump, 80 - 100 kms / hour, Dealer B2211, over 8 units now

Alex , here is the report I promised on two trucks done yesterday, .

First truck is the following with what was found and done to it.

1FTSX215X5EC[redacted], F-250 4X4 2005 Color, Toreador Red
Kms 5323 (Now has 8969 Kms)
Front Shock ID: C34 18045 PCD
Tires B.F. Goodrich Rugged trail T/A, LT265 70 R17, 121 118 R M+S
Frt Spring Tag, 5C34 5310 AEB (5AE) (White Tag No T).
Client Luc Rondeau (Correction Clients name is Luc Bonneau)
Wheels, Styled Steel Type (Silver See Photo 14)
Sway Bar ID, 5C34-5494-CC
Bracket ID, 5C34-3A094-AC bracket at frame area where rod attaches to, bracket is bolted to frame 5 Bolts 129 ft lbs torque
Suspension type, Non Heavy Duty Does not have 764 option.
Pitman Arm ID, 5C34-3590-BD
Spring Tag ID, TT, This is on tag at left door post.

Data Before and after:

Torq Specs:	Actual	Spec
Torq Rod bracket to Frame:	115 Ft Lbs	129 Ft Lbs
Torq Rod At Bracket End:	390 Ft Lbs	406 Ft Lbs
Torq Rod At Axle End:	185 Ft Lbs	185 Ft Lbs at spec area in Shop Manual (Note this spec is at 183 Ft lbs on Page 20401b 11?)

Alignment Specs:

Camber Left:	0.03	0.44
Camber Right:	0.21	0.59
Caster Left:	2.99	2.51 (Used 5C3Z 3B440 DDD 3/4 Adjuster)
Caster Right:	3.00	2.59 (Used 5C3Z 3B440 DDD 3/4 Adjuster)

Tire Pressure:

Left Frt:	52 Psi	75 Psi
Right Frt:	52 Psi	75 Psi
Left Rear:	52 Psi	75 Psi
Right Rear:	52 Psi	75 Psi

Second Truck:

1FTSX21545E[redacted], F-250 4X4 2005 Color, Silver

Kms 24,890 (Now Has 27,982)
Front Shock ID: C34 18045 PCD
Tires, Continental, M+S, LT 245 75R17
Frt Spring Tag, 5C34 5310 AEB (5AE) (White Tag No T).
Client, Regean Bouchard
Wheels, Styled Steel Type (Silver See Photo 14)
Sway Bar ID, 5C34-5494-CC
Bracket ID, 5C34-3A094-AC bracket at frame area where rod attaches to, bracket is bolted to frame 5 Bolts 129 ft lbs torque
Suspension type, Non Heavy Duty Does not have 764 option.
Pitman Arm ID, 5C34-3590-BD
Spring Tag ID, TT, This is on tag at left door post.

Data Before and after:

Torq Specs:	**Actual**	**Spec**
Torq Rod bracket to Frame:	129 Ft Lbs	129 Ft Lbs
Torq Rod At Bracket End:	406 Ft Lbs	406 Ft Lbs
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Alignment Specs:

Camber Left:	-0.30	0.04
Camber Right:	-0.26	-0.13
Caster Left:	3.47	2.29 (Used 5C3Z 3B440 DDD 3/4 Adjuster) (See Photos 13 and 16)
Caster Right:	3.27	2.23 (Used 1/2 Adjuster)

Tire Pressure:

Left Frt:	50 Psi	(See photo 21 at 50 Psi)	75 Psi (See photo 22 at 75 Psi)
Right Frt:	50 Psi		75 Psi
Left Rear:	50 Psi		75 Psi
Right Rear:	50 Psi		75 Psi

Alex, I will have more details for you later with info from three other trucks, Two Of which I will see today (Looks like I will be leaving later than I had expected again,)

P.S. I still did not get a new cell so you cant reach me on it I will call you from the two dealers I am today to see if all is clear for you in this note.

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Hi Guys,
I am back on this file now my last trip was changed as I was re directed to Magog ford for another unit.
Any way I have planned to be at this dealer on the 9th and 10th of August to continue with this file and get latest info.
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Cc: Laquerre, Mike (M.J.); Snider, Alex (A.); Martin, Richard (R.)
Subject: RE: File 2005MM, Main Vin: 1FTSW21545E[redacted], 24980 Kms, Severe vibration after hit bump, 80 - 100 kms / hour, Dealer B2211, over 8 units now

Update :
Dealer has verified 3 other units and torqued to spec the components required.
However dealer states that one new unit still has concern with correct tire pressures and all components are torqued to spec.

New unit info is:

VIN: 1FTSX21535E[redacted]
Client: [redacted]
Dealer: B2211, Dolbeau
Dealer Contact: Gervais Bouchard
Martin are you aware of this one?

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Cc: Laquerre, Mike (M.J.); Snider, Alex (A.); Martin, Richard (R.)
Subject: RE : File 2005MM, Main Vin: 1FTSW21545E[redacted], 24980 Kms, Severe vibration after hit bump, 80 - 100 kms / hour, Dealer B2211, over 8 units now

B2211 Dolbeau Gervais Bouchard svc mgr vin 1FTSW21545E[redacted]

-------- Message d'origine--------
De: StGermain, Claude (C.M.)
Date: mer. 2005-07-13 14:01
À: Corbeil, Martin (M.)
Cc: Laquerre, Mike (M.J.); Snider, Alex (A.); Martin, Richard (R.)
Objet: RE: File 2005MM, Main Vin: 1FTSW21545E[redacted], 24980 Kms, Severe vibration after hit bump, 80 - 100 kms / hour, Dealer B2211, over 8 units now

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To: Martin, Richard (R.)
Cc: Corbeil, Martin (M.); Laquerre, Mike (M.J.); Snider, Alex (A.)
Subject: RE: File 2005MM, Main Vin: 1FTSW21545E[redacted], 24980 Kms, Severe vibration after hit bump, 80 - 100 kms / hour, Dealer B2211, over 8 units now

Update:
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Both Units will be at L.D. Auto In St. Felicien
These are the two most critical units at this time.
On one unit we will verify torque rod, (As per dealer seems week? Unit from Dolbeau).
On the other we will do many tests of which consists of the following:

- Replace Steering Box and possibly Pitman Arm (Steering gear lash was tightened with no results)
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- Work With Toe In Adj + .1 Deg
- Loosen all suspension components + re secure
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I will let you know out come of all the above when done , Thanks
P.S. Thanks again for your help Alex.

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To: Martin, Richard (R.)
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Subject: I: File 2005MM, Main Vin: 1FTSW21545E[redacted], 24980 Kms, Severe vibration after hit bump, 80 - 100 kms / hour, Dealer B2211, over 8 units now

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All the front end was verified for play, tiers were substituted , tire pressures were lowered to 35 psi and then increased to 90 psi over and below the spec of 75 psi.

TSB for steer wheel replacement was tried also, Caster cams were installed to try and cheat alignment .

All the above was done with no results.

Next week I plan to go back to dealer for more test's of which I will supply to Alex to continue with this file.

Note: I have photos of front end configuration I will send in next note with video requested.

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1FTSW21545E[redacted] F-250 4X4 2005
kMS: 24980
Front Shock Id: C34 18045 PCD
Tires: Continental M+S LT 245 75R17
Frt Spring Tag: 5C34 5310 AEB
Client [redacted]

1FTSX215X5E[redacted], F-250 4X4 2005
Kms 5323
Front Shock ID: C34 18045 PCD
Tires B.F. Goodrich Rugged trail T/A, LT265 70 R17, 121 118 R M+S
Frt Spring Tag, 5C34 5310 AEB
Client [redacted]

1FTWX31545E[redacted] F-350 4X4 2005
Kms 27076
Frt Shock ID: C34 18045 PCD
Tires N/A
Frt Spring Tag, 5C34 5310 AEB
Client Transport La Dore Inc

1FTSW215X5E[redacted] F-250 4X4 2005
Kms 33200
Front Shock ID: C34 18045 PCD
Tires N/A
Frt Spring Tag, 5C34 5310 AEB
Client Forestiers Lambec Inc

1FTSW21575E[redacted] F-250 4X4 2005
Kms 5323
Front Shock ID: C34 18045 PCD
Tires N/A
Frt Spring Tag, 5C34 5310 AEB
Client Transport Mont-Jean Dolbeau Inc

1FTSW21YX5E[redacted] F-250 4X4 2005
Kms 5323
Front Shock ID: C34 18045 PCD
Tires N/A
Frt Spring Tag, 5C34 5310 AEB
Client Picines turc-Hot

1FTSW21565E[redacted] F-250 4X4 2005
Kms 5323
Front Shock ID: C34 18045 PCD
Tires B.F. Goodrich Rugged trail T/A, LT265 70 R17, 121 118 R M+S
Frt Spring Tag, 5C34 5310 AEB
Client Maison Mobile RL

From: Repasky, Steve (S.)
Sent: Monday, June 12, 2006 9:05 AM
To: O'Connor, Tammy (T.A.); Menard, Bob (R.J.)
Subject: RE: Ford Truck Vibration - Conference Call scheduled

I think we need to hear what the traction concerns are in the field and determine if at recommended tire pressures we can satisfy the customers traction needs. It may also allow us the "opportunity" to set up a drive with Lonnie to see firsthand his concern. Hopefully the meeting will be beneficial to both parties.

From: O'Connor, Tammy (T.A.)
Sent: Friday, June 09, 2006 4:51 PM
To: Menard, Bob (R.J.); Repasky, Steve (S.)
Subject: RE: Ford Truck Vibration - Conference Call scheduled

If this is the situation, why are we doing this?

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Menard, Bob (R.J.)
Sent: Friday, June 09, 2006 4:42 PM
To: Repasky, Steve (S.); O'Connor, Tammy (T.A.)
Cc: Menard, Bob (R.J.)
Subject: RE: Ford Truck Vibration - Conference Call scheduled

No I have not.... the offer was there more than once but it always came back to tire inflation and he would refuse to inflate them..... the dealer described what he felt and also described how it would not shimmy when he inflated the tires for his roadtest.

Thanks

Robert (Bob) Menard
Commercial Area Field Manager
Southern Alberta and British Columbia
Ford Motor Company of Canada Limited
North American Fleet Services
403-255-0292 [redacted]
Fax 403-532-4318

Email: bmenard@ford.com
Ford Fleet: We're There For you !

Ford Motor Company of Canada Limited
#16, 2520 23rd St N.E.
Mayfield Business Park
Calgary AB T2E 8L2

-----Original Message-----
From: Repasky, Steve (S.)
Sent: Friday, June 09, 2006 1:53 PM
To: Menard, Bob (R.J.); O'Connor, Tammy (T.A.)
Subject: FW: Ford Truck Vibration - Conference Call scheduled
Importance: High

Bob/Tammy - Please limit distribution of this note.

Just a heads up that it appears the TSB may fix the "Strg. wheel Oscillation" concern, but the customer may perceive a different concern at the specified tire pressures.

Bob - Have you driven with Lonnie before? Are you familiar at all with the particulars of his vehicle usage? Thanks..

From: Davis, Brenda K. [mailto:Brenda.Davis@bakerhughes.com]
Sent: Friday, June 09, 2006 1:19 PM
To: Repasky, Steve (S.)
Subject: RE: Ford Truck Vibration - Conference Call scheduled
Importance: High

Steve,

On the agenda you referred to the TSB resolving concerns to the customer's satisfaction. If the TSB refers to the PSI for the tires and several other fixes such as the steering etc. then we have already determined that it doesn't.

The comment Lonnie made to me was "if Ford gets on the line and tells me that the issue is the tire inflation we might as well not have this conversation". I just don't want this to be an issue during the call. We can certainly talk about the TSB and the tire inflation and how that affects the truck engineering and how important this is but we don't want this to be the reason/excuse used during this call.

Lonnie truly feels that these trucks are unsafe due to traction control when this truck is operating on dirt roads and washboard type conditions when the recommended PSI is used. I definitely think there are other issues and maybe two-fold issues that require investigation and on-site inspection and driving by Ford.

I look forward to talking with you further on Monday.

Brenda Davis
Strategic Sourcing Commodity Manager
Fleet & Temporary Services

Baker Hughes Business Support Services
15355 Vantage Parkway West, #300
Houston, TX 77032
Fleet Central - 281-209-7667
281-209-7897 - Fax - 713-625-4374

-----Original Message-----
From: Repasky, Steve (S.) [mailto:srepasky@ford.com]
Sent: Friday, June 09, 2006 11:17 AM
To: Davis, Brenda K.
Subject: RE: Ford Truck Vibration - Conference Call scheduled

Brenda - I just sent out the meeting notice with pass code to the Ford team. Attached is a proposed agenda for the subject meeting. Please review and we can discuss any necessary revisions.

I am looking for either you or a designated rep. to give us an idea of how the Superduty vehicles are used in the field i.e. road surfaces, # of miles/day, etc. Also, I hope to reach an agreement on whether the current TSB resolves the concern to your satisfaction. I look forward to the meeting on Monday. Thanks for setting it up..

From: Davis, Brenda K. [mailto:Brenda.Davis@bakerhughes.com]
Sent: Thursday, June 08, 2006 7:10 PM
To: Repasky, Steve (S.)
Cc: Haering, Ray (J.R.); Menard, Bob (R.J.); Fretts, Greg (G.); Scronce, Michael (M.L.)
Subject: RE: Ford Truck Vibration - Conference Call scheduled
Importance: High

Steve,

The call in number is

The meeting will be scheduled for 10 - 11:30 CST

Please forward this information to your participants.

Thanks so much.

Brenda Davis

Strategic Sourcing Commodity Manager

Fleet & Temporary Services

Baker Hughes Business Support Services

15355 Vantage Parkway West, #300

Houston, TX 77032

Fleet Central - 281-209-7667

281-209-7897 - Fax - 713-625-4374

From: Repasky, Steve (S.)
Sent: Friday, June 09, 2006 12:19 PM
To: O'Connor, Tammy (T.A.); Arnold, Bruce (B.C.); Menard, Bob (R.J.); Michon, Jim (J.B.); Choe, Mark (M.J.); Frantzeskakis, Petros (Peter.); Parekh, Deepak (D.A.); Gompper, Dan (D.B.); Rocco, Julie (J.E.); Hale, Curt (B.C.); Taylor, Rich (R.G.); Campbell, Keith (K.A.); Bedard, Michael (M.R.)
Subject: RE: Ford Truck Vibration - Conference Call scheduled
Attachments: Agenda Superduty Baker-Hughes Fleet - June 2006Rev1.doc

Sorry for the extra note. Attached is the correct proposed agenda with the correct date and call-in number and pass code. ..

From: Repasky, Steve (S.)
Sent: Friday, June 09, 2006 11:55 AM
To: O'Connor, Tammy (T.A.); Arnold, Bruce (B.C.); Menard, Bob (R.J.); Michon, Jim (J.B.); Choe, Mark (M.J.); Frantzeskakis, Petros (Peter.); Parekh, Deepak (D.A.); Gompper, Dan (D.B.); Rocco, Julie (J.E.); Hale, Curt (B.C.); Taylor, Rich (R.G.); Campbell, Keith (K.A.); Bedard, Michael (M.R.)
Subject: FW: Ford Truck Vibration - Conference Call scheduled
Importance: High

All - Below is the call-in pass code for the meeting scheduled for Monday at 11:00 local Dearborn time.
Please let me know if do not plan on calling in. Thanks..

Attached is a proposed agenda, subject to some revision.

From: Davis, Brenda K. [mailto:Brenda.Davis@bakerhughes.com]
Sent: Thursday, June 08, 2006 7:10 PM
To: Repasky, Steve (S.)
Cc: Haering, Ray (J.R.); Menard, Bob (R.J.); Fretts, Greg (G.); Scronce, Michael (M.L.)
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The call in number is and the pass code is

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Please forward this information to your participants.

Thanks so much.

Brenda Davis

Strategic Sourcing Commodity Manager

Fleet & Temporary Services

Baker Hughes Business Support Services

15355 Vantage Parkway West, #300

Houston, TX 77032

Fleet Central - 281-209-7667

281-209-7897 - Fax - 713-625-4374

Baker-Hughes Superduty Fleet – Vibration Concern Discussion/Next Steps/Resolution

June 12, 2006
11:00 AM to 12:30 PM
Call-in Conference passcode #

Meeting called by:	Brenda Davis(Baker-Hughes)/Steve Repasky (Ford)	**Type of meeting:**	Action

Expected Attendees: **Baker-Hughes** Brenda Davis/Lonnie Henry

Ford Steve Repasky/Bruce Arnold/Keith Campbell/Jim Michon/Bob Menard/Tammy O'Connor.. /Mark Choe/Curt Hale/Mike Bedard

----- Agenda Topics -----

Introductions	All	5 minutes
Baker-Hughes Superduty Fleet Description/Usage/Operating conditions	Brenda/Lonnie	20
Concern Description/Field Experience	Brenda/Lonnie/Bob/ Tammy	20
Does TSB fix the concern to customer satisfaction?	All	15
Other Concerns?	All	10
Summary of Discussion/Next steps	Brenda/Steve/All	10

Other Information

- TSB 05-22-01
- List of Baker-Hughes Fleet
- Other??

From: Hale, Curt (B.C.)
Sent: Monday, June 12, 2006 9:11 AM
To: O'Connor, Tammy (T.A.)
Subject: RE: Ford Truck Vibration - Conference Call scheduled

Agree - I also agree that tires gets better off-road traction at lower PSI.

B. Curtis Hale
FCSD PVT Program Manager
F-Super Duty & Excursion

From: O'Connor, Tammy (T.A.)
Sent: Monday, June 12, 2006 9:04 AM
To: Hale, Curt (B.C.)
Subject: FW: Ford Truck Vibration - Conference Call scheduled

Curt:

Please read - I don't think we should even be talking to this customer -- the tires are not properly inflated.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

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Cc: Menard, Bob (R.J.)
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No I have not.... the offer was there more than once but it always came back to tire inflation and he would refuse to inflate them..... the dealer described what he felt and also described how it would not shimmy when he inflated the tires for his roadtest.

Thanks

Robert (Bob) Menard

Commercial Area Field Manager
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Ford Motor Company of Canada Limited
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403-255-0292 Cel: 403-803-9079
Fax 403-532-4318
Email: bmenard@ford.com
Ford Fleet: We're There For you !

Ford Motor Company of Canada Limited
#16, 2520 23rd St N.E.
Mayfield Business Park
Calgary AB T2E 8L2

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-----Original Message-----
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To: Davis, Brenda K.
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To: Repasky, Steve (S.)
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Subject: RE: Ford Truck Vibration - Conference Call scheduled
Importance: High

Steve,

The call in number is and the pass code is

The meeting will be scheduled for 10 - 11:30 CST

Please forward this information to your participants.

Thanks so much.

Brenda Davis

Strategic Sourcing Commodity Manager

Fleet & Temporary Services

Baker Hughes Business Support Services

15355 Vantage Parkway West, #300

Houston, TX 77032

Fleet Central - 281-209-7667

281-209-7897 - Fax - 713-625-4374

From: Masel, Dennis (D.M.)
Sent: Tuesday, October 24, 2006 7:34 AM
To: Lam, Hao (H.C.)
Cc: Gompper, Dan (D.B.); Wegienka, Michael (M.J.); Hearn, Chet (C.)
Subject: RE: Good news

I have already run the aftermarket damper with the OEM damper test. I am trying to run only the aftermarket damper test this morning. I will supply you the data after that test. If the aftermarket damper alone works, the next configuration I have been asked to look at is "a single aftermarket damper"

Who else can run an ODS in your absence?

From: Lam, Hao (H.C.)
Sent: Monday, October 23, 2006 5:36 PM
To: Masel, Dennis (D.M.); Hearn, Chet (C.); Gompper, Dan (D.B.); Wegienka, Michael (M.J.)
Subject: RE: Good news

Dennis,
Are you going to test with the aftermarket damper from Tom Shaver. If so, the can you do it?

Team,
I'll be on vacation from 10/26/06 to 11/1/06. I'll be back to work on 11/2/06, if you need shimmy ODS during that time, you can ask someone to do it or wait until I come back.

Hao Lam

From: Masel, Dennis (D.M.)
Sent: Monday, October 23, 2006 12:29 PM
To: Hearn, Chet (C.); Gompper, Dan (D.B.); Lam, Hao (H.C.); Wegienka, Michael (M.J.)
Subject: Good news
Importance: High

The good news is that with the aftermarket damper (provided by Tom Shaver) I could not get the vehicle to shimmy at 35 psi tire pressure (even at speeds as high as 80 mph). The next step is to remove the production steering damper.

Dennis M. Masel

Core Vehicle Dynamics
Pager & Phone Number: 313-805-2209
text pager: dmasel

From: King, Robert (R.F.)
Sent: Monday, September 19, 2005 11:03 AM
To: O'Connor, Tammy (T.A.)
Subject: RE: GQCIS 5HYCO006

Tammy,

I get it fixed. If I run into problems. I'll call you. Thanks

Bob King
FSE FCSD-KC Region 53, District Zones A3 & B3
913-217-2137 W
816-539-3252 F
816-678-6004 M

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Monday, September 19, 2005 9:49 AM
To: King, Robert (R.F.)
Subject: RE: GQCIS 5HYCO006

Bob:

From the report it sounds like it is still an issue, am I correct?

From using the revised draft, we have been able to resolve this issue on every truck. I have gotten feedback now from several FSEs that it fixed the truck

The tech must be missing something.

1. Tire pressure set to spec on door label
2. caster set to lowest possible
3. torque settings on steering and suspension fasteners (many are not at torque)
4. meshload adjustment

If you confirm that all the above 4 have been changed, and the truck still has an issue, we would like to know. We have not found that to be the case thus far.

If you're there tomorrow and it's still an issue, please call me.

Alex Snider from Ford of Canada, and Randy Corlew have worked on several trucks with this issue, you may want to speak with them today. They have helped me make alot of changes to this TSB.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Wed,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Thursday)

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-----Original Message-----
From: King, Robert (R.F.)
Sent: Monday, September 19, 2005 10:42 AM
To: O'Connor, Tammy (T.A.)
Subject: GQCIS 5HYCO006

Tammy,

This dlr already did TSB 04-26-01 per the GCQIS report and after my discussion w/Gary the service manager. Before I drive 200 miles, you have any other recommendations or knowns? Thanks

Bob King
FSE FCSD-KC Region 53, District Zones A3 & B3
913-217-2137 W
816-539-3252 F
816-678-6004 M

From: Hale, Curt (B.C.)
Sent: Friday, October 14, 2005 9:28 AM
To: OConnor, Tammy (T.A.)
Cc: Johnston, Steven (S.J.)
Subject: RE: I: File 2005 FFF, 2005 F250 4X4 front end shudder. Vin 1FTSW21575E[redacted] 31,460 Kms, Dealer Auto Dalton B2321.

I've never had a lot of faith in what engineering was trying to do on this issue.

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Fri 10/14/2005 9:16 AM
To: Hale, Curt (B.C.)
Cc: Johnston, Steven (S.J.)
Subject: FW: I: File 2005 FFF, 2005 F250 4X4 front end shudder. Vin 1FTSW21575E[redacted] 31,460 Kms, Dealer Auto Dalton B2321.

Truck that cannot be repaired with revised shimmy TSB - this is not good news.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Wed,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Thursday)

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-----Original Message-----
From: Bleau, Serge (R.)
Sent: Friday, October 14, 2005 9:13 AM
To: Mayer, Paul (P.A.); Snider, Alex (A.); Repasky, Steve (S.)
Cc: Martin, Richard (R.); St Germain, Claude (C.M.); O'Connor, Tammy (T.A.); Bly, Brian (K.)
Subject: RE: I: File 2005 FFF, 2005 F250 4X4 front end shudder. Vin 1FTSW21575E[redacted], 31,460 Kms, Dealer Auto Dalton B2321.

We just got news back from our FSE saying that those latest suggestions were to no avail.
Looks like customer just had it with this truck (possible buy-back).
Steve/Paul, any more suggestions? Do you want to coem up and look at it or do we buy it back and send it to you?

Please advise asap so I can give directions to the Region

-----Original Message-----
From: Mayer, Paul (P.A.)

Sent: October 11, 2005 10:06 AM

To: Snider, Alex (A.); Repasky, Steve (S.)

Cc: Bleau, Serge (R.); Martin, Richard (R.); St Germain, Claude (C.M.)

Subject: RE: I: File 2005 FFF, 2005 F250 4X4 front end shudder. Vin 1FTSW21575E[redacted] 31,460 Kms, Dealer Auto Dalton B2321.

You give me more credit than I deserve. That decision is over my head …plus its outside of my dept (i.e. susp engr. dept does not buy back vehicles, it would be the veh engr dept that decides that and then executes the buyback. So Repasky would have to take that to his mgmt if he wants to buy it back.)

I had one other thought for a field fix. Similar to the body mounts holding the frame. The radius arm bushings & the track bar bushings hold the axle. If these bushings are worn out (or if they were too soft right from the beginning) then they are not holding the axle as tightly as they should be. During development we found that we had to make these bushings pretty stiff to keep the axle under control.

So you might try a new track bar and rad-arm bushings (or just new parts if the bushings are not serviceable by themselves)

Regards
Paul Mayer
Truck Suspension and Systems Analysis
313-248-9202 Fax:313-317-2349

-----Original Message-----

From: Snider, Alex (A.)

Sent: Tuesday, October 11, 2005 7:20 AM

To: Mayer, Paul (P.A.); Repasky, Steve (S.)

Cc: Bleau, Serge (R.); Martin, Richard (R.); St Germain, Claude (C.M.)

Subject: RE: I: File 2005 FFF, 2005 F250 4X4 front end shudder. Vin 1FTSW21575E[redacted] 31,460 Kms, Dealer Auto Dalton B2321.

Paul, we will perform these suggestions and let you know what we find. If a trip is out of the question would Engineering consider a buy back of the vehicle and we would ship it to you for Engineering review and root cause analysis!!! What we would require is a PSR #.

"Accelerate Growth Through Customer Satisfaction and Loyalty"

Alex Snider
Ford Motor Company of Canada
Technical Service Support Specialist
Outlook ID: asnider@ford.com
Dial net: 853-1485
Outside #: 905-845-2511, ext: 1485

-----Original Message-----

From: Mayer, Paul (P.A.)

Sent: Monday, October 10, 2005 10:36 AM

To: Snider, Alex (A.); Repasky, Steve (S.)

Cc: Bleau, Serge (R.); Martin, Richard (R.); St Germain, Claude (C.M.)

Subject: RE: I: File 2005 FFF, 2005 F250 4X4 front end shudder. Vin 1FTSW21575EB37[redacted], 31,460 Kms, Dealer Auto Dalton B2321.

Reading the below note, I would say that Claude has addressed all of the usual suspects

So I am really going out on limb with these suggestions
Check the condition of the body mounts and replace if needed.

> The body is a lot stiffer than the frame, and the when the body mounts work right they create a frame/body system with a given stiffness. If the body mounts are not doing their job than the body is no longer adding the stiffness it should to the frame, and the frame is free to shake a little more than it might if the body is holding it.

Check the rear tire carrier plate to frame bolts. This plate also stiffens the frame in the match boxing mode when they are well secured.

And to the 2nd questions, one trip per year to Canada …….. is more than enough for me …. Ha-Ha. I think you blew it, when you sent me to estavan for that first trip. Now, If you had sent me to Calgary …….. I might be anxious to come back !!!

Seriously, I would rather not make another trip …….. But those decisions are usually not up to me.

Regards
Paul Mayer
Truck Suspension and Systems Analysis
313-248-9202 Fax:313-317-2349

-----Original Message-----

From: Snider, Alex (A.)

Sent: Friday, October 07, 2005 7:15 AM

To: Mayer, Paul (P.A.); Repasky, Steve (S.)

Cc: Bleau, Serge (R.); Martin, Richard (R.); St Germain, Claude (C.M.)

Subject: FW: I: File 2005 FFF, 2005 F250 4X4 front end shudder. Vin 1FTSW21575E[redacted]31,460 Kms, Dealer Auto Dalton B2321.

Importance: High

Gentlemen,

We have our first unfixable. Please review the note below and advise if you have any other suggestions for Claude.

Also, would you entertain another trip to Canada to witness this unfixable and aid in the resolution?

"Accelerate Growth Through Customer Satisfaction and Loyalty"

Alex Snider
Ford Motor Company of Canada
Technical Service Support Specialist
Outlook ID: asnider@ford.com
Dial net: 853-1485
Outside #: 905-845-2511, ext: 1485

-----Original Message-----

From: St Germain, Claude (C.M.)

Sent: Thursday, October 06, 2005 10:38 PM

To: Snider, Alex (A.)

Cc: Martin, Richard (R.); Lessard, Bertrand (B.); Corbeil, Martin (M.)

Subject: I: File 2005 FFF, 2005 F250 4X4 front end shudder. Vin 1FTSW21575E[redacted], 31,460 Kms, Dealer Auto Dalton B2321.

Alex,
here is the info on the King Ranch unit I have been working with.

Customer Concern:

Customer concern is a severe shudder / Shimmy on front end when drives over bump and or deformations on paved road at approx 100 to 115 kms an hour of which started at approx 23,000 Kms and at around Aug 10th 2005.

Vehicle info is as follows:

2005 F-250 4X4 Crew Cab, Short Box, King Ranch Edition.
Vin: 1FTSW21575E[redacted],
Kms: 31,460
Engine: 5.4L
Tires: Continental, LT 275 / 70 / R18
Frt Springs: 5C34 5310 AEB Tag 5AE,
Frt Shocks: 5C34 18045 PDD
Tire Press spec: 65 PSI

Dealer Info Is:
Automobiles Dalton Inc,
B2321
St Raymond , Quebec
G3L 4A8
Phone: (418) 337 2256
Contact: Jean Luc Plamondon

Alignment spec before Ball joints replaced:

Caster: Left: 2.28
Right: 1.92

Alignment Spec After Ball Joint Replacement and present :

Caster: Left: 2.4
Right: 2.3

Items done to correct situation so far:

Tried B.F.Goodrich tires and wheels 17 Inch. (B.F. Goodrich Rugged Trail T/A LT265 70 R 17)
TSB For steer box tightening done
Steering box was replaced approx 2600 Kms ago
Steering dampener was replaced
2 Front shocks were replaced and also substituted with Diesel engine application shocks

Drag link was replaced
All four ball joints were replaced
Caster shims used were one CCC and One DDD to get above caster spec.
All necessary parts were torqued to spec on Complete front end including The radius arms.
Approx 1000 Kms were done in road tests with this unit with over $200.00 of Fuel used as per dealer.

Alex, as mentioned , out of all approx 10 to 15 units I have done this is the only one I cannot correct?,
I am not sure where else to go on this one let me know if there is any thing else you can think of.
I have also gone thru the TSB draft with this unit and done all but the actual Steering wheel replacement for the minor Shimmy of which this one is not the minor shimmy.

Note: I have attached the following 3 Photos here are their descriptions:
26 Door Post Decal
27 Original Wheel And Tire assy
28 Side View of truck
<< File: MVC-026F.JPG >> << File: MVC-027F.JPG >> << File: MVC-028F.JPG >>

From: Airington, Connie (C.G.)
Sent: Monday, February 21, 2005 9:46 AM
To: Hale, Curt (B.C.)
Cc: O'Connor, Tammy (T.A.); Johnston, Steven (S.J.)
Subject: RE: LOOSE CONTROL WHEN HITTING BUMPS

Hi Curt,

How was your weekend?

I road tested 3 out of the 4 units this fleets vehicle last week. My results:

( ) – Repairs performed by Sewell Ford prior to my visit today

BOLD – Repair recommendations, awaiting dealership feedback for repairs performed.

1FTSX21505E[redacted] MILEAGE IS 10981, O5 F250 SuperCab
(THIS VEHIC[redacted]HAVE BEEN UNABLE TO DUPLICATE CONCERN, QUESTION IS, DID THIS VEHICLE HAVE THIS CONCERN WHEN FIRST PUT IN SERVICE?)

· 2/16/2005 – Road test performed with Arthur for verification of wheel oscillation.

· Minimal oscillation felt during verification road test

· Recommend replacing steering stabilizer- current stabilizer (visual inspection) had some moisture/leakage. Road test after repair performed.

1FTSX21595E[redacted] MILEAGE IS 7933 05 F250 SuperCab (THIS ONE HAD THE STABILIZER SHOCK REPLACED LE[redacted]AND HAD ALIGNMENT DONE WILL FAX SPECS TO YOU.

· 2/16/2005 – No road test performed today

· Vehicle is still being adjusted for gear meshload and possible further recommendations after meshload adjustment and road test are performed.

1FTSX21515EA[redacted] MILEAGE 5385; 05 F250 SuperCab (HAD MESH ADJUSTED STILL HAS CONCERN)

· 2/16/2005 – Road test performed with customer/driver- Ronnie, Service Manager- Arthur, Shop Foreman-Randy and myself.

· Road test took 2 + hours, driving around attempting to find the right size of hole/road imperfection.

· Concern was verified when the customer drove 70 mph with cruise ON, then contacting right front wheel across a large hole in the road. Wheel oscillation was felt, oscillation floating across entire front of vehicle, however there was no loss of steering.

· Concern verified, road tested #47211 and #13158 through a similar road test over the same hole for wheel oscillation verification. Neither of these units displayed the aggressive front end oscillation as this unit did.

· Working with Arthur and Randy with further diagnostics to determine cause of wheel oscillation.

CURRENTLY WAITING ON FRONT COIL SPRINGS TO SEE IF THIS MAKES A CHANGE.

1FTSX21545E[redacted] MILEAGE 12746; 05 F250 SuperCab; (COMPLTETED TSB 04-26-01 – adjusted steering ge[redacted]hload and replaced steering stabilizer)

· 2/16/2005 – Road test performed with Arthur for wheel oscillation.

· Wheel oscillation not felt or duplicated, vehicle repaired.

I know I asked about this concern with you earlier, but after performing these road tests I have some more questions. This particular fleet operates there vehicles over washboard dirt roads most of the time and they do some highway driving. Any ideas on why steering stabilizer are leaking/failing so early? The one vehicle only had 5,300 miles on it. Your thoughts?

NOTE: I did drive a 'brand new' vehicle with the same configuration as the above vehicles, super cab, 4x4, short wheel base and the 5.4L engine and it DID NOT display the concern when hitting/driving across the large hole in the road.

Thanks,

Connie Airington
Field Service Engineer
Ford Customer Service Division
Voicemail & FAX @ (972) 334-1791
cairingt@ford.com

-----Original Message-----
From: Hale, Curt (B.C.)
Sent: Tuesday, February 01, 2005 6:38 AM
To: Airington, Connie (C.G.)
Subject: RE: LOOSE CONTROL WHEN HITTING BUMPS

This sound like a normal characteristic.

-----Original Message-----
From: Airington, Connie (C.G.)
Sent: Monday, January 31, 2005 10:41 PM
To: Hale, Curt (B.C.)
Cc: O'Connor, Tammy (T.A.)
Subject: RE: LOOSE CONTROL WHEN HITTING BUMPS

I have set an appointment to inspect these four vehicles on Feb 16th in Odessa, TX. The concern is not with the steering wheel movement, the concern is with the front tire oscillation (up & down-if you drop down the drivers window and look outside you can observe the oscillation) when vehicle is traveling at highway speeds and contacts a bump.

I had the Assistant Service Manager drive all four vehicles and only one concerns him being on the extreme. I have them currently checking out what the Select Dealer did as a repair, but as I get updates I will keep you up to date.

Thanks for your help,

Connie Airington
Field Service Engineer

Ford Customer Service Division
Voicemail & FAX @ (972) 334-1791
cairingt@ford.com

-----Original Message-----
From: Hale, Curt (B.C.)
Sent: Friday, January 28, 2005 2:38 PM
To: Airington, Connie (C.G.)
Cc: O'Connor, Tammy (T.A.)
Subject: RE: LOOSE CONTROL WHEN HITTING BUMPS

I suspect that this is a normal condition. About all that can be done is a meshload adjustment. Also verify that the front tires are not over inflated.

-----Original Message-----
From: Airington, Connie (C.G.)
Sent: Friday, January 28, 2005 3:18 PM
To: O'Connor, Tammy (T.A.)
Cc: Airington, Connie (C.G.)
Subject: FW: LOOSE CONTROL WHEN HITTING BUMPS

Here are the VIN's for the fleet customer who has a concern with loosing control when hitting bumps. Fleet company states that the vehicle are not drivable.

Connie Airington
Field Service Engineer
Ford Customer Service Division
Voicemail & FAX @ (972) 334-1791
cairingt@ford.com

-----Original Message-----
From: Arthur [mailto:arthurm@sewellford.com]
Sent: Friday, January 28, 2005 8:39 AM
To: Airington, Connie (C.G.)
Subject: LOOSE CONTROL WHEN HITTING BUMPS

VIN #'S
1FTSX21505E[redacted]
1FTSX21545E[redacted]
1FTSX21515E[redacted]
1FTSX21595E[redacted]

From: Nielsen, Joel (.)
Sent: Thursday, February 15, 2007 5:34 PM
To: Choe, Mark (M.J.)
Cc: O'Connor, Tammy (T.A.); Repasky, Steve (S.)
Subject: RE: New dampener - revised TSB

Does the team recommend doing the complete TSB step by step again (with the new part number) or just replace the dampener and bracket?

Joel

Joel Nielsen
Commercial Area Field Manager
Ford Customer Service Division - SW Market
ph 281-788-0921 / fax 281-651-2362
jnielse1@ford.com

From: Choe, Mark (M.J.)
Sent: Wednesday, February 14, 2007 4:50 PM
To: O'Connor, Tammy (T.A.); Repasky, Steve (S.); Nielsen, Joel (.)
Cc: Gompper, Dan (D.B.)
Subject: RE: New dampener - revised TSB

I agree that we should go forward with updating customer units asap and not wait for the offical release.

Steve/Tammy, pls. coordinate Joel to ge this done.
Thanks.

Mark J. Choe
Vehicle Dynamics Manager
Body on Frame Programs

From: O'Connor, Tammy (T.A.)
Sent: Tuesday, February 13, 2007 9:53 AM
To: Repasky, Steve (S.); Nielsen, Joel (.)
Cc: Gompper, Dan (D.B.)
Subject: RE: New dampener - revised TSB

<< Message: TSB Courtesy Copy: [redacted] 2005-2007 F-Super Duty - Steering Wheel Oscillation >>
Here is a DRAFT of the new TSB -with the part numbers. Please be advised that the text of the TSB may change before it is officially published.

Tammy A. O'Connor
Product Concern Engineer
FCSD Service Engineering Operations
Super Duty F-Series
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Repasky, Steve (S.)

Sent: Tuesday, February 13, 2007 9:51 AM
To: O'Connor, Tammy (T.A.); Nielsen, Joel (.)
Cc: Gompper, Dan (D.B.)
Subject: RE: New dampener - revised TSB

If the parts are available through FCSD warehouse, I don't see any reason to wait for the official release of the TSB unless it causes a problem with paying for the repair? .

Joel - Do you have the correct part numbers for the repair?

From: O'Connor, Tammy (T.A.)
Sent: Tuesday, February 13, 2007 8:34 AM
To: Nielsen, Joel (.)
Cc: Repasky, Steve (S.)
Subject: RE: New dampener - revised TSB

The revised TSB with the new steering damper should be out by early next week at the latest (possibly by the end of this week).

Tammy A. O'Connor
Product Concern Engineer
FCSD Service Engineering Operations
Super Duty F-Series
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Nielsen, Joel (.)
Sent: Monday, February 12, 2007 6:41 PM
To: O'Connor, Tammy (T.A.)
Cc: Repasky, Steve (S.)
Subject: New dampener - revised TSB

Tammy,

I have a fleet that has been very patient on this oscillation matter and has had at least two trucks demonstrate the concern on multiple occasions with a TSB completed and tire pressure checked daily.

I wish to move ahead with the use for the revised dampener (per forthcoming TSB). Will the TSB released any day? The fleet currently has both units at dealerships awaiting a repair. I informed them we have a new dampener coming out and that I would get the part installed through the new TSB or dialogue with the dealer.

Here is the e-mail sting and vins. Both have repair history in AWS. Please let me know if I can proceed to advise the dealer to order the parts:

Joel Nielsen
Commercial Area Field Manager
Ford Customer Service Division - SW Market
ph 281-788-0921 / fax 281-651-2362
jnielse1@ford.com

From: Garry Collins
Sent: Sunday, February 11, 2007 1:54 PM
To: Doug Schonberner
Cc: Scott Snyder

Subject: RE: Steering Dampener

[redacted] vehicle is PN 175825 **VIN 1FTSX2156SE[redacted]. The dealership is Grand Prairie Ford in Grand Prairie Phone is 972-859-5400

Garry K Collins
Captain Game Warden
Texas Parks and Wildlife
346 Oaks Trail Suite 100
Garland, Texas 75043
972-226-9966
Fax 972-226-2926

From: Doug Schonberner
Sent: Friday, February 09, 2007 9:29 AM
To: Scott Snyder; Garry Collins; Rick Medford
Subject: RE: Steering Dampener

To clarify, I don't need you to choose the part number. Just provide the property numbers so we can pull the VIN and provide it to Ford. We also need you to provide us the dealership name, city, phone number, that you will be taking the truck.

Thanks for heading this up Scott!

Doug

Here is another one.

Scott Snyder

Asst. Fleet Manager

Texas Parks and Wildlife

(512) 389-8668 Office

[redacted]

(512) 389-8669 Fax

From: Rick Medford
Sent: Sunday, February 11, 2007 7:15 PM
To: Doug Schonberner; Scott Snyder
Subject: FW: Steering Dampener

Doug and Scott,

Here's the information you've requested regarding Trent Herchman's Ford, F250.

1 Ford, F250-----currently with 42,000 miles

2 Property #------175806

3 VIN #------1FTSX21595E[redacted]

4 Dealership------Larry Slack Ford

5 City----------Bowie, TX

6 Phone----------940-872-1133

Joel Nielsen

Commercial Area Field Manager
Ford Customer Service Division - SW Market
ph 281-788-0921 / fax 281-651-2362
jnielse1@ford.com

From: Hornick, Paul (P.A.)
Sent: Monday, October 31, 2005 1:46 PM
To: O'Connor, Tammy (T.A.)
Cc: Hornick, Paul (P.A.)
Subject: RE: New Shock part numbers

Tammy,

Supplier shipping 18 this week, 100 next, balance of 200 no later than w/o 11/2.1

Paul Hornick
QSF/Recall Parts Specialist
FCSD, PS&L ,Supply Chain
MD-22 2119A
Tel. 734-266-9917
Fax. 734-523-5628
Email: phornick@ford.com

-----Original Message-----
From: Hornick, Paul (P.A.)
Sent: Monday, October 31, 2005 9:12 AM
To: O'Connor, Tammy (T.A.)
Cc: Hornick, Paul (P.A.)
Subject: RE: New Shock part numbers

Tammy,

Supplier w/a best timing for 200- 300 asap.

Paul Hornick
QSF/Recall Parts Specialist
FCSD, PS&L ,Supply Chain
MD-22 2119A
Tel. 734-266-9917
Fax. 734-523-5628
Email: phornick@ford.com

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Monday, October 31, 2005 9:09 AM
To: Hornick, Paul (P.A.)
Subject: RE: New Shock part numbers

I would say 200-300 at most. Thanks.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical

248/814-8698 Telecommuting Office (Mon,Wed,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Thursday)

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-----Original Message-----
From: Hornick, Paul (P.A.)
Sent: Monday, October 31, 2005 9:08 AM
To: O'Connor, Tammy (T.A.)
Subject: RE: New Shock part numbers

Tammy,

How many do we need above the normal sales of the previous/replaced level?

Paul Hornick
QSF/Recall Parts Specialist
FCSD, PS&L ,Supply Chain
MD-22 2119A
Tel. 734-266-9917
Fax. 734-523-5628
Email: phornick@ford.com

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Thursday, October 27, 2005 4:02 PM
To: Hornick, Paul (P.A.)
Cc: Hale, Curt (B.C.)
Subject: New Shock part numbers

Paul:

When can we get some of these in stock, I'm going to submit an early parts request.

SMMPGPMA Global Part Information 10/27/05 15:58:28
===> _____ _____
SERVICE PART: 6C3Z- 18124-PBA__ SHOCK ABSORBER ASY
ENGINEERING PART: 6C34 18045 PBA_____ ORIGIN: WERS
SUPPLIER LOC: FINIS: 4763138
Vendor Part: Fam Buy:
Motorcraft Part: ASH- 959- Prime Suplr: M715B
Comparable Part: Packager Cd: H751B
Replaced Part: Mat Content:
Replacing Part: Ship Mlt: 0
Buyer: 2E1 MIKE KELLY NBA Phone: 734-266-9872
Dmnd Anlyst: N1A GENE BUSSE NDA Phone: 734-523-5612
Prod Anlyst: 201 MICHAEL BRETSIK NPA Phone: 734-45-80060
Price Anlyst: I89 DAN FREMER Profs ID: DFREMER
Color Name: Pallet Qty: 0
Pnd Obs: Svc Disp: Unit Issue: 1 Overpack Qty: 0
Obs Not: Mech Ob Cd: Trfc Cd: 79 Max Ord Qty: 0

```
Obs Eff:        Procure Cd: 3 Hvy Trk App/Cd: 2 /   Min Run Qty:       0
Eff In:  12/05/05 Rlse Hld:   N Fab/Hold:    N       Min Ship Qty:      0
Eff Out: 10/02/06 Final Rlse: N Wgt UOM:             Package Wgt:       0.00
Ord Dte: 12/05/05 Spec Pgm:   N Dir Ship:            Standard Cst:      0.00
Commdty: 040301   Volume Grp: C Rack/Plt:             Dealer Net:        0.00
F1=Help  F2=GIMA  F4=PrvPart  F5=NxtPart  F6=PIGA  F9=DEEA  F10=HIIA  F11=ARFA
RECORD FOUND                                                  PD01143
--------------------------------------------------------------------------------
SMMPGPMA              Global Part Information          10/27/05 15:59:59
===> _________ ____________________________________________________
SERVICE PART:     6C3Z-   18125-KBA__     SHOCK ABSORBER ASY
ENGINEERING PART:  6C34    18080 KBA_____________     ORIGIN:     WERS
SUPPLIER LOC:                                FINIS:      4763150
Vendor Part:                                Fam Buy:
Motorcraft Part:   ASH-     961-                 Prime Suplr: M715B
Comparable Part:                              Packager Cd: H751B
Replaced Part:                               Mat Content:
Replacing Part:                              Ship Mlt:        0
Buyer:       2E1 MIKE KELLY                      NBA Phone:   734-266-9872
Dmnd Anlyst:  N1A GENE BUSSE                     NDA Phone:   734-523-5612
Prod Anlyst:  201 MICHAEL BRETSIK                NPA Phone:   734-45-80060
Price Anlyst: I89 DAN FREMER                      Profs ID:    DFREMER
Color Name:                                  Pallet Qty:        0
Pnd Obs:         Svc Disp:     Unit Issue:     1     Overpack Qty:       0
Obs Not:         Mech Ob Cd:   Trfc Cd:       79     Max Ord Qty:        0
Obs Eff:        Procure Cd: 3 Hvy Trk App/Cd: 2 /   Min Run Qty:       0
Eff In:  12/05/05 Rlse Hld:   N Fab/Hold:    N       Min Ship Qty:      0
Eff Out: 10/02/06 Final Rlse: N Wgt UOM:             Package Wgt:       0.00
Ord Dte: 12/05/05 Spec Pgm:   N Dir Ship:            Standard Cst:      0.00
Commdty: 040302   Volume Grp: C Rack/Plt:             Dealer Net:        0.00
F1=Help  F2=GIMA  F4=PrvPart  F5=NxtPart  F6=PIGA  F9=DEEA  F10=HIIA  F11=ARFA
RECORD FOUND                                                  PD01143
```

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
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-----Original Message-----
From: Joseph, Charles (C.A.)
Sent: Thursday, October 27, 2005 3:47 PM
To: O'Connor, Tammy (T.A.); Mayer, Paul (P.A.)
Cc: Repasky, Steve (S.)
Subject: RE: Report Summary for the CQIS Report# [redacted] -- Not Steering shimmy issue --

After our discussion with Rick I am now clear on what you need Rick indicates that this is a FX4 package and therefore would get a Rancho shock: the engineering numbers for e front are 6C34-

18045-PBA and for e Rear they are 6C34-18080- KBA.

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Thursday, October 27, 2005 9:43 AM
To: Mayer, Paul (P.A.); Joseph, Charles (C.A.)
Cc: Repasky, Steve (S.)
Subject: RE: Report Summary for the CQIS Report# [redacted] -- Not Steering shimmy issue --

Do you have the Engineering part number yet?

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
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-----Original Message-----
From: Mayer, Paul (P.A.)
Sent: Thursday, October 20, 2005 12:35 PM
To: Joseph, Charles (C.A.)
Cc: Repasky, Steve (S.); O'Connor, Tammy (T.A.)
Subject: RE: Report Summary for the CQIS Report# [redacted] -- Not Steering shimmy issue --

Chuck, can you please send Tammy the part numbers for the new 142" 4x4 configuration shocks

see below notes for background

Regards
Paul Mayer
Truck Suspension and Systems Analysis
313-248-9202 Fax:313-317-2349

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Thursday, October 20, 2005 11:05 AM
To: Repasky, Steve (S.)
Cc: Hale, Curt (B.C.); Mayer, Paul (P.A.); Knapp, David (D.); Grozier, Brian (B.D.); Baghdoian, Mitch (M.R.)
Subject: RE: Report Summary for the CQIS Report# [redacted] -- Not Steering shimmy issue --

Steve: We would like to write an ISM with the service part numbers for the new shocks when they become available. Do you have an Engineering part number yet?

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion

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-----Original Message-----
From: Repasky, Steve (S.)
Sent: Wednesday, October 19, 2005 11:55 AM
To: O'Connor, Tammy (T.A.); Baghdoian, Mitch (M.R.); Choe, Mark (M.J.)
Cc: Hale, Curt (B.C.); Mayer, Paul (P.A.); Knapp, David (D.); Grozier, Brian (B.D.)
Subject: RE: Report Summary for the CQIS Report# [redacted] -- Not Steering shimmy issue --

Tammy - Thanks for the note. From the VIN, the vehicle is a 5.4L 142" F350 4x4. The noted concern appears to be related to overall harsh ride and steering wheel ringdown (lesser amplitude than wheel fight).

For harsh ride, PD has developed new shock codes for the 142" 4x4 configuration that are expected to be PSW'd on Oct. 24, 2005 to support Superduty 2006 J#2 4PP builds (J#2 is Dec. 2005). These may be available on a limited basis to handle customer concerns.

PD is also currently working to diminish ring down with Engine and Body mount revisions as well as some potential frame changes. However, these would be longer term fixes and not readily available.

I will try to call Brian today to discuss the concern. Thanks..

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Wednesday, October 19, 2005 9:52 AM
To: Repasky, Steve (S.); Baghdoian, Mitch (M.R.)
Cc: Grozier, Brian (B.D.); Hale, Curt (B.C.); Snider, Alex (A.); Mayer, Paul (P.A.); Knapp, David (D.)
Subject: FW: Report Summary for the CQIS Report# [redacted] -- Not Steering shimmy issue --

Steve/Mitch:

Below is a CQIS report from FSE Brian Grozier. We discussed this issue on Monday afternoon in our CMT meeting. Brian says he has driven several trucks with this issue. Brian specifically says it is not the steering shimmy issue. However, the TSB was done and it made little, if no difference. I have seen a few other reports which describe it as a Hop or harsh ride. Several or the reports mention frame flexing/bouncing?

Any recommendations/comments would be appreicated. Please feel free to contact Brian directly also.

Tammy A. O'Conno
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion

Body / Chassis / Electrical
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-----Original Message-----
From: Grozier, Brian (B.D.)
Sent: Wednesday, October 19, 2005 9:40 AM
To: O'Connor, Tammy (T.A.)
Subject: Report Summary for the CQIS Report#[redacted]

one of my road test shimmy/shake/shudder

Attachments : 0

Report# :	5JSDA004 FCSDFS			**Received:**	10/19/2005
CCRG/EPRC:		**Reviewed Status:**		**Date:**	
Vehicle:	2005,F350 4X4,SUP CAB,PICKUP ,1FTWX31525F[redacted]			**Build Date:**	03/04/2005
Odometer :	1,286 M	**Engine:**	MOD 5.4 3V	**Calibration:**	5F714C0A
Transmission:	5R110W	**Axle:**		**A/C:**	YES
Dealer:	USA 09131 Muzi Motors Inc			**Phone#:**	(617) 444-5300
City:	Needham Heights	**State:**	Massachusett	**Country :**	USA
Originator:					
Symptom:	3 05 9 99 CHASS.,FRAME CONCERNS,NOT LISTED,OTHER				
Status:					
VFG:	V44 MECHANICAL MALFUNCT INDICATION				
Additional Symptom:	SHUDDER OVER BUMPS				
Fix:	**Causal Component :**				
Condition Code:					

Region Code: 11 **Region Name:** Boston -11

Comments :

VERIFY 10/19/2005 09:36AM BRIAN GROZIER MSS - FCSD - REG - BOSTON
CUSTOMER IS COMPLAINING OF A SHIMMY/SHUDDER OVER BUMPS WHEN DRIVEN
EMPTY. ROAD TEST FOUNF TIRES TO HAVE FLAT SPOTS FOR THE FIRST 20
MILES, THEN WHILE GOING AT HIGHWAY SPEEDS TRUCK WAS DETRMINED TO HAVE

A SHUDDER IN FRMAE WHEN HITTTING LARGE BUMPS IN ROAD. CONCERN FEELS

LIKE AS IF YOU COULD BE SITTING ON THE END OF A DIVING BOARD AFTER THE

SPRING ACTION WAS ACTIVIATED. CONCERN IS A CHARACTERISTIC OF THE

VEHICLE WHEN DRIVEN UN LOADED.

From: Grozier, Brian (B.D.)
Sent: Monday, November 07, 2005 3:33 PM
To: O'Connor, Tammy (T.A.)
Subject: RE: New Shock part numbers

Thanks! I had the dealer order the shocks just moments ago!
-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Monday, November 07, 2005 3:08 PM
To: Repasky, Steve (S.)
Cc: Grozier, Brian (B.D.)
Subject: RE: New Shock part numbers

Steve: In our CMT meeting this afternoon, Brian mentioned that one of your guys mentioned that he would ship a dealer a set of these shocks -- do you know if that's been done?

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Wed,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Thursday)

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-----Original Message-----
From: Repasky, Steve (S.)
Sent: Friday, October 28, 2005 9:39 AM
To: O'Connor, Tammy (T.A.)
Subject: RE: New Shock part numbers

They are planned for Job#2 production in Dec. 2005. The shocks were PSW'd on 10/21 in order to meet an IPD for the 4P build program.

The ride was improved with revised shock tuning. If specifice internal changes are needed, let me know.

As far as I know, they can be used on 2005 vehicles. The Job#2 start date probably impacts service availability? D&R engineer would know. Thanks..

PS - Mitch and I talked to Alan Fass this AM.

-----Original Message-----
From: O'Connor, Tammy (T.A.)

Sent: Thursday, October 27, 2005 4:06 PM
To: Repasky, Steve (S.)
Subject: FW: New Shock part numbers

Steve: Just a couple of questions on these shocks?

Are they going into production?

What is the difference between what is on the truck and these new shocks?

They are not released for 2005 for Service. Can they be used on a 2005 truck? If so, can WERS be corrected to reflect this usage?

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Wed,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Thursday)

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-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Thursday, October 27, 2005 4:02 PM
To: Hornick, Paul (P.A.)
Cc: Hale, Curt (B.C.)
Subject: New Shock part numbers

Paul:

When can we get some of these in stock, I'm going to submit an early parts request.

SMMPGPMA Global Part Information 10/27/05 15:58:28
===> _____ _____
SERVICE PART: 6C3Z- 18124-PBA__ SHOCK ABSORBER ASY
ENGINEERING PART: 6C34 18045 PBA_____ ORIGIN: WERS
SUPPLIER LOC: FINIS: 4763138
Vendor Part: Fam Buy:
Motorcraft Part: ASH- 959- Prime Suplr: M715B
Comparable Part: Packager Cd: H751B
Replaced Part: Mat Content:
Replacing Part: Ship Mlt: 0
Buyer: 2E1 MIKE KELLY NBA Phone: 734-266-9872
Dmnd Anlyst: N1A GENE BUSSE NDA Phone: 734-523-5612
Prod Anlyst: 201 MICHAEL BRETSIK NPA Phone: 734-45-80060
Price Anlyst: I89 DAN FREMER Profs ID: DFREMER
Color Name: Pallet Qty: 0
Pnd Obs: Svc Disp: Unit Issue: 1 Overpack Qty: 0
Obs Not: Mech Ob Cd: Trfc Cd: 79 Max Ord Qty: 0

```
Obs Eff:        Procure Cd: 3 Hvy Trk App/Cd: 2 /  Min Run Qty:       0
Eff In:  12/05/05 Rlse Hld:   N Fab/Hold:    N      Min Ship Qty:      0
Eff Out: 10/02/06 Final Rlse: N Wgt UOM:           Package Wgt:       0.00
Ord Dte: 12/05/05 Spec Pgm:   N Dir Ship:          Standard Cst:      0.00
Commdty: 040301   Volume Grp: C Rack/Plt:           Dealer Net:       0.00
F1=Help  F2=GIMA  F4=PrvPart  F5=NxtPart  F6=PIGA  F9=DEEA  F10=HIIA  F11=ARFA
RECORD FOUND                                                PD01143
--------------------------------------------------------------------------------
SMMPGPMA              Global Part Information          10/27/05 15:59:59
===> _________ ____________________________________________________
SERVICE PART:     6C3Z-  18125-KBA__     SHOCK ABSORBER ASY
ENGINEERING PART:  6C34   18080 KBA___________     ORIGIN:     WERS
SUPPLIER LOC:                            FINIS:      4763150
Vendor Part:                            Fam Buy:
Motorcraft Part:   ASH-    961-              Prime Suplr: M715B
Comparable Part:                          Packager Cd: H751B
Replaced Part:                           Mat Content:
Replacing Part:                          Ship Mlt:       0
Buyer:       2E1 MIKE KELLY                NBA Phone:   734-266-9872
Dmnd Anlyst:  N1A GENE BUSSE               NDA Phone:   734-523-5612
Prod Anlyst:  201 MICHAEL BRETSIK          NPA Phone:   734-45-80060
Price Anlyst: I89 DAN FREMER                Profs ID:    DFREMER
Color Name:                              Pallet Qty:       0
Pnd Obs:        Svc Disp:    Unit Issue:    1    Overpack Qty:      0
Obs Not:        Mech Ob Cd:  Trfc Cd:      79    Max Ord Qty:       0
Obs Eff:        Procure Cd: 3 Hvy Trk App/Cd: 2 /  Min Run Qty:       0
Eff In:  12/05/05 Rlse Hld:   N Fab/Hold:    N      Min Ship Qty:      0
Eff Out: 10/02/06 Final Rlse: N Wgt UOM:           Package Wgt:       0.00
Ord Dte: 12/05/05 Spec Pgm:   N Dir Ship:          Standard Cst:      0.00
Commdty: 040302   Volume Grp: C Rack/Plt:           Dealer Net:       0.00
F1=Help  F2=GIMA  F4=PrvPart  F5=NxtPart  F6=PIGA  F9=DEEA  F10=HIIA  F11=ARFA
RECORD FOUND                                                PD01143
```

Tammy A. O'Connor
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FCSD, Service Engineering Operations
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-----Original Message-----
From: Joseph, Charles (C.A.)
Sent: Thursday, October 27, 2005 3:47 PM
To: O'Connor, Tammy (T.A.); Mayer, Paul (P.A.)
Cc: Repasky, Steve (S.)
Subject: RE: Report Summary for the CQIS Report# [redacted] -- Not Steering shimmy issue --

After our discussion with Rick I am now clear on what you need Rick indicates that this is a FX4 package and therefore would get a Rancho shock: the engineering numbers for e front are 6C34-

18045-PBA and for e Rear they are 6C34-18080- KBA.

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Thursday, October 27, 2005 9:43 AM
To: Mayer, Paul (P.A.); Joseph, Charles (C.A.)
Cc: Repasky, Steve (S.)
Subject: RE: Report Summary for the CQIS Report# [redacted] -- Not Steering shimmy issue --

Do you have the Engineering part number yet?

Tammy A. O'Connor
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-----Original Message-----
From: Mayer, Paul (P.A.)
Sent: Thursday, October 20, 2005 12:35 PM
To: Joseph, Charles (C.A.)
Cc: Repasky, Steve (S.); O'Connor, Tammy (T.A.)
Subject: RE: Report Summary for the CQIS Report# [redacted] -- Not Steering shimmy issue --

Chuck, can you please send Tammy the part numbers for the new 142" 4x4 configuration shocks

see below notes for background

Regards
Paul Mayer
Truck Suspension and Systems Analysis
313-248-9202 Fax:313-317-2349

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Thursday, October 20, 2005 11:05 AM
To: Repasky, Steve (S.)
Cc: Hale, Curt (B.C.); Mayer, Paul (P.A.); Knapp, David (D.); Grozier, Brian (B.D.); Baghdoian, Mitch (M.R.)
Subject: RE: Report Summary for the CQIS Report# [redacted] -- Not Steering shimmy issue --

Steve: We would like to write an ISM with the service part numbers for the new shocks when they become available. Do you have an Engineering part number yet?

Tammy A. O'Connor
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-----Original Message-----
From: Repasky, Steve (S.)
Sent: Wednesday, October 19, 2005 11:55 AM
To: O'Connor, Tammy (T.A.); Baghdoian, Mitch (M.R.); Choe, Mark (M.J.)
Cc: Hale, Curt (B.C.); Mayer, Paul (P.A.); Knapp, David (D.); Grozier, Brian (B.D.)
Subject: RE: Report Summary for the CQIS Report# [redacted] -- Not Steering shimmy issue --

Tammy - Thanks for the note. From the VIN, the vehicle is a 5.4L 142" F350 4x4. The noted concern appears to be related to overall harsh ride and steering wheel ringdown (lesser amplitude than wheel fight).

For harsh ride, PD has developed new shock codes for the 142" 4x4 configuration that are expected to be PSW'd on Oct. 24, 2005 to support Superduty 2006 J#2 4PP builds (J#2 is Dec. 2005). These may be available on a limited basis to handle customer concerns.

PD is also currently working to diminish ring down with Engine and Body mount revisions as well as some potential frame changes. However, these would be longer term fixes and not readily available.

I will try to call Brian today to discuss the concern. Thanks..

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Wednesday, October 19, 2005 9:52 AM
To: Repasky, Steve (S.); Baghdoian, Mitch (M.R.)
Cc: Grozier, Brian (B.D.); Hale, Curt (B.C.); Snider, Alex (A.); Mayer, Paul (P.A.); Knapp, David (D.)
Subject: FW: Report Summary for the CQIS Report# [redacted] -- Not Steering shimmy issue --

Steve/Mitch:

Below is a CQIS report from FSE Brian Grozier. We discussed this issue on Monday afternoon in our CMT meeting. Brian says he has driven several trucks with this issue. Brian specifically says it is not the steering shimmy issue. However, the TSB was done and it made little, if no difference. I have seen a few other reports which describe it as a Hop or harsh ride. Several or the reports mention frame flexing/bouncing?

Any recommendations/comments would be appreicated. Please feel free to contact Brian directly also.

Tammy A. O'Conno
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-----Original Message-----
From: Grozier, Brian (B.D.)
Sent: Wednesday, October 19, 2005 9:40 AM
To: O'Connor, Tammy (T.A.)
Subject: Report Summary for the CQIS Report#[redacted]

one of my road test shimmy/shake/shudder

Attachments : 0

Report# :	[redacted] FCSDFS			**Received:**	10/19/2005
CCRG/EPRC:		**Reviewed Status:**		**Date:**	
Vehicle:	2005,F350 4X4,SUP CAB,PICKUP ,1FTWX31525E[redacted]			**Build Date:**	03/04/2005
Odometer :	1,286 M	**Engine:**	MOD 5.4 3V	**Calibration:**	5F714C0A
Transmission:	5R110W	**Axle:**		**A/C:**	YES
Dealer:	USA 09131 Muzi Motors Inc			**Phone#:**	(617) 444-5300
City:	Needham Heights	**State:**	Massachusett	**Country :**	USA
Originator:					
Symptom:	3 05 9 99 CHASS.,FRAME CONCERNS,NOT LISTED,OTHER				
Status:					
VFG:	V44 MECHANICAL MALFUNCT INDICATION				
Additional Symptom:	SHUDDER OVER BUMPS				
Fix:	**Causal Component :**				
Condition Code:					

Region Code: 11 **Region Name:** Boston -11

Comments :

VERIFY 10/19/2005 09:36AM BRIAN GROZIER MSS - FCSD - REG - BOSTON
CUSTOMER IS COMPLAINING OF A SHIMMY/SHUDDER OVER BUMPS WHEN DRIVEN
EMPTY. ROAD TEST FOUNF TIRES TO HAVE FLAT SPOTS FOR THE FIRST 20 MILES, THEN WHILE GOING AT HIGHWAY SPEEDS TRUCK WAS DETRMINED TO HAVE

A SHUDDER IN FRMAE WHEN HITTTING LARGE BUMPS IN ROAD. CONCERN

FEELS
LIKE AS IF YOU COULD BE SITTING ON THE END OF A DIVING BOARD AFTER THE
SPRING ACTION WAS ACTIVIATED. CONCERN IS A CHARACTERISTIC OF THE
VEHICLE WHEN DRIVEN UN LOADED.

From: Nielsen, Joel (.)
Sent: Thursday, February 22, 2007 11:46 AM
To: O'Connor, Tammy (T.A.)
Subject: RE: new tsb for game warden

Tammy,

The dealer has not yet heard from anyone - will someone be calling the dealer or will someone provide me details? I prefer direct contact with the dealer and the tech who will be doing the repair so as not to lose anything in translation.

Will this work?

Joel

Joel Nielsen

Commercial Area Field Manager

Ford Customer Service Division - SW Market

ph 281-788-0921 / fax 281-651-2362

jnielse1@ford.com

From: O'Connor, Tammy (T.A.)
Sent: Thursday, February 22, 2007 8:48 AM
To: Hasselbring, D Blake (D.B.); Repasky, Steve (S.); Gompper, Dan (D.B.)
Cc: Nielsen, Joel (.)
Subject: RE: new tsb for game warden

Sorry - shimmy.

Tammy A. O'Connor
Product Concern Engineer
FCSD Service Engineering Operations
Super Duty F-Series
Body / Chassis / Electrical
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From: Hasselbring, D Blake (D.B.)
Sent: Thursday, February 22, 2007 9:38 AM
To: O'Connor, Tammy (T.A.); Repasky, Steve (S.); Gompper, Dan (D.B.)
Cc: Nielsen, Joel (.)
Subject: RE: new tsb for game warden

Tammy,

Could you tell us which TSB this concern refers to? Thanks!

D. Blake Hasselbring
Truck Vehicle Dynamics
Dearborn Office: EVB 2E-M02
Mobile Phone: (313) 805-2133
Email: dhasselb@ford.com

From: O'Connor, Tammy (T.A.)
Sent: Thursday, February 22, 2007 4:36 AM
To: Repasky, Steve (S.); Gompper, Dan (D.B.); Hasselbring, D Blake (D.B.)
Cc: Nielsen, Joel (.)
Subject: RE: new tsb for game warden

Please see question below - any recommendations would be appreciated.

Tammy A. O'Connor
Product Concern Engineer
FCSD Service Engineering Operations
Super Duty F-Series
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248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Nielsen, Joel (.)
Sent: Wednesday, February 21, 2007 5:14 PM
To: O'Connor, Tammy (T.A.)
Subject: FW: new tsb for game warden

Tammy,

Any suggestions? THE vin is 1ftsx21565e[redacted] 2005 F250. I sent them the revised TSB draft last week...

Joel Nielsen

Commercial Area Field Manager

Ford Customer Service Division - SW Market

ph 281-788-0921 / fax 281-651-2362

jnielse1@ford.com

From: Bailey, Michael [mailto:MBailey@vtaig.com]
Sent: Wednesday, February 21, 2007 4:06 PM
To: Nielsen, Joel (.)
Subject: new tsb for game warden

Good afternoon, sir,
My name is Mike Bailey with Grand Prairie Ford and I am attempting to complete this TSB for the client, however, the new bolts are straight and not tapered. I need advice and/or guidance to resolve this issue. I am at 972-859-5476. Your assistance is GREATLY appreciated.

Regards,
Mike Bailey
Grand Prairie Ford

From: Gompper, Dan (D.B.)
Sent: Thursday, November 09, 2006 4:53 PM
To: Masel, Dennis (D.M.); Hearn, Chet (C.); Wegienka, Michael (M.J.)
Cc: Memmer, Mark (M.A.); Repasky, Steve (S.)
Subject: RE: P356 damper on P131

Great, Dennis. Gives me more confidence for P356… maybe we should even try it out in one?

One clarification. If we compare setups based on "threshold" tire pressure, it would look like:

Dual Monotube	<35psi @ 70mph
Single Monotube	<35psi @ 70mph
P356 damper	<35psi @ 70mph
No damper	>35psi, <55psi @ 70mph
OEM damper	>35psi, <55psi @ 70mph ?

Was that the correct result for the OEM damper, leading to the conclusion that we get nothing out of the OEM damper for shimmy?

Thanks,

Dan Gompper
SuperDuty Vehicle Dynamics Supervisor
EVB 2E-L01
Cellphone: (313) 805-2039
Email: dgompper@ford.com
text page: 3138052039@sprintpcs.messaging.com

From: Masel, Dennis (D.M.)
Sent: Thursday, November 09, 2006 1:37 PM
To: Hearn, Chet (C.); Gompper, Dan (D.B.); Wegienka, Michael (M.J.)
Subject: P356 damper on P131
Importance: High

I completed testing of the P131 with the P356 damper installed on the drag link on dry asphalt and the P131 with no steering damper installed.

The P356 damper prevents the shimmy event at 70 mph with 35 psi in all tires. When the speed is increased to 85 mph, the vehicle experiences a few "shimmy" oscillations but is quickly damped out (subjectively the P356 damper was more effective than the single "high lift" aftermarket damper, installed between the tie rod and axle).

With no damper, the vehicle "shimmys" at 70 mph and 35 psi tire pressure and the vibration does not damp out until below 40 mph. Also, I could not make the vehicle go into "shimmy" mode when the tire pressures were increased to 55 psi.

Conclusions that I can draw from this is that the OEM shock immediately has cavitation during the event and provides no damping to the steering system.

Dennis M. Masel
Core Vehicle Dynamics
Advanced Programs
313-805-2209
text pager: dmasel

From: Gompper, Dan (D.B.)
Sent: Thursday, November 09, 2006 4:53 PM
To: Masel, Dennis (D.M.); Hearn, Chet (C.); Wegienka, Michael (M.J.)
Cc: Memmer, Mark (M.A.); Repasky, Steve (S.)
Subject: RE: P356 damper on P131

Great, Dennis. Gives me more confidence for P356… maybe we should even try it out in one?

One clarification. If we compare setups based on "threshold" tire pressure, it would look like:

Dual Monotube	<35psi @ 70mph
Single Monotube	<35psi @ 70mph
P356 damper	<35psi @ 70mph
No damper	>35psi, <55psi @ 70mph
OEM damper	>35psi, <55psi @ 70mph ?

Was that the correct result for the OEM damper, leading to the conclusion that we get nothing out of the OEM damper for shimmy?

Thanks,

Dan Gompper
SuperDuty Vehicle Dynamics Supervisor
EVB 2E-L01
Cellphone: (313) 805-2039
Email: dgompper@ford.com
text page: 3138052039@sprintpcs.messaging.com

From: Masel, Dennis (D.M.)
Sent: Thursday, November 09, 2006 1:37 PM
To: Hearn, Chet (C.); Gompper, Dan (D.B.); Wegienka, Michael (M.J.)
Subject: P356 damper on P131
Importance: High

I completed testing of the P131 with the P356 damper installed on the drag link on dry asphalt and the P131 with no steering damper installed.

The P356 damper prevents the shimmy event at 70 mph with 35 psi in all tires. When the speed is increased to 85 mph, the vehicle experiences a few "shimmy" oscillations but is quickly damped out (subjectively the P356 damper was more effective than the single "high lift" aftermarket damper, installed between the tie rod and axle).

With no damper, the vehicle "shimmys" at 70 mph and 35 psi tire pressure and the vibration does not damp out until below 40 mph. Also, I could not make the vehicle go into "shimmy" mode when the tire pressures were increased to 55 psi.

Conclusions that I can draw from this is that the OEM shock immediately has cavitation during the event and provides no damping to the steering system.

Dennis M. Masel
Core Vehicle Dynamics
Advanced Programs
313-805-2209
text pager: dmasel

From: O'Connor, Tammy (T.A.)
Sent: Thursday, September 08, 2005 8:49 AM
To: Rhoda, Kevin (K.S.)
Cc: King, Robert (R.F.); Lien, Rob (R.L.)
Subject: RE: Report Summary for the CQIS Report# [redacted]
Attachments: [redacted] TSB Steering Wheel Shimmy Update 08 31.doc

Here is the file.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
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-----Original Message-----
From: Rhoda, Kevin (K.S.)
Sent: Thursday, September 08, 2005 8:48 AM
To: O'Connor, Tammy (T.A.)
Cc: King, Robert (R.F.); Lien, Rob (R.L.)
Subject: RE: Report Summary for the CQIS Report# [redacted]

Tammy,
Thanks for your concern with this vehicle. I am not the FSE for Missouri. We recently went through some realignment when Aaron Nunn moved to a new position in Dearborn. I believe the FSE is either Bob King or Rob Lien. I will cc them with this message. Thanks!
-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Wednesday, September 07, 2005 1:17 PM
To: Rhoda, Kevin (K.S.)
Subject: FW: Report Summary for the CQIS Report# [redacted]

Kevin: I'm attaching a draft of the TSB to fix this issue. Please review carefully, and call me if you have any questions. If you have any problems repairing, we can get Engineering involved.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
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-----Original Message-----
From: Johnston, Steven (S.J.)
Sent: Wednesday, September 07, 2005 1:08 PM
To: O'Connor, Tammy (T.A.)
Subject: Report Summary for the CQIS Report# [redacted]

Attachments : 0

Report# :	[redacted] NHL			**Received:**	08/25/2005
CCRG/EPRC:		**Reviewed Status:**		**Date:**	
Vehicle:	2005,F250 4X4,CRW CAB,SRW ,1FTSW215X5E[redacted]			**Build Date:**	01/26/2005
Odometer :	17,345 M	**Engine:**	MOD 5.4 3V	**Calibration:**	5F714N0A
Transmission:	5R110W	**Axle:**		**A/C:**	YES
Dealer:	USA 05117 Chillicothe Ford-Lincoln-Mercu			**Phone#:**	(660) 646-3263
City:	Chillicothe	**State:**	Missouri	**Country :**	USA
Originator:	WES WATKINS				
Symptom:	3 03 3 53 CHASS.,STRG/HANDLING ,VIB./SHIMMY,OVER BUMPS				
Status:					
VFG:	V89 RIDE & HANDLING				
Additional Symptom:	STEERING SHIMMY OVER BUMPS.				
Fix:	**Causal Component :**				
Condition Code:					

Hotliner: JENGSTRO **Phone:** 313 317-9369 **Regn Cd:** 53 Kansas City - 53

Engineering: DAVID KNAPP **Phone:** 313 317-6316 **TAR:** 0-30

Dlr Contact: WES WATKINS **Phone:** 660 646-3263 **Title Cde:** T

Comments :

REPAIR 08/25/2005 12:56PM JOHN ENGSTROM MSS - FCSD - TECH SVC HOTLINE
STEERING AND BODY SHIMMY OVER BUMPS. PERFORMED TSB 04-26-01. CHECKED
FOR LOOSE STEERING AND SUSPENSION COMPONENTS.

RECOMM 08/25/2005 12:56PM JOHN ENGSTROM MSS - FCSD - TECH SVC HOTLINE
ISM 05-07-034 (MAKE SURE TIRE PRESSURES ARE PROPERLY SET, CHECK FRONT
TRACK BAR FASTENER TORQUES & FOLLOW TSB 04-26-01).

REPAIR **08/26/2005 06:04PM ANDREW BARNES MSS - FCSD - TECH SVC HOTLINE**

SM IS CALLING BACK ON THE SAME CONCERN. THEY DROVE THE VEHICLE AND HE

IS ABLE TO DUPLICATE THE CONCERN AND IT IS VERY SEVERE AND WILL NOT

STOP UNTIL THEY SLOW DOWN UNTIL ABOUT 20 MPH. THEY HAVE SET THE TIRE

PRESSURES AND ALSO SWAPPED TIRES FROM A LIKE VEHICLE WITH NO CHANGE.

ALSO THE STEERING STABALIZER WAS REPLACED WITH NO CHANGE. THEY

BORROWED A TORQUE MULTIPLIER AND TORQUED THE TRACK BAR AS WELL WITH NO

CHANGE. SEEKING FURTHER ASSISTANCE.

RECOMM **08/26/2005 06:04PM ANDREW BARNES MSS - FCSD - TECH SVC HOTLINE**

ISM 05-07-034 MAKE SURE TIRE PRESSURES ARE PROPERLY SET, CHECK FRONT

TRACK BAR FASTENER TORQUES & FOLLOW TSB 04-26-01 ADVISED THE SM TO

CHECK AND SET THE CASTER MORE - ON THE TRUCK AND RETEST.

REPAIR **09/06/2005 03:10PM ANDREW BARNES MSS - FCSD - TECH SVC HOTLINE**

THE TECH WES IS CALLING BACK ON THE SAME CONCERN. THEY HAVE SET THE

CASTER AT 2.6 DEG ON THE L AND 2.5 ON THE RIGHT. THERE IS NO LOOSE

BALL JOINTS, TIE RODS, OR ANY OTHER STEERING COMPONENT. THE GEAR BOX

MESH LOAD WAS ALSO SET PER THE TSB. THE CONCERN IS STILL EXCESSIE.

SEEKING FURTHER ASSISTANCE.

RECOMM **09/06/2005 03:10PM ANDREW BARNES MSS - FCSD - TECH SVC HOTLINE**

ADVISED THE TECH OF NO OTHER KNOWNS FOR THE CONCERN. TECH IS GOING TO

CONSULT WITH THE SM AND THEN CALL BACK FOR A POSSIBLE TAR. DID CONSULT

WITH THE SME DAVE KNAPP.

REPAIR **09/06/2005 03:34PM JAKE WARDLE MSS - FCSD - TECH SVC HOTLINE**

SM CALLING BACK TO REQUEST THE TAR AFTER TALKING TO DISTRICT REP.

RECOMM **09/06/2005 03:34PM JAKE WARDLE MSS - FCSD - TECH SVC HOTLINE**

INFORMED SM THAT A TAR WILL BE OPENED AS PER PREVIOUS REPORT COMMENTS.

ADD-ON **09/06/2005 03:51PM CHRIS WOLKEN-GRPLDR MSS - FCSD - TECH SVC HOTLINE**

TAR APPROVED

ADD-ON **09/07/2005 01:07PM STEVE JOHNSTON(PCE) MSS - FCSD - VSP PVT SVC ENG**

CONTACT TAMMY OCONNOR FOR ADDITIONAL INFORMATION.
TOCONNOR.

ISSUE:

Some 2005-2006 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion) immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on 4x4 vehicles, equipped with steering wheels that have redundant controls (i.e. climate and radio controls).

ACTION:

This procedure will minimize the steering wheel oscillations on impacts; however, there may be some remaining minor oscillation, which would be considered normal.
Perform the following:

- Vehicle Inspection
- Evaluation Of Vehicle Prior To Repair
- Steering Gear Mesh Load Adjustment
- Reduce front caster by 0.5 to 0.75 degrees
- Replacement Of Redundant Control Steering Wheel (if equipped and vehicle built prior to 10/8/04)

SERVICE PROCEDURE

VEHICLE INSPECTION

1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

   NOTE: SETTING TIRE PRESSUE TO DOOR SPEC IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

2. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
   a. If leaks are present, install a new steering damper and continue with this TSB.
   b. If no leaks are present, continue with this TSB.

3. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table # below).

Description	Torque Specification (lb-ft/ Nm)	
	Lb-ft	Nm
Damper nuts (4x2)	59	80
Damper-to-bracket (F-250, F-350 4x4)	26	35
Damper-to-drag link	67	91
Drag link-to-pitman arm nut	148	201
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts & bolts	129	175
Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

4. Measure wheel alignment. Verify that Front Caster, Camber & Total Toe is within specification (preferred specification is .1 degree toe in). Adjust to specification as required. Refer to the Workshop Manual, Section 2004-00-1 for complete alignment specifications.

EVALUATION OF VEHICLE PRIOR TO REPAIR

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the severity of wheel oscillation.

3. During the road test, evaluate and note the steering wheel return-ability.
    a. Turn steering wheel full lock to lock to confirm no binding.
    b. Locate center, and then 45 degrees either side of center on the steering wheel.
    c. Driving vehicle at 35 MPH (56 Km/h), on a dry and flat road surface, turn the wheel 45 degrees and release. Note the approximate angle that the steering wheel returns to BEFORE CLEAR VISION. Perform and record the angle for both left and right. It is normal if the angle differs slightly from left to right.

STEERING GEAR MESH LOAD ADJUSTMENT

1. Insert hex wrench into steering gear mesh load adjuster screw.
2. While holding the mesh load adjuster screw tight, back off lock nuts two full turns to allow free movement of the adjuster screw.
3. Carefully tighten adjuster screw until a slight increase in resistance is felt, then back off approximately 1/16th of a turn.
4. Hold the adjuster screw in place and tighten lock nut. Do not allow the adjustment screw to turn while tightening the locking nut down.
5. Road test vehicle and evaluate for improvement in steering wheel oscillations.
    a. Confirm that there is no objectionable increase in steering efforts, especially at low speeds.
    b. Verify that steering wheel return-ability is approximately the same as it was during the original evaluation (within 5 degrees).
    c. Turn steering wheel full lock to lock to confirm no binding.
6. Park the vehicle to let it cool down. Road test cold to confirm acceptable parking efforts and return-ability in cold condition. Repeat the mesh load adjustment if needed.

REDUCE FRONT CASTER

- Note the current front caster
- Use alignment adjustment bushings to Reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit.
- If caster setting is at exact minimum, camber may be below the specification limit.
- Use Alignment adjustment bushings:
    - 4x4: 5C3Z-3B440-DDD (0.75 Degree bushing) OR 5C3Z-3B440-EEE (1.0 degree bushing)
    - 4x2: 5C3Z-3B440-D (0.75 Degree bushing) OR 5C3Z-3B440-E (1.0 degree bushing)
- Maintain the current front camber, cross-camber & cross-caster settings as close as you possibly can.
- If the caster is set to the exact minimum, you may find that the camber is out of spec.
- Adding weight to the back raises the front of the vehicle, which in effect increases caster.

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE 2005 OR 2006 SUPER DUTY F-SERIES WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

From: King, Robert (R.F.)
Sent: Monday, September 12, 2005 10:04 AM
To: O'Connor, Tammy (T.A.)
Subject: RE: Report Summary for the CQIS Report# [redacted]

I guess I'lll follow this TSB with the dealer since this unit is built AFTER the cut-off....

Bob King
FSE FCSD-KC Region 53, District Zones A3 & B3
913-217-2137 W
816-539-3252 F
[redacted]

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Monday, September 12, 2005 8:59 AM
To: King, Robert (R.F.)
Subject: RE: Report Summary for the CQIS Report# [redacted]

Attached is a copy of the original TSB.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thurs,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

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-----Original Message-----
From: King, Robert (R.F.)
Sent: Monday, September 12, 2005 9:55 AM
To: O'Connor, Tammy (T.A.)
Subject: RE: Report Summary for the CQIS Report# [redacted]

Thanks for the TSb draft. What is the service part number for the steering wheel if all reccommendations prove out? This is scheduled for 9/20/05.

Bob King
FSE FCSD-KC Region 53, District Zones A3 & B3
913-217-2137 W
816-539-3252 F
[redacted]

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Thursday, September 08, 2005 7:49 AM
To: Rhoda, Kevin (K.S.)
Cc: King, Robert (R.F.); Lien, Rob (R.L.)
Subject: RE: Report Summary for the CQIS Report# [redacted]

Here is the file.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thurs,Fri)
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-----Original Message-----
From: Rhoda, Kevin (K.S.)
Sent: Thursday, September 08, 2005 8:48 AM
To: O'Connor, Tammy (T.A.)
Cc: King, Robert (R.F.); Lien, Rob (R.L.)
Subject: RE: Report Summary for the CQIS Report# [redacted]

Tammy,
Thanks for your concern with this vehicle. I am not the FSE for Missouri. We recently went through some realignment when Aaron Nunn moved to a new position in Dearborn. I believe the FSE is either Bob King or Rob Lien. I will cc them with this message. Thanks!
-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Wednesday, September 07, 2005 1:17 PM
To: Rhoda, Kevin (K.S.)
Subject: FW: Report Summary for the CQIS Report# [redacted]

Kevin: I'm attaching a draft of the TSB to fix this issue. Please review carefully, and call me if you have any questions. If you have any problems repairing, we can get Engineering involved.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thurs,Fri)
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-----Original Message-----
From: Johnston, Steven (S.J.)
Sent: Wednesday, September 07, 2005 1:08 PM
To: O'Connor, Tammy (T.A.)
Subject: Report Summary for the CQIS Report# [redacted]

Attachments : 0

Report# :	[redacted]NHL			**Received:**	08/25/2005
CCRG/EPRC:		**Reviewed Status:**		**Date:**	
Vehicle:	2005,F250 4X4,CRW CAB,SRW ,1FTSW215X5E[redacted]			**Build Date:**	01/26/2005
Odometer :	17,345 M	**Engine:**	MOD 5.4 3V	**Calibration:**	5F714N0A
Transmission:	5R110W	**Axle:**		**A/C:**	YES
Dealer:	USA 05117 Chillicothe Ford-Lincoln-Mercu			**Phone#:**	(660) 646-3263
City:	Chillicothe	**State:**	Missouri	**Country :**	USA
Originator:	WES WATKINS				
Symptom:	3 03 3 53 CHASS.,STRG/HANDLING ,VIB./SHIMMY,OVER BUMPS				
Status:					
VFG:	V89 RIDE & HANDLING				
Additional Symptom:	STEERING SHIMMY OVER BUMPS.				
Fix:	**Causal Component :**				
Condition Code:					

Hotliner: JENGSTRO **Phone:** 313 317-9369 **Regn Cd:** 53 Kansas City - 53

Engineering: DAVID KNAPP **Phone:** 313 317-6316 **TAR:** 0-30

Dlr Contact: WES WATKINS **Phone:** 660 646-3263 **Title Cde:** T

Comments :

REPAIR 08/25/2005 12:56PM JOHN ENGSTROM MSS - FCSD - TECH SVC HOTLINE
STEERING AND BODY SHIMMY OVER BUMPS. PERFORMED TSB 04-26-01. CHECKED
FOR LOOSE STEERING AND SUSPENSION COMPONENTS.

RECOMM 08/25/2005 12:56PM JOHN ENGSTROM MSS - FCSD - TECH SVC HOTLINE
ISM 05-07-034 (MAKE SURE TIRE PRESSURES ARE PROPERLY SET, CHECK FRONT
TRACK BAR FASTENER TORQUES & FOLLOW TSB 04-26-01).

REPAIR 08/26/2005 06:04PM ANDREW BARNES MSS - FCSD - TECH SVC HOTLINE
SM IS CALLING BACK ON THE SAME CONCERN. THEY DROVE THE VEHICLE AND HE

IS ABLE TO DUPLICATE THE CONCERN AND IT IS VERY SEVERE AND WILL NOT

STOP UNTIL THEY SLOW DOWN UNTIL ABOUT 20 MPH. THEY HAVE SET THE TIRE

PRESSURES AND ALSO SWAPPED TIRES FROM A LIKE VEHICLE WITH NO CHANGE.

ALSO THE STEERING STABALIZER WAS REPLACED WITH NO CHANGE. THEY

BORROWED A TORQUE MULTIPLIER AND TORQUED THE TRACK BAR AS WELL WITH NO

CHANGE. SEEKING FURTHER ASSISTANCE.

RECOMM **08/26/2005 06:04PM ANDREW BARNES MSS - FCSD - TECH SVC HOTLINE**

ISM 05-07-034 MAKE SURE TIRE PRESSURES ARE PROPERLY SET, CHECK FRONT

TRACK BAR FASTENER TORQUES & FOLLOW TSB 04-26-01 ADVISED THE SM TO

CHECK AND SET THE CASTER MORE - ON THE TRUCK AND RETEST.

REPAIR **09/06/2005 03:10PM ANDREW BARNES MSS - FCSD - TECH SVC HOTLINE**

THE TECH WES IS CALLING BACK ON THE SAME CONCERN. THEY HAVE SET THE

CASTER AT 2.6 DEG ON THE L AND 2.5 ON THE RIGHT. THERE IS NO LOOSE

BALL JOINTS, TIE RODS, OR ANY OTHER STEERING COMPONENT. THE GEAR BOX

MESH LOAD WAS ALSO SET PER THE TSB. THE CONCERN IS STILL EXCESSIE.

SEEKING FURTHER ASSISTANCE.

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SM CALLING BACK TO REQUEST THE TAR AFTER TALKING TO DISTRICT REP.

RECOMM **09/06/2005 03:34PM JAKE WARDLE MSS - FCSD - TECH SVC HOTLINE**

INFORMED SM THAT A TAR WILL BE OPENED AS PER PREVIOUS REPORT COMMENTS.

ADD-ON **09/06/2005 03:51PM CHRIS WOLKEN-GRPLDR MSS - FCSD - TECH SVC HOTLINE**

TAR APPROVED

ADD-ON **09/07/2005 01:07PM STEVE JOHNSTON(PCE) MSS - FCSD - VSP PVT SVC ENG**

CONTACT TAMMY OCONNOR FOR ADDITIONAL INFORMATION. TOCONNOR.

From: Valesey, Mark (N.)
Sent: Thursday, September 15, 2005 9:10 AM
To: OConnor, Tammy (T.A.)
Subject: RE: Report Summary for the CQIS Report#[redacted]

The TSB looks okay. The dealer could not get a larger dampener to put on this vehicle. It would fix it if we could get a larger one.

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Wed 9/7/2005 10:55 AM
To: Valesey, Mark (N.)
Cc:
Subject: FW: Report Summary for the CQIS Report#[redacted]

From: Carey, John (J.P.)
Sent: Tuesday, August 30, 2005 10:26 AM
To: O'Connor, Tammy (T.A.)
Cc: Snider, Alex (A.); Corlew, Randall (R.L.)
Subject: RE: Report Summary for the CQIS Report#[redacted]

Tammy,
Thank you for your response.
Alex called and left a message with additional detail. Thank you for the information Alex.
I am trying to have the vehicle scheduled for repair on September 6, 2005 in which I plan on being hands on involved.

I will let you know of the outcome.

John Carey
Field Service Engineer
Ford Customer Service Division
Zone C1,C2, C3
(407) 875-7577
(407) 467-5087 Cell

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Tuesday, August 30, 2005 9:25 AM
To: Carey, John (J.P.)
Cc: Snider, Alex (A.); Corlew, Randall (R.L.)
Subject: RE: Report Summary for the CQIS Report#[redacted]
Importance: High

John: I'm not the expert when it comes to completely understanding the caster part of this equation. Two really good sources for you would be to call Alex Snider (Ford of Canada), or Randy Corlew, FSE Pittsburg.

They have worked on a number of these trucks and resolved the issue.

Alex/Randy: Can you help John and explain why reducing caster effects this issue and is so important in resolving it. Thanks.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
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error, please notify me via return e-mail and permanently delete the original and any copy of any e-mail and any printout.

-----Original Message-----
From: Carey, John (J.P.)
Sent: Monday, August 29, 2005 6:37 PM
To: O'Connor, Tammy (T.A.)
Cc: Carey, John (J.P.)
Subject: RE: Report Summary for the CQIS Report#[redacted]

Tammy,
Excellent, I will get involved with the vehicle personally.

Usually we increase caster to correct an instability issue. The note mentions reducing caster. Can you explain?

Thank you

John Carey
Field Service Engineer
Ford Customer Service Division
Zone C1,C2, C3
(407) 875-7577
[redacted]

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Monday, August 29, 2005 6:19 PM
To: Carey, John (J.P.)
Cc: Hale, Curt (B.C.); Johnston, Steven (S.J.)
Subject: RE: Report Summary for the CQIS Report#[redacted]
Importance: High

John:

I am forwarding you a revision to the TSB that we are working on.

Please read the original TSB and the revisions I am forwarding to you.

The most important items are:

- make sure tire pressure is set to spec on door label - VERY, VERY IMPORTANT (most trucks with this issue are under inflated).
- torque specs
- caster settings

The steering wheel is a heavier weight and will make an improvement, but the above will make the most improvement.

If after all this is done and verified, and issue still remains then please call me and we will get Engineering involved.

I also have sent out an FQE assignment to verify that the revisions to the TSB resolve the issue, so I would appreciate your feedback one way or the other.

Tammy A. O'Connor
Product Concern Engineer
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-----Original Message-----
From: Carey, John (J.P.)
Sent: Monday, August 29, 2005 5:39 PM
To: Hale, Curt (B.C.); Johnston, Steven (S.J.); O'Connor, Tammy (T.A.)
Cc: Carey, John (J.P.)
Subject: FW: Report Summary for the CQIS Report#[redacted]

Curt, Steve & Tammy,

This customer feels this vehicle is unsafe to drive and wants the vehicle bought back. I have asked the dealership to first verify the severity of the concern. The customer did say that the first attempt at adjusting the mesh load did help but the concern is still evident (to a lesser degree).

Please read the CQIS report included below.
Please provide any other suggestions that may correct this vehicle concern in addition to the recommendations I provided.
Can you please explain what effect replacing the steering wheel as listed in the TSB does to address a steering wheel vibration. Is it weighted?

Thank you

John Carey
Field Service Engineer
Ford Customer Service Division
Zone C1,C2, C3
(407) 875-7577
[redacted]

-----Original Message-----
From: Carey, John (J.P.)
Sent: Monday, August 29, 2005 5:03 PM
To: Carey, John (J.P.)
Subject: Report Summary for the CQIS Report#[redacted]

Attachments : 0

Report# :	[redacted] FCSDFS			**Received:**	08/29/2005
CCRG/EPRC:		**Reviewed Status:**		**Date:**	
Vehicle:	2005,F250 4X4,SUP CAB,SRW ,1FTSX21575E[redacted]			**Build Date:**	09/15/2004
Odometer :	16,330 M	**Engine:**	MOD 5.4 3V	**Calibration:**	5F714N0A
Transmission:	5R110W	**Axle:**		**A/C:**	YES
Dealer:	USA 04809 Bartow Ford Company			**Phone#:**	(863) 534-2646
City:	Bartow	**State:**	Florida	**Country :**	USA

Originator:
Symptom: 3 03 3 53 CHASS.,STRG/HANDLING ,VIB./SHIMMY,OVER BUMPS
Status:
VFG: V89 RIDE & HANDLING
Additional Symptom: FRONT END SHAKES
Fix: **Causal Component :**
Condition Code:

Region Code: 24 **Region Name:** Orlando - 24

Comments :

OWNER 08/29/2005 05:01PM JOHN CAREY(FSE) MSS - FCSD - REG - ORLANDO
CUSTOMER STATED THAT WHEN THE VEHICLE GOES OVER CERTAIN ROAD BUMPS IT
SETS OFF A VILENT SHIMMY SHAKE IN THE FRONT END OF THE VEHICLE. THE
VEHICLE HAS TO BE BROUGHT DOWN TO 10 MPH AND THEN ACCELLARATION CAN BE
REGAINED AND ORIGINAL ROAD SPEED. CUSATOMER STATES HE HAS LOST
CONFIDANCE IN THE VEHICLE.

TECH/C **08/29/2005 05:01PM JOHN CAREY(FSE) MSS - FCSD - REG - ORLANDO**
RECOMMEND AFTER DRIVING THE VEHICLE WITH THE CUSTOMER AND VERIFYING
CONCERN TO PERFORM TSB 06-26-1. BE SURE TSB IS FOLLOWED ACCURATELY AND
MESH ADJUSTMENT IS DONE CORRECTLY. CHECK FOR REDUNDANT STEERING WHEEL,
IF EQUIPPED, REPLACE AS INSTRUCTED IN TSB. CHECK ALIGNMENT AND

INCREASE CASTER WHILE MAINTAINING CASTER SPLIT APROXIMATELY 1 DEG.

CONFIRM ALL SUSPENTION COMPONENTS ARE TORQUED AND RE-EVALUATE VEHICLE.

From: Snider, Alex (A.)
Sent: Tuesday, August 30, 2005 9:47 AM
To: O'Connor, Tammy (T.A.)
Cc: Corlew, Randall (R.L.)
Subject: RE: Report Summary for the CQIS Report#[redacted]

Tammy, I gave John a call and left a message for him.

"Accelerate Growth Through Customer Satisfaction and Loyalty"

Alex Snider
Ford Motor Company of Canada
Technical Service Support Specialist
Outlook ID: asnider@ford.com
Dial net: 853-1485
Outside #: 905-845-2511, ext: 1485

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Tuesday, August 30, 2005 9:25 AM
To: Carey, John (J.P.)
Cc: Snider, Alex (A.); Corlew, Randall (R.L.)
Subject: RE: Report Summary for the CQIS Report#[redacted]
Importance: High

John: I'm not the expert when it comes to completely understanding the caster part of this equation. Two really good sources for you would be to call Alex Snider (Ford of Canada), or Randy Corlew, FSE Pittsburg.

They have worked on a number of these trucks and resolved the issue.

Alex/Randy: Can you help John and explain why reducing caster effects this issue and is so important in resolving it. Thanks.

Tammy A. O'Connor
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Sent: Monday, August 29, 2005 6:37 PM
To: O'Connor, Tammy (T.A.)
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John Carey
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Importance: High

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The most important items are:

- make sure tire pressure is set to spec on door label - VERY, VERY IMPORTANT (most trucks with this issue are under inflated).
- torque specs
- caster settings

The steering wheel is a heavier weight and will make an improvement, but the above will make the most improvement.

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Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thurs,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

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-----Original Message-----
From: Carey, John (J.P.)
Sent: Monday, August 29, 2005 5:39 PM
To: Hale, Curt (B.C.); Johnston, Steven (S.J.); O'Connor, Tammy (T.A.)
Cc: Carey, John (J.P.)
Subject: FW: Report Summary for the CQIS Report#[redacted]

Curt, Steve & Tammy,

This customer feels this vehicle is unsafe to drive and wants the vehicle bought back. I have asked the dealership to first verify the severity of the concern. The customer did say that the first attempt at adjusting the mesh load did help but the concern is still evident (to a lesser degree).

Please read the CQIS report included below.
Please provide any other suggestions that may correct this vehicle concern in addition to the recommendations I provided.
Can you please explain what effect replacing the steering wheel as listed in the TSB does to address a steering wheel vibration. Is it weighted?

Thank you

John Carey
Field Service Engineer
Ford Customer Service Division
Zone C1,C2, C3
(407) 875-7577
([redacted]

-----Original Message-----
From: Carey, John (J.P.)
Sent: Monday, August 29, 2005 5:03 PM
To: Carey, John (J.P.)
Subject: Report Summary for the CQIS Report#[redacted]

Attachments : 0

Report# :	[redacted] FCSDFS			**Received:**	08/29/2005
CCRG/EPRC:		**Reviewed Status:**		**Date:**	
Vehicle:	2005,F250 4X4,SUP CAB,SRW ,1FTSX21575E[redacted]			**Build Date:**	09/15/2004
Odometer :	16,330 M	**Engine:**	MOD 5.4 3V	**Calibration:**	5F714N0A
Transmission:	5R110W	**Axle:**		**A/C:**	YES
Dealer:	USA 04809 Bartow Ford Company			**Phone#:**	(863) 534-2646
City:	Bartow	**State:**	Florida	**Country :**	USA

Originator:
Symptom: 3 03 3 53 CHASS.,STRG/HANDLING ,VIB./SHIMMY,OVER BUMPS
Status:
VFG: V89 RIDE & HANDLING
Additional Symptom: FRONT END SHAKES
Fix: **Causal Component :**
Condition Code:

Region Code: 24 **Region Name:** Orlando - 24

Comments :

OWNER 08/29/2005 05:01PM JOHN CAREY(FSE) MSS - FCSD - REG - ORLANDO
CUSTOMER STATED THAT WHEN THE VEHICLE GOES OVER CERTAIN ROAD BUMPS IT
SETS OFF A VILENT SHIMMY SHAKE IN THE FRONT END OF THE VEHICLE. THE
VEHICLE HAS TO BE BROUGHT DOWN TO 10 MPH AND THEN ACCELLARATION CAN BE
REGAINED AND ORIGINAL ROAD SPEED. CUSATOMER STATES HE HAS LOST
CONFIDANCE IN THE VEHICLE.

TECH/C **08/29/2005 05:01PM JOHN CAREY(FSE) MSS - FCSD - REG - ORLANDO**
RECOMMEND AFTER DRIVING THE VEHICLE WITH THE CUSTOMER AND VERIFYING
CONCERN TO PERFORM TSB 06-26-1. BE SURE TSB IS FOLLOWED ACCURATELY AND
MESH ADJUSTMENT IS DONE CORRECTLY. CHECK FOR REDUNDANT STEERING WHEEL,
IF EQUIPPED, REPLACE AS INSTRUCTED IN TSB. CHECK ALIGNMENT AND
INCREASE CASTER WHILE MAINTAINING CASTER SPLIT APROXIMATELY 1 DEG.

CONFIRM ALL SUSPENTION COMPONENTS ARE TORQUED AND RE-EVALUATE VEHICLE.

From: Hale, Curt (B.C.)
Sent: Tuesday, August 30, 2005 7:28 AM
To: Carey, John (J.P.); Johnston, Steven (S.J.); O'Connor, Tammy (T.A.)
Subject: RE: Report Summary for the CQIS Report#[redacted]

First verify that tire pressure is set to specification.

The steering wheel in the TSB is heavier and provides more dampening of the slight oscillations. This only applies to early builds because the heavier steering wheel is now in production.

B. Curtis Hale
FCSD PVT Program Manager
F-Super Duty & Excursion

-----Original Message-----
From: Carey, John (J.P.)
Sent: Monday, August 29, 2005 5:39 PM
To: Hale, Curt (B.C.); Johnston, Steven (S.J.); O'Connor, Tammy (T.A.)
Cc: Carey, John (J.P.)
Subject: FW: Report Summary for the CQIS Report#[redacted]

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Thank you

John Carey
Field Service Engineer
Ford Customer Service Division
Zone C1,C2, C3
(407) 875-7577
([redacted]

-----Original Message-----
From: Carey, John (J.P.)
Sent: Monday, August 29, 2005 5:03 PM

To: Carey, John (J.P.)
Subject: Report Summary for the CQIS Report#[redacted]

Attachments : 0

Report# :	[redacted] FCSDFS			**Received:**	08/29/2005
CCRG/EPRC:		**Reviewed Status:**		**Date:**	
Vehicle:	2005,F250 4X4,SUP CAB,SRW ,1FTSX21575E[redacted]			**Build Date:**	09/15/2004
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Transmission:	5R110W	**Axle:**		**A/C:**	YES
Dealer:	USA 04809 Bartow Ford Company			**Phone#:**	(863) 534-2646
City:	Bartow	**State:**	Florida	**Country :**	USA

Originator:
Symptom: 3 03 3 53 CHASS.,STRG/HANDLING ,VIB./SHIMMY,OVER BUMPS
Status:
VFG: V89 RIDE & HANDLING
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STEERING WHEEL,

IF EQUIPPED, REPLACE AS INSTRUCTED IN TSB. CHECK ALIGNMENT AND INCREASE CASTER WHILE MAINTAINING CASTER SPLIT APROXIMATELY 1 DEG.

CONFIRM ALL SUSPENTION COMPONENTS ARE TORQUED AND RE-EVALUATE VEHICLE.

From: O'Connor, Tammy (T.A.)
Sent: Monday, August 29, 2005 6:19 PM
To: Carey, John (J.P.)
Cc: Hale, Curt (B.C.); Johnston, Steven (S.J.)
Subject: RE: Report Summary for the CQIS Report#[redacted]
Importance: High
Attachments: Update to TSB 04-26-1 ; RE: Update to TSB 04-26-1

John:

I am forwarding you a revision to the TSB that we are working on.

Please read the original TSB and the revisions I am forwarding to you.

The most important items are:

- make sure tire pressure is set to spec on door label - VERY, VERY IMPORTANT (most trucks with this issue are under inflated).
- torque specs
- caster settings

The steering wheel is a heavier weight and will make an improvement, but the above will make the most improvement.

If after all this is done and verified, and issue still remains then please call me and we will get Engineering involved.

I also have sent out an FQE assignment to verify that the revisions to the TSB resolve the issue, so I would appreciate your feedback one way or the other.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thurs,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

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Cc: Carey, John (J.P.)
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John Carey
Field Service Engineer
Ford Customer Service Division
Zone C1,C2, C3
(407) 875-7577
([redacted])

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From: Carey, John (J.P.)
Sent: Monday, August 29, 2005 5:03 PM
To: Carey, John (J.P.)
Subject: Report Summary for the CQIS Report#[redacted]

Attachments : 0

Report# :	[redacted] FCSDFS			**Received:**	08/29/2005
CCRG/EPRC:		**Reviewed Status:**		**Date:**	
Vehicle:	2005,F250 4X4,SUP CAB,SRW ,1FTSX21575E[redacted]			**Build Date:**	09/15/2004
Odometer :	16,330 M	**Engine:**	MOD 5.4 3V	**Calibration:**	5F714N0A
Transmission:	5R110W	**Axle:**		**A/C:**	YES
Dealer:	USA 04809 Bartow Ford Company			**Phone#:**	(863) 534-2646
City:	Bartow	**State:**	Florida	**Country :**	USA
Originator:					
Symptom:	3 03 3 53 CHASS.,STRG/HANDLING ,VIB./SHIMMY,OVER BUMPS				
Status:					
VFG:	V89 RIDE & HANDLING				

Additional Symptom: FRONT END SHAKES

Fix: **Causal Component :**

Condition Code:

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CONFIRM ALL SUSPENTION COMPONENTS ARE TORQUED AND RE-EVALUATE VEHICLE.

From: O'Connor, Tammy (T.A.)
Sent: Monday, August 29, 2005 8:05 AM
To: McDonald, Joseph (J.)
Cc: Hale, Curt (B.C.)
Subject: Update to TSB 04-26-1

Attachments: tsb04-26-01.pdf

Joe:

Attached is a copy of the TSB 04-26-1 with the suggested revisions in the e-mail below. I have already received a copy of suggested changes from Alex Snider and Randy Corlew which I'm including.

Please send this out with the FQE Assignment I just submitted. Thanks.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thurs,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

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-----Original Message-----
From: Repasky, Steve (S.)
Sent: Friday, August 26, 2005 9:51 AM
To: O'Connor, Tammy (T.A.); Snider, Alex (A.)
Cc: Mayer, Paul (P.A.); Choe, Mark (M.J.); Hatt, Jeffrey (J.M.)
Subject: FW: Update to TSB 04-26-1

Tammy - Below is the proposed wording for a new TSB to address 2005 and 2006 Superduty vehicles with steering wheel oscillations. Please review and provide comment. Thanks...

-----Original Message-----
From: Mayer, Paul (P.A.)
Sent: Friday, August 19, 2005 4:01 PM
To: Repasky, Steve (S.)
Subject: Update to TSB 04-26-1

Under section titled "ACTION", we add

- Reduce front caster by 0.5 to 0.75 degrees.
- Remove the reference to replacement of redundant steering wheel and applicable sections related to the steering wheel replacement?
- If needed, mention if vehicle built prior to 10/8/2004 reference TSB 04-26-1

Under Section titled "SERVICE PROCEDURES", we add

- EMPHASIS on set tire pressure in **BOLD** letters. (Is it still located on fuel door in 2006?)
- Under item 3 (Check torques) we add the radius arm to axle**(Torque spec: 185 ft-lb),** radius arm to frame bracket**(Torques spec: 406 ft-lb). Radius arm frame bracket to frame bolts (Torque spec: 129 ft-lb)**
- A new item 4. Measure wheel alignment. Verify that Front Caster, Camber & Total Toe**(preferred spec .1degree toe in)** is within specification. Adjust to specification as required.

A new section Titled "REDUCE FRONT CASTER"

- Note the current front caster
- Use alignment adjustment bushings to Reduce front caster by 0.5 to 0.75 degrees (however, verify that the new caster setting is not below the lower specification limit).
- Use Alignment adjustment bushings:
  - 4x4: 5C3Z-3B440-DDD (0.75 Degree bushing) OR 5C3Z-3B440-EEE (1.0 degree bushing)
  - 4x2: 5C3Z-3B440-D (0.75 Degree bushing) OR 5C3Z-3B440-E (1.0 degree bushing)
- Maintain the current front camber, cross-camber & cross-caster settings as close as you possibly can.

Regards
Paul Mayer
Truck Suspension and Systems Analysis
313-248-9202 Fax:313-317-2349

-----Original Message-----
From: Snider, Alex (A.)
Sent: Friday, August 26, 2005 10:42 AM
To: Repasky, Steve (S.); Mayer, Paul (P.A.)
Cc: Choe, Mark (M.J.); Hatt, Jeffrey (J.M.); O'Connor, Tammy (T.A.)
Subject: RE: Update to TSB 04-26-1

Pual/Steve, I made a few additions to your changes. I hope you don't mind. I listed the torque spec and also added the left side frame bracket to frame bolts. We had some of the bracket bolts loose. (i.e. at 90-100 ft-lb rather than 129 ft-lb).

The other item I added was the toe spec. Paul at on time mentioned that the toe would be better set at .1 degree toe in. Has that changed?

"Accelerate Growth Through Customer Satisfaction and Loyalty"

Alex Snider
Ford Motor Company of Canada
Technical Service Support Specialist
Outlook ID: asnider@ford.com
Dial net: 853-1485
Outside #: 905-845-2511, ext: 1485

Tammy,
Most of it is good. I have a problem with reducing caster by only .5 to .75 degree? What is the caster is up around 4.00 degrees? At 3.00 degrees most F-Super Duty trucks in the right conditions will shimmy.
My suggestion is drop by .75 degrees on both sides and re-verify the customers concern. If the concern still is there it should reduce the shimmy concern. You can lower the caster to the lowest end of the spec. as long as the vehicle drives correctly and will not wear the tires.
Also we need to suggest to check the loading and conditions the shimmy will occur. Remember adding weight to the back raises the front end which in effect raises caster. In other words is this only occurring when loaded?
Randy Corlew - FSE - Pittsburgh

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tsb04-26-01.pdf
(16 KB)

STEERING WHEEL OSCILLATION (BACK AND FORTH MOTION) AFTER RIDING OVER BUMPS/RUTS

TSB 04-26-1

FORD:
2005 F-Super Duty

ISSUE

Some 2005 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion) immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on 4x4 vehicles, equipped with steering wheels which have redundant controls (i.e. climate and radio controls).

ACTION

This procedure will minimize the steering wheel oscillations on impacts, however, there may be some remaining minor oscillation which would be considered normal.

Perform the following:

- Vehicle Inspection
- Evaluation Of Vehicle Prior To Repair
- Steering Gear Mesh Load Adjustment
- Replacement Of Redundant Control Steering Wheel (if equipped and vehicle built prior to 10/8/04)

SERVICE PROCEDURE

VEHICLE INSPECTION

1. Set tire pressures as indicated on the vehicle label (located on fuel door).
2. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
    a. If leaks are present, install a new steering damper and continue with this TSB.
    b. If no leaks are present, continue with this TSB.
3. Check torques on the steering system fasteners (damper nuts (4x2), damper-to-bracket (F-250, F-350 4x4), damper-to-drag link, drag link-to-pitman arm nut, inner tie-rod end nut, outer tie-rod end nuts, and track bar bracket-to-frame nuts & bolts), adjust to specification as required. Refer to Workshop Manual Section 211-03.

EVALUATION OF VEHICLE PRIOR TO REPAIR

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the severity of wheel oscillation.
3. During the road test, evaluate and note the steering wheel return-ability.
    a. Turn steering wheel full lock to lock to confirm no binding.
    b. Locate center, and then 45 degrees either side of center on the steering wheel.
    c. Driving vehicle at 35 MPH (56 Km/h), on a dry and flat road surface, turn the wheel 45 degrees and release. Note the approximate angle that the steering wheel returns to BEFORE CLEAR VISION. Perform and record the angle for both left and right. It is normal if the angle differs slightly from left to right.

STEERING GEAR MESH LOAD ADJUSTMENT

1. Insert hex wrench into steering gear mesh load adjuster screw.
2. While holding the mesh load adjuster screw tight, back off lock nuts two full turns to allow free movement of the adjuster screw.

NOTE: The information in Technical Service Bulletins is intended for use by trained, professional technicians with the knowledge, tools, and equipment to do the job properly and safely. It informs these technicians of conditions that may occur on some vehicles, or provides information that could assist in proper vehicle service. The procedures should not be performed by "do-it-yourselfers". Do not assume that a condition described affects your car or truck. Contact a Ford, Lincoln, or Mercury dealership to determine whether he Bulletin applies to your vehicle. Warranty Policy and Extended Service Plan documentation determine Warranty and/or Extended Service Plan coverage unless stated otherwise in the TSB article.The information in this Technical Service Bulletin (TSB) was current at he time of printing. Ford Motor Company reserves the right to supercede this information with updates.The most recent information is available through Ford Motor Company's on-line technical resources.

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3. Carefully tighten adjuster screw until a slight increase in resistance is felt, then back off approximately 1/16th of a turn.
4. Hold the adjuster screw in place and tighten lock nut. Do not allow the adjustment screw to turn while tightening the locking nut down.
5. Road test vehicle and evaluate for improvement in steering wheel oscillations.
   a. Confirm that there is no objectionable increase in steering efforts, especially at low speeds.
   b. Verify that steering wheel return-ability is approximately the same as it was during the original evaluation (within 5 degrees).
   c. Turn steering wheel full lock to lock to confirm no binding.
6. Park the vehicle to let it cool down. Road test cold to confirm acceptable parking efforts and return-ability in cold condition. Repeat the mesh load adjustment if needed.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 Only

NOTE
THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE
FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE 2005 SUPER DUTY F-SERIES WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

PART NUMBER	PART NAME
5C7Z-3600-ABA	Redundant Control Steering Wheel (King Ranch Tan/Peb)
5C7Z-3600-CBA	Redundant Control Steering Wheel (Charcoal Black)

WARRANTY STATUS: Eligible Under Provisions Of New Vehicle Limited Warranty Coverage

OPERATION	DESCRIPTION	TIME
042601A	F-Super Duty With Gas Engine: Perform Inspection/Evaluation, Adjust Mesh Load	2.2 Hrs.
042601A	F-Super Duty With 6.0L Diesel: Perform Inspection/Evaluation, Adjust Mesh Load	3.2 Hrs.
042601B	F-Super Duty With Gas Engine: Perform Inspection/Evaluation, Adjust Mesh Load, And Replace Damper	2.3 Hrs.
042601B	F-Super Duty With 6.0L Diesel: Perform Inspection/Evaluation, Adjust Mesh Load, And Replace Damper	3.2 Hrs.
042601C	F-Super Duty With Gas Engine: Perform Inspection/Evaluation, Adjust Mesh Load, And Replace Steering Wheel	2.8 Hrs.
042601C	F-Super Duty With 6.0L Diesel: Perform Inspection/Evaluation, Adjust Mesh Load, And Replace Steering Wheel	3.6 Hrs.
042601D	F-Super Duty With Gas Engine: Perform Inspection/Evaluation, Adjust Mesh Load, Replace Damper And Steering Wheel	2.9 Hrs.
042601D	F-Super Duty With 6.0L Diesel: Perform Inspection/Evaluation, Adjust Mesh Load, Replace Damper And Steering Wheel	3.7 Hrs.

DEALER CODING

BASIC PART NO.	CONDITION CODE
3600	42

From: Snider, Alex (A.)
Sent: Monday, August 29, 2005 8:01 AM
To: O'Connor, Tammy (T.A.)
Cc: Choe, Mark (M.J.); Hatt, Jeffrey (J.M.); Hale, Curt (B.C.); Knapp, David (D.); Mayer, Paul (P.A.); Repasky, Steve (S.)
Subject: RE: Update to TSB 04-26-1

Attachments: RE: File 2005MM, Main Vin: 1FTSW21545E[redacted], 24980 Kms, Severe vibration after hit bump, 80 - 100 kms / hour, Dealer B2211, over 8 units now

Tammy, Our Rep (Claude St. Germain) has corrected 7-8 vehicles by performing the up dated info. He has only used either 1/2, 3/4 or on occasion 1 degree caster shims. If you try to get the caster to the exact minimum he finds that the camber is out of spec.

Here's an example of his reports:

RE: File 2005MM,
Main Vin: 1FT...

"Accelerate Growth Through Customer Satisfaction and Loyalty"

Alex Snider
Ford Motor Company of Canada
Technical Service Support Specialist
Outlook ID: asnider@ford.com
Dial net: 853-1485
Outside #: 905-845-2511, ext: 1485

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Monday, August 29, 2005 7:40 AM
To: Repasky, Steve (S.); Mayer, Paul (P.A.)
Cc: Choe, Mark (M.J.); Hatt, Jeffrey (J.M.); Hale, Curt (B.C.); Snider, Alex (A.); Knapp, David (D.)
Subject: RE: Update to TSB 04-26-1

Steve/Paul:

I'm going to submit this as an FQE assignment and have the FQE's perform this revised TSB on a few trucks, and see if they have any other suggestions/revisions.

I'll then forward your team any suggested changes/comments after the assignment is complete, and then I'll submit it for publication.

Let me know if you have any questions. Thanks.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thurs,Fri)
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Cc: Choe, Mark (M.J.); Hatt, Jeffrey (J.M.); O'Connor, Tammy (T.A.)
Subject: RE: Update to TSB 04-26-1

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Subject: FW: Update to TSB 04-26-1

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Sent: Friday, August 19, 2005 4:01 PM
To: Repasky, Steve (S.)
Subject: Update to TSB 04-26-1

Under section titled "ACTION", we add

- Reduce front caster by 0.5 to 0.75 degrees.
- Remove the reference to replacement of redundant steering wheel and applicable sections related to the steering wheel replacement?
- If needed, mention if vehicle built prior to 10/8/2004 reference TSB 04-26-1

Under Section titled "SERVICE PROCEDURES", we add

- EMPHASIS on set tire pressure in **BOLD** letters. (Is it still located on fuel door in 2006?)
- Under item 3 (Check torques) we add the radius arm to axle**(Torque spec: 185 ft-lb),** radius arm to frame bracket**(Torques spec: 406 ft-lb). Radius arm frame bracket to frame bolts (Torque spec: 129 ft-lb)**
- A new item 4. Measure wheel alignment. Verify that Front Caster, Camber & Total Toe**(preferred spec .1degree toe in)** is within specification. Adjust to specification as required.

A new section Titled "REDUCE FRONT CASTER"

- Note the current front caster
- Use alignment adjustment bushings to Reduce front caster by 0.5 to 0.75 degrees (however, verify that the new caster setting is not below the lower specification limit).
- Use Alignment adjustment bushings:
  - 4x4: 5C3Z-3B440-DDD (0.75 Degree bushing) OR 5C3Z-3B440-EEE (1.0 degree bushing)

- 4x2: 5C3Z-3B440-D (0.75 Degree bushing) OR 5C3Z-3B440-E (1.0 degree bushing)
- Maintain the current front camber, cross-camber & cross-caster settings as close as you possibly can.

<< File: tsb04-26-01 gear meshload.pdf >>

Regards
Paul Mayer
Truck Suspension and Systems Analysis
313-248-9202 Fax:313-317-2349

From: St Germain, Claude (C.M.)
Sent: Thursday, August 18, 2005 11:21 AM
To: Snider, Alex (A.)
Cc: Laquerre, Mike (M.J.); Martin, Richard (R.); Corbeil, Martin (M.); Lessard, Bertrand (B.); Bleau, Serge (R.)
Subject: RE: File 2005MM, Main Vin: 1FTSW21545E[redacted], 24980 Kms, Severe vibration after hit bump, 80 - 100 kms / hour, Dealer B2211, over 8 units now
Attachments: MVC-007F.JPG; MVC-009F.JPG; MVC-010F.JPG; MVC-013F.JPG; MVC-015F.JPG; MVC-016F.JPG

Addition,
Just to add some photos to help you see what we are dealing with, below are some photos and their description.

007 Right Front Spindle Area
009 Left Front Spindle Area
010 Center Area Shows Steering Damper
013 Wheel (Aluminum Type)
015 Wheel (Styled Steel Type)
016 Door Decal (Shows recommended tire Pressure and Spring Type: Note front " TT " Type)

-----Original Message-----
From: St Germain, Claude (C.M.)
Sent: Tuesday, August 16, 2005 3:21 PM
To: Snider, Alex (A.)
Cc: Laquerre, Mike (M.J.); Martin, Richard (R.); Corbeil, Martin (M.); Lessard, Bertrand (B.); Bleau, Serge (R.)
Subject: RE: File 2005MM, Main Vin: 1FTSW21545EA2[redacted], 24980 Kms, Severe vibration after hit bump, 80 - 100 kms / hour, Dealer B2211, over 8 units now

Alex,
Here is the report on the other two units we did while I was there (Note the F-350 but with same Springs But Red Tag With T).
There is one other unit that we were going to look at but client never showed at dealer B2476 in Roberval but I think we proved the point with these four.

Third Truck:
1FTWX31545E[redacted], F-350 4X4 2005 Color, Toreador Red
Kms 27076 (Now has 34348 Kms)
Front Shock ID: C34 18045 PCD
Tires B.F. Goodrich Rugged trail T/A, LT265 70 R17, 121 118 R M+S
Frt Spring Tag, 5C34 5310 AEB (5AE) (Red Tag with : T :).
Client Transport La Dore
Wheels, Styled Steel Type (Silver See Photo 14)
Sway Bar ID, 5C34-5494-CC
Bracket ID, 5C34-3A094-AC bracket at frame area where rod attaches to, bracket is bolted to frame 5 Bolts 129 ft lbs torque

Suspension type, Non Heavy Duty Does not have 764 option.
Pitman Arm ID, 5C34-3590-BD
Spring Tag ID, TT, This is on tag at left door post.

Data Before and after:

Torq Specs:	Actual	Spec
Torq Rod bracket to Frame:	100 Ft Lbs	129 Ft Lbs
Torq Rod At Bracket End:	380 Ft Lbs	406 Ft Lbs
Torq Rod At Axle End:	185 Ft Lbs	185 Ft Lbs at spec area in Shop Manual (Note this spec is at 183 Ft lbs on Page 20401b 11?)

Alignment Specs:	Before	After
Camber Left:	0.10	0.10
Camber Right:	0.10	0.24
Caster Left:	2.58	1.71 (Used 5C3Z 3B440 EEE 1.0 Adjuster)
Caster Right:	2.79	2.20 (Used 5C3Z 3B440 CCC 1/2 Adjuster)

Note: This is a F-350 and specs are different in book.

Tire Pressure:

Left Frt:	50 Psi	75 Psi
Right Frt:	50 Psi	75 Psi
Left Rear:	50 Psi	75 Psi
Right Rear:	40 Psi	75 Psi

Alex This one we will be replacing steering gear and Pitman arm tomorrow on and it will be shipped to you like the first one we sent.
Note: That the first Steering gear and pitman arm come from unit 1FTSX21545E[redacted] Silver F-250 .

Fourth Truck:

1FTSW21565E[redacted], F-250 4X4 2005 Color, Silver
Kms 5323 (Now Has 15,436)
Front Shock ID: C34 18045 PCD
Tires, B.F. Goodrich Rugged trail T/A, LT265 70 R17, 121 118 R M+S
Frt Spring Tag, 5C34 5310 AEB (5AE) (Red Tag with : T :), Note this one is just like F-

350?
Client, Maison Mobile R.L.
Wheels, Aluminum Round hole style.
Sway Bar ID, 5C34-5494-CC
Bracket ID, 5C34-3A094-AC bracket at frame area where rod attaches to, bracket is bolted to frame 5 Bolts 129 ft lbs torque
Suspension type, Non Heavy Duty Does not have 764 option.
Pitman Arm ID, 5C34-3590-BD
Spring Tag ID, TT, This is on tag at left door post.

Data Before and after:

Torq Specs:	Actual	Spec
Torq Rod bracket to Frame:	100 Ft Lbs	129 Ft Lbs
Torq Rod At Bracket End:	406 Ft Lbs	406 Ft Lbs
Torq Rod At Axle End:	185 Ft Lbs	185 Ft Lbs at spec area in Shop Manual (Note this spec is at 183 Ft lbs on Page 20401b 11?)
Alignment Specs:		
Camber Left:	0.11	0.48
Camber Right:	-0.06	0.01
Caster Left:	2.34	2.34
Caster Right:	2.51	2.28
Tire Pressure:		
Left Frt:	74 Psi	75 Psi
Right Frt:	74 Psi	75 Psi
Left Rear:	35 Psi	75 Psi
Right Rear:	35 Psi	75 Psi

Conclusion:

All four units of which were done not one had shimmy concern after corrections on same roads even at 100 Kms / Hour.
As a test only ,
We lowered the tire pressures to 40 psi and re tried on same road, at this pressure of which is not recommended there was a hint of shimmy but vehicle did not engage in the severe shimmy as before and full control was there.

In my opinion the Caster change corrected noticeably the issue especially at low tire pressure and is much better at required tire pressure.

One thing to note is the different specs we have for different units and even different suspension types on this model,
This dealer did not have the specs we recommend in his machine we had to manually input them according to suspension type and then used the lower side of caster spec.

I have attached a photo of the roads they commonly drive on and the posted speed of this type

road as I was curious what it was and thought you may want to know also. (Photo Number 17)

Alex, Call me when you are back if any questions, also I wanted to talk to you about spring types on these units

I will close this file now unless you have others for me to evaluate, Thanks

-----Original Message-----
From: St Germain, Claude (C.M.)
Sent: Friday, August 12, 2005 10:28 AM
To: Snider, Alex (A.)
Cc: Laquerre, Mike (M.J.); Martin, Richard (R.); Corbeil, Martin (M.); Lessard, Bertrand (B.)
Subject: RE: File 2005MM, Main Vin: 1FTSW21545E[redacted], 24980 Kms, Severe vibration after hit bump, 80 - 100 kms / hour, Dealer B2211, over 8 units now

Alex , here is the report I promised on two trucks done yesterday, .

First truck is the following with what was found and done to it.

1FTSX215X5E[redacted] F-250 4X4 2005 Color, Toreador Red

Kms 5323 (Now has 8969 Kms)
Front Shock ID: C34 18045 PCD
Tires B.F. Goodrich Rugged trail T/A, LT265 70 R17, 121 118 R M+S
Frt Spring Tag, 5C34 5310 AEB (5AE) (White Tag No T).
Client Luc Rondeau (Correction Clients name is Luc Bonneau)
Wheels, Styled Steel Type (Silver See Photo 14)
Sway Bar ID, 5C34-5494-CC
Bracket ID, 5C34-3A094-AC bracket at frame area where rod attaches to, bracket is bolted to frame 5 Bolts 129 ft lbs torque
Suspension type, Non Heavy Duty Does not have 764 option.
Pitman Arm ID, 5C34-3590-BD
Spring Tag ID, TT, This is on tag at left door post.

Data Before and after:

Torq Specs:	Actual	Spec	
Torq Rod bracket to Frame:	115 Ft Lbs	129 Ft Lbs	
Torq Rod At Bracket End:	390 Ft Lbs	406 Ft Lbs	
Torq Rod At Axle End:	185 Ft Lbs	185 Ft Lbs at spec area in Shop Manual (Note this spec is at 183 Ft lbs on Page 20401b 11?)	
Alignment Specs:			
Camber Left:	0.03	0.44	
Camber Right:	0.21	0.59	
Caster Left:	2.99	2.51	(Used 5C3Z 3B440 DDD 3/4 Adjuster)
Caster Right:	3.00	2.59	(Used 5C3Z 3B440 DDD 3/4 Adjuster)

Tire Pressure:

Left Frt:	52 Psi	75 Psi
Right Frt:	52 Psi	75 Psi
Left Rear:	52 Psi	75 Psi
Right Rear:	52 Psi	75 Psi

Second Truck:

1FTSX21545E[redacted] F-250 4X4 2005 Color, Silver

Kms 24,890 (Now Has 27,982)
Front Shock ID: C34 18045 PCD
Tires, Continental, M+S, LT 245 75R17
Frt Spring Tag, 5C34 5310 AEB (5AE) (White Tag No T).
Client, Regean Bouchard
Wheels, Styled Steel Type (Silver See Photo 14)
Sway Bar ID, 5C34-5494-CC
Bracket ID, 5C34-3A094-AC bracket at frame area where rod attaches to, bracket is bolted to frame 5 Bolts 129 ft lbs torque
Suspension type, Non Heavy Duty Does not have 764 option.
Pitman Arm ID, 5C34-3590-BD
Spring Tag ID, TT, This is on tag at left door post.

Data Before and after:

Torq Specs:	**Actual**	**Spec**
Torq Rod bracket to Frame:	129 Ft Lbs	129 Ft Lbs
Torq Rod At Bracket End:	406 Ft Lbs	406 Ft Lbs
Torq Rod At Axle End:	185 Ft Lbs	185 Ft Lbs at spec area in Shop Manual (Note this spec is at 183 Ft lbs on Page 20401b 11?)

Alignment Specs:

Camber Left:	-0.30	0.04	
Camber Right:	-0.26	-0.13	
Caster Left:	3.47	2.29	(Used 5C3Z 3B440 DDD 3/4 Adjuster) (See Photos 13 and 16)
Caster Right:	3.27	2.23	(Used 1/2 Adjuster)

Tire Pressure:

Left Frt:	50 Psi (See photo 21 at 50 Psi)	75 Psi (See photo 22 at 75 Psi)	
Right Frt:	50 Psi	75 Psi	
Left Rear:	50 Psi	75 Psi	

Right Rear: 50 Psi 75 Psi

Alex, I will have more details for you later with info from three other trucks, Two Of which I will see today (Looks like I will be leaving later than I had expected again,)

P.S. I still did not get a new cell so you cant reach me on it I will call you from the two dealers I am today to see if all is clear for you in this note.

-----Original Message-----
From: St Germain, Claude (C.M.)
Sent: Monday, August 01, 2005 11:40 AM
To: Snider, Alex (A.)
Cc: Laquerre, Mike (M.J.); Martin, Richard (R.); Corbeil, Martin (M.)
Subject: RE: File 2005MM, Main Vin: 1FTSW21545E[redacted], 24980 Kms, Severe vibration after hit bump, 80 - 100 kms / hour, Dealer B2211, over 8 units now

Hi Guys,
I am back on this file now my last trip was changed as I was re directed to Magog ford for another unit.
Any way I have planned to be at this dealer on the 9th and 10th of August to continue with this file and get latest info.
I tried to set it up for this week but Dealer has personnel on Vacation (Alignment Guy) and it was best for them The week Of Aug 8th.
Two or three of the trucks will be at one location in St Felicien to avoid extra traveling.
Alex I will give all the info you requested on the first day I am there.

-----Original Message-----
From: St Germain, Claude (C.M.)
Sent: Tuesday, July 19, 2005 1:47 PM
To: Corbeil, Martin (M.)
Cc: Laquerre, Mike (M.J.); Snider, Alex (A.); Martin, Richard (R.)
Subject: RE: File 2005MM, Main Vin: 1FTSW21545E[redacted], 24980 Kms, Severe vibration after hit bump, 80 - 100 kms / hour, Dealer B2211, over 8 units now

Update :
Dealer has verified 3 other units and torqued to spec the components required.
However dealer states that one new unit still has concern with correct tire pressures and all components are torqued to spec.

New unit info is:

VIN: 1FTSX21535E[redacted]
Client: [redacted]
Dealer: B2211, Dolbeau
Dealer Contact: Gervais Bouchard

Martin are you aware of this one?
-----Original Message-----

From: StGermain, Claude (C.M.)
Sent: Thursday, July 14, 2005 10:29 AM
To: Corbeil, Martin (M.)
Cc: Laquerre, Mike (M.J.); Snider, Alex (A.); Martin, Richard (R.)
Subject: RE: File 2005MM, Main Vin: 1FTSW21545E[redacted], 24980 Kms, Severe vibration after hit bump, 80 - 100 kms / hour, Dealer B2211, over 8 units now

Martin , have you instructed the dealers (Dolbeau and St Felicien) to check and correct the other remaining units? and if so are they all ok now?

-----Original Message-----
From: Corbeil, Martin (M.)
Sent: Wednesday, July 13, 2005 2:49 PM
To: StGermain, Claude (C.M.)
Cc: Laquerre, Mike (M.J.); Snider, Alex (A.); Martin, Richard (R.)
Subject: RE : File 2005MM, Main Vin: 1FTSW21545E[redacted], 24980 Kms, Severe vibration after hit bump, 80 - 100 kms / hour, Dealer B2211, over 8 units now

B2211 Dolbeau Gervais Bouchard svc mgr vin 1FTSW21545E[redacted]

-------- Message d'origine--------
De: StGermain, Claude (C.M.)
Date: mer. 2005-07-13 14:01
À: Corbeil, Martin (M.)
Cc: Laquerre, Mike (M.J.); Snider, Alex (A.); Martin, Richard (R.)
Objet: RE: File 2005MM, Main Vin: 1FTSW21545E[redacted] 24980 Kms, Severe vibration after hit bump, 80 - 100 kms / hour, Dealer B2211, over 8 units now

Would it be possible to get the Vin: and or Repairing dealer name of the unit you worked with yesterday ?.

-----Original Message-----
From: StGermain, Claude (C.M.)
Sent: Tuesday, July 05, 2005 11:41 AM
To: Martin, Richard (R.)
Cc: Corbeil, Martin (M.); Laquerre, Mike (M.J.); Snider, Alex (A.)
Subject: RE: File 2005MM, Main Vin: 1FTSW21545E[redacted], 24980 Kms, Severe vibration after hit bump, 80 - 100 kms / hour, Dealer B2211, over 8 units now

Update:
I plan to be at this dealer again on Wednesday July 13th:
On this day I will work with two units 1) (1FTSW21545E[redacted] from Dolbeau) and the other (1FTWX31545E[redacted] From St Felicien) ,

Both Units will be at L.D. Auto In St. Felicien
These are the two most critical units at this time.
On one unit we will verify torque rod, (As per dealer seems week? Unit from Dolbeau).
On the other we will do many tests of which consists of the following:

- Replace Steering Box and possibly Pitman Arm (Steering gear lash was tightened with no results)
- Verify Thrust Angles goal for 0 Deg
- Work With Toe In Adj + .1 Deg
- Loosen all suspension components + re secure

- Also with the above it will be necessary to perform 2 or three full 4 wheel alignments.

I will let you know out come of all the above when done , Thanks
P.S. Thanks again for your help Alex.

-----Original Message-----

From: StGermain, Claude (C.M.)

Sent: Monday, July 04, 2005 2:43 PM

To: Martin, Richard (R.)

Cc: Corbeil, Martin (M.); Laquerre, Mike (M.J.); Snider, Alex (A.)

Subject: I: File 2005MM, Main Vin: 1FTSW21545E[redacted] 24980 Kms, Severe vibration after hit bump, 80 - 100 kms / hour, Dealer B2211, over 8 units now

On June 23ird I was at B2211 (Both their Locations one in St Felicien, and the other in Dolbeau Quebec),
The issue is a severe vibration at front end during speeds of approx 80 to 100 kms / hour.
Once a bump and or a pothole is hit the front end seems to wind into a violent type shaking of which stops only when the unit comes down to a very slow speed.

All the front end was verified for play, tiers were substituted , tire pressures were lowered to 35 psi and then increased to 90 psi over and below the spec of 75 psi.

TSB for steer wheel replacement was tried also, Caster cams were installed to try and cheat alignment .

All the above was done with no results.

Next week I plan to go back to dealer for more test's of which I will supply to Alex to continue with this file.

Note: I have photos of front end configuration I will send in next note with video requested.

Following are all of the units with same concern in this dealer's area and the info I retrieved on them. (The first one is main unit we are working with).

1FTSW21545E[redacted] F-250 4X4 2005
kMS: 24980
Front Shock Id: C34 18045 PCD
Tires: Continental M+S LT 245 75R17
Frt Spring Tag: 5C34 5310 AEB
Client Rejean Bouchard

1FTSX215X5E[redacted] F-250 4X4 2005
Kms 5323

Front Shock ID: C34 18045 PCD
Tires B.F. Goodrich Rugged trail T/A, LT265 70 R17, 121 118 R M+S
Frt Spring Tag, 5C34 5310 AEB
Client Luc Rondeau

1FTWX31545E[redacted] F-350 4X4 2005
Kms 27076
Frt Shock ID: C34 18045 PCD
Tires N/A
Frt Spring Tag, 5C34 5310 AEB
Client Transport La Dore Inc

1FTSW215X5E[redacted] F-250 4X4 2005
Kms 33200
Front Shock ID: C34 18045 PCD
Tires N/A
Frt Spring Tag, 5C34 5310 AEB
Client Forestiers Lambec Inc

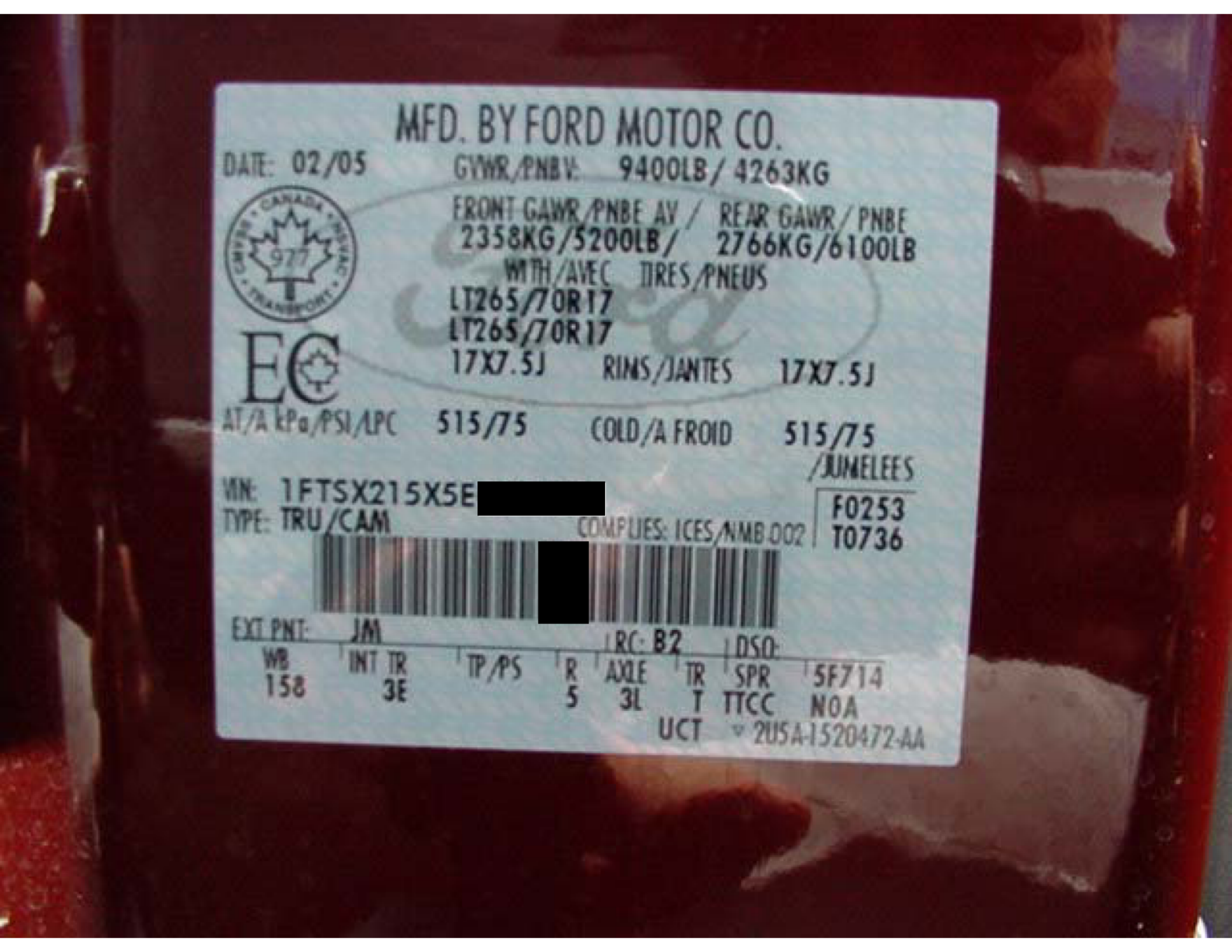
1FTSW21575E[redacted] F-250 4X4 2005
Kms 5323
Front Shock ID: C34 18045 PCD
Tires N/A
Frt Spring Tag, 5C34 5310 AEB
Client Transport Mont-Jean Dolbeau Inc

1FTSW21YX5E[redacted] F-250 4X4 2005
Kms 5323
Front Shock ID: C34 18045 PCD
Tires N/A
Frt Spring Tag, 5C34 5310 AEB
Client Picines turc-Hot

1FTSW21565E[redacted] F-250 4X4 2005
Kms 5323
Front Shock ID: C34 18045 PCD
Tires B.F. Goodrich Rugged trail T/A, LT265 70 R17, 121 118 R M+S
Frt Spring Tag, 5C34 5310 AEB
Client Maison Mobile RL

CAUTION

Rugged Trail T/A


MFD. BY FORD MOTOR CO.
DATE: 02/05
GVWR/PNBV: 9400LB/4263KG
FRONT GAWR/PNBE AV / REAR GAWR/PNBE
2358KG/5200LB/ 2766KG/6100LB
WITH/AVEC TIRES/PNEUS
LT265/70R17
LT265/70R17
17X7.5J RIMS/JANTES 17X7.5J
AT/A kPa/PSI/LPC 515/75 COLD/A FROID 515/75
/JUMELEES
VIN: 1FTSX215X5E
TYPE: TRU/CAM
COMPLIES: ICES/NMB 002
F0253
T0736
EXT PNT: JM
RC: B2
DSO:
WB 158
INT TR 3E
TP/PS
R 5
AXLE 3L
TR T UCT
SPR TTCC
5F714 NOA
2U5A-1520472-AA

From: Corlew, Randall (R.L.)
Sent: Tuesday, August 30, 2005 1:25 PM
To: Carey, John (J.P.)
Cc: O'Connor, Tammy (T.A.)
Subject: RE: Report Summary for the CQIS Report#[redacted]

John,
I can explain it very well if you feel that you do not understand it fully.
I also understand directional stability but returning to center and directional stability are not the same thing. It has to do with the weight on the steering linkage as you increase caster.
I will try to explain in this e-mail.
Imagine: A spindle with 0 degrees of caster. Now pull the steering linkage. What happens? - Nothing.
Now Imagine: A spindle with 90 degrees positive caster. King Pin horizontal. Now pull the steering linkage. What happens?????
The tire would be pushed in at the top by the weight of the vehicle.
Now if you hook up the steering linkage you (I hope) can see why adding a 1/2 degree of caster causes the vehicle to go straight down the road when the road is crowned for water run off. This is because the right side has more weight transferring into the steering linkage than the left. So if the road was flat with a 1/2 degree of caster you would drift to the left.
With this point established the next point of understanding is by adding caster to the steering angles you load the steering linkage more. Now hit a bump at 70 mph!
You start the steering linkage to be shot to one side! In effect this is bump steer because of this steering linkage design! (No other way to make the steering linkage)
The more caster you have the more force you have to deal with!
A steering damper is a shock absorber that can stop the customers concern but it can be covering up a concern.
Lowering the caster solves the problem if everything else is ok.
I also understand that customers like faster return to center of the steering wheel but that is also a trade off.
In working on twin-I-beam trucks all of my life, 1965 models and up I have found this to be true. If everything else is ok and you have shimmy, lower the caster down to the min. spec. and life will be good.

Randy Corlew - FSE - Pittsburgh

P.S. I just had one at Chenoweth Ford in Clarksburg W.Va. and they told me the steering and suspension was ok and it had shimmy. I told them to lower the caster to the lowest they could go. They took it down to 1.5 Caster lf, and 2.0 Caster rf. Down from 3.0lf and 3.5 rf. They said it still shimmies at 75 mph hitting some good bumps. I had them recheck the tires, suspension and wheel bearings. Wheel bearings were a little loose and they had lowered the tire pressure for some reason. Set the bearings and adjusted the tire pressure and now the problem is gone per the sf this morning.

-----Original Message-----
From: Carey, John (J.P.)
Sent: Tuesday, August 30, 2005 10:26 AM

To: O'Connor, Tammy (T.A.)
Cc: Snider, Alex (A.); Corlew, Randall (R.L.)
Subject: RE: Report Summary for the CQIS Report#[redacted]

Tammy,
Thank you for your response.
Alex called and left a message with additional detail. Thank you for the information Alex.
I am trying to have the vehicle scheduled for repair on September 6, 2005 in which I plan on being hands on involved.

I will let you know of the outcome.

John Carey
Field Service Engineer
Ford Customer Service Division
Zone C1,C2, C3
[redacted]

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Tuesday, August 30, 2005 9:25 AM
To: Carey, John (J.P.)
Cc: Snider, Alex (A.); Corlew, Randall (R.L.)
Subject: RE: Report Summary for the CQIS Report#[redacted]
Importance: High

John: I'm not the expert when it comes to completely understanding the caster part of this equation. Two really good sources for you would be to call Alex Snider (Ford of Canada), or Randy Corlew, FSE Pittsburg.

They have worked on a number of these trucks and resolved the issue.

Alex/Randy: Can you help John and explain why reducing caster effects this issue and is so important in resolving it. Thanks.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thurs,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

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-----Original Message-----
From: Carey, John (J.P.)
Sent: Monday, August 29, 2005 6:37 PM

To: O'Connor, Tammy (T.A.)
Cc: Carey, John (J.P.)
Subject: RE: Report Summary for the CQIS Report#[redacted]

Tammy,
Excellent, I will get involved with the vehicle personally.

Usually we increase caster to correct an instability issue. The note mentions reducing caster. Can you explain?

Thank you

John Carey
Field Service Engineer
Ford Customer Service Division
Zone C1,C2, C3
(407) 875-7577
[redacted]

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Monday, August 29, 2005 6:19 PM
To: Carey, John (J.P.)
Cc: Hale, Curt (B.C.); Johnston, Steven (S.J.)
Subject: RE: Report Summary for the CQIS Report#[redacted]
Importance: High

John:

I am forwarding you a revision to the TSB that we are working on.

Please read the original TSB and the revisions I am forwarding to you.

The most important items are:

- make sure tire pressure is set to spec on door label - VERY, VERY IMPORTANT (most trucks with this issue are under inflated).
- torque specs
- caster settings

The steering wheel is a heavier weight and will make an improvement, but the above will make the most improvement.

If after all this is done and verified, and issue still remains then please call me and we will get Engineering involved.

I also have sent out an FQE assignment to verify that the revisions to the TSB resolve the issue, so I would appreciate your feedback one way or the other.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion

Body / Chassis / Electrical
248/814-8698 Telecommuting Office (Mon,Thurs,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

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-----Original Message-----
From: Carey, John (J.P.)
Sent: Monday, August 29, 2005 5:39 PM
To: Hale, Curt (B.C.); Johnston, Steven (S.J.); O'Connor, Tammy (T.A.)
Cc: Carey, John (J.P.)
Subject: FW: Report Summary for the CQIS Report# [redacted]

Curt, Steve & Tammy,

This customer feels this vehicle is unsafe to drive and wants the vehicle bought back. I have asked the dealership to first verify the severity of the concern. The customer did say that the first attempt at adjusting the mesh load did help but the concern is still evident (to a lesser degree).

Please read the CQIS report included below.
Please provide any other suggestions that may correct this vehicle concern in addition to the recommendations I provided.
Can you please explain what effect replacing the steering wheel as listed in the TSB does to address a steering wheel vibration. Is it weighted?

Thank you

John Carey
Field Service Engineer
Ford Customer Service Division
Zone C1,C2, C3
(407) 875-7577
[redacted]

-----Original Message-----
From: Carey, John (J.P.)
Sent: Monday, August 29, 2005 5:03 PM
To: Carey, John (J.P.)
Subject: Report Summary for the CQIS Report# [redacted]

Attachments : 0

Report# :	[redacted] FCSDFS	**Received:**	08/29/2005
CCRG/EPRC:	**Reviewed Status:**	**Date:**	

Vehicle:	2005,F250 4X4,SUP CAB,SRW ,1FTSX21575E[redacted]			**Build Date:**	09/15/2004
Odometer :	16,330 M	**Engine:**	MOD 5.4 3V	**Calibration:**	5F714N0A
Transmission:	5R110W	**Axle:**		**A/C:**	YES
Dealer:	USA 04809 Bartow Ford Company			**Phone#:**	(863) 534-2646
City:	Bartow	**State:**	Florida	**Country :**	USA

Originator:

Symptom: 3 03 3 53 CHASS.,STRG/HANDLING ,VIB./SHIMMY,OVER BUMPS

Status:

VFG: V89 RIDE & HANDLING

Additional Symptom: FRONT END SHAKES

Fix: **Causal Component :**

Condition Code:

Region Code: 24 **Region Name:** Orlando - 24

Comments :

OWNER 08/29/2005 05:01PM JOHN CAREY(FSE) MSS - FCSD - REG - ORLANDO
CUSTOMER STATED THAT WHEN THE VEHICLE GOES OVER CERTAIN ROAD BUMPS IT
SETS OFF A VILENT SHIMMY SHAKE IN THE FRONT END OF THE VEHICLE. THE
VEHICLE HAS TO BE BROUGHT DOWN TO 10 MPH AND THEN ACCELLARATION CAN BE
REGAINED AND ORIGINAL ROAD SPEED. CUSATOMER STATES HE HAS LOST
CONFIDANCE IN THE VEHICLE.

TECH/C **08/29/2005 05:01PM JOHN CAREY(FSE) MSS - FCSD - REG - ORLANDO**
RECOMMEND AFTER DRIVING THE VEHICLE WITH THE CUSTOMER AND VERIFYING
CONCERN TO PERFORM TSB 06-26-1. BE SURE TSB IS FOLLOWED ACCURATELY AND
MESH ADJUSTMENT IS DONE CORRECTLY. CHECK FOR REDUNDANT STEERING WHEEL,
IF EQUIPPED, REPLACE AS INSTRUCTED IN TSB. CHECK ALIGNMENT AND
INCREASE CASTER WHILE MAINTAINING CASTER SPLIT APROXIMATELY 1 DEG.
CONFIRM ALL SUSPENTION COMPONENTS ARE TORQUED AND RE-EVALUATE VEHICLE.

From: Mayer, Paul (P.A.)
Sent: Thursday, August 25, 2005 4:18 PM
To: O'Connor, Tammy (T.A.); Repasky, Steve (S.)
Cc: Meier, Kenneth (K.W.); Johnston, Steven (S.J.); Hale, Curt (B.C.)
Subject: RE: Report Summary for the CQIS Report#[redacted]

As Tammy stated, get the tire pressure right
Next Step
- Verify and re-torq if required all frt susp fasteners (track-bar, radius arms, steering gear & bracketry)
Next step
- Tighten the steering gear mesh-load screw per the TSB
Next Step
- Drop the front caster by 0.5 degrees (maintain current Camber,X-camber & X-caster)

Regards
Paul Mayer
Truck Suspension and Systems Analysis
313-248-9202 Fax:313-317-2349

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Thursday, August 25, 2005 1:27 PM
To: Repasky, Steve (S.); Mayer, Paul (P.A.)
Cc: Meier, Kenneth (K.W.); Johnston, Steven (S.J.); Hale, Curt (B.C.)
Subject: RE: Report Summary for the CQIS Report#[redacted]

Steve/Paul: I know you are working on updating the TSB, but can you provide recommendations on the below truck. Note line concerning stab. bar.

Any recommendations would be appreciated.

Ken, it is very important that tire pressure be set to spec on door label -- very important.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thurs,Fri)
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-----Original Message-----
From: Meier, Kenneth (K.W.)
Sent: Thursday, August 25, 2005 1:18 PM
To: O'Connor, Tammy (T.A.); Johnston, Steven (S.J.)
Subject: FW: Report Summary for the CQIS Report#[redacted]

Tammy and Steven,

Based on the information below, and suggestions on how to correct.

Ken Meier
Commercial Vehicle Operations
Commercial Service Manager
1655 Fairlane Circle, Suite 950-C
Allen Park, Mi 48101
Phone: 313-317-1867 Fax: 313-248-6580

-----Original Message-----
From: Johnson, Dan (D.W.)
Sent: Thursday, August 25, 2005 12:33 PM
To: Meier, Kenneth (K.W.)
Subject: FW: Report Summary for the CQIS Report#[redacted]

Ken,

One other piece of info.

The tires were set to: 45 PSI. They were higher.

Teamwork Works!

Dan Johnson
Field Manager
Ford Motor Company
Commercial Vehicle Operations

Phone: 480-964-4592

-----Original Message-----
From: Johnson, Dan (D.W.)
Sent: Thursday, August 25, 2005 9:28 AM
To: Meier, Kenneth (K.W.)
Cc: Johnson, Dan (D.W.)
Subject: RE: Report Summary for the CQIS Report#[redacted]

Ken,

Here are the spec's.

Alignment:

Left Front.

Camber: +0.00
Caster: +2.82

Right Front:

Camber: +0.09
Caster: +2.97

Toe was at: +1/32"

We did find something curious. The front stabilizer bar, **on unit,** is a: **(eng.#)** 5C34-5494-CC

The v-bom calls for a **(eng.#)** 5C34-5A771-FA **(serv. #)** 5C3Z-5A772-FA

The unit is being held until further notice from us.

Teamwork Works!

Dan Johnson
Field Manager
Ford Motor Company
Commercial Vehicle Operations

Phone: 480-964-4592

-----Original Message-----
From: Meier, Kenneth (K.W.)
Sent: Wednesday, August 24, 2005 10:52 AM
To: Johnson, Dan (D.W.)
Subject: Report Summary for the CQIS Report#[redacted]

Dan, Please advise to the findings of the dealership after they check this out again.

Attachments : 0

Report# :	[redacted] FLEET			**Received:**	08/24/2005
CCRG/EPRC:		**Reviewed Status:**		**Date:**	
Vehicle:	2005,F250 4X4,SUP CAB,SRW ,1FTSX21575E[redacted]			**Build Date:**	04/15/2005
Odometer :	3,570 M	**Engine:**	MOD 5.4 3V	**Calibration:**	5F714N0A
Transmission:	5R110W	**Axle:**		**A/C:**	YES
Dealer:	USA 60347 FORD MOTOR CO. FPSDGO FLT SVC			**Phone#:**	

City: Dearborn **State:** Michigan **Country :** USA
Originator: DAN JOHNSON
Symptom: 3 03 1 56 CHASS.,STRG/HANDLING ,FUNCTION,WANDER
Status:
VFG: V87 STEERING
Additional Symptom: STEERING OSCILLATION
Fix: **Causal Component :**
Condition Code:

Fleet Nbr: NOFIN 0016988 **Fleet Name:** DEPARTMENT OF TRANSPORTATION
Phone: (111) 111 - 1111 **City:** PHOENIX **State:** AZ
Specl: KEN MEIER **Specl Phone:** (313) 317 - 1867

Comments :

CONCER 08/24/2005 01:49PM KEN MEIER MSS - FCSD - CVO
FLEET CUSTOMER, ARIZONA DEPARTMENT OF TRANSPORTATION, EXPERIENCING
FRONT END STEERING OSCILLATION. DRIVER COMPLAINS WHEN DRIVING AT
HIGHWAY SPEEDS VEHICLE FRONT END FEELS A LITTLE LOOSE. GETS VERY BAD
WHEN YOU HIT RUTS IN THE ROAD. THE VEHICLE WILL SHAKE LIKE A LEAF.
DEALERSHIP HAS TEST DRIVEN THE VEHICLE TO VERIFY THE CONCERN. IF YOU
ARE NOT PREPARED FOR WHAT IS ABOUT TO HAPPEN WHEN YOU HIT A RUT IN THE
ROAD, IT WILL TAKE YOU INTO THE NEXT LANE. WE HAVE ADVISE CVO FIELD
MANAGER TO TAKE VEHICLE BACK INTO DEALERSHIP, AND CHECK ALIGNMENT
SPECS, FRONT END DAMPNER SHOCK, AND CHECK TIRE AIR PRESSURE CORRECT
PRESSURE SETTINGS. IF TIRE PRESSURE BELOW SET TO REQUIREMENTS AND ROAD
TEST AGAIN. WE ARE SEEING WHERE FLEETS ARE RUNNING TIRE PRESSURE AT
LOWER SETTINGS TO GET A SOFTER RIDE, AND THIS HAS BEEN A CONTRIBUTING
FACTOR.

From: Fennema, Drew (A.)
Sent: Wednesday, September 07, 2005 4:36 PM
To: O'Connor, Tammy (T.A.)
Subject: RE: Report Summary for the CQIS Report#[redacted]

The part number you gave me for the steering wheel has been installed. I will still go over the new TSB draft on the 14th and follow up with you.

Regards,

Drew Fennema
Field Service Engineer
Philadelphia Region
Zone B1 and C1
Office (856) 727-3759
[redacted]

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Wednesday, September 07, 2005 4:29 PM
To: Fennema, Drew (A.)
Subject: RE: Report Summary for the CQIS Report#[redacted]

Drew:

Here is a copy of the original TSB 04-26-1, and the revised draft that we would like your feedback on. Thanks so much for your help.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thurs,Fri)
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-----Original Message-----
From: Fennema, Drew (A.)
Sent: Wednesday, September 07, 2005 4:11 PM

To: O'Connor, Tammy (T.A.)
Subject: RE: Report Summary for the CQIS Report#[redacted]

Hi Tammy,

I've had no involvement with this. I spoke to the SM and the vehicle is still down only because of a contaminated fuel issue. The dealer completed TSB 04-26-01 and feel the shimmy over bumps has improved. They have been considering installing an aftermarket steering dampener. Would you like me to get involved?

Regards,

Drew Fennema
Field Service Engineer
Philadelphia Region
Zone B1 and C1
Office (856) 727-3759
[redacted]

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Wednesday, September 07, 2005 10:53 AM
To: Fennema, Drew (A.)
Subject: FW: Report Summary for the CQIS Report#[redacted]

Drew:

Are you the FSE for this dealership and have you worked on this truck? We are working on a draft TSB, and would appreciate your input?

Please let me know if you are not able to resolve this issue.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thurs,Fri)
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-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Wednesday, September 07, 2005 10:50 AM
To: O'Connor, Tammy (T.A.)

Subject: Report Summary for the CQIS Report#[redacted]

Attachments : 0

Report# :	[redacted] CACVOC--or-- C1 00004795193M			**Received:**	09/05/2005
CCRG/EPRC:		**Reviewed Status:**		**Date:**	
Vehicle:	2005,F250 4X4,CRW CAB,SRW ,1FTSW21565E[redacted]			**Build Date:**	08/13/2004
Odometer :	5,000 M	**Engine:**	MOD 5.4 3V	**Calibration:**	5F714E0A
Transmission:	5R110W	**Axle:**		**A/C:**	YES
Dealer:	USA 01223 Country Ford-Mercury			**Phone#:**	(856) 358-8111
City:	Elmer	**State:**	New Jersey	**Country :**	USA

Originator:
Symptom: 3 03 3 53 CHASS.,STRG/HANDLING ,VIB./SHIMMY,OVER BUMPS
Status:
VFG: V89 RIDE & HANDLING
Additional Symptom:
Fix: **Causal Component :**
Condition Code:

Cust: [redacted] **Home Phone:** (000) 000 - 0000

Work Phone: (000) 000 - 0000 **Region:** 16 Philadelphia -16

Case Status: **Date:** 00 / 00 / 0000 **Vehicle Paint:** EBONY WB C/C-W/B

Comments :

OWNREL CUSTOMER SAID: REASON : F-250 05 IN SHOP BEEN IN SHOP ALMOST A MONTH
FOR FRONT END SHIMMERING WHEN HITTING A POT HOLE MAKING VEHICLE GO
LEFT TO RIGHT= THE CHECK ENGINE LIGHT HAS COME ON CAME ON ADN SHUT
DOWN= MAIN ISSUE IS HE WOULD LIKE TO SPEAK WITH FSE ABOUT WHAT CAN BE
DONE AS HE DOES NOT WANT THIS VEHICLE COUNTRY FORD AND LEWISTON FORD
HAS BEEN GREATDEALER SAID: NONECRC ADVISED: BEFORE WE CAN MAKE A
DECISION REGARDING ANY FORD WARRANTY OR ESP COVERAGE IT MUST BE

REVIEWED BY A FORD/LINCOLN/MERCURY DEALERSHIP. THEY WILL NEED TO

INSPECT THE VEHICLE AND DETERMINE WHAT IS WRONG WITH IT BEFORE A

DECISION ON WARRANTY OR ESP COVERAGE IS MADE. ANY REPAIRS OR SERVICES

NOT COMPLETED AT A FORD/LINCOLN/MERCURY DEALERSHIP WOULD BE THE

RESPONSIBILITY OF THE CUSTOMER.COUNTRY FORD - MERCURY ELMER, NJ 08318

TEL: (856) 358-8111 CSR MADE OBC TO MARIA TO DISCUSS CUST VEHICLE

REPAIR OR REPLACEMENT BUT SHE WAS NOT AVAILABLE SO CSR LEFT MESSAGE

FOR DEALERCALL BACK

From: O'Connor, Tammy (T.A.)
Sent: Wednesday, September 07, 2005 4:29 PM
To: Fennema, Drew (A.)
Subject: RE: Report Summary for the CQIS Report#[redacted]
Attachments: [redacted] TSB Steering Wheel Shimmy Update 08 31.doc; tsb04-26-01.pdf

Drew:

Here is a copy of the original TSB 04-26-1, and the revised draft that we would like your feedback on. Thanks so much for your help.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thurs,Fri)
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From: Fennema, Drew (A.)
Sent: Wednesday, September 07, 2005 4:11 PM
To: O'Connor, Tammy (T.A.)
Subject: RE: Report Summary for the CQIS Report#[redacted]

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I've had no involvement with this. I spoke to the SM and the vehicle is still down only because of a contaminated fuel issue. The dealer completed TSB 04-26-01 and feel the shimmy over bumps has improved. They have been considering installing an aftermarket steering dampener. Would you like me to get involved?

Regards,

Drew Fennema
Field Service Engineer
Philadelphia Region
Zone B1 and C1

Office (856) 727-3759
[redacted]

-----Original Message-----
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Sent: Wednesday, September 07, 2005 10:53 AM
To: Fennema, Drew (A.)
Subject: FW: Report Summary for the CQIS Report#[redacted]

Drew:

Are you the FSE for this dealership and have you worked on this truck? We are working on a draft TSB, and would appreciate your input?

Please let me know if you are not able to resolve this issue.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
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-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Wednesday, September 07, 2005 10:50 AM
To: O'Connor, Tammy (T.A.)
Subject: Report Summary for the CQIS Report#[redacted]

Attachments : 0

Report# :	[redacted] CACVOC--or-- C1 00004795193M			**Received:**	09/05/2005
CCRG/EPRC:		**Reviewed Status:**		**Date:**	
Vehicle:	2005,F250 4X4,CRW CAB,SRW ,1FTSW21565E[redacted]			**Build Date:**	08/13/2004
Odometer :	5,000 M	**Engine:**	MOD 5.4 3V	**Calibration:**	5F714E0A
Transmission:	5R110W	**Axle:**		**A/C:**	YES
Dealer:	USA 01223 Country Ford-Mercury			**Phone#:**	(856) 358-8111
City:	Elmer	**State:**	New Jersey	**Country :**	USA

Originator:

Symptom: 3 03 3 53 CHASS.,STRG/HANDLING ,VIB./SHIMMY,OVER BUMPS

Status:

VFG: V89 RIDE & HANDLING

Additional Symptom:

Fix: **Causal Component :**

Condition Code:

Cust: [redacted] **Home Phone:** (000) 000 - 0000

Work Phone: (000) 000 - 0000 **Region:** 16 Philadelphia -16

Case Status: **Date:** 00 / 00 / 0000 **Vehicle Paint:** EBONY WB C/C-W/B

Comments :

OWNREL CUSTOMER SAID: REASON : F-250 05 IN SHOP BEEN IN SHOP ALMOST A MONTH
FOR FRONT END SHIMMERING WHEN HITTING A POT HOLE MAKING VEHICLE GO
LEFT TO RIGHT= THE CHECK ENGINE LIGHT HAS COME ON CAME ON ADN SHUT
DOWN= MAIN ISSUE IS HE WOULD LIKE TO SPEAK WITH FSE ABOUT WHAT CAN BE
DONE AS HE DOES NOT WANT THIS VEHICLE COUNTRY FORD AND LEWISTON FORD
HAS BEEN GREATDEALER SAID: NONECRC ADVISED: BEFORE WE CAN MAKE A
DECISION REGARDING ANY FORD WARRANTY OR ESP COVERAGE IT MUST BE
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DECISION ON WARRANTY OR ESP COVERAGE IS MADE. ANY REPAIRS OR SERVICES
NOT COMPLETED AT A FORD/LINCOLN/MERCURY DEALERSHIP WOULD BE THE
RESPONSIBILITY OF THE CUSTOMER.COUNTRY FORD - MERCURY ELMER, NJ 08318
TEL: (856) 358-8111 CSR MADE OBC TO MARIA TO DISCUSS CUST VEHICLE
REPAIR OR REPLACEMENT BUT SHE WAS NOT AVAILABLE SO CSR LEFT MESSAGE
FOR DEALERCALL BACK

ISSUE:

Some 2005-2006 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion) immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on 4x4 vehicles, equipped with steering wheels that have redundant controls (i.e. climate and radio controls).

ACTION:

This procedure will minimize the steering wheel oscillations on impacts; however, there may be some remaining minor oscillation, which would be considered normal.
Perform the following:

- Vehicle Inspection
- Evaluation Of Vehicle Prior To Repair
- Steering Gear Mesh Load Adjustment
- Reduce front caster by 0.5 to 0.75 degrees
- Replacement Of Redundant Control Steering Wheel (if equipped and vehicle built prior to 10/8/04)

SERVICE PROCEDURE

VEHICLE INSPECTION

1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

   NOTE: SETTING TIRE PRESSUE TO DOOR SPEC IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

2. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
   a. If leaks are present, install a new steering damper and continue with this TSB.
   b. If no leaks are present, continue with this TSB.

3. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table # below).

Description	Torque Specification (lb-ft/ Nm)	
	Lb-ft	Nm
Damper nuts (4x2)	59	80
Damper-to-bracket (F-250, F-350 4x4)	26	35
Damper-to-drag link	67	91
Drag link-to-pitman arm nut	148	201
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts & bolts	129	175
Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

4. Measure wheel alignment. Verify that Front Caster, Camber & Total Toe is within specification (preferred specification is .1 degree toe in). Adjust to specification as required. Refer to the Workshop Manual, Section 2004-00-1 for complete alignment specifications.

EVALUATION OF VEHICLE PRIOR TO REPAIR

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the severity of wheel oscillation.

3. During the road test, evaluate and note the steering wheel return-ability.
    a. Turn steering wheel full lock to lock to confirm no binding.
    b. Locate center, and then 45 degrees either side of center on the steering wheel.
    c. Driving vehicle at 35 MPH (56 Km/h), on a dry and flat road surface, turn the wheel 45 degrees and release. Note the approximate angle that the steering wheel returns to BEFORE CLEAR VISION. Perform and record the angle for both left and right. It is normal if the angle differs slightly from left to right.

STEERING GEAR MESH LOAD ADJUSTMENT

1. Insert hex wrench into steering gear mesh load adjuster screw.
2. While holding the mesh load adjuster screw tight, back off lock nuts two full turns to allow free movement of the adjuster screw.
3. Carefully tighten adjuster screw until a slight increase in resistance is felt, then back off approximately 1/16th of a turn.
4. Hold the adjuster screw in place and tighten lock nut. Do not allow the adjustment screw to turn while tightening the locking nut down.
5. Road test vehicle and evaluate for improvement in steering wheel oscillations.
    a. Confirm that there is no objectionable increase in steering efforts, especially at low speeds.
    b. Verify that steering wheel return-ability is approximately the same as it was during the original evaluation (within 5 degrees).
    c. Turn steering wheel full lock to lock to confirm no binding.
6. Park the vehicle to let it cool down. Road test cold to confirm acceptable parking efforts and return-ability in cold condition. Repeat the mesh load adjustment if needed.

REDUCE FRONT CASTER

- Note the current front caster
- Use alignment adjustment bushings to Reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit.
- If caster setting is at exact minimum, camber may be below the specification limit.
- Use Alignment adjustment bushings:
    - 4x4: 5C3Z-3B440-DDD (0.75 Degree bushing) OR 5C3Z-3B440-EEE (1.0 degree bushing)
    - 4x2: 5C3Z-3B440-D (0.75 Degree bushing) OR 5C3Z-3B440-E (1.0 degree bushing)
- Maintain the current front camber, cross-camber & cross-caster settings as close as you possibly can.
- If the caster is set to the exact minimum, you may find that the camber is out of spec.
- Adding weight to the back raises the front of the vehicle, which in effect increases caster.

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE 2005 OR 2006 SUPER DUTY F-SERIES WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

STEERING WHEEL OSCILLATION (BACK AND FORTH MOTION) AFTER RIDING OVER BUMPS/RUTS

TSB 04-26-1

FORD:
2005 F-Super Duty

ISSUE

Some 2005 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion) immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on 4x4 vehicles, equipped with steering wheels which have redundant controls (i.e. climate and radio controls).

ACTION

This procedure will minimize the steering wheel oscillations on impacts, however, there may be some remaining minor oscillation which would be considered normal.

Perform the following:

- Vehicle Inspection
- Evaluation Of Vehicle Prior To Repair
- Steering Gear Mesh Load Adjustment
- Replacement Of Redundant Control Steering Wheel (if equipped and vehicle built prior to 10/8/04)

SERVICE PROCEDURE

VEHICLE INSPECTION

1. Set tire pressures as indicated on the vehicle label (located on fuel door).
2. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
    a. If leaks are present, install a new steering damper and continue with this TSB.
    b. If no leaks are present, continue with this TSB.
3. Check torques on the steering system fasteners (damper nuts (4x2), damper-to-bracket (F-250, F-350 4x4), damper-to-drag link, drag link-to-pitman arm nut, inner tie-rod end nut, outer tie-rod end nuts, and track bar bracket-to-frame nuts & bolts), adjust to specification as required. Refer to Workshop Manual Section 211-03.

EVALUATION OF VEHICLE PRIOR TO REPAIR

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the severity of wheel oscillation.
3. During the road test, evaluate and note the steering wheel return-ability.
    a. Turn steering wheel full lock to lock to confirm no binding.
    b. Locate center, and then 45 degrees either side of center on the steering wheel.
    c. Driving vehicle at 35 MPH (56 Km/h), on a dry and flat road surface, turn the wheel 45 degrees and release. Note the approximate angle that the steering wheel returns to BEFORE CLEAR VISION. Perform and record the angle for both left and right. It is normal if the angle differs slightly from left to right.

STEERING GEAR MESH LOAD ADJUSTMENT

1. Insert hex wrench into steering gear mesh load adjuster screw.
2. While holding the mesh load adjuster screw tight, back off lock nuts two full turns to allow free movement of the adjuster screw.

NOTE: The information in Technical Service Bulletins is intended for use by trained, professional technicians with the knowledge, tools, and equipment to do the job properly and safely. It informs these technicians of conditions that may occur on some vehicles, or provides information that could assist in proper vehicle service. The procedures should not be performed by "do-it-yourselfers". Do not assume that a condition described affects your car or truck. Contact a Ford, Lincoln, or Mercury dealership to determine whether he Bulletin applies to your vehicle. Warranty Policy and Extended Service Plan documentation determine Warranty and/or Extended Service Plan coverage unless stated otherwise in the TSB article.The information in this Technical Service Bulletin (TSB) was current at he time of printing. Ford Motor Company reserves the right to supercede this information with updates.The most recent information is available through Ford Motor Company's on-line technical resources.

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3. Carefully tighten adjuster screw until a slight increase in resistance is felt, then back off approximately 1/16th of a turn.
4. Hold the adjuster screw in place and tighten lock nut. Do not allow the adjustment screw to turn while tightening the locking nut down.
5. Road test vehicle and evaluate for improvement in steering wheel oscillations.
   a. Confirm that there is no objectionable increase in steering efforts, especially at low speeds.
   b. Verify that steering wheel return-ability is approximately the same as it was during the original evaluation (within 5 degrees).
   c. Turn steering wheel full lock to lock to confirm no binding.
6. Park the vehicle to let it cool down. Road test cold to confirm acceptable parking efforts and return-ability in cold condition. Repeat the mesh load adjustment if needed.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 Only

NOTE
THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE
FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE 2005 SUPER DUTY F-SERIES WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

PART NUMBER	PART NAME
5C7Z-3600-ABA	Redundant Control Steering Wheel (King Ranch Tan/Peb)
5C7Z-3600-CBA	Redundant Control Steering Wheel (Charcoal Black)

WARRANTY STATUS: Eligible Under Provisions Of New Vehicle Limited Warranty Coverage

OPERATION	DESCRIPTION	TIME
042601A	F-Super Duty With Gas Engine: Perform Inspection/Evaluation, Adjust Mesh Load	2.2 Hrs.
042601A	F-Super Duty With 6.0L Diesel: Perform Inspection/Evaluation, Adjust Mesh Load	3.2 Hrs.
042601B	F-Super Duty With Gas Engine: Perform Inspection/Evaluation, Adjust Mesh Load, And Replace Damper	2.3 Hrs.
042601B	F-Super Duty With 6.0L Diesel: Perform Inspection/Evaluation, Adjust Mesh Load, And Replace Damper	3.2 Hrs.
042601C	F-Super Duty With Gas Engine: Perform Inspection/Evaluation, Adjust Mesh Load, And Replace Steering Wheel	2.8 Hrs.
042601C	F-Super Duty With 6.0L Diesel: Perform Inspection/Evaluation, Adjust Mesh Load, And Replace Steering Wheel	3.6 Hrs.
042601D	F-Super Duty With Gas Engine: Perform Inspection/Evaluation, Adjust Mesh Load, Replace Damper And Steering Wheel	2.9 Hrs.
042601D	F-Super Duty With 6.0L Diesel: Perform Inspection/Evaluation, Adjust Mesh Load, Replace Damper And Steering Wheel	3.7 Hrs.

DEALER CODING

BASIC PART NO.	CONDITION CODE
3600	42

From: Fennema, Drew (A.)
Sent: Wednesday, September 07, 2005 4:11 PM
To: O'Connor, Tammy (T.A.)
Subject: RE: Report Summary for the CQIS Report#[redacted]

Hi Tammy,

I've had no involvement with this. I spoke to the SM and the vehicle is still down only because of a contaminated fuel issue. The dealer completed TSB 04-26-01 and feel the shimmy over bumps has improved. They have been considering installing an aftermarket steering dampener. Would you like me to get involved?

Regards,

Drew Fennema
Field Service Engineer
Philadelphia Region
Zone B1 and C1
Office (856) 727-3759
[redacted]

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Wednesday, September 07, 2005 10:53 AM
To: Fennema, Drew (A.)
Subject: FW: Report Summary for the CQIS Report#[redacted]

Drew:

Are you the FSE for this dealership and have you worked on this truck? We are working on a draft TSB, and would appreciate your input?

Please let me know if you are not able to resolve this issue.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thurs,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

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-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Wednesday, September 07, 2005 10:50 AM
To: O'Connor, Tammy (T.A.)
Subject: Report Summary for the CQIS Report# [redacted]

Attachments : 0

Report# :	[redacted] CACVOC--or-- C1 00004795193M			**Received:**	09/05/2005
CCRG/EPRC:		**Reviewed Status:**		**Date:**	
Vehicle:	2005,F250 4X4,CRW CAB,SRW ,1FTSW21565E[redacted]			**Build Date:**	08/13/2004
Odometer :	5,000 M	**Engine:**	MOD 5.4 3V	**Calibration:**	5F714E0A
Transmission:	5R110W	**Axle:**		**A/C:**	YES
Dealer:	USA 01223 Country Ford-Mercury			**Phone#:**	(856) 358-8111
City:	Elmer	**State:**	New Jersey	**Country :**	USA

Originator:
Symptom: 3 03 3 53 CHASS.,STRG/HANDLING ,VIB./SHIMMY,OVER BUMPS
Status:
VFG: V89 RIDE & HANDLING
Additional Symptom:
Fix: **Causal Component :**
Condition Code:

Cust: [redacted] **Home Phone:** (000) 000 - 0000

Work Phone: (000) 000 - 0000 **Region:** 16 Philadelphia -16

Case Status: **Date:** 00 / 00 / 0000 **Vehicle Paint:** EBONY WB C/C-W/B

Comments :

OWNREL CUSTOMER SAID: REASON : F-250 05 IN SHOP BEEN IN SHOP ALMOST A MONTH
FOR FRONT END SHIMMERING WHEN HITTING A POT HOLE MAKING VEHICLE GO
LEFT TO RIGHT= THE CHECK ENGINE LIGHT HAS COME ON CAME ON ADN SHUT
DOWN= MAIN ISSUE IS HE WOULD LIKE TO SPEAK WITH FSE ABOUT WHAT CAN BE

DONE AS HE DOES NOT WANT THIS VEHICLE COUNTRY FORD AND LEWISTON FORD

HAS BEEN GREATDEALER SAID: NONECRC ADVISED: BEFORE WE CAN MAKE A

DECISION REGARDING ANY FORD WARRANTY OR ESP COVERAGE IT MUST BE

REVIEWED BY A FORD/LINCOLN/MERCURY DEALERSHIP. THEY WILL NEED TO

INSPECT THE VEHICLE AND DETERMINE WHAT IS WRONG WITH IT BEFORE A

DECISION ON WARRANTY OR ESP COVERAGE IS MADE. ANY REPAIRS OR SERVICES

NOT COMPLETED AT A FORD/LINCOLN/MERCURY DEALERSHIP WOULD BE THE

RESPONSIBILITY OF THE CUSTOMER.COUNTRY FORD - MERCURY ELMER, NJ 08318

TEL: (856) 358-8111 CSR MADE OBC TO MARIA TO DISCUSS CUST VEHICLE

REPAIR OR REPLACEMENT BUT SHE WAS NOT AVAILABLE SO CSR LEFT MESSAGE

FOR DEALERCALL BACK

From: Fennema, Drew (A.)
Sent: Tuesday, September 20, 2005 5:02 PM
To: O'Connor, Tammy (T.A.)
Subject: RE: Report Summary for the CQIS Report#[redacted]

Tammy,

I have not spoken to the owner, but the service manager has. He is very satisfied with the results of performing the TSB revisions. Details can be found in report # [redacted]

Regards,

Drew Fennema
Field Service Engineer
Philadelphia Region
Zone B1 and C1
Office (856) 727-3759
Cell (609) 346-2058

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Wednesday, September 07, 2005 4:29 PM
To: Fennema, Drew (A.)
Subject: RE: Report Summary for the CQIS Report#[redacted]

Drew:

Here is a copy of the original TSB 04-26-1, and the revised draft that we would like your feedback on. Thanks so much for your help.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thurs,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

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-----Original Message-----

From: Fennema, Drew (A.)
Sent: Wednesday, September 07, 2005 4:11 PM
To: O'Connor, Tammy (T.A.)
Subject: RE: Report Summary for the CQIS Report#[redacted]

Hi Tammy,

I've had no involvement with this. I spoke to the SM and the vehicle is still down only because of a contaminated fuel issue. The dealer completed TSB 04-26-01 and feel the shimmy over bumps has improved. They have been considering installing an aftermarket steering dampener. Would you like me to get involved?

Regards,

Drew Fennema
Field Service Engineer
Philadelphia Region
Zone B1 and C1
Office (856) 727-3759
[redacted]

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Wednesday, September 07, 2005 10:53 AM
To: Fennema, Drew (A.)
Subject: FW: Report Summary for the CQIS Report#[redacted]

Drew:

Are you the FSE for this dealership and have you worked on this truck? We are working on a draft TSB, and would appreciate your input?

Please let me know if you are not able to resolve this issue.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thurs,Fri)
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-----Original Message-----
From: O'Connor, Tammy (T.A.)

Sent: Wednesday, September 07, 2005 10:50 AM
To: O'Connor, Tammy (T.A.)
Subject: Report Summary for the CQIS Report#[redacted]

Attachments : 0

Report# :	[redacted] CACVOC--or-- C1 00004795193M			**Received:**	09/05/2005
CCRG/EPRC:		**Reviewed Status:**		**Date:**	
Vehicle:	2005,F250 4X4,CRW CAB,SRW ,1FTSW21565E[redacted]			**Build Date:**	08/13/2004
Odometer :	5,000 M	**Engine:**	MOD 5.4 3V	**Calibration:**	5F714E0A
Transmission:	5R110W	**Axle:**		**A/C:**	YES
Dealer:	USA 01223 Country Ford-Mercury			**Phone#:**	(856) 358-8111
City:	Elmer	**State:**	New Jersey	**Country :**	USA

Originator:
Symptom: 3 03 3 53 CHASS.,STRG/HANDLING ,VIB./SHIMMY,OVER BUMPS
Status:
VFG: V89 RIDE & HANDLING
Additional Symptom:
Fix: **Causal Component :**
Condition Code:

Cust: CARL DEROSE **Home Phone:** (000) 000 - 0000

Work Phone: (000) 000 - 0000 **Region:** 16 Philadelphia -16

Case Status: **Date:** 00 / 00 / 0000 **Vehicle Paint:** EBONY WB C/C-W/B

Comments :

OWNREL CUSTOMER SAID: REASON : F-250 05 IN SHOP BEEN IN SHOP ALMOST A MONTH
FOR FRONT END SHIMMERING WHEN HITTING A POT HOLE MAKING VEHICLE GO
LEFT TO RIGHT= THE CHECK ENGINE LIGHT HAS COME ON CAME ON ADN SHUT
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TEL: (856) 358-8111 CSR MADE OBC TO MARIA TO DISCUSS CUST VEHICLE
REPAIR OR REPLACEMENT BUT SHE WAS NOT AVAILABLE SO CSR LEFT MESSAGE
FOR DEALERCALL BACK

From: Valesey, Mark (N.)
Sent: Thursday, September 08, 2005 9:30 AM
To: O'Connor, Tammy (T.A.)
Subject: RE: Report Summary for the CQIS Report#[redacted]

Tammy:

I'm just quickly checking my e-mail while I'm on vacation. I looked over the TSB and think it is worth the try. The dealership has not yet gotten back to me on the use of the heavier dampener. I'm back to work on Monday and will follow up with you then.

Thanks

Mark N. Valesey, Ford Field Service Engineer
Zone D1 and D2, Philadelphia Region
[redacted]
Fax: 609-953-0927
email: mvalesey@ford.com

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Wednesday, September 07, 2005 10:55 AM
To: Valesey, Mark (N.)
Subject: FW: Report Summary for the CQIS Report#[redacted]

Mark:

Please review this draft TSB and let me know if it does resolve the issue on Superduty? I plan to submit for publication in about a week.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thurs,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

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-----Original Message-----
From: O'Connor, Tammy (T.A.)

Sent: Wednesday, September 07, 2005 10:54 AM
To: O'Connor, Tammy (T.A.)
Subject: Report Summary for the CQIS Report# [redacted]

fyi.

Attachments : 0

Report# :	[redacted] FCSDFS			**Received:**	09/02/2005
CCRG/EPRC:		**Reviewed Status:**		**Date:**	
Vehicle:	2005,F350 4X4,CRWCAB ,DRW ,1FTWW33P75E[redacted]			**Build Date:**	07/22/2004
Odometer :	27,260 M	**Engine:**	6.0L DI	**Calibration:**	
Transmission:	5R110W DSL	**Axle:**		**A/C:**	YES
Dealer:	USA 01330 John Kennedy Ford-Lincoln-Merc			**Phone#:**	(610) 495-7172
City:	Pottstown	**State:**	Pennsylvania	**Country :**	USA
Originator:	MARK VALESEY				
Symptom:	3 03 3 53 CHASS.,STRG/HANDLING ,VIB./SHIMMY,OVER BUMPS				
Status:					
VFG:	V89 RIDE & HANDLING				
Additional Symptom:	VIBRATION IN FRONT END				
Fix:	**Causal Component :**				
Condition Code:					

Region Code: 16 **Region Name:** Philadelphia -16

Comments :

OWNER 09/02/2005 09:06AM MARK VALESEY(FSE) MSS - FCSD - REG - PHILADELPH
CUSTOMER STATES THERE IS A VIBRATION IN THE FRONT END.

TECH/C **09/02/2005 09:06AM MARK VALESEY(FSE) MSS - FCSD - REG - PHILADELPH**
ROAD TESTED VEHICLE WITH TECHNICIAN. BOTH TECHNICIAN AND SERVICE
MANAGER STATE THE VIBRATION IS PRESENT. THEY STATE THAT IT HAPPENS
INTERMITTENTLY OVER BUMPS. TECHNICIAN IS PERFORMING TSB 04-26-1. HE
HAS PERFORMED THE ENTIRE TSB, EXCEPT THE INSTALLATION OF THE STEERING
DAMPENER. I INSTRUCTED THE TECHNICIAN TO INSTALL THE STEERING
DAMPENER. SERVICE MANAGER CALLED BACK AND SAID THAT THE STEERING IS

BETTER, BUT, THAT THERE ARE 6 OSCILLATIONS, 5 ARE MAX. ADVISED INSTALLING A HEAVIER DUTY STEERING DAMPENER AND TO ADVISE ON RESULTS.

WILL FORWARD A COPY OF THIS REPORT TO THE ZM.

From: Knapp, David (D.)
Sent: Friday, December 16, 2005 8:31 AM
To: O'Connor, Tammy (T.A.); Hale, Curt (B.C.); Laskowski, Ryan (R.J.)
Cc: Bersuder, Lee (L.C.); Eaton, Rob (E.R.)
Subject: RE: Report Summary for the CQIS Report#[redacted]

Either Ryan Laskowski or Ed Ofstad.

David Knapp
Truck Group Service Engineer
F-Superduty/Excursion SME
Ford Technical Hotline
DKnapp7@ford.com
313-317-6316

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Friday, December 16, 2005 7:24 AM
To: Knapp, David (D.); Hale, Curt (B.C.); Laskowski, Ryan (R.J.)
Cc: Bersuder, Lee (L.C.); Eaton, Rob (E.R.)
Subject: RE: Report Summary for the CQIS Report#[redacted]

David:

The shocks are for the 5.4L gas engine only - they will not even fit on this truck.

Who is the FSE, I'll call him.

Tammy

> -----Original Message-----
> **From:** Knapp, David (D.)
> **Sent:** Thu 12/15/2005 4:42 PM
> **To:** O'Connor, Tammy (T.A.); Hale, Curt (B.C.); Laskowski, Ryan (R.J.)
> **Cc:** Bersuder, Lee (L.C.); Eaton, Rob (E.R.)
> **Subject:** FW: Report Summary for the CQIS Report#[redacted]
>
> Tammy or Curt,
> This service manager is concerned because the fse that has become involved seems to be leading him in what he thinks is a different direction. I attached the fse's email and I am cc'ing him on this email. The service manager is describing a trailer hitching concern or a back and forth teeter totter concern and no steering issues at all. I am aware that there was talk of different shocks but those were not available the last I checked. Do we have shock part numbers available for trailer hitching concerns? Steve put no reccomendations in the report but we may have something if we can get those different shocks into the vehicle.
> Ryan,

The service manager is quite concerned that this customer will file for buy back soon if not rectified. Have you contacted the dealer since this date of email or have you visited the dealer. We have seen several concerns with handling characteristics or wander characteristics with Pirelli tires just as an fyi. I understand how busy you guys are out there and if you need help please let me know. I don't want to get in the middle of you and the dealership and we are here to help. I am concerned that the issue they are diagnosing is different than what your diagnosing in your email. The service manager is equally concerned which prompted another phone call to the hotline.
Thanks,

David Knapp
Truck Group Service Engineer
F-Superduty/Excursion SME
Ford Technical Hotline
DKnapp7@ford.com
313-317-6316

-----Original Message-----
From: Reddmann, Joseph (J.)
Sent: Thursday, December 15, 2005 4:19 PM
To: Knapp, David (D.)
Subject: Report Summary for the CQIS Report#[redacted]

This one is going to die on the operating table.

Attachments : 0

Report# :	[redacted] NHL			**Received:**	09/06/20
CCRG/EPRC:		**Reviewed Status:**		**Date:**	
Vehicle:	2005,F250 4X4,CRW CAB,SRW ,1FTSW21P05E[redacted]			**Build Date:**	09/30/20
Odometer :	11,000 M	**Engine:**	6.0L DI	**Calibration:**	
Transmission:	5R110W DSL	**Axle:**		**A/C:**	YES
Dealer:	USA 09482 McCormick Motors Inc			**Phone#:**	(605) 42 2331
City:	Salem	**State:**	South Dakota	**Country :**	USA
Originator:	TRAVIS ZAPP				
Symptom:	3 04 1 51 CHASS.,SUSPENSION,RIDE QUALITY,SOFT/FLOAT				
Status:					
VFG:	V89 RIDE & HANDLING				
Additional Symptom:	FAST HOPPING				
Fix:	**Causal Component :**				

Condition Code:

Hotliner: ABARNE14 **Phone:** 313 317-9373 **Regn Cd:** CE Central

Engineering: **Phone:** **TAR:** 60+

Dlr Contact: TRAVIS ZAPP **Phone:** 605 425-2331 **Title Cde:** T

Comments :

REPAIR 09/06/2005 11:02AM ANDREW BARNES MSS - FCSD - TECH SVC HOTLINE
TECH STATES THAT WHEN DRIVING THE VEHICLE OVER THE INTERST/
OR ANY
OTHER BUMPY HIGHWAY IT FEELS LIKE THE VEHICLE WILL START TO
HOP AND IT
IS A FAST HOP. IT FEELS ALMOST AS IF THE FRAME WAS HINGED UNDE
THE
DRIVERS SEAT AND THE SEAT IS GOING UP AND DOWN. THEY HAVE SE
TIRE
PRESSURES TO THE DOOR AND ALSO CHANGED THE TIRE PRESSURES.
ALSO THE
SHOCKS HAVE BEEN REPLACED WITH NO CHANGE. THE VEHICLE IS
STOCK AND
RIGHT NOW IS EMPTY. THIS IS MORE SEVERE THAN NORMAL. SEEKING
KNOWNS OR
ADVICE.

RECOMM 09/06/2005 11:02AM ANDREW BARNES MSS - FCSD - TECH SVC HOTLIN
ADVISED THE TECH TO MAKE SURE THAT ALL OF THE SUSPENSION FO
FRONT AND
REAR IS TIGHT. TRY ASSING WEIGHT TO THE REAR AND SEE IF IT DOES
CHANGE. IF SO TRY SWAPPING THE SPRINGS WITH A LIKE TRUCK.

REPAIR 09/06/2005 05:49PM JOSEPH REDDMANN MSS - FCSD - TECH SVC HOTL
SM CALLED BACK WITH SAME CONCERN. SEEKING ADDITIONAL
DIRECTION.

RECOMM 09/06/2005 05:49PM JOSEPH REDDMANN MSS - FCSD - TECH SVC HOTL
ADVISED ISSUE IS INDER INVESTAGATION.

REPAIR 09/19/2005 03:42PM JCRUZ25
SM CALLING TO FIND OUT IF THERE ARE ANY UPDATES ON CONCERN
WITH RIDE
QUALITY. SM STATES THE CUSTOMER REPORTS WITH A 5TH WHEEL TH
UNIT IS
WORSE.

RECOMM 09/19/2005 03:42PM JCRUZ25
ADV. SM OF NO OTHER KNOWN CONCERNS AND THAT THIS CONCERN
NOT UNDER

INVESTIGATION BECAUSE IT IS NOT COMMON. ADV. TO CHECK TRACK

BAR

TORQUES, PROVIDE SPECS. ADV. IT WOULD BE BEST TO COMPARE TO A

IDENTICAL KNOWN GOOD UNIT.

REPAIR 10/03/2005 01:26PM CROTH4

SM CALLING BACK ON SAME CONCERN, SM NOTES THAT VEHICLE HAS NOT BEEN

BACK IN. SM SEEKING DIRECTION.

RECOMM 10/03/2005 01:26PM CROTH4

ADVISED SM TO COMPARE TO KNOWN GOOD UNIT, ADVISED SM IF CONCERN IS

WORSE THAN KNOWN GOOD SWAP COMPONENTS TO SEE IF CAUSE CA BE ISOLATED.

REPAIR 10/13/2005 07:00PM JOHN HERDZIK MSS - FCSD - TECH SVC HOTLINE

TECH CALLING BACK ON THE SAME CONCERN. TECH STS HE HAS SWAPPED IN

TIRES, PERFORMED AN ALIGNMENT, REPLACED THE FRONT SHOCKS A TORQUED

THE TRACBAR TO NO AVAIL. TECH STS THE HOPPING CONCERN IS STIL

PRESENT. TECH SEEKING HOTLINE

RECOMM 10/13/2005 07:00PM JOHN HERDZIK MSS - FCSD - TECH SVC HOTLINE

CONSULTED SME DAVE KNAPP. ADVISED TECH HE NEEDS TO REMOVE THE REAR

DRIVESHAFT AND DRIVE IT OFF THE FRONT AND RETEST FOR THE CONCERN.

AUDIT 10/13/2005 07:00PM JOHN HERDZIK MSS - FCSD - TECH SVC HOTLINE

ODOMETER 9700 M CHANGED TO 11000 M BY JHERDZIK

REPAIR 10/14/2005 12:01PM JOHN HERDZIK MSS - FCSD - TECH SVC HOTLINE

CALLED TECH BACK ON THE SAME CONCERN. TECH HAS REMOVED TH REAR

DRIVESHAFT AND DROVE THE VEHICLE OFF THE FRONT AND THE SAM CONCERN

WAS PRESENT. TECH STS HE ALSO SET TIRE PRESSURE'S AT 75 POUNDS NO

AVAIL. TECH SEEKING THE ASSISTANCE OF A FSE. TECH STS THE CUSTOMER IS

WANTING TO GO BUYBACK ON THE VEHICLE. TECH SEEKING HOTLINE ASSISTANCE.

RECOMM 10/14/2005 12:01PM JOHN HERDZIK MSS - FCSD - TECH SVC HOTLINE

CONSULTED SME DAVID KNAPP. CONSULTED LEON DALLAPE. ADVISE TECH DUE TO

THE NUMBER OF REPAIR ATTEMPTS AND AMOUNT OF CALLS INTO THI HOTLINE A

FSE WILL BE CONTACTING THE DEALERSHIP TO FUTHER ASSIST IN FIX THE

VEHICLE.

ADD-ON **10/14/2005 12:59PM CHRIS WOLKEN-GRPLDR MSS - FCSD - TECH SVC HOTLINE**

TAR APPROVED

ADD-ON **10/17/2005 10:07AM STEVE JOHNSTON(PCE) MSS - FCSD - VSP PVT SVC ENG**

PVT HAS NO ADDITIONAL COMMENTS AT THIS TIME.

ADD-ON **10/24/2005 08:58PM ED OFSTAD(FSE) MSS - FCSD - REG - TWIN CTY**

APPOINTMENT SET FOR NOV 1

REPAIR **12/15/2005 04:18PM JOSEPH REDDMANN MSS - FCSD - TECH SVC HOTL**

SM CALLED BACK WITH SAME CONCERN. SM STATES FSE E-MAILED INSTRUCTIONS

FOR THE BUMP STEER CONCERN ON SUPER DUTY. SM STATES THE CONCERN WITH

THIS VEHICLE IS FRAME FLEX OR OSCILLATIONS IN THE CENTER OF TI

VEHICLE AFTER HITTING BUMPS. SM STATES THIS VEHICLE IS AT RISK BUY

BACK IF CONCERN IS NOT RESOLVED SOON. SEEKING FURTHER DIRECTION.

RECOMM **12/15/2005 04:18PM JOSEPH REDDMANN MSS - FCSD - TECH SVC HOTL**

FORWARDED REPORT TO DAVE KNAPP FOR FURTHER PVT INVOLVEME

From: Van Beusekom, Michael (M.R.)
Sent: Thursday, September 08, 2005 9:25 AM
To: O'Connor, Tammy (T.A.)
Subject: RE: Report Summary for the CQIS Report#[redacted]

Thanks, I spoke to the dealer today. Vehicle will be back at dealer next Monday to complete repairs. I will let you know how it went.

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Thursday, September 08, 2005 7:24 AM
To: Van Beusekom, Michael (M.R.)
Subject: FW: Report Summary for the CQIS Report#[redacted]

Mike:

We have a draft TSB for this issue, I'm wondering if you could follow up and if this truck is not totally fixed at this point, you might want to get involved and work with the Tech. I'm looking for feedback, because we've had alot of feedback that techs have not been able to resolve this issue.

The 3 most important things to check and verify for this are tire pressure (usually under inflated, torque on steering and suspension, and caster setting (need to be lowered).

Please review the draft and call me with any questions

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thurs,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

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-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Thursday, September 08, 2005 8:14 AM
To: O'Connor, Tammy (T.A.)
Subject: Report Summary for the CQIS Report#[redacted]

Attachments : 0

Report# :	[redacted] NHL			**Received:**	09/07/2005
CCRG/EPRC:		**Reviewed Status:**		**Date:**	
Vehicle:	2006,F250 4X4,SUP CAB,PICKUP ,1FTSX21556E[redacted]			**Build Date:**	08/12/2005
Odometer :	627 M	**Engine:**	MOD 5.4 3V	**Calibration:**	6F714N0A
Transmission:	5R110W	**Axle:**		**A/C:**	YES
Dealer:	USA 09443 Houston Ford, Inc.			**Phone#:**	(218) 587-4419
City:	Pine River	**State:**	Minnesota	**Country :**	USA

Originator: STEVE JUST
Symptom: 3 03 3 53 CHASS.,STRG/HANDLING ,VIB./SHIMMY,OVER BUMPS
Status:
VFG: V89 RIDE & HANDLING
Additional Symptom: SHIMMY AFTER BUMPS
Fix: **Causal Component :**
Condition Code:

Hotliner: MGIURLAN **Phone:** 313 317-7041 **Regn Cd:** 58 Twin Cities - 58
Engineering: **Phone:** **TAR:**
Dlr Contact: STEVE JUST **Phone:** 218 587-4419 **Title Cde:** T

Comments :

REPAIR 09/07/2005 12:04PM MARIO GIURLANDA MSS - FCSD - TECH SVC HOTLINE
VERIFIED CONCERN, HAS STEERING SHIMMY AFTER GOING OVER BUMPS. TECH
FEELS FRONT END IS LIGHT COMPARED TO SUSPENSION. SEEKING KNOWN.S
CHECKED FRONT END FOR LOOSENESS.

RECOMM 09/07/2005 12:04PM MARIO GIURLANDA MSS - FCSD - TECH SVC HOTLINE
ISM 05-09-001 VERIFY TIRE PRESSURES ARE SET TO SPECIFICATION, BOTH
RADIUS ARMS ARE PROPERLY TORQUED - CHECK ALIGNMENT & SET CASTER 5 TO
.75 BELOW NOMINAL ADVISED ABOVE INFORMATION. TORQUE TRACBAR AND SET
TIRE PRESSURE, ALIGNMENT. RECHECK FOR CONCERN.

From: O'Connor, Tammy (T.A.)
Sent: Monday, September 12, 2005 7:10 AM
To: Jay, Brian (B.L.)
Subject: RE: Report Summary for the CQIS Report#[redacted]
Attachments: [redacted] TSB Steering Wheel Shimmy Update 08 31.doc

Brian: Please send me any comments on items you think we should add/delete or empasize more or less in the TSB. Thanks.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
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-----Original Message-----
From: Jay, Brian (B.L.)
Sent: Friday, September 09, 2005 3:45 PM
To: O'Connor, Tammy (T.A.)
Subject: RE: Report Summary for the CQIS Report#[redacted]

Hi Tammy. Feel free to send me the TSB, this dealer and I have already worked on four or five of these trucks for the same concern and I have yet to found one where any of the suspension components were loose. On almost all of the trucks the tire pressure was set incorrectly, but that did not significantly change the customer's perception of there being an abnormal amount of steering wheel fight over bumps.

I have learned this is a complex issue and is not as simple as saying the truck does or does not shimmy (to use my dealers favorite word). I have found that the amount of steering wheel feedback characteristic to these units vairies significantly among trucks with different tire brands, tire sizes, gearbox meshload settings, caster, and the specific type of bumpy road surfcace encountered also has a large effect.

We will give it a try and let you know what we find.

Thanks.

Brian Jay

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From: O'Connor, Tammy (T.A.)
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To: Jay, Brian (B.L.); Carpenter, Joe (J.A.)
Cc:
Subject: FW: Report Summary for the CQIS Report#[redacted]

Brian/Joe: I couldn't tell which one of you have this dealership, but I have a draft TSB that I'm sending that I would like you to go over with the tech. Any feedback on the TSB would be appreciated and I want to know if you are able to resolve the issue or not.

Please feel free to call me with any questions. I plan to submit for publication in approx. 2 weeks. Thanks.

Tammy A. O'Connor
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Sent: Friday, September 09, 2005 8:10 AM
To: O'Connor, Tammy (T.A.)
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Attachments : 0

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Odometer :	3,842 M	**Engine:**	MOD 5.4 3V	**Calibration:**	6F714N(
Transmission:	5R110W	**Axle:**		**A/C:**	YES
Dealer:	USA 04212 North Central Ford			**Phone#:**	(972) 23 3491
City:	Richardson	**State:**	Texas	**Country :**	USA
Originator:	CRAIG BOWEN				

Symptom: 3 03 3 53 CHASS.,STRG/HANDLING ,VIB./SHIMMY,OVER BUMPS
Status:
VFG: V89 RIDE & HANDLING
Additional Symptom:
Fix: **Causal Component :**
Condition Code:

Hotliner: JOWENS28 **Phone:** 313 317-4276 **Regn Cd:** 52 Southwest - 52

Engineering: **Phone:** **TAR:**

Dlr Contact: CRAIG BOWEN **Phone:** 972 231-3491 **Title Cde:** SM

Comments :

REPAIR 09/08/2005 05:01PM JONATHAN OWENS MSS - FCSD - TECH SVC HOTLINE
SM STATES THE CUSTOMERS CONCERN IS A SHIMMY WHEN DRIVING OVER BUMPS AT
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RECOMM 09/08/2005 05:01PM JONATHAN OWENS MSS - FCSD - TECH SVC HOTLI
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RADIUS ARMS ARE PROPERLY TORQUED - CHECK ALIGNMENT & SET CASTER .5 TO
.75 BELOW NOMINAL ADVISE SM OF THE INFORMATION LISTED IN ISM
05-09-001. ADVISE SM TO CHECK THE TORQUE OF THE BOLTS, CHECK T TIRE
PRESSURE, AND CHECK THE ALIGNMENT.

ISSUE:

Some 2005-2006 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion) immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on 4x4 vehicles, equipped with steering wheels that have redundant controls (i.e. climate and radio controls).

ACTION:

This procedure will minimize the steering wheel oscillations on impacts; however, there may be some remaining minor oscillation, which would be considered normal.
Perform the following:

- Vehicle Inspection
- Evaluation Of Vehicle Prior To Repair
- Steering Gear Mesh Load Adjustment
- Reduce front caster by 0.5 to 0.75 degrees
- Replacement Of Redundant Control Steering Wheel (if equipped and vehicle built prior to 10/8/04)

SERVICE PROCEDURE

VEHICLE INSPECTION

1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

   NOTE: SETTING TIRE PRESSUE TO DOOR SPEC IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

2. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
   a. If leaks are present, install a new steering damper and continue with this TSB.
   b. If no leaks are present, continue with this TSB.

3. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table # below).

Description	Torque Specification (lb-ft/ Nm)	
	Lb-ft	Nm
Damper nuts (4x2)	59	80
Damper-to-bracket (F-250, F-350 4x4)	26	35
Damper-to-drag link	67	91
Drag link-to-pitman arm nut	148	201
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts & bolts	129	175
Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

4. Measure wheel alignment. Verify that Front Caster, Camber & Total Toe is within specification (preferred specification is .1 degree toe in). Adjust to specification as required. Refer to the Workshop Manual, Section 2004-00-1 for complete alignment specifications.

EVALUATION OF VEHICLE PRIOR TO REPAIR

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the severity of wheel oscillation.

3. During the road test, evaluate and note the steering wheel return-ability.
    a. Turn steering wheel full lock to lock to confirm no binding.
    b. Locate center, and then 45 degrees either side of center on the steering wheel.
    c. Driving vehicle at 35 MPH (56 Km/h), on a dry and flat road surface, turn the wheel 45 degrees and release. Note the approximate angle that the steering wheel returns to BEFORE CLEAR VISION. Perform and record the angle for both left and right. It is normal if the angle differs slightly from left to right.

STEERING GEAR MESH LOAD ADJUSTMENT

1. Insert hex wrench into steering gear mesh load adjuster screw.
2. While holding the mesh load adjuster screw tight, back off lock nuts two full turns to allow free movement of the adjuster screw.
3. Carefully tighten adjuster screw until a slight increase in resistance is felt, then back off approximately 1/16th of a turn.
4. Hold the adjuster screw in place and tighten lock nut. Do not allow the adjustment screw to turn while tightening the locking nut down.
5. Road test vehicle and evaluate for improvement in steering wheel oscillations.
    a. Confirm that there is no objectionable increase in steering efforts, especially at low speeds.
    b. Verify that steering wheel return-ability is approximately the same as it was during the original evaluation (within 5 degrees).
    c. Turn steering wheel full lock to lock to confirm no binding.
6. Park the vehicle to let it cool down. Road test cold to confirm acceptable parking efforts and return-ability in cold condition. Repeat the mesh load adjustment if needed.

REDUCE FRONT CASTER

- Note the current front caster
- Use alignment adjustment bushings to Reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit.
- If caster setting is at exact minimum, camber may be below the specification limit.
- Use Alignment adjustment bushings:
    - 4x4: 5C3Z-3B440-DDD (0.75 Degree bushing) OR 5C3Z-3B440-EEE (1.0 degree bushing)
    - 4x2: 5C3Z-3B440-D (0.75 Degree bushing) OR 5C3Z-3B440-E (1.0 degree bushing)
- Maintain the current front camber, cross-camber & cross-caster settings as close as you possibly can.
- If the caster is set to the exact minimum, you may find that the camber is out of spec.
- Adding weight to the back raises the front of the vehicle, which in effect increases caster.

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE 2005 OR 2006 SUPER DUTY F-SERIES WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

From: Jay, Brian (B.L.)
Sent: Friday, September 09, 2005 3:45 PM
To: OConnor, Tammy (T.A.)
Subject: RE: Report Summary for the CQIS Report#[redacted]

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Thanks.

Brian Jay

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Attachments : 0

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City:	Richardson	**State:**	Texas	**Country :**	USA
Originator:	CRAIG BOWEN				
Symptom:	3 03 3 53 CHASS.,STRG/HANDLING ,VIB./SHIMMY,OVER BUMPS				
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Additional Symptom:					
Fix:	**Causal Component :**				
Condition Code:					

Hotliner: JOWENS28 **Phone:** 313 317-4276 **Regn Cd:** 52 Southwest - 52

Engineering: **Phone:** **TAR:**

Dlr Contact: CRAIG BOWEN **Phone:** 972 231-3491 **Title Cde:** SM

Comments :

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PRESSURE, AND CHECK THE ALIGNMENT.

From: Jay, Brian (B.L.)
Sent: Monday, September 19, 2005 2:48 AM
To: O'Connor, Tammy (T.A.)
Subject: RE: Report Summary for the CQIS Report#[redacted]

Hi Tammy.

We followed the preliminary TSB.

The tire pressure was actually set correctly by the dealer on the previous visit (what a shock.)

No Damper leaks.

All fasteners appeared to have been torqued correctly on this vehicle.

We had 1.8 degrees of caster on the left side, 2.2 on the right. This vehicle has a rear sway bar, so I am assuming we should be using the "Heavy Duty" spec table.

The wheel oscillation on this truck was not all that severe to begin with. There was a slight amount of light feedback over concrete expansion joints or uneven pavement, nothing I would notice if not looking for it. There was a slightly larger amount of fairly sharp feedback when a pothole was encountered.

While we did not find any loose fasteners on the front suspension, the technician found a slight (I would estimate about 3/16") of vertical play in the toe bar linkage, it appeared to originate in the threaded joints between the tire rod end and the toe bar. We found a like unit, it had zero play (some "rocking" front to back movement or rotation in the tie rod ends was present on both vehicles, but no vertical play on the known good unit.)

The technician ordered the necessary parts and hardware to replace the toe rod (he had previously loosened and re-tightened the threaded joints, it did not affect the play), and the sharp feedback appeared to have been eliminated.

This customer is a former fleet sales manager of the dealer, and has a reputation for picking out concerns on vehicles that no customer would ever bother to mention. The Service Manager at this dealer, Craig, is very honest and down-to-earth and stated that every time the dealer has worked on any sort of vehicle for this customer he will take the car for a week, claim it is fixed, then bring it back in after another week or so, and then proceed to claim the concern is back even though the vehicle is operating exactly the same way it was when he picked it up and said it was fixed.

I felt like the vehicle is fixed the we will wait and see how long this guy stays away.

Thanks for your help.

Brian Jay

Field Service Engineer - Southwest Region
Districts A/F/G
Office: 972-334-1806
Cell: 214-394-7709
Fax: 972-334-1806
bjay1@ford.com

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From: O'Connor, Tammy (T.A.)
Sent: Monday, September 12, 2005 6:10 AM
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Fix:	**Causal Component :**				
Condition Code:					

Hotliner:	JOWENS28	**Phone:**	313 317-4276	**Regn Cd:**	52 Southwest - 52
Engineering:		**Phone:**		**TAR:**	
Dlr Contact:	CRAIG BOWEN	**Phone:**	972 231-3491	**Title Cde:**	SM

Comments :

REPAIR 09/08/2005 05:01PM JONATHAN OWENS MSS - FCSD - TECH SVC HOTLINE
SM STATES THE CUSTOMERS CONCERN IS A SHIMMY WHEN DRIVING OVER BUMPS AT
HIGHWAY SPEEDS. SM STATES HE DID FOLLOW TSB 04-26-01. SM SEEKI IF WE
HAVE ANY ADDITIONAL INFORMATION.

RECOMM 09/08/2005 05:01PM JONATHAN OWENS MSS - FCSD - TECH SVC HOTLI
ISM 05-09-001 VERIFY TIRE PRESSURES ARE SET TO SPECIFICATION, BO
RADIUS ARMS ARE PROPERLY TORQUED - CHECK ALIGNMENT & SET CASTER .5 TO
.75 BELOW NOMINAL ADVISE SM OF THE INFORMATION LISTED IN ISM
05-09-001. ADVISE SM TO CHECK THE TORQUE OF THE BOLTS, CHECK T TIRE
PRESSURE, AND CHECK THE ALIGNMENT.

From: Todisco, Ronald (R.J.)
Sent: Monday, September 12, 2005 11:53 AM
To: O'Connor, Tammy (T.A.)
Subject: RE: Report Summary for the CQIS Report#[redacted]

Tammy,
I spoke to the technician, Eric Hysler, today.
This vehicle is repaired and the customer is satisfied.
The technician advised he torque the track bars per John Engstrom instructions per ISM 05-09-001.

regards
Ron Todisco
Field Service Engineer / Boston
Fax: ***(508)-490-6072***
Cellular: [redacted]
EMAIL: ***rtodisco@ford.com***
Privileged/Confidential Information may be contained in this message. If you are not the addressee indicated in this message (or responsible for delivery of the message to such person), you may not copy or deliver this message to anyone. In such case, you should destroy this message and kindly notify the sender by reply email.

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Monday, September 12, 2005 8:09 AM
To: Todisco, Ronald (R.J.)
Subject: FW: Report Summary for the CQIS Report#[redacted]

Please review this attached draft TSB for this issue below, any feedback would be appreciated. I plan to publish this TSB in 2 weeks, but would like to know if it helps resolve this issue.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thurs,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

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-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Monday, September 12, 2005 7:44 AM
To: O'Connor, Tammy (T.A.)
Subject: Report Summary for the CQIS Report#[redacted]

Attachments : 0

Report# :	[redacted] NHL			**Received:**	09/09/2005
CCRG/EPRC:		**Reviewed Status:**		**Date:**	
Vehicle:	2006,F250 4X4,SUP CAB,PICKUP ,1FTSX21596EB[redacted]			**Build Date:**	08/31/2005
Odometer :	6 M	**Engine:**	MOD 5.4 3V	**Calibration:**	6F714E0A
Transmission:	5R110W	**Axle:**		**A/C:**	YES
Dealer:	USA 08862 Portsmouth Ford			**Phone#:**	(603) 433-1221
City:	Portsmouth	**State:**	New Hampshir	**Country :**	USA

Originator: ERIC HYSLER
Symptom: 3 03 3 53 CHASS.,STRG/HANDLING ,VIB./SHIMMY,OVER BUMPS
Status:
VFG: V89 RIDE & HANDLING
Additional Symptom: SLIGHT SHIMMY OVER BUMPS.
Fix: **Causal Component :**
Condition Code:

Hotliner: JENGSTRO **Phone:** 313 317-9369 **Regn Cd:** 11 Boston -11

Engineering: **Phone:** **TAR:**

Dlr Contact: ERIC HYSLER **Phone:** 603 433-1221 **Title Cde:** T

Comments :

REPAIR 09/09/2005 02:13PM JOHN ENGSTROM MSS - FCSD - TECH SVC HOTLINE
THERE IS A SLIGHT STEERING SHIMMY OVER BUMPS. NO REPAIR ATTEMPT.

RECOMM 09/09/2005 02:13PM JOHN ENGSTROM MSS - FCSD - TECH SVC HOTLINE
ISM 05-09-001 (VERIFY TIRE PRESSURES ARE SET TO SPECIFICATION, BOTH RADIUS ARMS ARE PROPERLY TORQUED - CHECK ALIGNMENT & SET CASTER .5 TO
.75 BELOW NOMINAL).

From: Hale, Curt (B.C.)
Sent: Monday, October 17, 2005 10:46 AM
To: Kearney, Todd (T.)
Cc: Repasky, Steve (S.); Nantais, Jerry (J.L.); Paskus, Anthony (A.); 'Gus.Simiao@dana.com'; 'Tim.Runstadler@dana.com'; Nelson, Richard (R.T.); Mayer, Paul (P.A.); OConnor, Tammy (T.A.)
Subject: RE: Report Summary for the CQIS Report#[redacted]

Is the the 4X2 and 4X4 procedure the same?

B. Curtis Hale
FCSD PVT Program Manager
F-Super Duty & Excursion

-----Original Message-----
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Sent: Monday, October 17, 2005 10:39 AM
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Cc: Repasky, Steve (S.); Hale, Curt (B.C.); Nantais, Jerry (J.L.); Paskus, Anthony (A.); 'Gus.Simiao@dana.com'; 'Tim.Runstadler@dana.com'
Subject: RE: Report Summary for the CQIS Report#[redacted]

Todd J. Kearney
Design & Release Engineer
Front Axle Systems - P131 / P356
Tel/Cell: (313) 805-3919
Fax: (313) 248-6053
tkearne2@ford.com

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Cc: Repasky, Steve (S.); Hale, Curt (B.C.); Nantais, Jerry (J.L.); Paskus, Anthony (A.); 'Gus.Simiao@dana.com'; 'Tim.Runstadler@dana.com'; Kearney, Todd (T.)
Subject: RE: Report Summary for the CQIS Report#[redacted]

well you are not going to believe this ... but ... The track bar axle ball joint belongs to the axle D&R group. I believe that Tony paskus is still the supervisor.

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So ultimately any service guidelines would come from Dana, and the axle D&R folks would probably be the ones to go get it from Dana

Regards
Paul Mayer
Truck Suspension and Systems Analysis
313-248-9202 Fax:313-317-2349

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To: Mayer, Paul (P.A.)
Cc: Repasky, Steve (S.); Hale, Curt (B.C.)
Subject: RE: Report Summary for the CQIS Report#[redacted]

Paul/Steve:

Any recommendation would be appreciated.

Tammy A. O'Connor
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FCSD PVT Program Manager
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From: Nelson, Richard (R.T.)
Sent: Monday, October 17, 2005 9:14 AM
To: Hale, Curt (B.C.)

Subject: Report Summary for the CQIS Report#[redacted]

trak bar balljoint removal. supposedly there is a parts listing for it...but no removal process noted in shop manual

Attachments : 0

Report# :	[redacted] NHL			**Received:**	10/13/2005
CCRG/EPRC:		**Reviewed Status:**		**Date:**	
Vehicle:	2005,F250 4X4,CRW CAB,SRW ,1FTSW21595E[redacted]			**Build Date:**	03/30/2005
Odometer :	7,264 M	**Engine:**	MOD 5.4 3V	**Calibration:**	5F714N0A
Transmission:	5R110W	**Axle:**		**A/C:**	YES
Dealer:	USA 20088 Gustafson Ford, Inc.			**Phone#:**	(309) 932-3710
City:	Galva	**State:**	Illinois	**Country :**	USA
Originator:	TOM SIEGEL				
Symptom:	3 03 3 53 CHASS.,STRG/HANDLING ,VIB./SHIMMY,OVER BUMPS				
Status:					
VFG:	V89 RIDE & HANDLING				
Additional Symptom:	BUMP STEERING.				
Fix:	**Causal Component :**				
Condition Code:					

Hotliner: RNELSO28 **Phone:** 313 317-9376 **Regn Cd:** 41 Chicago - 41

Engineering: **Phone:** **TAR:**

Dlr Contact: TOM SIEGEL **Phone:** 309 932-3710 **Title Cde:** T

Comments :

REPAIR 10/13/2005 03:16PM RICHARD NELSON MSS - FCSD - TECH SVC HOTLINE
TECH STATES, CUSTOMER CONCERN IS BUMP STEERING ISSUES. TSB 04 26 1 HAS
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RECOMM **10/13/2005 04:10PM WILLIAM LEIBENGOOD MSS - FCSD - TECH SVC HOTLINE**

SEE SM 204-01B. ADVISE TECH IF TRACK BAR BALL JOINT DEFLECTION EXCEEDS

1.5MM REPLACE. TECH TO ADVISE.

ADD-ON **10/17/2005 09:13AM RICHARD NELSON MSS - FCSD - TECH SVC HOTLINE**

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DEVISE IN PLACE TO REMOVE. IN REVIEW OF SHOP MANUAL NO REMOVAL

PROCEDURE NOTED.

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Sent: Monday, October 17, 2005 10:39 AM
To: Mayer, Paul (P.A.); O'Connor, Tammy (T.A.)
Cc: Repasky, Steve (S.); Hale, Curt (B.C.); Nantais, Jerry (J.L.); Paskus, Anthony (A.); 'Gus.Simiao@dana.com'; 'Tim.Runstadler@dana.com'
Subject: RE: Report Summary for the CQIS Report#[redacted]
Attachments: trackbar balljoint.pdf

Todd J. Kearney
Design & Release Engineer
Front Axle Systems - P131 / P356
Tel/Cell: (313) 805-3919
Fax: (313) 248-6053
tkearne2@ford.com

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Subject: RE: Report Summary for the CQIS Report#[redacted]

Paul/Steve:

Any recommendation would be appreciated.

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FCSD, Service Engineering Operations
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F-Super Duty & Excursion

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Subject: Report Summary for the CQIS Report#[redacted]

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CCRG/EPRC:		**Reviewed Status:**		**Date:**	
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Odometer :	7,264 M	**Engine:**	MOD 5.4 3V	**Calibration:**	5F714N0A

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Dealer:	USA 20088 Gustafson Ford, Inc.			**Phone#:**	(309) 932-3710
City:	Galva	**State:**	Illinois	**Country :**	USA
Originator:	TOM SIEGEL				
Symptom:	3 03 3 53 CHASS.,STRG/HANDLING ,VIB./SHIMMY,OVER BUMPS				
Status:					
VFG:	V89 RIDE & HANDLING				
Additional Symptom:	BUMP STEERING.				
Fix:	**Causal Component :**				
Condition Code:					

Hotliner: RNELSO28 **Phone:** 313 317-9376 **Regn Cd:** 41 Chicago - 41

Engineering: **Phone:** **TAR:**

Dlr Contact: TOM SIEGEL **Phone:** 309 932-3710 **Title Cde:** T

Comments :

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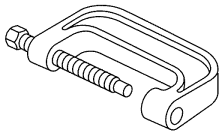
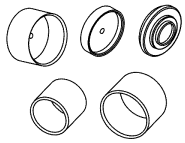
DEVISE IN PLACE TO REMOVE. IN REVIEW OF SHOP MANUAL NO

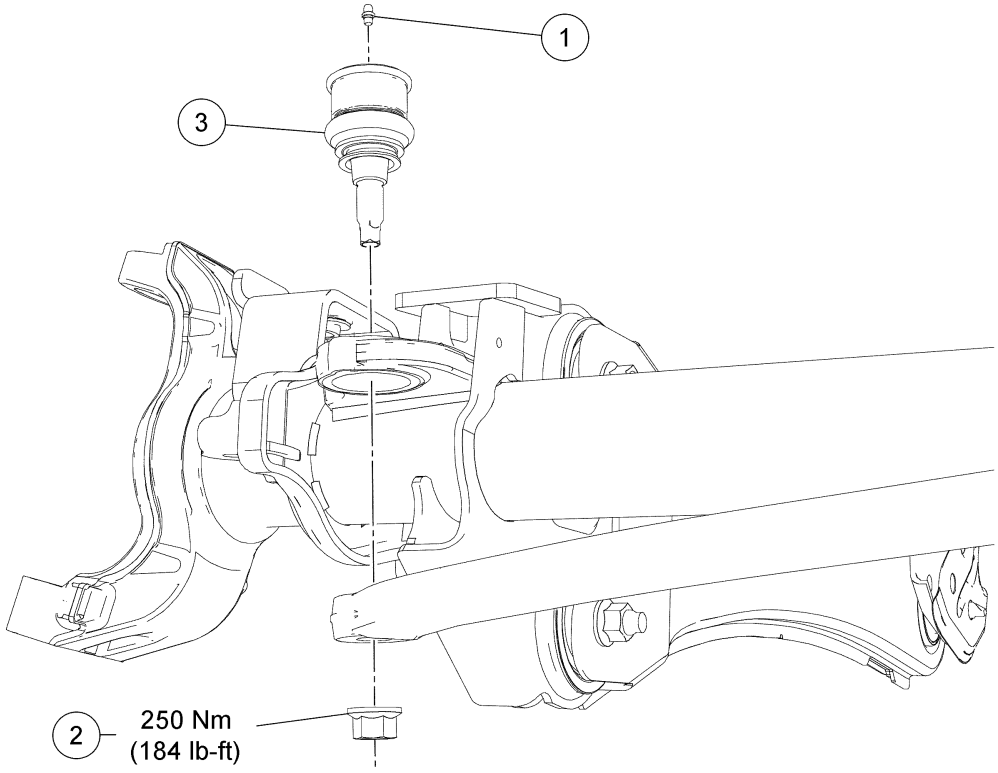
REMOVAL
PROCEDURE NOTED.

REMOVAL AND INSTALLATION

Ball Joint — Track Bar

Special Tool(s)

 ST1172-A	Installer/Remover, C-Frame and Screw 205-086 (T74P-4635-C)
 ST2930-A	Remover/Installer, Ball Joint 204-355



N0034319

Item	Part Number	Description
1	—	Ball joint grease fitting
2	N807659-S	Ball joint nut
3	—	Track bar ball joint

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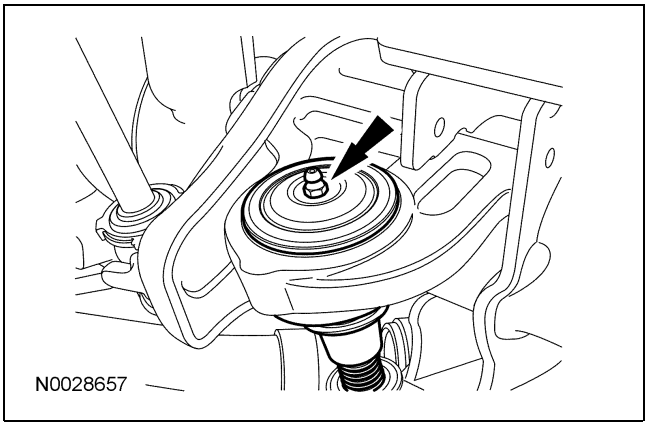
REMOVAL AND INSTALLATION (Continued)

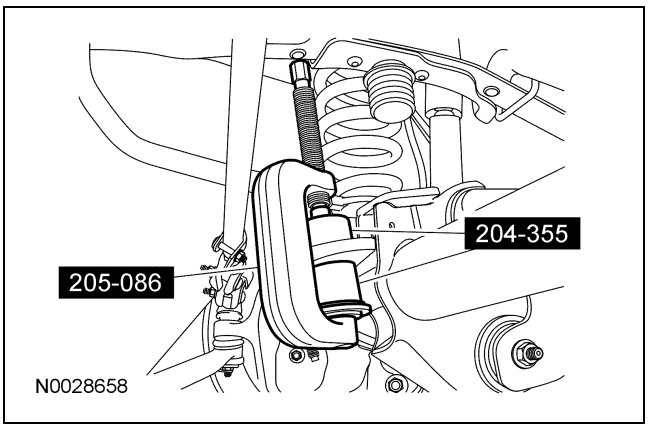
Removal

⚠ **CAUTION: Suspension fasteners are critical parts because they affect performance of vital components and systems and their failure can result in major service expense. They must be replaced with the same part number or an equivalent part if replacement is necessary. Do not use a replacement part of lesser quality or substitute design. Torque values must be used as specified during reassembly to make sure of correct retention of these parts.**

1. With the vehicle in NEUTRAL, position it on a hoist. For additional information, refer to Section 100-02.
2. Remove the track bar. For additional information, refer to Track Bar — F-450, F-550 removal and installation in this section.
3. If equipped, remove the ball joint grease fitting.



4. Remove the ball joint boot.
5. Using the special tools, remove the ball joint.

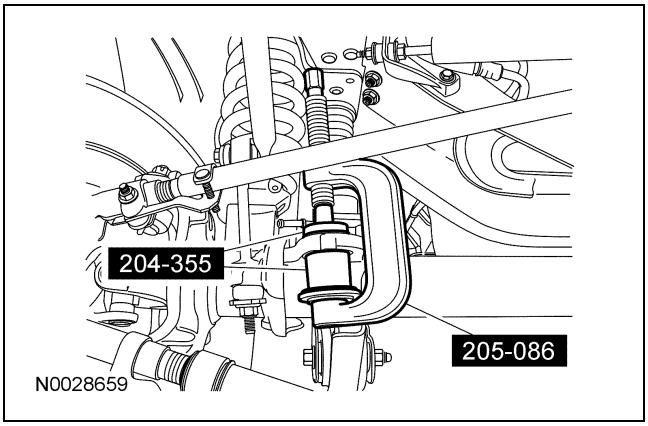


Installation

1. Position the ball joint into the bracket.
2. ⚠ **CAUTION: The grease fitting must be removed from the ball joint prior to installation or damage to the grease fitting can occur.**

   ⚠ **CAUTION: The ball joint is installed with the dust boot attached to the ball joint. Do not damage the ball joint boot during installation.**

   Using the special tools, install the ball joint.



3. If removed, install the ball joint grease fitting.
4. Install the track bar. For additional information, refer to Track Bar — F-450, F-550 in this section.

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Sent: Monday, October 17, 2005 10:51 AM
To: Hale, Curt (B.C.)
Cc: Repasky, Steve (S.); Nantais, Jerry (J.L.); Paskus, Anthony (A.); 'Gus.Simiao@dana.com'; 'Tim.Runstadler@dana.com'; Nelson, Richard (R.T.); Mayer, Paul (P.A.); OConnor, Tammy (T.A.)
Subject: RE: Report Summary for the CQIS Report#[redacted]

yes

Todd J. Kearney
Design & Release Engineer
Front Axle Systems - P131 / P356
[redacted]
Fax: (313) 248-6053
tkearne2@ford.com

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Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
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Dealer:	USA 20088 Gustafson Ford, Inc.			**Phone#:**	(309) 932-3710
City:	Galva	**State:**	Illinois	**Country :**	USA
Originator:	TOM SIEGEL				
Symptom:	3 03 3 53 CHASS.,STRG/HANDLING ,VIB./SHIMMY,OVER BUMPS				
Status:					
VFG:	V89 RIDE & HANDLING				
Additional Symptom:	BUMP STEERING.				
Fix:	**Causal Component :**				
Condition Code:					

Hotliner: RNELSO28 **Phone:** 313 317-9376 **Regn Cd:** 41 Chicago - 41

Engineering: **Phone:** **TAR:**

Dlr Contact: TOM SIEGEL **Phone:** 309 932-3710 **Title Cde:** T

Comments :

REPAIR 10/13/2005 03:16PM RICHARD NELSON MSS - FCSD - TECH SVC HOTLINE
TECH STATES, CUSTOMER CONCERN IS BUMP STEERING ISSUES. TSB 04 26 1 HAS
BEEN PERFORMED.

RECOMM 10/13/2005 03:16PM RICHARD NELSON MSS - FCSD - TECH SVC HOTLINE
ISM 05-09-001 VERIFY TIRE PRESSURES ARE SET TO SPECIFICATION, BOTH
RADIUS ARMS ARE PROPERLY TORQUED - CHECK ALIGNMENT & SET CASTER 5 TO
.75 BELOW NOMINAL

REPAIR 10/13/2005 04:10PM WILLIAM LEIBENGOOD MSS - FCSD - TECH SVC HOTLINE
TECH STATES THERE APPEARS TO BE EXCESSIVE MOVEMENT IN THE TRACK BAR
BALL JOINT. TECH NOTICED DURING TORQUE INSPECTION OF TRACK BAR.

RECOMM 10/13/2005 04:10PM WILLIAM LEIBENGOOD MSS - FCSD - TECH SVC HOTLINE
SEE SM 204-01B. ADVISE TECH IF TRACK BAR BALL JOINT DEFLECTION EXCEEDS
1.5MM REPLACE. TECH TO ADVISE.

ADD-ON 10/17/2005 09:13AM RICHARD NELSON MSS - FCSD - TECH SVC HOTLINE
FORWARDED REPORT TO FACTORY. TECH TOM SIEGLE STATES HAS A PART OF
5C3Z3050CA FOR THE TRAK BAR BALLJOINT CAN NOT GET PRESENT C-CLAMP
DEVISE IN PLACE TO REMOVE. IN REVIEW OF SHOP MANUAL NO REMOVAL
PROCEDURE NOTED.

From: Joseph, Charles (C.A.)
Sent: Thursday, October 27, 2005 3:47 PM
To: O'Connor, Tammy (T.A.); Mayer, Paul (P.A.)
Cc: Repasky, Steve (S.)
Subject: RE: Report Summary for the CQIS Report# [redacted] -- Not Steering shimmy issue --

After our discussion with Rick I am now clear on what you need Rick indicates that this is a FX4 package and therefore would get a Rancho shock: the engineering numbers for e front are 6C34-18045-PBA and for e Rear they are 6C34-18080- KBA.

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Thursday, October 27, 2005 9:43 AM
To: Mayer, Paul (P.A.); Joseph, Charles (C.A.)
Cc: Repasky, Steve (S.)
Subject: RE: Report Summary for the CQIS Report# [redacted] -- Not Steering shimmy issue --

Do you have the Engineering part number yet?

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Wed,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Thursday)

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-----Original Message-----
From: Mayer, Paul (P.A.)
Sent: Thursday, October 20, 2005 12:35 PM
To: Joseph, Charles (C.A.)
Cc: Repasky, Steve (S.); O'Connor, Tammy (T.A.)
Subject: RE: Report Summary for the CQIS Report# [redacted] -- Not Steering shimmy issue --

Chuck, can you please send Tammy the part numbers for the new 142" 4x4 configuration shocks

see below notes for background

Regards
Paul Mayer
Truck Suspension and Systems Analysis
313-248-9202 Fax:313-317-2349

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Thursday, October 20, 2005 11:05 AM
To: Repasky, Steve (S.)
Cc: Hale, Curt (B.C.); Mayer, Paul (P.A.); Knapp, David (D.); Grozier, Brian (B.D.); Baghdoian, Mitch (M.R.)
Subject: RE: Report Summary for the CQIS Report# [redacted] -- Not Steering shimmy issue --

Steve: We would like to write an ISM with the service part numbers for the new shocks when they become available. Do you have an Engineering part number yet?

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Wed,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Thursday)

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-----Original Message-----
From: Repasky, Steve (S.)
Sent: Wednesday, October 19, 2005 11:55 AM
To: O'Connor, Tammy (T.A.); Baghdoian, Mitch (M.R.); Choe, Mark (M.J.)
Cc: Hale, Curt (B.C.); Mayer, Paul (P.A.); Knapp, David (D.); Grozier, Brian (B.D.)
Subject: RE: Report Summary for the CQIS Report# [redacted] -- Not Steering shimmy issue --

Tammy - Thanks for the note. From the VIN, the vehicle is a 5.4L 142" F350 4x4. The noted concern appears to be related to overall harsh ride and steering wheel ringdown (lesser amplitude than wheel fight).

For harsh ride, PD has developed new shock codes for the 142" 4x4 configuration that are expected to be PSW'd on Oct. 24, 2005 to support Superduty 2006 J#2 4PP builds (J#2 is Dec. 2005). These may be available on a limited basis to handle customer concerns.

PD is also currently working to diminish ring down with Engine and Body mount revisions as well as some potential frame changes. However, these would be longer term fixes and not readily available.

I will try to call Brian today to discuss the concern. Thanks..

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Wednesday, October 19, 2005 9:52 AM
To: Repasky, Steve (S.); Baghdoian, Mitch (M.R.)
Cc: Grozier, Brian (B.D.); Hale, Curt (B.C.); Snider, Alex (A.); Mayer, Paul (P.A.); Knapp, David (D.)
Subject: FW: Report Summary for the CQIS Report# [redacted] -- Not Steering shimmy issue --

Steve/Mitch:

Below is a CQIS report from FSE Brian Grozier. We discussed this issue on Monday afternoon in our CMT meeting. Brian says he has driven several trucks with this issue. Brian specifically says it is not the steering shimmy issue. However, the TSB was done and it made little, if no difference. I have seen a few other reports which describe it as a Hop or harsh ride. Several or the reports mention frame flexing/bouncing?

Any recommendations/comments would be appreicated. Please feel free to contact Brian directly also.

Tammy A. O'Conno
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Wed,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Thursday)

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-----Original Message-----
From: Grozier, Brian (B.D.)
Sent: Wednesday, October 19, 2005 9:40 AM
To: O'Connor, Tammy (T.A.)
Subject: Report Summary for the CQIS Report# [redacted]

one of my road test shimmy/shake/shudder

Attachments : 0

Report# :	[redacted] FCSDFS			**Received:**	10/19/2005
CCRG/EPRC:		**Reviewed Status:**		**Date:**	
Vehicle:	2005,F350 4X4,SUP CAB,PICKUP ,1FTWX31525E[redacted]			**Build Date:**	03/04/2005
Odometer :	1,286 M	**Engine:**	MOD 5.4 3V	**Calibration:**	5F714C0A
Transmission:	5R110W	**Axle:**		**A/C:**	YES
Dealer:	USA 09131 Muzi Motors Inc			**Phone#:**	(617) 444-5300
City:	Needham Heights	**State:**	Massachusett	**Country :**	USA
Originator:					
Symptom:	3 05 9 99 CHASS.,FRAME CONCERNS,NOT LISTED,OTHER				
Status:					
VFG:	V44 MECHANICAL MALFUNCT INDICATION				

Additional Symptom: SHUDDER OVER BUMPS

Fix: **Causal Component :**

Condition Code:

Region Code: 11 **Region Name:** Boston -11

Comments :

VERIFY 10/19/2005 09:36AM BRIAN GROZIER MSS - FCSD - REG - BOSTON

CUSTOMER IS COMPLAINING OF A SHIMMY/SHUDDER OVER BUMPS WHEN DRIVEN

EMPTY. ROAD TEST FOUNF TIRES TO HAVE FLAT SPOTS FOR THE FIRST 20

MILES, THEN WHILE GOING AT HIGHWAY SPEEDS TRUCK WAS DETRMINED TO HAVE

A SHUDDER IN FRMAE WHEN HITTTING LARGE BUMPS IN ROAD. CONCERN FEELS

LIKE AS IF YOU COULD BE SITTING ON THE END OF A DIVING BOARD AFTER THE

SPRING ACTION WAS ACTIVIATED. CONCERN IS A CHARACTERISTIC OF THE

VEHICLE WHEN DRIVEN UN LOADED.

			2007 Model Year Part Number Design Length matrix p Aurthority Release November 20																						
Rancho = RED		2005	2007 x-release	2007 MY				Application Chart						Pick Up					Chassis Cab						
2005 MY Released		Tenneco O/E P/N	Tenneco	Ford		Comp	Ext							Wide Frame					Narrow Frame						
Ford P/N	Suffix	Consolidations	Part Number	Part Number	Suffix	m/m	m/m	Mode	4x2	4x4	Gas	Diesel	Rancho	137	142	156	158	172	141	162	165	176	189	200	201
5C34 18045	AFC	**OE11649**	x77465	7C34 18045	AFA	carryover		***250/350***	X		X	X		X	X		X								
6C34 18045	**AGA**	**OE11884**	x77466	7C34 18045	AGA	carryover		***250/350***	X		X	X				X		X							
5C34 18045	AKC	**OE11694**	x77467	7C34 18045	AKA	carryover		***DRW***	X		X	X		X	N/A	X	X	X							
4C34 18045	**APA**	**OE11563**	x77468	7C34 18045	APA	carryover		***350 SRW***	X		X	X							X	X	N/A	X	N/A	N/A	N/A
4C34 18045	**ARA**	**0E11564**	x77469	7C34 18045	ARA	carryover		***350 DRW***	X		X	X							X	X	X	X	N/A	N/A	N/A
5C34 18045	NBF	**OE11769**	x77470	7C34 18045	NBA	carryover		***250/350***		X	X				X										
5C34 18045	NCF	**OE11739**	x77471	7C34 18045	NCA	carryover		***250/350***		X	X					X	X	X							
5C34 18045	NDE	**OE11656**	x77472	7C34 18045	NDA	carryover		***250/350***		X		X		X	X										
5C34 18045	NEE	**OE11695**	x77473	7C34 18045	NEA	carryover		***250/350***		X		X				X	X	X							
5C34 18045	NGE	**OE11658**	x77474	7C34 18045	NGA	carryover		***DRW***		X	X	X		X	N/A	X	X	X							
5C34 18045	NHA	**OE11817**	x77216	7C34 18045	NHA	carryover		***250/350***		X	X			X											
			x77218	**7C34 18045**	**NJA**	**NEW**		***450***		X	X	X		X	N/A	X	X	X							
6C34 18045	**PBA**	**OE12279**	**x77475**	**7C34 18045**	**PBA**	carryover		***250/350***		X	X		X	X	X										
5C34 18045	**PCD**	**OE11731**	**x77476**	**7C34 18045**	**PCA**	carryover		***250/350***		X	X		X			X	X	X							
5C34 18045	**PDD**	**OE11696**	**x77477**	**7C34 18045**	**PDA**	carryover		***250/350***		X		X	X	X	X										
5C34 18045	**PED**	Consolidate to PDD	**x77479**	**7C34 18045**	**PEA**	carryover		***250/350***				X	X			X	X	X							
5C34 18045	**PGD**	**OE11697**	**x77480**	**7C34 18045**	**PGA**	carryover		***DRW***		X	X	X	X	X	N/A	X	X								
6C34 18045	**PHA**	**OE12280**						***DRW***		X	X	X	X					X							
5C34 18045	EE	**OE11659**	x77484	7C34 18045	EA	carryover		***350 SRW***		X	X	X							X	X	N/A	X	N/A	N/A	N/A
5C34 18045	FD	Consolidate to EE	x77485	7C34 18045	FA	carryover		***350 DRW***		X	X	X							X	X	X	X	N/A	N/A	N/A
5C34 18045	GD	Consolidate to HE																							
5C34 18045	HE	**OE11660**	x77486	7C34 18045	HA	carryover		***450/550***	X	X	X	X							X	X	X	X	X	X	X
		16 Part numbers	19 Front Part Numbers																						
5C34 18080	CCD	**OE11661**	x77487	7C34 18080	CCA	412	703	***250***	X		X	X		X	X		X								
6C34 18080	**CEA**	**OE11885**	x77488	7C34 18080	CEA	412	703	***250***	X		X	X				X		X							
5C34 18080	CFA	**OE11676**	x77489	7C34 18080	CFA	412	703	***350***	X		X	X		X	X		X								
5C34 18080	CGA	**OE11677**	**Replaced by CE**	~~7C34 18080~~	~~CG1~~	412	703	***350***	X		X	X				X		X							
5C34 18080	CLD	**OE11698**	x77491	7C34 18080	CLA	417	683	***DRW***	X		X	X		X		X	X	X							
1C34 18080	**CVB**	**OE11348**	x77492	7C34 18080	CVA	350	577.3	***350 SRW***		X	X	X							X	X	N/A	X	N/A	N/A	N/A
1C34 18080	**CXB**	**OE11349**	x77493	7C34 18080	CXA	350	577.3	***350 DRW***		X	X	X							X	X	X	X	N/A	N/A	N/A
5C34 18080	CUC	**OE11665**	x77494	7C34 18080	CUA	400	647.3	***350 SRW***		X	X	X							X	X	X	X	N/A	N/A	N/A
5C34 18080	CYB	Consolidate to CUC																							
5C34 18080	DBB	Consolidate to DCC																		X					
5C34 18080	DCC	**OE11666**	x77495	7C34 18080	DCA	380	627.3	***450 DRW***	X	X	X	X							X	X	X	X	X	X	X
1C34 18080	**DJB**	**OE11352**	x77496	7C34 18080	DJA	380	638.4	***550 DRW***			X	X							X	X	X	X	X	X	X
5C34 18080	JBE	**OE11770**	x77497	7C34 18080	JBA	454	753	***250***		X	X				X										
5C34 18080	JCD	**OE11668**	x77498	7C34 18080	JCA	454	753	***250***		X	X					X	X	X							
5C34 18080	JDD	**OE11669**	x77499	7C34 18080	JDA	454	753	***250***		X		X		X	X										
5C34 18080	JED	**OE11702**	x77500	7C34 18080	JEA	454	753	***250***		X		X				X	X	X							
5C34 18080	JHA	**OE11818**	x77215	7C34 18080	JHA	454	753	***250***		X	X			X											
6C34 18080	**KBA**	**OE12281**	**x77501**	**7C34 18080**	**KBA**	454	753	***250***		X	X		X	X	X										
5C34 18080	**KCG**	**OE11889**	**x77502**	**7C34 18080**	**KCA**	454	753	***250***		X	X		X			X	X	X							
5C34 18080	**KDG**	**OE11890**	**x77503**	**7C34 18080**	**KDA**	454	753	***250***		X		X	X	X	X										
5C34 18080	**KED**	Consolidate to KDE	**x77504**	**7C34 18080**	**KEA**	454	753	***250***		X		X	X			X	X								
6C34 18080	**KHA**	**OE12282**											X					X							
5C34 18080	LBE	**OE11771**	x77505	7C34 18080	LBA	480	797	***350***		X	X				X										
5C34 18080	LCD	**OE11670**	x77506	7C34 18080	LCA	480	797	***350***		X	X					X	X	X							

5C34 18080	LDD	**OE11671**	x77507	7C34 18080	LDA	480	797	***350***		**X**		**X**		**X**	**X**										
5C34 18080	LED	**OE11703**	x77508	7C34 18080	LEA	480	797	***350***		**X**		**X**				**X**	**X**	**X**							
6C34 18080	**LGA**	**OE11998**	x77509	7C34 18080	LGA	453	734	***DRW***		**X**	**X**			**X**	**N/A**	**X**	**X**	**X**							
5C34 18080	LHA	**OE11819**	x77510	7C34 18080	LHA	445	734	***350***		**X**	**X**	**X**		**X**											
			x78261	**7C34 18080**	**LJA**			***450***		**X**	**X**	**X**		**X**	**N/A**	**X**	**X**	**X**							
6C34 18080	**MBA**	**OE12283**	**x77511**	**7C34 18080**	**MBA**	480	797	***350***		**X**	**X**		**X**	**X**	**X**										
5C34 18080	**MCG**	**OE11892**	**x77512**	**7C34 18080**	**MCA**	480	797	***350***		**X**	**X**		**X**			**X**	**X**	**X**							
5C34 18080	**MDG**	**OE11893**	x77513	**7C34 18080**	**MDA**	480	797	***350***		**X**		**X**	**X**	**X**	**X**										
5C34 18080	**MED**	Consolidate to MDE	x77514	**7C34 18080**	**MEA**	480	797	***350***		**X**		**X**	**X**			**X**	**X**	**X**							
6C34 18080	**MGA**	**OE11999**	x77515	**7C34 18080**	**MGA**	453	734	***DRW***		**X**	**X**	**X**	**X**	**X**	**N/A**	**X**	**X**								
6C34 18080	**MHA**	**OE12284**											**X**					**X**							
						Design Change for 2007																			

Ford Super Duty Part Numbers 2005 / 2006 Production to 2007 Launch

Rancho = RED 2005/2006 Production Ford P/N	Suffix	Tenneco P/N	2007 x-release Tenneco Part Number	Tenneco OE P/N	2007 Production Part Number	Suffix
5C34 18045	AFC	**OE11649**	x77465		7C34 18045	AFA
6C34 18045	**AGA**	**OE11884**	x77466		7C34 18045	AGA
5C34 18045	AKC	**OE11694**	x77467		7C34 18045	AKA
4C34 18045	**APA**	**OE11563**	x77468		7C34 18045	APA
4C34 18045	**ARA**	**0E11564**	x77469		7C34 18045	ARA
5C34 18045	NBF	**OE11769**	x77470		7C34 18045	NBA
5C34 18045	NCF	**OE11739**	x77471		7C34 18045	NCA
5C34 18045	NDE	**OE11656**	x77472		7C34 18045	NDA
5C34 18045	NEE	**OE11695**	x77473		7C34 18045	NEA
5C34 18045	NGE	**OE11658**	x77474		7C34 18045	NGA
5C34 18045	NHA	**OE11817**	x77216		7C34 18045	NHA
		New for 2007	x77218		**7C34 18045**	**NJA**
6C34 18045	**PBA**	**OE11730 / PPAP?**	**x77475**		**7C34 18045**	**PBA**
5C34 18045	**PCD**	**OE11731**	**x77476**		**7C34 18045**	**PCA**
5C34 18045	**PDD**	**OE11696**	**x77477**		**7C34 18045**	**PDA**
5C34 18045	**PED**	Consolidate to PDD	**x77479**		**7C34 18045**	**PEA**
5C34 18045	**PGD**	**OE11697**	**x77480**		**7C34 18045**	**PGA**
6C34 18045	**PHA**	**OE / PPAP**			**??**	**PHA**
5C34 18045	EE	**OE11659**	x77484		7C34 18045	EA
5C34 18045	FD	Consolidate to EE	x77485		7C34 18045	FA
5C34 18045	GD	Consolidate to HE				
5C34 18045	HE	**OE11660**	x77486		7C34 18045	HA
5C34 18080	CCD	**OE11661**	x77487		7C34 18080	CCA
6C34 18080	CEA	**OE11885**	x77488		7C34 18080	CEA
5C34 18080	CFA	**OE11676**	x77489		7C34 18080	CFA
~~5C34 18080~~	~~CGA~~	~~**OE11677**~~	**Replaced by CE**		~~7C34 18080~~	~~CG1~~
5C34 18080	CLD	**OE11698**	x77491		7C34 18080	CLA
1C34 18080	**CVB**	**OE11348**	x77492		7C34 18080	CVA
1C34 18080	**CXB**	**OE11349**	x77493		7C34 18080	CXA
5C34 18080	CUC	**OE11665**	x77494		7C34 18080	CUA
5C34 18080	CYB	Consolidate to CUC				
5C34 18080	DBB	Consolidate to DCC				
5C34 18080	DCC	**OE11666**	x77495		7C34 18080	DCA

1C34 18080	**DJB**	**OE11352**	x77496		7C34 18080	DJA
5C34 18080	JBE	**OE11770**	x77497		7C34 18080	JBA
5C34 18080	JCD	**OE11668**	x77498		7C34 18080	JCA
5C34 18080	JDD	**OE11669**	x77499		7C34 18080	JDA
5C34 18080	JED	**OE11702**	x77500		7C34 18080	JEA
5C34 18080	JHA	**OE11818**	x77215		7C34 18080	JHA
6C34 18080	**KBA**	**OE11888 / PPAP?**	**x77501**		**7C34 18080**	**KBA**
5C34 18080	**KCG**	**OE11889**	**x77502**		**7C34 18080**	**KCA**
5C34 18080	**KDG**	**OE11890**	**x77503**		**7C34 18080**	**KDA**
~~**5C34 18080**~~	~~**KED**~~	Consolidate to KDE	**x77504**		**7C34 18080**	**KEA**
6C34 18080	**KHA**	**OE / PPAP**			**??**	**KHA**
5C34 18080	LBE	**OE11771**	x77505		7C34 18080	LBA
5C34 18080	LCD	**OE11670**	x77506		7C34 18080	LCA
5C34 18080	LDD	**OE11671**	x77507		7C34 18080	LDA
5C34 18080	LED	**OE11703**	x77508		7C34 18080	LEA
6C34 18080	**LGA**	**OE11998**	x77509		7C34 18080	LGA
5C34 18080	LHA	**OE11819**	x77510		7C34 18080	LHA
		New for 2007	x78261		**7C34 18080**	**LJA**
6C34 18080	**MBG**	**OE11891 / PPAP**	**x77511**		**7C34 18080**	**MBA**
5C34 18080	**MCG**	**OE11892**	**x77512**		**7C34 18080**	**MCA**
5C34 18080	**MDG**	**OE11893**	x77513		**7C34 18080**	**MDA**
~~**5C34 18080**~~	~~**MED**~~	Consolidate to MDE	x77514		**7C34 18080**	**MEA**
6C34 18080	**MGA**	**OE11999**	x77515		**7C34 18080**	**MGA**
6C34 18080	**MHA**	**OE / PPAP**			**??**	**MHA**
2005 / 2006 >>>	**47 P/N**	**Need PPAP**	**2007 Launch >>>**		**53 P/N**	

Econoline

2005 / 2006 MY Production **2007 Production**

6C24 18045	BA	**OE11887**	30 mm > 35 mm	X77915	7C24 18045	BA
6C24 18045	CA	**OE11919**				
1C24 18045	AA	**OE10688**				
6C24 18080	FA	**OE11920**		X77916	7C24 18080	FA
XC25 18080	BA	**OE10301**				
XC25 18080	DA	**OE10302**				
XC25 18080	EA	**OE10300**				

From: Joseph, Charles (C.A.)
Sent: Thursday, October 27, 2005 12:06 PM
To: O'Connor, Tammy (T.A.)
Subject: RE: Report Summary for the CQIS Report# [redacted] -- Not Steering shimmy issue --
Attachments: Ford Business Unit Production Part Numbers 2005 2007 rev 10 2005.xls

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Thursday, October 27, 2005 9:43 AM
To: Mayer, Paul (P.A.); Joseph, Charles (C.A.)
Cc: Repasky, Steve (S.)
Subject: RE: Report Summary for the CQIS Report# [redacted] -- Not Steering shimmy issue --

Do you have the Engineering part number yet?

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Wed,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Thursday)

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From: Mayer, Paul (P.A.)
Sent: Thursday, October 20, 2005 12:35 PM
To: Joseph, Charles (C.A.)
Cc: Repasky, Steve (S.); O'Connor, Tammy (T.A.)
Subject: RE: Report Summary for the CQIS Report# [redacted] -- Not Steering shimmy issue --

Chuck, can you please send Tammy the part numbers for the new 142" 4x4 configuration shocks

see below notes for background

Regards
Paul Mayer
Truck Suspension and Systems Analysis
313-248-9202 Fax:313-317-2349

-----Original Message-----
From: O'Connor, Tammy (T.A.)

Sent: Thursday, October 20, 2005 11:05 AM
To: Repasky, Steve (S.)
Cc: Hale, Curt (B.C.); Mayer, Paul (P.A.); Knapp, David (D.); Grozier, Brian (B.D.); Baghdoian, Mitch (M.R.)
Subject: RE: Report Summary for the CQIS Report# [redacted] -- Not Steering shimmy issue --

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From: Repasky, Steve (S.)
Sent: Wednesday, October 19, 2005 11:55 AM
To: O'Connor, Tammy (T.A.); Baghdoian, Mitch (M.R.); Choe, Mark (M.J.)
Cc: Hale, Curt (B.C.); Mayer, Paul (P.A.); Knapp, David (D.); Grozier, Brian (B.D.)
Subject: RE: Report Summary for the CQIS Report# [redacted] -- Not Steering shimmy issue --

Tammy - Thanks for the note. From the VIN, the vehicle is a 5.4L 142" F350 4x4. The noted concern appears to be related to overall harsh ride and steering wheel ringdown (lesser amplitude than wheel fight).

For harsh ride, PD has developed new shock codes for the 142" 4x4 configuration that are expected to be PSW'd on Oct. 24, 2005 to support Superduty 2006 J#2 4PP builds (J#2 is Dec. 2005). These may be available on a limited basis to handle customer concerns.

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I will try to call Brian today to discuss the concern. Thanks..

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Sent: Wednesday, October 19, 2005 9:52 AM
To: Repasky, Steve (S.); Baghdoian, Mitch (M.R.)
Cc: Grozier, Brian (B.D.); Hale, Curt (B.C.); Snider, Alex (A.); Mayer, Paul (P.A.); Knapp, David (D.)
Subject: FW: Report Summary for the CQIS Report# [redacted] -- Not Steering shimmy issue --

Steve/Mitch:

Below is a CQIS report from FSE Brian Grozier. We discussed this issue on Monday afternoon in our CMT meeting. Brian says he has driven several trucks with this issue. Brian specifically says it is not the steering shimmy issue. However, the TSB was done and it made little, if no difference. I have seen a few other reports which describe it as a Hop or harsh ride. Several or the reports mention frame flexing/bouncing?

Any recommendations/comments would be appreicated. Please feel free to contact Brian directly also.

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From: Grozier, Brian (B.D.)
Sent: Wednesday, October 19, 2005 9:40 AM
To: O'Connor, Tammy (T.A.)
Subject: Report Summary for the CQIS Report#[redacted]

one of my road test shimmy/shake/shudder

Attachments : 0

Report# :	[redacted] FCSDFS			**Received:**	10/19/2005
CCRG/EPRC:		**Reviewed Status:**		**Date:**	
Vehicle:	2005,F350 4X4,SUP CAB,PICKUP ,1FTWX31525E[redacted]			**Build Date:**	03/04/2005
Odometer :	1,286 M	**Engine:**	MOD 5.4 3V	**Calibration:**	5F714C0A
Transmission:	5R110W	**Axle:**		**A/C:**	YES
Dealer:	USA 09131 Muzi Motors Inc			**Phone#:**	(617) 444-5300
City:	Needham Heights	**State:**	Massachusett	**Country :**	USA
Originator:					
Symptom:	3 05 9 99 CHASS.,FRAME CONCERNS,NOT LISTED,OTHER				
Status:					
VFG:	V44 MECHANICAL MALFUNCT INDICATION				
Additional	SHUDDER OVER BUMPS				

Symptom:

Fix: **Causal Component :**

Condition Code:

Region Code: 11 **Region Name:** Boston -11

Comments :

VERIFY 10/19/2005 09:36AM BRIAN GROZIER MSS - FCSD - REG - BOSTON

CUSTOMER IS COMPLAINING OF A SHIMMY/SHUDDER OVER BUMPS WHEN DRIVEN

EMPTY. ROAD TEST FOUNF TIRES TO HAVE FLAT SPOTS FOR THE FIRST 20

MILES, THEN WHILE GOING AT HIGHWAY SPEEDS TRUCK WAS DETRMINED TO HAVE

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LIKE AS IF YOU COULD BE SITTING ON THE END OF A DIVING BOARD AFTER THE

SPRING ACTION WAS ACTIVIATED. CONCERN IS A CHARACTERISTIC OF THE

VEHICLE WHEN DRIVEN UN LOADED.

From: Snider, Alex (A.)

Sent: Monday, October 24, 2005 9:01 AM

To: O'Connor, Tammy (T.A.)

Cc: Grozier, Brian (B.D.); Hale, Curt (B.C.); Mayer, Paul (P.A.); Knapp, David (D.); Baghdoian, Mitch (M.R.); Repasky, Steve (S.)

Subject: RE: Report Summary for the CQIS Report# [redacted] -- Not Steering shimmy issue --

Tammy, I spent 3 days in Quebec last week dealing with this issue. I WOULD CONSIDER THE ISSUE TO BE NORMAL. Our customers purchase the "F" Super Duty trucks because they can withstand the day in and day out driving on wash board/gravel and broken paved roads. The F150 truck doesn't stand up nor would you expect it to. These customer drive empty 99% of the time.We had 3 trucks at one dealer. I had them put a 1,500 lb cement block in the back of one truck(tire pressure at 75 psi). Another truck had 55 psi in the tires. Another truck had 50 psi in the tires. Let me explain these tire pressures. The customers have owned our prior 1999 to 2004 "F" super duty vehicle. Since they travel empty 99% of the time they would lower the tire pressure to 40 psi. This would give them a smoother ride on the gravel roads. The tires became the cushion instead of the suspension. When we introduced the 2005/6 vehicle 40 psi caused a severe steering wheel oscillation. If we don't lower the tire pressure below 50 psi on the new 2005/6 model there is no excessive steering wheel oscillation (after TSB 05-22-1 performed). We have advised the Dealer that Ford would not approve the lowering of the tire pressure because the vehicle was designed and built to carry a load. We also advised the Dealers that if they lower the tire pressure they would be held responsible if there was an accident as a result of sidewall blow out. What the customer does once he leaves the Dealership is entirely up to the customer. All we (Dealer and Ford) could do is advise the customer that the lower pressure affects the durability of the tire.

All three trucks road the same. They were smooth over wash board gravel roads and rough paved roads.

"Accelerate Growth Through Customer Satisfaction and Loyalty"

Alex Snider
Ford Motor Company of Canada
Technical Service Support Specialist
Outlook ID: asnider@ford.com
Dial net: 853-1485
Outside #: 905-845-2511, ext: 1485

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Cc: Grozier, Brian (B.D.); Hale, Curt (B.C.); Snider, Alex (A.); Mayer, Paul (P.A.); Knapp, David (D.)
Subject: FW: Report Summary for the CQIS Report# [redacted] -- Not Steering shimmy issue --

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Any recommendations/comments would be appreicated. Please feel free to contact Brian directly also.

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Sent: Wednesday, October 19, 2005 9:40 AM
To: O'Connor, Tammy (T.A.)
Subject: Report Summary for the CQIS Report#[redacted]

one of my road test shimmy/shake/shudder

Attachments : 0

Report# :	[redacted] FCSDFS			**Received:**	10/19/2005
CCRG/EPRC:		**Reviewed Status:**		**Date:**	
Vehicle:	2005,F350 4X4,SUP CAB,PICKUP ,1FTWX31525E[redacted]			**Build Date:**	03/04/2005
Odometer :	1,286 M	**Engine:**	MOD 5.4 3V	**Calibration:**	5F714C0A
Transmission:	5R110W	**Axle:**		**A/C:**	YES
Dealer:	USA 09131 Muzi Motors Inc			**Phone#:**	(617) 444-5300
City:	Needham Heights	**State:**	Massachusett	**Country :**	USA
Originator:					
Symptom:	3 05 9 99 CHASS.,FRAME CONCERNS,NOT LISTED,OTHER				
Status:					
VFG:	V44 MECHANICAL MALFUNCT INDICATION				
Additional Symptom:	SHUDDER OVER BUMPS				
Fix:	**Causal Component :**				
Condition Code:					

Region Code: 11 **Region Name:** Boston -11

Comments :

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From: Mayer, Paul (P.A.)
Sent: Thursday, October 20, 2005 12:35 PM
To: Joseph, Charles (C.A.)
Cc: Repasky, Steve (S.); O'Connor, Tammy (T.A.)
Subject: RE: Report Summary for the CQIS Report# [redacted] -- Not Steering shimmy issue --

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see below notes for background

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Originator:					
Symptom:	3 05 9 99 CHASS.,FRAME CONCERNS,NOT LISTED,OTHER				
Status:					
VFG:	V44 MECHANICAL MALFUNCT INDICATION				
Additional Symptom:	SHUDDER OVER BUMPS				
Fix:	**Causal Component :**				
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Region Code: 11 **Region Name:** Boston -11

Comments :

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To: O'Connor, Tammy (T.A.)

Cc: Grozier, Brian (B.D.); Hale, Curt (B.C.); Mayer, Paul (P.A.); Knapp, David (D.); Baghdoian, Mitch (M.R.); Repasky, Steve (S.)

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Subject: FW: Report Summary for the CQIS Report# [redacted] -- Not Steering shimmy issue --

Steve/Mitch:

Below is a CQIS report from FSE Brian Grozier. We discussed this issue on Monday afternoon in our CMT meeting. Brian says he has driven several trucks with this issue. Brian specifically says it is not the steering shimmy issue. However, the TSB was done and it made little, if no difference. I have seen a few other reports which describe it as a Hop or harsh ride. Several or the reports mention frame flexing/bouncing?

Any recommendations/comments would be appreicated. Please feel free to contact Brian directly also.

Tammy A. O'Conno
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Wed,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Thursday)

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-----Original Message-----
From: Grozier, Brian (B.D.)
Sent: Wednesday, October 19, 2005 9:40 AM
To: O'Connor, Tammy (T.A.)
Subject: Report Summary for the CQIS Report#[redacted]

one of my road test shimmy/shake/shudder

Attachments : 0

Report# :	[redacted] FCSDFS			**Received:**	10/19/2005
CCRG/EPRC:		**Reviewed Status:**		**Date:**	
Vehicle:	2005,F350 4X4,SUP CAB,PICKUP ,1FTWX31525E[redacted]			**Build Date:**	03/04/2005
Odometer :	1,286 M	**Engine:**	MOD 5.4 3V	**Calibration:**	5F714C0A
Transmission:	5R110W	**Axle:**		**A/C:**	YES
Dealer:	USA 09131 Muzi Motors Inc			**Phone#:**	(617) 444-5300
City:	Needham Heights	**State:**	Massachusett	**Country :**	USA
Originator:					
Symptom:	3 05 9 99 CHASS.,FRAME CONCERNS,NOT LISTED,OTHER				
Status:					
VFG:	V44 MECHANICAL MALFUNCT INDICATION				
Additional Symptom:	SHUDDER OVER BUMPS				
Fix:	**Causal Component :**				
Condition Code:					

Region Code: 11 **Region Name:** Boston -11

Comments :

VERIFY 10/19/2005 09:36AM BRIAN GROZIER MSS - FCSD - REG - BOSTON

CUSTOMER IS COMPLAINING OF A SHIMMY/SHUDDER OVER BUMPS WHEN DRIVEN

EMPTY. ROAD TEST FOUNF TIRES TO HAVE FLAT SPOTS FOR THE FIRST 20

MILES, THEN WHILE GOING AT HIGHWAY SPEEDS TRUCK WAS DETRMINED TO HAVE

A SHUDDER IN FRMAE WHEN HITTTING LARGE BUMPS IN ROAD. CONCERN FEELS

LIKE AS IF YOU COULD BE SITTING ON THE END OF A DIVING BOARD AFTER THE

SPRING ACTION WAS ACTIVIATED. CONCERN IS A CHARACTERISTIC OF THE

VEHICLE WHEN DRIVEN UN LOADED.

From: Hasselbring, D Blake (D.B.)
Sent: Wednesday, October 11, 2006 2:31 PM
To: O'Connor, Tammy (T.A.)
Subject: RE: Report Summary for the CQIS Report#[redacted]

Thanks! I got all three reports.

D. Blake Hasselbring
Truck Vehicle Dynamics
Road NVH / VVWD
Dearborn Office: EVB 2E-M02
Cell Phone: (313) 805-2133
Email: dhasselb@ford.com

From: TOCONNOR@ford.com [mailto:TOCONNOR@ford.com]
Sent: Wednesday, October 11, 2006 2:31 PM
To: Hasselbring, D Blake (D.B.); Repasky, Steve (S.)
Subject: Report Summary for the CQIS Report#[redacted]

fyi

Attachments : 0

Report# :	[redacted] NHL			**Received:**	06/16/2006
CCRG/EPRC:		**Reviewed Status:**		**Date:**	
Vehicle:	2006,F350 4X2,CRW CAB,PICKUP ,1FTWW30P96E[redacted]			**Build Date:**	11/13/2005
Odometer :	6,288 M	**Engine:**	6.0L DI	**Calibration:**	6F710D0A
Transmission:	5R110W DSL	**Axle:**		**A/C:**	YES
Dealer:	USA 07573 Ancira Ford Mercury			**Phone#:**	(830) 216-4040
City:	Floresville	**State:**	Texas	**Country :**	USA
Originator:	LARRY BRATTEN				
Symptom:	7 03 3 71 UKN SRC ,VIBRATION,CRUISE,31-50 MPH				
Status:					
VFG:	V89 RIDE & HANDLING				
Additional Symptom:	42-48 MPH VIBRATION				
Fix:	**Causal Component :**		TIRE -- OTH		
Condition Code:					

Hotliner: JHERDZIK **Phone:** 313 317-9369 **Regn Cd:** SW Southwest

Engineering: **Phone:** **TAR:** CLD

Dlr Contact: LARRY BRATTEN **Phone:** 830 216-4040 **Title Cde:** SD

Comments :

REPAIR 06/16/2006 04:23PM JOHN HERDZIK MSS - FCSD - TECH SVC HOTLINE
TECH STS THERE IS A VIBRATION BETWEEN 42-48 MPH FELT THROUGH THE
VEHICLE. TECH STS HIS EVA PICKED UP A VIBRATION OF 12 HERTZ. TECH STS
THE VIBRATION WILL COME AND GO. TECH STS HE HAS THE SAME TRUCK AND THE
SIMILAR MINIMAL VIBRATION IS PRESENT. TECH SEEKING HOTLINE ASSISTANCE

RECOMM 06/16/2006 04:23PM JOHN HERDZIK MSS - FCSD - TECH SVC HOTLINE
ADVISED TECH HE NEEDS TO TRY AND DROP THE PRESSURE DOWN 10 POUNDS IN
THE FRONT AND REAR TIRE'S AND SEE IF THE VIBRATION IS IMPROVED.
ADVISED TECH IF NEEDED COMPARE TO A LIKE VEHICLE WITH THE CUSTOMER.

REPAIR 07/10/2006 10:32AM CPRESLE1
SD STS THAT HE WOULD LIKE TO TAR THIS VEHICLE. SD CANNOT REPRODUCE ON
JACK STANDS ON REAR. HAS SWAPPED KNOWN GOOD TIRES AND RIMS WITH NO
CHANGE. HAS FOLLOWED TSB 05-22-1 AND 05-26-24 TO NO AVAIL.

RECOMM 07/10/2006 10:32AM CPRESLE1
ADVISE SD TO CHECK FRONT HUB RUNOUT, SHOULD BE NO GREATER THAN .005.
IF THERE IS STILL AN ISSUE, CALL BACK.

REPAIR 07/11/2006 03:35PM RICK BAYNE MSS - FCSD - TECH SVC HOTLINE
SM CALLING BACK WITH SAME CONCERN, STATES HAS PERFORMED DIAG AS PER
PREVIOUS SE'S TO NO AVAIL. STATES VIBRATION PRESENT BETWEEN 44-48MPH,
STATES IF SHIFTS TO NEUTRAL VIBRATION STILL PRESENT THROUGHOUT
VEHICLE. STATES HAS RECHECKED TORQUE OF FRONT SUSPENSION AND ALL AS
PER SPEC, HAS SWAPPED WHEELS AND TIRES FROM LIKE UNIT AND FAULT
REMAINS. ALSO STATES NO MODIFICATION WITH EXCEPTION OF 5TH WHEEL HITCH
IN BED, SEEKING DIRECTION.

RECOMM 07/11/2006 03:35PM RICK BAYNE MSS - FCSD - TECH SVC HOTLINE

ADVISED SM TO INQUIRE IF VIBRATION PRESENT WITH TRAILER CONNECTED TO
VEHICLE, OR TO LOAD VEHICLE WITH 300-500LBS IN BED TO CHANGE ALL
WORKING ANGLES AND TEST DRIVE. ADVISED IF NO VIBRATION PRESENT TO
MEASURE AND RECORD ALL ANGLES, ADJUST IF NOT WITHIN .5-3.0 SPEC.
FURTHER TO MEASURE FOR POSSIBLE EXCESS BACKLASH OR OUT OF SPEC STUD
CIRCLE RUNOUT, ALSO TO TEST DRIVE AND WHEN FAULT PRESENT TO COMMAND
TORQUE CONVERTER OFF TO TEST FOR
VIBRATION.----------TAR ***NOTE TO FSE
TAR DUE TO TIME OUT OF SERVICE AND LACK OF REPAIR PROGRESS, FURTHER
CUSTOMER HAS CALLED CUDL X3 AND IS REQUESTING BUY BACK. ENSURE ALL
PREVIOUS REPAIRS AND DIAG PERFORMED, ALSO TO CHECK FOR PROPER
ROADFORCE BALANCE OF WHEELS AND TIRES AS WELL AS FOR PROPER INFLATION.
ADVISED TO ENSURE NO AFTERMARKET COMPONENTS INSTALLED TO AID IN TOWING
OF 5TH WHEEL.

AUDIT **07/11/2006 03:35PM RICK BAYNE MSS - FCSD - TECH SVC HOTLINE**
ODOMETER 5916 M CHANGED TO 6288 M BY RBAYNE2

ADD-ON **07/11/2006 05:15PM WESLEY MALIK(FSE) MSS - FCSD - REG - SOUTHWEST**
REVIEWED WITH SERVICE MANAGER AND HE IS TO REEVALUATE USING HIS
VETRONIC TESTER AND ADVISE. TIRE SWAP DID NOT CHANGE VIBRATION. MAYBE
DRIVELINE ANGLE ISSUE, PINION BEARING. ETC.

ADD-ON **07/12/2006 10:58AM STEVE JOHNSTON(PCE) MSS - FCSD - VSP PVT SVC ENG**
PVT HAS NO ADDITIONAL COMMENTS AT THIS TIME, CONTACT ME IF MORE
ASSISTANCE IS NEEDED.

ADD-ON **07/13/2006 08:16AM CHRIS WOLKEN-GRPLDR MSS - FCSD - TECH SVC HOTLINE**
TAR APPROVED.

ADD-ON **07/19/2006 08:18PM WESLEY MALIK(FSE) MSS - FCSD - REG - SOUTHWEST**
INSPECTED THIS DATE. CHROME STEEL WHEELS AND CONTINENTAL TIRES. TIRES
AND WHEELS HAVE BEEN ROAD FORCED BALANCED AND ALL ABOVE 30 LBS OF
FORCE. ROAD TESTED AND HOP FROM REAR AT 45 MPH. DRIVESHAFT

RUNOUT

EXCESSIVE. REPLACE DRIVESHAFT. AWAITING PARTS. DLR HAS 3 OTHER UNITS

WITH SAME CONCERN.

ADD-ON 08/02/2006 06:31PM WESLEY MALIK(FSE) MSS - FCSD - REG - SOUTHWEST

DRIVESHAFT REMOVED UJOINTS CHECKED FOR STIFFNESS-OK, REPLACED WITH

STOCK UNIT THAT HAS LESS THAN .015 RUNOUT. NO CHANGE IN HOP CONCERN AT

45 MPH. REINDEXED TIRES WITH HUB TO BORE ALIGNMENT PER TSB-NO HELP.

THIS DEALER DOES NOT HAVE OWN ROAD FORCE BALANCE MACHINE. WAS SUBLET

TO THEIR DODGE DEALERSHIP. ROAD FORCE ON ALL 4 TIRES NOT BELOW 28 LBS

WHICH I DO NOT BELIEVE IS GOOD ENOUGH TO RESOLVE THIS ISSUE. CUSTOMER

DOES NOT WANT TRUCK IF NOT FIXED.

ADD-ON 08/11/2006 02:36PM WESLEY MALIK(FSE) MSS - FCSD - REG - SOUTHWEST

UNIT COMPARED TO 5 OTHER STOCK UNITS SAME WHEEL BASE AND ALL HAVE THIS

SAME CONCERN AT 45 MPH-HOP FROM REAR OF TRUCK. CAN DRIVE THRU IT AND

NO OTHER VIBRATIONS. UNIT CONSIDERED NORMAL AT THIS TIME COMPARED TO

OTHER 2006 F350. CUSTOMER PURSUEING LEMON LAW ACTION.

AUDIT 08/11/2006 02:36PM WESLEY MALIK(FSE) MSS - FCSD - REG - SOUTHWEST

TECH ASSIST REFERRAL HAS BEEN CLOSED

ADD-ON 09/25/2006 02:18PM WESLEY MALIK(FSE) MSS - FCSD - REG - SOUTHWEST

CUSTOMER REFUSES TO ACCEPT THAT THIS IS NORMAL CONDITION. CUSTOMER HAS

FILED BBB CASE DEMANDING FIX OR RAV OF UNIT. UNIT TAKEN TO SOUTHWAY

FORD, SAN ANTONIO, TEXAS FOR EVALUATION. SOUTHWAY HAS HUNTER 9700

WHEEL BALANCER TO VERIFY PROPER WHEEL BALANCE. SOUTHWAY EVALUATED. HOP

UP AND DOWN AT 46 MPH SHOWING 8 HZ WITH VETRONIC EVA WITH SENSOR ON

SEAT FRAME. IF DRIVE OVER 47 OR UNDER VEHICLE DOES NOT HOP. REAR TIRES

EXCESSIVE ROAD FORCE. REPLACED BOTH REAR TIRES AND REBALANCED. HUB TO

BORE ALIGNMENT PERFORMED ON INSTALLATION. REAR TIRE ASSEMBLY

NOW UNDER

15 LBS OF FORCE. TECH VERIFIED DRIVESHAFT UJOINTS NOT STIFF, ANGLES

UNDER .002 AND CENTER SUPPORT NORMAL. TECH LOOSENING CAB MOUNTS, TRANS

MOUNTS, ENG MOUNTS TO NUETRALIZE TOTAL BODY COMPONENTS TO FRAME. SERV

MGR STATES HE TEST DROVE 2 STOCK UNITS AND HAVE SIMILAR HOP AT THIS

SPEED.

ADD-ON 10/02/2006 10:00PM WESLEY MALIK(FSE) MSS - FCSD - REG - SOUTHWEST

UNIT CONSIDERED NORMAL OPERATING CHARACTERISTIC FOR THIS WHEELBASE

UNIT AT THIS TIME. REAR TIRES REPLACED AND BALANCED WITH HUNTER 9700

ROAD FORCE MACHINE. ROAD FORCE UNDER 15 LBS. DRIVESHAFT U JOINTS

CHECKED AND NOT TIGHT. DRIVELINE ANGLES CORRECT. HOP AT 46 MPH

ONLY(DOES NOT OCCUR AT 45 OR 47 MPH, ONLY AT 46 IS NORMAL FRAME FLEX

AT THIS SPEED FOR THIS LENGTH FRAME AND BOX. UNIT CONSIDERED NORMAL

PER ENGINEERING CONTACT DISCUSSIONS. UNIT BEING RETURNED TO CUSTOMER

AS NORMAL.

ADD-ON 10/07/2006 12:49PM WESLEY MALIK(FSE) MSS - FCSD - REG - SOUTHWEST

CUSTOMER PICKED UP UNIT FROM SOUTHWAY FORD. SERVICE MANAGER OFFERED

TO TEST DRIVE WITH HIM ON EVALUATION TEST DRIVE AFTER SOUTHWAYS R

EPAIRS-REPLACEMENT OF REAR TIRES, REBALANCED WITH ROAD FORCE HUNTER W

HEEL BALANCER, HUB TO BORE ALIGNMENT ETC. CUSTOMER REFUSED TO TEST D

RIVE WITH SERVICE MANAGER AND STATED HE WOULD EVALUATE AND MAKE N

ECESSARY DECISIONS IF NOT SATISFACTORY.

From: O'Connor, Tammy (T.A.)
Sent: Thursday, October 19, 2006 11:29 AM
To: O'Connor, Tammy (T.A.)
Subject: RE: Report Summary for the CQIS Report#[redacted]

From: RCORLEW@ford.com [mailto:RCORLEW@ford.com]
Sent: Monday, October 16, 2006 2:36 PM
To: Corlew, Randall (R.L.)
Subject: Report Summary for the CQIS Report#[redacted]

Attachments : 0

Report# :	[redacted] NHL			**Received:**	06/22/2006
CCRG/EPRC:		**Reviewed Status:**		**Date:**	
Vehicle:	2006,F250 4X4,SUP CAB,PICKUP ,1FTSX21596E[redacted]			**Build Date:**	08/04/2005
Odometer :	13,000 M	**Engine:**	MOD 5.4 3V	**Calibration:**	6F724P0A
Transmission:	6SP MANUAL	**Axle:**		**A/C:**	YES
Dealer:	USA 07539 Elkins Fordland			**Phone#:**	(304) 636-2222
City:	Elkins	**State:**	West Virgini	**Country :**	USA

Originator: KENT WINN
Symptom: 3 03 3 53 CHASS.,STRG/HANDLING ,VIB./SHIMMY,OVER BUMPS
Status:
VFG: V89 RIDE & HANDLING
Additional Symptom: VIBRATION OVER BUMPS
Fix: **Causal Component :**
Condition Code:
DTCs:
KOEO:
KOEC:
KOER:

Comments :

REPAIR 06/22/2006 03:15PM PAUL BISHOP MSS - FCSD - TECH SVC HOTLINE
S/M STATES THAT THERE IS A VIBRATION IN THE STEERING WHEEL AFTER

HITTING BUMPS. S/M STATES THAT THEY DID THE TSB BUT NOT SURE IF

THE

TORQUE WAS PROPERLY CHECKED. S/M SEEKING ANY KNOWN CONCERNS.

RECOMM 06/22/2006 03:15PM PAUL BISHOP MSS - FCSD - TECH SVC HOTLINE

TSB 05-22-01 THIS PROCEDURE WILL MINIMIZE STEERING WHEEL OSCILLATIONS

ON IMPACTS, HOWEVER, THERE MAY BE SOME REMAINING MINOR OSCILLATION

WHICH WOULD BE CONSIDERED NORMAL ADVISE S/M TO RECHECK THE TORQUE

USING A TORQUE WRENCH NOT THE IMPACT. S/M TO PERFORM FURTHER DIAGNOSIS

REPAIR 09/27/2006 02:02PM DONAVUN WAGNER MSS - FCSD - TECH SVC HOTLINE

SM CALLING BACK. CUSTOMER STILL EXPERIENCING STEERING OSCILLATION/

BUMP STEER CONCERN. SM DOES NOT BELIEVE TO BE ABNORMAL. STEERING

STABILIZER WAS REPLACED AND TSB PERFORMED PREVIOUSLY. SEEKING KNOWNS.

RECOMM 09/27/2006 02:02PM DONAVUN WAGNER MSS - FCSD - TECH SVC HOTLINE

TSB 06-15-01 THIS PROCEDURE WILL MINIMIZE STEERING WHEEL OSCILLATIONS

ON IMPACTS, HOWEVER, THERE MAY BE SOME REMAINING MINOR OSCILLATION

WHICH WOULD BE CONSIDERED NORMAL ISM 06-02-019 STEERING STABILIZER

LEAKING - VERIFY CONCERN, REPLACE THE STEERING STABALIZER WITH

5C3Z-3E651-D REPORT #: [redacted] REPLACE GEAR

ASY-STEERING----------

ADVISED SM TO VERIFY PROPER TIRE PRESS. ALSO VERIFY PROPER TORQUE OF

THE TRACK BAR AND ATTACHING POINTS. COMPARE TO LIKE UNIT FOR LEVEL OF

FEEDBACK. REPAIR ONLY AS NEEDED.

AUDIT 09/27/2006 02:02PM DONAVUN WAGNER MSS - FCSD - TECH SVC HOTLINE

ODOMETER 11252 M CHANGED TO 13000 M BY DWAGNE33

ADD-ON 10/10/2006 10:50PM RANDALL CORLEW(FSE) MSS - FCSD - REG - PITTSBURGH

REVIEWED REPORT BECAUSE OF SM E-MAIL.

ADD-ON 10/16/2006 02:34PM RANDALL CORLEW(FSE) MSS - FCSD - REG - PITTSBURGH

RANDY. KENT FROM ELKINS FORD. I HAVE A 06 F250 4+4 .AT HIGHWAY SPEED

65 70 WHEN GOING ON INTERSTATE AND HIT ROUGH ROAD THE STEARING

WHEEL

WHANTS TO OSCULATE,HAVE CALLED HOT LINE COUPLE OF TIMES AND DID TSBS

AND REGONE BACK OVER THE TSB .I SWOP TIRES AND WHEELS ,IT HELPED BUT

DID NOT CURE .THEY ASKED IF YOU WHERE IN THE AREA SOME TIME WOULD YOU

DRIVE AND ADVISE. SER#1FTSX21596E[redacted] WE DID MAKE SURE THAT THE

TRACK BARS WHERE SET AT 406 FT LBS ,AND TIRES AIR UP AND ALIGNMENT

DONE IF YOU COULD HELP OR ADVISE I WOULD DANCE AT YOUR WEDDING

[redacted] THANKS ALOT [redacted]

ADD-ON **10/16/2006 02:35PM RANDALL CORLEW(FSE) MSS - FCSD - REG - PITTSBURGH**

E-MAIL FROM DEALERSHIP ABOVE.

From: Malik, Wesley (W.K.)
Sent: Tuesday, September 26, 2006 9:44 PM
To: Avery, Kevin (K.); O'Connor, Tammy (T.A.); Eveland, Marty (M.)
Subject: RE: Report Summary for the CQIS Report# [redacted] -Covert Ford

Check all the ball joints, tie rod ends etc for too tight movement with steering pitman arm removed and turn on turn plates. May have tight joint causing the high steering effort.

Wes Malik
Field Service Engineer
Southwest Market
210-269-9065
wmalik@ford.com

From: Avery, Kevin (K.)
Sent: Tuesday, September 26, 2006 8:31 PM
To: O'Connor, Tammy (T.A.); Eveland, Marty (M.)
Cc: Malik, Wesley (W.K.)
Subject: RE: Report Summary for the CQIS Report# [redacted] -Covert Ford

Problem is that the one I'm dealing with doesn't have play in the ball joint. I test drove it today many times and it has a higher steering effort even with the new gearbox, a comparison FX4 didn't have that issue. They are going to loosen the mesh load and retest. We'll revisit the track bar after that. We compared to a non-FX4 which rides smoother, another FX4 has a similar rougher ride (big surprise) but not the high steering effort.

Kevin Avery
Field Service Engineer, Northeast Region
(774) 285-9143
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From: O'Connor, Tammy (T.A.)
Sent: Tuesday, September 26, 2006 9:33 AM
To: Avery, Kevin (K.); Eveland, Marty (M.)
Cc: Malik, Wesley (W.K.)
Subject: FW: Report Summary for the CQIS Report# [redacted] -Covert Ford

FYI - Wes Malik was able to resolve issue on truck with attached -- please call Wes if you need additional information.

Wes - Thanks so much for following up on this.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Malik, Wesley (W.K.)
Sent: Monday, September 25, 2006 4:18 PM
To: O'Connor, Tammy (T.A.)
Cc: Hale, Curt (B.C.); Daleo, Joseph (J.L.); Knapp, David (D.)
Subject: FW: Report Summary for the CQIS Report# [redacted]-Covert Ford

This is my updated report on Wheel shimmy on 2006 F250 4X4 we discussed in today's Over 8500 meeting. One of the online FSE's had a wheel shimmy concern but I did not catch the name. So if you could forward I would appreciate it.
This ball joint has a grease zerk fitting which the original did not. Also it appears more robust. I contacted the dealership and review again. This particular customer is still not happy with the ride quality when hitting imperfections in road. I have declared it normal at this time.....customer not happy.

GCAT has several update versions of track bar but I am confused on why production is not using this joint. GCAT exploded view attached and could not copy GCAT information

Wes Malik
Field Service Engineer
Southwest Market
210-269-9065
wmalik@ford.com

From: WMALIK@ford.com [mailto:WMALIK@ford.com]
Sent: Monday, September 25, 2006 3:08 PM
To: Malik, Wesley (W.K.)
Subject: Report Summary for the CQIS Report# [redacted]-Covert Ford

2006 F250 4X4-Front wheel Shimmy

Attachments : 0

Report# :	[redacted] FCSDFS			**Received:**	09/25/2006
CCRG/EPRC:		**Reviewed Status:**		**Date:**	
Vehicle:	2006,F250 4X4,CRW CAB,PICKUP ,1FTSW21P16E[redacted]			**Build Date:**	11/29/2005
Odometer :	10,333 M	**Engine:**	6.0L DI	**Calibration:**	6F710D0A
Transmission:	5R110W DSL	**Axle:**		**A/C:**	YES
Dealer:	USA 04437 Covert Ford, Inc.			**Phone#:**	(512) 345-6070
City:	Austin	**State:**	Texas	**Country :**	USA
Originator:	GENE WEBB				
Symptom:	3 03 3 53 CHASS.,STRG/HANDLING ,VIB./SHIMMY,OVER BUMPS				
Status:					
VFG:	V89 RIDE & HANDLING				
Additional Symptom:	SHIMMY WHEN HITTING BUMPS				
Fix:	**Causal Component :**				
Condition Code:					

Region Code: SW **Region Name:** Southwest

Comments :

OWNER 09/25/2006 04:06PM WESLEY MALIK(FSE) MSS - FCSD - REG - SOUTHWEST
STEERING WHEEL SHIMMY WHEN HITTING BUMPS IN ROAD, NORMAL DRIVING
STRAIGHT DOWN ROAD, IMPERFECTIONS. ETC.

TECH/C 09/25/2006 04:06PM WESLEY MALIK(FSE) MSS - FCSD - REG - SOUTHWEST
PERFORMED TSB 06-15-01. RETORQUED ALL SUSPENSION BOLTS TO PROPER SPEC.
TECH FOUND BALL JOINT 5C3Z-3050-CA WITH EXCESS MOVEMENT. END OF TRACK
BAR. REPLACED THIS BALL JOINT AND CONCERN IMPROVED 90%. THE
REPLACEMENT PART THRU PARTS NOW HAS GREASE ZERK FITTING AND LOOKS MORE
ROBUST COMPARED TO ORIGINAL JOINT. ACCORDING TO GCAT THIS PART IS AS
OF JULY 19, 2004 PRODUCTION.??????THE BUILD DATE ON THIS VEHICLE IS
11/29/05 AND A 2006 F250 4X4. GCAT ALSO HAS REVISIONS TO TRACK BAR
5C34-3B239-AD ON DIFFERENT PRODUCTION DATES?????????THE NEW PART THRU
PARTS IMPROVED CONCERN TO 90 %. CUSTOMER STILL NOT HAPPY. REINSPECTED
AND REPLACED STEERING DAMPER AND SLIGHT IMPROVEMENT. UNIT NOW

CONSIDERED NORMAL.....BUT CUSTOMER STILL NOT HAPPY WITH STEERING

CHARACTERISTICS OF FRONT SUSPENSION. WMALIK-FSE-SOUTHWEST TIRE RUNOUT

LATERAL AND RADIAL CHECKED-WITHIN SPEC, ROAD FORCE BALANCED TIRES ALSO

From: Avery, Kevin (K.)
Sent: Monday, October 09, 2006 3:45 PM
To: Repasky, Steve (S.); Gompper, Dan (D.B.); Hale, Curt (B.C.)
Cc: O'Connor, Tammy (T.A.)
Subject: RE: Report Summary for the CQIS Report#[redacted]

Tomorrow morning is fine, I'll be on the road by 8 or 8:30, should have decent cell reception for at least the first hour, maybe hour and a half. Before 9:30 just to be sure you catch me.

Kevin Avery
Field Service Engineer, Northeast Region
(774) 285-9143
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From: Repasky, Steve (S.)
Sent: Monday, October 09, 2006 3:37 PM
To: Gompper, Dan (D.B.); Avery, Kevin (K.); Hale, Curt (B.C.)
Cc: O'Connor, Tammy (T.A.)
Subject: FW: Report Summary for the CQIS Report#[redacted]

Dan/Tammy/Curt - Do you want to be online when I call?? I was planning on Tuesday AM.

Kevin - Will Tuesday AM work for you? Would any particular time be better for you? Thanks...

From: O'Connor, Tammy (T.A.)
Sent: Monday, October 09, 2006 2:40 PM
To: Repasky, Steve (S.)
Cc: Hale, Curt (B.C.); Avery, Kevin (K.)
Subject: FW: Report Summary for the CQIS Report#[redacted]

Steve:

Would you please call Kevin Avery - FSE in Boston area. He has a few trucks with issue (not steering wheel shimmy) - but similar -- it would be greatly appreciated.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical

248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Avery, Kevin (K.)
Sent: Monday, October 09, 2006 2:35 PM
To: O'Connor, Tammy (T.A.)
Subject: FW: Report Summary for the CQIS Report#[redacted]

Kevin Avery
Field Service Engineer, Northeast Region
(774) 285-9143
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From: Avery, Kevin (K.)
Sent: Wednesday, October 04, 2006 9:16 AM
To: O'Connor, Tammy (T.A.)
Cc: Tricomi, Lynda (L.K.); Petersen, William (W.R.)
Subject: FW: Report Summary for the CQIS Report#[redacted]

Tammy,

Sorry I couldn't make the CMT call on Monday, but I did test drive the truck with the steering wheel fight issue, CQIS report below. I don't think it's abnormal but can't convince anyone at the dealer of that nor the customer. Customer states the vehicle is unsafe and refuses to let his wife drive it and has grounded the truck. The dealer has two other customers with the same complaint and they are a small dealer (just added two more techs for a total of 6). It's the same complaint I've received from other dealers. While I don't see an issue, the real problem is that the customers do. It may be normal but it may not be acceptable to customers. There is a definite sensation when moderate bumps are hit that I don't get with my Explorer. And yes, the affected units are gas V8's as we've discussed.

The spring part numbers for the front springs are 5C34-5310-AEB on both front springs, just want to be sure that is the correct one.

Kevin Avery
Field Service Engineer, Northeast Region
(774) 285-9143
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From: KAVERY3@ford.com [mailto:KAVERY3@ford.com]
Sent: Wednesday, October 04, 2006 9:08 AM
To: Avery, Kevin (K.)
Subject: Report Summary for the CQIS Report# [redacted]

Attachments : 0

Report# :	[redacted] FCSDFS			**Received:**	10/04/2006
CCRG/EPRC:		**Reviewed Status:**		**Date:**	
Vehicle:	2006,F250 4X4,SUP CAB,PICKUP ,1FTSX21546E[redacted]			**Build Date:**	09/12/2005
Odometer :	654 M	**Engine:**	MOD 5.4 3V	**Calibration:**	6F714E0A
Transmission:	5R110W	**Axle:**		**A/C:**	YES
Dealer:	USA 09608 Apple Valley Ford Sales, Inc.			**Phone#:**	(978) 353-2000
City:	Lunenburg	**State:**	Massachusett	**Country :**	USA
Originator:	KEVIN AVERY				
Symptom:	3 03 1 00 CHASS.,STRG/HANDLING ,FUNCTION,OTHER-CODE NA				
Status:					
VFG:	V89 RIDE & HANDLING				
Additional Symptom:	WHEEL COMES OUT OF HANDS				
Fix:	**Causal Component :**				
Condition Code:					

Region Code: NE **Region Name:** Northeast

Comments :

OWNER 10/04/2006 09:07AM KEVIN AVERY MSS - FCSD - REG - BOSTON
DP, GM, SM, AND SALESMAN FEEL THAT THIS VEHICLE IS NOT ACCEPTABLE AND
IS NOT FUNCTIONING LIKE OTHER UNITS, CUST ALLEGES THE WHEEL COMES OUT
OF HIS HANDS WHEN HITTING MODERATE TO SEVERE BUMPS IN THE ROAD. DEALER
PERFORMED 06-15-01 BEFORE MY ARRIVAL. I TEST DROVE ON 9-27-06 BEFORE
MY RECOMMENDED REPAIRS AND ON 9-29-06 AFTER THE REPAIRS. BEFORE THE

REPAIRS THE VEHICLE DIDN'T SEEM ABNORMAL OR IN ANY WAY UNSAFE

BUT THE
STEERING EFFORT WAS A BIT HIGH. ADV SM ON 9-27-06 AFTER TEST DRIVE TO
LOOSEN THE STEERING BOX ADJUSTMENT 1/2 TURN AND TO REPLACE THE TRACK
BAR. DEALER HAS PURCHASED A TORQUE MULTIPLIER AND IS ALLEGEDLY
TORQUING TO 406 FT-LBS. TIRE PRESSURE WAS SET TO DOOR LABEL, VEHICLE
DOESN'T HAVE PERELLI TIRES. AFTER THE RECOMMENDED REPAIRS THE STEERING
EFFORT IS MUCH IMPROVED AND I FEEL THE VEHICLE IS OPERATING AS
DESIGNED, DEALER DISAGREES AS DOES CUSTOMER. DEALER AND CUST ALLEGE
THEY HAVE COMPARED THIS UNIT TO OTHER 06 F-250 5.4L FX4'S THAT DON'T
HAVE THE ISSUE, THEY ALSO HAVE TWO OTHER CUSTOMERS WITH THE SAME
COMPLAINT AND THEY ARE A SMALL DEALER. I CONTACTED DM AND ZM REGARDING
THE MATTER.

From: O'Connor, Tammy (T.A.)
Sent: Thursday, June 21, 2007 11:49 AM
To: Gompper, Dan (D.B.)
Subject: RE: Report Summary for the CQIS Report# [redacted] *** Need Engineering Assistance ***

Dan: Were you able to have someone call? Please confirm.

Tammy A. O'Connor
Product Concern Engineer
FCSD Service Engineering Operations
Super Duty F-Series
Body / Chassis / Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSC I, Cube 149 (Tuesday,Wednesday)

From: O'Connor, Tammy (T.A.)
Sent: Wednesday, June 20, 2007 4:17 PM
To: Gompper, Dan (D.B.)
Cc: Hale, Curt (B.C.); Knapp, David (D.)
Subject: FW: Report Summary for the CQIS Report# [redacted] *** Need Engineering Assistance ***
Importance: High

Dan:

I had a voice mail message this morning from John Rossi, SM. The customer brought this truck back in and is not happy. He left it at dealership, SM is looking for next steps.

Any recommendations would be greatly appreicated. I told the SM either someone from Engineering or myself would call him back on Thursday morning (11am Michigan time).

Tammy A. O'Connor
Product Concern Engineer
FCSD Service Engineering Operations
Super Duty F-Series
Body / Chassis / Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSC I, Cube 149 (Tuesday,Wednesday)

From: TOCONNOR@ford.com [mailto:TOCONNOR@ford.com]
Sent: Wednesday, June 20, 2007 4:13 PM

To: O'Connor, Tammy (T.A.)
Subject: Report Summary for the CQIS Report#[redacted]

Attachments : 0

Report# :	[redacted] NHL			**Received:**	05/16/2007
CCRG/EPRC:		**Reviewed Status:**		**Date:**	
Vehicle:	2008,F450 4X4 SD,CRWCAB ,4X4 ,1FTXW43R28E[redacted]			**Build Date:**	02/25/2007
Odometer :	1,597 M	**Engine:**	6.4L OHV	**Calibration:**	
Transmission:	5R110W DSL	**Axle:**		**A/C:**	YES
Dealer:	USA 07749 Future Ford			**Phone#:**	(916) 969-3600
City:	Roseville	**State:**	California	**Country :**	USA
Originator:	MICHAEL SANCHEZ				
Symptom:	3 03 2 93 CHASS.,STRG/HANDLING ,PULL/DRIFT,LEFT AND RIGHT				
Status:					
VFG:	V89 RIDE & HANDLING				
Additional Symptom:	VEHICLE WANDERS ON ROUGH ROAD				
Fix:N	**Causal Component :**				
Condition Code:					

Hotliner: DKALINS1 **Phone:** 313 248-2922 **Regn Cd:** W2 San Francisco

Engineering: DAVID KALINSKI **Phone:** 000 000-0000 **TAR:**

Dlr Contact: MICHAEL SANCHEZ **Phone:** 916 786-3673 **Title Cde:** T

DTCs:
KOEO:
KOEC:
KOER:

Comments :

REPAIR 05/16/2007 04:39PM DAVID KALINSKI MSS - FCSD - TECH SVC HOTLINE
WEB FORM DATA: DESCRIPTION OF VEHICLE CONCERN: CUSTOMER STATES ON
UNEVEN OR BUMPY ROADS.AT FREEWAY SPEEDS.WHEN THE TRUCK HITS A BUMP,THE
STEERING WHEEL AND TRUCK SHAKE VERRY BAD.CUSTOMER STATES HE LOOSES

CONTROL OF STEERING WHEEL. ROAD TESTED COULD NOT DUPLICATE ON THE

ROADS AROUND THE DEALERSHIP. DO YOU HAVE ANY NEW TSB OR SSM THAT ARE

NOT OUT YET FOR THIS CONCERN. DIAGNOSTICS ALREADY COMPLETED: CHECKED

THE TIRE PRESSURES.ALL TIRES ARE SET TO DOOR SPECS.CHECKED THE FRONT

END FOR LOOSE PARTS.NONE FOUND.STEERING DAMPER IS NOT LEAKING. PARTS

REPLACED: TECHNICIAN QUESTION: IS THERE A NEW SSM OR TSB FOR THIS

CONCERN.OR DO YOU HAVE ANY NEW INFO ABOUT THIS CONCERN.THERE WERE NO

TSB OR SSM THAT CAME UP WHEN I RAN OASIS.IS THIS STILL THE SAME

PROBLEM AS THE 05 YEAR MODLE TRUCK? INITIAL HOTLINE RECOMMENDATION:

MICHAEL, PLEASE CONTACT THE TECHNICAL HOTLINE TO REVIEW THIS CONCERN.

USE CONTACTID 315150027 FORM QUESTION: WERE YOU ABLE TO VERIFY THE

CONCERN? ANSWER: NO FORM QUESTION: IS THERE AN APPROPRIATE PINPOINT

TEST IN THE WSM FOR THIS CONCERN? ANSWER: FORM QUESTION: WAS THE

PINPOINT TEST FOLLOWED? ANSWER: CALL DATA: STATES THAT HE HAS NOT

VERIFIED THE CONCERN AND IS GOING TO DRIVE THE VEHICLE OVERNIGHT. HE

IS LOOKING FOR GUIDELINES FOR DIAGNOSING THE CONCERN

RECOMM 05/16/2007 04:39PM DAVID KALINSKI MSS - FCSD - TECH SVC HOTLINE

ADVISED MIKE THAT HE CAN USE 07-5-7 FOR A GUIDELINE FOR DIAGNOSIS FOR

THIS CONCERN. ADVISED THAT THE 08 HAS THE UPDATED DAMPENER ALREADY.

REPAIR 05/21/2007 08:15PM WILLIAM LEIBENGOOD MSS - FCSD - TECH SVC HOTLINE

DEALER STATES CUSTOMER STATES THERE IS A SHIMMY OVER BUMPS. UNABLE TO

DUPLICATE CONDITION AFTER 100 MILE ROAD TEST.

RECOMM 05/21/2007 08:15PM WILLIAM LEIBENGOOD MSS - FCSD - TECH SVC HOTLINE

AS PREVIOUSLY SUGGESTED SEE TSB 07-05-07. ATTEMPT TO DUPLICATE

CONDITION WITH CUSTOMER. CONTACT ZONE MANAGER.

ADD-ON 05/24/2007 03:18PM AMY MEINKEN MSS - FCSD - TECH SVC HOTLINE

TECH COMMENTS: USED TSB 07-5-7 AS GUIDLINE ONLY.TRUCK HAS UPDATED PART

S ALREADY INSTALLED.COULD NOT AT THIS TIME AFTER DRIVING THE TRUCK OVE

R 100 MILES DUPLICATE CONCERN.I WOULD LIKE TO HEAR FROM ONE OF THE ENG

INEERS.MAYBE THERE IS SOMETHING ELSE WE COULD DO FOR THIS CUSTOMER.

REPAIR **06/19/2007 03:29PM PATRICK MITCHELL MSS - FCSD - TECH SVC HOTLINE**

WEB FORM DATA: DESCRIPTION OF VEHICLE CONCERN: VEHICLE WANDERS

EXCESSIVELY ON LINED OR RUTTED SURFACES TO THE POINT OF LANE CHANGE

ALMOST. DIAGNOSTICS ALREADY COMPLETED: SSM 19774 INSPECTION, ROAD

TEST WITH CUSTOMER TO CONFIRM CONCERNS. PARTS REPLACED:

NONE TECHNICIAN QUESTION: WHILE IN ONE OF THESE EVENTS I STEERED

RIGHT AND THE TRUCK CONTINUED TO GO RIGHT. FORM QUESTION: WERE YOU

ABLE TO VERIFY THE CONCERN? ANSWER: YES FORM QUESTION: IS THERE AN

APPROPRIATE PINPOINT TEST IN THE WSM FOR THIS CONCERN? ANSWER:

NO FORM QUESTION: WAS THE PINPOINT TEST FOLLOWED? ANSWER: NO CALL

DATA: -HAS STEERING WANDER ON UNEVEN ROAD SUFACES -VEHICLE WILL

WITH THE WHEELS STRAIGHT WANDER FROM EDGE TO EDGE OF THE LANE MARKINGS

RECOMM **06/19/2007 03:29PM PATRICK MITCHELL MSS - FCSD - TECH SVC HOTLINE**

-CHECK THE TIRE PRESSURES, BE SURE THEY ARE SET TO THE DOOR STICKER

SPECIFICATIONS -CHECK THE 4-WHEEL ALINGMENT, BE SURE TO USE THE

ON-LINE SHOP MANUAL SPECIFICATIONS FOR THE F-450 PICKUP WITH STANDARD

SUSPENSION, NOT THE CHASSISCAB -IF FINE THEN REMOVE THE AXLE SHAFTS

AND CHECK WHEEL BEARING MOVEMENT ON THE REAR AXLE -STEERING WANDER IS

UNDER INVESTIGATION AT THIS TIME, SSM 19774

AUDIT **06/19/2007 03:29PM PATRICK MITCHELL MSS - FCSD - TECH SVC HOTLINE**

SYMPTOM 3, 03, 3, 53 CHANGED TO 3, 03, 2, 93 BY PMITCH22

ADD-ON **06/20/2007 03:31PM TAMMY O'CONNOR MSS - FCSD - VSP C/P SVC ENG**
I SPOKE WITH SM, TRUCK IS STILL AT DEALERSHIP, LOOKING FOR NEXT STEPS. I WILL WORK WITH ENGINEERING TO DETERMINE NEXT STEPS.

From: O'Connor, Tammy (T.A.)
Sent: Tuesday, May 22, 2007 9:23 AM
To: Wegienka, Michael (M.J.); Gompper, Dan (D.B.)
Cc: Hale, Curt (B.C.); Hasselbring, D Blake (D.B.); Knapp, David (D.)
Subject: RE: Report Summary for the CQIS Report#[redacted]

I will call the Service Manager back this morning. If they can't duplicate the concern, no need to get an FSE there - unless you guys think we might find something we haven't seen before?

Tammy A. O'Connor
Product Concern Engineer
FCSD Service Engineering Operations
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313/322-3824 DSC I, Cube 149 (Tuesday,Wednesday)

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Sent: Tuesday, May 22, 2007 7:35 AM
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Cc: Hale, Curt (B.C.); Hasselbring, D Blake (D.B.); Knapp, David (D.)
Subject: RE: Report Summary for the CQIS Report#[redacted]

The service manager, John Rossi, (916) 412-2402 left me a message last night that he was expecting someone to come out to inspect/review the vehicle. Is anyone local going to be visiting?

Mike Wegienka
P473/P356 SuperDuty Vehicle Dynamics
Voice/ Cell (313) 805-2040
EVB 2EJ02
mwegienk@ford.com
Email Text Page: 3138052040@messaging.sprintpcs.com

From: O'Connor, Tammy (T.A.)
Sent: Monday, May 21, 2007 8:40 AM
To: Wegienka, Michael (M.J.); Gompper, Dan (D.B.)
Cc: Hale, Curt (B.C.); Hasselbring, D Blake (D.B.); Knapp, David (D.)
Subject: RE: Report Summary for the CQIS Report#[redacted]

I specifically asked if the factory tires were still on the truck, so we can use HVBOM or AWS for that.

Tire Size: D3IBF - 225/70R-19.5 G BSW ALL SEASON

Tammy A. O'Connor
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Sent: Monday, May 21, 2007 8:33 AM
To: Gompper, Dan (D.B.); O'Connor, Tammy (T.A.)
Cc: Hale, Curt (B.C.); Hasselbring, D Blake (D.B.); Knapp, David (D.)
Subject: RE: Report Summary for the CQIS Report#[redacted]

I spoke with the tech and the service manager. They ran through the 05 Wheelfight TSB. They were going to check the alignment and call me back. We did not have any further next steps developed at that time. The both told me they could not duplicate the concern so it may be tough to fix.

Sounds like the alignment is fine. Can we find out what tires are on it?

Mike Wegienka
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Voice/ Cell (313) 805-2040
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Sent: Monday, May 21, 2007 8:04 AM
To: O'Connor, Tammy (T.A.); Wegienka, Michael (M.J.)
Cc: Hale, Curt (B.C.); Hasselbring, D Blake (D.B.); Knapp, David (D.)
Subject: RE: Report Summary for the CQIS Report#[redacted]

Mike talked with the dealer and was told that they couldn't repeat the concern. I'm not sure what he worked out with the dealership to try. Mike is out today, so if he doesn't respond, we'll follow-up more tomorrow.

Dan Gompper
SuperDuty Vehicle Dynamics Supervisor
EVB 2E-L01
Cellphone: (313) 805-2039
Email: dgompper@ford.com

text page: [redacted]@sprintpcs.messaging.com

From: O'Connor, Tammy (T.A.)
Sent: Monday, May 21, 2007 7:42 AM
To: Gompper, Dan (D.B.); Wegienka, Michael (M.J.)
Cc: Hale, Curt (B.C.); Hasselbring, D Blake (D.B.); Knapp, David (D.)
Subject: RE: Report Summary for the CQIS Report#[redacted]

Did anyone from your group call this tech? What were the results? Next Steps?

He left a voice mail saying he checked the alignment and it was good.

Tammy A. O'Connor
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248/814-8698 Telecommuting Office (Mon,Thur,Fri)
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From: Gompper, Dan (D.B.)
Sent: Thursday, May 17, 2007 1:53 PM
To: O'Connor, Tammy (T.A.); Wegienka, Michael (M.J.)
Cc: Hale, Curt (B.C.); Hasselbring, D Blake (D.B.)
Subject: RE: Report Summary for the CQIS Report#[redacted]

Tammy --

Mike is going to call this dealership to get more details. It doesn't sound like this is the same as the others we've seen, and I'm a little surprised by the description.

Can you send Mike the dealer's number?

Also, can you send me a sample SSM that I can go off of for writing the one for the F450PU wander?

thanks,

Dan Gompper
SuperDuty Vehicle Dynamics Supervisor
EVB 2E-L01
Cellphone: (313) 805-2039
Email: dgompper@ford.com
text page: [redacted]@sprintpcs.messaging.com

From: O'Connor, Tammy (T.A.)
Sent: Thursday, May 17, 2007 10:47 AM
To: Gompper, Dan (D.B.); Hasselbring, D Blake (D.B.)
Cc: Hale, Curt (B.C.)
Subject: FW: Report Summary for the CQIS Report#[redacted]

FYI.

Tammy A. O'Connor
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FCSD Service Engineering Operations
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Sent: Thursday, May 17, 2007 10:47 AM
To: O'Connor, Tammy (T.A.)
Subject: Report Summary for the CQIS Report#[redacted]

Attachments : 0

Report# :	[redacted] NHL			**Received:**	05/16/2007
CCRG/EPRC:		**Reviewed Status:**		**Date:**	
Vehicle:	2008,F450 4X4 SD,CRWCAB ,4X4 ,1FTXW43R28E[redacted]			**Build Date:**	02/25/2007
Odometer :	1,597 M	**Engine:**	6.4L OHV	**Calibration:**	
Transmission:	5R110W DSL	**Axle:**		**A/C:**	YES
Dealer:	USA 07749 Future Ford			**Phone#:**	(916) 969-3600
City:	Roseville	**State:**	California	**Country :**	USA
Originator:	MICHAEL SANCHEZ				
Symptom:	3 03 3 53 CHASS.,STRG/HANDLING ,VIB./SHIMMY,OVER BUMPS				
Status:					
VFG:	V89 RIDE & HANDLING				
Additional Symptom:	VIBRATES OVER BUMPS				

Fix: **Causal Component :**

Condition Code:

Hotliner: DKALINS1 **Phone:** 313 248-2922 **Regn Cd:** W2 San Francisco

Engineering: DAVID KALINSKI **Phone:** 000 000-0000 **TAR:**

Dlr Contact: MICHAEL SANCHEZ **Phone:** 916 786-3673 **Title Cde:** T

DTCs:

KOEO:

KOEC:

KOER:

Comments :

REPAIR 05/16/2007 04:39PM DAVID KALINSKI MSS - FCSD - TECH SVC HOTLINE

WEB FORM DATA: DESCRIPTION OF VEHICLE CONCERN: CUSTOMER STATES ON

UNEVEN OR BUMPY ROADS.AT FREEWAY SPEEDS.WHEN THE TRUCK HITS A BUMP,THE

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To: O'Connor, Tammy (T.A.); Wegienka, Michael (M.J.)
Cc: Hale, Curt (B.C.); Hasselbring, D Blake (D.B.)
Subject: RE: Report Summary for the CQIS Report#[redacted]

Tammy --

Mike is going to call this dealership to get more details. It doesn't sound like this is the same as the others we've seen, and I'm a little surprised by the description.

Can you send Mike the dealer's number?

Also, can you send me a sample SSM that I can go off of for writing the one for the F450PU wander?

thanks,

Dan Gompper
SuperDuty Vehicle Dynamics Supervisor
EVB 2E-L01
Cellphone: (313) 805-2039
Email: dgompper@ford.com
text page: [redacted]@sprintpcs.messaging.com

From: O'Connor, Tammy (T.A.)
Sent: Thursday, May 17, 2007 10:47 AM
To: Gompper, Dan (D.B.); Hasselbring, D Blake (D.B.)
Cc: Hale, Curt (B.C.)
Subject: FW: Report Summary for the CQIS Report#[redacted]

FYI.

Tammy A. O'Connor
Product Concern Engineer
FCSD Service Engineering Operations
Super Duty F-Series
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSC I, Cube 149 (Tuesday,Wednesday)

From: TOCONNOR@ford.com [mailto:TOCONNOR@ford.com]
Sent: Thursday, May 17, 2007 10:47 AM
To: O'Connor, Tammy (T.A.)
Subject: Report Summary for the CQIS Report#[redacted]

Attachments : 0

Report# :	[redacted] NHL			**Received:**	05/16/2007
CCRG/EPRC:		**Reviewed Status:**		**Date:**	
Vehicle:	2008,F450 4X4 SD,CRWCAB ,4X4 ,1FTXW43R28E[redacted]			**Build Date:**	02/25/2007
Odometer :	1,597 M	**Engine:**	6.4L OHV	**Calibration:**	
Transmission:	5R110W DSL	**Axle:**		**A/C:**	YES
Dealer:	USA 07749 Future Ford			**Phone#:**	(916) 969-3600
City:	Roseville	**State:**	California	**Country :**	USA
Originator:	MICHAEL SANCHEZ				
Symptom:	3 03 3 53 CHASS.,STRG/HANDLING ,VIB./SHIMMY,OVER BUMPS				
Status:					
VFG:	V89 RIDE & HANDLING				
Additional Symptom:	VIBRATES OVER BUMPS				

Fix: **Causal Component :**

Condition Code:

Hotliner: DKALINS1 **Phone:** 313 248-2922 **Regn Cd:** W2 San Francisco

Engineering: DAVID KALINSKI **Phone:** 000 000-0000 **TAR:**

Dlr Contact: MICHAEL SANCHEZ **Phone:** 916 786-3673 **Title Cde:** T

DTCs:

KOEO:

KOEC:

KOER:

Comments :

REPAIR 05/16/2007 04:39PM DAVID KALINSKI MSS - FCSD - TECH SVC HOTLINE

WEB FORM DATA: DESCRIPTION OF VEHICLE CONCERN: CUSTOMER STATES ON

UNEVEN OR BUMPY ROADS.AT FREEWAY SPEEDS.WHEN THE TRUCK HITS A BUMP,THE

STEERING WHEEL AND TRUCK SHAKE VERRY BAD.CUSTOMER STATES HE LOOSES

CONTROL OF STEERING WHEEL. ROAD TESTED COULD NOT DUPLICATE ON THE

ROADS AROUND THE DEALERSHIP. DO YOU HAVE ANY NEW TSB OR SSM THAT ARE

NOT OUT YET FOR THIS CONCERN. DIAGNOSTICS ALREADY COMPLETED: CHECKED

THE TIRE PRESSURES.ALL TIRES ARE SET TO DOOR SPECS.CHECKED THE FRONT

END FOR LOOSE PARTS.NONE FOUND.STEERING DAMPER IS NOT LEAKING. PARTS

REPLACED: TECHNICIAN QUESTION: IS THERE A NEW SSM OR TSB FOR THIS

CONCERN.OR DO YOU HAVE ANY NEW INFO ABOUT THIS CONCERN.THERE WERE NO

TSB OR SSM THAT CAME UP WHEN I RAN OASIS.IS THIS STILL THE SAME

PROBLEM AS THE 05 YEAR MODLE TRUCK? INITIAL HOTLINE RECOMMENDATION:

MICHAEL, PLEASE CONTACT THE TECHNICAL HOTLINE TO REVIEW THIS CONCERN.

USE CONTACTID [redacted] FORM QUESTION: WERE YOU ABLE TO VERIFY THE

CONCERN? ANSWER: NO FORM QUESTION: IS THERE AN APPROPRIATE PINPOINT

TEST IN THE WSM FOR THIS CONCERN? ANSWER: FORM QUESTION: WAS

THE

PINPOINT TEST FOLLOWED? ANSWER: CALL DATA: STATES THAT HE HAS NOT

VERIFIED THE CONCERN AND IS GOING TO DRIVE THE VEHICLE OVERNIGHT. HE

IS LOOKING FOR GUIDELINES FOR DIAGNOSING THE CONCERN

RECOMM 05/16/2007 04:39PM DAVID KALINSKI MSS - FCSD - TECH SVC HOTLINE

ADVISED MIKE THAT HE CAN USE 07-5-7 FOR A GUIDELINE FOR DIAGNOSIS FOR

THIS CONCERN. ADVISED THAT THE 08 HAS THE UPDATED DAMPENER ALREADY.

From: Koulakjian, Robert (J.)
Sent: Wednesday, August 15, 2007 9:52 PM
To: O'Connor, Tammy (T.A.); Veneziano, Frank (j.); Hale, Curt (B.C.); Klein, Mark (M.A.); Gompper, Dan (D.B.)
Cc: Johnson, Michael (M.L.)
Subject: RE: Report Summary for the CQIS Report#[redacted]

Thank you all for your support. I have repeatedly called the dealer for the information I requested on the fleet vehicles. To date I have received none. If this issue was that great to The Port Authority Fleet as originally indicated they would have responded by now. The information I requested was a list of VIN numbers of the alleged effected vehicles. What add on equipment did each have, such as power lift gate, side or front bed mounted tool boxes, speed of occurrence, and so on. I also requested a detailed outline of all actions taken by the dealer toward a repair.

As a result of their inactivity I am closing the TAR . I do not feel it is our responsibility to chase them to get their vehicles repaired.

Robert J. Koulakjian
Ford Motor Company
Field Service Engineer
Markets: AO1, AO2, AO3, AO4, AO6, AO7
New York District
CDS ID- rkoulakj
201-529-7291

The message is for the sole use of the person(s) to whom it is addressed and may be privileged, confidential and exempt from disclosure under applicable law. Any unauthorized review, use, disclosure, or distribution is prohibited. The views of the author may not necessarily reflect the views of the Company. If you are not the intended recipient please do not copy or convey this message or any attached files to any other person, but please contact the sender by reply email and delete this message and any attached files.

From: O'Connor, Tammy (T.A.)
Sent: Friday, August 10, 2007 10:05 AM
To: Veneziano, Frank (j.); Hale, Curt (B.C.); Klein, Mark (M.A.); Gompper, Dan (D.B.)
Cc: Koulakjian, Robert (J.)
Subject: RE: Report Summary for the CQIS Report#[redacted]

Frank - If the correct damper is installed, we have heard back from many of the fleets that it completely resolves the issue.

I have forwarded the report to Engineering.

I was concerned because the wrong part number was recommended after TSB 07-10-10 was recomended. If I'm confused, I'm sure others are also.

Dan - any other recommendations?

Tammy A. O'Connor
Product Concern Engineer
FCSD Service Engineering Operations
Super Duty F-Series
Body / Chassis / Electrical
248/310-6111 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSC I, Cube 149 (Tuesday,Wednesday)

From: Veneziano, Frank (j.)
Sent: Friday, August 10, 2007 10:00 AM
To: O'Connor, Tammy (T.A.); Hale, Curt (B.C.); Klein, Mark (M.A.)
Cc: Koulakjian, Robert (J.)
Subject: RE: Report Summary for the CQIS Report#[redacted]

Tammy,
The TSB 07-10-10 was already performed before I made my recommendations.
Do we have anything else that would assist the FSE.
Thank you again for the help, we need all we can get on this vehicle.

From: O'Connor, Tammy (T.A.)
Sent: Friday, August 10, 2007 8:46 AM
To: Hale, Curt (B.C.); Klein, Mark (M.A.)
Cc: Koulakjian, Robert (J.); Veneziano, Frank (j.)
Subject: RE: Report Summary for the CQIS Report#[redacted]

The latest TSB is TSB 07-10-10. They should be installing the new dampner that was released with that TSB - it resolves the issue - the part number at the bottom of the report is not correct. Look at the TSB.

8C3Z-3E651-C along with the bracket should be installed on this truck.

WRONG Recommendation at the bottom of this report:

TSB 07-05-11 INSTALL DAMPER SERVICE KIT - 5C3Z-5D008-A

Tammy A. O'Connor
Product Concern Engineer
FCSD Service Engineering Operations
Super Duty F-Series
Body / Chassis / Electrical
248/310-6111 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSC I, Cube 149 (Tuesday,Wednesday)

From: Hale, Curt (B.C.)
Sent: Friday, August 10, 2007 8:21 AM
To: Klein, Mark (M.A.)
Cc: Koulakjian, Robert (J.); O'Connor, Tammy (T.A.)
Subject: RE: Report Summary for the CQIS Report#[redacted]

I expect the tire pressures are set less than placard, Tammy?

B. Curtis Hale
FCSD F-Super Duty Program Manager
Kentucky Truck Plant

From: MKLEIN10@ford.com [mailto:MKLEIN10@ford.com]
Sent: Fri 8/10/2007 7:45 AM
To: Hale, Curt (B.C.)
Cc: Koulakjian, Robert (J.)
Subject: Report Summary for the CQIS Report#[redacted]

Curt, Is there anthing that we can do to help Robert on this concern?

Attachments : 0

Report# :	[redacted] NHL			**Received:**	07/05/2007
CCRG/EPRC:		**Reviewed Status:**		**Date:**	
Vehicle:	2005,F350 4X4,CREW ,SRW ,1FTWW31515E[redacted]			**Build Date:**	03/10/2005
Odometer :	12,166 M	**Engine:**	MOD 5.4 3V	**Calibration:**	5F714B0A
Transmission:	5R110W	**Axle:**		**A/C:**	YES
Dealer:	USA 03620 Best Ford			**Phone#:**	(516) 358-9500
City:	Floral Park	**State:**	New York	**Country :**	USA
Originator:	VINCE EDWARDS				
Symptom:	3 03 3 53 CHASS.,STRG/HANDLING ,VIB./SHIMMY,OVER BUMPS				
Status:					
VFG:	V89 RIDE & HANDLING				
Additional Symptom:	STEERING OSCILLATIONS				
Fix:	**Causal Component :**				
Condition Code:					

Hotliner: JREDDMAN **Phone:** 313 248-9292 **Regn Cd:** N1 New York

Engineering: **Phone:** **TAR:** 0-30

Dlr Contact: VINCE EDWARDS **Phone:** 516 358-9500 **Title Cde:** T

DTCs:

KOEO:

KOEC:

KOER:

Comments :

REPAIR 07/05/2007 12:49PM JOSEPH REDDMANN MSS - FCSD - TECH SVC HOTLINE
WEB FORM DATA: DESCRIPTION OF VEHICLE CONCERN: HIGHWAY SPEEDS. WHEN
DRIVING OVER SEWER GRATE OR BUMPS, VEHICLE AND STEERING VIBRATE BADLY.
CUSTOMER STATES THAT HE LOOSES CONTROL OF VEHICLE. DIAGNOSTICS
ALREADY COMPLETED: VERIFED CONCERN VIA ROADTEST WITH CUSTOMER. TSB
#07-10-10 PERFORMED. CONCERN STILL PRESENT. FRONT END INSPECTION SHOW
NO OBVIOUS PROBLEMS/CONCERS. TIRE CONDITION/INFLATION AND SIZES ALL
OK. PARTS REPLACED: 8C3Z-3E651-C TECHNICIAN QUESTION: ADDITIONAL
DIAG DIRECTION FOR CONCERN THATS STILL PRESENT FORM QUESTION: WERE
YOU ABLE TO VERIFY THE CONCERN? ANSWER: YES FORM QUESTION: IS THERE
AN APPROPRIATE PINPOINT TEST IN THE WSM FOR THIS CONCERN? ANSWER:
NO FORM QUESTION: WAS THE PINPOINT TEST FOLLOWED? ANSWER: NO CALL
DATA: VEHICLE HAS SEVERE STEERING OSCILLATIONS OVER BUMPS. ACTUAL
CASTER READINGS ARE NOT AVAILABLE. SEEKING DIRECTION.

RECOMM 07/05/2007 12:49PM JOSEPH REDDMANN MSS - FCSD - TECH SVC HOTLINE
SUGGEST YOU RE-ALIGN THE VEHICLE AND REDUCE CASTER TO 1.7 DEGREES THEN
RE-EVALUATE THE CONCERN.

REPAIR 07/16/2007 11:38AM MARIO GIURLANDA MSS - FCSD - TECH SVC HOTLINE
TRUCK VIBRATES AND STEERING SHIMMY OVER BUMPS AT HIWAY SPEEDS.
PREVIOUSLY PERFORMED TSB 07-05-11 FOR STEERING DAMPER AND ALIGNED
STEERING TO LOWER END OF CASTER SPECS. TRUCK HAS TWO TOOLBOXES ON THE

BACK OF THE BED.

RECOMM 07/16/2007 11:38AM MARIO GIURLANDA MSS - FCSD - TECH SVC HOTLINE

TSB 07-10-10 PROCEDURE TO MINIMIZE STEERING WHEEL OSCILLATIONS ON

IMPACTS - SOME MINOR OSCILLATION WHICH WOULD BE CONSIDERED NORMAL MAY

REMAINREFERRED TO TSB 07-10-10. FOLLOW TSB EXACTLY FOR CONCERN. SET

TIRE PRESSURE PER DOOR STICKER, LOOSEN AND RETORQUE FRONT END PER

CHART.

ADD-ON 07/27/2007 12:39PM FRANK VENEZIANO MSS - FCSD - TECH SVC HOTLINE

THE FSE ROBERT KOULAKJIAN HAS VERIFIED THE CUSTOMERS CONCERN AND

DETERMINED THE WHEEL SHAKE TO BE EXCESSIVE. WE ARE TARING THE REPORT

FOR REGIONAL ESCALATION AND ASSISTANCE FROM

ENGINEERING.

*****TAR*****

ADD-ON 07/27/2007 12:41PM FRANK VENEZIANO MSS - FCSD - TECH SVC HOTLINE

UPDATING THE UNIT DOWN INFO AS REQUIRED PER THE TAR PROCESS.

ADD-ON 07/27/2007 01:43PM LEON DALLAPE MSS - FCSD - TECH SVC HOTLINE

(GL)REVIEWED

ADD-ON 07/30/2007 10:03AM MARK KLEIN MSS - FCSD - TECH SVC HOTLINE

*********REGIONAL ESCALATION**********

SENT TO FVENEZI1 ON THIS DATE.

ADD-ON 07/30/2007 01:24PM FRANK VENEZIANO MSS - FCSD - TECH SVC HOTLINE

AWS HISTORY ONLY HAS ONE REPAIR CLAIM ON MAY 4, 2007 @12,166 MILES.

THE VEHICLE EXHIBITED A STEERING SHAKE WHEN HITTING BUMPS AT HIGHWAY

SPEEDS. THE STEERING DAMPENER WAS REPLACED AND A ALIGNMENT WAS

PERFORMED.

2 MONTHS LATER WITH THE SAME MILES THE DEALER CALLED THE HOTLINE

(RPT#) [redacted] SEEKING ASSISTANCE FOR THE SAME CONCERN. WE ADVISED

THE DEALER TO RE-ALIGN AND SET CASTER TO 1.7 DEGREES.

THE DEALER CALLED BACK 11 DAYS LATER AND WE ADVISED TO PERFORM THE

TSB 07-10-10.

ANOTHER 11 DAYS WENT BY AND I RECEIVED A E-MAIL FROM FSE ROBERT

KOULAKJIAN WHO VERIFIED THE CUSTOMERS CONCERN AND IS REQUESTING

ASSISTANCE FROM THE HOTLINE AND ENGINEERING.

PLEASE COMPARE A LIKE UNIT OFF THE LOT TO ONE OF THE CUSTOMERS SO WE

CAN DETERMINE IF ALL VEHICLES PERFORM THE SAME WAY UNDER THE SAME

CONDITIONS. MAKE SURE THE TIRE ROTATION MAINTENANCE RECORDS ARE

AVAILABLE. THIS VEHICLE SAT FOR 5 MONTHS BEFORE IT WAS SOLD AND NOW

ONLY HAS 12*** MILES. TO INSURE THE CAUSE IS NOT DUE TO DOWN TIME AND

FLAT SPOTTING, ADVISE OF THE PROPER TIRE PRESSURES WHILE THE VEHICLE

IS NOT IN USE. IF THE VEHICLES CARGO IS NOT DISTRIBUTED CORRECTLY IT

COULD UNLOAD THE FRONT AXLE OF THE VEHICLE AND CAUSE THIS CONCERN.

MAKE SURE THE GVWR IS NOT EXCEEDED.

PLEASE REVIEW THE FOLLOWING FOR RELEVANCE.

TSB 07-10-10 PROCEDURE TO MINIMIZE STEERING WHEEL OSCILLATIONS ON

IMPACTS - SOME MINOR OSCILLATION WHICH WOULD BE CONSIDERED NORMAL MAY

REMAIN

WRONG Recommendation:

TSB 07-05-11 INSTALL DAMPER SERVICE KIT - 5C3Z-5D008-A

UPON YOU INSPECTION AND DIAGNOSIS FURTHER ASSISTANCE WILL BE PROVIDED

AT YOUR REQUEST. FVENEZI1 (313)317-6310

ADD-ON **08/01/2007 06:07PM ROBERT KOULAKJIAN(FS MSS - FCSD - REG - NEW YORK**

CONFERENCED WITH SERVICE MANAGER TODAY. PORT AUTHORITY TRANSIT FLEET

HAS INDICATED THAT THIS IS NOT THE ONLY VEHICLE THEY HAVE THAT REACTS

IN THIS MANOR. I HAVE REQUESTED DETAILED INFORMATION AND WILL UPDATE

GCQIS AS NECESSARY.

ADD-ON **08/04/2007 10:52PM ROBERT KOULAKJIAN(FS MSS - FCSD - REG - NEW YORK**

NO RESPONSE FROM DEALER TO DATE.

ADD-ON **08/04/2007 11:31PM ROBERT KOULAKJIAN(FS MSS - FCSD - REG - NEW YORK**

AT APPROX. 55-70MPH, HITTING VARIOUS BUMPS THE FRONT END SHAKES VIOLENTLY EVEN WHEN TRYING TO SLOW DOWN. NOTHING SO FAR HAS WORKED AS

PER THE SUGGESTIONS IN GCQIS. THE FLEET CLAIM THEY HAVE SEVERAL MORE

JUST LIKE THIS ONE WAITING FOR A FIX. THERE QUITE UPSET DUE TO THE EXTENSIVE DOWN TIME . I HAVE NO FURTHER SUGGESTIONS TO ADD TO THE

REPAIR. I RESPECTIVELY ASK THAT THIS ISSUE BE ESCALATED TO PVT FOR

FURTHER ASSISTANCE. [redacted]

From: Gompper, Dan (D.B.)
Sent: Friday, August 10, 2007 10:46 AM
To: O'Connor, Tammy (T.A.); Veneziano, Frank (j.); Hale, Curt (B.C.); Klein, Mark (M.A.)
Cc: Koulakjian, Robert (J.)
Subject: RE: Report Summary for the CQIS Report#[redacted]

Can we reconfirm a few items?

- The NEW steering damper (ie. '08MY vs. carryover) was installed as part of 07-10-10?
- Tire pressures are inflated to placard
- Chassis fastener torques were confirmed

Additionally, the following is worth checking:
Any excessive looseness in steering feel that might indicated excessive wear in the steering gear?
When vehicle is on a hoist, is there any looseness, or excessive wear in wheelends?

Please let me know. Based on this feedback, I may try to setup a customer visit to help diagnose.

Thanks,

Dan Gompper
SuperDuty Vehicle Dynamics Supervisor
EVB 2E-L01
Cellphone: (313) 805-2039
Email: dgompper@ford.com
text page: [redacted]@sprintpcs.messaging.com

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Dan - any other recommendations?

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Curt, Is there anthing that we can do to help Robert on this concern?

Attachments : 0

Report# :	[redacted] NHL			**Received:**	07/05/2007
CCRG/EPRC:		**Reviewed Status:**		**Date:**	
Vehicle:	2005,F350 4X4,CREW ,SRW ,1FTWW31515E[redacted]			**Build Date:**	03/10/2005
Odometer :	12,166 M	**Engine:**	MOD 5.4 3V	**Calibration:**	5F714B0A
Transmission:	5R110W	**Axle:**		**A/C:**	YES
Dealer:	USA 03620 Best Ford			**Phone#:**	(516) 358-9500
City:	Floral Park	**State:**	New York	**Country :**	USA
Originator:	VINCE EDWARDS				
Symptom:	3 03 3 53 CHASS.,STRG/HANDLING ,VIB./SHIMMY,OVER BUMPS				
Status:					
VFG:	V89 RIDE & HANDLING				
Additional Symptom:	STEERING OSCILLATIONS				
Fix:	**Causal Component :**				
Condition Code:					

Hotliner: JREDDMAN **Phone:** 313 248-9292 **Regn Cd:** N1 New York

Engineering: **Phone:** **TAR:** 0-30

Dlr Contact: VINCE EDWARDS **Phone:** 516 358-9500 **Title Cde:** T

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TSB 07-10-10 PROCEDURE TO MINIMIZE STEERING WHEEL OSCILLATIONS ON

IMPACTS - SOME MINOR OSCILLATION WHICH WOULD BE CONSIDERED NORMAL MAY

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WRONG Recommendation:

TSB 07-05-11 INSTALL DAMPER SERVICE KIT - 5C3Z-5D008-A

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FURTHER ASSISTANCE. [redacted]

From: Veneziano, Frank (j.)
Sent: Friday, August 10, 2007 10:18 AM
To: O'Connor, Tammy (T.A.)
Subject: RE: Report Summary for the CQIS Report#[redacted]

Tammy,
Sorry for the confusion.
In the report below in blue and underlined you will see we installed the correct parts 25 days before I suggested the old.
The correct part per the TSB 07-10-10 you advised us to use was installed on 7-05-2007, because it did not work I suggested the old part on 7/30/07 as something to try on the off chance it might help and because the vehicle was down so long.

From: O'Connor, Tammy (T.A.)
Sent: Friday, August 10, 2007 10:05 AM
To: Veneziano, Frank (j.); Hale, Curt (B.C.); Klein, Mark (M.A.); Gompper, Dan (D.B.)
Cc: Koulakjian, Robert (J.)
Subject: RE: Report Summary for the CQIS Report#[redacted]

Frank - If the correct damper is installed, we have heard back from many of the fleets that it completely resolves the issue.

I have forwarded the report to Engineering.

I was concerned because the wrong part number was recommended after TSB 07-10-10 was recomended. If I'm confused, I'm sure others are also.

Dan - any other recommendations?

Tammy A. O'Connor
Product Concern Engineer
FCSD Service Engineering Operations
Super Duty F-Series
Body / Chassis / Electrical
248/310-6111 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSC I, Cube 149 (Tuesday,Wednesday)

From: Veneziano, Frank (j.)
Sent: Friday, August 10, 2007 10:00 AM
To: O'Connor, Tammy (T.A.); Hale, Curt (B.C.); Klein, Mark (M.A.)
Cc: Koulakjian, Robert (J.)
Subject: RE: Report Summary for the CQIS Report#[redacted]

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The TSB 07-10-10 was already performed before I made my recommendations.
Do we have anything else that would assist the FSE.
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I expect the tire pressures are set less than placard, Tammy?

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Kentucky Truck Plant

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To: Hale, Curt (B.C.)
Cc: Koulakjian, Robert (J.)

Subject: Report Summary for the CQIS Report#[redacted]

Curt, Is there anthing that we can do to help Robert on this concern?

Attachments : 0

Report# :	[redacted] NHL			**Received:**	07/05/2007
CCRG/EPRC:		**Reviewed Status:**		**Date:**	
Vehicle:	2005,F350 4X4,CREW ,SRW ,1FTWW31515E[redacted]			**Build Date:**	03/10/2005
Odometer :	12,166 M	**Engine:**	MOD 5.4 3V	**Calibration:**	5F714B0A
Transmission:	5R110W	**Axle:**		**A/C:**	YES
Dealer:	USA 03620 Best Ford			**Phone#:**	(516) 358-9500
City:	Floral Park	**State:**	New York	**Country :**	USA

Originator: VINCE EDWARDS
Symptom: 3 03 3 53 CHASS.,STRG/HANDLING ,VIB./SHIMMY,OVER BUMPS
Status:
VFG: V89 RIDE & HANDLING
Additional Symptom: STEERING OSCILLATIONS
Fix: **Causal Component :**
Condition Code:

Hotliner: JREDDMAN **Phone:** 313 248-9292 **Regn Cd:** N1 New York

Engineering: **Phone:** **TAR:** 0-30

Dlr Contact: VINCE EDWARDS **Phone:** 516 358-9500 **Title Cde:** T

DTCs:
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Comments :

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Sent: Friday, August 10, 2007 9:48 AM
To: Hale, Curt (B.C.); Klein, Mark (M.A.)
Cc: O'Connor, Tammy (T.A.)
Subject: RE: Report Summary for the CQIS Report#[redacted]

The Port Authority is compiling a list of VIN's they say are effected. I also have requested an extremely detailed summary of everything that has been attempted, and checked by all parties. I will forward the information as soon as it's received.

Side note, I was at Warnock Ford on Wednesday and the service manager described the exact same situation with similar vehicles that have had the TSB performed. I informed him that at this time I have no further advise, but will keep him advised if I find additional data that will assist.

Robert J. Koulakjian
Ford Motor Company
Field Service Engineer
Markets: AO1, AO2, AO3, AO4, AO6, AO7
New York District
CDS ID- rkoulakj
201-529-7291

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REPAIR 07/05/2007 12:49PM JOSEPH REDDMANN MSS - FCSD - TECH SVC HOTLINE
WEB FORM DATA: DESCRIPTION OF VEHICLE CONCERN: HIGHWAY SPEEDS. WHEN
DRIVING OVER SEWER GRATE OR BUMPS, VEHICLE AND STEERING VIBRATE BADLY.
CUSTOMER STATES THAT HE LOOSES CONTROL OF VEHICLE. DIAGNOSTICS
ALREADY COMPLETED: VERIFED CONCERN VIA ROADTEST WITH CUSTOMER. TSB

#07-10-10 PERFORMED. CONCERN STILL PRESENT. FRONT END INSPECTION SHOW

NO OBVIOUS PROBLEMS/CONCERS. TIRE CONDITION/INFLATION AND SIZES ALL

OK. PARTS REPLACED: 8C3Z-3E651-C TECHNICIAN QUESTION: ADDITIONAL

DIAG DIRECTION FOR CONCERN THATS STILL PRESENT FORM QUESTION: WERE

YOU ABLE TO VERIFY THE CONCERN? ANSWER: YES FORM QUESTION: IS THERE

AN APPROPRIATE PINPOINT TEST IN THE WSM FOR THIS CONCERN? ANSWER:

NO FORM QUESTION: WAS THE PINPOINT TEST FOLLOWED? ANSWER: NO CALL

DATA: VEHICLE HAS SEVERE STEERING OSCILLATIONS OVER BUMPS. ACTUAL

CASTER READINGS ARE NOT AVAILABLE. SEEKING DIRECTION.

RECOMM 07/05/2007 12:49PM JOSEPH REDDMANN MSS - FCSD - TECH SVC HOTLINE

SUGGEST YOU RE-ALIGN THE VEHICLE AND REDUCE CASTER TO 1.7 DEGREES THEN

RE-EVALUATE THE CONCERN.

REPAIR 07/16/2007 11:38AM MARIO GIURLANDA MSS - FCSD - TECH SVC HOTLINE

TRUCK VIBRATES AND STEERING SHIMMY OVER BUMPS AT HIWAY SPEEDS.

PREVIOUSLY PERFORMED TSB 07-05-11 FOR STEERING DAMPER AND ALIGNED

STEERING TO LOWER END OF CASTER SPECS. TRUCK HAS TWO TOOLBOXES ON THE

BACK OF THE BED.

RECOMM 07/16/2007 11:38AM MARIO GIURLANDA MSS - FCSD - TECH SVC HOTLINE

TSB 07-10-10 PROCEDURE TO MINIMIZE STEERING WHEEL OSCILLATIONS ON

IMPACTS - SOME MINOR OSCILLATION WHICH WOULD BE CONSIDERED NORMAL MAY

REMAINREFERRED TO TSB 07-10-10. FOLLOW TSB EXACTLY FOR CONCERN. SET

TIRE PRESSURE PER DOOR STICKER, LOOSEN AND RETORQUE FRONT END PER

CHART.

ADD-ON 07/27/2007 12:39PM FRANK VENEZIANO MSS - FCSD - TECH SVC HOTLINE

THE FSE ROBERT KOULAKJIAN HAS VERIFIED THE CUSTOMERS CONCERN AND

DETERMINED THE WHEEL SHAKE TO BE EXCESSIVE. WE ARE TARING THE REPORT

FOR REGIONAL ESCALATION AND ASSISTANCE FROM

ENGINEERING.
*****TAR*****

ADD-ON 07/27/2007 12:41PM FRANK VENEZIANO MSS - FCSD - TECH SVC HOTLINE

UPDATING THE UNIT DOWN INFO AS REQUIRED PER THE TAR PROCESS.

ADD-ON 07/27/2007 01:43PM LEON DALLAPE MSS - FCSD - TECH SVC HOTLINE

(GL)REVIEWED

ADD-ON 07/30/2007 10:03AM MARK KLEIN MSS - FCSD - TECH SVC HOTLINE

*********REGIONAL ESCALATION**********

SENT TO FVENEZI1 ON THIS DATE.

ADD-ON 07/30/2007 01:24PM FRANK VENEZIANO MSS - FCSD - TECH SVC HOTLINE

AWS HISTORY ONLY HAS ONE REPAIR CLAIM ON MAY 4, 2007 @12,166 MILES.

THE VEHICLE EXHIBITED A STEERING SHAKE WHEN HITTING BUMPS AT HIGHWAY

SPEEDS. THE STEERING DAMPENER WAS REPLACED AND A ALIGNMENT WAS

PERFORMED.

2 MONTHS LATER WITH THE SAME MILES THE DEALER CALLED THE HOTLINE

(RPT#) [redacted] SEEKING ASSISTANCE FOR THE SAME CONCERN. WE ADVISED

THE DEALER TO RE-ALIGN AND SET CASTER TO 1.7 DEGREES.

THE DEALER CALLED BACK 11 DAYS LATER AND WE ADVISED TO PERFORM THE

TSB 07-10-10.

ANOTHER 11 DAYS WENT BY AND I RECEIVED A E-MAIL FROM FSE ROBERT

KOULAKJIAN WHO VERIFIED THE CUSTOMERS CONCERN AND IS REQUESTING

ASSISTANCE FROM THE HOTLINE AND ENGINEERING.

PLEASE COMPARE A LIKE UNIT OFF THE LOT TO ONE OF THE CUSTOMERS SO WE

CAN DETERMINE IF ALL VEHICLES PERFORM THE SAME WAY UNDER THE SAME

CONDITIONS. MAKE SURE THE TIRE ROTATION MAINTENANCE RECORDS ARE

AVAILABLE. THIS VEHICLE SAT FOR 5 MONTHS BEFORE IT WAS SOLD AND NOW

ONLY HAS 12*** MILES. TO INSURE THE CAUSE IS NOT DUE TO DOWN TIME AND

FLAT SPOTTING, ADVISE OF THE PROPER TIRE PRESSURES WHILE THE VEHICLE

IS NOT IN USE. IF THE VEHICLES CARGO IS NOT DISTRIBUTED CORRECTLY IT

COULD UNLOAD THE FRONT AXLE OF THE VEHICLE AND CAUSE THIS CONCERN.

MAKE SURE THE GVWR IS NOT EXCEEDED.

PLEASE REVIEW THE FOLLOWING FOR RELEVANCE.

TSB 07-10-10 PROCEDURE TO MINIMIZE STEERING WHEEL OSCILLATIONS ON

IMPACTS - SOME MINOR OSCILLATION WHICH WOULD BE CONSIDERED NORMAL MAY

REMAIN

TSB 07-05-11 INSTALL DAMPER SERVICE KIT - 5C3Z-5D008-A

UPON YOU INSPECTION AND DIAGNOSIS FURTHER ASSISTANCE WILL BE PROVIDED

AT YOUR REQUEST. FVENEZI1 (313)317-6310

ADD-ON 08/01/2007 06:07PM ROBERT KOULAKJIAN(FS MSS - FCSD - REG - NEW YORK

CONFERENCED WITH SERVICE MANAGER TODAY. PORT AUTHORITY TRANSIT FLEET

HAS INDICATED THAT THIS IS NOT THE ONLY VEHICLE THEY HAVE THAT REACTS

IN THIS MANOR. I HAVE REQUESTED DETAILED INFORMATION AND WILL UPDATE

GCQIS AS NECESSARY.

ADD-ON 08/04/2007 10:52PM ROBERT KOULAKJIAN(FS MSS - FCSD - REG - NEW YORK

NO RESPONSE FROM DEALER TO DATE.

ADD-ON 08/04/2007 11:31PM ROBERT KOULAKJIAN(FS MSS - FCSD - REG - NEW YORK

AT APPROX. 55-70MPH, HITTING VARIOUS BUMPS THE FRONT END SHAKES

VIOLENTLY EVEN WHEN TRYING TO SLOW DOWN. NOTHING SO FAR HAS WORKED AS

PER THE SUGGESTIONS IN GCQIS. THE FLEET CLAIM THEY HAVE SEVERAL MORE

JUST LIKE THIS ONE WAITING FOR A FIX. THERE QUITE UPSET DUE TO THE

EXTENSIVE DOWN TIME . I HAVE NO FURTHER SUGGESTIONS TO ADD TO THE

REPAIR. I RESPECTIVELY ASK THAT THIS ISSUE BE ESCALATED TO PVT FOR

FURTHER ASSISTANCE. [redacted]

From: Lentini, Craig (C.A.)
Sent: Tuesday, October 18, 2005 10:24 AM
To: Jakubik, Paul (P.C.)
Cc: Balzer, Stacy (S.L.); Eaton, Robert (F.); O'Connor, Tammy (T.A.)
Subject: RE: Request for Tech Asst - Wilson Ford Fairmont, WV 07482

Attachments: [redacted]TSB Steering Wheel Shimmy Update 08 31.doc

Paul, attached is a *draft* TSB that we (FQEs) has an assignment on to validate....the TSB worked everytime. It even worked on a high profile truck at WHQ garage...Bill Ford's Landscaper's truck.

The TSB may be useful to you since the issue sounds similar to the truck your working on. I am not sure why this TSB is still only a draft (Tammy may be able to advise on this).

[redacted]TSB Steering Whe...

-----Original Message-----
From: Eaton, Robert (F.)
Sent: Monday, October 17, 2005 2:32 PM
To: Jakubik, Paul (P.C.)
Cc: Balzer, Stacy (S.L.); Lentini, Craig (C.A.)
Subject: RE: Request for Tech Asst - Wilson Ford Fairmont, WV 07482

Paul
Running the dealer P&A code in GCQIS to see what reports are present (from 8/1/05 to present) returned only 2 reports for an 05 F-250. Both have NVH issues but only one has an open 04 CuDL contact dated 10/13/05. I can only assume we are talking about this one?
I have attached the reports so you can review them and the CuDL report.
<< Message: Report Summary for the CQIS Report#[redacted]>> << Message: Report Summary for the CQIS Report#[redacted]> << File: Report [redacted]with 04 CuDL.doc >>
If the VIN has an open 04 CuDL case against it, it would warrant a TAR.

Robert F. Eaton Jr.
Hotline Service Engineer
Technical Assistance Request Coordinator
Regional Escalation Engineer
REATON4@FORD.COM <mailto:REATON4@FORD.COM>
79386

-----Original Message-----
From: Jakubik, Paul (P.C.)
Sent: Monday, October 17, 2005 2:24 PM
To: Jakubik, Paul (P.C.); Eaton, Robert (F.); Layne, Bob (R.L.)
Cc: Balzer, Stacy (S.L.); Corlew, Randall (R.L.)
Subject: RE: Request for Tech Asst - Wilson Ford Fairmont, WV 07482
Importance: High

Randy Corlew spoke to Rico on this truck a couple of months ago. Randy told Rico to reduce the caster on the truck. We do not know how much the caster was reduced. It's a good dealership however their methods could be considered by some to be some what out dated. Randy suspects that there may be more to the story than what we know so far. He will contact the dealership today to see what can be done to help this customer out.

Note - FYI - It's my understands that there is a TSB or SSM "in the work" from the PVT on this issue.

-----Original Message-----
From: Jakubik, Paul (P.C.)
Sent: Monday, October 17, 2005 1:53 PM
To: Eaton, Robert (F.)
Cc: Balzer, Stacy (S.L.); Jakubik, Paul (P.C.)
Subject: FW: Request for Tech Asst - Wilson Ford Fairmont, WV 07482
Importance: High

Robert - The District Manager is requesting a TAR on this particular vehicle. I have no additional information except for the attached note. Could you please locate the hotline report and fill me in on what's happened with this vehicle. I don't want to send an FSE to W. Virginia unless I have to. Does this unit need a TAR?

-----Original Message-----
From: Layne, Bob (R.L.)
Sent: Monday, October 17, 2005 1:36 PM
To: Jakubik, Paul (P.C.)
Cc: Hickey, Thomas (T.W.)
Subject: Request for Tech Asst - Wilson Ford Fairmont, WV 07482

Paul,

I got a call from Rico the Service Manager on a an '05 F-250 Extended Cab. Anytime the customer drives over a road repair, over a bridge or railroad tracks, the vehicle vibrates to the point where the vehicle speed has to be reduced to below 30 MPH.

The Service Tech Hotline has been involved with recommendations including:

- Changing alignment to specs that are below nominal specs
- Adjusting air pressure in tires
- Conduct steering gear TSB

Rico stated that Randy Corlew had been in touch with them on this unit and suggested that they follow the Tech Hotline recommendations.

I personally think if Randy could do an on-site visit, he could test drive and see if there is anything further that can be done. The service manager stated that he had ridden with the customer and experienced the vibration. He stated it is very severe and a safety hazard. I am concerned this is heading toward a vehicle buy-back.

Please advise and see if we could accommodate the dealer on this request.

Thanks for your assistance in this request.
Regards,

Bob Layne
Great Lakes Market Area
Select Dealer District Manager
Phone: (313) 621-9914
Fax: (313) 390-1880
e-mail: rlayne@ford.com

ISSUE:

Some 2005-2006 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion) immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on 4x4 vehicles, equipped with steering wheels that have redundant controls (i.e. climate and radio controls).

ACTION:

This procedure will minimize the steering wheel oscillations on impacts; however, there may be some remaining minor oscillation, which would be considered normal.
Perform the following:

- Vehicle Inspection
- Evaluation Of Vehicle Prior To Repair
- Steering Gear Mesh Load Adjustment
- Reduce front caster by 0.5 to 0.75 degrees
- Replacement Of Redundant Control Steering Wheel (if equipped and vehicle built prior to 10/8/04)

SERVICE PROCEDURE

VEHICLE INSPECTION

1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

   NOTE: SETTING TIRE PRESSUE TO DOOR SPEC IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

2. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
   a. If leaks are present, install a new steering damper and continue with this TSB.
   b. If no leaks are present, continue with this TSB.

3. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table # below).

Description	Torque Specification (lb-ft)
Damper nuts (4x2)	59
Damper-to-bracket (F-250, F-350 4x4)	26
Damper-to-drag link	67
Drag link-to-pitman arm nut	148
Inner tie-rod end nuts	85
Outer tie-rod end nuts	85
Track bar bracket-to-frame nuts & bolts	129
Track bar-to-track bar bracket bolt	406
Track bar-to-axle nut	185
Radius arm to axle bolts	222
Radius arm to bracket nut	222

NOTE: ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

4. Measure wheel alignment. Verify that Front Caster, Camber & Total Toe is within specification (preferred specification is .1 degree toe in). Adjust to specification as required. Refer to the Workshop Manual, Section 2004-00-1 for complete alignment specifications.

EVALUATION OF VEHICLE PRIOR TO REPAIR

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the severity of wheel oscillation.
3. During the road test, evaluate and note the steering wheel return-ability.

a. Turn steering wheel full lock to lock to confirm no binding.
b. Locate center, and then 45 degrees either side of center on the steering wheel.
c. Driving vehicle at 35 MPH (56 Km/h), on a dry and flat road surface, turn the wheel 45 degrees and release. Note the approximate angle that the steering wheel returns to BEFORE CLEAR VISION. Perform and record the angle for both left and right. It is normal if the angle differs slightly from left to right.

STEERING GEAR MESH LOAD ADJUSTMENT

1. Insert hex wrench into steering gear mesh load adjuster screw.
2. While holding the mesh load adjuster screw tight, back off lock nuts two full turns to allow free movement of the adjuster screw.
3. Carefully tighten adjuster screw until a slight increase in resistance is felt, then back off approximately 1/16th of a turn.
4. Hold the adjuster screw in place and tighten lock nut. Do not allow the adjustment screw to turn while tightening the locking nut down.
5. Road test vehicle and evaluate for improvement in steering wheel oscillations.
    a. Confirm that there is no objectionable increase in steering efforts, especially at low speeds.
    b. Verify that steering wheel return-ability is approximately the same as it was during the original evaluation (within 5 degrees).
    c. Turn steering wheel full lock to lock to confirm no binding.
6. Park the vehicle to let it cool down. Road test cold to confirm acceptable parking efforts and return-ability in cold condition. Repeat the mesh load adjustment if needed.

REDUCE FRONT CASTER

- Note the current front caster
- Use alignment adjustment bushings to Reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit.
- If caster setting is at exact minimum, camber may be below the specification limit.
- Use Alignment adjustment bushings:
    - 4x4: 5C3Z-3B440-DDD (0.75 Degree bushing) OR 5C3Z-3B440-EEE (1.0 degree bushing)
    - 4x2: 5C3Z-3B440-D (0.75 Degree bushing) OR 5C3Z-3B440-E (1.0 degree bushing)
- Maintain the current front camber, cross-camber & cross-caster settings as close as you possibly can.
- If the caster to the exact minimum he finds that the camber is out of spec.
- Adding weight to the back raises the front of the vehicle, which in effect increases caster.

NOTE: CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE ON THIS TRUCK.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 only

NOTE: THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE: FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE 2005 OR 2006 SUPER DUTY F-SERIES WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

From: Hodges, Cynthia (C.P.)
Sent: Tuesday, March 01, 2005 7:55 AM
To: O'Connor, Tammy (T.A.)
Cc: Annadi, Hari (H.); Hale, Curt (B.C.)
Subject: RE: RV Mesh Load

Would you, by chance, have a VIN of at least one vehicle that was repaired via the TSB?

Cynthia Protas Hodges
F Series Super Duty Forward Model Lower Steering Supervisor
Pickup Truck and Commercial Chassis Engineering
Ford Motor Company

1BD36 Product Development Center
[redacted]
Email:chodges1@ford.com

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Monday, February 28, 2005 2:36 PM
To: Hodges, Cynthia (C.P.)
Cc: Annadi, Hari (H.); Hale, Curt (B.C.)
Subject: RE: RV Mesh Load

It is binned to 3504 -- the steering gear. Attached is a copy of the TSB.

<< File: tsb04-23-08.pdf >>

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thurs,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

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-----Original Message-----
From: Hodges, Cynthia (C.P.)
Sent: Monday, February 28, 2005 2:29 PM
To: O'Connor, Tammy (T.A.)
Cc: Annadi, Hari (H.); Hale, Curt (B.C.)
Subject: RE: RV Mesh Load

Curt -

Can you answer my question? When a TSB repair is made, it gets binned to a causal part. Which one would be used for this TSB?

Cynthia Protas Hodges
F Series Super Duty Forward Model Lower Steering Supervisor
Pickup Truck and Commercial Chassis Engineering
Ford Motor Company

1BD36 Product Development Center
phone/fax: (313) 32-29959
pager: (313) 795-6590 or textpage chodges1 <<http://vm5.dearborn.ford.com/cgi/textpage?PAGETO=CHODGES1>>
Email:chodges1@ford.com

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Monday, February 28, 2005 1:19 PM
To: Hodges, Cynthia (C.P.)
Cc: Annadi, Hari (H.); Hale, Curt (B.C.)
Subject: RE: RV Mesh Load

Cindy:

I'm sorry, we use CQIS in FCSD.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thurs,Fri)
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-----Original Message-----
From: Hodges, Cynthia (C.P.)
Sent: Monday, February 28, 2005 1:10 PM
To: O'Connor, Tammy (T.A.)
Cc: Annadi, Hari (H.)
Subject: FW: RV Mesh Load

Tammy -

If I want to find the warranty attributed to the TSB we wrote for wheel fight, which includes vehicles built from Job 1 until Oct. 7, where would it be binned for the steering gear meshload portion?

Cynthia Protas Hodges
F Series Super Duty Forward Model Lower Steering Supervisor
Pickup Truck and Commercial Chassis Engineering
Ford Motor Company

1BD36 Product Development Center
phone/fax: (313) 32-29959
pager: (313) 795-6590 or textpage chodges1 <<<http://vm5.dearborn.ford.com/cgi/textpage?PAGETO=CHODGES1>>>
Email:chodges1@ford.com

-----Original Message-----
From: Annadi, Hari (H.)
Sent: Monday, February 28, 2005 7:36 AM
To: Hodges, Cynthia (C.P.)
Subject: RV Mesh Load

Cindy - In an effort to put together the 6 Panel for this Thursday design review on the subject topic, we will need the warranty info. Can you pl let me know the details of the TSB so I do a warranty run. Also we need to talk to Kevin to better understand how they set mesh load and measure it. I will out of the office tomorrow for a medical procedure and will be back Wednesday.

Hari Annadi

PCPC Chassis

6 Sigma Black Belt Candidate
Building # PDC 2F-B41
Phone: (313) 20-64685
Page: 3137968790@ <<www.airtouchpaging.com>>
Ford Motor Company, Dearborn, Michigan
email: hannadi@ford.com <<<mailto:hannadi@ford.com>>>

From: Brandt, Andrew (D.)
Sent: Tuesday, September 13, 2005 11:29 AM
To: O'Connor, Tammy (T.A.)
Subject: RE: Shudder After Bumps

Thanks Tammy was just trying to give you a heads up but knew you were on top of it. You can call me Andy.

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Tuesday, September 13, 2005 11:24 AM
To: Brandt, Andrew (D.)
Cc: Hale, Curt (B.C.); King, Tom (T.F.)
Subject: RE: Shudder After Bumps

Andrew:

I have spoken with Tom King and Alex Snider about Ron's concern (the trucks Ron is referring to are up in Canada) with this issue. We currently have a revised draft that we are circulating for feedback from the FQEs/FSEs.

There are no trucks we have not been able to resolve this issue on, when the revised TSB is followed.

If there are, then someone needs to contact me.

I left a voice mail message for Ron.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thurs,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

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-----Original Message-----
From: Brandt, Andrew (D.)
Sent: Tuesday, September 13, 2005 11:13 AM
To: O'Connor, Tammy (T.A.)
Subject: Shudder After Bumps

Tammy, I was just sorting an issue with Ron Canal in the Southwest Region and he mentioned he is having trouble with F250 SD after going over bumps. He said all other vehicles do fine with a TSB fix but not the 250's. Does this sound familiar?

Andrew Brandt
Ford Customer Service Division

Product Concern Engineer - E Series
Service Engineering Office
416 Diagnostic Service Center II (DSCII)
Phone/Fax: 313-323-2381

From: ERIC & MICHELLE SNYDER [snyderfam3@sbcglobal.net]
Sent: Thursday, November 15, 2007 7:23 PM
To: OConnor, Tammy (T.A.)
Subject: Re: Specs Case for TSB 07-10-10

tammy,
vin# 1ftwx31p65e[redacted] the tsb does not mention the bracket so thats probably where the problem lies. we ordered the f250/350 4x2 and 4x4 dampers and neither would work, but maybe the will with the bracket thanks.

"OConnor, Tammy (T.A.)" <toconnor@ford.com> wrote:

> Eric:
> For the SPECs case that you recently submitted - Additional information is required.
> Different part numbers apply to different vehicle applications.
> A bracket is required to attach the damper (for all 250/350 4x4 applications only).
> I need a vin before I can respond accurately.
> I also need the part number that tech advises will not fit?
>
> *Tammy A. O'Connor*
> **Product Concern Engineer**
> **FCSD Service Engineering Operations**
> **Super Duty F-Series**
> **Body / Chassis / Electrical**
> 248/814-8698 Telecommuting Office (Mon,Tue,Fri AM)
> 313/322-3824 DSC I, Cube 149 (Wednesday,Thursday)

From: Hayduk, Mark (M.S.)
Sent: Wednesday, August 02, 2006 12:05 PM
To: Hale, Curt (B.C.)
Cc: O'Connor, Tammy (T.A.); Hayduk, Mark (M.S.)
Subject: RE: Steering oscillation after hitting bumps

Thanks for the info.

The dealer checked caster and found that it was out. They adjusted the caster per the TSB and found that it got rid of 90% of the shake when hitting bumps. They said the tire press. is good - matches VIN label.

Cust. is OK with fix.

Thanks.

Mark Hayduk
Field Quality Engineer - Pittsburgh, PA
Service Engineering Operations - FCSD
Ph: 724-941-6670
[redacted]
Fax: 724-941-6670

From: Hale, Curt (B.C.)
Sent: Thursday, July 13, 2006 11:23 AM
To: Hayduk, Mark (M.S.)
Cc: O'Connor, Tammy (T.A.)
Subject: RE: Steering oscillation after hitting bumps

The TSB is all there is and has been very successful. Tire pressure is the most critical part!

-----Original Message-----

From: Hayduk, Mark (M.S.)
Sent: Thu 7/13/2006 10:29 AM
To: Hale, Curt (B.C.)
Cc: Hayduk, Mark (M.S.)
Subject: Steering oscillation after hitting bumps

Curt, I have a dealer that is working on an 05 F250 that I drove that has steering wheel oscillations after hitting bumps. Is there any other "fixes" besides TSB 05-22-01. They are doing the align. today and I wanted to check to make sure there wasn't anything else to do before we give it back to the cust.

Thanks.

PS: Hope all has been well with you. Haven't talked to you in a while.

Mark Hayduk
Field Quality Engineer - Pittsburgh, PA
Service Engineering Operations - FCSD
Ph: 724-941-6670
[redacted]
Fax: 724-941-6670

From: Avery, Kevin (K.)
Sent: Monday, September 25, 2006 12:46 PM
To: O'Connor, Tammy (T.A.)
Subject: RE: steering shimmy

Current readings:

LF
camber = 0.2
caster = 1.6
toe = 0.02

RF
camber = -0.3
caster = 1.3
toe = 0.05

0.03 thrust angle

installed 1 degree and was out of spec both camber and caster
installed 1/2 shim for current results shown above

Kevin Avery
Field Service Engineer, Northeast Region
(774) 285-9143
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From: O'Connor, Tammy (T.A.)
Sent: Monday, September 25, 2006 12:41 PM
To: Avery, Kevin (K.)
Subject: RE: steering shimmy

Please find out exactly what the caster is set at? Please let me know.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Avery, Kevin (K.)
Sent: Monday, September 25, 2006 12:41 PM
To: O'Connor, Tammy (T.A.)
Subject: RE: steering shimmy

Did that on each one - no change on any.

Kevin Avery
Field Service Engineer, Northeast Region
(774) 285-9143
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From: O'Connor, Tammy (T.A.)
Sent: Monday, September 25, 2006 12:40 PM
To: Avery, Kevin (K.)
Subject: RE: steering shimmy

Kevin -- Caster -- on many of these trucks -- CASTER set to min spec totally resolves it. I'll forward you another e-mail from Ford of Canada.

Tammy A. O'Connor
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313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Avery, Kevin (K.)
Sent: Monday, September 25, 2006 12:35 PM
To: O'Connor, Tammy (T.A.)
Subject: steering shimmy

Tammy,

I'm getting a few calls on the Super Duty steering shimmy issue where none of the usual recommendations are resolving the condition. Below is the latest which has an attorney involved but nothing has been filed as of yet. The only thing they haven't done is replace the steering box which they should do today (which typically doesn't resolve it but can). All the complaints that I get have hotline contacts and are 5.4L F-250/350's, all are also 2006

from memory. The customer below is a mechanic, the dealer principal's husband is a senior master tech and feels that there is something's wrong. I'll bring this up for the CMT as this is becoming a bigger issue.

My check list for this issue typically includes:

- Check for Pirelli tires, if vehicle is equipped with Pirelli's then swap with another manufacturer's tire
- Tire pressure
- Follow TSB 06-15-01
- Check alignment
- Check steering box
- Verify track bar integrity, trackbar balljoint for excessive play
- Check track bar torque, must be properly set to 406 ft-lbs, not just 'very tight'.
  - Must use torque multiplier
  - Do not loosen to spec, if above 406 then loosen to below spec and then tighten to spec.

Kevin Avery
Field Service Engineer, Northeast Region
(774) 285-9143
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Attachments : 0

Report# :	[redacted] NHL			**Received:**	09/15/2006
CCRG/EPRC:		**Reviewed Status:**		**Date:**	
Vehicle:	2006,F250 4X4,SUP CAB,PICKUP ,1FTSX21546E[redacted]			**Build Date:**	09/12/2005
Odometer :	417 M	**Engine:**	MOD 5.4 3V	**Calibration:**	6F714E0A
Transmission:	5R110W	**Axle:**		**A/C:**	YES
Dealer:	USA 09608 Apple Valley Ford Sales, Inc.			**Phone#:**	(978) 353-2000
City:	Lunenburg	**State:**	Massachusett	**Country :**	USA
Originator:	ERIC DELGADO				
Symptom:	3 03 3 53 CHASS.,STRG/HANDLING ,VIB./SHIMMY,OVER BUMPS				
Status:					
VFG:	V89 RIDE & HANDLING				
Additional Symptom:	SHIMMY OVER BUMPS				
Fix:N	**Causal Component :**				
Condition Code:					

Hotliner: RBAYNE2 **Phone:** 313 317-9373 **Regn Cd:** NE Northeast

Engineering: **Phone:** **TAR:**

Dlr Contact: ERIC DELGADO **Phone:** 000 000-0000 **Title Cde:** SM

Comments :

REPAIR 09/15/2006 12:42PM RICK BAYNE MSS - FCSD - TECH SVC HOTLINE
SM STATES REPEAT CUSTOMER CONCERN OF EXCESSIVE STEERING SHIMMY OVER
BUMPS, STATES TECH HAS PREVIOUSLY PERFORMED TSB 06-15-01. STATES ALSO
CHECKED AND SET ALL ALIGNMENT ANGLES, CUSTOMER HAS RETURNED WITH SAME
CONCERN. SEEKING DIRECTION.

RECOMM 09/15/2006 12:42PM RICK BAYNE MSS - FCSD - TECH SVC HOTLINE
TSB 06-15-01 ISM 06-02-019 ADVISED SM OF THE INFO WITHIN ABOVE ISM
TO AID IN DIAG AND REPAIR, FURTHER TO VERIFY PROPER TIRE INFLATION.
ALSO ADVISED TO RECHECK ALL TORQUE OF FRONT SUSPENSION COMPONENTS AS
PER TSB, WITH EMPHASIS ON TRACK BAR TORQUE. FURTHER TO ADVISED
CUSTOMER SOME SHIMMY OR OSCILLATION IS NORMAL AS PER INFO WITHIN TSB.

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TECH STATES THE CUSTOMER SAID THE VEHICLES HANDLING DID IMPROVE BUT
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TSB 06-15-1 EXCEPT DECREASE THE CASTER.TECH SAID HE WANTS TO KNOW IF
THIS WOULD BE HELPFUL TO DO.TECH SAID THE CASTER IS AT 2.5
DEGREES.SEEKING KNOWNS

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ADVISED TECH THAT DECREASING THE CASTER IS PART OF THE TSB AND SHOULD
BE DONE.ADVISED TECH THAT THE WSM MANUAL TOL. IS +/- 1.3 DEGREES.

AUDIT 09/20/2006 03:26PM EDWIN DERY MSS - FCSD - TECH SVC HOTLINE
ODOMETER 298 M CHANGED TO 417 M BY EDERY

ADD-ON 09/25/2006 08:12AM KEVIN AVERY MSS - FCSD - REG - BOSTON
DEALER CALLED ME ON 9-22-06 FOR SAME CONCERN, VEHICLE NOW HAS 547
MILES, DP STATES CUSTOMER HAS BEEN BACK EVERY DAY SINCE PURCHASING
THE TRUCK. SM STATES THEY HAVE FOLLOWED TSB, HAVE TORQUED THE TRACK
BAR WITH A TORQUE MULTIPLIER, REMOVED TRACK BAR AND CHECKED IT FOR
COMPRESSION AND BALL JOINT MOVEMENT, LOWERED CASTER SETTING

WITH NEW
PARTS, PERFORMED FULL ALIGNMENT, VERIFIED AIR PRESSURE IS AT SPEC,
TIRES ARE GENERAL, STILL HAS CONCERN, STEERING BOX HAS NOT BEEN REPLACED. ADV TO REPLACE THE STEERING BOX AND LET ME KNOW THE OUTCOME.

From: Knapp, David (D.)
Sent: Thursday, March 01, 2007 1:05 PM
To: O'Connor, Tammy (T.A.)
Subject: RE: Steering Shimmy TSB

Attachments: PBrush; Picture (Metafile)

Ok we need to change where it states in step 5

STEERING DAMPER INSPECTION/REPLACEMENT AND STEERING/SUSPENSION FASTENER

F-250/F-350 4X4 Applications:

1. Remove existing steering damper and frame attachment bracket.
2. Replace steering damper and frame mounting bracket with steering damper P/N 8C3Z-3E651-A and frame bra
3. Attach steering damper to frame bracket (with W706196-S439 bolt and W520114-S441 nut) and torque bolt to
4. Assemble bracket and shock assembly to the frame with attachment bolt retainer (W712855-S439) pointing t bracket nuts (W520114-S441) to 59 lb-ft (80 N-m).
5. Attach other end of shock to the steering drag link and torque to 66 lb-ft (90 N-m).
6. Install damper bolt cap (W711670-S300) to assure a friendly surface for the battery cable in case of casual co

NOTE: CHECK SURROUNDING ENVIRONMENT TO THE FRAME BRACKET AND DAMPER ASSEM BATTERY CABLES ARE NOT CONTACTING BRACKET/BOLTS/DAMPER. ALSO, VERIFY TI COOLER LINES HAVE CLEARANCE TO THE DAMPER DUST SHIELD.

Here is where we were told that the part number was not correct

David Knapp
Truck Group Service Engineer
F-Superduty/Excursion SME
Ford Technical Hotline
DKnapp7@ford.com
313-317-6316

From: O'Connor, Tammy (T.A.)
Sent: Thursday, March 01, 2007 12:58 PM
To: Knapp, David (D.)
Subject: Steering Shimmy TSB

Damper Replacement:

-C = 250/350 4x4
-D = 450/550 All
-B = 250/350 4x2

Another e-mail will follow to address the bolt cap.

Tammy A. O'Connor
Product Concern Engineer
FCSD Service Engineering Operations
Super Duty F-Series
Body / Chassis / Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Klump, Robert (R.F.)
Sent: Friday, March 02, 2007 8:10 AM
To: O'Connor, Tammy (T.A.)
Subject: RE: Steering Shimmy TSB

Tammy,

Done. I think this is perfect example why a TSB should not include part numbers in the text.

Regards,
Bob Klump
Global Technical Communications - FCSD
Technical Editor – TSB
(313.390.3489

From: O'Connor, Tammy (T.A.)
Sent: Friday, March 02, 2007 7:56 AM
To: Klump, Robert (R.F.)
Cc: Knapp, David (D.)
Subject: FW: Steering Shimmy TSB

Bob:

We found an error in TSB 07-15-07 -- in the text the part number should be -C (like in the parts request) -- can you change that for us?

Tammy A. O'Connor
Product Concern Engineer
FCSD Service Engineering Operations
Super Duty F-Series
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
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<< OLE Object: PBrush >>

<< OLE Object: Picture (Metafile) >>

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From: Avery, Kevin (K.)
Sent: Monday, September 25, 2006 12:48 PM
To: O'Connor, Tammy (T.A.)
Subject: RE: steering shimmy

1FTSX21546E[redacted]

it's in the CQIS report at the bottom :)

Kevin Avery
Field Service Engineer, Northeast Region
(774) 285-9143
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From: O'Connor, Tammy (T.A.)
Sent: Monday, September 25, 2006 12:47 PM
To: Avery, Kevin (K.)
Subject: RE: steering shimmy

What is the vin number of the truck below?

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Avery, Kevin (K.)
Sent: Monday, September 25, 2006 12:46 PM
To: O'Connor, Tammy (T.A.)
Subject: RE: steering shimmy

Current readings:

LF

camber = 0.2
caster = 1.6
toe = 0.02

RF
camber = -0.3
caster = 1.3
toe = 0.05

0.03 thrust angle

installed 1 degree and was out of spec both camber and caster
installed 1/2 shim for current results shown above

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- Do not loosen to spec, if above 406 then loosen to below spec and then tighten to spec.

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Attachments : 0

Report# :	[redacted] NHL			**Received:**	09/15/2006
CCRG/EPRC:		**Reviewed Status:**		**Date:**	
Vehicle:	2006,F250 4X4,SUP CAB,PICKUP ,1FTSX21546E[redacted]			**Build Date:**	09/12/2005
Odometer :	417 M	**Engine:**	MOD 5.4 3V	**Calibration:**	6F714E0A
Transmission:	5R110W	**Axle:**		**A/C:**	YES
Dealer:	USA 09608 Apple Valley Ford Sales, Inc.			**Phone#:**	(978) 353-2000
City:	Lunenburg	**State:**	Massachusett	**Country :**	USA
Originator:	ERIC DELGADO				
Symptom:	3 03 3 53 CHASS.,STRG/HANDLING ,VIB./SHIMMY,OVER BUMPS				
Status:					
VFG:	V89 RIDE & HANDLING				
Additional Symptom:	SHIMMY OVER BUMPS				
Fix:N	**Causal Component :**				
Condition Code:					

Hotliner: RBAYNE2 **Phone:** 313 317-9373 **Regn Cd:** NE Northeast

Engineering: **Phone:** **TAR:**

Dlr Contact: ERIC DELGADO **Phone:** 000 000-0000 **Title Cde:** SM

Comments :

REPAIR 09/15/2006 12:42PM RICK BAYNE MSS - FCSD - TECH SVC HOTLINE
SM STATES REPEAT CUSTOMER CONCERN OF EXCESSIVE STEERING SHIMMY OVER
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ODOMETER 298 M CHANGED TO 417 M BY EDERY

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DEALER CALLED ME ON 9-22-06 FOR SAME CONCERN, VEHICLE NOW HAS 547

MILES, DP STATES CUSTOMER HAS BEEN BACK EVERY DAY SINCE PURCHASING

THE TRUCK. SM STATES THEY HAVE FOLLOWED TSB, HAVE TORQUED THE TRACK

BAR WITH A TORQUE MULTIPLIER, REMOVED TRACK BAR AND CHECKED IT FOR

COMPRESSION AND BALL JOINT MOVEMENT, LOWERED CASTER SETTING WITH NEW

PARTS, PERFORMED FULL ALIGNMENT, VERIFIED AIR PRESSURE IS AT SPEC,

TIRES ARE GENERAL, STILL HAS CONCERN, STEERING BOX HAS NOT BEEN

REPLACED. ADV TO REPLACE THE STEERING BOX AND LET ME KNOW THE

OUTCOME.

From: Hasselbring, D Blake (D.B.)
Sent: Wednesday, October 11, 2006 4:55 PM
To: O'Connor, Tammy (T.A.)
Subject: RE: Super Duty Hop - CQIS reports

Thanks Tammy! This will help.

D. Blake Hasselbring
Truck Vehicle Dynamics
Road NVH / VVWD
Dearborn Office: EVB 2E-M02
[redacted]
Email: dhasselb@ford.com

From: O'Connor, Tammy (T.A.)
Sent: Wednesday, October 11, 2006 3:24 PM
To: Hasselbring, D Blake (D.B.); Repasky, Steve (S.)
Cc: Knapp, David (D.); Hale, Curt (B.C.); Johnston, Steven (S.J.)
Subject: Super Duty Hop - CQIS reports

<< File: CQIS Reports [redacted] Rear Hops Bounces.xls >>

Steve/Blake:

Attached is an excel spread sheet with the CQIS reports that mention a hop and/or Bounce. When you read through the reports, many of them sound like the steering wheel osciallation issue.

I wanted to pass these along in advance of the Friday meeting.

Tammy A. O'Connor
Product Concern Engineer
FCSD Service Engineering Operations
Super Duty F-Series
Body / Chassis / Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Reyes, Pete (P.D.)
Sent: Tuesday, May 30, 2006 1:50 PM
To: Pierce, Bruce (B.F.); Frantzeskakis, Petros (Peter.); Webber, Robert (R.J.); Mikolaiczik, Mark (M.A.)
Cc: Sims, Michael (M.A.); Hatt, Jeffrey (J.M.); MacLachlan, Ian (I.)
Subject: RE: Super Duty Truck Concern

Thanks Bruce.

Pete Reyes
Super Duty Chief Engineer
313-390-4966/ [redacted]
preyes@ford.com

From: Pierce, Bruce (B.F.)
Sent: Tuesday, May 30, 2006 1:46 PM
To: Frantzeskakis, Petros (Peter.); Webber, Robert (R.J.); Mikolaiczik, Mark (M.A.)
Cc: Reyes, Pete (P.D.); Sims, Michael (M.A.); Hatt, Jeffrey (J.M.); MacLachlan, Ian (I.)
Subject: RE: Super Duty Truck Concern

Myself and Ian MacLachlan spoke w/Nicholas Nicholas (DTP) on Friday May 26th, and with Mark Rosenbaum (Wyoming customer) on Saturday, May 27th.

Description Mark provided is of a front leaf spring fracture near the clamp group at 55,000 miles, and again at 70,000 miles. Mark was going to check his scrap pile and hopefully provide parts for analysis (last repair occurred April, 2006). Vehicle in question is a 2004MY F350 SRW 4x4 pickup.

Mark also provided contact information of several of his friends that experienced a similar issue. We plan to follow-up on those with phone calls as well.

We're starting a review of warranty and DV data to see what we can learn in the meantime. Please stay tuned while we investigate. Please call if you would like to discuss in the meantime.

Thanks

Bruce F. Pierce
Leaf Spring Suspensions - D&R Supervisor
North America Chassis Suspension
PDC 2B-A58 MD 127
ph/fax 313-32-21206 [redacted]
txt page BPIERCE bpierce ‹ ‹http://vm5.dearborn.ford.com/cgi/textpage?PAGETO=bpierce››

From: Frantzeskakis, Petros (Peter.)
Sent: Tuesday, May 30, 2006 7:01 AM
To: Webber, Robert (R.J.); Mikolaiczik, Mark (M.A.)
Cc: Pierce, Bruce (B.F.); Reyes, Pete (P.D.)
Subject: FW: Super Duty Truck Concern

Mark, I plan to go through the appropirate channels to get in contact w/Mark Rosenbaum.
Thanks.

From: Nicholas, Nicholas (N.G.)

Sent: Friday, May 26, 2006 9:22 AM
To: Frantzeskakis, Petros (Peter.)
Subject: FW: Super Duty Truck Concern

-----Original Message-----
From: Nicholas, Nicholas (N.G.)
Sent: Wednesday, May 24, 2006 11:17 PM
To: Mikolaiczik, Mark (M.A.)
Cc: Webber, Robert (R.J.)
Subject: RE: Super Duty Truck Concern

Yes. I talked to Mark Rosenbaum of Casper Wyoming this morning and he agreed to talk with you about this. He can also provide you with contacts of other ranchers I his area. I will try and get other ranchers and farmers from other states as soon as I can. Mark's number is: 307.723-1772 and the best time to reach him is between 8:30 AM and 9:30 AM EST.

Nicholas G. Nicholas
#1 Shift Electrical Trade Leader
Dearborn Truck Plant
Ford Motor Co. Inc.
([redacted]

-----Original Message-----
From: Mikolaiczik, Mark (M.A.)
Sent: Wednesday, May 24, 2006 9:55 AM
To: Nicholas, Nicholas (N.G.)
Cc: Webber, Robert (R.J.)
Subject: FW: Super Duty Truck Concern

Nicholas, Can you provide us with the phone # of the Rancher who is having the issue? thanks

Mark Mikolaiczik
Dearborn Truck PVT Manager
Office: (313) 845-1408
[redacted]

-----Original Message-----
From: Drake, Lisa (M.)
Sent: Wednesday, May 24, 2006 9:53 AM
To: Hatt, Jeffrey (J.M.)
Cc: Mikolaiczik, Mark (M.A.)
Subject: FW: Super Duty Truck Concern

Jeff -- info in case Pete didn't forward to you yet.

Mark -- we really need to talk directly to the customer, not the electrician. We don't have leaf springs on the front end of the 2005 Super Duty, so I'm sure everyone else is just as confused as I am. Can you set up the call with the customer ilo the electrician?

From: Mikolaiczik, Mark (M.A.)
Sent: Wednesday, May 24, 2006 6:45 AM
To: Drake, Lisa (M.); Reyes, Pete (P.D.)
Subject: FW: Super Duty Truck Concern

Lisa/Pete, Here is more information from the concerned DTP employee regarding Superduty front end field issues. I hope this helps.

Mark Mikolaiczik
Dearborn Truck PVT Manager
Office: (313) 845-1408
[redacted]

-----Original Message-----
From: Nicholas, Nicholas (N.G.)
Sent: Tuesday, May 23, 2006 11:38 PM
To: Mikolaiczik, Mark (M.A.); Hatt, Jeffrey (J.M.)
Cc: Elia, Paul (P.); Sims, Michael (M.A.); Webber, Robert (R.J.)
Subject: RE: Super Duty Truck Concern

Today I was able to get the details of the problem. Bare with me, I don't have any experience with the super duty truck personally and I an not all that familiar with the front end design of an F350 or F550. From what I was told today these trucks have leaf springs on the front end as well as the rear. It is the front leaf springs that fail. One of the ranchers actually told be a fix for the problem. Seems that he replaced the front leaf springs on his 2005 F550 and added an extra leaf to each. Since doing this he says that the springs have held up nicely. He added that the power train of the Ford Super Duty Trucks are the reason he stayed with Ford. Perhaps we need to off a "Farm and Ranch" special addition of the F550 and F350 with a more robust spring, (adding an extra leaf). This might be great marketing as well.

Thank you,
Nicholas G. Nicholas
#1 Shift Electrical Trade Leader
Dearborn Truck Plant
Ford Motor Co. Inc.
([redacted]

-----Original Message-----
From: Mikolaiczik, Mark (M.A.)
Sent: Monday, May 22, 2006 12:51 PM
To: Nicholas, Nicholas (N.G.); Hatt, Jeffrey (J.M.)
Cc: Elia, Paul (P.); Sims, Michael (M.A.); Webber, Robert (R.J.)
Subject: FW: Super Duty Truck Concern

Jeff, Mr. Nicholas works midnights so your best bet is to establish a conference call time with him via email.

Nicholas, Is there any way you could have your friends from out west send us a few photo's of the area where the issues are occurring? Please identify what time of the day you would be available for a conference call. Thanks for letting us know about the issue.

Mark Mikolaiczik
Dearborn Truck PVT Manager
Office: (313) 845-1408
[redacted]

-----Original Message-----
From: Ufford, Donald (D.A.)
Sent: Monday, May 22, 2006 11:31 AM
To: Mikolaiczik, Mark (M.A.); Farrell, Jerome (J.H.)
Subject: FW: Super Duty Truck Concern

Mark - you may want to check with this gentleman and confirm that his friends know that we offer 8' boxes in both regular cabs and super-cabs and that no one in the F150 segment offers a longer box than Ford (unless something has changed).

From: Reyes, Pete (P.D.)
Sent: Monday, May 22, 2006 7:56 AM
To: Hatt, Jeffrey (J.M.)
Cc: Musselman, Thomas (T.A.); Frantzeskakis, Petros (Peter.); Ufford, Donald (D.A.)
Subject: FW: Super Duty Truck Concern

Jeff, Please have one of your guys contact this electritian and see what he means by front end fell off. Also, see if we can't get a contact for one of the switchers to Dodge. I don't understand the issue. Let me know what you find.

Thank you,

Pete Reyes
Super Duty Chief Engineer
313-390-4966/ [redacted]
preyes@ford.com

From: Webber, Robert (R.J.)
Sent: Friday, May 19, 2006 9:00 AM
To: Reyes, Pete (P.D.)
Cc: Mikolaiczik, Mark (M.A.); Nicholas, Nicholas (N.G.)
Subject: FW: Super Duty Truck Concern

Pete,

I hope this note finds you well. I received this note the other day from one of my Electricians. Nick is a fantastic electrician and person and like him, I want to help. I really had no idea who to send this to and Mark suggested that I forward to yourself. I am not sure if you are aware of the concern. I was not. But, it does not sound good.
If you are not he right person, can you please let me know who might be or feel free to forward on yourself. If myself or Nick can be of any assistance, please let me know. Nick is on midnights. But, I am sure he is more that willing to assist in helping with this issue. Thanks again.

Rob Webber
Plant Manager
Dearborn Truck Plant
3001 Miller Road
Dearborn, Michigan 48120-1496
Phone 1-313-845-2480
Fax 1-313-845-1773

From: Nicholas, Nicholas (N.G.)
Sent: Thursday, May 18, 2006 2:19 AM
To: Webber, Robert (R.J.); Middlemiss, Bruce (B.)
Subject: Super Duty Truck Concern

Mr. Webber and Mr. Middlemiss,

While I know that we don't build the super duty trucks, a problem with them has come to my attention and I don't know who the appropriate person to send this information to. Bruce as you know, I have hunting properties in several western states. In my recent talks with the local ranchers in Wyoming, Montana and Texas I have hear the same story over and over again. They are switching from Ford Super Duty Trucks (F350 - F550 models) to Dodge Trucks. When I asked why they all say the same thing. The F-Series Super Trucks are the Trucks they love the most but the front ends of these trucks are not hefty enough for the off road hauling of feed and seed, and other Farm and ranch loads. All of the ranchers I have talked with say that they have had to replace the front ends on their ranch and farm Ford Super Duty Trucks annually and say that the Dodge Trucks hold out. They say that the F- Series front springs don't take the off road loads well. I observed this personally when a supplyer, pulling a trailer with a 5000 lbs shipping box to my Wyoming property, lost the front end of his F550 dual wheeled F550 during a delivery to me last summer. These are the heart and sole of the Super Duty Truck market. These states are in the heart of Ford Truck Country. This is a market I don't think that the company can afford to lose.

Additionally in talking with local contractors, many have expressed that they can't buy Ford F150's because of the lack of an eight foot box in the fleet. I guess I cant see losing these markets either, as most contractors that buy more than on truck buy them all from the same company. Can you voice these concerns to the appropriate channels.

Thank you,
Nicholas G. Nicholas
#1 Shift Electrical Trade Leader
Dearborn Truck Plant

Ford Motor Co. Inc.
([redacted]

From: Repasky, Steve (S.)
Sent: Wednesday, November 02, 2005 3:12 PM
To: O'Connor, Tammy (T.A.)
Subject: RE: Super Duty wheel fight question

Thanks...

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Wednesday, November 02, 2005 1:30 PM
To: Repasky, Steve (S.)
Subject: RE: Super Duty wheel fight question

I mailed the report to you separately.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Wed,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Thursday)

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-----Original Message-----
From: Repasky, Steve (S.)
Sent: Wednesday, November 02, 2005 8:53 AM
To: O'Connor, Tammy (T.A.)
Subject: FW: Super Duty wheel fight question

Tammy - How do I get the report noted? Is there a FCSD website? Thanks for any help.

-----Original Message-----
From: Murray, Scott (D.)
Sent: Wednesday, November 02, 2005 6:29 AM
To: Gunlock, George (G.W.); Frantzeskakis, Petros (P.); Hasselbring, D Blake (D.B.); Repasky, Steve (S.)
Cc: Murray, Scott (D.)
Subject: RE: Super Duty wheel fight question

Gentlemen,

There is a CQIS report number with all the vehicle information. The number is [redacted] The report states there is a wander issue after hitting a bump which is incorrect after talking to the service manager yesterday. He states intermittently, the vehicle will shake violently in the front. The customer has to pull off to the side of the road to stop the shake. The dealer replaced all 4 shocks on the steering damper. They performed the mesh load on the gear box according to TSB 05-22-1. Currently they are going to try changing the caster according to the TSB.

Any assistance or information on this issue is much appreciated. My cell number is 313-598-4698.

Scott D. Murray
Field Service Engineer
Detroit Region FCSD, Zones C1 and C2
Phone: (313) 598-4698

Email: smurray8@ford.com

-----Original Message-----
From: Gunlock, George (G.W.)
Sent: Tuesday, November 01, 2005 12:37 PM
To: Frantzeskakis, Petros (P.); Hasselbring, D Blake (D.B.); Repasky, Steve (S.)
Cc: Murray, Scott (D.)
Subject: Super Duty wheel fight question

Peter, et al,
We have gotten a couple of leads on our request to find Super Duty trucks with tire and wheel vibration, so that is progressing nicely, but.....

Today I got a call from Scott Murray, who is an FSE for the Detroit region. His description of the issue sounds just like wheel fight, so I told him I would try to reach someone who is more familiar with that issue. He said it is an intermittent shake with the steering that only happens occasionally on a some roads. He also said that it is hard to recreate the problem to show the dealer what is wrong. Does that fit the description of wheel fight? Can we offer him some assistance ?

Regards.....George Gunlock
313-32**3-8987**, [redacted]
ggunlock@ford.com, B5-3D062

From: Meier, Kenneth (K.W.)
Sent: Tuesday, December 13, 2005 2:07 PM
To: Evans, Jane (J.S.)
Cc: O'Connor, Tammy (T.A.)
Subject: RE: Two fleets - Steering oscillation concerns on F250s

Jane,

Just got back off the phone with Sherry at Mooney Ford. The technician failed to follow the TSB to its fullest detailed. I baiscally told Sherry because they failed to follow the direction of the TSB, and short cutting it, we now have a dissatisfied customer. I informed here it is paramount that we get the customer back in, and follow the TSB in its entirety completely. Another fine case of giving a dealership the tools they need to do the job, and they fail to follow the rules of the game. Extremly frustrating. So Sherry told me she would call the customer and get them back in.

Ken Meier
Commercial Vehicle Operations
Commercial Service Manager
16800 Executive Pl. Dr.
Dearborn, MI 48126-4207
Phone: 313-317-1867 Fax: 313-248-3481

-----Original Message-----
From: Evans, Jane (J.S.)
Sent: Tuesday, December 13, 2005 1:42 PM
To: Meier, Kenneth (K.W.)
Subject: RE: Two fleets - Steering oscillation concerns on F250s

Yes, I also noticed the TSB was detailed, especially in terms of setting the caster. So I do appreciate your taking the time to check over their work.

-----Original Message-----
From: Meier, Kenneth (K.W.)
Sent: Tuesday, December 13, 2005 11:53 AM
To: Evans, Jane (J.S.)
Cc: O'Connor, Tammy (T.A.)
Subject: RE: Two fleets - Steering oscillation concerns on F250s

Jane,

The repair is not listed in AWS for 12/05/05. This is a very extensive TSB and very detailed to follow. Just got off the phone with Sherry. She is faxing a copy of the repair order. We need the customer to bring the vehicle back into the dealership again. I will review and advise. I have also asked here to speak with the technician that did the repair and reveiw the process he followed when performing the TSB. They stated the steering gear was leaking and therefore replaced it and did the TSB. So I need to see what details they followed when doing the TSB.

Ken Meier
Commercial Vehicle Operations

Commercial Service Manager
16800 Executive Pl. Dr.
Dearborn, MI 48126-4207
Phone: 313-317-1867 Fax: 313-248-3481

-----Original Message-----
From: Evans, Jane (J.S.)
Sent: Tuesday, December 13, 2005 12:17 PM
To: Meier, Kenneth (K.W.)
Cc: Studzinski, Robert (R.J.)
Subject: Two fleets - Steering oscillation concerns on F250s

Ken: I am currently dealing with two fleets on the above concern, Growmark and Oxy Chem (below). In both cases, I left it to the fleet to get their vehicles to dealers to have TSB 05-22-1 performed. I have the first feedback from Growmark and it concerns me. They took vehicle 1FTSX21545E[redacted] to Mooney Motors to have the TSB done on 12/5. The driver is now reporting back that the vehcle is not fixed. My contact at Mooney is Sherry. Would you mind reviewing the repair order to make sure they followed the TSB repair procedures? Her phone is [redacted] I am also attaching the list of affected vehicles as reported by Oxy Chem. Please keep this on your radar screen in case this TSB does not pan out. Thanks.

-----Original Message-----
From: Chuck_Eaton@oxy.com [mailto:Chuck_Eaton@oxy.com]
Sent: Wednesday, December 07, 2005 3:53 PM
To: Eddie_X_Gonzales@oxy.com; Larry_Barnes@oxy.com; Charlie_Evans@oxy.com; Rynn_Peeler@oxy.com; David_Janssen@oxy.com; Larry_Wayland@oxy.com; Keith_Brown@oxy.com; bfabian@wheels.com; Evans, Jane (J.S.)
Subject: Teleconference on 12/5 to discuss problem with F250

Thank you all for participating in our teleconference. I think we have a good plan to address this problem we are having.

Charlie, I know you weren't able to listen in, but we need your help on this. To recap, Ford has issued a technical service bulletin which we thinks fixes this problem (TSB 05-22-1 - Steerring Wheel Oscillation). I have a copy of the bulletin if anyone needs one. Jane Evans, Ford's Commerical Field Manager - Chicago Region would like you to:

- Identifiy two vehicles in your area that need this repair.
- Take them to your local Ford dealer (Carlsbad ??) for your repair. Call Jane at 708-288-5110 and give her the vin nos.of the trucks and the name of the dealership. She will contact them and make sure they repair the trucks in accordance with the TSB.
- You need to have the drivers report back to you soon after the repair. If the problem is fixed, we will have the other trucks on our list checked for this too. If the trucks are still under warranty, this will be covered. If the trucks are out of warranty, we need to contact Jane and see if we can get some assistance on the repair cost.

If if missed anything, please let me know.

Thanks

Chuck Eaton
chuck_eaton@oxy.com
806-229-9776 - office
[redacted]

From: Nielsen, Joel (.)
Sent: Tuesday, February 27, 2007 11:47 AM
To: Valicevic, David (D.M.); 'Brigger, Eric'
Cc: Reusser, Kevin (K.R.); Hart, Jeff (J.E.)
Subject: RE: Universal Compression - F-Super Duty Front End Vibration

Eric,

Ford has a revised TSB (Technical Service Bulletin) that is forthcoming shortly that will be published to dealers and will be applicable to vehicles that exhibit the concern. The revision includes new technician work instructions and a new, revised steering dampener and bracket.

Once it is published, you can begin scheduling some of the affected trucks at Ford dealers. Please let me know the specific size, load and brand of the tire that you have found has improved the matter. Can you also e-mail the VINs and the unit numbers affected please?

Thank you,

Joel Nielsen

Commercial Area Field Manager

Ford Customer Service Division - SW Market

ph 281-788-0921 / fax 281-651-2362

jnielse1@ford.com

From: Valicevic, David (D.M.)
Sent: Monday, February 26, 2007 2:15 PM
To: 'Brigger, Eric'; Nielsen, Joel (.)
Subject: Universal Compression - F-Super Duty Front End Vibration

Joel, as discussed earlier, please provide Eric with an update to this situation and how we are/expect to be responding.

Thanks!

David Valicevic
Ford North American Fleet, Lease and
Remarketing Operations - Houston Market
E-Mail: dvalicev@ford.com
[redacted] Fax: 936-273-6611
Web Site: www.fleet.ford.com

From: Brigger, Eric [mailto:EBrigger@universalcompression.com]

Sent: Monday, February 26, 2007 9:06 AM
To: Valicevic, David (D.M.); Nielsen, Joel (.)
Subject: FW: New Truck Issues

Dave,

Please see the e-mail from [redacted] below. He is the first one that had this issue in Oak Hill, WV and it was resolved. I believe [redacted] may have been in contact with [redacted] before. We are having this issue with all of our new 2006 & 2007 F350's. Is there anything Ford can do about this? He also mentioned that he replaced the stabilizer with a factory one.

Thanks,

Thank you,
Eric

Eric Brigger
Supply Chain Project Manager
Universal Compression
4444 Brittmoore Rd.
Houston, TX 77041
W: 713.335.7484
F: 713.466.6031

From: [redacted]
Sent: Friday, February 23, 2007 1:06 PM
To: Brigger, Eric; Sucy, Matt
Subject: RE: New Truck Issues

This is a Ford issue but they will not admit any issues at the local dealers being the shimming only happens when hitting pot holes it is hard to show the dealer. We are having tires upgraded to 265-70-17 and aligning the front ends the caster/ camber has been wrong on several trucks. This has been working well.
Hope this helps.

Thank you,
[redacted]

From: [redacted]
Sent: Friday, February 23, 2007 11:05 AM
To: Brigger, Eric; Boothe, Lou; Compton, Bruce; Cross, Stephen; Hall, John; Hoeft, Mike; Johnson, Billy; Laird, Glen; LeJeune, Lyndon; Lewis, Lloyd; Montoya, Sisto; Morris, Thomas; Newmann, Jeff; Guillot, J ames; Spurgeon, Larry; Yzaguirre, Richard; Nunn, Kenneth; Crawford, T (Richard); Opat, Mitchell; Rousselle, Danny; Earley, Mike
Cc: Trammell, Bill; Slack, Joe
Subject: RE: New Truck Issues

Eric,
We currently have several F-350 trucks in Oak Hill. All newer trucks that have the coil spring front ends 2006 up all had issues with the front end shimming. We replaced the stabilizers and upgraded the 17" tires to one size bigger than factory this corrected the problem.
Please let me know if you need anymore information.

From: Brigger, Eric
Sent: Friday, February 23, 2007 10:56 AM
To: Boothe, Lou; Compton, Bruce; Cross, Stephen; Hall, John; Hoeft, Mike; Johnson, Billy; Laird, Glen; LeJeune, Lyndon; Lewis, Lloyd; Montoya, Sisto; Morris, Thomas; Newmann, Jeff; Guillot, J ames; Spurgeon, Larry; Yzaguirre, Richard; Nunn, Kenneth; Crawford, T (Richard); Opat, Mitchell; Rousselle, Danny; Owens, Joey; Earley, Mike
Cc: Trammell, Bill; Slack, Joe
Subject: New Truck Issues

All,

Bill mentioned that he is having the following issues with his new 2007 Ford F350's. I wanted to see if any other regions were experiencing these issues. If so, please send me the unit numbers you are having issues with and I will work with Knapheide and/or Ford to get these resolved ASAP.

- New vehicles shimming real bad when we the hit road bumps in the street
- Was told that the stabilizer bars are too light and the rear end is sprung incorrectly
- Appling the break only makes the vehicle want to go in to many directions.

Also, the majority of the new trucks did not arrive with mudflaps installed. For safety reasons, UCI requires mudflaps on all F350's and above. Please install mudflaps on these new vehicles if you have not already done so. Also, please install mudflaps on any older F350's and above that currently do not have them.

Please feel free to contact me with any questions.

From: O'Connor, Tammy (T.A.)
Sent: Monday, August 15, 2005 1:47 PM
To: Jay, Brian (B.L.); Mayer, Paul (P.A.); Repasky, Steve (S.)
Subject: RE: VIN# 1FTWW31P56E[redacted] Report# [redacted] Steering Wheel Oscillation 2006 F-350 20 inch wheels

Brian: It sounds like you have looked at everything that I'm aware of.

Steve Repasky and Paul Mayer are the Engineers that are aware/investigating this issue, but they are out of town looking at some trucks.

Steve/Paul:

Please see note below, can you provide any other recommendations?

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thurs,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

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-----Original Message-----
From: Jay, Brian (B.L.)
Sent: Sunday, August 14, 2005 8:28 PM
To: O'Connor, Tammy (T.A.)
Subject: VIN# 1FTWW31P5[redacted] Report# [redacted] Steering Wheel Oscillation 2006 F-350 20 inch wheels

Hi Tammy.

I have a situation with a 2006 F-350 4x4 with what I suspect might be an uncharacteristic amount of steering feedback when driving over bumpy or choppy surfaces. The VIN# is 1FTWW31P56E[redacted] Hotline Report# [redacted]

I am aware of ISM 05-07-034. We re-tightened all the components mentioned to the proper specification, we also inspected and replaced the steering dampener, set tire pressures to label. We also went through TSB 04-26-01 and followed every step except for steering wheel replacement. The dealer also road force balanced the tires, I do not have the final results in front of me but I hope to get them from the dealer before we try any other repairs. None of the steps I have mentioned so far made any difference in the concern. This vehicle has factory 20 inch wheels.

I did find that by reducing the caster to about 1 degree on the right and 1.5 degrees on the left (it was 3 and 3.5 degrees respectively from the factory) we took away most of the sharp feedback over large bumps, but we still have a smaller amount of feedback (best described as a bobble or choppiness for lack of better words) when driving over a series of smaller bumps. The actual amount of steering wheel movement is fairly minimal, but the frequency at which the steering wheel moves closely resembles a tire vibration (not likely in my opinion because the concern does not occur over smooth roads, the road surface exclusively dictates if the steering wheel moves or not.)

The customer is especially adamant about this concern because to him the steering wheel almost feels like something in the front end is loose when going over the right kind of bumps. Unfortunately you also have to consider that the higher the sticker price the more customers will express concern with operating characteristics.

I plan on finding somewhere a more precise torque wrench I can use to again adjust the steering gear mesh load, I would like to use the workshop manual procedure as I am more familiar with that vs. the steps mentioned in the TSB. The technician already tried the TSB procedure and it made no difference. I would like to at least know how many ft lbs of mesh load this gear has vs. other vehicles that do not have the concern.

The most difficult part of making a side-by-side comparison of this concern on this vehicle is that we have so far not been able to find another like 4x4 unit with the same 20" wheels this one has. The other problem is that 4x2 trucks are entirely way too common here in Texas when you are looking for a 4x4 to compare with. I have driven numerous 4x4 trucks with 17" and 18" wheels and while most of them had a certain amount of sharp wheel feedback over large bumps, none had the feedback over smaller bumps this unit has.

Do you have any other recommendations or know of any other procedures being developed? I would like to double check before we open too big of a can of worms on this truck.

Thanks for your assistance.

Brian Jay
Field Service Engineer - Southwest Region
Districts A/F/G
Office: 972-334-1806
[redacted]
bjay1@ford.com

From: O'Connor, Tammy (T.A.)
Sent: Wednesday, January 25, 2006 9:51 AM
To: Johnson, Dan (D.W.)
Cc: Hale, Curt (B.C.)
Subject: RE: az dps 1ftnf20y35e[redacted]
Attachments: Report Summary for the CQIS Report#[redacted]

Dan:

TSB 05-22-01 has to be followed exactly. When it is followed, we are able to resolve the shimmy issue on every truck. I can guarantee that if it is followed, it will resolve the issue.

The most important things in this TSB are tire pressure (typically always set too low), it must be set to door spec. Also, the steering and suspension fasteners must be torqued to spec (techs are saying they have done this, but if checked they are not). Also, the most important is the caster setting.

The spec for 4x2 Caster is 3.8 degrees +/- 1.2 degrees, the TSB states to set the caster at the lower limit of the spec, so the **caster should be set at 2.6.**

If the truck is used for towing, and the weight of the trailer would raise the caster of the truck -- this is also discussed in the TSB.

So, to summarize: Tire pressure, torque settings of suspension & steering fastners, and caster set to lower limit of spec for this truck.

If you still have a shimmy issue after someone has personally confirmed that all been done correctly, then let me know. FSEs have checked trucks where techs say they cannot repair, and every time the FSE finds TSB was not followed completely.

Please ask the tech where he got that min caster spec was 3.3 -- see workshop manual section 204-00-1 for caster spec.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
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-----Original Message-----
From: Johnson, Dan (D.W.)
Sent: Wednesday, January 25, 2006 9:08 AM

To: O'Connor, Tammy (T.A.)
Subject: RE: az dps 1ftnf20y35e[redacted]

The truck has the shimmy after going over a bump.

Teamwork Works!

Dan Johnson
Field Manager
Ford Motor Company
Commercial Vehicle Operations-California/Arizona Market

Phone: 480-964-4592

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Wednesday, January 25, 2006 7:04 AM
To: Johnson, Dan (D.W.)
Subject: RE: az dps 1ftnf20y35e[redacted]

Dan: Is there an issue with this truck? If so, what are the symptons?

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

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-----Original Message-----
From: Johnson, Dan (D.W.)
Sent: Wednesday, January 25, 2006 8:37 AM
To: O'Connor, Tammy (T.A.)
Subject: FW: az dps 1ftnf20y35e[redacted]

Tammy,

Following are the alignment spec's for the unit we spoke about-last week.

Teamwork Works!

Dan Johnson
Field Manager
Ford Motor Company

Commercial Vehicle Operations-California/Arizona Market

Phone: 480-964-4592

-----Original Message-----
From: [redacted]
Sent: Tuesday, January 24, 2006 5:44 PM
To: Johnson, Dan (D.W.)
Subject: az dps 1ftnf20y35e[redacted]

hay dan the readings are lt frt actual -0.0 camber 3.2 caster .08 toe. rt frt -0.3 camber 3.1 caster .08 toe . cross camber .3 cross caster .1 total toe .16 advise what from here? tech mestioned min caster per bullitin is 3.3 and he is at 3.2

Do you Yahoo!?
With a free 1 GB, there's more in store with Yahoo! Mail.

From: O'Connor, Tammy (T.A.)
Sent: Wednesday, January 25, 2006 9:08 AM
To: O'Connor, Tammy (T.A.)
Subject: Report Summary for the CQIS Report# [redacted]

Attachments : 0

Report# :	[redacted] NHL			**Received:**	01/17/2006
CCRG/EPRC:		**Reviewed Status:**		**Date:**	
Vehicle:	2005,F250 4X2,REG CAB,PICKUP ,1FTNF20Y35E[redacted]			**Build Date:**	02/09/2005
Odometer :	7,570 M	**Engine:**	6.8L 3V	**Calibration:**	5F718C0A
Transmission:	5R110W	**Axle:**		**A/C:**	YES
Dealer:	USA 01599 Colorado River Ford Lincoln Me			**Phone#:**	(928) 757-3131
City:	Kingman	**State:**	Arizona	**Country :**	USA

Originator: JEFF MOXLEY
Symptom: 3 03 3 53 CHASS.,STRG/HANDLING ,VIB./SHIMMY,OVER BUMPS
Status:
VFG: V89 RIDE & HANDLING
Additional Symptom: SLIGHT SHIMMY OVER BUMPS.
Fix: **Causal Component :**
Condition Code:

Hotliner: DKNAPP7 **Phone:** 313 317-6316 **Regn Cd:** CA California
Engineering: **Phone:** **TAR:**
Dlr Contact: JEFF MOXLEY **Phone:** 928 757-3131 **Title Cde:** T

Comments :

REPAIR 01/17/2006 05:18PM DAVID KNAPP MSS - FCSD - TECH SVC HOTLINE
TECH STATES THAT HE HAS A VERY SLIGHT SHIMMY OVER BUMPS TECH HAD A
SEVERE ONE AND SOME HE KNOWS IS NORMAL. TECH THINKS THIS IS NORMAL.

RECOMM 01/17/2006 05:18PM DAVID KNAPP MSS - FCSD - TECH SVC HOTLINE
ADVISE TECH THAT SOME SLIGHT SHIMMY IS NORMAL. COMPARE TO A LIKE
VEHICLE AND TSB ALSO STATES THIS. TSB 05-22-01 THIS PROCEDURE WILL

MINIMIZE STEERING WHEEL OSCILLATIONS ON IMPACTS, HOWEVER, THERE MAY BE

SOME REMAINING MINOR OSCILLATION WHICH WOULD BE CONSIDERED NORMAL

From: Repasky, Steve (S.)
Sent: Monday, November 06, 2006 12:00 PM
To: Asay, Larry (L.L.); Fass, Alan (A.L.)
Cc: Wegienka, Michael (M.J.); O'Connor, Tammy (T.A.); Choe, Mark (M.J.)
Subject: RE: Barrick Photos

Larry - Please let Duke Energy know we plan to work out of Sewell Ford dealership for any vehicle checks. I assume they will be invited to view any inspections/repairs being made to their vehicles..

-----Original Message-----
From: Repasky, Steve (S.)
Sent: Monday, November 06, 2006 10:30 AM
To: Asay, Larry (L.L.)
Cc: Wegienka, Michael (M.J.); O'Connor, Tammy (T.A.)
Subject: RE: Barrick Photos

I have a car rented. I just got off the phone with Alan and we plan to meet him at the airport. Do you know where the meeting is taking place and the timing? If vehicles are available, we might split up to have one person works with the driver/vehicle and the other to attend the meeting. Right now, Mike Wegienka and myself are planning on coming to Texas.

Also, if a call-in is available, I need to send out a notice to the interested people. Thanks..

-----Original Message-----
From: Asay, Larry (L.L.)
Sent: Monday, November 06, 2006 10:17 AM
To: Repasky, Steve (S.)
Subject: RE: Barrick Photos

I think that Duke will have everything available. We can set up a conf call for whenever you like. I will be in there Wednesday Morning and try to get thing organized for when you get there. Alan Fass (Local FSE) will also be there. Will you need picked up from the airport or will you have a car rented?

-----Original Message-----
From: Repasky, Steve (S.)
Sent: Monday, November 06, 2006 7:35 AM
To: Asay, Larry (L.L.)
Subject: RE: Barrick Photos

Thanks. Do you have any additional details on the meeting scheduled for Wednesday?

-----Original Message-----
From: Asay, Larry (L.L.)
Sent: Monday, November 06, 2006 9:29 AM
To: Repasky, Steve (S.)
Subject: FW: Barrick Photos
Importance: High

These are pictures of Barrick Gold strikes truck.

-----Original Message-----
From: Kachel, Victor (V.R.)
Sent: Friday, November 03, 2006 12:07 PM
To: Witthar, Mark (M.B.)
Cc: Asay, Larry (L.L.)
Subject: Barrick Photos
Importance: High

These are the photos of the parts that Barrick installed to stop the front end shake.

Thanks for your help and have a great weekend.

From: Repasky, Steve (S.)
Sent: Tuesday, November 14, 2006 1:23 PM
To: Choe, Mark (M.J.); Ufford, Donald (D.A.); Asay, Larry (L.L.); Fass, Alan (A.L.)
Cc: O'Connor, Tammy (T.A.); Hale, Curt (B.C.); Gompper, Dan (D.B.); Wegienka, Michael (M.J.)
Subject: RE: Barrick Thursday meeting

Mike Wegienka and I along with Alan Fass/Larry Asay met with representatives from Duke Energy Field Services on Wed./Thur. Nov. 8/9 in Midland, Texas and Hobbs, N.M. We reviewed 6 Superduty vehicles in total. We completed the first 5 of the 6 tasks noted below. A complete trip report is being written and will be issued soon. In general terms, we found:

1. Most vehicles as originally reviewed had lower than placard tire pressures.
2. Some vehicles had modifications to rear springs, road/steering shocks and tires (different size and/or manufacturer).
3. When all tires were inflated to placard pressures and front suspension/steering fastener torques checked/adjusted per TSB, vehicle shake was noticeably improved.
4. A P356 steering shock was installed on one vehicle to obtain field feedback on it's effectiveness.

Many thanks to Alan and Larry for setting up the review and dealership participation and to Duke Energy for their direct feedback.

I will continue to work with Alan/Larry to understand any feedback from Duke Energy as well as from other fleets.

From: Repasky, Steve (S.)
Sent: Monday, November 06, 2006 2:28 PM
To: Choe, Mark (M.J.); Ufford, Donald (D.A.); Asay, Larry (L.L.); Fass, Alan (A.L.)
Cc: O'Connor, Tammy (T.A.); Hale, Curt (B.C.); Gompper, Dan (D.B.); Wegienka, Michael (M.J.)
Subject: RE: Barrick Thursday meeting

Plans to meet with Duke Energy Field Services are noted below. Next steps planned for the review in Odessa include:

1. Meet with and understand fleet customer concerns. Note extent of the concern and specific vehicle configurations, loads, road surfaces and speeds under which the condition exists. If available, get complete list of vehicle VINs affected.
2. Have customer demonstrate concern on the as-received vehicle(s) on local roads (Use of nearby roads helps with any back to back comparisons for any vehicle changes).
3. Do a complete vehicle inspection including front suspension fastener torques and front end alignment. Note tire, shock and steering system conditions.
4. Apply TSB 06-22-14 to concern vehicle(s) and re-drive vehicle w/customer to determine acceptability.
5. Potentially evaluate the use of the P356 steering damper for effectiveness.
6. Potentially evaluate some frame mods in the rear of the frame near spare tire carrier.

Please review the above steps and suggest any additional actions to consider. Thanks...

From: Repasky, Steve (S.)
Sent: Friday, November 03, 2006 2:37 PM
To: Choe, Mark (M.J.); Ufford, Donald (D.A.); Norton, John (J.K.); Asay, Larry (L.L.)
Cc: Arbitter, Daniel (D.S.); O'Connor, Tammy (T.A.); Hodges, Cynthia (C.P.); Boals, Shannon (S.D.); Kachel, Victor (V.R.); Malik, Wesley (W.K.); Hale, Curt (B.C.)
Subject: RE: Barrick Thursday meeting

I have made arrangements to meet with the Duke Energy Field Services fleet representatives (Attached note) in Midland, Texas on Wednesday Nov. 8 - Friday Nov. 10. My flight is scheduled to arrive in Midland at 10:37 AM. I talked briefly with Larry and he will set up the local Ford dealership to accommodate any vehicle work that may be required.

As noted below, even with the TSB performed, there is a small number of vehicles that continue to have a concern. As part of a potential improvement, I would like to try the P356 steering damper with the vehicle at placard tire pressures to determine any value in diminishing the concern.

Larry - Is it possible for Duke Energy to set up a call-in conference such that interested people in Dearborn may participate? Thanks...

From: Choe, Mark (M.J.)
Sent: Friday, November 03, 2006 1:50 PM
To: Ufford, Donald (D.A.); Norton, John (J.K.)
Cc: Repasky, Steve (S.); Arbitter, Daniel (D.S.)
Subject: RE: Barrick Thursday meeting

I believe Steve has already made contact and making arrangements with help from Core.

Mark J. Choe
Vehicle Dynamics Manager
Body on Frame Programs

From: Snider, Alex (A.)
Sent: Monday, September 18, 2006 8:00 AM
To: Burdick, Jeff (J.)
Cc: Laquerre, Mike (M.J.)
Subject: RE: RE: F250 Hop

Jeff, have the Dealer follow and record all findings from TSB 06-15-1. Pay special attention to the Tire pressure.

"Accelerate Growth Through Customer Satisfaction and Loyalty"

Alex Snider
Ford Motor Company of Canada
Technical Service Support Specialist
Outlook ID: asnider@ford.com
Dial net: 853-1485
Outside #: 905-845-2511, ext: 1485

From: Laquerre, Mike (M.J.)
Sent: Tuesday, September 12, 2006 7:39 AM
To: Snider, Alex (A.)
Cc: Burdick, Jeff (J.)
Subject: FW: RE: F250 Hop

Alex,
Can you f/u on this as I am in training the next two days.
Thanks
Mike

From: Burdick, Jeff (J.)
Sent: Monday, September 11, 2006 9:35 PM
To: Laquerre, Mike (M.J.)
Cc: Burdick, Jeff (J.)
Subject: RE: F250 Hop

Hey Mike I was wondering if you have heard or know of any issues regarding 2005 F250 that after vehicle has been driven @ Hwy speeds for approx 30 minutes the front end starts to shake badly. The only way to eliminate is to reduce speed below 65km/h. I know this is vague and the dealer has replaced shocks, springs, (based on hotline recommendations) performed TSB for jounce bumpers but due to the wacky nature of the symptom have not been able to correct. The problem started after 25,000km's had been tallied on the unit.

I would not normally bother you and I know this is not protocol but there are no further recommendations at this point and I just thought if you had some thoughts this might help.

Thanks,

1ftsx21535e[redacted] - 4X2 F250 Gas Engine…yes that's right. Not used hard, not towing, company truck with a few tools in box.

Jeff Burdick
Dealer Operations Manager
CSO Territory 14
FoC, Oakville, CHQ
Phone: (905) 845-2511 x 3138 Fax: (905) 845-7496
Email: jburdick@ford.com

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From: Dixon, Brandon (B.A.)
Sent: Monday, September 12, 2005 8:59 AM
To: O'Connor, Tammy (T.A.)
Subject: RE: Report Summary for the CQIS Report#[redacted]

Do we have any info out there on how to make the gear mesh load adjustment?

Brandon A. Dixon
Ford Motor Company
Field Service Engineer
Chicago Region District F
West Illinois / Iowa
(630) 725-4531

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Monday, September 12, 2005 7:55 AM
To: Dixon, Brandon (B.A.)
Subject: RE: Report Summary for the CQIS Report#[redacted]

Brandon:

The 3 most important things to check to correctly resolve this issue is:

1. tire pressure
2. caster setting (low as possible)
3. torque settings on steering and suspension fasteners
4. meshload adjustment

Let me know if you need any help.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thurs,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

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-----Original Message-----

From: Dixon, Brandon (B.A.)
Sent: Monday, September 12, 2005 8:53 AM
To: O'Connor, Tammy (T.A.)
Subject: RE: Report Summary for the CQIS Report#[redacted]

Tammy,
To be honest, I haven't encountered too many of these and don't have a good feel for how to solve the problem. This CQIS report is from my dealer and I told them to call the hotline as I thought we had a steering wheel change but it appears that it does not apply to this 2006 vehicle. I've asked the dealer to let me know of the customers satisfaction with the alignment change and I can let you know of the results.

Brandon A. Dixon
Ford Motor Company
Field Service Engineer
Chicago Region District F
West Illinois / Iowa
(630) 725-4531

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Monday, September 12, 2005 7:11 AM
To: Dixon, Brandon (B.A.)
Subject: FW: Report Summary for the CQIS Report#[redacted]

Brandon: Attached is a draft TSB for this issue, I would appreciate any feedback on this draft and whether is covers everything needed to perform this repair. I will submit for publication in approx. 2 weeks.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thurs,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

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-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Monday, September 12, 2005 7:45 AM
To: O'Connor, Tammy (T.A.)
Subject: Report Summary for the CQIS Report#[redacted]

Attachments : 0

Report# :	[redacted] NHL			**Received:**	09/09/2005
CCRG/EPRC:		**Reviewed Status:**		**Date:**	
Vehicle:	2006,F250 4X4,CRW CAB,PICKUP ,1FTSW21P16E[redacted]			**Build Date:**	07/20/2005
Odometer :	907 M	**Engine:**	6.0L DI	**Calibration:**	6F710D0A
Transmission:	5R110W DSL	**Axle:**		**A/C:**	YES
Dealer:	USA 04106 Carousel Ford, Inc.			**Phone#:**	(319) 338-7811
City:	Iowa City	**State:**	Iowa	**Country :**	USA
Originator:	MIKE GEROT				
Symptom:	3 03 3 53 CHASS.,STRG/HANDLING ,VIB./SHIMMY,OVER BUMPS				
Status:					
VFG:	V89 RIDE & HANDLING				
Additional Symptom:	SHIMMY OVER BUMPS				
Fix:	**Causal Component :**				
Condition Code:					

Hotliner: MGIURLAN **Phone:** 313 317-7041 **Regn Cd:** 41 Chicago - 41

Engineering: **Phone:** **TAR:**

Dlr Contact: MIKE GEROT **Phone:** 319 338-7811 **Title Cde:** T

Comments :

REPAIR 09/09/2005 12:52PM MARIO GIURLANDA MSS - FCSD - TECH SVC HOTLINE
SHIMMY OVER BUMPS AT HIWAY SPEEDS. TECH SPOKE WITH FSE WHO RECOMMENDED
TO CALL THE HOTLINE FOR INFORMATION.

RECOMM 09/09/2005 12:52PM MARIO GIURLANDA MSS - FCSD - TECH SVC HOTLINE
ISM 05-09-001 VERIFY TIRE PRESSURES ARE SET TO SPECIFICATION, BOTH RADIUS ARMS ARE PROPERLY TORQUED - CHECK ALIGNMENT & SET CASTER 5 TO
.75 BELOW NOMINAL ADVISED ABOVE INFORMATION.

From: Koulakjian, Robert (J.)
Sent: Wednesday, August 15, 2007 9:52 PM
To: O'Connor, Tammy (T.A.); Veneziano, Frank (j.); Hale, Curt (B.C.); Klein, Mark (M.A.); Gompper, Dan (D.B.)
Cc: Johnson, Michael (M.L.)
Subject: RE: Report Summary for the CQIS Report#[redacted]

Thank you all for your support. I have repeatedly called the dealer for the information I requested on the fleet vehicles. To date I have received none. If this issue was that great to The Port Authority Fleet as originally indicated they would have responded by now. The information I requested was a list of VIN numbers of the alleged effected vehicles. What add on equipment did each have, such as power lift gate, side or front bed mounted tool boxes, speed of occurrence, and so on. I also requested a detailed outline of all actions taken by the dealer toward a repair.

As a result of their inactivity I am closing the TAR . I do not feel it is our responsibility to chase them to get their vehicles repaired.

Robert J. Koulakjian
Ford Motor Company
Field Service Engineer
Markets: AO1, AO2, AO3, AO4, AO6, AO7
New York District
CDS ID- rkoulakj
201-529-7291

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From: O'Connor, Tammy (T.A.)
Sent: Friday, August 10, 2007 10:05 AM
To: Veneziano, Frank (j.); Hale, Curt (B.C.); Klein, Mark (M.A.); Gompper, Dan (D.B.)
Cc: Koulakjian, Robert (J.)
Subject: RE: Report Summary for the CQIS Report#[redacted]

Frank - If the correct damper is installed, we have heard back from many of the fleets that it completely resolves the issue.

I have forwarded the report to Engineering.

I was concerned because the wrong part number was recommended after TSB 07-10-10 was recomended. If I'm confused, I'm sure others are also.

Dan - any other recommendations?

Tammy A. O'Connor
Product Concern Engineer
FCSD Service Engineering Operations
Super Duty F-Series
Body / Chassis / Electrical
248/310-6111 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSC I, Cube 149 (Tuesday,Wednesday)

From: Veneziano, Frank (j.)
Sent: Friday, August 10, 2007 10:00 AM
To: O'Connor, Tammy (T.A.); Hale, Curt (B.C.); Klein, Mark (M.A.)
Cc: Koulakjian, Robert (J.)
Subject: RE: Report Summary for the CQIS Report#[redacted]

Tammy,
The TSB 07-10-10 was already performed before I made my recommendations.
Do we have anything else that would assist the FSE.
Thank you again for the help, we need all we can get on this vehicle.

From: O'Connor, Tammy (T.A.)
Sent: Friday, August 10, 2007 8:46 AM
To: Hale, Curt (B.C.); Klein, Mark (M.A.)
Cc: Koulakjian, Robert (J.); Veneziano, Frank (j.)
Subject: RE: Report Summary for the CQIS Report#[redacted]

The latest TSB is TSB 07-10-10. They should be installing the new dampner that was released with that TSB - it resolves the issue - the part number at the bottom of the report is not correct. Look at the TSB.

8C3Z-3E651-C along with the bracket should be installed on this truck.

WRONG Recommendation at the bottom of this report:

TSB 07-05-11 INSTALL DAMPER SERVICE KIT - 5C3Z-5D008-A

Tammy A. O'Connor
Product Concern Engineer
FCSD Service Engineering Operations
Super Duty F-Series
Body / Chassis / Electrical
248/310-6111 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSC I, Cube 149 (Tuesday,Wednesday)

From: Hale, Curt (B.C.)
Sent: Friday, August 10, 2007 8:21 AM
To: Klein, Mark (M.A.)
Cc: Koulakjian, Robert (J.); O'Connor, Tammy (T.A.)
Subject: RE: Report Summary for the CQIS Report#[redacted]

I expect the tire pressures are set less than placard, Tammy?

B. Curtis Hale
FCSD F-Super Duty Program Manager
Kentucky Truck Plant

From: MKLEIN10@ford.com [mailto:MKLEIN10@ford.com]
Sent: Fri 8/10/2007 7:45 AM
To: Hale, Curt (B.C.)
Cc: Koulakjian, Robert (J.)
Subject: Report Summary for the CQIS Report#[redacted]

Curt, Is there anthing that we can do to help Robert on this concern?

Attachments : 0

Report# :	[redacted] NHL			**Received:**	07/05/2007
CCRG/EPRC:		**Reviewed Status:**		**Date:**	
Vehicle:	2005,F350 4X4,CREW ,SRW ,1FTWW31515E[redacted]			**Build Date:**	03/10/2005
Odometer :	12,166 M	**Engine:**	MOD 5.4 3V	**Calibration:**	5F714B0A
Transmission:	5R110W	**Axle:**		**A/C:**	YES
Dealer:	USA 03620 Best Ford			**Phone#:**	(516) 358-9500
City:	Floral Park	**State:**	New York	**Country :**	USA
Originator:	VINCE EDWARDS				
Symptom:	3 03 3 53 CHASS.,STRG/HANDLING ,VIB./SHIMMY,OVER BUMPS				
Status:					
VFG:	V89 RIDE & HANDLING				
Additional Symptom:	STEERING OSCILLATIONS				
Fix:	**Causal Component :**				
Condition Code:					

Hotliner: JREDDMAN **Phone:** 313 248-9292 **Regn Cd:** N1 New York

Engineering: **Phone:** **TAR:** 0-30

Dlr Contact: VINCE EDWARDS **Phone:** 516 358-9500 **Title Cde:** T

DTCs:

KOEO:

KOEC:

KOER:

Comments :

REPAIR 07/05/2007 12:49PM JOSEPH REDDMANN MSS - FCSD - TECH SVC HOTLINE
WEB FORM DATA: DESCRIPTION OF VEHICLE CONCERN: HIGHWAY SPEEDS. WHEN
DRIVING OVER SEWER GRATE OR BUMPS, VEHICLE AND STEERING VIBRATE BADLY.
CUSTOMER STATES THAT HE LOOSES CONTROL OF VEHICLE. DIAGNOSTICS
ALREADY COMPLETED: VERIFED CONCERN VIA ROADTEST WITH CUSTOMER. TSB
#07-10-10 PERFORMED. CONCERN STILL PRESENT. FRONT END INSPECTION SHOW
NO OBVIOUS PROBLEMS/CONCERS. TIRE CONDITION/INFLATION AND SIZES ALL
OK. PARTS REPLACED: 8C3Z-3E651-C TECHNICIAN QUESTION: ADDITIONAL
DIAG DIRECTION FOR CONCERN THATS STILL PRESENT FORM QUESTION: WERE
YOU ABLE TO VERIFY THE CONCERN? ANSWER: YES FORM QUESTION: IS THERE
AN APPROPRIATE PINPOINT TEST IN THE WSM FOR THIS CONCERN? ANSWER:
NO FORM QUESTION: WAS THE PINPOINT TEST FOLLOWED? ANSWER: NO CALL
DATA: VEHICLE HAS SEVERE STEERING OSCILLATIONS OVER BUMPS. ACTUAL
CASTER READINGS ARE NOT AVAILABLE. SEEKING DIRECTION.

RECOMM 07/05/2007 12:49PM JOSEPH REDDMANN MSS - FCSD - TECH SVC HOTLINE
SUGGEST YOU RE-ALIGN THE VEHICLE AND REDUCE CASTER TO 1.7 DEGREES THEN
RE-EVALUATE THE CONCERN.

REPAIR 07/16/2007 11:38AM MARIO GIURLANDA MSS - FCSD - TECH SVC HOTLINE
TRUCK VIBRATES AND STEERING SHIMMY OVER BUMPS AT HIWAY SPEEDS.
PREVIOUSLY PERFORMED TSB 07-05-11 FOR STEERING DAMPER AND ALIGNED
STEERING TO LOWER END OF CASTER SPECS. TRUCK HAS TWO TOOLBOXES ON THE

BACK OF THE BED.

RECOMM 07/16/2007 11:38AM MARIO GIURLANDA MSS - FCSD - TECH SVC HOTLINE

TSB 07-10-10 PROCEDURE TO MINIMIZE STEERING WHEEL OSCILLATIONS ON

IMPACTS - SOME MINOR OSCILLATION WHICH WOULD BE CONSIDERED NORMAL MAY

REMAINREFERRED TO TSB 07-10-10. FOLLOW TSB EXACTLY FOR CONCERN. SET

TIRE PRESSURE PER DOOR STICKER, LOOSEN AND RETORQUE FRONT END PER

CHART.

ADD-ON 07/27/2007 12:39PM FRANK VENEZIANO MSS - FCSD - TECH SVC HOTLINE

THE FSE ROBERT KOULAKJIAN HAS VERIFIED THE CUSTOMERS CONCERN AND

DETERMINED THE WHEEL SHAKE TO BE EXCESSIVE. WE ARE TARING THE REPORT

FOR REGIONAL ESCALATION AND ASSISTANCE FROM

ENGINEERING.

*****TAR*****

ADD-ON 07/27/2007 12:41PM FRANK VENEZIANO MSS - FCSD - TECH SVC HOTLINE

UPDATING THE UNIT DOWN INFO AS REQUIRED PER THE TAR PROCESS.

ADD-ON 07/27/2007 01:43PM LEON DALLAPE MSS - FCSD - TECH SVC HOTLINE

(GL)REVIEWED

ADD-ON 07/30/2007 10:03AM MARK KLEIN MSS - FCSD - TECH SVC HOTLINE

*********REGIONAL ESCALATION**********

SENT TO FVENEZI1 ON THIS DATE.

ADD-ON 07/30/2007 01:24PM FRANK VENEZIANO MSS - FCSD - TECH SVC HOTLINE

AWS HISTORY ONLY HAS ONE REPAIR CLAIM ON MAY 4, 2007 @12,166 MILES.

THE VEHICLE EXHIBITED A STEERING SHAKE WHEN HITTING BUMPS AT HIGHWAY

SPEEDS. THE STEERING DAMPENER WAS REPLACED AND A ALIGNMENT WAS

PERFORMED.

2 MONTHS LATER WITH THE SAME MILES THE DEALER CALLED THE HOTLINE

(RPT#) 7GECM001 SEEKING ASSISTANCE FOR THE SAME CONCERN. WE ADVISED

THE DEALER TO RE-ALIGN AND SET CASTER TO 1.7 DEGREES.

THE DEALER CALLED BACK 11 DAYS LATER AND WE ADVISED TO PERFORM THE

TSB 07-10-10.

ANOTHER 11 DAYS WENT BY AND I RECEIVED A E-MAIL FROM FSE ROBERT

KOULAKJIAN WHO VERIFIED THE CUSTOMERS CONCERN AND IS REQUESTING

ASSISTANCE FROM THE HOTLINE AND ENGINEERING.

PLEASE COMPARE A LIKE UNIT OFF THE LOT TO ONE OF THE CUSTOMERS SO WE

CAN DETERMINE IF ALL VEHICLES PERFORM THE SAME WAY UNDER THE SAME

CONDITIONS. MAKE SURE THE TIRE ROTATION MAINTENANCE RECORDS ARE

AVAILABLE. THIS VEHICLE SAT FOR 5 MONTHS BEFORE IT WAS SOLD AND NOW

ONLY HAS 12*** MILES. TO INSURE THE CAUSE IS NOT DUE TO DOWN TIME AND

FLAT SPOTTING, ADVISE OF THE PROPER TIRE PRESSURES WHILE THE VEHICLE

IS NOT IN USE. IF THE VEHICLES CARGO IS NOT DISTRIBUTED CORRECTLY IT

COULD UNLOAD THE FRONT AXLE OF THE VEHICLE AND CAUSE THIS CONCERN.

MAKE SURE THE GVWR IS NOT EXCEEDED.

PLEASE REVIEW THE FOLLOWING FOR RELEVANCE.

TSB 07-10-10 PROCEDURE TO MINIMIZE STEERING WHEEL OSCILLATIONS ON

IMPACTS - SOME MINOR OSCILLATION WHICH WOULD BE CONSIDERED NORMAL MAY

REMAIN

WRONG Recommendation:

TSB 07-05-11 INSTALL DAMPER SERVICE KIT - 5C3Z-5D008-A

UPON YOU INSPECTION AND DIAGNOSIS FURTHER ASSISTANCE WILL BE PROVIDED

AT YOUR REQUEST. FVENEZI1 (313)317-6310

ADD-ON **08/01/2007 06:07PM ROBERT KOULAKJIAN(FS MSS - FCSD - REG - NEW YORK**

CONFERENCED WITH SERVICE MANAGER TODAY. PORT AUTHORITY TRANSIT FLEET

HAS INDICATED THAT THIS IS NOT THE ONLY VEHICLE THEY HAVE THAT REACTS

IN THIS MANOR. I HAVE REQUESTED DETAILED INFORMATION AND WILL UPDATE

GCQIS AS NECESSARY.

ADD-ON **08/04/2007 10:52PM ROBERT KOULAKJIAN(FS MSS - FCSD - REG - NEW YORK**

NO RESPONSE FROM DEALER TO DATE.

ADD-ON **08/04/2007 11:31PM ROBERT KOULAKJIAN(FS MSS - FCSD - REG - NEW YORK**

AT APPROX. 55-70MPH, HITTING VARIOUS BUMPS THE FRONT END SHAKES VIOLENTLY EVEN WHEN TRYING TO SLOW DOWN. NOTHING SO FAR HAS WORKED AS

PER THE SUGGESTIONS IN GCQIS. THE FLEET CLAIM THEY HAVE SEVERAL MORE

JUST LIKE THIS ONE WAITING FOR A FIX. THERE QUITE UPSET DUE TO THE EXTENSIVE DOWN TIME . I HAVE NO FURTHER SUGGESTIONS TO ADD TO THE

REPAIR. I RESPECTIVELY ASK THAT THIS ISSUE BE ESCALATED TO PVT FOR

FURTHER ASSISTANCE. [redacted]

From: Koulakjian, Robert (J.)
Sent: Wednesday, August 15, 2007 9:52 PM
To: O'Connor, Tammy (T.A.); Veneziano, Frank (j.); Hale, Curt (B.C.); Klein, Mark (M.A.); Gompper, Dan (D.B.)
Cc: Johnson, Michael (M.L.)
Subject: RE: Report Summary for the CQIS Report#[redacted]

Thank you all for your support. I have repeatedly called the dealer for the information I requested on the fleet vehicles. To date I have received none. If this issue was that great to The Port Authority Fleet as originally indicated they would have responded by now. The information I requested was a list of VIN numbers of the alleged effected vehicles. What add on equipment did each have, such as power lift gate, side or front bed mounted tool boxes, speed of occurrence, and so on. I also requested a detailed outline of all actions taken by the dealer toward a repair.

As a result of their inactivity I am closing the TAR . I do not feel it is our responsibility to chase them to get their vehicles repaired.

Robert J. Koulakjian
Ford Motor Company
Field Service Engineer
Markets: AO1, AO2, AO3, AO4, AO6, AO7
New York District
CDS ID- rkoulakj
201-529-7291

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From: O'Connor, Tammy (T.A.)
Sent: Friday, August 10, 2007 10:05 AM
To: Veneziano, Frank (j.); Hale, Curt (B.C.); Klein, Mark (M.A.); Gompper, Dan (D.B.)
Cc: Koulakjian, Robert (J.)
Subject: RE: Report Summary for the CQIS Report#[redacted]

Frank - If the correct damper is installed, we have heard back from many of the fleets that it completely resolves the issue.

I have forwarded the report to Engineering.

I was concerned because the wrong part number was recommended after TSB 07-10-10 was recomended. If I'm confused, I'm sure others are also.

Dan - any other recommendations?

Tammy A. O'Connor
Product Concern Engineer
FCSD Service Engineering Operations
Super Duty F-Series
Body/Chassis/Electrical
248/310-6111 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSC I, Cube 149 (Tuesday,Wednesday)

From: Veneziano, Frank (j.)
Sent: Friday, August 10, 2007 10:00 AM
To: O'Connor, Tammy (T.A.); Hale, Curt (B.C.); Klein, Mark (M.A.)
Cc: Koulakjian, Robert (J.)
Subject: RE: Report Summary for the CQIS Report#[redacted]

Tammy,
The TSB 07-10-10 was already performed before I made my recommendations.
Do we have anything else that would assist the FSE.
Thank you again for the help, we need all we can get on this vehicle.

From: O'Connor, Tammy (T.A.)
Sent: Friday, August 10, 2007 8:46 AM
To: Hale, Curt (B.C.); Klein, Mark (M.A.)
Cc: Koulakjian, Robert (J.); Veneziano, Frank (j.)
Subject: RE: Report Summary for the CQIS Report#[redacted]

The latest TSB is TSB 07-10-10. They should be installing the new dampner that was released with that TSB - it resolves the issue - the part number at the bottom of the report is not correct. Look at the TSB.

8C3Z-3E651-C along with the bracket should be installed on this truck.

WRONG Recommendation at the bottom of this report:

TSB 07-05-11 INSTALL DAMPER SERVICE KIT - 5C3Z-5D008-A

Tammy A. O'Connor
Product Concern Engineer
FCSD Service Engineering Operations
Super Duty F-Series
Body/Chassis/Electrical
248/310-6111 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSC I, Cube 149 (Tuesday,Wednesday)

From: Hale, Curt (B.C.)
Sent: Friday, August 10, 2007 8:21 AM
To: Klein, Mark (M.A.)
Cc: Koulakjian, Robert (J.); O'Connor, Tammy (T.A.)
Subject: RE: Report Summary for the CQIS Report#[redacted]

I expect the tire pressures are set less than placard, Tammy?

B. Curtis Hale
FCSD F-Super Duty Program Manager
Kentucky Truck Plant

From: MKLEIN10@ford.com [mailto:MKLEIN10@ford.com]
Sent: Fri 8/10/2007 7:45 AM
To: Hale, Curt (B.C.)
Cc: Koulakjian, Robert (J.)
Subject: Report Summary for the CQIS Report#[redacted]

Curt, Is there anthing that we can do to help Robert on this concern?

Attachments : 0

Report# :	[redacted] NHL			**Received:**	07/05/2007
CCRG/EPRC:		**Reviewed Status:**		**Date:**	
Vehicle:	2005,F350 4X4,CREW ,SRW ,1FTWW31515E[redacted]			**Build Date:**	03/10/2005
Odometer :	12,166 M	**Engine:**	MOD 5.4 3V	**Calibration:**	5F714B0A
Transmission:	5R110W	**Axle:**		**A/C:**	YES
Dealer:	USA 03620 Best Ford			**Phone#:**	(516) 358-9500
City:	Floral Park	**State:**	New York	**Country :**	USA
Originator:	VINCE EDWARDS				
Symptom:	3 03 3 53 CHASS.,STRG/HANDLING ,VIB./SHIMMY,OVER BUMPS				
Status:					
VFG:	V89 RIDE & HANDLING				
Additional Symptom:	STEERING OSCILLATIONS				
Fix:	**Causal Component :**				
Condition Code:					

Hotliner: JREDDMAN **Phone:** 313 248-9292 **Regn Cd:** N1 New York

Engineering: **Phone:** **TAR:** 0-30

Dlr Contact: VINCE EDWARDS **Phone:** 516 358-9500 **Title Cde:** T

DTCs:

KOEO:

KOEC:

KOER:

Comments :

REPAIR 07/05/2007 12:49PM JOSEPH REDDMANN MSS - FCSD - TECH SVC HOTLINE
WEB FORM DATA: DESCRIPTION OF VEHICLE CONCERN: HIGHWAY SPEEDS. WHEN
DRIVING OVER SEWER GRATE OR BUMPS, VEHICLE AND STEERING VIBRATE BADLY.
CUSTOMER STATES THAT HE LOOSES CONTROL OF VEHICLE. DIAGNOSTICS
ALREADY COMPLETED: VERIFED CONCERN VIA ROADTEST WITH CUSTOMER. TSB
#07-10-10 PERFORMED. CONCERN STILL PRESENT. FRONT END INSPECTION SHOW
NO OBVIOUS PROBLEMS/CONCERS. TIRE CONDITION/INFLATION AND SIZES ALL
OK. PARTS REPLACED: 8C3Z-3E651-C TECHNICIAN QUESTION: ADDITIONAL
DIAG DIRECTION FOR CONCERN THATS STILL PRESENT FORM QUESTION: WERE
YOU ABLE TO VERIFY THE CONCERN? ANSWER: YES FORM QUESTION: IS THERE
AN APPROPRIATE PINPOINT TEST IN THE WSM FOR THIS CONCERN? ANSWER:
NO FORM QUESTION: WAS THE PINPOINT TEST FOLLOWED? ANSWER: NO CALL
DATA: VEHICLE HAS SEVERE STEERING OSCILLATIONS OVER BUMPS. ACTUAL
CASTER READINGS ARE NOT AVAILABLE. SEEKING DIRECTION.

RECOMM 07/05/2007 12:49PM JOSEPH REDDMANN MSS - FCSD - TECH SVC HOTLINE
SUGGEST YOU RE-ALIGN THE VEHICLE AND REDUCE CASTER TO 1.7 DEGREES THEN
RE-EVALUATE THE CONCERN.

REPAIR 07/16/2007 11:38AM MARIO GIURLANDA MSS - FCSD - TECH SVC HOTLINE
TRUCK VIBRATES AND STEERING SHIMMY OVER BUMPS AT HIWAY SPEEDS.
PREVIOUSLY PERFORMED TSB 07-05-11 FOR STEERING DAMPER AND ALIGNED
STEERING TO LOWER END OF CASTER SPECS. TRUCK HAS TWO TOOLBOXES ON THE

BACK OF THE BED.

RECOMM 07/16/2007 11:38AM MARIO GIURLANDA MSS - FCSD - TECH SVC HOTLINE

TSB 07-10-10 PROCEDURE TO MINIMIZE STEERING WHEEL OSCILLATIONS ON

IMPACTS - SOME MINOR OSCILLATION WHICH WOULD BE CONSIDERED NORMAL MAY

REMAINREFERRED TO TSB 07-10-10. FOLLOW TSB EXACTLY FOR CONCERN. SET

TIRE PRESSURE PER DOOR STICKER, LOOSEN AND RETORQUE FRONT END PER

CHART.

ADD-ON 07/27/2007 12:39PM FRANK VENEZIANO MSS - FCSD - TECH SVC HOTLINE

THE FSE ROBERT KOULAKJIAN HAS VERIFIED THE CUSTOMERS CONCERN AND

DETERMINED THE WHEEL SHAKE TO BE EXCESSIVE. WE ARE TARING THE REPORT

FOR REGIONAL ESCALATION AND ASSISTANCE FROM

ENGINEERING.
*****TAR*****

ADD-ON 07/27/2007 12:41PM FRANK VENEZIANO MSS - FCSD - TECH SVC HOTLINE

UPDATING THE UNIT DOWN INFO AS REQUIRED PER THE TAR PROCESS.

ADD-ON 07/27/2007 01:43PM LEON DALLAPE MSS - FCSD - TECH SVC HOTLINE

(GL)REVIEWED

ADD-ON 07/30/2007 10:03AM MARK KLEIN MSS - FCSD - TECH SVC HOTLINE

*********REGIONAL ESCALATION**********

SENT TO FVENEZI1 ON THIS DATE.

ADD-ON 07/30/2007 01:24PM FRANK VENEZIANO MSS - FCSD - TECH SVC HOTLINE

AWS HISTORY ONLY HAS ONE REPAIR CLAIM ON MAY 4, 2007 @12,166 MILES.

THE VEHICLE EXHIBITED A STEERING SHAKE WHEN HITTING BUMPS AT HIGHWAY

SPEEDS. THE STEERING DAMPENER WAS REPLACED AND A ALIGNMENT WAS

PERFORMED.

2 MONTHS LATER WITH THE SAME MILES THE DEALER CALLED THE HOTLINE

(RPT#) 7GECM001 SEEKING ASSISTANCE FOR THE SAME CONCERN. WE ADVISED

THE DEALER TO RE-ALIGN AND SET CASTER TO 1.7 DEGREES.

THE DEALER CALLED BACK 11 DAYS LATER AND WE ADVISED TO PERFORM THE

TSB 07-10-10.

ANOTHER 11 DAYS WENT BY AND I RECEIVED A E-MAIL FROM FSE ROBERT

KOULAKJIAN WHO VERIFIED THE CUSTOMERS CONCERN AND IS REQUESTING

ASSISTANCE FROM THE HOTLINE AND ENGINEERING.

PLEASE COMPARE A LIKE UNIT OFF THE LOT TO ONE OF THE CUSTOMERS SO WE

CAN DETERMINE IF ALL VEHICLES PERFORM THE SAME WAY UNDER THE SAME

CONDITIONS. MAKE SURE THE TIRE ROTATION MAINTENANCE RECORDS ARE

AVAILABLE. THIS VEHICLE SAT FOR 5 MONTHS BEFORE IT WAS SOLD AND NOW

ONLY HAS 12*** MILES. TO INSURE THE CAUSE IS NOT DUE TO DOWN TIME AND

FLAT SPOTTING, ADVISE OF THE PROPER TIRE PRESSURES WHILE THE VEHICLE

IS NOT IN USE. IF THE VEHICLES CARGO IS NOT DISTRIBUTED CORRECTLY IT

COULD UNLOAD THE FRONT AXLE OF THE VEHICLE AND CAUSE THIS CONCERN.

MAKE SURE THE GVWR IS NOT EXCEEDED.

PLEASE REVIEW THE FOLLOWING FOR RELEVANCE.

TSB 07-10-10 PROCEDURE TO MINIMIZE STEERING WHEEL OSCILLATIONS ON

IMPACTS - SOME MINOR OSCILLATION WHICH WOULD BE CONSIDERED NORMAL MAY

REMAIN

WRONG Recommendation:

TSB 07-05-11 INSTALL DAMPER SERVICE KIT - 5C3Z-5D008-A

UPON YOU INSPECTION AND DIAGNOSIS FURTHER ASSISTANCE WILL BE PROVIDED

AT YOUR REQUEST. FVENEZI1 (313)317-6310

ADD-ON **08/01/2007 06:07PM ROBERT KOULAKJIAN(FS MSS - FCSD - REG - NEW YORK**

CONFERENCED WITH SERVICE MANAGER TODAY. PORT AUTHORITY TRANSIT FLEET

HAS INDICATED THAT THIS IS NOT THE ONLY VEHICLE THEY HAVE THAT REACTS

IN THIS MANOR. I HAVE REQUESTED DETAILED INFORMATION AND WILL UPDATE

GCQIS AS NECESSARY.

ADD-ON **08/04/2007 10:52PM ROBERT KOULAKJIAN(FS MSS - FCSD - REG - NEW YORK**

NO RESPONSE FROM DEALER TO DATE.

ADD-ON 08/04/2007 11:31PM ROBERT KOULAKJIAN(FS MSS - FCSD - REG - NEW YORK

AT APPROX. 55-70MPH, HITTING VARIOUS BUMPS THE FRONT END SHAKES VIOLENTLY EVEN WHEN TRYING TO SLOW DOWN. NOTHING SO FAR HAS WORKED AS

PER THE SUGGESTIONS IN GCQIS. THE FLEET CLAIM THEY HAVE SEVERAL MORE

JUST LIKE THIS ONE WAITING FOR A FIX. THERE QUITE UPSET DUE TO THE EXTENSIVE DOWN TIME . I HAVE NO FURTHER SUGGESTIONS TO ADD TO THE

REPAIR. I RESPECTIVELY ASK THAT THIS ISSUE BE ESCALATED TO PVT FOR

FURTHER ASSISTANCE. [redacted]

From: Repasky, Steve (S.)
Sent: Thursday, January 04, 2007 8:50 AM
To: O'Connor, Tammy (T.A.); Asay, Larry (L.L.)
Cc: Carver, Lewis (L.H.); Hale, Curt (B.C.); Choe, Mark (M.J.)
Subject: RE: SD Steering Oscillation - Any Further Engineering Information

Attachments: 2006 Surperduty Dealer visit-Hobbs_NM 2nd Visit_Dec2006.doc

See attached Draft report. Some additional report revisions and report number will be added....

2006 Surperduty Dealer visit-H...

From: O'Connor, Tammy (T.A.)
Sent: Thursday, January 04, 2007 8:27 AM
To: Repasky, Steve (S.); Asay, Larry (L.L.)
Cc: Carver, Lewis (L.H.); Hale, Curt (B.C.)
Subject: RE: SD Steering Oscillation - Any Further Engineering Information

Steve/Larry:

Any update would be appreciated, I have not heard anything since shortly before Christmas.

Tammy A. O'Connor
Product Concern Engineer
FCSD Service Engineering Operations
Super Duty F-Series
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Hale, Curt (B.C.)
Sent: Thursday, January 04, 2007 8:09 AM
To: O'Connor, Tammy (T.A.)
Cc: Carver, Lewis (L.H.)
Subject: RE: SD Steering Oscillation - Any Further Engineering Information

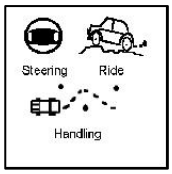
Tammy,

Please respond to Lew.

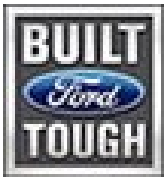
From: Carver, Lewis (L.H.)
Sent: Thursday, January 04, 2007 8:08 AM
To: Hale, Curt (B.C.)
Subject: SD Steering Oscillation - Any Further Engineering Information

Curt,

We are in our Org Meeting going over issues, any update on findings from Hobbs, NM - Engineering visit to the Oil Patch on this issue?



Ford Motor Company



BoF Vehicle Dynamics Development Report

Subject: 2nd Visit to Duke Energy Fields Services Superduty Fleet – Hobbs, N.M. – Dec. 15, 2006.

Objective:

To conduct an engineering review of a specific vehicle (VIN [redacted]) of the Duke Energy Field Services Superduty fleet located in Hobbs, N.M. for a steering wheel oscillation and front end shake concern.

Participants: Ford Motor Company

December 15 Steve Repasky, Supervisor Vehicle Dynamics BoF OPD Vehicle Eng.

Duke Energy Field Services

Duke Energy representative – Perry Drenen

Background:

Duke Energy Field Services is a Ford fleet customer with numerous (~200+) 05/06 Superduty vehicles of various configurations. Drivers have expressed a concern on 4x4 vehicles with steering wheel oscillatory motion and front end shake when travelling over local roads/highways in the ordinary course of their job. Vehicle speeds observed ranged from 55+ MPH on local roads to 75+ MPH on the highway.

The FCSD Western Region fleet manager (Larry Asay) contacted Ford FCSD/Vehicle Dynamics requesting an engineering review of the subject Superduty vehicles. A team of Ford people first visited Duke Energy Field Services in Midland, TX. (Nov. 8) and Hobbs, N.M. (Nov. 9) to review (6) of the concern vehicles. Installation of a 2008 MY steering damper on one of the vehicles was completed at this time.

Summary:

The customer indicated the vehicle concern was still exhibited on a particular road surface with the vehicle that had the 08 damper installed. I travelled to Hobbs, N.M. to evaluate the particular vehicle noted on the specific road surface. My review began with a verification of initial tire pressure (at placard) and condition of the steering damper (no visible damage). After the vehicle review, I asked the customer to demonstrate the noted concern on the particular road surface.

We travelled approx. 35 miles on highway 180 to highway 176. Between mile markers 1 and 2 the vehicle was driven several times over the particular surface. It was a slight undulating asphalt paved surface for ~ 35 - 45 feet followed by a slightly "tighter" (but still 3-5 ft. long) washboard surface (~ 35 ft. long) at various speeds and brake applications. At speeds less than 65 MPH the front end disturbance was very minor and of short duration. At speeds > 70 up to 75 without brake applications, the concern was noted. It was of short duration and moderate to high intensity. With low to moderate brake application at 65 MPH+, the concern was again of short duration but high amplitude. I then drove the vehicle back to the home office on "typical" roads at various speeds to determine if the concern could be duplicated on other road surfaces (it was not).

I left the Duke Energy home office indicating our desire to have the vehicle serviced at the local Ford dealership for an alignment check and replacement of the steering gear and steering damper for engineering review in Dearborn.

Conclusion Summary:

The following conclusions were reached:

1) Vehicle shake concern was confirmed on this particular vehicle on the specific surface under the noted driving conditions.

2) Agreement to continue work with the fleets through FCSD to investigate effectiveness of the 2008 steering damper for improvements in robustness of the vehicle to front end shake.

Date Issued:	**12/19/2006**	**Report Number: 27.60-VD-P131.06-xxx**		
Prepared by:	**Reviewed by:**	**Circulation:**		
Steve Repasky	Manager Mark Choe	P. Frantzeskakis D. Ufford	T. O'Connor L. Asay	A. Fass

From: Hale, Curt (B.C.)
Sent: Tuesday, November 29, 2005 2:55 PM
To: Teeley, Nicole (N.)
Cc: Mayer, Donna (D.P.); Repasky, Steve (S.); O'Connor, Tammy (T.A.)
Subject: RE: SuperDuty GQRS Daily Reports: H44 Ride/Handling

If these are the shocks that we just released to service we can have the dealer order them.

B. Curtis Hale
FCSD PVT Program Manager
F-Super Duty & Excursion

-----Original Message-----
From: Teeley, Nicole (N.)
Sent: Tuesday, November 29, 2005 2:54 PM
To: Hale, Curt (B.C.)
Cc: Mayer, Donna (D.P.); Repasky, Steve (S.); O'Connor, Tammy (T.A.)
Subject: RE: SuperDuty GQRS Daily Reports: H44 Ride/Handling

VIN is 1ftsx21555e[redacted]

No, the customer does not know of our plans, but we would like to show him some appreciation for his help if he is interested.

The shocks are part of J2 so they should be at Dixie now to be available for this weekend. We can help get them for you or the dealer.

Nicole Teeley
KTP PVT Vehicle & Chassis Engineering Supervisor
502-339-4040
nteeley@ford.com
In the office on Tuesday, Wednesday, and Friday
Job share partner is Donna Mayer (dmayer5)

-----Original Message-----
From: Hale, Curt (B.C.)
Sent: Tuesday, November 29, 2005 2:45 PM
To: Teeley, Nicole (N.)
Cc: Mayer, Donna (D.P.); Repasky, Steve (S.); O'Connor, Tammy (T.A.)
Subject: RE: SuperDuty GQRS Daily Reports: H44 Ride/Handling

We can do this. Does the customer know of our plans? Do you have shocks we can send?

B. Curtis Hale
FCSD PVT Program Manager
F-Super Duty & Excursion

-----Original Message-----
From: Teeley, Nicole (N.)

Sent: Tuesday, November 29, 2005 2:37 PM
To: Hale, Curt (B.C.)
Cc: Mayer, Donna (D.P.); Repasky, Steve (S.)
Subject: FW: SuperDuty GQRS Daily Reports: H44 Ride/Handling

Curt,
We had a GQRS customer that had a harsh ride complaint and he was very helpful in identifying the issue and fix. Per the email below, the VE Chief would like us (FCSD and Engineering jointly) to update the customers vehicle with the J2 shocks that have tuning changes to address this customer's harsh ride complaint.

I attached the customers GQRS info. Can you help me get their shocks changed out at their dealer?

Nicole Teeley
KTP PVT Vehicle & Chassis Engineering Supervisor
502-339-4040
nteeley@ford.com
In the office on Tuesday, Wednesday, and Friday
Job share partner is Donna Mayer (dmayer5)

-----Original Message-----
From: Repasky, Steve (S.)
Sent: Tuesday, November 29, 2005 12:58 PM
To: Teeley, Nicole (N.); Mayer, Donna (D.P.)
Subject: RE: SuperDuty GQRS Daily Reports: H44 Ride/Handling

Good memory. I had dropped this assignment off the table months ago. I think the best way is to handle through FCSD and the local FSE. I think Tammy O'Connor and Curt Hale can help. Is it possible for KTP to send the appropriate shock to the FSE once the plan is made? I looked for the detailed info, but have been unable so far to find where I stored it. Thanks...

BTW - did you notice any Ride improvement with any of the shock changes??

Any progress of warranty review of Pirelli tire vs. others?

-----Original Message-----
From: Teeley, Nicole (N.)
Sent: Monday, November 28, 2005 9:15 PM
To: Repasky, Steve (S.)
Cc: Mayer, Donna (D.P.)
Subject: RE: SuperDuty GQRS Daily Reports: H44 Ride/Handling

Steve,
These shocks are still planned to come into KTP production on Sunday 12/4. Do you want to handle this customer's service with the new shocks or should we just go through FCSD? If you want us to do it, then do you still have the dealer contact info, customer name and VIN? I am sure I can find it in GQRS, but if you have it readily available...

Nicole Teeley
KTP PVT Vehicle & Chassis Engineering Supervisor
502-339-4040
nteeley@ford.com
In the office on Tuesday, Wednesday, and Friday
Job share partner is Donna Mayer (dmayer5)

-----Original Message-----
From: Repasky, Steve (S.)
Sent: Wednesday, August 31, 2005 9:00 AM
To: Teeley, Nicole (N.); Mayer, Donna (D.P.)
Subject: RE: SuperDuty GQRS Daily Reports: H44 Ride/Handling

That's right. We expect high/Mean/Low sealed unit samples on Sept. 6 for verification. After approval, Brett Mazany will release them and have Tenneco prepare the PSW. In the past, we have had to make tuning code revisions based on H/M/L samples to achieve the right Ride results...

-----Original Message-----
From: Teeley, Nicole (N.)
Sent: Wednesday, August 31, 2005 8:20 AM
To: Repasky, Steve (S.)
Cc: Mayer, Donna (D.P.)
Subject: FW: SuperDuty GQRS Daily Reports: H44 Ride/Handling

Steve,
These are some of the shocks that we are trying to bring in at the end of the year, right? Just want to confirm that these shocks aren't ready yet.

Nicole Teeley
KTP PVT Vehicle & Chassis Engineering Supervisor
502-339-4040
nteeley@ford.com
In the office on Tuesday, Wednesday, and Friday
Job share partner is Donna Mayer (dmayer5)

-----Original Message-----
From: Ufford, Donald (D.A.)
Sent: Tuesday, July 12, 2005 6:42 PM
To: Repasky, Steve (S.); Teeley, Nicole (N.); Mayer, Donna (D.P.); Taylor, James (J.D.)
Cc: Choe, Mark (M.J.); Gompper, Dan (D.B.); Reyes, Pete (P.D.)
Subject: RE: SuperDuty GQRS Daily Reports: H44 Ride/Handling

Once you have your new 142" tuning package released, we should schedule this customer for a complimentary update and split the cost between us and FCSD. Steve/Donna/Nicole - please keep track of this so we don't leave him hanging especially since he gave us good info.

-----Original Message-----
From: Repasky, Steve (S.)
Sent: Monday, July 11, 2005 6:11 PM
To: Teeley, Nicole (N.); Mayer, Donna (D.P.)
Cc: Choe, Mark (M.J.); Gompper, Dan (D.B.); Reyes, Pete (P.D.); Ufford, Donald (D.A.)
Subject: RE: SuperDuty GQRS Daily Reports: H44 Ride/Handling

I just talked to the customer in Arizona. The vehicle is a F-250 4x4 142" 5.4L XLT built May 9, 2005.

He mentioned it rides rough both on highway and secondary roads over "rough spots in the road". He mentioned the rear end tends to "shimmy a bit" over these rough surfaces. The vehicle is driven unloaded and approx. a 50/50 mix of highway and secondary roads. No

particular vehicle speed was noted. Tire pressures were checked recently (he had a flat tire the other day) and were OK. Since he has had the vehicle only 3000 miles, he has not had a chance to drive with the vehicle loaded.

As far as the other customer, I looked up all the other concerns she had (7 total) and thought the sheet metal, warning buzzer and radio people may also be interested in asking some questions. One call for all may be the way to approach this customer.

Donna/Nicole - Have various VFGs been making call regarding their TGWs? If so, will some customers receive several calls if they have multiple concerns? Thought I'd ask before calling. Thanks for any info.

-----Original Message-----
From: Repasky, Steve (S.)
Sent: Monday, July 11, 2005 11:49 AM
To: Taylor, James (J.D.)
Cc: Teeley, Nicole (N.); Mayer, Donna (D.P.); Choe, Mark (M.J.); Gompper, Dan (D.B.)
Subject: RE: SuperDuty GQRS Daily Reports: H44 Ride/Handling

Jim -Please add me to your VE team dist. list. I have reviewed the verbatims and have determined two customers can be re-contacted. One is for H44 (Arizona) and the other had a comment in C50 (Cal). I'll work with Donna/Nicole to set up calls to these customers.

-----Original Message-----
From: Taylor, James (J.D.)
Sent: Monday, July 11, 2005 11:06 AM
To: Mayer, Donna (D.P.); Teeley, Nicole (N.); Seufert, David (D.C.); Gompper, Dan (D.B.); Ufford, Donald (D.A.); Choe, Mark (M.J.); Lutsey, Ron (R.J.)
Cc: Drake, Lisa (M.)
Subject: FW: SuperDuty GQRS Daily Reports: H44 Ride/Handling

VE team,
The attached 1MIS GQRS file (DQSS file) indicates H44 as the fifth highest TGW issue for the APR/MAY time period with 40 claims from 250 respondents.

Plz read through the verbatims and call the customers that agreed to be called back, drive their truck if possible, and determine what incremental containment actions can be taken.

V89 is on the 7:30 quality start-up meeting on 21JULY. Plz prepare for a substantive discussion during that mtg.

Additionally, a director level meeting is being pulled together for 28JULY at KTP where the 1MIS data will be discussed; your content on 21JULY can be viewed as a dry-run for the discussion for the 28JULY mtg.

Thanks.

Jim Taylor
Kentucky Truck Plant PVT Manager
Phone: 502-429-2586
Cell: 502-643-7378
email: jtaylor6@ford.com

-----Original Message-----
From: Taylor, James (J.D.)
Sent: Monday, July 11, 2005 10:37 AM
To: Queen, Jerry (J.J.); Muscat, Arnold (A.P.); Fusco, Frank (F.D.); Pijor, Donald (D.J.); Angelini, Peter (P.M.); Collins, Cheryl (C.L.)
Cc: Froehlich, David (D.C.); Drake, Lisa (M.); Haney, Eric (E.C.)
Subject: FW: SuperDuty GQRS Daily Reports: Climate Control

Climate team,

The attached 1MIS GQRS file (DQSS file) indicates C01 and C02 AC are the second and third highest TGW issues for the APR/MAY time period with 52 claims each from 250 respondents.

In reading through the verbatims, the responses and their "slow-to cool" comments look to be evenly split between crew cabs and S/C.

Plz read through the verbatims and call the customers that agreed to be called back to determine what incremental containment actions can be taken.

Pete/Don/Cheryl, Could you plz supply the X-Bar/R charts for the APR/May time period? I would like to compare process capability from that time with the new system performance installed during shut-down.

Jerry, plz follow-up with Cheryl on 25/26JULY to get any available performance data from the new equipment in support of the 28JULY TGW discussion with the Directors.

Thanks.

Jim Taylor
Kentucky Truck Plant PVT Manager
Phone: 502-429-2586
[redacted]
[redacted].com

-----Original Message-----
From: Lijewski, Angela [mailto:alijewski@rdagroup.com]
Sent: Thursday, July 07, 2005 3:42 PM
To: Hornek, Trindy (T.D.); Taylor, James (J.D.); Drake, Lisa (M.)
Cc: Fodera, Michael (M.J.)
Subject: SuperDuty Daily Reports

All,

Attached please find today's daily report.

Angela

Angela Lijewski
Project Manager
Direct - 248.836.6029
Fax - 248.836.2713
Email - alijewski@rdagroup.com
www.rdagroup.com

~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~

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From: Repasky, Steve (S.)
Sent: Monday, July 11, 2005 6:11 PM
To: Teeley, Nicole (N.); Mayer, Donna (D.P.)
Cc: Choe, Mark (M.J.); Gompper, Dan (D.B.); Reyes, Pete (P.D.); Ufford, Donald (D.A.)
Subject: RE: SuperDuty GQRS Daily Reports: H44 Ride/Handling

I just talked to the customer in Arizona. The vehicle is a F-250 4x4 142" 5.4L XLT built May 9, 2005.

He mentioned it rides rough both on highway and secondary roads over "rough spots in the road". He mentioned the rear end tends to "shimmy a bit" over these rough surfaces. The vehicle is driven unloaded and approx. a 50/50 mix of highway and secondary roads. No particular vehicle speed was noted. Tire pressures were checked recently (he had a flat tire the other day) and were OK. Since he has had the vehicle only 3000 miles, he has not had a chance to drive with the vehicle loaded.

As far as the other customer, I looked up all the other concerns she had (7 total) and thought the sheet metal, warning buzzer and radio people may also be interested in asking some questions. One call for all may be the way to approach this customer.

Donna/Nicole - Have various VFGs been making call regarding their TGWs? If so, will some customers receive several calls if they have multiple concerns? Thought I'd ask before calling. Thanks for any info.

-----Original Message-----
From: Repasky, Steve (S.)
Sent: Monday, July 11, 2005 11:49 AM
To: Taylor, James (J.D.)
Cc: Teeley, Nicole (N.); Mayer, Donna (D.P.); Choe, Mark (M.J.); Gompper, Dan (D.B.)
Subject: RE: SuperDuty GQRS Daily Reports: H44 Ride/Handling

Jim -Please add me to your VE team dist. list. I have reviewed the verbatims and have determined two customers can be re-contacted. One is for H44 (Arizona) and the other had a comment in C50 (Cal). I'll work with Donna/Nicole to set up calls to these customers.

-----Original Message-----
From: Taylor, James (J.D.)
Sent: Monday, July 11, 2005 11:06 AM
To: Mayer, Donna (D.P.); Teeley, Nicole (N.); Seufert, David (D.C.); Gompper, Dan (D.B.); Ufford, Donald (D.A.); Choe, Mark (M.J.); Lutsey, Ron (R.J.)
Cc: Drake, Lisa (M.)
Subject: FW: SuperDuty GQRS Daily Reports: H44 Ride/Handling

VE team,
The attached 1MIS GQRS file (DQSS file) indicates H44 as the fifth highest TGW issue for the APR/MAY time period with 40 claims from 250 respondents.

Plz read through the verbatims and call the customers that agreed to be called back, drive their truck if possible,

and determine what incremental containment actions can be taken.

V89 is on the 7:30 quality start-up meeting on 21JULY. Plz prepare for a substantive discussion during that mtg.

Additionally, a director level meeting is being pulled together for 28JULY at KTP where the 1MIS data will be discussed; your content on 21JULY can be viewed as a dry-run for the discussion for the 28JULY mtg.

Thanks.

Jim Taylor
Kentucky Truck Plant PVT Manager
Phone: 502-429-2586
[redacted]
email: jtaylor6@ford.com

-----Original Message-----
From: Taylor, James (J.D.)
Sent: Monday, July 11, 2005 10:37 AM
To: Queen, Jerry (J.J.); Muscat, Arnold (A.P.); Fusco, Frank (F.D.); Pijor, Donald (D.J.); Angelini, Peter (P.M.); Collins, Cheryl (C.L.)
Cc: Froehlich, David (D.C.); Drake, Lisa (M.); Haney, Eric (E.C.)
Subject: FW: SuperDuty GQRS Daily Reports: Climate Control

Climate team,

The attached 1MIS GQRS file (DQSS file) indicates C01 and C02 AC are the second and third highest TGW issues for the APR/MAY time period with 52 claims each from 250 respondents.

In reading through the verbatims, the responses and their "slow-to cool" comments look to be evenly split between crew cabs and S/C.

Plz read through the verbatims and call the customers that agreed to be called back to determine what incremental containment actions can be taken.

Pete/Don/Cheryl, Could you plz supply the X-Bar/R charts for the APR/May time period? I would like to compare process capability from that time with the new system performance installed during shut-down.

Jerry, plz follow-up with Cheryl on 25/26JULY to get any available performance data from the new equipment in support of the 28JULY TGW discussion with the Directors.

Thanks.

Jim Taylor
Kentucky Truck Plant PVT Manager
Phone: 502-429-2586
[redacted]
email: jtaylor6@ford.com
-----Original Message-----
From: Lijewski, Angela [mailto:alijewski@rdagroup.com]
Sent: Thursday, July 07, 2005 3:42 PM
To: Hornek, Trindy (T.D.); Taylor, James (J.D.); Drake, Lisa (M.)

Cc: Fodera, Michael (M.J.)
Subject: SuperDuty Daily Reports

All,

Attached please find today's daily report.

Angela

Angela Lijewski
Project Manager
Direct - 248.836.6029
Fax - 248.836.2713
Email - alijewski@rdagroup.com
www.rdagroup.com

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From: Repasky, Steve (S.)
Sent: Friday, September 30, 2005 9:19 AM
To: Carpender, Mark (M.A.)
Cc: O'Connor, Tammy (T.A.)
Subject: RE: Wisconsin Super-Duty

Thanks Mark. I hope to call you later today with Mitch/Tammy on the line to discuss our evaluation results at MPG.

-----Original Message-----
From: Carpender, Mark (M.A.)
Sent: Thursday, September 29, 2005 5:46 PM
To: Repasky, Steve (S.)
Subject: RE: Wisconsin Super-Duty

Steve, sorry I was in Chicago for a Region meeting today and missed the call. If you call me tomorrow I would be glad to discuss the issue.

Mark A. Carpender
Field Service Engineer

Ford Motor Company

Chicago Region- District A

[redacted]

mcarpend@ford.com <mailto:mcarpend@ford.com>

-----Original Message-----
From: Repasky, Steve (S.)
Sent: Wednesday, September 28, 2005 2:04 PM
To: Carpender, Mark (M.A.)
Cc: Mayer, Paul (P.A.); Choe, Mark (M.J.); Hatt, Jeffrey (J.M.); Perri, Ron (R.J.)
Subject: FW: Wisconsin Super-Duty

Mark - Not sure what the customer thinking was on this buyback. I will setup a call-in with you to discuss on Thuursday. Thanks..

-----Original Message-----
From: Ufford, Donald (D.A.)
Sent: Wednesday, September 28, 2005 2:35 PM
To: Perri, Ron (R.J.); Jammoul, Ali (A.); Choe, Mark (M.J.); Repasky, Steve (S.); Norton, John (J.K.)
Subject: FW: Wisconsin Super-Duty

If in fact this truck is as nice as stated below, I am not happy that it was an RAV.

I would like to have an audio with the FSE that was involved in trouble shooting this truck so I can understand exactly how we interacted with the customer and the dealership. My recollection of the features and options tells me that the customer used to have a 6.8L with the camper package……he saved some money and bought a 5.4L without a camper package when we did not have big rebates…..once the big rebates came on, he wanted out from under the truck so he could take advantage of the new rebates and did it by saying his new truck (lower functional option content) did not perform as well as his old truck (higher functional option content).

Steve - you have the lead to pull together the facts so we all can get on the same page and determine how to avoid this in the future.

-----Original Message-----
From: Repasky, Steve (S.)
Sent: Wednesday, September 28, 2005 9:57 AM
To: Ufford, Donald (D.A.)
Cc: Baghdoian, Mitch (M.R.); Choe, Mark (M.J.); Mayer, Paul (P.A.)
Subject: RE: Wisconsin Super-Duty

Don - Mitch evaluated the buyback vehicle at MPG as received both with and without a trailer. His summary is noted below. All indications point to low Right Rear tire pressure as the potential root cause however, it seems the dealer would have checked tire pressure as one of the first items to repair. Vehicle has been returned to Dearborn. If desired, I will locate vehicle and keys for your evaluation. Thanks..

Subject: Grey F350 Findings

156" 4x4 5.4L Auto 19800 miles

275/70/18 Conti A/T Tires	Specs
LF- 63psi	65
LR- 62	65
RF- 62	75
RR- 23	75

Rear Spring- FA
Rear Shocks (FX4)- KCE
Rear Bar - 29mm

Front Spring- AGB
Front Shocks (FX4)- PCD

Track Bar Bracket - 3 horiz bolts slightly loose, everything else tight

Alignment:
0.02 toe in
0.11 cross caster
0.18 cross camber

Clear vision off to left
Drifts left out of lane in 5 sec
Secondary Shake- lots

Trailer Tow- perfect, great lateral stiffness and damping, did 87mph (vmax) double lane changes no problem with and without load bars

Loading for trailer tow (load bars off, no driver):	Customer Loading
3630 front axle	3740
4040 rear axle	4320
6940 trailer axles	6780

-Mitch Baghdoian
F-Series Vehicle Dynamics

-----Original Message-----
From: Ufford, Donald (D.A.)
Sent: Monday, September 26, 2005 12:36 PM
To: Repasky, Steve (S.)
Subject: Wisconsin Super-Duty

Did you drive the buy-back truck and what was it like?

Can I drive it some time.

From: Repasky, Steve (S.)
Sent: Friday, September 30, 2005 9:19 AM
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Cc: O'Connor, Tammy (T.A.)
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Mark A. Carpender
Field Service Engineer

Ford Motor Company

Chicago Region- District A

[redacted]

mcarpend@ford.com <mailto:mcarpend@ford.com>

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Sent: Wednesday, September 28, 2005 2:35 PM
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-Mitch Baghdoian
F-Series Vehicle Dynamics

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Sent: Monday, September 26, 2005 12:36 PM
To: Repasky, Steve (S.)
Subject: Wisconsin Super-Duty

Did you drive the buy-back truck and what was it like?

Can I drive it some time.

From: Johnston, Steven (S.J.)
Sent: Thursday, September 29, 2005 1:32 PM
To: O'Connor, Tammy (T.A.); Norton, John (J.K.); Hale, Curt (B.C.)
Subject: RE: Wisconsin Super-Duty

Was this truck bought back for the shimmy issue??? It appeared to me it was for a lack of trailer control while towing, the trailer would fish tail????

I don't have any other info other than what was already sent to you John.

Steve Johnston
Product Concern Engineer
Super Duty and Excursion Powertrain
FCSD, Service Engineering Operations
Phone - 313-322-1785

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Thursday, September 29, 2005 1:10 PM
To: Norton, John (J.K.); Hale, Curt (B.C.); Johnston, Steven (S.J.)
Subject: RE: Wisconsin Super-Duty

<< Message: RE: Report Summary for the CQIS Report#[redacted] - Possible return steering gear >>
<< Message: RE: Report Summary for the CQIS Report#[redacted] - Possible return steering gear >>
<< Message: RE: Report Summary for the CQIS Report#[redacted] - Possible return steering gear >>
<< Message: RE: Report Summary for the CQIS Report#[redacted] - Possible return steering gear >>

Attached are the notes that I found on this truck.

The truck that Curt is referring to below is another truck with an ABS issue also up in Wisconsin with Mark Carpender. Finally, after an e-mail to Ali, TRW made a trip, it was too late and the truck is in process of being brought back. It was repaired (a little too late), and customer is waiting for his truck to arrive.

Steve Repasky and Paul Mayer talked to Mark on the truck below, but were too busy to go (it was around 4th of July Holiday).

We have a meeting at 2pm to discuss this. Don Ufford needs to know all the facts before he starts pointing fingers, much of the fault is within his group.

Only after Alex Snider called Steve Repasky concerning a fleet of trucks up in Canada, and telling him that the fleet refused to drive them any longer, did Steve finally make a visit to more completely understand the shimmy issue we have been dealing with on 2005-2006 Superduty. Bottom line, they have been slow to respond to any request from FCSD.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Wed,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Thursday)

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-----Original Message-----
From: Norton, John (J.K.)
Sent: Thursday, September 29, 2005 12:44 PM
To: Hale, Curt (B.C.); Johnston, Steven (S.J.); O'Connor, Tammy (T.A.)
Subject: RE: Wisconsin Super-Duty

Do we have any type of paper trail of the requests for help? Please forward any of them including the note to Ali. Thanks!

Regards,

John Norton

Manager, Pickup Truck & Commercial Platforms
Customer Service Engineering
Ford Customer Service Division
Phone: (313) 337-3639
Email: jnorton@ford.com

-----Original Message-----
From: Hale, Curt (B.C.)
Sent: Thursday, September 29, 2005 10:33 AM
To: Norton, John (J.K.); Johnston, Steven (S.J.); O'Connor, Tammy (T.A.)
Subject: RE: Wisconsin Super-Duty

It probably took us over a month of asking before engineering got involved. Engineering involvement only happened after Tammy sent Ali a note and he made them help.

B. Curtis Hale
FCSD PVT Program Manager
F-Super Duty & Excursion

-----Original Message-----
From: Norton, John (J.K.)
Sent: Wednesday, September 28, 2005 3:56 PM
To: Hale, Curt (B.C.); Johnston, Steven (S.J.); O'Connor, Tammy (T.A.)
Subject: FW: Wisconsin Super-Duty

Tammy/Steve,

Can you please get the details of why this truck was bought back? Who was involved (i.e. FSE, District manager, etc.)? What the repair history is? Were there any special circumstances we should know of?

Regards,

John Norton

Manager, Pickup Truck & Commercial Platforms
Customer Service Engineering

Ford Customer Service Division
Phone: (313) 337-3639
Email: jnorton@ford.com

-----Original Message-----
From: Repasky, Steve (S.)
Sent: Wednesday, September 28, 2005 3:48 PM
To: Norton, John (J.K.)
Subject: RE: Wisconsin Super-Duty

1FTSW21575E[redacted]

-----Original Message-----
From: Norton, John (J.K.)
Sent: Wednesday, September 28, 2005 3:35 PM
To: Ufford, Donald (D.A.); Perri, Ron (R.J.); Jammoul, Ali (A.); Choe, Mark (M.J.); Repasky, Steve (S.)
Subject: RE: Wisconsin Super-Duty

Can someone provide me with the Vin# for this truck?

Regards,

John Norton

Manager, Pickup Truck & Commercial Platforms
Customer Service Engineering
Ford Customer Service Division
Phone: (313) 337-3639
Email: jnorton@ford.com

-----Original Message-----
From: Ufford, Donald (D.A.)
Sent: Wednesday, September 28, 2005 2:35 PM
To: Perri, Ron (R.J.); Jammoul, Ali (A.); Choe, Mark (M.J.); Repasky, Steve (S.); Norton, John (J.K.)
Subject: FW: Wisconsin Super-Duty

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Sent: Wednesday, September 28, 2005 9:57 AM
To: Ufford, Donald (D.A.)
Cc: Baghdoian, Mitch (M.R.); Choe, Mark (M.J.); Mayer, Paul (P.A.)

Subject: RE: Wisconsin Super-Duty

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156" 4x4 5.4L Auto 19800 miles

275/70/18 Conti A/T Tires	Specs
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Rear Bar - 29mm

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Track Bar Bracket - 3 horiz bolts slightly loose, everything else tight

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3630 front axle	3740
4040 rear axle	4320
6940 trailer axles	6780

-Mitch Baghdoian
F-Series Vehicle Dynamics

-----Original Message-----
From: Ufford, Donald (D.A.)
Sent: Monday, September 26, 2005 12:36 PM
To: Repasky, Steve (S.)
Subject: Wisconsin Super-Duty

Did you drive the buy-back truck and what was it like?

Can I drive it some time.

From: Carpender, Mark (M.A.)
Sent: Tuesday, October 04, 2005 5:36 PM
To: Liskey, Marcus (M.E.)
Cc: Norton, John (J.K.); O'Connor, Tammy (T.A.); 'jim.hergenroether@gordie.com'
Subject: RE: Wisconsin Super-Duty

John, some additional information. Prior to my visit the dealer checked and torqued all front suspension parts, aligned front end., increased positive caster with the use of caster shims as recommended by our Hotline. All of this I was told and most likely I missed something on their end. Call Jim Hergenroether if you want further information on this vehicle at 606-754-5511, he is the Parts & Service Director at Gordie Boucher Janesville,WI. I am also sending this note to Jim to add his comments so you can get the whole picture. When I became involved I drove the truck with the customer's trailer hooked up and at 45MPH I could feel the vehicle swaying and when I got up to 50 MPH I could hardly control the vehicle. I white knuckled the vehicle and trailer to the next exit, added a bunch of tongue weight by taking customer's load equalizing hitch out of the picture. Went from two chain links to five. Put most of the tongue weight on the rear of the truck. It made the vehicle handle worse. I went back to dealer and removed the trailer and checked for play in steering and found I could move steering wheel three inches before the tires moved. Compared to a stock unit and found that unit had no slack in steering. Adjusted steering gear mesh load 1/4 turn at time and keep improving slack but not eliminating it. After one full turn I found I still had slack, replaced steering gear and slack concern was resolved. Drove truck without trailer and found truck still wandered without trailer. Called and requested engineering come out and drive this truck. Engineering suggested putting camper package front springs on this truck and installed rear sway bar. Customer drove truck and felt it drove worse than before. Met with customer at scales and weighed truck and trailer and sent weights to engineering. Waited for next step from engineering. Customer at this point had enough and suggested we buy truck back, customer met qualifications for Lemon Law. Truck was bought back.

Mark A. Carpender
Field Service Engineer

Ford Motor Company

Chicago Region- District A

[redacted]

mcarpend@ford.com <mailto:mcarpend@ford.com>

-----Original Message-----
From: Liskey, Marcus (M.E.)
Sent: Tuesday, October 04, 2005 10:18 AM
To: Norton, John (J.K.)
Cc: Carpender, Mark (M.A.)
Subject: RE: Wisconsin Super-Duty

John, sorry for the delay in getting you this write-up.

I have been moved markets and have been working on transitioning.

Below are the steps we took to try and resolve the customers concern. (all performed on one RO):

1. Road Tested with and without customers 27 foot trailer (technician, Service manager)
2. Checked and adjusted tire pressures
3. Inspected suspension (nothing abnormal found)

4. Installed a towing Fitch on a stock unit and test drove with and without customers trailer - This vehicle handled the same way
5. Contacted local RV store and coordinated to use one of their stock 27 foot trailers to make sure it was not the customers trailer. - Service manager and customer tested truck with different 27 foot trailer and vehicle exhibited the same handling concerns.
6. FSE inspected vehicle and recommended adjusting the mess load - did not improve performance
7. FSE continues to try and get engineering involved but we were not receiving any response
8. After a few weeks of trying to get engineering to respond we heard back
9. Given direction to install "camper package" front springs - This was the 7th repair visit for the customer (we legally only have 4)
10. The "camper package" springs did not improve the vehicle handling

We (FSE/ZM/Dealership team) were frustrated because we had a customer that was willing to work with us and we could not get the vehicle fixed.

When I uploaded the RAV I entered it for engineering review because I wanted to make sure that it did not go to a RAV repairing dealer where they would not test it with a trailer. If you do not test it with a trailer the truck is OK.

Mark, can you provide John with more details (Names of engineering support, Part #'s, Trailer details)?

-----Original Message-----
From: Norton, John (J.K.)
Sent: Thursday, September 29, 2005 11:39 AM
To: Liskey, Marcus (M.E.)
Cc: Johnston, Steven (S.J.); Hale, Curt (B.C.); O'Connor, Tammy (T.A.)
Subject: FW: Wisconsin Super-Duty

Marc,

Can you provide us with the background on this vehicle and the reasons why it was bought back. Please give me a call when you get a chance! Thanks!

Regards,

John Norton

Manager, Pickup Truck & Commercial Platforms
Customer Service Engineering
Ford Customer Service Division
Phone: (313) 337-3639
Email: jnorton@ford.com

-----Original Message-----
From: Billups, Bill (B.)
Sent: Thursday, September 29, 2005 9:05 AM
To: Johnston, Steven (S.J.)
Cc: Hale, Curt (B.C.); Norton, John (J.K.)
Subject: RE: Wisconsin Super-Duty

Steve,

Not sure as to what information you are looking for. I am limited to whatever the requester (Marcus Liskey-mliskey) placed in the upload as the reason for the buyback of the vehicle. Based on this information, the vehicle was bought back

due to 6 repair attempts for a steering/handling issue. (symptom code 303156)

Below is a copy of the AWS repair history. I would suggest contacting either Marcus (Requester) or the servicing dealer, Gordie Boucher Ford L-M of Janesville, NC, Inc. (608-754-5511) for detailed information pertaining to the vehicle and or customer. Ler me know if you need anything else from me.

[redacted]

1FTSW21575E[redacted]

Regards,

Bill Billups
RAV Analyst
FCSD - Consumer Affairs
PH: (313)845-5708 F: (313)337-3167
Email: bbillups@ford.com

-----Original Message-----
From: Johnston, Steven (S.J.)
Sent: Thursday, September 29, 2005 8:05 AM
To: Billups, Bill (B.)
Cc: Hale, Curt (B.C.); Norton, John (J.K.)
Subject: FW: Wisconsin Super-Duty

Bill, could you please send any documentation or information you have on this RAV please, it has become a hot topic, thanks. 1FTSW21575E[redacted]

Steve Johnston
Product Concern Engineer
Super Duty and Excursion Powertrain
FCSD, Service Engineering Operations
Phone - 313-322-1785

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Wednesday, September 28, 2005 5:33 PM
To: Carpender, Mark (M.A.)
Cc: Johnston, Steven (S.J.); Norton, John (J.K.); Hale, Curt (B.C.)
Subject: RE: Wisconsin Super-Duty

Mark: Can you provide any additional detail on this truck?

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Wed,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Thursday)

This e-mail and any attachments is intended only for the use of the person or persons addressed hereto and may contain legally privileged and/or confidential information. If you are not the intended recipient of this e-mail, you are hereby notified that any dissemination, distribution or copying of this e-mail, and any attachments, is strictly prohibited. If you have received this e-mail in error, please notify me via return e-mail and permanently delete the original and any copy of any e-mail and any printout.

-----Original Message-----
From: Johnston, Steven (S.J.)
Sent: Wednesday, September 28, 2005 4:16 PM
To: Norton, John (J.K.); Hale, Curt (B.C.); O'Connor, Tammy (T.A.)
Subject: RE: Wisconsin Super-Duty

Here's all the info I found, I was never involved. Read the FSE's comments in the CQIS report, interesting, I never heard of any one else having this issue and a lot of people tow with these things.

<< Message: Report Summary for the CQIS Report# [redacted] >> << File: Claims List Report.htm >>

Steve Johnston
Product Concern Engineer
Super Duty and Excursion Powertrain
FCSD, Service Engineering Operations
Phone - 313-322-1785

-----Original Message-----
From: Norton, John (J.K.)
Sent: Wednesday, September 28, 2005 4:01 PM
To: Hale, Curt (B.C.); Johnston, Steven (S.J.); O'Connor, Tammy (T.A.)
Subject: FW: Wisconsin Super-Duty

FYI.. More info.

Regards,

John Norton

Manager, Pickup Truck & Commercial Platforms
Customer Service Engineering
Ford Customer Service Division
Phone: (313) 337-3639
Email: jnorton@ford.com

-----Original Message-----
From: Repasky, Steve (S.)
Sent: Wednesday, September 28, 2005 3:58 PM
To: Ufford, Donald (D.A.); Perri, Ron (R.J.); Jammoul, Ali (A.); Choe, Mark (M.J.); Norton, John (J.K.)
Cc: Mayer, Paul (P.A.); Hatt, Jeffrey (J.M.); Hale, Curt (B.C.)
Subject: RE: Wisconsin Super-Duty

Attached is a **draft** summary of known events for the subject vehicle. Some prior e-mail correspondence may have occurred without my knowledge. Please review and revise as appropriate. Thanks..

<< File: Janesville buyback vehicle.xls >>

-----Original Message-----
From: Ufford, Donald (D.A.)
Sent: Wednesday, September 28, 2005 2:35 PM
To: Perri, Ron (R.J.); Jammoul, Ali (A.); Choe, Mark (M.J.); Repasky, Steve (S.); Norton, John (J.K.)

Subject: FW: Wisconsin Super-Duty

If in fact this truck is as nice as stated below, I am not happy that it was an RAV.

I would like to have an audio with the FSE that was involved in trouble shooting this truck so I can understand exactly how we interacted with the customer and the dealership. My recollection of the features and options tells me that the customer used to have a 6.8L with the camper package……he saved some money and bought a 5.4L without a camper package when we did not have big rebates…..once the big rebates came on, he wanted out from under the truck so he could take advantage of the new rebates and did it by saying his new truck (lower functional option content) did not perform as well as his old truck (higher functional option content).

Steve - you have the lead to pull together the facts so we all can get on the same page and determine how to avoid this in the future.

-----Original Message-----
From: Repasky, Steve (S.)
Sent: Wednesday, September 28, 2005 9:57 AM
To: Ufford, Donald (D.A.)
Cc: Baghdoian, Mitch (M.R.); Choe, Mark (M.J.); Mayer, Paul (P.A.)
Subject: RE: Wisconsin Super-Duty

Don - Mitch evaluated the buyback vehicle at MPG as received both with and without a trailer. His summary is noted below. All indications point to low Right Rear tire pressure as the potential root cause however, it seems the dealer would have checked tire pressure as one of the first items to repair. Vehicle has been returned to Dearborn. If desired, I will locate vehicle and keys for your evaluation. Thanks..

Subject: Grey F350 Findings

156" 4x4 5.4L Auto 19800 miles

275/70/18 Conti A/T Tires	Specs
LF- 63psi	65
LR- 62	65
RF- 62	75
RR- 23	75

Rear Spring- FA
Rear Shocks (FX4)- KCE
Rear Bar - 29mm

Front Spring- AGB
Front Shocks (FX4)- PCD

Track Bar Bracket - 3 horiz bolts slightly loose, everything else tight

Alignment:
0.02 toe in
0.11 cross caster
0.18 cross camber

Clear vision off to left
Drifts left out of lane in 5 sec
Secondary Shake- lots

Trailer Tow- perfect, great lateral stiffness and damping, did 87mph (vmax) double lane changes no problem with and without load bars

Loading for trailer tow (load bars off, no driver):	Customer Loading
3630 front axle	3740
4040 rear axle	4320
6940 trailer axles	6780

-Mitch Baghdoian
F-Series Vehicle Dynamics

-----Original Message-----
From: Ufford, Donald (D.A.)
Sent: Monday, September 26, 2005 12:36 PM
To: Repasky, Steve (S.)
Subject: Wisconsin Super-Duty

Did you drive the buy-back truck and what was it like?

Can I drive it some time.

From: O'Connor, Tammy (T.A.)
Sent: Thursday, June 15, 2006 6:21 PM
To: Hale, Curt (B.C.)
Subject: Shimmy TSB

Attachments: Report Summary for the CQIS Report# [redacted]; Report Summary for the CQIS Report# 6FMBQ017

Report Summary for the CQIS Re...

Report Summary for the CQIS Re...

Curt:

We already have 2 calls on shimmy for 2007 MY -- we need to publish this TSB for 2007 MY. Let's discuss.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: O'Connor, Tammy (T.A.)
Sent: Thursday, June 15, 2006 5:59 PM
To: OConnor, Tammy (T.A.)
Subject: Report Summary for the CQIS Report# [redacted]

Attachments : 0

Report# :	[redacted] NHL			**Received:**	06/08/2006
CCRG/EPRC:		**Reviewed Status:**		**Date:**	
Vehicle:	2007,F350 4X4,CRW CAB,PICKUP ,1FTWW31PX7E[redacted]			**Build Date:**	05/24/2006
Odometer :	8 M	**Engine:**	6.0L DI	**Calibration:**	6F710H0A
Transmission:	5R110W DSL	**Axle:**		**A/C:**	YES
Dealer:	USA 04834 SUNBELT FORD-MERCURY INC			**Phone#:**	(229) 776-7691
City:	Sylvester	**State:**	Georgia	**Country :**	USA

Originator: TIM COOK
Symptom: 3 03 3 51 CHASS.,STRG/HANDLING ,VIB./SHIMMY,ACCEL/DECEL
Status:
VFG: V89 RIDE & HANDLING
Additional Symptom: WHEEL SHIMMY ON ACCEL/DECEL
Fix: **Causal Component :**
Condition Code:

Hotliner:	ABARNE14	**Phone:**	313 317-9373	**Regn Cd:**	SE Southeast
Engineering:		**Phone:**		**TAR:**	
Dlr Contact:	TIM COOK	**Phone:**	000 000-0000	**Title Cde:**	T

Comments :

REPAIR 06/08/2006 11:21AM ANDREW BARNES MSS - FCSD - TECH SVC HOTLINE
TECH STATES THAT THE VEHICLE HAS A CONCERN OF A SHIMMY IN THE STEERING
WHEEL WHEN AT A HIGHWAY CRUISE AND ON ACCEL AND DECEL. OTHERWISE THERE
IS NO CONCERN. HE NOTICED THAT THERE IS NOT A STEERING DAMPER ON THE

TRUCK AND IS SEEKING IF IT IS MISBUILT.

RECOMM 06/08/2006 11:21AM ANDREW BARNES MSS - FCSD - TECH SVC HOTLINE

ADVISED THE TECH THAT THE DAMPER IS AN OPTION AND COULD COME WITHOUT

IT. MAKE SURE THAT THE HUBS ARE UNLOCKED AND NOT TRYING TO ENGAGE AT

THE TIME. ALSO MAKE SURE THAT THERE ARE NO LOOSE STEERING COMPONENTS

AND THE MESH LOAD IN THE GEAR BOX IS SET CORRECTLY. COULD ALSO TRY

SWAPPING THE WHEELS WITH KNOWN GOOD AND RETEST.

From: O'Connor, Tammy (T.A.)
Sent: Thursday, June 15, 2006 6:00 PM
To: OConnor, Tammy (T.A.)
Subject: Report Summary for the CQIS Report# [redacted]

Attachments : 0

Report# :	[redacted] NHL			**Received:**	06/13/2006
CCRG/EPRC:		**Reviewed Status:**		**Date:**	
Vehicle:	2007,F250 4X4,CRW CAB,PICKUP ,1FTSW21P77E[redacted]			**Build Date:**	05/26/2006
Odometer :	48 M	**Engine:**	6.0L DI	**Calibration:**	6F710C0A
Transmission:	5R110W DSL	**Axle:**		**A/C:**	YES
Dealer:	USA 04496 A C Collins Ford, Inc.			**Phone#:**	(281) 604-3700
City:	Pasadena	**State:**	Texas	**Country :**	USA
Originator:	JASON STEPHENS				
Symptom:	3 03 3 51 CHASS.,STRG/HANDLING ,VIB./SHIMMY,ACCEL/DECEL				
Status:					
VFG:	V89 RIDE & HANDLING				
Additional Symptom:	INTERMITTENT SHIMMY				
Fix:	**Causal Component :**				
Condition Code:					

Hotliner: JOWENS28 **Phone:** 000 317-4276 **Regn Cd:** SW Southwest

Engineering: **Phone:** **TAR:**

Dlr Contact: JASON STEPHENS **Phone:** 281 604-3700 **Title Cde:** T

Comments :

REPAIR 06/13/2006 04:57PM JONATHAN OWENS MSS - FCSD - TECH SVC HOTLINE
TECH STATES THE CUSTOMERS CONCERN IS AN INTERMITTENT STEERING WHEEL
SHIMMY WHEN DRIVING AT HIGHWAY SPEEDS. TECH STATES HE DID VERIFY THE
CONCERN. TECH STATES THE CONCERN SEEMS TO BE RELATED TO THE ROAD
CONDITIONS OR ROAD TYPE. TECH SEEKING ADVICE.

RECOMM 06/13/2006 04:57PM JONATHAN OWENS MSS - FCSD - TECH SVC HOTLINE

ADVISE TECH OF NO KNOWN CONCERNS AT THIS TIME. ADVISE TECH TO COMPARE

THIS VEHICLE WITH OTHER LIKE UNITS TO HELP DETERMINE IF THE CONCERN IS

A NORMAL CHARACTERISTIC OR NOT. ADVISE TECH TO CHECK THE TIRE PRESSURE

AND PERFORM NORMAL DIAGNOSIS AND REPAIRS IF THE CONCERN IS ABNORMAL.

From: Brandt, Andrew (D.)
Sent: Tuesday, September 13, 2005 11:13 AM
To: O'Connor, Tammy (T.A.)
Subject: Shudder After Bumps

Tammy, I was just sorting an issue with Ron Canal in the Southwest Region and he mentioned he is having trouble with F250 SD after going over bumps. He said all other vehicles do fine with a TSB fix but not the 250's. Does this sound familiar?

Andrew Brandt
Ford Customer Service Division
Product Concern Engineer - E Series
Service Engineering Office
416 Diagnostic Service Center II (DSCII)
Phone/Fax: 313-323-2381

From: Sprunger, Jon (J.L.)
Sent: Monday, July 10, 2006 4:46 PM
To: O'Connor, Tammy (T.A.)
Subject: Steering Oscillation TSB

Attachments: [redacted]pdf

Tammy,

I am still prepping this one for collab. You currently have three dampers on your part list. Can you confirm what application each should be used on? Thanks.

[redacted]p
df (67 KB)

Sincerely,

Jon Sprunger
Global Technical Communications - FCSD
TSB/SSM Processing
Phone: (313)32-32272
Fax: (313)24-86449
jsprunge@ford.com

STEERING WHEEL OSCILLATION

Concern Tracking# [redacted]

FORD:
2005-2007 F-Super Duty

This article supersedes TSB **05-22-1** to update the vehicle model years, causal part numbers, service procedures and labor operations.

ISSUE

Some 2005-2007 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion), immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on 4x4 vehicles, and is more evident on trucks equipped with a gas engine.

ACTION

Refer to the following Service Procedure to minimize the steering wheel oscillations on impacts, however, there may be some remaining minor oscillation which would be considered normal.

SERVICE PROCEDURE

- Check Tire Pressure, Road Test Vehicle to evaluate vehicle before proceeding with further repairs. If issue is resolved, do not proceed with the rest of this TSB.
- If concern still exists, check steering damper for leaks; torque steering and suspension fasteners per Workshop Manual.
- If concern still exists, check Front Alignment and Reduce front caster
- Replacement Of Redundant Control Steering Wheel (if equipped and vehicle built prior to 10/8/2004).

VEHICLE INSPECTION - TIRE PRESSURE

1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

NOTE
SETTING TIRE PRESSURE TO DOOR SPECIFICATION IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE.

ROAD TEST VEHICLE BEFORE PROCEEDING WITH FURTHER REPAIRS

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the customer's issue.
3. During the road test, evaluate and note the steering wheel return-ability.
   a. Turn steering wheel full lock to lock to confirm no binding.
   b. Locate center, and then 45 degrees either side of center on the steering wheel.
   c. Driving vehicle at 35 MPH (56 Km/h), on a dry and flat road surface, turn the wheel 45 degrees and release. Note the approximate angle that the steering wheel returns to BEFORE CLEAR VISION. Perform and record the angle for both left and right. It is normal if the angle differs slightly from left to right.
4. If no issues are identified during the road test, do not proceed with the rest of this TSB.

STEERING DAMPER & TORQUE STEERING AND SUSPENSION FASTENERS

1. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.

NOTE: The information in Technical Service Bulletins is intended for use by trained, professional technicians with the knowledge, tools, and equipment to do the job properly and safely. It informs these technicians of conditions that may occur on some vehicles, or provides information that could assist in proper vehicle service. The procedures should not be performed by "do-it-yourselfers". Do not assume that a condition described affects your car or truck. Contact a Ford, Lincoln, or Mercury dealership to determine whether the Bulletin applies to your vehicle. Warranty Policy and Extended Service Plan documentation determine Warranty and/or Extended Service Plan coverage unless stated otherwise in the TSB article.The information in this Technical Service Bulletin (TSB) was current at the time of printing. Ford Motor Company reserves the right to supercede this information with updates.The most recent information is available through Ford Motor Company's on-line technical resources.

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[redacted]

a. If leaks are present, install a new steering damper.

2. Check torques on the following steering and suspension fasteners and adjust to specification as required (see Table below).

Torque Specification		
Description	**Lb-ft**	**Nm**
Damper nuts (4x2)	59	80
Damper-to-bracket (F-250, F-350 4x4)	26	35
Damper-to-drag link	67	91
Drag link-to-pitman arm nut	148	201
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts and bolts	129	175
Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE
ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE.

FRONT WHEEL ALIGNMENT AND REDUCE FRONT CASTER

Measure wheel alignment. Verify that Front Caster, Camber and Total Toe is within specification. Adjust as required. Refer to the Workshop Manual, Section 204-00 for complete alignment specifications.

REDUCE FRONT CASTER

- Note the current front caster
- Use alignment adjustment bushings to Reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit. Use Alignment adjustment bushings:

F-250/350 4x4:

- 5C3Z-3B440-CCC (0.5 degree bushing)
- 5C3Z-3B440-DDD (0.75 degree bushing)
- 5C3Z-3B440-EEE (1.0 degree bushing)

F-450/550 4x4 and 4x2:

- 5C3Z-3B440-HHH (0.5 degree bushing)
- 5C3Z-3B440-JJJ (0.75 degree bushing)
- 5C3Z-3B440-KKK (1.0 degree bushing)

F-250/350 4x2:

- 5C3Z-3B440-C (0.5 degree busing)
- 5C3Z-3B440-D (0.75 degree bushing)
- 5C3Z-3B440-E (1.0 degree bushing)

For All 4x4 and for F-450/550 4x2:

- Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward and inboard position (See Figure 1)

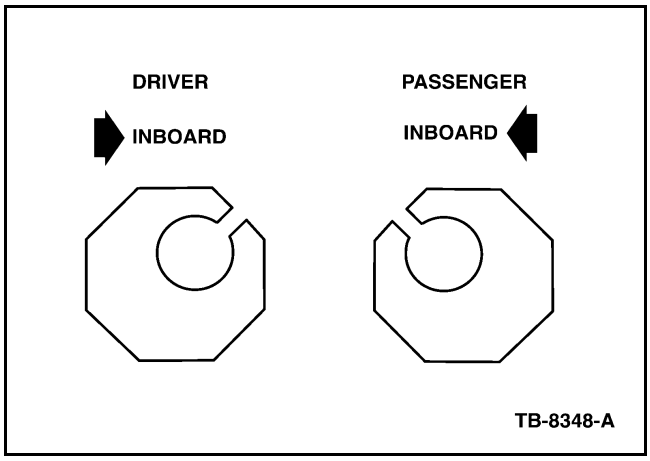


Figure 1 - Article [redacted]1

- This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed
- The final caster and camber settings must be within the specification limits
- Maintain the current front camber, cross-camber and cross-caster settings as close as you possibly can
- Adding weight behind the rear axle lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster

For All F-350/250 4x2:

- Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain that position while moving the caster position forward in the truck
- The final caster and camber settings must be within the specification limits

NOTE
CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 Only

NOTE
THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual Section 211-04 for complete instructions.
2. Remove the steering wheel.
3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE
FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

NOTE
THE WHEEL ALIGNMENT LABOR OPERATIONS MAY BE CLAIMED WITH THE REPAIR OPERATIONS IN THIS ARTICLE.

PART NUMBER	PART NAME
5C7Z-3600-ABA	Redundant Control Steering Wheel Asy (King Ranch Tan/Peb)
5c7z-3600-CBA	Redundant Control Steering Wheel Asy (Charcoal Black)
5C3Z-3E651-CA	???? Damper
5C3Z-3E651-D	???? Damper
5C3Z-3E651-B	???? Damper
5C3Z-3B440-C	F-250/350 4x2 (0.5 degree bushing)
5C3Z-3B440-CCC	F-250/350 4x4 (0.5 degree bushing)
5C3Z-3B440-D	F-250/350 4x2 (0.75 degree bushing)
5C3Z-3B440-DDD	F-250/350 4x4 (0.75 degree bushing)
5C3Z-3B440-E	F-250/350 4x2 (1.0 degree bushing)
5C3Z-3B440-EEE	F-250/350 4x4 (1.0 degree bushing)
5C3Z-3B440-HHH	F-450/550 4x4 and 4x2 (0.5 degree bushing)
5C3Z-3B440-JJJ	F-450/550 4x4 and 4x2 (0.75 degree bushing)
5C3Z-3B440-KKK	F-450/550 4x4 and 4x2 (1.0 degree bushing)

WARRANTY STATUS: Eligible Under Provisions Of New Vehicle Limited Warranty Coverage

OPERATION	DESCRIPTION	TIME
07006r1A	2005-2007 F-Super Duty: Check Tire Pressure, Road Test To verify Repair, Concern Resolved, Return To Customer (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	0.4 Hr.
07006r1B	2005-2007 F-Super Duty: Check Tire Pressure, Road Test To verify Repair, Concern Not Resolved, Check Steering Damper Replace If Necessary, Verify Proper Torque On Steering Components, Road Test If Concern Is Resolved Return To Customer (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	1.4 Hrs.
07006r1C	2005-2007 F-Super Duty 250/350 4X2: Check And Adjust Front Wheel Alignment, This Labor Operation Can Be Claimed With Operation B Only (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	1.9 Hrs.
07006r1C	2005-2007 F-Super Duty 250/350 4X4, F450/550 4X2/4X4: Check And Adjust Front Wheel Alignment, This Labor Operation Can Be Claimed With Operation B Only (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	2.3 Hrs.
07006r1D	2005-2007 F-Super Duty With Redundant Steering Control Built Prior To 10-8-2004: Replace Steering Wheel, Includes Time To Depower And Repower The Supplemental Restraints System Can Be Claimed With Operation A Or B (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	0.7 Hr.

Concern Tracking# [redacted] (Continued)

DEALER CODING

BASIC PART NO.	CONDITION CODE
3E651 (OPERATION ?)	42
FRONT (OPERATION ?)	42
TIRE (OPERATION ?)	42

OASIS CODES: 303000, 304000, 306000, 703000, 703000, 703200, 703200, 703300, 703300, 703400, 703400

From: Hale, Curt (B.C.)
Sent: Tuesday, August 01, 2006 1:20 PM
To: Steward, Gene (E.A.)
Cc: O'Connor, Tammy (T.A.)
Subject: Steering Shimmy

Gene,

Make sure TSB 06-15-01 has been followed exactly as written. As mentioned in the TSB there will always be some level of shimmy and tire pressure is critical. If you are confident that the TSB has been correctly applied we can get Steve Repasky involved.

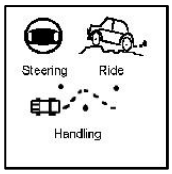
B. Curtis Hale
FCSD PVT Program Manager
F-Super Duty & Excursion

From: Repasky, Steve (S.)
Sent: Monday, December 04, 2006 10:10 AM
To: Ufford, Donald (D.A.); Fass, Alan (A.L.); Asay, Larry (L.L.); O'Connor, Tammy (T.A.); Frantzeskakis, Petros (Peter.)
Cc: Wegienka, Michael (M.J.); Gompper, Dan (D.B.); Choe, Mark (M.J.)
Subject: Trip report of Visit to Duke Energy Field Services Superduty Fleet - Midland, TX. And Hobbs, N.M.

Attachments: 2006 Surperduty Dealer visit-Midland_Tx and Hobbs_NM Rev3.doc

Attached is the subject trip report from our visit to the Duke Energy Field Services fleet on Nov. 8/9 , 2006.

2006 Surperduty Dealer visit-M...



Ford Motor Company

BUILT Ford TOUGH

BoF Vehicle Dynamics Development Report

Subject: Visit to Duke Energy Fields Services Superduty Fleet – Midland, Tx. and Hobbs, N.M. – Nov. 8-9, 2006.

Objective:

To conduct an engineering review of a portion of the Duke Energy Field Services Superduty fleet (Six 2005/06 4x4 vehicles) for a steering wheel oscillation and front end shake concern.

Participants: Ford Motor Company

November 8 -9

Steve Repasky, Supervisor Vehicle Dynamics BoF OPD Vehicle Eng.
Mike Wegienka, Vehicle Dynamics Engineer
Alan Fass, Field Technical Specialist for the Region
Larry Asay, Western Region Fleet manager

Duke Energy Field Services

Duke Energy representatives from Safety/Asset management/Field services

Background:

Duke Energy Field Services is a Ford fleet customer with numerous (~200+) 05/06 Superduty vehicles of various configurations. Drivers have expressed a concern on 4x4 vehicles with steering wheel oscillatory motion and front end shake when travelling over local roads/highways in the ordinary course of their job. Vehicle speeds observed ranged from 55+ MPH on local roads to 75+ MPH on the highway.

The FCSD Western Region fleet manager (Larry Asay) contacted Ford FCSD/Vehicle Dynamics requesting an engineering review of the subject Superduty vehicles. The noted participants visited Duke Energy Field Services in Midland, TX. (Nov. 8) and Hobbs, N.M. (Nov. 9) to review (6) of the concern vehicles. Vehicle specifications and comments are noted on Attachment I.

The customer indicated the vehicle concern still existed even after the published Superduty TSB 06-22-14 had been completed. Part of the TSB emphasizes the need to maintain tire pressures at the specified vehicle placard pressures. Our reviews began with a check of initial tire pressure and setting as required to specified placard tire pressures. After setting to placard tire pressures, we asked the customer to demonstrate the noted concern on "typical" road surfaces. The team of Ford and Duke Energy personnel drove (4) of the (6) vehicles and were unable to clearly demonstrate the complaint condition.

Various vehicle checks and adjustments according to the TSB were completed over the 2 day period. As noted on Attachment I, some vehicle modifications such as adding an additional leaf(s) to the rear springs, use of aftermarket road and steering shocks and non-OE tire replacements had been made.

Prior to our departure, one of the Duke Energy Fields Services drivers who had noted the original concern, evaluated his vehicle after the TSB check and adjustments were made and indicated complete satisfaction with the condition of his vehicle i.e. unable to duplicate the concern. When contacted by Alan Fass on Nov. 14, the driver expressed continued satisfaction with his vehicle.

Conclusion Summary:

The following conclusions were reached by the participants:

1) Full and complete application of the TSB does correct the vehicle shake concern. We were unable to duplicate the expressed concern at vehicle placard specified tire pressures.

2) Maintenance of specified placard tire pressure is difficult to maintain for the fleet operators in the normal course of their field work.

3) Agreement to work with the fleets through FCSD to investigate steering damper improvements to improve robustness of the system to front end shake.

Recommendation:

Continue to work with FCSD and customer Fleet representatives to evaluate any proposed steering damper improvements.

Continue to emphasize to Fleet operators the importance of proper tire inflation pressures.

Date Issued:	**11/17/2006**	**Report Number: 27.60-VD-P131.06-120**		
Prepared by:	**Reviewed by:**	**Circulation:**		
Steve Repasky	Manager	P. Frantzeskakis	T. O'Connor	A. Fass
Mike Wegienka	Mark Choe	D. Ufford	L. Asay	

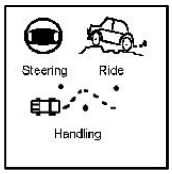
From: Repasky, Steve (S.)
Sent: Thursday, February 15, 2007 2:44 PM
To: Choe, Mark (M.J.); Frantzeskakis, Petros (Peter.); O'Connor, Tammy (T.A.); Gompper, Dan (D.B.)
Cc: Ufford, Donald (D.A.)
Subject: Trip reports for Superduty concerns

Attachments: 2006 Surperduty Dealer visit-Defiance Ohio Feb 2 2007 Rev1.doc; 2006 Surperduty Dealer visit-Hobbs_NM 2nd Visit_Dec2006.doc

Attached are two trip reports for recent visits to dealerships regarding 2005-2007 Superduty vehicles.

2006 Surperduty Dealer visit-D...

2006 Surperduty Dealer visit-H...



Ford Motor Company

BUILT Ford TOUGH

BoF Vehicle Dynamics Development Report

Subject: Visit to Mark Moats Ford Dealership – Defiance, Ohio – Feb. 2, 2007.

Objective:

To investigate and repair a customers 2006 Superduty (VIN 1FTSW20P46E[redacted]) for a vehicle vibration concern at the local Ford dealership (Mark Moats Ford) in Defiance, Ohio.

Participants:

Steve Repasky, Supervisor Vehicle Dynamics BoF Vehicle Eng.
George Gunlock, Tire and Wheel engineer
Dave Seufert (via Phone), KTP PVT Chassis engineer
Brian Manon, Service Manager at Mark Moats Ford

Background:

A Superduty customer requested Ford engineering assistance to have a vehicle vibration concern fixed on his 2006 vehicle. The customer's concern reached the desk of Ford's CEO Alan Mullaly who requested engineering follow-up. George Gunlock and I worked with FCSD to made plans to investigate the concern prior to weeks end on Feb. 2. Tires and appropriate components were obtained from KTP for use in the investigation. FCSD was instrumental in setting up the customer appointment.

Summary:

The customer indicated the vehicle concern existed on smooth road surfaces at various speeds > 45 MPH. He provided data charts indicating the various vehicle/engine speeds and potential root causes such as tires/wheels and driveshaft imbalance. The vehicle tire/wheel road forces and balance had been checked/corrected the previous Friday (Jan. 26, 2007) by the Ford FSE representative.

Our review began with subjective and objective verification of the vehicle concern in the as-received condition on the same road surface of the customer's complaint (US 24). Vetronics seat and steering wheel data was obtained and used to verify any improvements. The next step was to measure hub to wheel bore clearance at all 4 corners and then have the T/W assemblies road forced and balanced. All (4) assemblies measured had moderate to low R1H (31,15,6,27) and acceptable static and dynamic balance (1 assembly tweaked to improve balance). T/W assemblies were reinstalled with the "high spot" at the 12 o'clock position. The vehicle was then road tested with minimal change to the vibration.

We then had the "mass damper" (TSB pending) installed on the left rear portion of the trailer hitch receiver bracket. (3) holes were drilled in the bracket and the damper installed by shop technicians. Vehicle evaluation indicated a "slight" improvement in the steering wheel and seat shake at speeds in the 45-50 MPH range.

Final repairs were to balance the two piece driveshaft at the forward portion of the second part of the driveshaft. Dave Seufert was consulted via phone and led George and I through the process using a stainless steel band clamp trialed at several positions on the circumference of the shaft. An optimum weight and location was determined from this iterative process. Improvement was verified both subjectively and objectively.

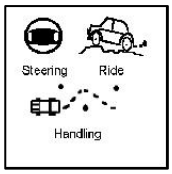
Conclusion Summary:

The following conclusions were reached:

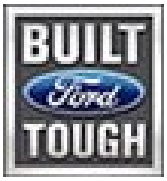
1) Initial Vehicle shake concern was confirmed on this particular vehicle on the specific surface under the noted driving conditions in the as-received condition.

2) The repairs affected met customer satisfaction expectations. The customer provided a follow-up e-mail expressing full and complete satisfaction with his vehicle

Date Issued:	**2/15/2007**	**Report Number: 27.60-VD-P131.06-121**		
Prepared by:	**Reviewed by:**	**Circulation:**		
Steve Repasky George Gunlock	Manager Mark Choe	P. Frantzeskakis D. Ufford	D. Rohweder D. Seufert	T. O'Connor



Ford Motor Company



BoF Vehicle Dynamics Development Report

Subject: 2nd Visit to Duke Energy Fields Services Superduty Fleet – Hobbs, N.M. – Dec. 15, 2006.

Objective:

To conduct an engineering review of a specific vehicle (VIN E[redacted] of the Duke Energy Field Services Superduty fleet located in Hobbs, N.M. for a steering wheel oscillation and front end shake concern.

Participants: Ford Motor Company

December 15 Steve Repasky, Supervisor Vehicle Dynamics BoF OPD Vehicle Eng.

Duke Energy Field Services

Duke Energy representative – Perry Drenen

Background:

Duke Energy Field Services is a Ford fleet customer with numerous (~200+) 05/06 Superduty vehicles of various configurations. Drivers have expressed a concern on 4x4 vehicles with steering wheel oscillatory motion and front end shake when travelling over local roads/highways in the ordinary course of their job. Vehicle speeds observed ranged from 55+ MPH on local roads to 75+ MPH on the highway.

The FCSD Western Region fleet manager (Larry Asay) contacted Ford FCSD/Vehicle Dynamics requesting an engineering review of the subject Superduty vehicles. A team of Ford people first visited Duke Energy Field Services in Midland, TX. (Nov. 8) and Hobbs, N.M. (Nov. 9) to review (6) of the concern vehicles. Installation of a 2008 MY steering damper on one of the vehicles was completed at this time.

Summary:

The customer indicated the vehicle concern was still exhibited on a particular road surface with the vehicle that had the 08 damper installed. I travelled to Hobbs, N.M. to evaluate the particular vehicle noted on the specific road surface. My review began with a verification of initial tire pressure (at placard) and condition of the steering damper (no visible damage). After the vehicle review, I asked the customer to demonstrate the noted concern on the particular road surface.

We travelled approx. 35 miles on highway 180 to highway 176. Between mile markers 1 and 2 the vehicle was driven several times over the particular surface. It was a slight undulating asphalt paved surface for ~ 35 - 45 feet followed by a slightly "tighter" (but still 3-5 ft. long) washboard surface (~ 35 ft. long) at various speeds and brake applications. At speeds less than 65 MPH the front end disturbance was very minor and of short duration. At speeds > 70 up to 75 without brake applications, the concern was noted. It was of short duration and moderate to high intensity. With low to moderate brake application at 65 MPH+, the concern was again of short duration but high amplitude. I then drove the vehicle back to the home office on "typical" roads at various speeds to determine if the concern could be duplicated on other road surfaces (it was not).

I left the Duke Energy home office indicating our desire to have the vehicle serviced at the local Ford dealership for an alignment check and replacement of the steering gear and steering damper for engineering review in Dearborn.

Conclusion Summary:

The following conclusions were reached:

1) Vehicle shake concern was confirmed on this particular vehicle on the specific surface under the noted driving conditions.

2) Agreement to continue work with the fleets through FCSD to investigate effectiveness of the 2008 steering damper for improvements in robustness of the vehicle to front end shake.

Date Issued:	**2/15/2007**	**Report Number: 27.60-VD-P131.06-122**		
Prepared by:	**Reviewed by:**	**Circulation:**		
Steve Repasky	Manager Mark Choe	P. Frantzeskakis D. Ufford	T. O'Connor L. Asay	A. Fass

From: Repasky, Steve (S.)
Sent: Wednesday, November 01, 2006 6:37 PM
To: Carver, Lewis (L.H.)
Cc: O'Connor, Tammy (T.A.)
Subject: Visit to Hobbs, N.M.

Lew - thanks for your comments on today's call-in regarding Superduty. I would like to talk with you in the AM regarding your experiences with the various fleets in your area of the country. Is any particular time most convenient? I'll try in the AM to see what arrangements I can make to get out to visit the various fleets with your assistance. Do you have a particular Ford dealership in the area that would be available to work with on some of the fleet vehicles.? Thanks...

From: Hearn, Chet (C.)
Sent: Tuesday, August 22, 2006 11:56 AM
To: Shaver, Tom (T.J.)
Subject: Web Forum for Super Duty

Shimmy complaints...

[redacted]

Chet Hearn
Vehicle Dynamics Supervisor
EVB 1WE02
Mail Drop X16
[redacted]
FAX: (313) 84-51776

PE07-057

FORD

2-4-2008

APPENDIX I

Non-Confidential Warranty

From: Matthews, Steve (S.D.)
Sent: Wednesday, June 13, 2007 2:42 PM
To: Boals, Shannon (S.D.)
Cc: Oswalt, Greg (G.G.); Jones, Rick (W.P.)
Subject: 2005 - 2007 F250 F350 Alleged Steering Shimmy caused accident

Attachments: 05 - 07 F250 F350 Steering Shimmy Vehicle histories.xls

Shannon,

Attached to this email is an excel file with data relating to 2005 thru 2007 F250 and F350 that exhibit a steering shimmy. The 4 vehicles identified in the excel file allegedly exhibited the steering shimmy and resulted in the customers having an alleged accident. I have included all the reports for each of the identified VINs. I have highlight the text in **RED** where the comments indicate the shimmy condition relates to the alleged loss of vehicle control. The **rows** that are highlighted in yellow, are shimmy/vibration related reports showing any potentially related repairs the dealerships may have made in their attempt(s) to address the concern.

1 report indicates an EAA investigator was sent to examine the vehicle. I have requested a copy of that report and will forward it to you when I receive a copy.

If you have any questions regarding the email or the attachment, please contact me.

05 - 07 F250
350 Steering Shi.

Steve Matthews
Product Concern Analyst
Automotive Safety Office
313.24.83764

2005 thru 2007 F250 F350
Alleged Steering Shimmy with Alleged Accident/Injury
Vehicle Histories

ECI Record ID	Source Code	Time In Service	Repair/Report/ Paid Date	Load Date	Causal Part Prefix	Causal Part Base	Causal Part Suffix	Causal Part Name	Dealer Code	Dealer Name	Dealer City	Dealer State/Province	Dealer Country	VIN	Production Date	Model Year	Vehicle Description	Engine Description	Transmission	Body Cab Style	Drive Line	Plant Description	Warranty Start Date	Mileage	Customer Comments	Technician Comments	CQIS Recommendations
	MORS/CUDL		6/4/2007	6/6/2007 6:07				NOT PROVIDED BY SOURCE	*156200*	PHIL LONG FORD, LLC	COLORADO SPRINGS	CO	USA	1FTSX21547EA	6/27/2006	2007	F-250 SD	MOD 5.4L-3V SOHC GAS/ESSEX	5 SPD AUTO TRANS NAAO 5R110W	SUPER SINGLE CAB (SUPER CAB)	4 WHL L/H PART TIME DRIVE	KENTUCKY TRUCK PLANT BUILD	9/12/2006	26696	**LPA RECEIVED ISSUE INFORMATION FROM ROY KEISER, SM, PHIL LONG FORD, P/A: 03140, PH: 719 845-5810. ACCORDING TO THE INFORMATION PROVIDED, THE DRIVER ALLEGES THAT THE FRONT-END BEGAN TO VIBRATE, HE LOST CONTROL, AND ROLLED THIS VEHICLE SERVERAL TIMES. THE DRIVER SUSTAINED INJURY. INCIDENT DATE: 6-4-2007. VEHICLE IS NOT AT PHIL LONG FORD. **LPA WILL REQUEST AN EAA VEHICLE INSPECTION. **LPA SPOKE TO ROBERT HODNETT, PIONEER NATURAL RESOURCES, PH: 719 845-4326. HE CONFIRMED THE ISSUE INFORMATION AND ADDED THAT THE DRIVER WAS TRAVELING ON A HWY (SPEED LIMIT 75 MPH), HE ATTEMPTED TO BRAKE, VEHICLE LOCKED UP, WENT INTO A DITCH AND ROLLED.. MR. HODNETT INDICATED THAT THERE HAVE BEEN ONGOING STEERING CONCERNS WITH OTHER F-250S IN HIS FLEET AND THE DLRS HAVE NOT BEEN ABLE TO ADDRESS THE CONCERNS. THE DRIVER RECEIVED MEDICAL ATTENTION FOR INJURIES. MR. HODNETT WOULD NOT PROVIDE INFORMATION RE: THE EXTENT OF INJURIES. VEHICLE LOC: SWETKY BROS. 376 KENTUCKY AVE, TRINADAD, CO. CONTACT: JIM, PH: 719 846-2888.		
	AWS	4	1/10/2006	1/16/2006 18:12		TWC01		TIRE DEFECT WARRANTY	*05093 *	CONKLIN CARS NEWTON	NEWTON	KS	USA	1FTSX21Y16EA	9/17/2005	2006	F-250 SD	6.8L 3V EFI NA V10 GAS	5 SPD AUTO TRANS NAAO 5R110W	SUPER SINGLE CAB (SUPER CAB)	4 WHL L/H PART TIME DRIVE	KENTUCKY TRUCK PLANT BUILD	9/19/2005	8492	R R TIRE BLEW OUT AT HIGHWAY SPEEDS NO OUTSIDE DAMAGE COULD BE DETECTED.	1 VERIFIED CONCERN. REMOVED AND REPLACED THE R R TIRE AND TESTED OK.	
	AWS	10	7/12/2006	7/16/2006 18:11	6CSZ	10346	AA	ALTERNATOR LESS PULL	*03140 *	PHIL LONG FORD, LLC	COLORADO SPRINGS	CO	USA	1FTSX21Y16EA	9/17/2005	2006	F-250 SD	6.8L 3V EFI NA V10 GAS	5 SPD AUTO TRANS NAAO 5R110W	SUPER SINGLE CAB (SUPER CAB)	4 WHL L/H PART TIME DRIVE	KENTUCKY TRUCK PLANT BUILD	9/19/2005	25127	CUSTOMER STATES VEHICLE DIED AFTER BATTERY LIGHT FLASHED ON AND OFF SEVERAL TIMES. RECHARGED BATTERIES AND VEHICLE STARTED AND RAN NORMALLY FOR ABOUT 1 MILE AND DIED AGAIN. CUSTOMER AN ELE	CHARGED & TESTED BATTERY PASSED CHARGING 14.3 VOLTS MT TIME TO TEST FOR DRAWS NONE FOUND NO SHORTS ALL CONNECTIONS GOOD & TIGHT WIGGLE TEST ON HARNESSES NO CHAFING LOADED SYSTEM HEAVILY RETEST BATTERY LIGHT LIGHTLY CAME ON VOLTAGE DROPPED AMPS DROPPED TESTED AND REPLACED ALTERNATOR TEST DROVE OK RETEST OK	
	AWS	10	7/27/2006	7/31/2006 18:11		13A409		WIRING ASY-RR LAMP C	*05093 *	CONKLIN CARS NEWTON	NEWTON	KS	USA	1FTSX21Y16EA	9/17/2005	2006	F-250 SD	6.8L 3V EFI NA V10 GAS	5 SPD AUTO TRANS NAAO 5R110W	SUPER SINGLE CAB (SUPER CAB)	4 WHL L/H PART TIME DRIVE	KENTUCKY TRUCK PLANT BUILD	9/19/2005	25741	CUSTOMER IS SEEKING REIMBURSMENT FOR BREAKING DOWN OUT OF STATE. HAD TO HAVE A FRIEND DRIVE FROM KS TO CO TO PICK UP HIS HORSE TRAILER AND BRING IT ANS HIS FAMILY BACK EARLY .	CALLED REGIONAL REP. RECEIVED APPROVAL TOGIVE F ULL REIBURSTMENT TO CUSTOMER FOR RECEIPTS BROQU HT IN. TOTAL AMOUNT IS 738.73. AUTH PER REP IS KobAZ.	
	MORS/CUDL		7/31/2006	8/1/2006 18:11				NOT PROVIDED BY SOURCE	*153643*	CONKLIN CARS NEWTON	NEWTON	KS	USA	1FTSX21Y16EA	9/17/2005	2006	F-250 SD	6.8L 3V EFI NA V10 GAS	5 SPD AUTO TRANS NAAO 5R110W	SUPER SINGLE CAB (SUPER CAB)	4 WHL L/H PART TIME DRIVE	KENTUCKY TRUCK PLANT BUILD	9/19/2005	27610	**LPA RECEIVED A DEALER REQUEST FOR CONSUMER AFFAIRS REVIEW FORM FROM DON HAGEMAN, CONKLIN CARS, P/A: 05093, PH: 316 283-1220 X220. ACCORDING TO THE INFORMATION PROVIDED, THE STEERING STARTED TO SHAKE VIOLENTLY, THE DRIVER PULLED OFF THE ROAD TO GET CONTROL, AND HIT A CULVERT. INCIDENT DATE: 7-21-2006. NO INJURIES. VEHICLE LOCATION: CONKLIN CARS. **LPA SPOKE TO DON. HE CONFIRMED THE ISSUE INFORMATION AND DUPLICATED THE CONCERNS. --LPA REQUESTED A COPY OF THE RO AND A REVISED EST. **LPA RECEIVED THE REQUESTED RO FROM DON HAGEMEN, CONKLIN CARS. CONKIN CARS WAS ABLE TO DUPLICATE THE CONCERN. IT WAS DETERMINED THAT THE CONCERN WAS RELATED TO SSM 06-15-1. BASED ON THE DLR PROVIDED INFORMATION, LPA OFFERED GOODWILL REPAIRS FOR VEHICLE BODY DAMAGE. REPAIR EST: $1,635. --LPA RECEIVED CUSTOMER SIGNED OFFER LETTER AND RELEASE, VIA FAX. DLR WAS AUTH. TO PERFORM REPAIRS. IF REPAIRS EXCEED EST, DLR IS TO CONTACT LPA. AN APPROVAL CODE WILL BE PROVIDED WHEN THE REPAIRS ARE COMPLETED. **LPA SPOKE TO DON @ CONKLIN CARS, P/A: 05093. HE INDICATED THAT THE REPAIRS WERE COMPLETED. THE WARRANTY CLERK WILL CONTACT LPA FOR AN APPROVAL C		
	MORS/CUDL		8/10/2006	8/12/2006 14:11				NOT PROVIDED BY SOURCE	*153643*	CONKLIN CARS NEWTON	NEWTON	KS	USA	1FTSX21Y16EA	8/17/2005	2006	F-250 SD	6.8L 3V EFI NA V10 GAS	5 SPD AUTO TRANS NAAO 5R110W	SUPER SINGLE CAB (SUPER CAB)	4 WHL L/H PART TIME DRIVE	KENTUCKY TRUCK PLANT BUILD	9/19/2005	27610	**********ATTORNEY DEMAND**********DATE STAMPED 8-7-06. ATTORNEY ALLEGES CLIENT WAS INVOLVED IN AN ACCIDENT WHEN THE VEHICLE STARTED TO VIOLENTLY VIBRATE AND HE PULLED OFF THE ROAD AND HIT A CULVERT.ATTORNEY DEMANDS CONTACT FROM FORD REPRESENTATIVE. ISSUE ALREADY BEING HANDLED.		
	AWS	12	8/29/2006	8/31/2006 18:11	5C3Z	17757	BA	BAR-FRONT BUMPER IMP	*05093 *	CONKLIN CARS NEWTON	NEWTON	KS	USA	1FTSX21Y16EA	8/17/2005	2006	F-250 SD	6.8L 3V EFI NA V10 GAS	5 SPD AUTO TRANS NAAO 5R110W	SUPER SINGLE CAB (SUPER CAB)	4 WHL L/H PART TIME DRIVE	KENTUCKY TRUCK PLANT BUILD	9/19/2005	27875	TRUCK STEERING STARTED TO SHAKE VIOLENTLY HAD. CUSTOMER HAD TO PULL OFF OF ROAD TO GET CONTROL AND HIT A CULVERT	FIXED BODY REPAIRS DUE TO DAMAGED CAUSED BY A WARRANTY REPAIR	
	AWS	11	9/8/2006	9/12/2006 18:12		3E651		ABSORBER-STEERING SH	*05093 *	CONKLIN CARS NEWTON	NEWTON	KS	USA	1FTSX21Y16EA	9/17/2005	2006	F-250 SD	6.8L 3V EFI NA V10 GAS	5 SPD AUTO TRANS NAAO 5R110W	SUPER SINGLE CAB (SUPER CAB)	4 WHL L/H PART TIME DRIVE	KENTUCKY TRUCK PLANT BUILD	9/19/2005	27610	TRUCK SHAKES WHEN HITTING BUMPS	STILL HAD SOME SHAKE IN FRONT END AFTER TIGHTEN ING BOLTS. SET ALIGNMENT PER SERVICE BULLITEN A AND TEST DROVE. HAD TO CHANGE ALIGNMENT SLUGS	
	MORS/CUDL		10/3/2006	10/4/2006 18:11				NOT PROVIDED BY SOURCE	*153643*	CONKLIN CARS NEWTON	NEWTON	KS	USA	1FTSX21Y16EA	9/17/2005	2006	F-250 SD	6.8L 3V EFI NA V10 GAS	5 SPD AUTO TRANS NAAO 5R110W	SUPER SINGLE CAB (SUPER CAB)	4 WHL L/H PART TIME DRIVE	KENTUCKY TRUCK PLANT BUILD	9/19/2005	26741	ESP PREMIUM CARE PLAN		
	MORS/CUDL		10/9/2006	10/10/2006 18:11				NOT PROVIDED BY SOURCE	*153643*	CONKLIN CARS NEWTON	NEWTON	KS	USA	1FTSX21Y16EA	9/17/2005	2006	F-250 SD	6.8L 3V EFI NA V10 GAS	5 SPD AUTO TRANS NAAO 5R110W	SUPER SINGLE CAB (SUPER CAB)	4 WHL L/H PART TIME DRIVE	KENTUCKY TRUCK PLANT BUILD	9/19/2005	35300	CCST STEVE SOBKIEWICZ CLOSING CASE AS LEGAL HAS BEEN INVOLVED AND CLOSED THE CASE --- NO FURTHER ACTION FROM CCST AS LEGAL HAS FINALIZED THE RESOLUTION CUSTOMER HAS HAD TWO PROBLEMS WITH THIS VEHICLE. HAS BEEN GIVEN FREE EXT WARRANTY AND OTHER COMPINSATION. CUSTOMER STILL OWES THIS DEALERSHIP MONEY FOR TWO TIRES HE PRUCHASED (ALL OF HIS CREDIT CARDS REJECTED). NO ADDITIONAL HELP RECOMMENED BY US. TYPE OF CUSTOMER TO DO NOTHING BUT YELL AND STIR UP TROUBLE (AND NOT PAY HIS BILLS). SO MUCH MORE- CALL IN TO ME FOR FUTHER REVIEW IF NEEDED. CCST STEVE SOBKIEWICZ ADVISED TO CUSTOMER THAT OUR GOAL IS TO REPAIR THE VEHICLE --- CUSTOMER HAS NOT BEEN INTO THE DLR SINCE BEGINNING OF SEPTEMBER --- ADVISED WE NEED TO GET THE VEHICLE INTO THE DLR --- CUSTOMER STATED HE WILL CONTACT SOME DLRS IN THE AREA AND SET UP AN APPOINTMENT --- ONCE CUSTOMER HAS AN APPOINTMENT WILL TRANSFER CASE TO APPROPIATE DLR AND LOOK INTO RENTAL CUSTOMER SAID: -CUSTOMER HAS HAD VEHICLE IN AT LEAST SIX TIMES TO DEALERSHIP FOR SAME CONCERN SINCE HE BOUGHT VEHICLE- CUSTOMER HE HAS BEEN TO DIFFERENT DEALERSHIPS AND FRONT END SHOP AND TI		
	MORS/CUDL		10/9/2006	10/10/2006 18:11				NOT PROVIDED BY SOURCE	*153643*	CONKLIN CARS NEWTON	NEWTON	KS	USA	1FTSX21Y16EA	8/17/2005	2006	F-250 SD	6.8L 3V EFI NA V10 GAS	5 SPD AUTO TRANS NAAO 5R110W	SUPER SINGLE CAB (SUPER CAB)	4 WHL L/H PART TIME DRIVE	KENTUCKY TRUCK PLANT BUILD	9/19/2005	1	CRC ADVISED: -OBC TO BRYAN SPIDEL AND HE SAID CUSTOMER OWES THEM MONEY FOR TIRE BLOW OUT- HAS TOLD CUSTOMER TO BRING VEHICLE BACK IN HAS NOT DONE IT SEVERAL TIMES-VIBRATION WAS EVIDENT THRU TEST DRIVE AND REPAIRED AT THAT POINT, BOLTS LOOSE-CUSTOMER HAS BEEN COMPENSATED FOR ALL REPAIRS INCLUDING EXTRAS AND ADDITIONAL TIRE AND HAS BEEN GIVEN EXTENDED WARRANTY ON POWERTRAIN		
	AWS	12	10/31/2006	11/2/2006 18:11	5C3Z	17757	BA	BAR-FRONT BUMPER IMP	*05093 *	CONKLIN CARS NEWTON	NEWTON	KS	USA	1FTSX21Y16EA	8/17/2005	2006	F-250 SD	6.8L 3V EFI NA V10 GAS	5 SPD AUTO TRANS NAAO 5R110W	SUPER SINGLE CAB (SUPER CAB)	4 WHL L/H PART TIME DRIVE	KENTUCKY TRUCK PLANT BUILD	9/19/2005	27875	VEHICLE WENT INTO DITCH WHEN SUSPENSION TRACK BAR CAME LOOSE	REPLACED DAMAGED BODY PARTS AND REFINISH	
	MORS/CUDL		11/27/2006	11/28/2006 18:11				NOT PROVIDED BY SOURCE	*153643*	CONKLIN CARS NEWTON	NEWTON	KS	USA	1FTSX21Y16EA	8/17/2005	2006	F-250 SD	6.8L 3V EFI NA V10 GAS	5 SPD AUTO TRANS NAAO 5R110W	SUPER SINGLE CAB (SUPER CAB)	4 WHL L/H PART TIME DRIVE	KENTUCKY TRUCK PLANT BUILD	9/19/2005	27610	**********ATTORNEY DEMAND**********FAX DATED: 11-22-06 ATTORNEY ALLEGES CLIENT CONCERN AS DRIVE SHAFT CAUSES VEHICLE VIBRATION AT HIGHER SPEEDS.ATTORNEY DEMANDS CONTACT FROM FORD REPRESENTATIVE. **********ATTORNEY DEMAND********** FAX DATED: 11-22-06 ATTORNEY ALLEGES CLIENT CONCERN AS DRIVE SHAFT CAUSES VEHICLE VIBRATION AT HIGHER SPEEDS.ATTORNEY DEMANDS CONTACT FROM FORD REPRESENTATIVE. ASSIGNED INCORRECTLY. ISSUE WAS TRANSFERRED TO ANOTHER ANALYST INCORRECTLY. WILL CANCEL AND REOPEN.		
	MORS/CUDL		12/7/2006	12/9/2006 14:11				NOT PROVIDED BY SOURCE	*153643*	CONKLIN CARS NEWTON	NEWTON	KS	USA	1FTSX21Y16EA	9/17/2005	2006	F-250 SD	6.8L 3V EFI NA V10 GAS	5 SPD AUTO TRANS NAAO 5R110W	SUPER SINGLE CAB (SUPER CAB)	4 WHL L/H PART TIME DRIVE	KENTUCKY TRUCK PLANT BUILD	9/19/2005	27610	E-MAIL TO ZM FAX ACK. **********ATTORNEY DEMAND**********FAX RECEIVED 11-22-06. ATTORNEY ALLEGES CLIENT'S VEHICLE HAS BEEN SERVICED FOR VIBRATIONS CONCERNS.ATTORNEY DEMANDS CONTACT FROM FORD REPRESENTATIVE. BASED ON INFORMATION REVIEW/PROVIDED, DENIED. FAXING DENIAL LETTER TO ATTORNEY. LPA REVIEWED DOCUMENTS FROM PREVIOUS ANANLYST. LPA CONTACTED SM/CONKLIN FORD FOR INFORMATION.		

2005 thru 2007 F250 F350
Alleged Steering Shimmy with Alleged Accident/Injury
Vehicle Histories

AWS	16	1/30/2007	2/3/2007 14:57	2C3Z	4602	APX	DRIVESHAFT ASY INCL	"07330 "	MIDWAY MOTORS FORD, LINCOLN, M	MCPHERSON	KS	USA	1FTSX21Y16EA	8/17/2005	2006	F-250 SD	6.8L 3V EFI NA V10 GAS	5 SPD AUTO TRANS NAAO 5R110W	SUPER SINGLE CAB (SUPER CAB)	4 WHL L/H PART TIME DRIVE	KENTUCKY TRUCK PLANT BUILD	9/19/2005	46052	DRIVELINE VIBRATION AT HIGHWAY SPEEDS	TEST DROVE SHAFT MISPHASED.PHASED TEST.VIBRATION STILL PRESENT.DEGREE PHASE.STILL PRES.REPLACED SHAFT AND RETEST.	
AWS	16	1/30/2007	2/3/2007 14:57		9D653		CANISTER F/VAPOR CNS	"07330 "	MIDWAY MOTORS FORD, LINCOLN, M	MCPHERSON	KS	USA	1FTSX21Y16EA	8/17/2005	2006	F-250 SD	6.8L 3V EFI NA V10 GAS	5 SPD AUTO TRANS NAAO 5R110W	SUPER SINGLE CAB (SUPER CAB)	4 WHL L/H PART TIME DRIVE	KENTUCKY TRUCK PLANT BUILD	9/19/2005	46052	FUELTANK SLOW TO FILL	PERFORMED TSB 06 19 15,REPLACE CARBON CANISTER AND FRESH HOSE KIT.	
MORS/CUDL		2/27/2007	2/28/2007 18:11				NOT PROVIDED BY SOURCE	"153553"	MIDWAY MOTORS FORD, LINCOLN, M	MCPHERSON	KS	USA	1FTSX21Y16EA	8/17/2005	2006	F-250 SD	6.8L 3V EFI NA V10 GAS	5 SPD AUTO TRANS NAAO 5R110W	SUPER SINGLE CAB (SUPER CAB)	4 WHL L/H PART TIME DRIVE	KENTUCKY TRUCK PLANT BUILD	9/19/2005	46052	CUST STATES: VIBRATION AT FAST SPEEDS. CUST SEEKS: REPAIR, REPLACEMENT OR END OF LEASE. CI SENDING RESPONSE TO AG/KS ADVISING THAT THE VEHICLE DRIVESHAFT WAS REPAIRED AS OF JANUARY 11, 2007 AT WHICH TIME THE VEH. MILEAGE WAS 46052. CUSTOMER HAS BEEN PROVIDED AN EXTENDED WARRANTY AND AFTER WARRANTY ASSISTANCE. OUR LITIGATION PREVENTION DEPARTMENT ANALYZED MR. GEHRING'S CONCERNS AS WELL AND ADVISED HIS ATTORNEYS THAT NO FURTHER ASSISTANCE IS AVAILABLE. BASED ON THIS INFORMATION, WE PROPOSE NO FURTHER ACTION.		
AWS	0	4/12/2006	4/15/2006 8:09		*		[N/A]	"07299 "	FOOTHILL FORD	PILOT MOUNTAIN	NC	USA	1FTWW31P36E	6/16/2005	2006	F-350 SD	6.0L 325H/550# OHV DI TC V8 DS	5 SPD AUTO 5R110W - H/TORQUE	DOUBLE CAB (CREW CAB)	4 WHL L/H PART TIME DRIVE	KENTUCKY TRUCK PLANT BUILD	4/25/2006	72	PERFORM RECALL 05E16	1 1 COMPLETE	
AWS	9	3/13/2007	3/15/2007 18:11	6C3Z	17D957	BAPTM	FRT BUMPER COVER ASY	"01364 "	JOHNSON FAMILY FORD-MERCURY, I	WOODLAWN	VA	USA	1FTWW31P36E	6/16/2005	2006	F-350 SD	6.0L 325H/550# OHV DI TC V8 DS	5 SPD AUTO 5R110W - H/TORQUE	DOUBLE CAB (CREW CAB)	4 WHL L/H PART TIME DRIVE	KENTUCKY TRUCK PLANT BUILD	4/25/2006	20760	BUMPER COVER TO BE REPLACED	20760 REPLACED FRONT BUMPER AND AMERILLO YELLOW PAINT BY ISOMS COLLISION	
AWS	9	3/13/2007	3/15/2007 18:11		2520125		DOOR ASY-FRONT L	"01364 "	JOHNSON FAMILY FORD-MERCURY, I	WOODLAWN	VA	USA	1FTWW31P36E	6/16/2005	2006	F-350 SD	6.0L 325H/550# OHV DI TC V8 DS	5 SPD AUTO 5R110W - H/TORQUE	DOUBLE CAB (CREW CAB)	4 WHL L/H PART TIME DRIVE	KENTUCKY TRUCK PLANT BUILD	4/25/2006	20760	SUBLET DOOR NOT IN PROPER ALIGNMENT READJUSTMENT MADE BY ISOMS COLLISION.	20760 DOOR AJUSTMENT TO PASSENGER DOOR BY ISOMS COLLISION	
GCQIS Ford		3/27/2007	3/28/2007 18:18		Unknown		Unknown	"01364 "	JOHNSON FAMILY FORD-MERCURY, I	WOODLAWN	VA	USA	1FTWW31P36E	6/16/2005	2006	F-350 SD	6.0L 325H/550# OHV DI TC V8 DS	5 SPD AUTO 5R110W - H/TORQUE	DOUBLE CAB (CREW CAB)	4 WHL L/H PART TIME DRIVE	KENTUCKY TRUCK PLANT BUILD	4/25/2006	23203		WEB FORM DATA:: DESCRIPTION OF VEHICLE CONCERN: CUSTOMER STATES TRUCK HAS A SHIMMY DIAGNOSTICS ALREADY COMPLETED: CHECK OASIS LOOKED OVER TRUCK TEST DROVE PARTS REPLACED: NONE TECHNICIAN QUESTION: WILL SHIMMY CAUSE TRUCK TO RUN OFF ROAD CALL DATA: CUSTOMER RAN THE VEHICLE OFF THE ROAD AND DAMAGED THE GEAR BOX. NOW THE STEERING WHEEL IS OFF 1/8 OF A TURN. CUSTOMER INDICATES THE HOP CONCERN CAUSED THEM TO LOOSE CONTROL OF THE VEHICLE. UNSURE HOW TO PROCEED. TECH COMMENTS: UNABLE TO VERIFIY CUSTOMER COMPLAINT	TSB 07-05-11 INSTALL DAMPER SERVICE KIT - 5C3Z-5D008-A JERRY, WE HAVE NO REPORTS OF VIBRATION CAUSING LOOSE OF CONTROL OF THE VEHICLE. THIS HOP CONCERN SHOULD NOT INHIBIT STEERING. I WOULD HANDLE THE THE STEERING BOX DAMAGE AS AN INSURANCE CLAIM AND TRY TO REPAIR THE HOP USING THE INSTRUCTIONS IN THE TSB. IF THE CONCERN IS STILL PRESENT THEN WE SHOULD USE THE EVA TO HELP REPAIR THE CONCERN, MAY HAVE WHEEL, TIRE, OR HUB ISSUE CAUSING HOP.
MORS/CUDL		3/27/2007	3/28/2007 18:18				NOT PROVIDED BY SOURCE	"127512"	JOHNSON FAMILY FORD-MERCURY, I	WOODLAWN	VA	USA	1FTWW31P36E	6/16/2005	2006	F-350 SD	6.0L 325H/550# OHV DI TC V8 DS	5 SPD AUTO 5R110W - H/TORQUE	DOUBLE CAB (CREW CAB)	4 WHL L/H PART TIME DRIVE	KENTUCKY TRUCK PLANT BUILD	4/25/2006	22000	LPA CONTACTED DLR. SM WAS OUT FOR LUNCH. LPA LEFT MESSAGE WITH SECRETARY. LPA TO WAIT FOR DLR FOLLOW UP. LPA TO SEND CUST DENIAL LETTER ADVISING THEM TO FOLLOW UP WITH THEIR INSURANCE CARRIER. DLR CONTACTED CA. SM STATED THE CUST COMPLAINED ABOUT A SHIMMY IN THE VEH. SM STATED THERE WAS ATSB FOR THIS CONCERN HOWEVER THIS CONCERNS COULD NOT POSSIBLE LEAD TO A DRIVER LOOSING CONTROL OF THE VEH. SM STATED THE CUST DROVE INTO A DITCH AND THEN THE STEARING BOX WAS DAMAGED. LPA ADVISED WILL BE REFERRING CUST TO INSURANCE CARRIER. CUSTOMER SAID: SHIMMY IN FRONT OF TRUCKWOULDN'T TURN- PULLING TOWARD RIGHT WENT IN DITCHMON 3/26NO INJURYCAN'T EVEN TELL THE VEH WENT IN THE DITCH. NO INSURANCE CLAIMSPOKE TO ATTORNEYJIMMY WARD309 N MAIN STHILLSVILLE, VADEALER SAID: -NEEDS NEW STEERING BOX-NOT COVERED UNDER WARRANTY DUE TO ACCIDENTCRC ADVISED: - I WILL FORWARD THIS INFORMATION TO OUR CONSUMER AFFAIRS GROUP. SOMEBODY FROM CONSUMER AFFAIRS WILL CONTACT YOU WITHIN 7-10 BUSINESS DAYS. PLEASE NOTIFY YOUR INSURANCE CARRIER AND REPORT THIS INCIDENT. CUST ADVISED OF ABOVE.CUST WANTS TO KNOW WHAT TO D		
AWS	12	3/29/2007	4/2/2007 18:11	5C3Z	5D008	A	DAMPER ASSY (REAR FRAME SUPPORT)	"01364 "	JOHNSON FAMILY FORD-MERCURY, I	WOODLAWN	VA	USA	1FTWW31P36E	6/16/2005	2006	F-350 SD	6.0L 325H/550# OHV DI TC V8 DS	5 SPD AUTO 5R110W - H/TORQUE	DOUBLE CAB (CREW CAB)	4 WHL L/H PART TIME DRIVE	KENTUCKY TRUCK PLANT BUILD	4/25/2006	23203	CUSTOMER STATES VEHICLE HAS A SHIMMY OR A BOUNCY FEEL WHEN DRIVING AND PULLS TO RIGHT WHILE DRIVING THIS MORNING CUSTOMER STATES WENT INTO	23203 NEEDS DAMPERER KIT DIAG OASIS FOUND TSB NUMBER 07 5 11 PERFORMED TSB NUMBER 07 5 11 TEST DROVE TO VERIFY REPAIR OK AT THIS TIME	
VOQ Ford		4/24/2007	5/2/2007 18:11				NOT PROVIDED BY SOURCE		NOT PROVIDED BY SOURCE			USA	*1FTSW21565E	1/1/1900	2005	F-250 SD	Unknown	Unknown	Unknown	Unknown	Unknown		30300	SHORTLY AFTER I PURCHASED MY 2005 FORD F-250 SUPER DUTY PICKUP I EXPERIENCED A VIOLENT VIBRATION IN THE STEERING, WHEN TRAVELING OVER 55 MPH, AFTER HITTING A SMALL BUMP IN THE ROAD. WHEN I BROUGHT MY TRUCK IN FOR SERVICE AND MENTIONED THIS EPISODE. THE SERVICE MANAGER ACTED AS THOUGH IT WERE AN ANOMALY, MAYBE THE ROAD CONDITIONS OR SOMETHING ELSE. THIS DIDN'T SEEM TO BE THE TRUTH, SINCE IT HAPPENED SEVERAL TIMES SINCE THEN. WHEN I BROUGHT IT TO THE ATTENTION OF THE LOCAL SERVICE MANAGER, HE SAID THAT THIS IS COMMON AMONGST THESES LARGE PICKUP TRUCKS, AND JUST TAP THE BRAKES UNTIL THE VIBRATIONS SUBSIDE, IT SHOULDN'T LAST LONG. YESTERDAY I WAS TRAVELING AT ABOUT 60 MILES AN HOUR ON THE HIGHWAY, WHEN I WENT OVER A SEWER GRATE IN THE LEFT LANE. THE VIBRATION BECAME SO VIOLENT THAT I HAD NO CONTROL OF THE STEERING AT ALL. I NARROWLY AVOIDED A COLLISION WITH A FUEL TRUCK AND SEVERAL OTHER CARS ON MY WAY OFF THE ROAD AND INTO WOODS CAUSING MULTIPLE TIRE DAMAGE, AND SUFFERING DENTS AND DAMAGE TO THE VEHICLE. I THANK GOD NO ONE WAS HURT, INCLUDING ME. I WAS ABLE TO DRIVE THE TRUCK AWAY AFTER CHANGING THE		

Count of VIN			
Model Year	Vehicle Description	Sort Field 1	Total
2005	F-250 SD	oscillation	2
		shaking	2
		vibration	2
		jerks back and forth	1
		shake	1
		shimmy	1
	F-250 SD Total		9
	F-350 SD	shaking	1
		vibration	1
		Steering goes right/left quickly	1
	F-350 SD Total		3
2005 Total			12
2006	F-250 SD	oscillation	1
		shaking	3
		shutter	1
	F-250 SD Total		5
	F-450 SD	shimmy	1
	F-450 SD Total		1
2006 Total			6
Grand Total			18

VOQ Analysis
2005 MY - 12 reports
9 - F250
5 - W21
2 - X21
1 - missing VIN

3 - F350
2 - W33
1 - W32

2006 MY - 6 reports
5 - F250
3 - X21
1 - W21
1 - missing VIN

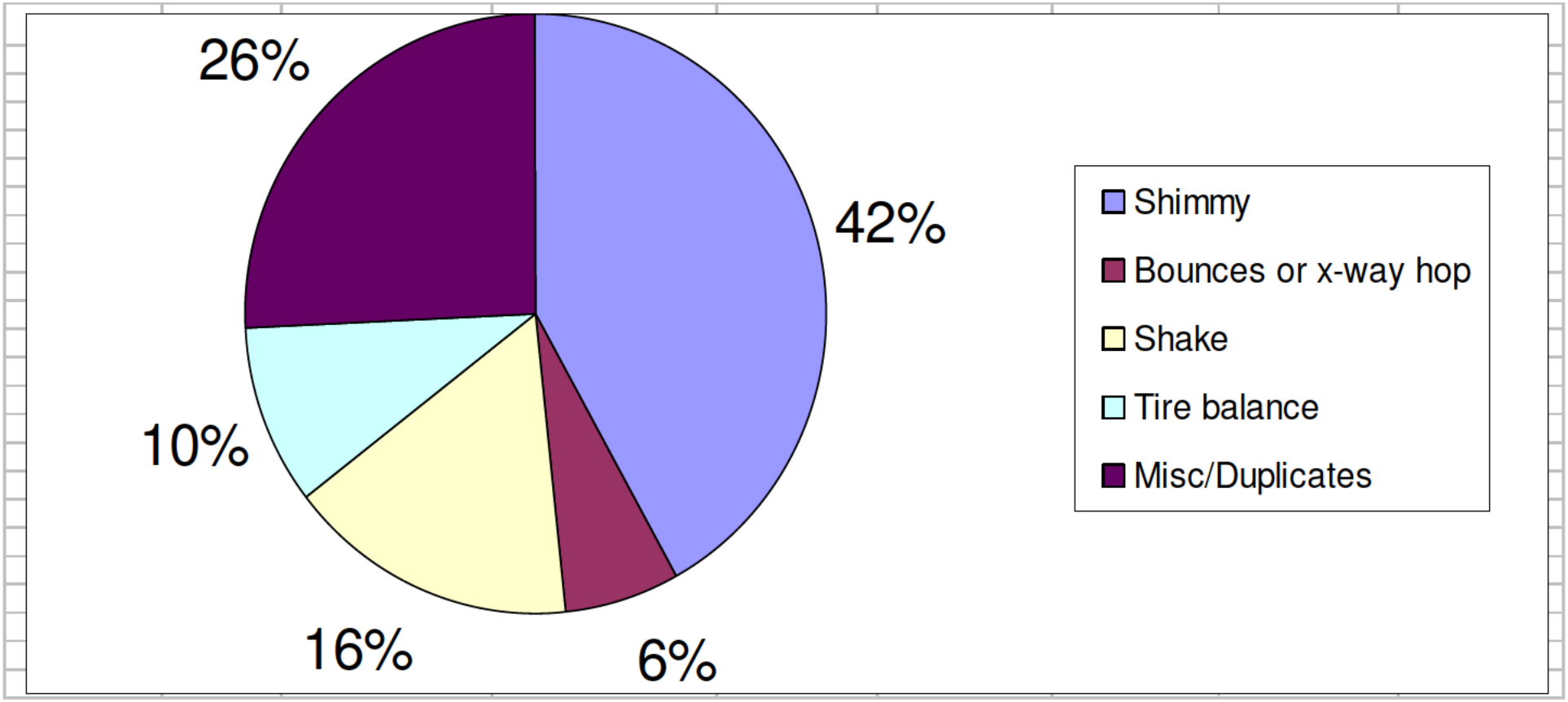
1 - F450
1 - bad VIN, Report indicates F450, but cust comments says 2006 F25

From the 2006 Superduty V89 Quality Status and Roadmap Review

Date: August 15, 2006

Presented by:
Mark Choe
Blake Hasselbring
Steve Repasky

06 Superduty N24/25 (Vibrates > 45 MPH)
Wave 2 Verbatim Summary



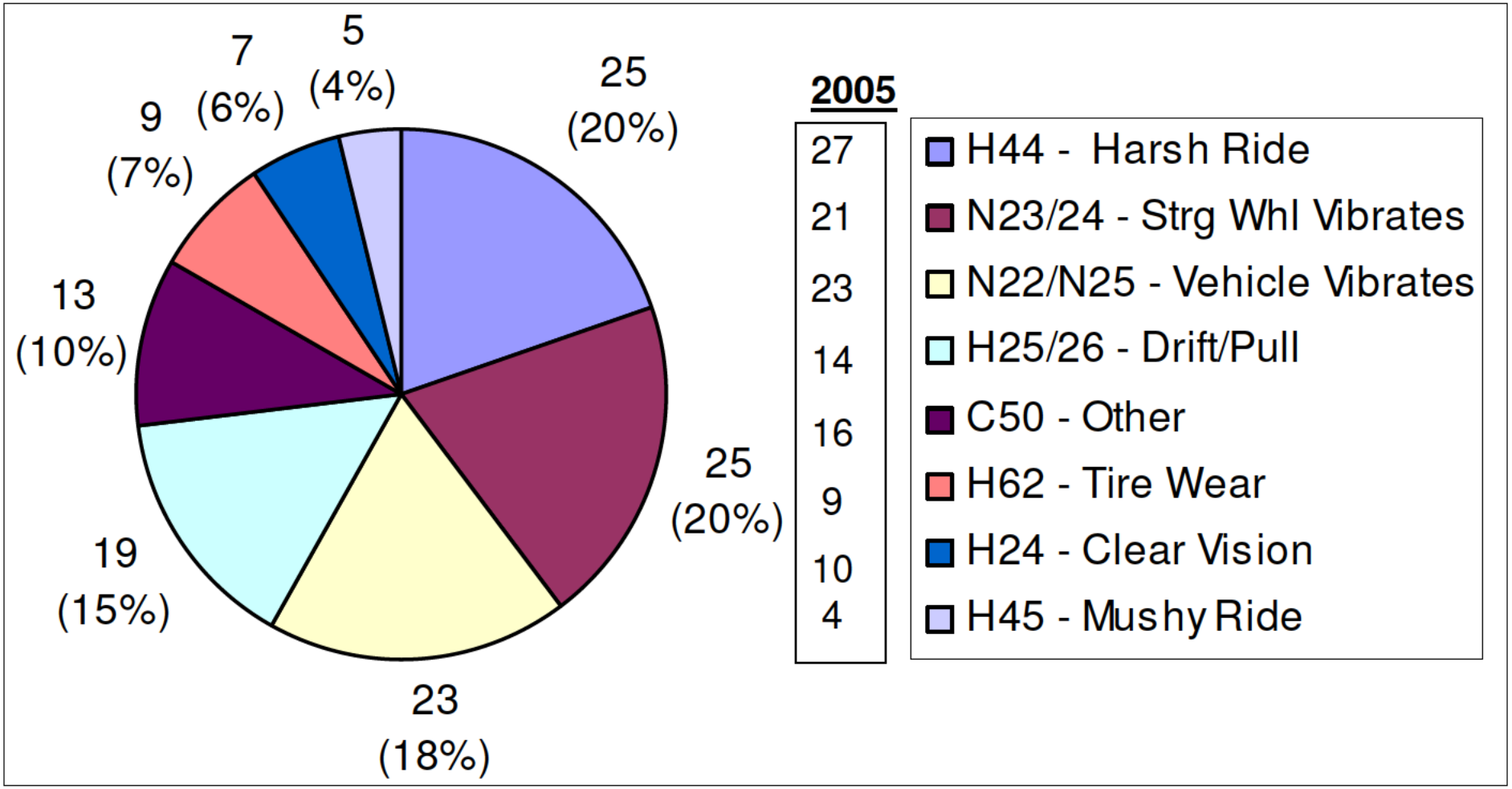
13 of the 31 verbatims (Dec. – Feb.) mentioned a “shimmy” or “truck shakes” after hitting a bump concern. Vehicle shimmy addressed in recovery work plan.

Dec. – Feb. Registrations – N25/24 - Vibrates > 45 MPH Verbatims

- N24/25 YTD = 36 TGWs w/BIC (GMC Sierra) = 4.
- (31) N24/25 verbatims from Dec. – Feb. registrations were reviewed for content.
- For Dec. MoB, Typical verbatims include:
  - "**Truck hits a bump, it shimmies and pulls to either side**".
  - " Slight shimmy on occasion"
  - " **Steering wheel shimmies going over RR tracks**".
- For January MoB, verbatims as follows:
  - " Shakes bad when hitting bad bump"
  - " **Truck vibrates, shakes bad when hitting big bump**".
  - " During highway driving the slightly bump causes the vehicle to tremble violently".
  - " **Extreme bouncing on highway**".
- For February MoB, :
  - " Handles bumps real bad. Truck jumps left and right when hitting bumps … Steering wheel shakes left and right".
  - " Over 65 MPH, front end bounces".
  - " It drives like the wheels are out of round".

- BACKGROUND

TGW Breakdown by CCC – 2006 YTD



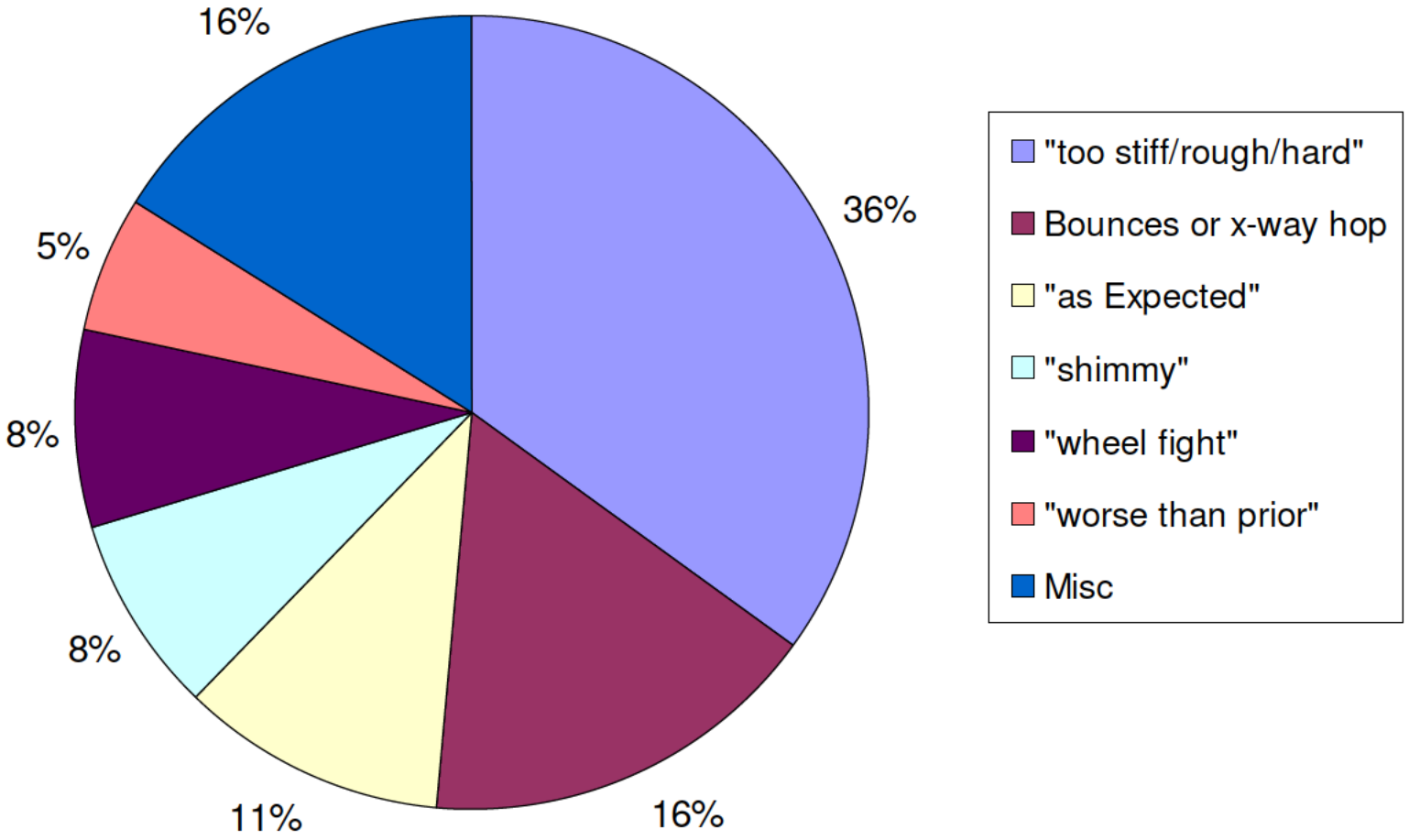
Ride (Harsh/Mushy) and Vehicle/SW Vibrates account for 62% of 2006 V89 TGWs similar to 2005 YTD (60%).

2006 Superduty and Competitors
TGW split by CCC and Month of Production

Jun-05	Jul-05	Aug-05	Sep-05	Oct-05	Nov-05	Dec-05	Jan-06	Feb-06	MYTD	CCC	Description	Dodge Ram	Chevy Silverado 15/25/35
1843	1963	1860	1825	1816	1897	1428	1882	1976	1829		TOTAL TGW/1000	1615	1671
114	150	168	114	113	119	122	121	103	125	V89	HANDLING AND RIDE	85	101
16	14	34	20	16	22	5	16	0	19		CONSTANT PULL/DRIFT TO ONE SIDE	22	6
26	35	30	27	20	23	28	24	0	25		STEERING WHEEL VIBRATION/SHIMMY	3	5
21	44	34	16	13	25	26	38	0	23		VEHICLE VIBRATES WHILE DRIVING	8	26
20	49	32	13	20	25	22	27	39	25	H44	HARSH RIDE	21	36
8	0	1	2	11	5	14	0	0	5	H45	MUSHY RIDE	9	8
8	0	13	9	8	9	12	2	0	9	H62	IMPROPER TIRE WEAR	6	5
3	0	4	16	4	4	6	11	23	7	H24	STEERING WHEEL SPOKES NOT CORRE	12	4
12	8	21	11	19	5	10	4	41	13	C50	OTHER HANDLING AND RIDE	3	10
451	233	728	885	718	466	322	255	81	4382		SAMPLE SIZE	763	431

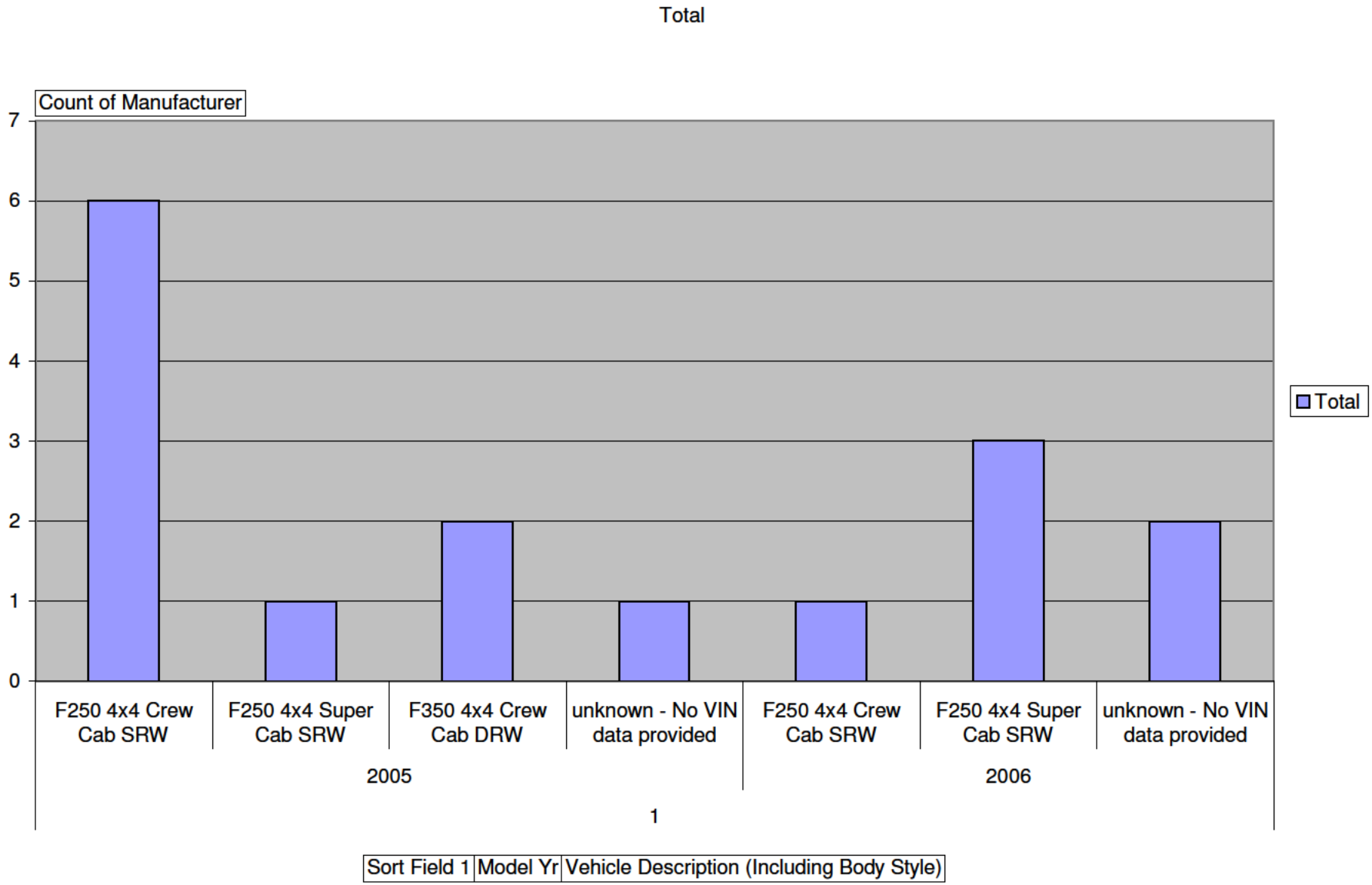
February MoP is 103 TGWs, with a sample size of 81

06 Superduty H44 Wave 2 Verbatim Summary



Dec. – Feb. Registrations – H44 Harsh Ride Verbatims

- H44 YTD = 25 TGWs w/BIC (GMC Sierra) = 18.
- (29) H44 verbatims from Dec. – Feb. registrations were reviewed for content.
- For Dec. MoB, Typical verbatims include:
  - " **Has bouncy buggy ride, after awhile the bouncing becomes nauseating**".
  - " Vehicle bounces excessively over bumps – affects handling".
  - " Very bumpy ride on a freeway" and "Very jumpy over rough streets".
  - " **Suspension too hard for regular driving, but just right for hauling and towing**".
  - " **Rough and bumpy 1st 15 minutes of travel then smoothes out**".
- For January MoB, verbatims as follows:
  - " …this one rides very rough…". and " The suspension is fairly stiff".
  - " Too sensitive to bumps" and "One ton GMC rides smoother"
  - " Rough ride with new front springs".
  - " **Ride is from lumber wagon, but improving as susp. breaks in. Also change out tires, remove 20" and replace w/17" Pirelli – smooth ride**".
- For February MoB, :
  - "Ride rough like a truck" and "Ride is rough"
  - "Handles bumps real bad. Truck jumps left and right when hitting bumps like front end is out of alignment. Steering wheel shakes left and right".
  - "**I expect this because it is a one ton truck but I wonder if it could be improved**?".


Total
Count of Manufacturer
7
6
5
4
3
2
1
0
F250 4x4 Crew Cab SRW
F250 4x4 Super Cab SRW
F350 4x4 Crew Cab DRW
unknown - No VIN data provided
F250 4x4 Crew Cab SRW
F250 4x4 Super Cab SRW
unknown - No VIN data provided
2005
2006
1
Total
Sort Field 1
Model Yr
Vehicle Description (Including Body Style)

Count of Manufacturer			
Sort Field 1	Model Yr	Vehicle Description (Including Body Style)	Total
1	2005	F250 4x4 Crew Cab SRW	6
		F250 4x4 Super Cab SRW	1
		F350 4x4 Crew Cab DRW	2
		unknown - No VIN data provided	1
	2005 Total		10
	2006	F250 4x4 Crew Cab SRW	1
		F250 4x4 Super Cab SRW	3
		unknown - No VIN data provided	2
	2006 Total		6
1 Total			16
Grand Total			16

From: Chapman, Brandon (B.W.)
Sent: Tuesday, October 04, 2005 4:37 PM
To: Hatt, Jeffrey (J.M.)
Cc: Frantzeskakis, Petros (P.)
Subject: Jounce Bumper Warranty Verbatims

Attachments: Jounce Bumper Warranty Verbatims.xls

Jounce Bumper
Varranty Verbati.

Brandon Chapman

Ford Motor Company
Pick-Up & Commercial Truck NVH
F-Series SuperDuty Program
BCHAPMA4@ford.com
PDC Cube: 2D-E61
MD: 208
Phone: 313-805-2134
Text Pager: BCHAPMA4

We generally end up with the lives we've got because we've chosen them, even if we don't remember making the choices that led us to them.

- Rob Neyer, "Feeding the Green Monster"

Net Meeting Summary Sheet

Issue:	Alleged accident caused by steering wheel shakes/shimmy while
Vehicle:	F250 and F350 Super Duty
Model Year(s):	2006 and 2007
Body Cab Style:	All
Engine Type:	All
Transmission Type:	All

3 alleged incidents where the customers allege that they lost control of their vehicles and had an accident as a result of a shimmy/shaking condition after they hit a bump in the road.

1 alleged rollover with injury

2 - 2006 MY vehicles 1 - F250 6.8L engine with auto trans; 27610 miles, Prod date; 8/17/2005
1 - F350 6.0L engine with auto trans; 23203 miles, Prod date; 6/16/2005

1 - 2007 MY vehicle; 1 - F250 5.4L engine with auto trans; 26696 miles, Prod date; 6/27/2006

ECI # [redacted] CUSTOMER STATES TRUCK HAS A SHIMMY CUSTOMER RAN THE VEHICLE OFF THE ROAD AND DAMAGED THE GEAR BOX. NOW THE STEERING WHEEL IS OFF 1/8 OF A TURN. CUSTOMER INDICATES THE HOP CONCERN CAUSED THEM TO LOOSE CONTROL OF THE VEHICLE.

ECI # [redacted] THE STEERING STARTED TO SHAKE VIOLENTLY, THE DRIVER PULLED OFF THE ROAD TO GET CONTROL, AND HIT A CULVERT.
INCIDENT DATE: 7-21-2006. NO INJURIES.
CONKIN CARS WAS ABLE TO DUPLICATE THE CONCERN. IT WAS DETERMINED THAT THE CONCERN WAS RELATED TO SSM 06-15-1.
BASED ON THE DLR PROVIDED INFORMATION, LPA OFFERED GOODWILL REPAIRS FOR VEHICLE BODY DAMAGE.
REPAIR EST: $1,635.

ECI# [redacted] DRIVER ALLEGES THAT THE FRONT-END BEGAN TO VIBRATE, HE LOST CONTROL, AND ROLLED THIS VEHICLE SERVERAL TIMES.
THE DRIVER SUSTAINED INJURY. INCIDENT DATE: 6-4-2007.
**LPA WILL REQUEST AN EAA VEHICLE INSPECTION. **LPA SPOKE TO ROBERT HODNETT, PIONEER NATURAL RESOURCES,
PH: 719 845-4326. HE CONFIRMED THE ISSUE INFORMATION AND ADDED THAT THE DRIVER WAS TRAVELING ON A HWY (SPEED LIMIT 75 MPH), HE ATTEMPTED TO BRAKE, VEHICLE LOCKED UP, WENT INTO A DITCH AND ROLLED. MR. HODNETT INDICATED THAT

THERE HAVE BEEN ONGOING STEERING CONCERNS WITH OTHER F-250S IN HIS FLEET AND THE DLRS HAVE NOT BEEN ABLE TO ADDRESS THE CONCERNS. THE DRIVER RECEIVED MEDICAL ATTENTION FOR INJURIES.

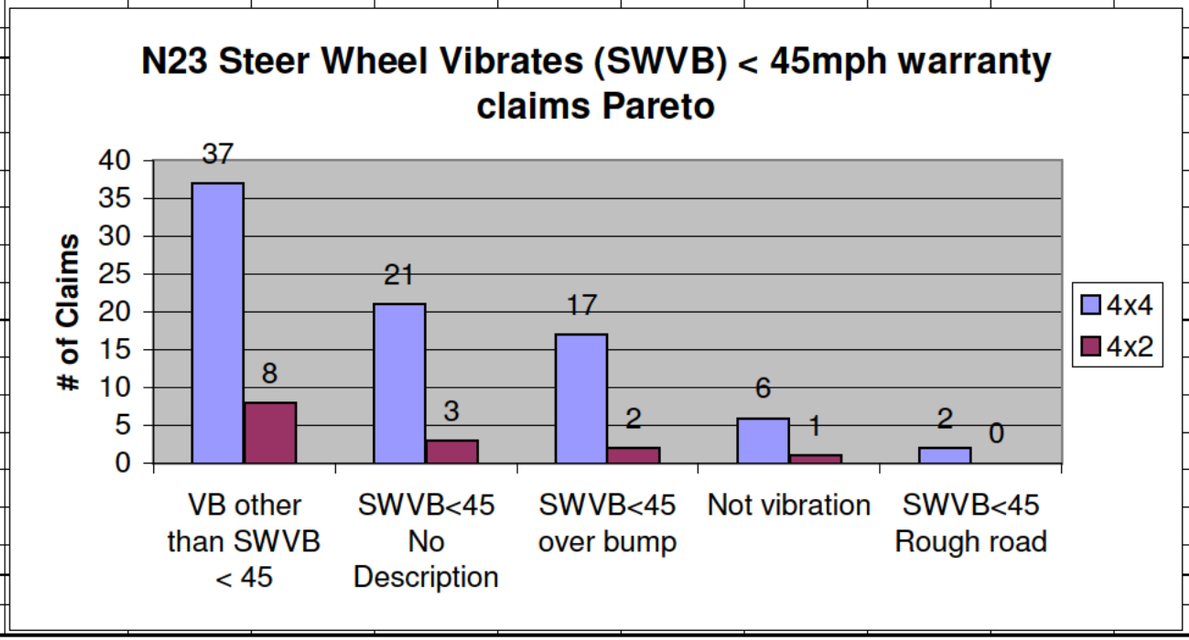
Service Information released;

TSB 05-22-1 Steering Wheel Oscillation
TSB 06-15-1 Steering Wheel Oscillation (updates 05-22-1, model years and causal part numbers)
TSB 06-22-14 Steering Wheel Oscillation (updates 06-15-01, service labor operations)
TSB 07-05-07 Steering Wheel Oscillation (updates 06-22-14, specifics unknown-copy not available)
TSB 07-10-10 Steering Wheel Oscillation (updates 07-05-07, parts updated)

TSBs provide information regarding:

- Proper tire pressures
- Checking steering damper for leaks
- Proper steering/suspension fastener torques values
- Front wheel alignment values (and part numbers for alignment bushings)

	4x4	4x2	all
VB other than SWVB < 45	37	8	45
SWVB<45 No Description	21	3	24
SWVB<45 over bump	17	2	19
Not vibration	6	1	7
SWVB<45 Rough road	2	0	2
Mesh load TSB	12	0	12
tire balance	11	5	16
Steer damper	7	0	7
New gear	3	0	3
tighten susp/steer fast	3	0	3
steer link ball jt	3	0	3
alignment	1	0	1



Count of VIN (as provided by source system)						# of records	Vehicle production Volumes (from AWS)	r/1000
Model Year	Body Style (characters 5 thru 7)	Total						
2005	F20	4				4	12760	0.313479624
	F21	316				316	15223	20.75806346
	F30	1				1	2173	0.460193281
	F31	53				53	6768	7.830969267
	F33	3				3	359	8.356545961
	F35	28				28	1215	23.04526749
	F36	2				2	16416	0.121832359
	F37	103				103	9339	11.0290181
	W20	6				6	12764	0.470072078
	W21	784				784	73974	10.59831833
	W31	352				352	45757	7.692812029
	W32	18				18	5927	3.036949553
	W33	233				233	19500	11.94871795
	W35	4				4	331	12.08459215
	W37	58				58	1935	29.97416021
	X20	2				2	12296	0.162654522
	X21	889				889	40722	21.83095133
	X30	1				1	1211	0.825763832
	X31	197				197	11724	16.80313886
	X33	32				32	1964	16.29327902
	X35	26				26	803	32.37858032
	X37	59				59	1851	31.87466234
2005 Total		3171						
2006	F20	4				4	15872	0.252016129
	F21	212				212	17325	12.23665224
	F31	23				23	8261	2.784166566
	F33	4				4	487	8.213552361
	F34	1				1	2425	0.412371134
	F35	12				12	1343	8.935219657
	F36	1				1	23433	0.04267486
	F37	95				95	10276	9.244842351
	W20	22				22	14799	1.486586932
	W21	646				646	87837	7.354531689
	W30	3				3	4138	0.724987917
	W31	265				265	56467	4.693006535
	W32	4				4	6872	0.582072177
	W33	164				164	23952	6.847027388
	W35	19				19	570	33.33333333
	W37	60				60	3056	19.63350785
	X20	17				17	16027	1.060710052
	X21	612				612	44743	13.67811725
	X31	94				94	13683	6.869838486
	X32	1				1	762	1.312335958
	X33	14				14	1994	7.02106319
	X34	1				1	761	1.314060447
	X35	16				16	887	18.03833145
	X36	2				2	1207	1.657000829
	X37	55				55	2679	20.53004853
2006 Total		2347						
2007	F21	10				10	6759	1.479508803
	F37	4				4	4097	0.97632414
	W20	1				1	5758	0.173671414
	W21	51				51	30634	1.66481687
	W31	20				20	22250	0.898876404
	W33	7				7	7071	0.989958987
	W37	8				8	1224	6.535947712
	X20	2				2	5547	0.360555255
	X21	57				57	12959	4.398487538
	X31	5				5	4341	1.151808339
	X37	12				12	1022	11.74168297
2007 Total		177						
Grand Total		5695						

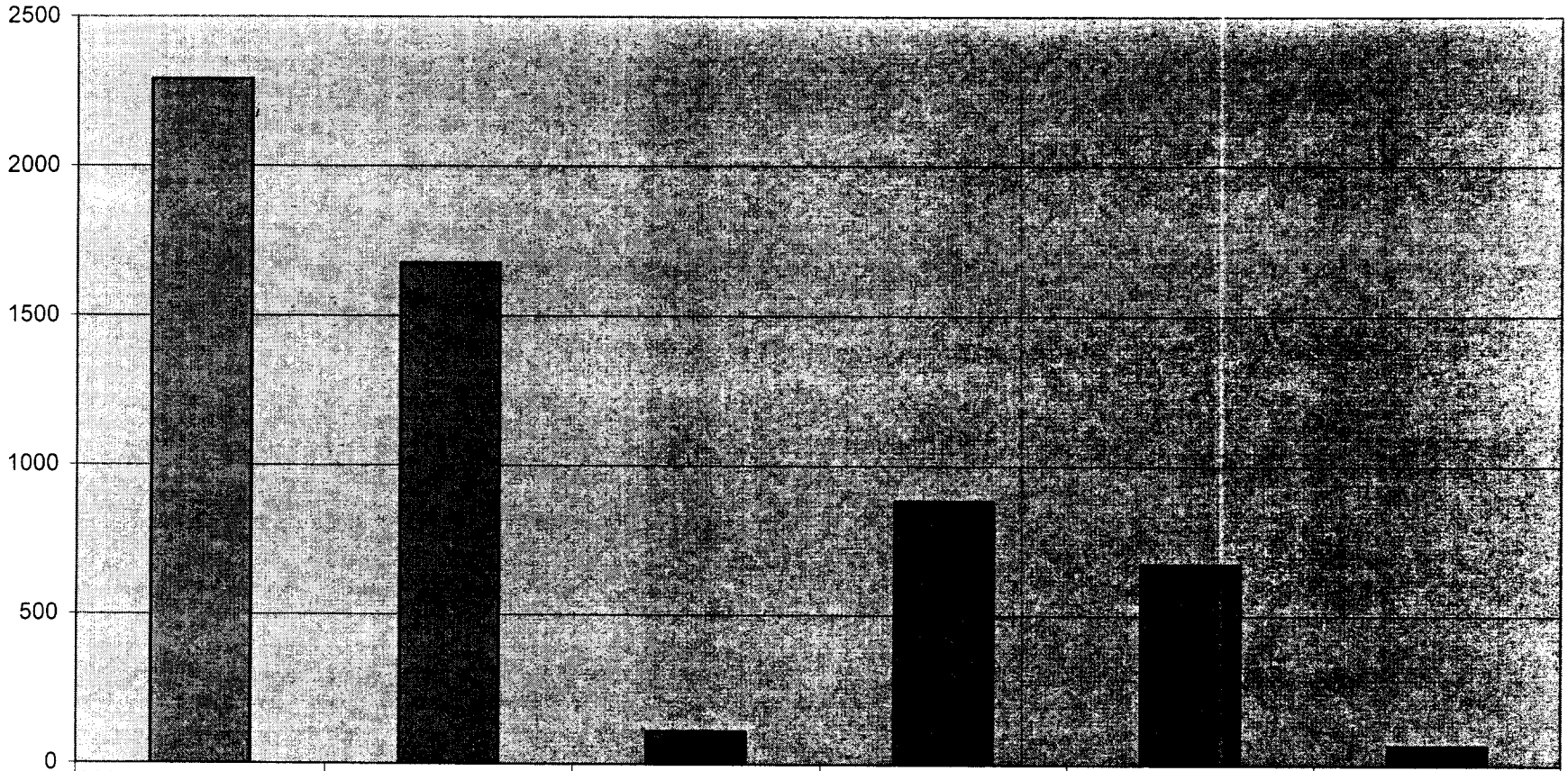
2005 - 2007
F250 / F350
Alleged Steering "shimmy" and "shake"
Sorted by Source

Count of VIN	
Source Code	Total
AWS	5597
CTQS	1
GCQIS Ford	20
GQRS Ford	22
MORS\CUDL	46
Viewpoint	6
VOQ Ford	3
Grand Total	5695

98 - non AWS claims

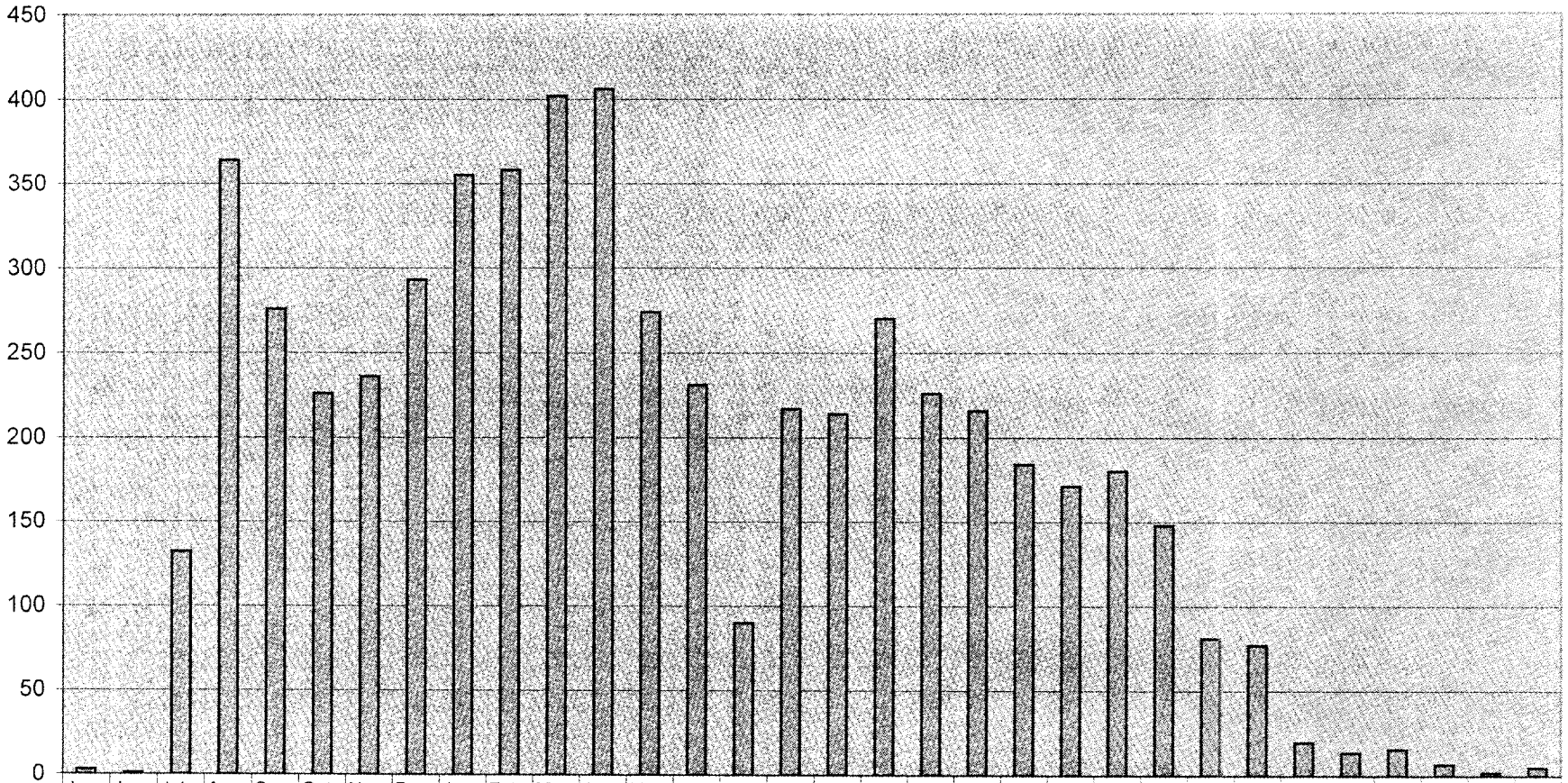
Count of VIN		
Model Year	Causal Part Base	Total
2005	3E651	1431
	3600	1191
	3504	162
	3304	94
	NPF	83
	3A131	71
		49
	FRONT	46
	Unknown	11
	3001	6
	3A130	5
	3239	4
	3E652	4
	3E650	2
	SWHEEL	2
	3281	1
	3509	1
	3524	1
	3544	1
	3548	1
	*	1
	3A713	1
	3E561	1
	3E751	1
	3N999	1
2005 Total		3171
2006	3E651	1410
	3600	480
	3504	77
	3304	53
	NPF	92
	3A131	37
		29
	FRONT	138
	Unknown	4
	3001	3
	3A130	4
	3E652	7
	3281	2
	3E561	3
	3493	1
	3517	1
	3651	1
	3A674	1
	3B440	1
	3B676	3
2006 Total		2347
2007	3E651	123
	3504	1
	3304	2
	NPF	11
	3A131	4
	FRONT	34
	Unknown	1
	3E764	1
2007 Total		177
Grand Total		5695

2005 thru 2007 f250 and F350
Alleged Steering "Shimmy" or "Shake"
Data Sorted by Customer Symptom/Key Word



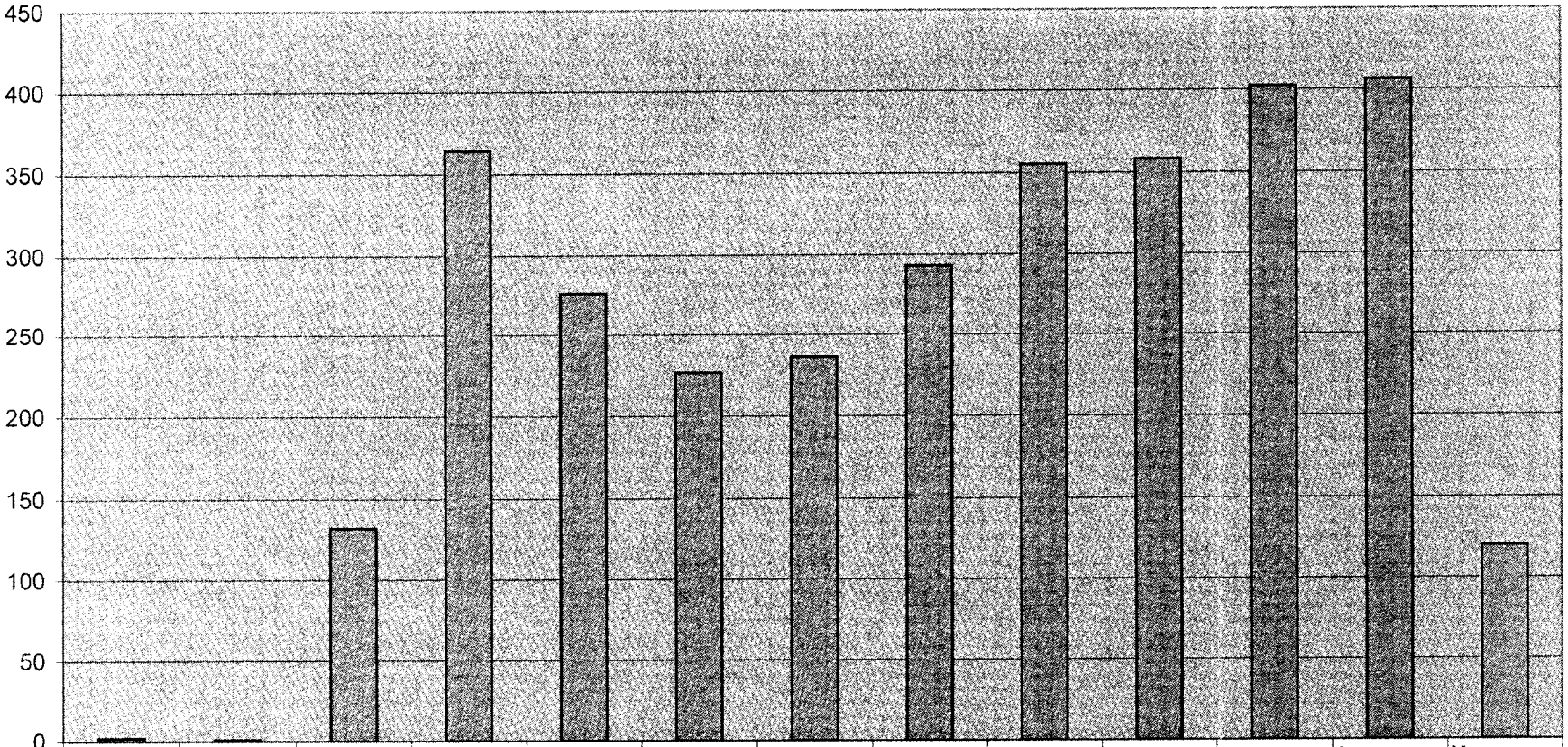
	shake			shimmy		
Total	2005	2006	2007	2005	2006	2007
	2290	1676	111	881	671	66

2005 thru 2007 F250 and F350 Combined
Alleged Steering "Shimmy" and "Shake"
Sorted By Production Month/Year



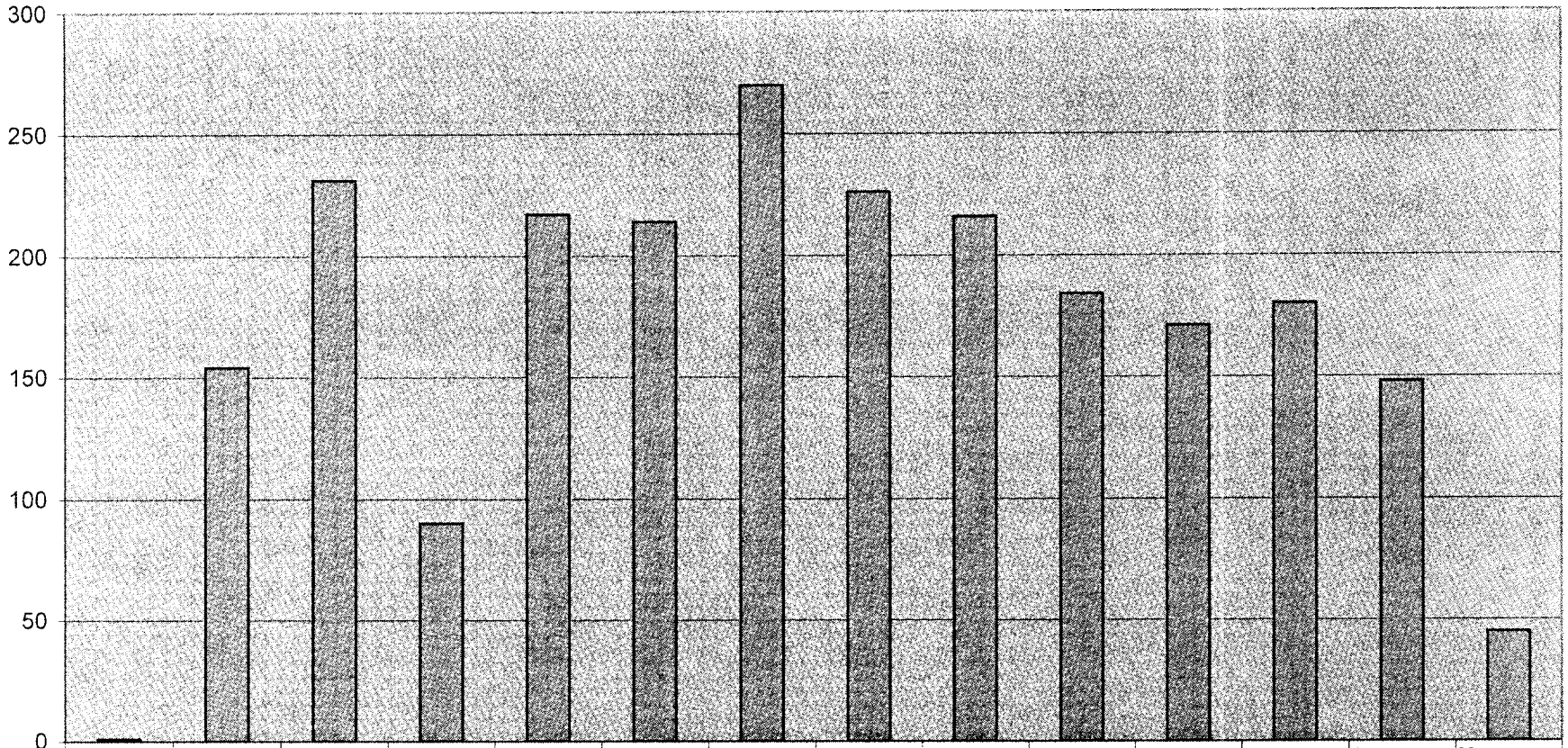
	Jan	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	1900	2004							2005												2006											
Total	3	1	132	364	276	226	236	293	355	358	402	406	274	231	90	217	214	270	226	216	184	171	180	148	81	77	20	14	16	7	2	5

2005 F250 and F350 Combined
Alleged Steering "Shimmy" and "Shake"
Sorted By Production Month/Year



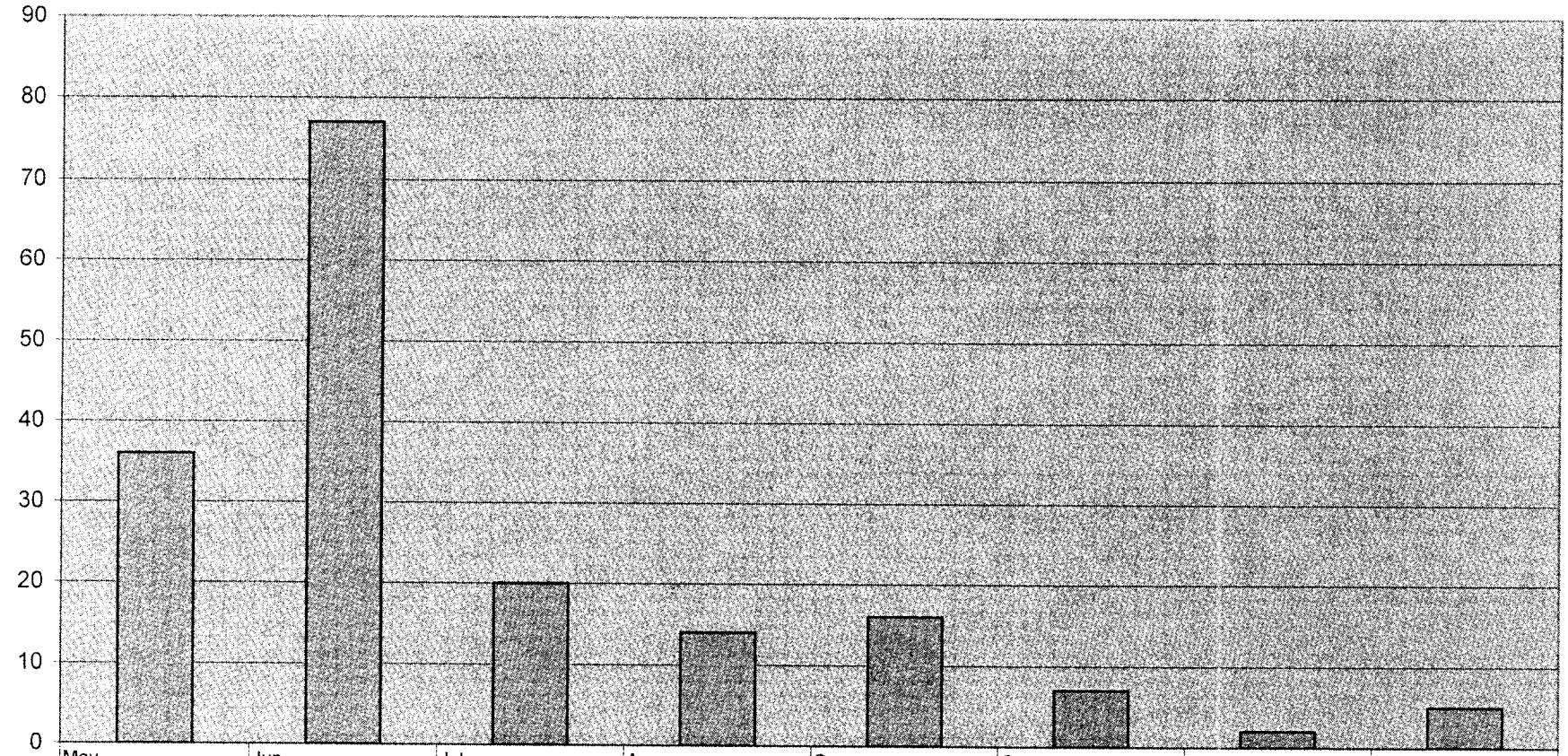
	Jan	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
	1900	2004							2005				
													2005
Total	2	1	132	364	276	226	236	293	355	358	402	406	120

2006 F250 and F350 Combined
Alleged Steering "Shimmy" and "Shake"
Sorted By Production Month/Year



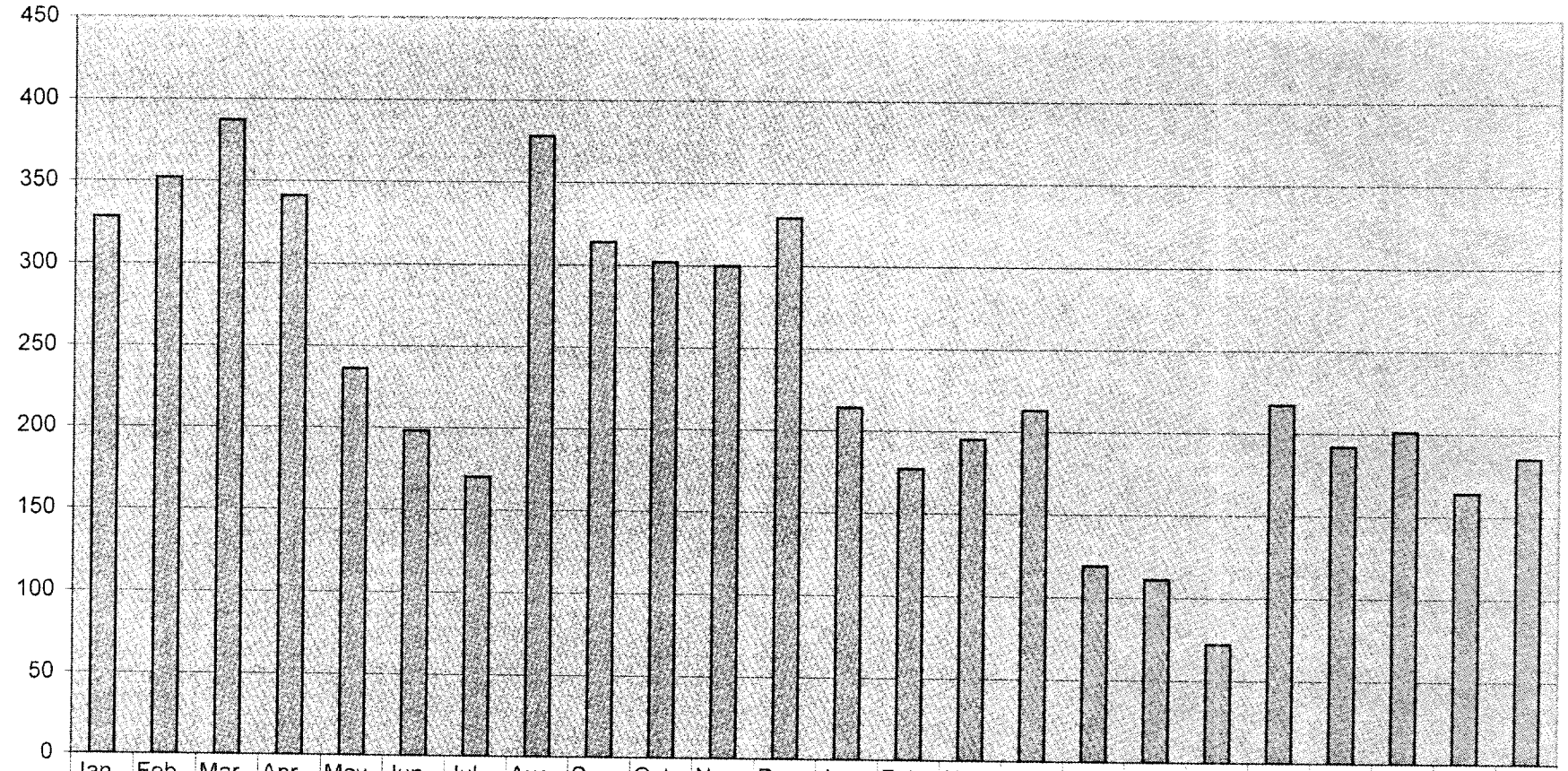
Total	1	154	231	90	217	214	270	226	216	184	171	180	148	45

2006 F250 and F350 Combined
Alleged Steering "Shimmy" and "Shake"
Sorted By Production Month/Year



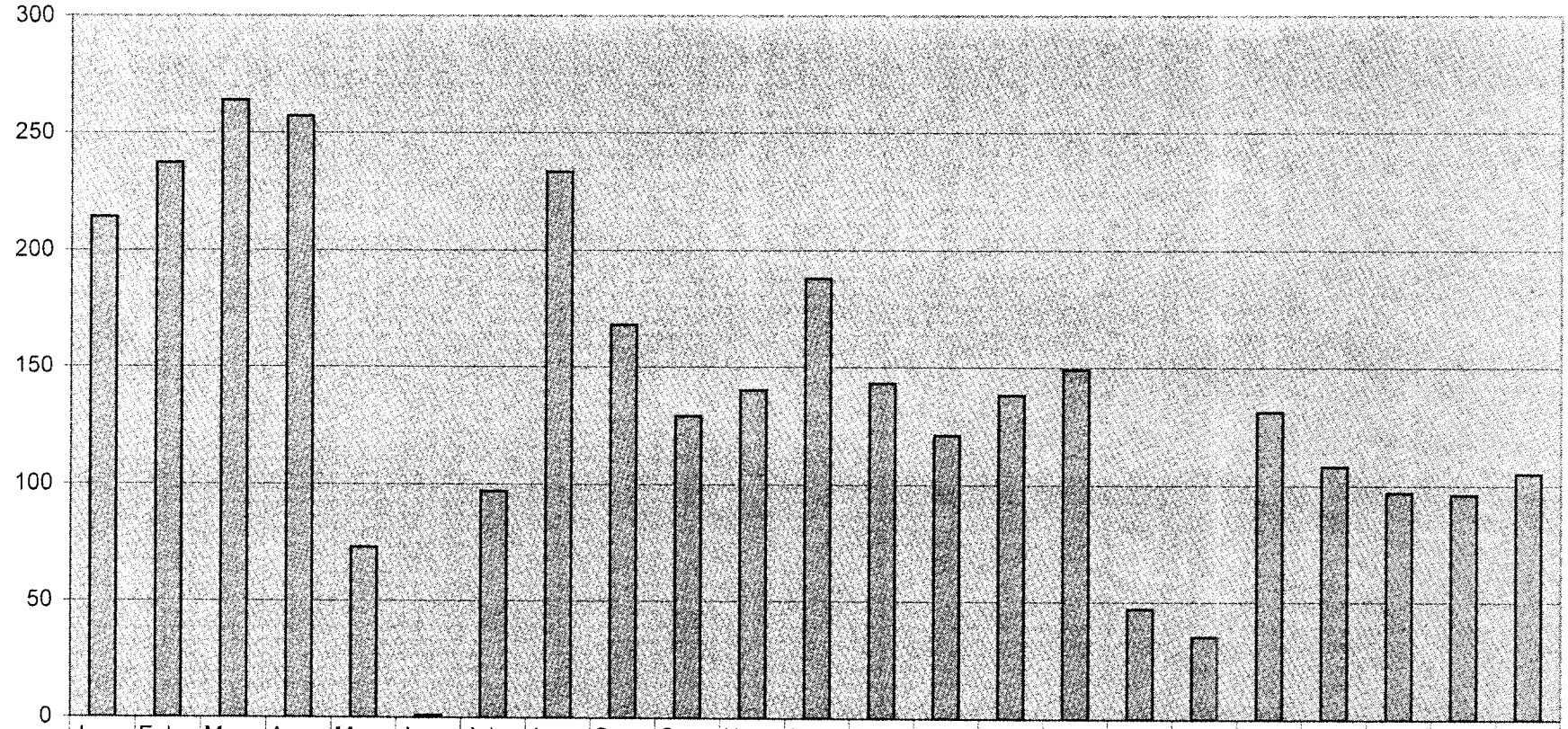
Total	36	77	20	14	16	7	2	5

2005 - 2007 F250 and F350
Alleged Steering "Shimmy" and "Shake"
Sorted By Production Date (By Month)



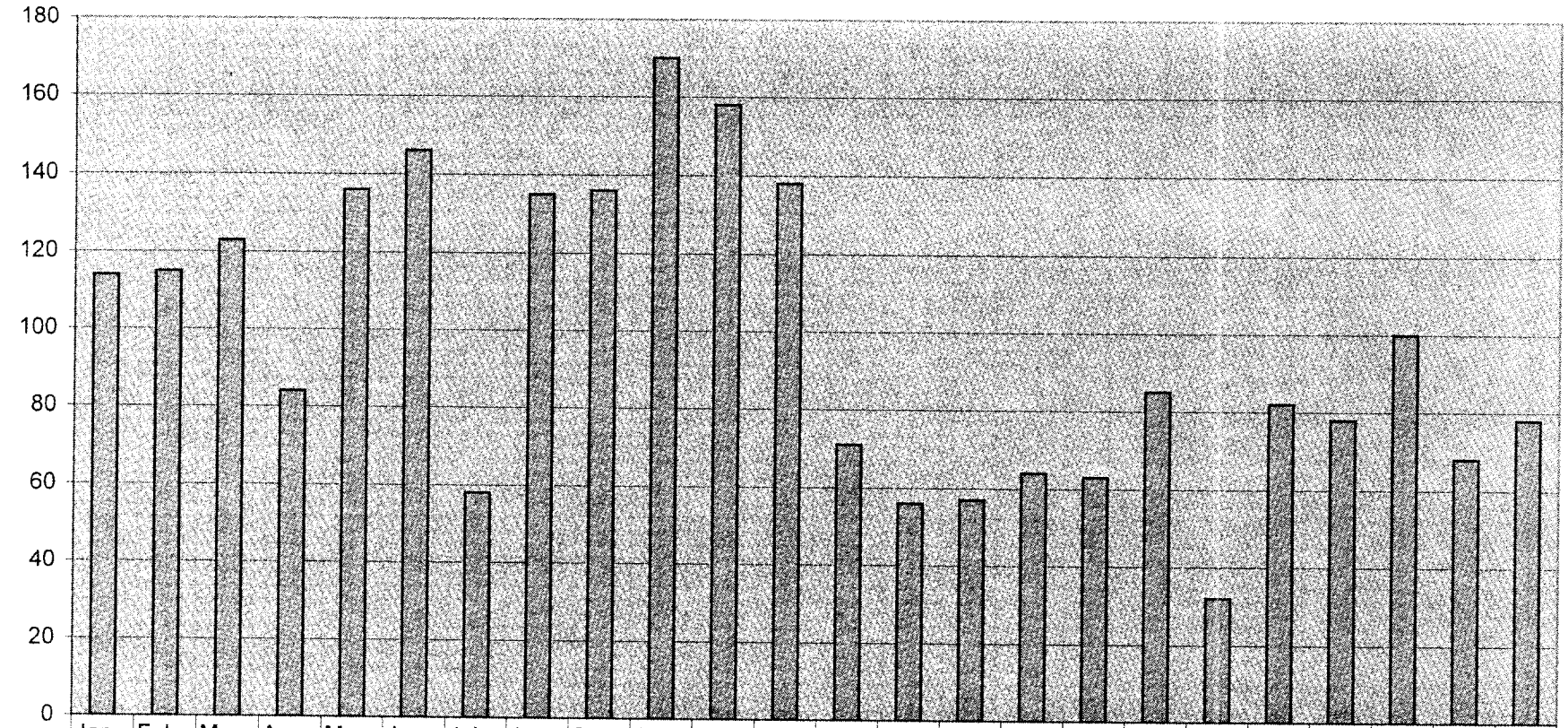
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Total	328	352	387	341	236	198	170	378	314	302	300	329	214	177	195	213	119	111	72	217	192	201	164	185

2005 F250 and F350
Alleged Steering "Shimmy" and "Shake"
Sorted By Production Date (By Month)



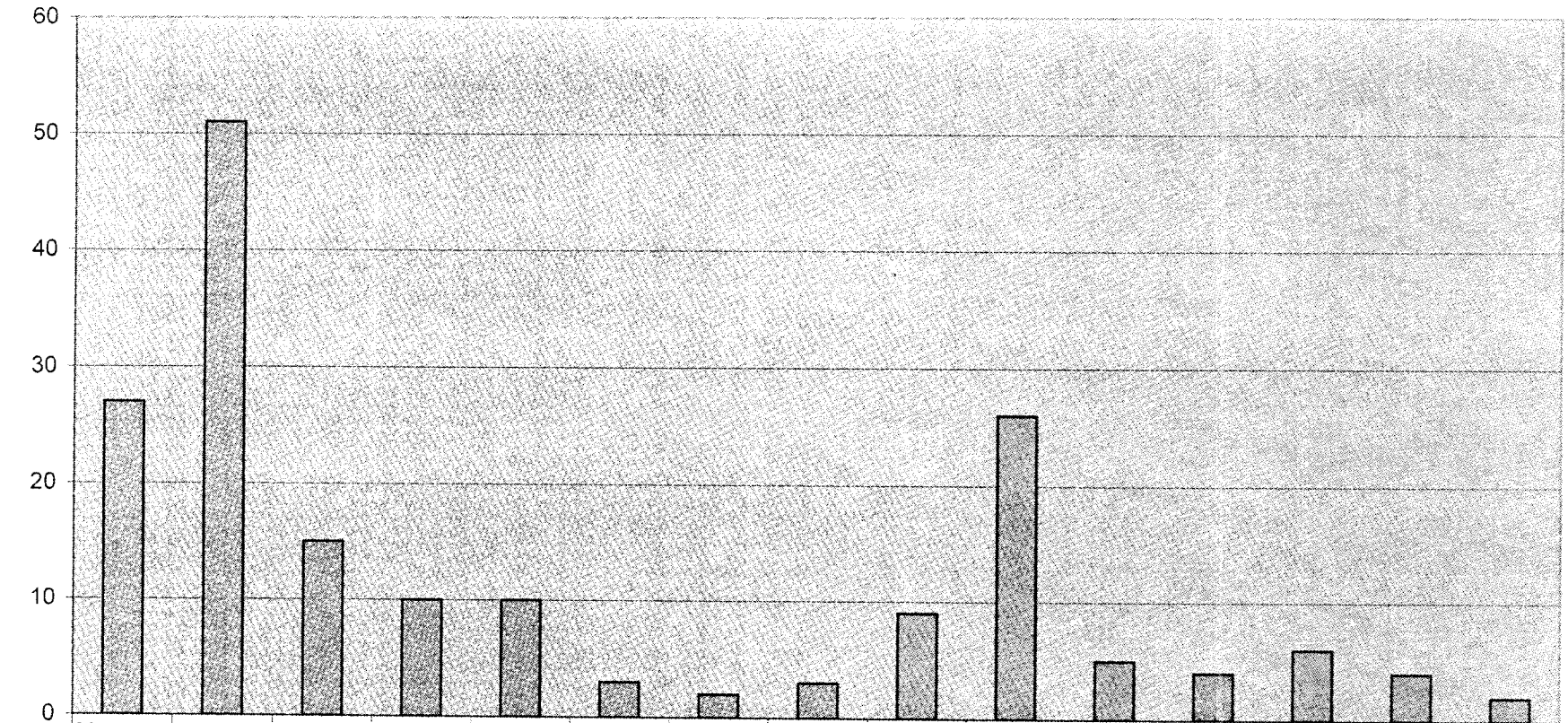
Total	214	237	264	257	73	1	97	233	168	129	140	188	143	121	138	149	47	35	131	108	97	96	105

2006 F250 and F350
Alleged Steering "Shimmy" and "Shake"
Sorted By Production Date (By Month)



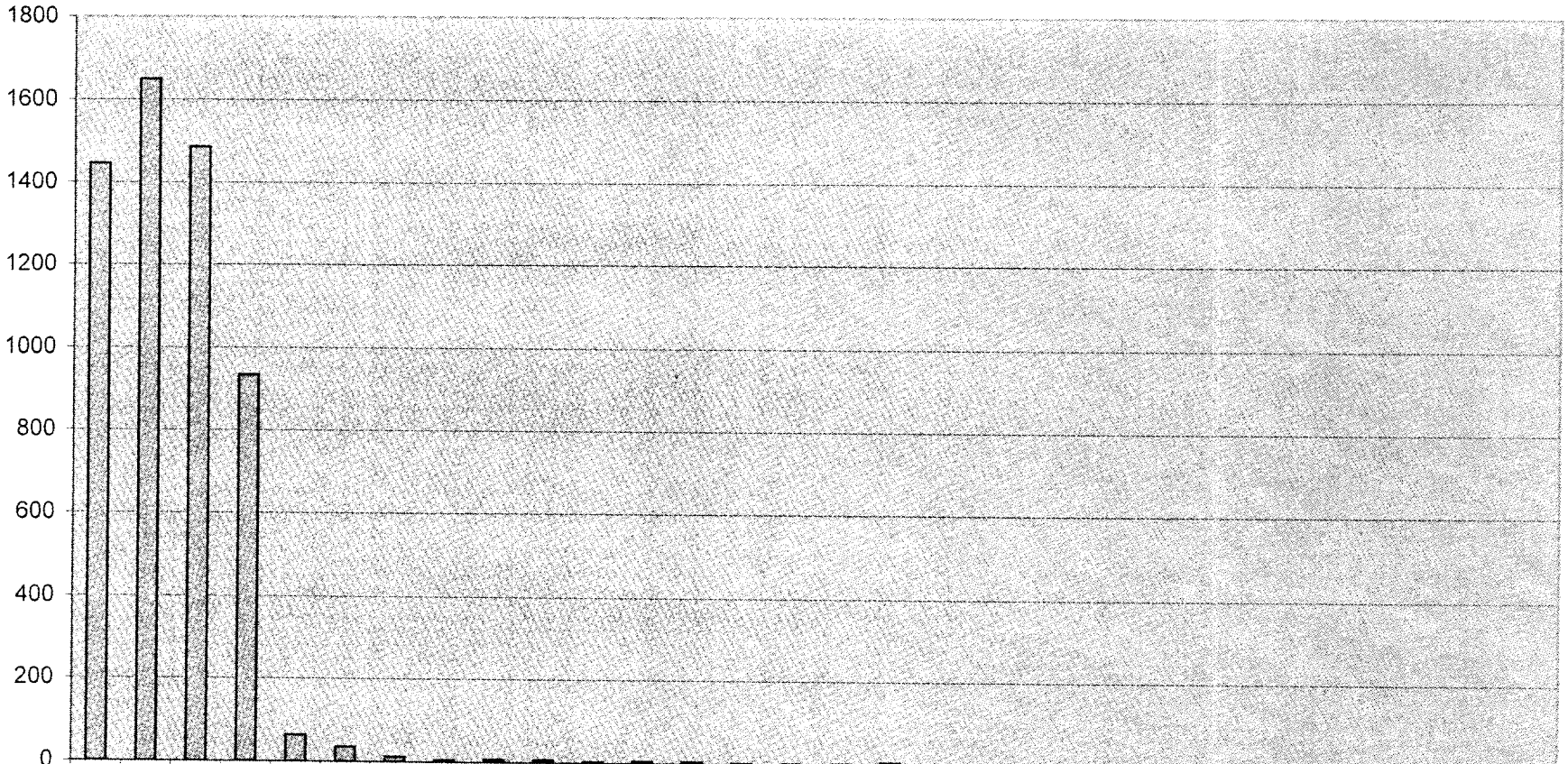
Total	114	115	123	84	136	146	58	135	136	170	158	138	71	56	57	64	63	85	32	82	78	100	68	78

2007 F250 and F350
Alleged Steering "Shimmy" and "Shake"
Sorted By Production Date (By Month)



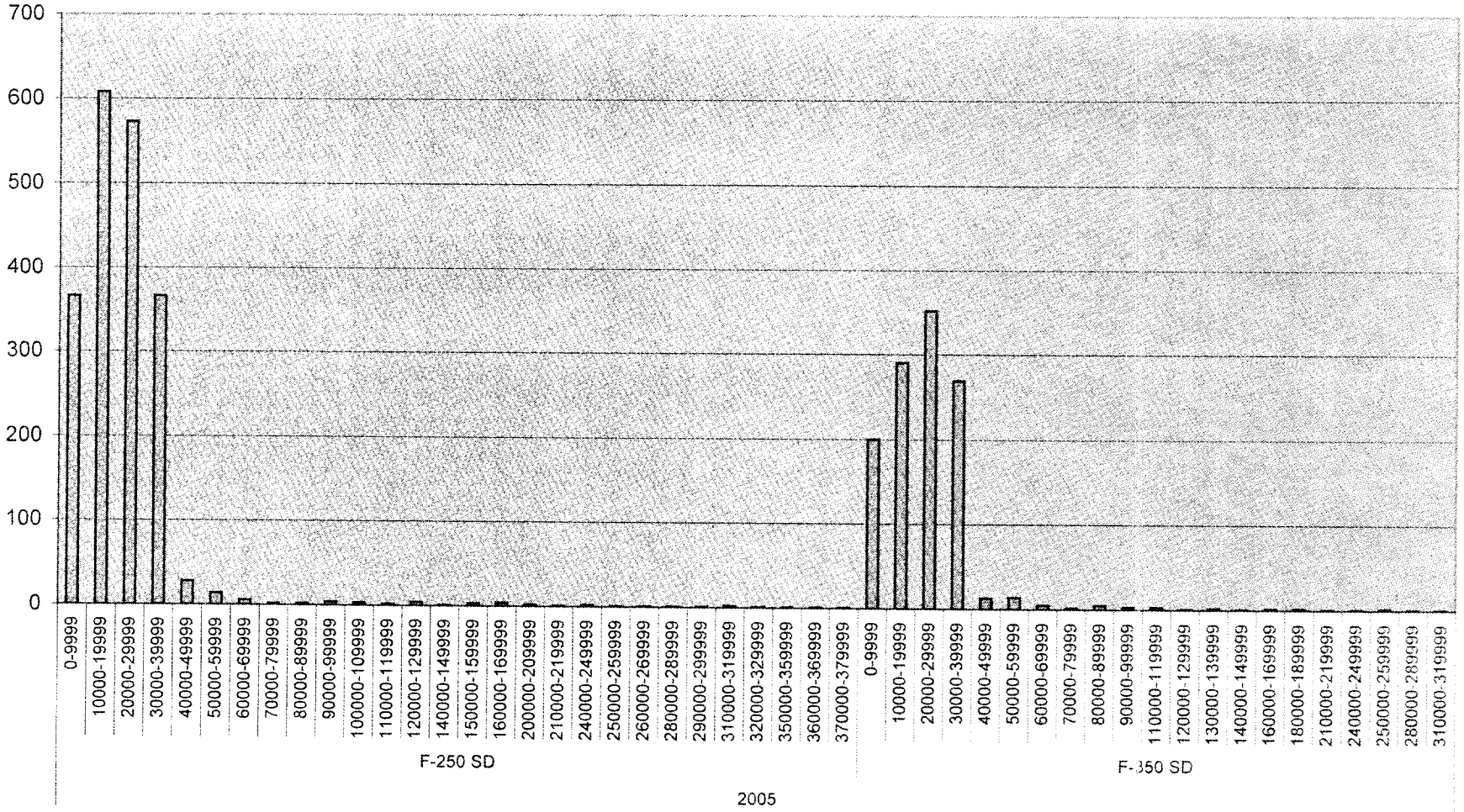
Total	27	51	15	10	10	3	2	3	9	26	5	4	6	4	2

2005 thru 2007 F250 and F350 Combined
Alleged Steering "Shimmy" and "Shake"
Sorted By mileage (10,000 miles bands)

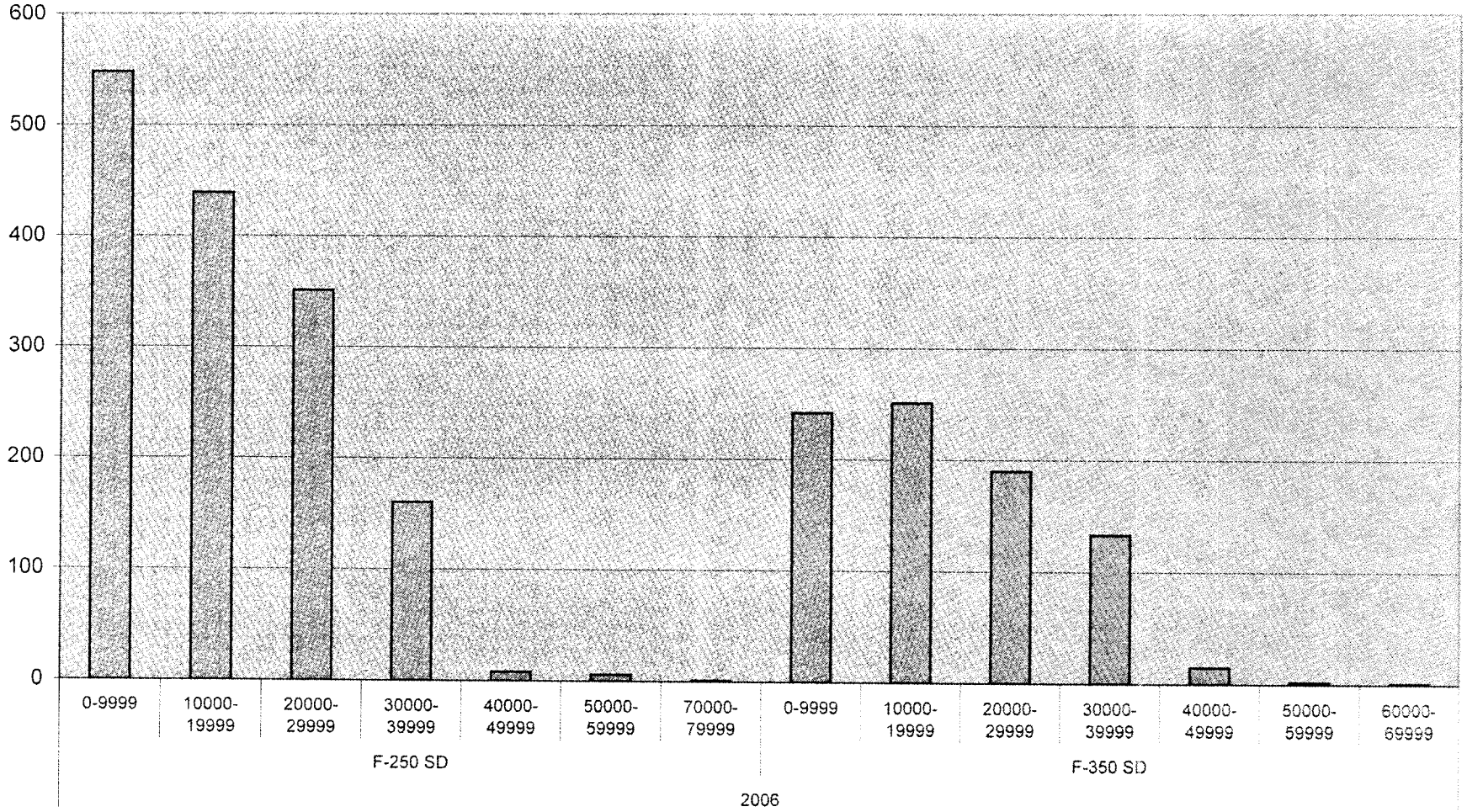


	0-9999	10000-1999	20000-2999	30000-3999	40000-4999	50000-5999	60000-6999	70000-7999	80000-8999	90000-9999	100000-1099	110000-1199	120000-1299	130000-1399	140000-1499	150000-1599	160000-1699	180000-1899	200000-2099	210000-2199	240000-2499	250000-2599	260000-2699	280000-2899	290000-2999	310000-3199	320000-3299	350000-3599	360000-3699	370000-3799
Total	1446	1649	1486	934	64	36	12	5	7	7	3	5	5	2	2	3	6	2	2	2	3	3	1	2	1	3	1	1	1	1

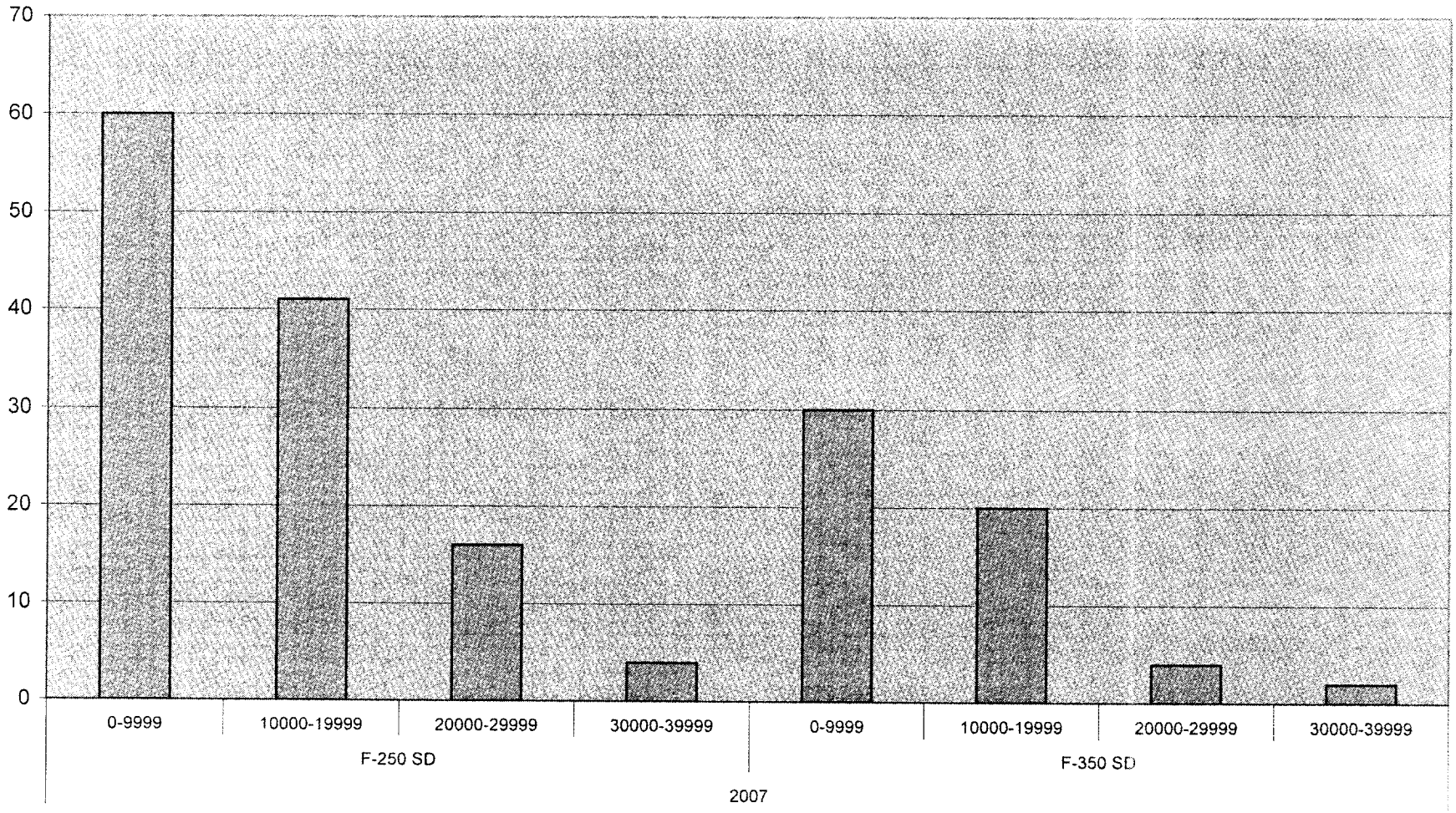
2005 F250 and F350
Alleged Steering "Shimmy" and "Shake"
Sorted By Mileage (10,000 mile bands)



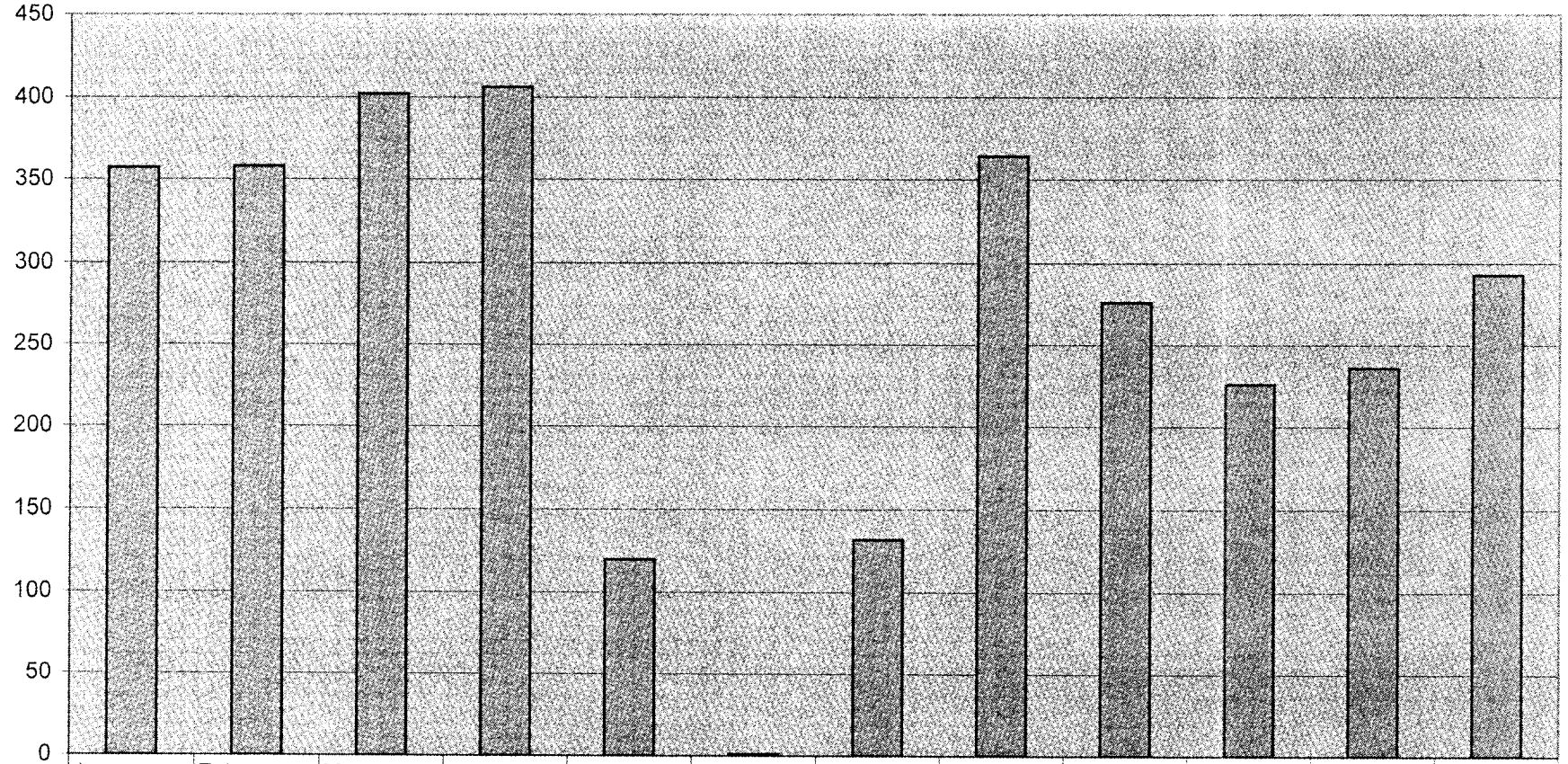
2006 F250 and F350
Alleged Steering "Shimmy" and "Shake"
Sorted By Mileage (10,000 mile bands)



2007 F250 and F350
Alleged Steering "Shimmy" and "Shake"
Sorted By Mileage (10,000 mile bands)

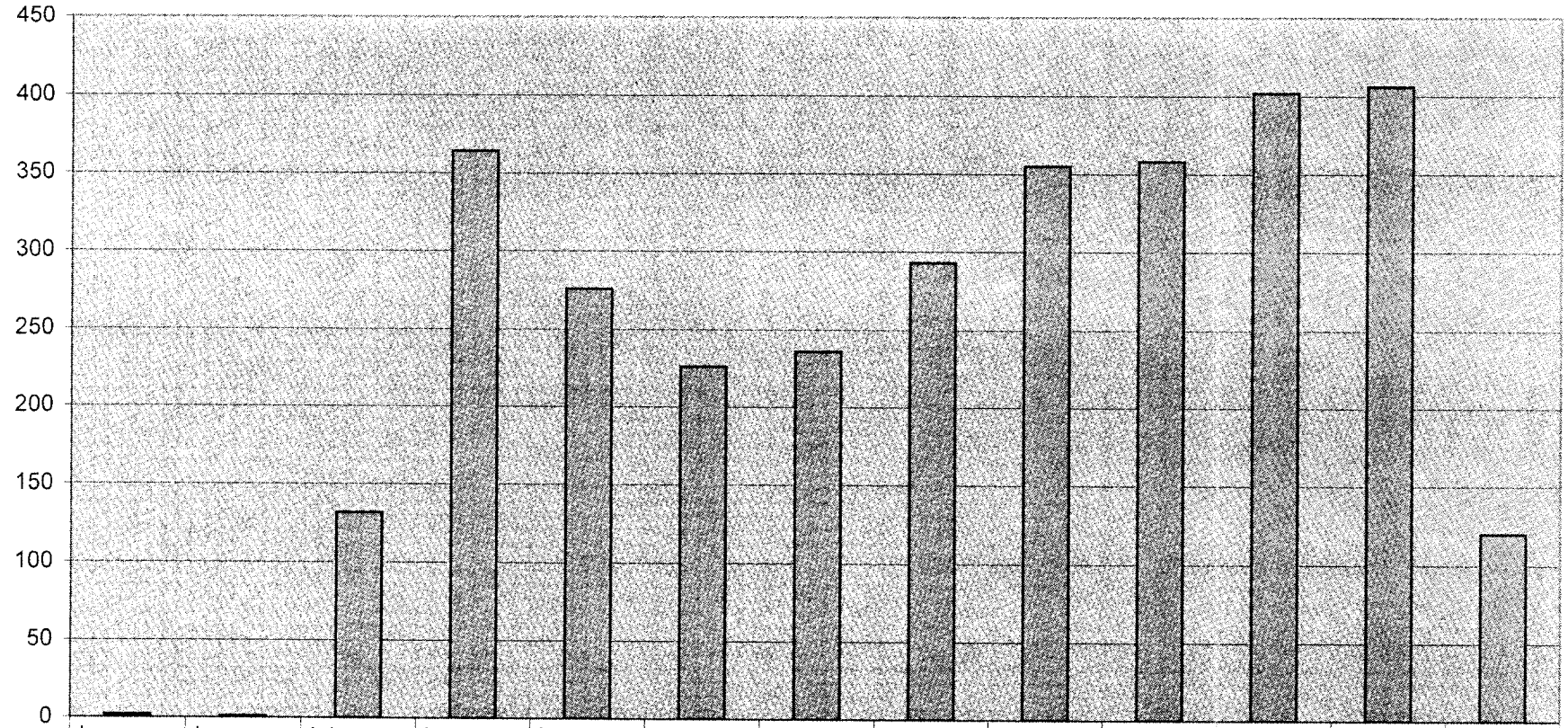


2005 - 2007 F250 and F350 Combined
Alleged Steering "Shimmy" and "Shake"
Sorted By Production Date (By Month)



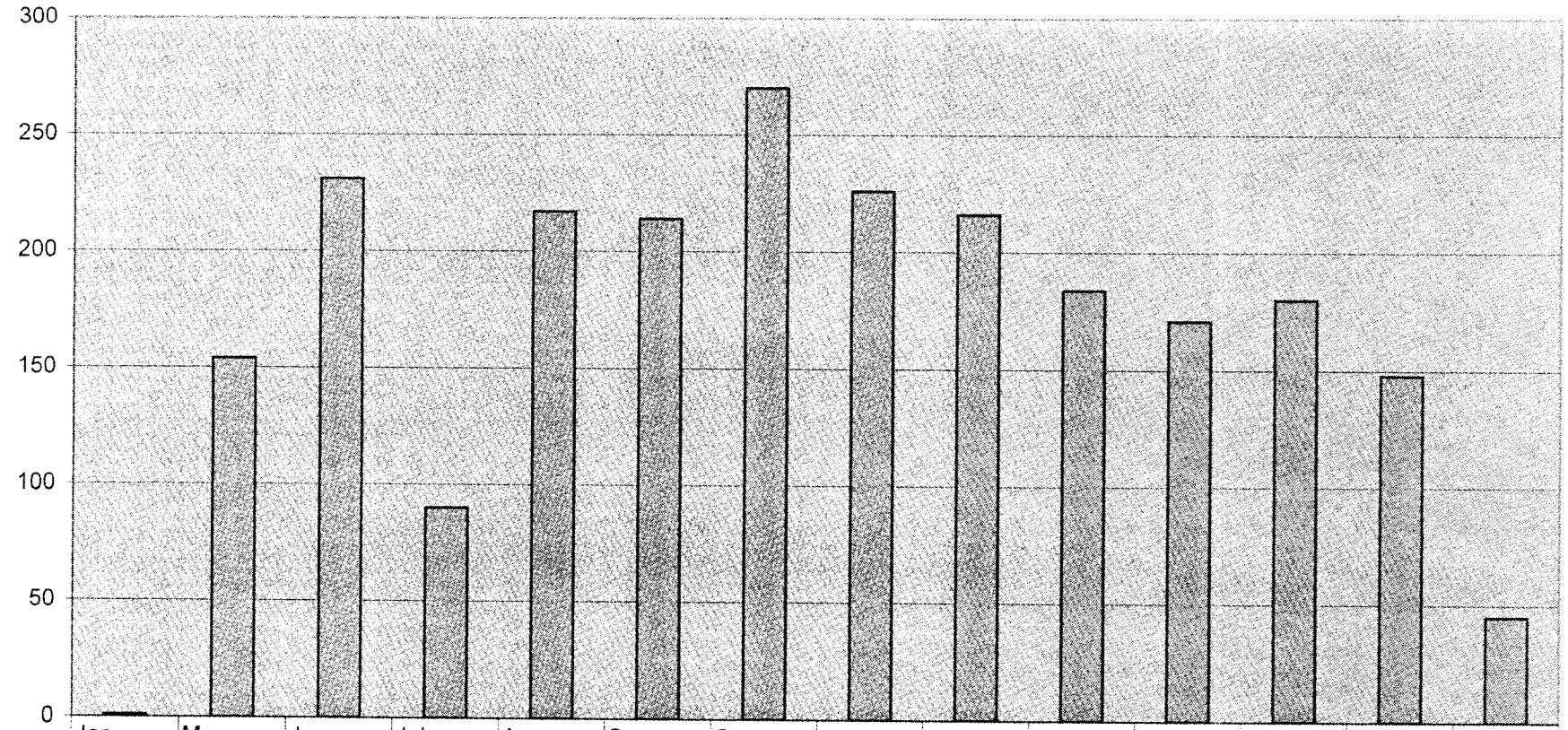
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Total	357	358	402	406	120	1	132	364	276	226	236	293

2006 F250 and F350 Combined
Alleged Steering "Shimmy" and "Shake"
Sorted By Production Date (By Month)



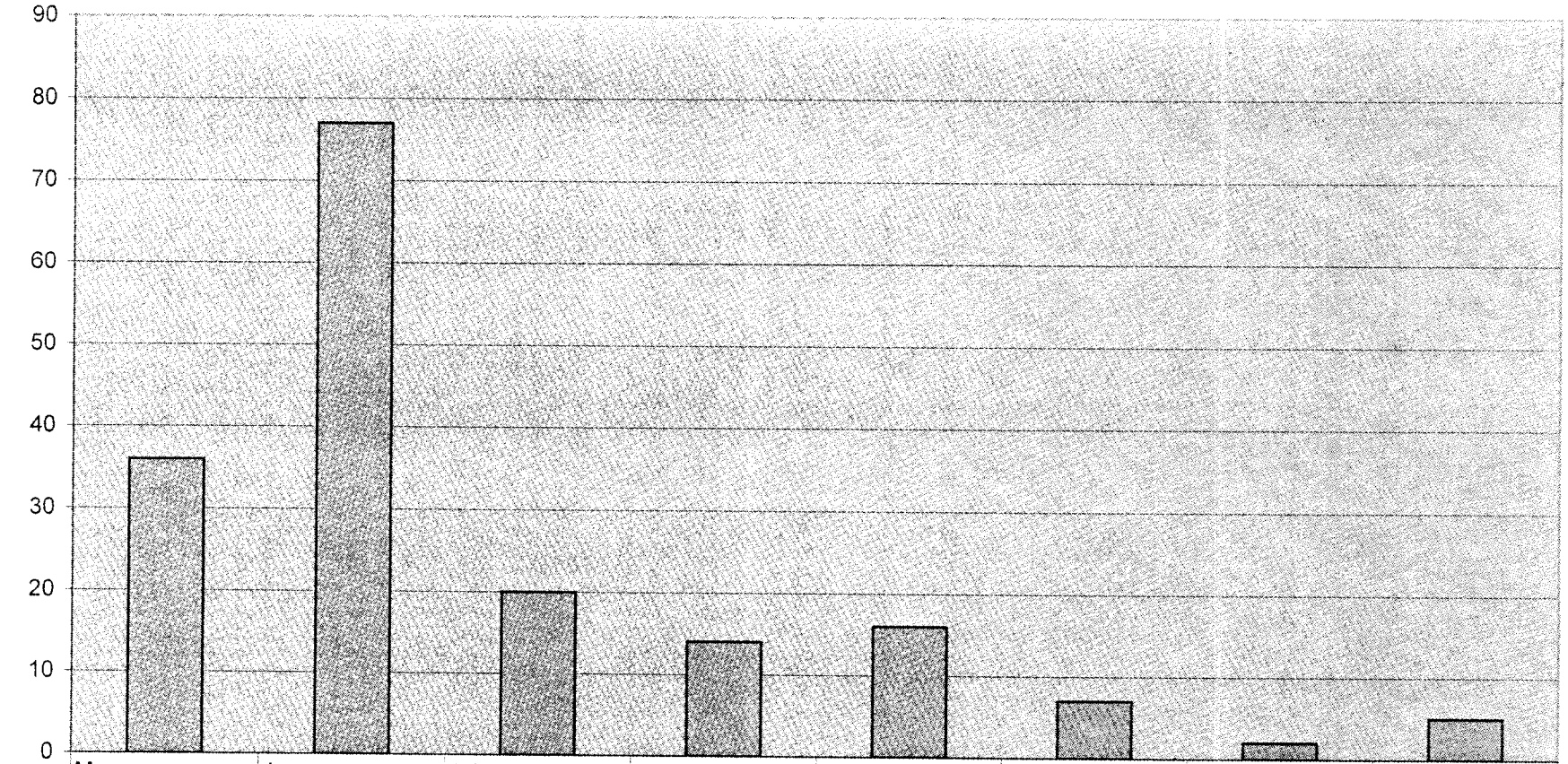
Total	2	1	132	364	276	226	236	293	355	358	402	406	120

2006 F250 and F350 Combined
Alleged Steering "Shimmy" and "Shake"
Sorted By Production Date (By Month)



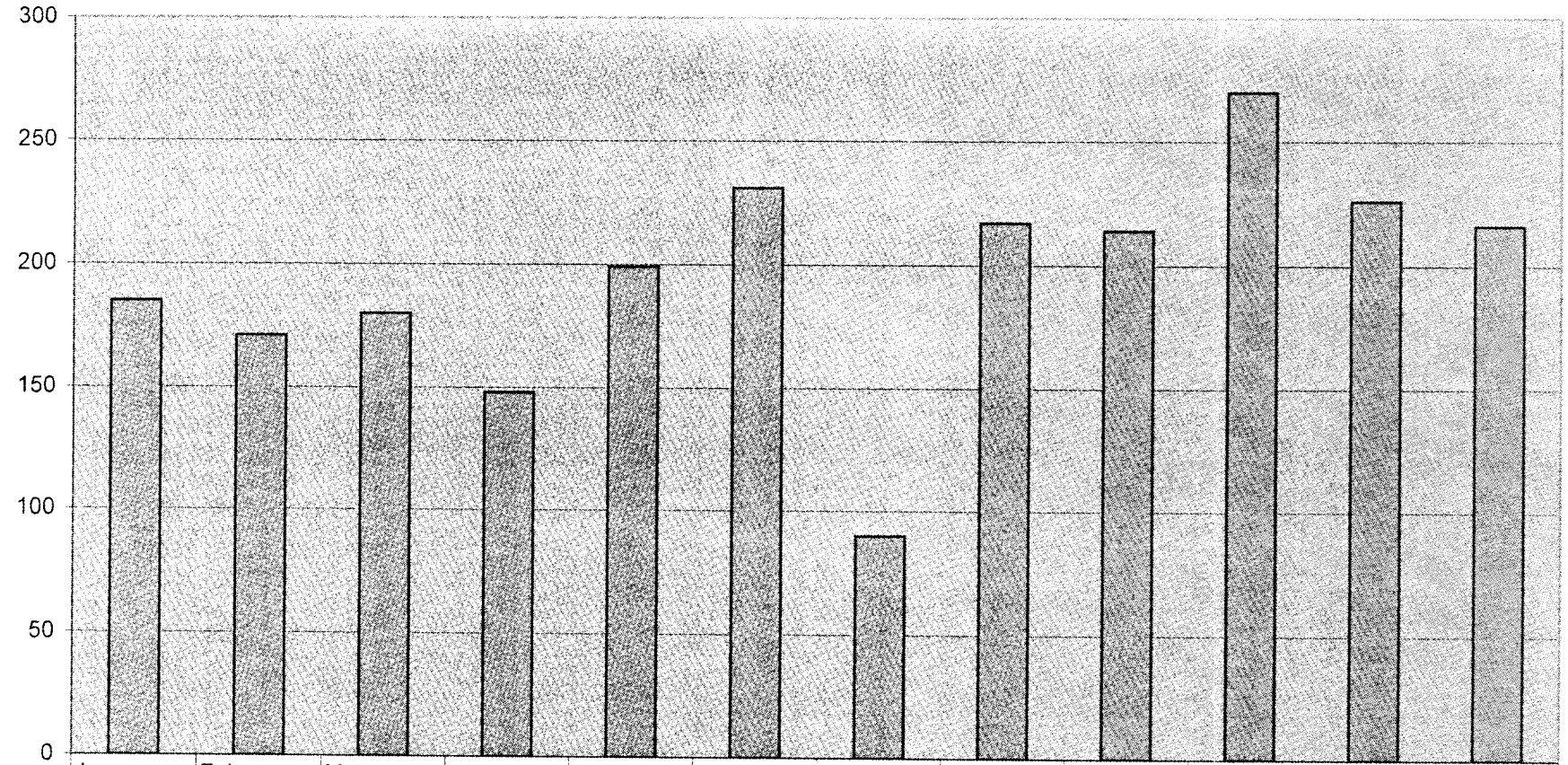
	Jan 1900	May 2005	Jun 2005	Jul 2005	Aug 2005	Sep 2005	Oct 2005	Nov 2005	Dec 2005	Jan 2006	Feb 2006	Mar 2006	Apr 2006	May 2006
Total	1	154	231	90	217	214	270	226	216	184	171	180	148	45

2007 F250 and F350 Combined
Alleged Steering "Shimmy" and "Shake"
Sorted By Production Date (By Month)



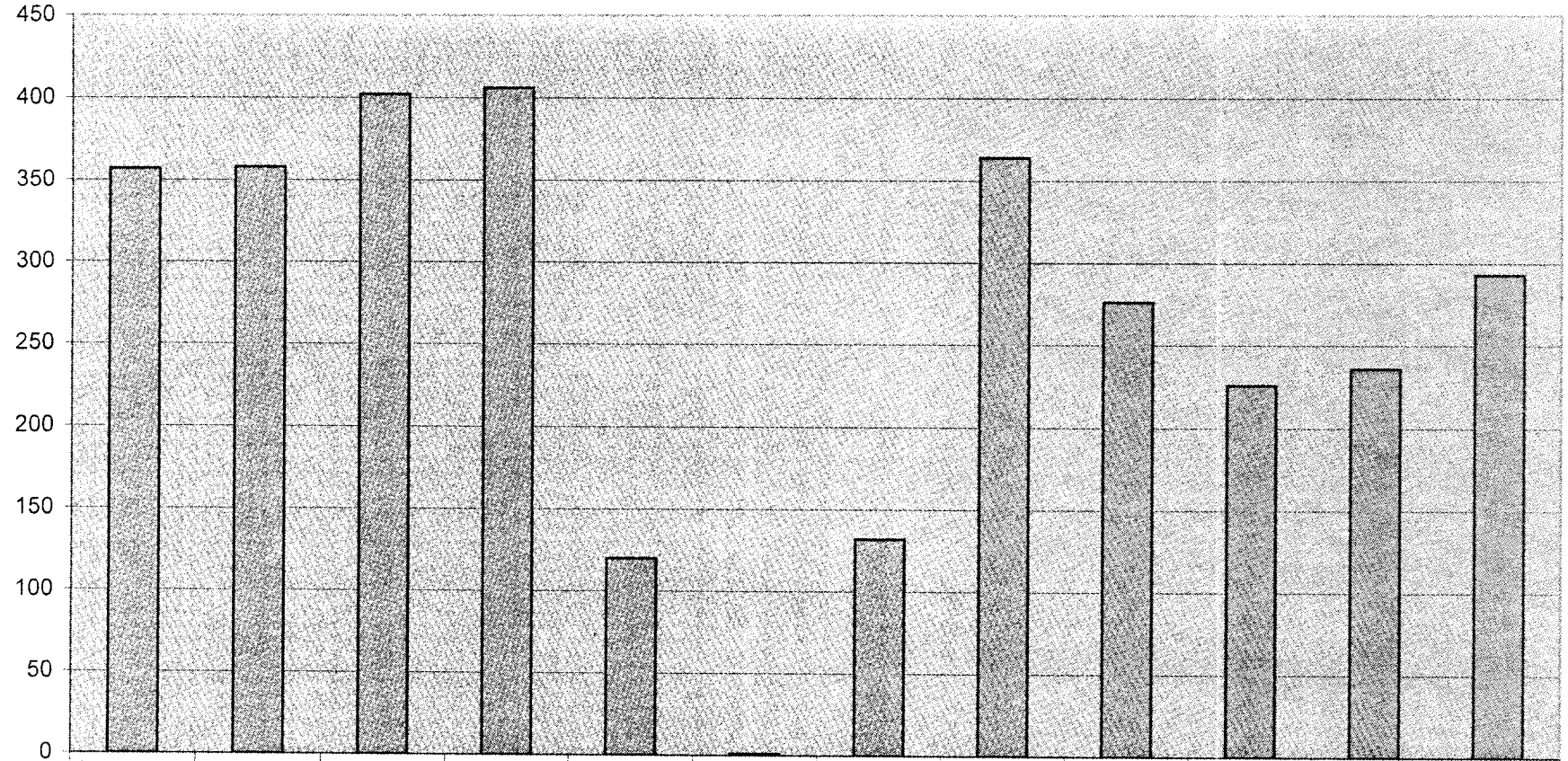
	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Total	36	77	20	14	16	7	2	5

2006 F250 and F350 Combined
Alleged Steering "Shimmy" and "Shake"
Sorted By Production Date (By Month)



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Total	185	171	180	148	199	231	90	217	214	270	226	216

2005 F250 and F350 Combined
Alleged Steering "Shimmy" and "Shake"
Sorted By Production Date (By Month)



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Total	357	358	402	406	120	1	132	364	276	226	236	293

41 VOQ HAVE VIN DATA out of 258 report

F250 - F350 2005 - 2007 Alleged Shimmy or Shake in Steering after hitting a bump in the road

- Reviewed ALL 2005 - 2007 F250/F350 Chassis; Steering (all)

Search words:
Shim* and bump
Shake* and bump

5695 records
5184 unique VINs

452 Repeat VIN (with more then 2 reports for each)

F250 - F550
05 - 07

VO's only

ADD U50
550

Sort by Body style, 4x4 v 4x2

Normalize the data

2005 MY F250 thry F550 Vehicle Production Volumes, Sorted By Body Style

Sum of VEHICLES	
Body Style (VIN)	Total
F20 - F-250 4X2 REGULAR PICKUP S DUTY (SRW) (WIDE)	12760
F21 - F-250 4X4 REGULAR PICKUP S DUTY (SRW) (WIDE)	15223
F25	3749
F30 - F-350 4X2 REGULAR PICKUP S DUTY (SRW) (WIDE)	2173
F31 - F-350 4X4 REGULAR PICKUP S DUTY (SRW) (WIDE)	6768
F32 - F-350 4X2 REGULAR PICKUP S DUTY (DRW) (WIDE)	417
F33 - F-350 4X4 REGULAR PICKUP S DUTY (DRW) (WIDE)	359
F34 - F-350 4X2 REG CHASSIS CAB S DUTY (SRW) (NARROW)	2079
F35 - F-350 4X4 REG CHASSIS CAB S DUTY (SRW) (NARROW)	1215
F36 - F-350 4X2 REG CHASSIS CAB S DUTY (DRW) (NARROW)	16416
F37 - F-350 4X4 REG CHASSIS CAB S DUTY (DRW) (NARROW)	9339
F46 - F-450 4X2 (REG) S DUTY CHASSIS CAB (DRW) (NARROW)	11107
F47 - F-450 4X4 (REG) S DUTY CHASSIS CAB (DRW) (NARROW)	7696
F56 - F-550 4X2 (REG) S DUTY CHASSIS CAB (DRW) (NARROW)	8587
F57 - F-550 4X4 (REG) S DUTY CHASSIS CAB (DRW) (NARROW)	6374
W20 - F-250 4X2 CREW CAB (SRW) (WIDE)	12764
W21 - F-250 4X4 CREW CAB (SRW) (WIDE)	73974
W30 - F-350 4X2 CREW CAB (SRW) (WIDE)	3115
W31 - F-350 4X4 CREW CAB (SRW) (WIDE)	45757
W32 - F-350 4X2 CREW CAB (DRW) (WIDE)	5927
W33 - F-350 4X4 CREW CAB (DRW) (WIDE)	19500
W34 - F-350 4X2 (CREW) CHASSIS CAB (SRW) (NARROW)	652
W35 - F-350 4X4 (CREW) CHASSIS CAB (SRW) (NARROW)	331
W36 - F-350 4X2 (CREW) CHASSIS CAB (DRW) (NARROW)	1691
W37 - F-350 4X4 (CREW) CHASSIS CAB (DRW) (NARROW)	1835
W46 - F-450 4X2 (CREW) S DUTY CHASSIS CAB (DRW) (NARROW)	2081
W47 - F-450 4X4 (CREW) S DUTY CHASSIS CAB (DRW) (NARROW)	1428
W56 - F-550 4X2 (CREW) S DUTY CHASSIS CAB (DRW) (NARROW)	1425
W57 - F-550 4X4 (CREW) S DUTY CHASSIS CAB (DRW) (NARROW)	1853
X20 - F-250 4X2 SUPER CAB PICKUP (SRW) (WIDE)	12296
X21 - F-250 4X4 SUPER CAB PICKUP (SRW) (WIDE)	40722
X30 - F-350 4X2 SUPER CAB PICKUP (SRW) (WIDE)	1211
X31 - F-350 4X4 SUPER CAB PICKUP (SRW) (WIDE)	11724
X32 - F-350 4X2 SUPER CAB PICKUP (DRW) (WIDE)	688
X33 - F-350 4X4 SUPER CAB PICKUP (DRW) (WIDE)	1964
X34 - F-350 4X2 (SUPER) CHASSIS CAB (SRW) (NARROW)	630
X35 - F-350 4X4 (SUPER) CHASSIS CAB (SRW) (NARROW)	803
X36 - F-350 4X2 (SUPER) CHASSIS CAB (DRW) (NARROW)	878
X37 - F-350 4X4 (SUPER) CHASSIS CAB (DRW) (NARROW)	1851
X46 - F-450 4X2 (SUPER) CHASSIS CAB (DRW)	445
X47 - F-450 4X4 (SUPER) CHASSIS CAB (DRW)	696
X56 - F-550 4X2 (SUPER) CHASSIS CAB (DRW)	168
X57 - F-550 4X4 (SUPER) CHASSIS CAB (DRW)	691
Grand Total	351362

2006 MY F250 thru F550 Vehicle Production Volumes, Sorted By Body Style

Sum of VEHICLES	
Body Style (VIN)	Total
F20 - F-250 4X2 REGULAR PICKUP S DUTY (SRW) (WIDE)	15872
F21 - F-250 4X4 REGULAR PICKUP S DUTY (SRW) (WIDE)	17325
F22	469
F25	1299
F30 - F-350 4X2 REGULAR PICKUP S DUTY (SRW) (WIDE)	3400
F31 - F-350 4X4 REGULAR PICKUP S DUTY (SRW) (WIDE)	8261
F32 - F-350 4X2 REGULAR PICKUP S DUTY (DRW) (WIDE)	452
F33 - F-350 4X4 REGULAR PICKUP S DUTY (DRW) (WIDE)	487
F34 - F-350 4X2 REG CHASSIS CAB S DUTY (SRW) (NARROW)	2425
F35 - F-350 4X4 REG CHASSIS CAB S DUTY (SRW) (NARROW)	1343
F36 - F-350 4X2 REG CHASSIS CAB S DUTY (DRW) (NARROW)	23433
F37 - F-350 4X4 REG CHASSIS CAB S DUTY (DRW) (NARROW)	10276
F46 - F-450 4X2 (REG) S DUTY CHASSIS CAB (DRW) (NARROW)	12808
F47 - F-450 4X4 (REG) S DUTY CHASSIS CAB (DRW) (NARROW)	6687
F56 - F-550 4X2 (REG) S DUTY CHASSIS CAB (DRW) (NARROW)	10885
F57 - F-550 4X4 (REG) S DUTY CHASSIS CAB (DRW) (NARROW)	8220
W20 - F-250 4X2 CREW CAB (SRW) (WIDE)	14799
W21 - F-250 4X4 CREW CAB (SRW) (WIDE)	87837
W30 - F-350 4X2 CREW CAB (SRW) (WIDE)	4138
W31 - F-350 4X4 CREW CAB (SRW) (WIDE)	56467
W32 - F-350 4X2 CREW CAB (DRW) (WIDE)	6872
W33 - F-350 4X4 CREW CAB (DRW) (WIDE)	23952
W34 - F-350 4X2 (CREW) CHASSIS CAB (SRW) (NARROW)	475
W35 - F-350 4X4 (CREW) CHASSIS CAB (SRW) (NARROW)	570
W36 - F-350 4X2 (CREW) CHASSIS CAB (DRW) (NARROW)	2844
W37 - F-350 4X4 (CREW) CHASSIS CAB (DRW) (NARROW)	3056
W46 - F-450 4X2 (CREW) S DUTY CHASSIS CAB (DRW) (NARROW)	2521
W47 - F-450 4X4 (CREW) S DUTY CHASSIS CAB (DRW) (NARROW)	1732
W56 - F-550 4X2 (CREW) S DUTY CHASSIS CAB (DRW) (NARROW)	1997
W57 - F-550 4X4 (CREW) S DUTY CHASSIS CAB (DRW) (NARROW)	2703
X20 - F-250 4X2 SUPER CAB PICKUP (SRW) (WIDE)	16027
X21 - F-250 4X4 SUPER CAB PICKUP (SRW) (WIDE)	44743
X30 - F-350 4X2 SUPER CAB PICKUP (SRW) (WIDE)	1335
X31 - F-350 4X4 SUPER CAB PICKUP (SRW) (WIDE)	13683
X32 - F-350 4X2 SUPER CAB PICKUP (DRW) (WIDE)	762
X33 - F-350 4X4 SUPER CAB PICKUP (DRW) (WIDE)	1994
X34 - F-350 4X2 (SUPER) CHASSIS CAB (SRW) (NARROW)	761
X35 - F-350 4X4 (SUPER) CHASSIS CAB (SRW) (NARROW)	887
X36 - F-350 4X2 (SUPER) CHASSIS CAB (DRW) (NARROW)	1207
X37 - F-350 4X4 (SUPER) CHASSIS CAB (DRW) (NARROW)	2679
X46 - F-450 4X2 (SUPER) CHASSIS CAB (DRW)	654
X47 - F-450 4X4 (SUPER) CHASSIS CAB (DRW)	802
X56 - F-550 4X2 (SUPER) CHASSIS CAB (DRW)	229
X57 - F-550 4X4 (SUPER) CHASSIS CAB (DRW)	949
Grand Total	420317

Positive VOQ's 2005-2007 F250-F550
Alleged Steering Shimmy, By Body Style

Count of Manufacturer			
Sort Field 1	Model Yr	Vehicle Description (Including Body Style)	Total
1	2005	F250 4x4 Crew Cab SRW	6
		F250 4x4 Super Cab SRW	1
		F350 4x4 Crew Cab DRW	2
		unknown - No VIN data provided —?	1
	2005 Total		10
	2006	F250 4x4 Crew Cab SRW	1
		F250 4x4 Super Cab SRW	3
		unknown - No VIN data provided —?	2
	2006 Total		6
1 Total			16
Grand Total			16

Prod Volum
W21 — 73974
X21 — 40722
W33 — 19500

W21 — 87837
X21 — 44743

Shannon Boals Ext warranty

* Provide VINs to Ken G.

Net Meeting Summary Sheet

Issue:	Alleged accident caused by steering wheel shakes/shimmy while driving, after hitting bumps in road
Vehicle:	F250 and F350 Super Duty
Model Year(s):	2006 and 2007
Body Cab Style:	All
Engine Type:	All
Transmission Type:	All

4/25/07

ADD: 1 VOQ w/ Alleged Accident

2005 F250
- Lost Control & Ran off Road
- Damage to body & tires
- No Injury

4

4 alleged incidents where the customers allege that they lost control of their vehicles and had an accident as a result of a shimmy/shaking condition after they hit a bump in the road.

1 alleged rollover with injury
1 – 2005 MY — 1 – F250 (VOQ – no other vehicle details)

2 - 2006 MY vehicles; 1 - F250 6.8L engine with auto trans; 27610 miles, Prod date; 8/17/2005
1 - F350 6.0L engine with auto trans; 23203 miles, Prod date; 6/16/2005

1 - 2007 MY vehicle; 1 - F250 5.4L engine with auto trans; 26696 miles, Prod date; 6/27/2006

ECI # [redacted] CUSTOMER STATES TRUCK HAS A SHIMMY CUSTOMER RAN THE VEHICLE OFF THE ROAD AND DAMAGED THE GEAR BOX. NOW THE STEERING WHEEL IS OFF 1/8 OF A TURN. CUSTOMER INDICATES THE HOP CONCERN CAUSED THEM TO LOOSE CONTROL OF THE VEHICLE.

GCQIS 3/27/07

ECI # [redacted] THE STEERING STARTED TO SHAKE VIOLENTLY, THE DRIVER PULLED OFF THE ROAD TO GET CONTROL, AND HIT A CULVERT.
INCIDENT DATE: 7-21-2006. NO INJURIES.
CONKIN CARS WAS ABLE TO DUPLICATE THE CONCERN. IT WAS DETERMINED THAT THE CONCERN WAS RELATED TO SSM 06-15-1.
BASED ON THE DLR PROVIDED INFORMATION, LPA OFFERED GOODWILL REPAIRS FOR VEHICLE BODY DAMAGE.
REPAIR EST: $1,635.

MOPS CMDL 7/31/06

ECI# [redacted] DRIVER ALLEGES THAT THE FRONT-END BEGAN TO VIBRATE, HE LOST CONTROL, AND ROLLED THIS VEHICLE SERVERAL TIMES.
THE DRIVER SUSTAINED INJURY. INCIDENT DATE: 6-4-2007.
**LPA WILL REQUEST AN EAA VEHICLE INSPECTION. **LPA SPOKE TO ROBERT HODNETT, PIONEER NATURAL RESOURCES, PH: 719 845-4326. HE CONFIRMED THE ISSUE INFORMATION AND ADDED THAT THE DRIVER WAS TRAVELING ON A HWY (SPEED LIMIT 75 MPH), HE ATTEMPTED TO BRAKE, VEHICLE LOCKED UP,

MOPS CMDL 6/4/07

WENT INTO A DITCH AND ROLLED. MR. HODNETT INDICATED THAT THERE HAVE BEEN ONGOING STEERING CONCERNS WITH OTHER F-250S IN HIS FLEET AND THE DLRS HAVE NOT BEEN ABLE TO ADDRESS THE CONCERNS. THE DRIVER RECEIVED MEDICAL ATTENTION FOR INJURIES.

5 TSBs

Service Information released;

TSB 05-22-1 Steering Wheel Oscillation
TSB 06-15-1 Steering Wheel Oscillation (updates 05-22-1, model years and causal part numbers)
TSB 06-22-14 Steering Wheel Oscillation (updates 06-15-01, service labor operations)
TSB 07-05-07 Steering Wheel Oscillation (updates 06-22-14, specifics unknown-copy not available)
TSB 07-10-10 Steering Wheel Oscillation (updates 07-05-07, parts updated)

TSBs provide information regarding:

Proper tire pressures
Checking steering damper for leaks
Proper steering/suspension fastener torques values
Front wheel alignment values (and part numbers for alignment bushings)

VOQ by MY/Body Style

2005 → 12 reports

9 F250 U021 ||||
Missing VIN |
X21 ||

3 F350 W32 |
W33 ||

2006 → 6 reports

5 F250 X21 ||| U021 | Blank |

1 F450 (bad VIN)
(Next same as 06 F250 4x4)

Search Result

smatthe2 / Ford LM
Release 10.0.3
Release Date: March 9, 2007

Selection Summary	
make	Ford LM;
model year	2007; 2006; 2005;
vehicle line	F-250; F-250 SD; F-350; F-350 SD; F-450; F-450 SD; F-550; F-550 SD;
source system key	VOQ Ford;
commodity category	chassis;
commodity level1	steering;

Chart Analysis:

None

Report List to Excel Report Summary

Commodity Category - LV1	Commodity Counts	Significant Events	CQIS Safety
VOQ Ford (27) UNIQUE ECI RECORD COUNTS			
chassis - steering	27	3	
chassis - Subtotal	**27**	**3**	

Commodity Category - LV1	Commodity Counts	Significant Events	CQIS Safety
Across All Source Systems (27) UNIQUE ECI RECORD COUNTS			
Total - Total	**27**	**3**	**0**

Report List to Excel Report Summary Print to PDF

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Contact: CDR HELP
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Major Release 10.0.3
Release Date: March 9, 2007

Ford Conc[redacted]

Search Result

smatthe2 / Ford LM
Release 10.0.3
Release Date: March 9, 2007

Selection Summary	
make	Ford LM;
vehicle line	F-250; F-250 SD; F-350; F-350 SD;
commodity category	chassis;
commodity level1	steering;
model year	2005;

Chart Analysis:
None

Report List to Excel | Report Summary

Commodity Category - LV1	Commodity Counts	Significant Events	CQIS Safety
APCO Ford (58) UNIQUE ECI RECORD COUNTS			
chassis - steering	☑ 58	☐ 1	
chassis - Subtotal	☑ **58**	☐ **1**	

Commodity Category - LV1	Commodity Counts	Significant Events	CQIS Safety
AWS (36680) UNIQUE ECI RECORD COUNTS			
chassis - steering	☑ 36680	☐ 13	
chassis - Subtotal	☑ **36680**	☐ **13**	

Commodity Category - LV1	Commodity Counts	Significant Events	CQIS Safety
GCQIS Ford (1761) UNIQUE ECI RECORD COUNTS			
chassis - steering	☑ 1761	☐ 2	☐ 25
chassis - Subtotal	☑ **1761**	☐ **2**	☐ **25**

Commodity Category - LV1	Commodity Counts	Significant Events	CQIS Safety
CTQS (22) UNIQUE ECI RECORD COUNTS			
chassis - steering	☑ 22		
chassis - Subtotal	☑ **22**		

Commodity Category - LV1	Commodity Counts	Significant Events	CQIS Safety
MORS\CUDL (1308) UNIQUE ECI RECORD COUNTS			
chassis - steering	☑ 1308	☐ 33	
chassis - Subtotal	☑ **1308**	☐ **33**	

Commodity Category - LV1	Commodity Counts	Significant Events	CQIS Safety
GQRS Ford (385) UNIQUE ECI RECORD COUNTS			
chassis - steering	☑ 385		
chassis - Subtotal	☑ **385**		

Commodity Category - LV1	Commodity Counts	Significant Events	CQIS Safety
VOQ Ford (16) UNIQUE ECI RECORD COUNTS			
chassis - steering	☑ 16	☐ 2	

chassis - Subtotal	☑ 16	☐ 2	
Commodity Category - LV1	Commodity Counts	Significant Events	CQIS Safety
Viewpoint (124) UNIQUE ECI RECORD COUNTS			
chassis - steering	☑ 124		
chassis - Subtotal	☑ **124**		
Commodity Category - LV1	Commodity Counts	Significant Events	CQIS Safety
Across All Source Systems (40354) UNIQUE ECI RECORD COUNTS			
Total - Total	☑ **40354**	☐ **51**	☐ **25**

Report List to Excel Report Summary Print to PDF

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Contact: CDR HELP
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Major Release 10.0.3
Release Date: March 9, 2007

Ford Con[redacted]

Search Result

smatthe2 / Ford LM
Release 10.0.3
Release Date: March 9, 2007

Selection Summary	
make	Ford LM;
model year	2007; 2006;
vehicle line	F-250; F-250 SD; F-350; F-350 SD;
commodity category	chassis;
commodity level1	steering;

Chart Analysis:
None

Report List to Excel | Report Summary

Commodity Category - LV1	Commodity Counts	Significant Events	CQIS Safety
APCO Ford (5) UNIQUE ECI RECORD COUNTS			
chassis - steering	☐ 5		
chassis - Subtotal	☐ **5**		
Commodity Category - LV1	**Commodity Counts**	**Significant Events**	**CQIS Safety**
AWS (26933) UNIQUE ECI RECORD COUNTS			
chassis - steering	☐ 26933	☐ 13	
chassis - Subtotal	☐ **26933**	☐ **13**	
Commodity Category - LV1	**Commodity Counts**	**Significant Events**	**CQIS Safety**
GCQIS Ford (1194) UNIQUE ECI RECORD COUNTS			
chassis - steering	☐ 1194	☐ 2	☐ 16
chassis - Subtotal	☐ **1194**	☐ **2**	☐ **16**
Commodity Category - LV1	**Commodity Counts**	**Significant Events**	**CQIS Safety**
CTQS (16) UNIQUE ECI RECORD COUNTS			
chassis - steering	☐ 16		
chassis - Subtotal	☐ **16**		
Commodity Category - LV1	**Commodity Counts**	**Significant Events**	**CQIS Safety**
MORS\CUDL (780) UNIQUE ECI RECORD COUNTS			
chassis - steering	☐ 780	☐ 28	
chassis - Subtotal	☐ **780**	☐ **28**	
Commodity Category - LV1	**Commodity Counts**	**Significant Events**	**CQIS Safety**
GQRS Ford (623) UNIQUE ECI RECORD COUNTS			
chassis - steering	☐ 623		
chassis - Subtotal	☐ **623**		
Commodity Category - LV1	**Commodity Counts**	**Significant Events**	**CQIS Safety**
VOQ Ford (6) UNIQUE ECI RECORD COUNTS			
chassis - steering	☐ 6	☐ 1	

Significant Event AND
Summy
Shake
Vibrate
Wobble
Accident
Injury

chassis - Subtotal	6	1	
Commodity Category - LV1	Commodity Counts	Significant Events	CQIS Safety
Across All Source Systems (29557) UNIQUE ECI RECORD COUNTS			
Total - Total	29557	44	16

Report List to Excel | Report Summary | Print to PDF

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Contact: CDR HELP

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Major Release 10.0.3

Release Date: March 9, 2007

From: Barry, Jack (J.E.)
Sent: Monday, July 09, 2007 7:42 AM
To: Gompper, Dan (D.B.); Hodges, Cynthia (C.P.); Memmer, Mark (M.A.)
Subject: FW: 2005 thru 2007 F250/F350 Alleged Steering Shimmy/Shake After Hitting Bumps

Attachments: Combined 05 - 07 F250 F350 Alleged Steering Shimmy or Shake.xls; 05 - 07 FSD Alleged Shimmy Shake VOQ data only.xls

Any thoughts? Sounds like a mixed bag of shimmy and torsional ringdown.

Jack Barry

Truck Chassis Steering
[redacted]
Fax: 313-322-0744
Address: PDC 2BK43

From: Boals, Shannon (S.D.)
Sent: Monday, July 09, 2007 6:44 AM
To: Barry, Jack (J.E.)
Subject: FW: 2005 thru 2007 F250/F350 Alleged Steering Shimmy/Shake After Hitting Bumps

Please look at this and get back to me.

Shannon Boals
Steering Gear Manager
Ford North America Chassis Engineering
Office: PDC Room 2B-J80
Phone/Fax:(313) 390-5163
Email: <mailto:sboals1@ford.com>

From: Matthews, Steve (S.D.)
Sent: Friday, July 06, 2007 10:51 AM
To: Oswalt, Greg (G.G.); Boals, Shannon (S.D.)
Cc: Jones, Rick (W.P.); Wickenheiser, Francis (F.J.)
Subject: 2005 thru 2007 F250/F350 Alleged Steering Shimmy/Shake After Hitting Bumps

Greg, Shannon;

I was asked to perform some additional work on the alleged steering shimmy/shake after hitting bumps on 2005 thru 2007 F250 and F350 vehicles concern.
Attached to this email are two data files; One data file has the CDR system output (all source systems) with confirmed steering shimmy/shake after hitting bumps concerns. This file contains a tab showing the data normalized, by body style, by model year. The second data file shows VOQ data only. For the VOQ data, I was asked to include F450 and F550 vehicles in my search. Please review the data as needed or route to the appropriate engineer(s) for their review.

Greg - Joe W would like you to arrange for a teleconference call with the appropriate engineer(s) to discuss this concern further.

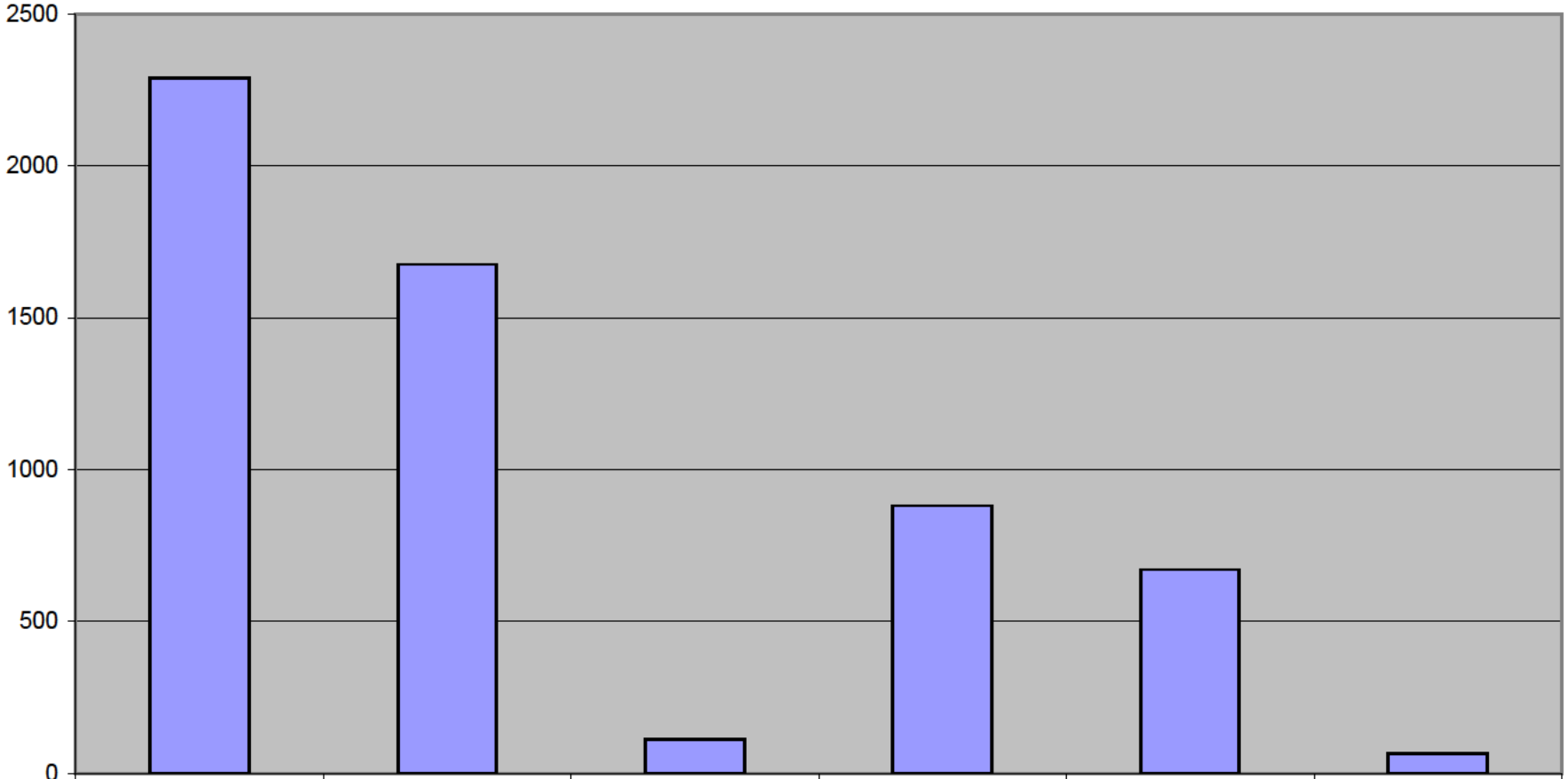
If you have any questions regarding the data files, please contact me.

Combined 05 - 07
F250 F350 All...

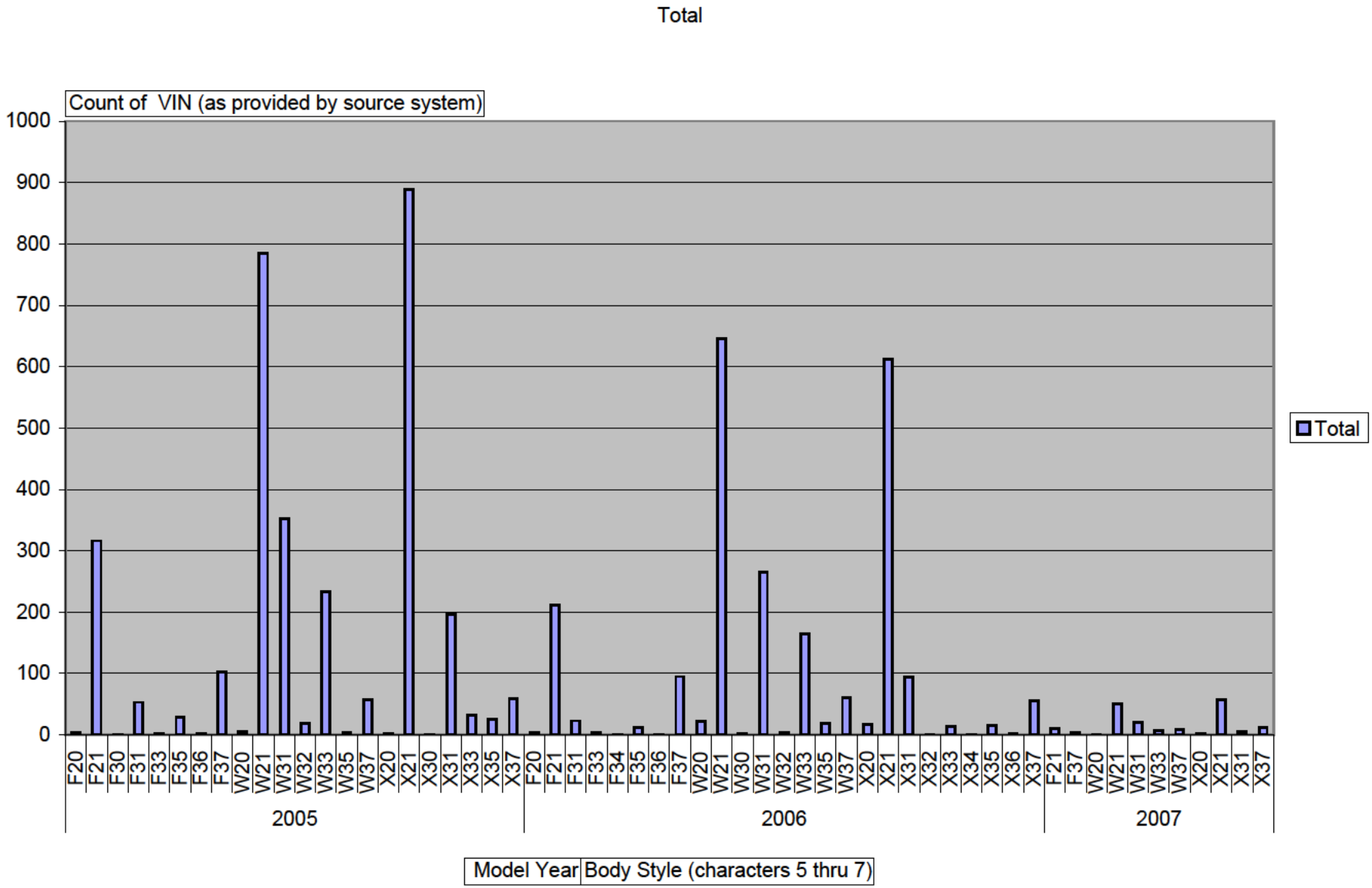
05 - 07 FSD Alleged
Shimmy Sha...

Steve Matthews
Product Concern Analyst
Automotive Safety Office
313.24.83764

2005 thru 2007 f250 and F350
Alleged Steering "Shimmy" or "Shake"
Data Sorted by Customer Symptom/Key Word



	2005 shake	2006	2007	2005 shimmy	2006	2007
Total	2290	1676	111	881	671	66

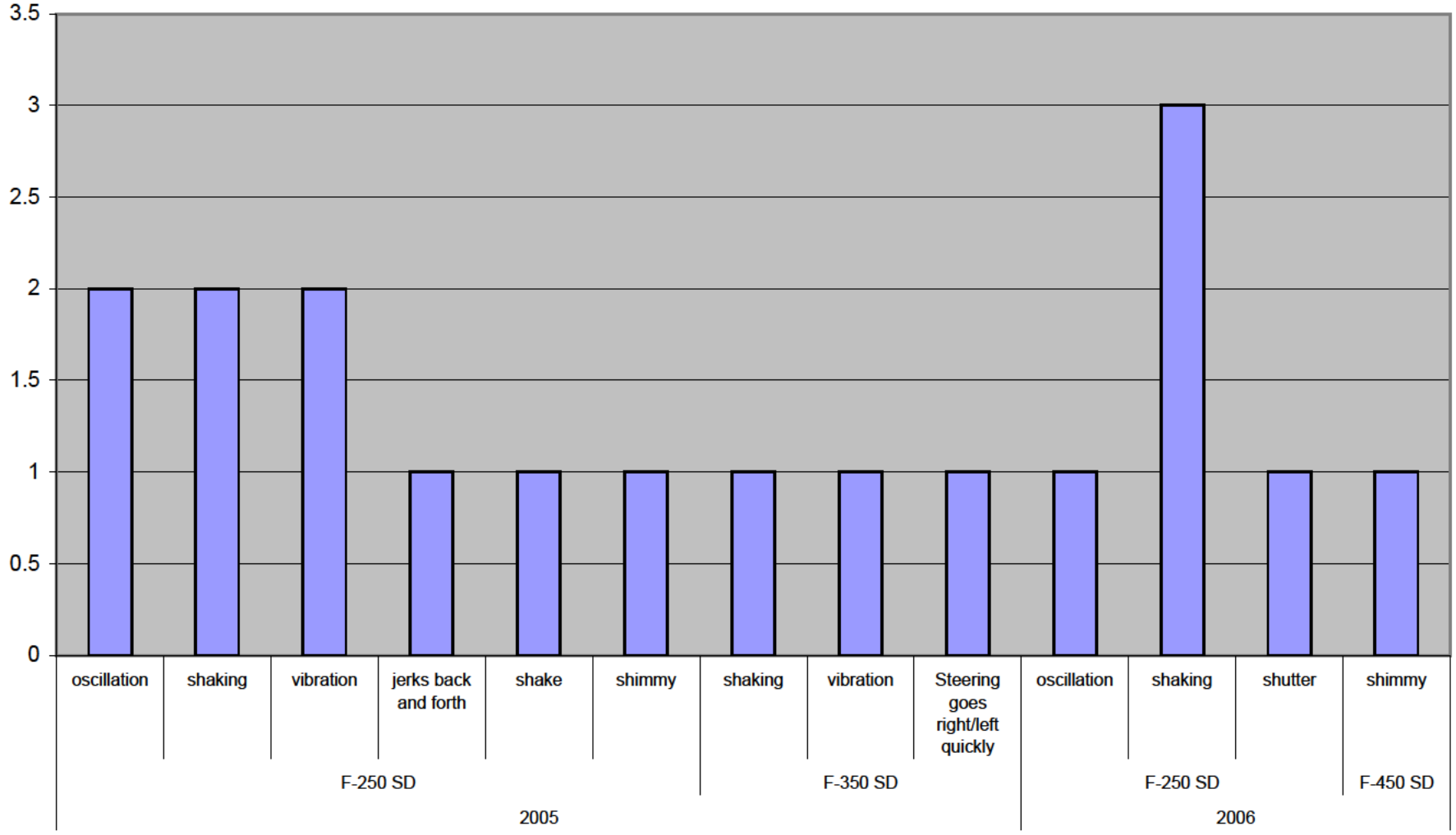

Total
Count of VIN (as provided by source system)
1000
900
800
700
600
500
400
300
200
100
0
F20 F21 F30 F31 F33 F35 F36 F37 W20 W21 W31 W32 W33 W35 W37 X20 X21 X30 X31 X33 X35 X37
F20 F21 F31 F33 F34 F35 F36 F37 W20 W21 W30 W31 W32 W33 W35 W37 X20 X21 X31 X32 X33 X34 X35 X36 X37
F21 F37 W20 W21 W31 W33 W37 X20 X21 X31 X37
2005
2006
2007
Total
Model Year
Body Style (characters 5 thru 7)

Count of VIN (as provided by source system)			# of records	Vehicle production Volumes (from AWS)	r/1000
Model Year	Body Style (characters 5	Total			
2005	F20	4	4	12760	0.313479624
	F21	316	316	15223	20.75806346
	F30	1	1	2173	0.460193281
	F31	53	53	6768	7.830969267
	F33	3	3	359	8.356545961
	F35	28	28	1215	23.04526749
	F36	2	2	16416	0.121832359
	F37	103	103	9339	11.0290181
	W20	6	6	12764	0.470072078
	W21	784	784	73974	10.59831833
	W31	352	352	45757	7.692812029
	W32	18	18	5927	3.036949553
	W33	233	233	19500	11.94871795
	W35	4	4	331	12.08459215
	W37	58	58	1935	29.97416021
	X20	2	2	12296	0.162654522
	X21	889	889	40722	21.83095133
	X30	1	1	1211	0.825763832
	X31	197	197	11724	16.80313886
	X33	32	32	1964	16.29327902
	X35	26	26	803	32.37858032
	X37	59	59	1851	31.87466234
2005 Total		3171			
2006	F20	4	4	15872	0.252016129
	F21	212	212	17325	12.23665224
	F31	23	23	8261	2.784166566
	F33	4	4	487	8.213552361
	F34	1	1	2425	0.412371134
	F35	12	12	1343	8.935219657
	F36	1	1	23433	0.04267486
	F37	95	95	10276	9.244842351
	W20	22	22	14799	1.486586932
	W21	646	646	87837	7.354531689
	W30	3	3	4138	0.724987917
	W31	265	265	56467	4.693006535
	W32	4	4	6872	0.582072177
	W33	164	164	23952	6.847027388
	W35	19	19	570	33.33333333
	W37	60	60	3056	19.63350785
	X20	17	17	16027	1.060710052
	X21	612	612	44743	13.67811725
	X31	94	94	13683	6.869838486
	X32	1	1	762	1.312335958
	X33	14	14	1994	7.02106319
	X34	1	1	761	1.314060447
	X35	16	16	887	18.03833145
	X36	2	2	1207	1.657000829
	X37	55	55	2679	20.53004853
2006 Total		2347			
2007	F21	10	10	6759	1.479508803
	F37	4	4	4097	0.97632414
	W20	1	1	5758	0.173671414
	W21	51	51	30634	1.66481687
	W31	20	20	22250	0.898876404
	W33	7	7	7071	0.989958987
	W37	8	8	1224	6.535947712
	X20	2	2	5547	0.360555255
	X21	57	57	12959	4.398487538
	X31	5	5	4341	1.151808339
	X37	12	12	1022	11.74168297
2007 Total		177			
Grand Total		5695			

Selection Summary	
make	Ford LM;
model year	2007; 2006; 2005;
vehicle line	F-250; F-250 SD; F-350; F-350 SD; F-450; F-450 SD; F-550; F-550 SD;
source system key	VOQ Ford;
commodity category	chassis;
commodity level1	steering;
Selections	chassis - steering -> Total

Count of VIN	
Sort Field 1	Total
shaking	6
oscillation	3
vibration	3
shimmy	2
jerks back and forth	1
shake	1
shutter	1
Steering goes right/left quickly	1
Grand Total	18

2005 thru 2007 F250 thru F550
VOQ data; Alleged steering shimmy/shake while driving after hitting bump in road
Data sorted by Model year, then by Body Style, then by Customer Symptom



Count of VIN			
Model Year	Vehicle Description	Sort Field 1	Total
2005	F-250 SD	oscillation	2
		shaking	2
		vibration	2
		jerks back and forth	1
		shake	1
		shimmy	1
	F-250 SD Total		9
	F-350 SD	shaking	1
		vibration	1
		Steering goes right/left quickly	1
	F-350 SD Total		3
2005 Total			12
2006	F-250 SD	oscillation	1
		shaking	3
		shutter	1
	F-250 SD Total		5
	F-450 SD	shimmy	1
	F-450 SD Total		1
2006 Total			6
Grand Total			18

VOQ Analysis

2005 MY - 12 reports

9 - F250
- **5 - W21**
- **2 - X21**
- **1 - missing VIN**

3 - F350
- **2 - W33**
- **1 - W32**

2006 MY - 6 reports

5 - F250
- **3 - X21**
- **1 - W21**
- **1 - missing VIN**

1 - F450
- **1 - bad VIN, Report indicates F450, but cust comments says 2006 F25**

0 4x4

ECI Record ID	Source Code	Commodity(ies)	Symptoms	Significant Events	Verified	Source Claim Key	Version Series Code	Repair/Report/ Paid Date	Dealer Country	Tread Category Code	Tread Category Description	VOQ Component Description Code	VIN	Production Date	Model Year	Vehicle Description	Mileage	Customer Comments	Sort Field 1
[redacted]	VOQ Ford	chassis;steering	function-malfunction/inoperative;function-steering/brake ineffective;high effort;loose;loss of control;mod-aftermarket;mod-driving condition-at cruise;mod-driving condition-while driving;vibration/pulsation		N	[redacted]	UNKN	8/23/2005	USA	"01"	steering	STEERING	*1FTSW21555E	1/1/1900	2005	F-250 SD	0	F250, SUPER DUTY, 3/4-T, 4X4, 4WD, SHORT BOX. ALL SPEEDS IT IS NOTICEABLE. AT HIGHWAY SPEEDS (75+ MPH), ENCOUNTERING BUMPS, SEVERE SHIMMY IN FRONT END, NEARLY CAUSING LOSS OF CONTROL OF VEHICLE. FLEET OF 7 TRUCKS ALL EXPERIENCE SAME, SOME WORSE THAN OTHERS. DEALER HAS DONE ALL POSSIBLE TO REMEDY, INCLUDING AFTERMARKET HEAVIER DUTY FRONT STEERING STABILIZER (AT OUR EXPENSE). INCIDENT DATE IS LAST DATE IT OCCURRED TO MY CRUISER TRUCK. IT HAPPENS EVERY TIME A BUMP IN THE HIGHWAY IS ENCOUNTERED WITH EVERY TRUCK OUR DEPARTMENT BOUGHT FOR USE AS LAW ENFORCEMENT VEHICLES. THE MAGNITUDE OF THE WOBBLE IS DEPENDANT ON THE SPECIFIC TRUCK AND THE SPEED TRAVELED. REALIZE THAT AS LAW ENFORCEMENT RESPONSE VEHICLES, OFTEN THIS INVOLVES VERY HIGH SPEED. THE HIGHER THE SPEED, THE WORSE THE PROBLEM.	shimmy
	VOQ Ford	chassis;steering	function-steering/brake ineffective;loss of control;mod-driving condition-at cruise;mod-driving condition-over bump(s);mod-driving condition-while driving;vibration/pulsation	property damage;	Y		UNKN	7/30/2005	USA	"01"	steering	STEERING	*1FTSW21505E	1/1/1900	2005	F-250 SD	800	WHILE TRAVELING ON THE HIGHWAY AT 75 MPH AS I HIT BUMPS IN THE ROADWAY THE VEHICLE FEELS LIKE THE FRONT WHEELS ARE HOPPING. ON 5 OCCASIONS I WAS TRAVELING OVER AN OVERPASS WERE THERE IS A SEEM FROM THE 2 DIFFERENT ROADWAY SURFACES. THE VEHICLE SHOOK VIOLENTLY FEELING AS IF THE TRUCK WAS GOING TO LOSE CONTROL. THE VEHICLE WAS ALLOWED TO SLOW AND AT ABOUT 55 MPH THE SHAKING WOULD STOP. AT SLOWER SPEEDS THE SAME VIBRATION IS FELT BUT AT A MUCH LESS MAGNITUDE AND SEVERITY. THIS LOSS OF CONTROL AS WELL AS THE SLOWING IN LANES OF TRAFFIC COULD CAUSE SERIOUS LOSS OF CONTROL AND CAUSE OF CRASH. DEALER, BORMAN AUTOPLEX LAS CRUCES,NM, HAD NO ANSWER AS THE VIOLENT SHAKING WAS NOT DUPLICATED NEAR OUR CITY. (ALL OCCURRENCES HAPPENED ON TRIPS). DEALER STATED NOTHING WAS WRONG AND THAT SOME PEOPLE SAY THAT PUTTING SANDBAGS IN THE BACK OF THE TRUCK HELPED. THEY ALSO SAID THAT IF THE TIRES WERE KEPT AT THE 75 PSI THAT IT WOULD STOP. NOTHING HAS HELPED AND IT IS STILL NOT RESOLVED. *JB	shaking
	VOQ Ford	chassis;steering;steering pump/reservoir	function-malfunction/inoperative;mod-driving condition-at cruise;mod-driving condition-while driving;repair-prior repair mentioned;vibration/pulsation		N		UNKN	9/9/2005	USA	"01"	steering	STEERING:HYDRAULIC POWER ASSIST:PUMP	*1FTSW215X5E	1/1/1900	2005	F-250 SD	2141	DT: THE CONTACT STATED THERE WAS SEVERE VIBRATION IN THE FRONT SUSPENSION WHILE DRIVING AT HIGHWAY SPEEDS. HE TOOK THE VEHICLE TO THE DEALER AND THE POWER STEERING PUMP WAS REPLACED. AFTERWARDS, THE PROBLEM RECURRED, AND HE TOOK THE VEHICLE BACK TO THE DEALER. THIS TIME THE DEALER REPLACED THE FRONT AND REAR SHOCKS. ALL REPAIRS WERE COVERED BY THE WARRANTY. THERE WERE NO FURTHER PROBLEMS. *AK	vibration
	VOQ Ford	chassis;steering;steering wheel	function-malfunction/inoperative;function-steering/brake ineffective;loss of control;mod-aftermarket;mod-driving condition-at cruise;mod-driving condition-while driving;mod-location-interior;out of balance	property damage;	Y		UNKN	12/22/2005	USA	"01"	steering	STEERING	*1FTSW21535E	1/1/1900	2005	F-250 SD	4000	WHEN TRAVELING AT 70+ MPH ON THE INTERSTATE AND ENCOUNTERING A CHANGE IN ROAD SURFACE SUCH AS AN OVERPASS OR CULVERT BRIDGE THE STEERING WHEEL SEVERELY JERKS BACK AND FORTH. THE ONLY WAY TO REMEDY THE PROBLEM IS TO SLOW TO ABOUT 45 MPH OR LESS (CAN BE DIFFICULT IN TRAFFIC). I HAVE HAD THE WHEELS ROTATED, BALANCED AND I ALWAYS CHECK THE AIR PRESSURE BEFORE A TRIP. I REPLACED THE FACTORY STABILIZER WITH A BEEFED UP SINGLE DAMPENER AFTERMARKET BECAUSE THE FACTORY DAMPENER LOST ALL THE OIL THE SECOND TIME IT HAPPENED. IT HAS NOT REMEDIED THE PROBLEM! THIS IS AN ACCIDENT WAITING TO HAPPEN, NOW I CANNOT EVEN DRIVE THE SPEED LIMIT ON OUR INTERSTATE FOR FEAR OF LOSING CONTROL! *JB	jerks back and forth
	VOQ Ford	chassis;steering	function-malfunction/inoperative;gauge error-not fuel;leak-fluid;mod-driving condition-while driving;mod-driving condition-while turning;mod-location-interior;nvh-noisy operation;pulls/drifts;repair-prior repair mentioned;vibration/pulsation		Y		UNKN	7/3/2006	USA	"01"	steering	STEERING	*1FTWW32P65E	1/1/1900	2005	F-350 SD	0	2005 FORD F350 CREWCAB VIBRATION WHILE PULLING A LOAD, TURBO UNIT HAS BEEN REPLACED TWICE, DASH CLUSTER ONCE, EXHAUST LEAK. *KB ***NAR*** THE TEMPERATURE GAUGE WAS ACTING ERRATIC. THERE WAS A STEERING NOISE WHEN MAKING TURNS. THE CONSUMER WAS TOLD THE VIBRATION THAT HE WAS EXPERIENCING WAS BEING INVESTIGATED. *JB	vibration

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[redacted]	VOQ Ford	chassis;steering;steering wheel	function-malfunction/inoperative;function-steering/brake ineffective;leak-fluid;loss of control;mod-driving condition-at cruise;mod-driving condition-while driving;mod-intermittent/random;mod-location-interior;pulls/drifts;repair-prior repair mentioned		Y	[redacted]	UNKN	4/20/2006	USA	"01"	steering	STEERING	*1FTSX21555E	1/1/1900	2006	F-250 SD	10500	DURING HIGHWAY DRIVING SPEEDS WHEN A SEAM IN HIGHWAY OR BRIDGE STAKES RIGHT TIRE THEN LEFT, STEERING WHEEL OSCILLATION CAUSES TEMPORARY LOSS OF CONTROL OF VEHICLE. AT NORMAL HIGHWAY SPEEDS 60-70 MPH THE VEHICLE DRIFTS OUT OF LANE AND TO CORRECT APPLYING THE BRAKES TO BELOW 50 MPH IS REQUIRED. ALL OF THESE ACTIONS CAUSE SAFETY ISSUES IN HEAVY TRAFFIC. REPAIRS WERE MADE ON 5/11/06 WITH FORD TSB 5-22-1 COMPLETED. RECURRENCE OF ORIGINAL SYMPTOMS RETURNED FOLLOWING WEEK ON 8 SEPARATE OCCASIONS DURING TRIP TO NC AND RETURN TO UPSTATE NY. ALL ON INTERSTATE HIGHWAYS. VEHICLE WAS RETURNED TO DEALER 6/28/06 AND ADDITIONAL REPAIRS WERE REQUIRED. STABILIZER WAS REPLACED DUE TO LEAKING FLUID SHOWING COMPONENT HAD FAILED UNDER CONDITIONS PRESENTED TO VEHICLE. *JB	oscillation
	VOQ Ford	chassis;steering	function-steering/brake ineffective;loss of control;mod-driving condition-at cruise;mod-driving condition-over bump(s);mod-driving condition-while driving;mod-no indication (sudden);mod-weather-wet;repair-prior repair mentioned;vibration/pulsation		Y		UNKN	8/1/2006	USA	"01"	steering	STEERING	*1FTSW21595E	1/1/1900	2005	F-250 SD	1340	DRIVING 2-LANE HIGHWAY 55-70 MPH WHEN CHANGE IN ROAD SURFACE (BUMP, FROST HEAVE, ROAD BED SURFACE MATERIAL CHANGE) CAUSED FRONT END TO SHAKE VIOLENTLY, NEARLY CAUSING LOSS OF CONTROL. ONLY WAY TO STOP SHAKING WAS TO SUDDENLY DECREASE SPEED TO APPROXIMATELY 35-50 MPH IN TRAFFIC ON RAIN-SLICK ROADWAY. THIS OCCURRED 4 TIMES IN COURSE OF 350 MILE TRIP, EACH OCCURRANCE BECOMING MORE VIOLENT IN NATURE AND REQUIRING MORE EFFORT TO MAINTAIN CONTROL. LAST OCCURRANCE WAS AS OPERATOR WAS PASSING 18-WHEELER...AS I PULLED ALONG SIDE, VEHICLE BEGAN TO SHAKE VIOLENTLY. AS OPERATOR FINISHED PASSING AND RETURNED TO LANE OF TRAVEL, HAD TO BRAKE SUDDENLY TO REGAIN CONTROL, NEARLY CAUSING SKID ON RAIN-SLICK ROAD AND ALMOST CAUSING FOLLOWING VEHICLES TO TAKE EXTREME MEASURE TO AVOID COLLISION. *JB	shake
	VOQ Ford	chassis;steering;steering wheel	mod-driving condition-at cruise;mod-driving condition-while driving;mod-location-interior;vibration/pulsation		Y		UNKN	11/14/2006	USA	"01"	steering	STEERING	*1FTSW21546E	1/1/1900	2006	F-250 SD	14452	FRONT END AND STEERING WHEEL SHUTTERS AT HIGHWAY SPEEDS. SHUTTERING START FOR NO APPARENT REASON. VEHICLE MUST BE BROUGHT TO A COMPLETE STOP TO REGAIN CONTROL. *JB	shutter
	VOQ Ford	chassis;steering;steering gear/rack	damage-cracked/fractured/split;function-malfunction/inoperative;function-steering/brake ineffective;loose;loss of control;misaligned/out of position/adjustment/poor fit;mod-aftermarket;mod-driving condition-at cruise;mod-driving condition-while driving;out of balance;out of round;repair-prior repair mentioned;repair-similar failures on other vehicles mentioned		Y		UNKN	11/15/2006	USA	"01"	steering	STEERING	*1FDSX21545E	1/1/1900	2005	F-250 SD	16500	(1) POSSIBLY TRIGGERED BY A MINOR BUMP IN THE ROAD (2) SEVERE STEERING AND/OR FRONT AXLE OSCILLATION RESULTING IN LOSS OF VEHICLE CONTROL. THE OSCILLATION WAS MUCH MORE SEVERE THAN THE COMMON "DEATH WOBBLE" FROM OUT OF BALANCE OR OUT OF ROUND TIRES, AND APPEARED TO INVOLVE NOT JUST THE FRONT TIRES, BUT THE ENTIRE FRONT AXLE. THIS HAS HAPPENED TWICE, ONCE BEFORE THE FIRST SET OF REPAIRS, ONCE AFTER THE FIRST SET OF REPAIRS. VEHICLE RAN COMPLETELY OFF THE HIGHWAY BOTH TIMES. (3) THE FIRST TIME, THE STEERING BOX BROKE AS A RESULT OF THE VIOLENCE OF THE STEERING OSCILLATIONS, SO THE STEERING BOX WAS REPLACED. AFTER THE SECOND TIME THE VEHICLE RAN OFF THE ROAD, THE VEHICLE'S ALIGNMENT WAS CHECKED, THE TIRES WERE ROTATED, THE TIRE PRESSURE WAS ADJUSTED. THE DEALER PERFORMED ALL THE STEPS OUTLINED IN A TECHNICAL SERVICE BULLETIN, BUT SAID THAT THEY FOUND NOTHING WRONG THAT WOULD ACCOUNT FOR THE PROBLEM. NOW, OUR DRIVERS ARE AFRAID TO DRIVE THIS TRUCK AGAIN. THIS IS A FLEET VEHICLE, AND AFTER SOME INVESTIGATION WE HAVE LEARNED THAT WE HAVE AT LEAST FIVE	oscillation
	VOQ Ford	chassis;steering;steering wheel	function-steering/brake ineffective;loss of control;mod-driving condition-on deceleration/braking;mod-driving condition-while driving;mod-location-interior		Y		UNKN	1/4/2007	USA	"01"	steering	STEERING	*1FTWW33P15E	1/1/1900	2005	F-350 SD	33000	TL* - WHEN CONTACT IS DRIVING THE 2005 FORD F-350 SUPER DUTY AND GOES OVER A SERIES OF SMALL BUMPS, SHE LOSES CONTROL OF THE STEERING WHEEL WHICH GOES FROM RIGHT TO LEFT QUICKLY TO THE POINT OF BEING ALMOST INCONTROLLABLE. IN ORDER FOR CONTACT TO GET CONTROL OF THE STEERING WHEEL, SHE HAS TO SLOW THE VEHICLE DOWN TO A SPEED OF 5 MPH OR COME TO A COMPLETE STOP. THE CONTACT HAS TAKEN THE VEHICLE TO THE DEALERSHIP AND THE DEALERSHIP STATED THAT THEY NOTICE THE SAME INCIDENT AS WELL ON A TEST DRIVE OF THE VEHICLE, BUT THEY CAN'T DO ANYTHING ABOUT THE INCIDENT BECAUSE THE MANUFACTURE HASN'T GIVING THE DEALERSHIP ANY SOLUTION ON HOW TO FIX THE FAILURE.	Steering goes right/left quickly

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[redacted]	VOQ Ford	chassis;steering	damage-road hazard;function-malfunction/inoperative;function-steering/brake ineffective;loose;loss of control;misaligned/out of position/adjustment/poor fit;mod-driving condition-at cruise;mod-driving condition-on deceleration/braking;mod-driving condition-over bump(s);mod-driving condition-while driving		Y	[redacted]	NKN	1/1/2007	USA	"01"	steering	STEERING	*1FTSW215X5E	1/1/1900	2005	F-250 SD	30000	WHILE DRIVING AT INTERSTATE SPEEDS, AFTER DRIVING OVER A BRIDGE JOINT OR POT HOLE, THE BOUNCE OFTEN CAUSES THE FRONT END TO GO INTO A VIOLENT HARMONIC STEERING OSCILLATION THAT ONLY STOPS WHEN YOU SLOW DOWN. YOU HAVE SEVERAL SECONDS TO SLOW DOWN BELOW 35 MPH BEFORE THE OSCILLATION CAUSES LOSS OF CONTROL OF THE VEHICLE. THE STEERING OSCILLATION IS VIOLENT ENOUGH TO CAUSE THE VEHICLE TO HAVE TO HAVE A STEERING ALIGNMENT AFTER EACH EPISODE. THE DEALERSHIPS HAVE A TECHNICAL SERVICE BULLETIN (TSB) THE RECOMMENDS: FRONT END ALIGNMENT, REPLACE STEERING STABILIZER, CHECK TIRE PRESSURE, CHECK FRONT END FOR LOOSE COMPONENTS. I HAVE HAD THIS SERVICE AND IT DID NOT FIX THE PROBLEM. THE TRUCK HAS BEEN TO THE DEALERSHIP 3 TIMES AND THE PROBLEM IS NOT RESOLVED. *JB	oscillation
[redacted]	VOQ Ford	chassis;steering	loss of control;mod-driving condition-at cruise;mod-driving condition-while driving;vibration/pulsation		Y	[redacted]	NKN	3/1/2007	USA	"01"	steering	STEERING	*	1/1/1900	2006	F-250 SD	1600	VIOLENT SHAKING WHEN HITTING A ROUGH PLACE IN HIGHWAY. SHAKING IS SO BAD THAT YOU HAVE NO CONTROL OF STEERING UNTIL A PANIC BRAKING BRINGS VEHICLE TO UNDER 30 MPH	shaking
[redacted]	VOQ Ford	chassis;steering	damage;damage-dent/ding;deployment-no deployment;function-malfunction/inoperative;loose;loss of control;mod-driving condition-at cruise;mod-driving condition-while driving;nvh-noisy operation;tire-sidewall bulge;vibration/pulsation		Y	[redacted]	NKN	4/24/2007	USA	"01"	steering	STEERING	*1FTSW21565E	1/1/1900	2005	F-250 SD	30300	SHORTLY AFTER I PURCHASED MY 2005 FORD F-250 SUPER DUTY PICKUP I EXPERIENCED A VIOLENT VIBRATION IN THE STEERING, WHEN TRAVELING OVER 55 MPH, AFTER HITTING A SMALL BUMP IN THE ROAD. WHEN I BROUGHT MY TRUCK IN FOR SERVICE AND MENTIONED THIS EPISODE. THE SERVICE MANAGER ACTED AS THOUGH IT WERE AN ANOMALY, MAYBE THE ROAD CONDITIONS OR SOMETHING ELSE. THIS DIDN'T SEEM TO BE THE TRUTH, SINCE IT HAPPENED SEVERAL TIMES SINCE THEN. WHEN I BROUGHT IT TO THE ATTENTION OF THE LOCAL SERVICE MANAGER, HE SAID THAT THIS IS COMMON AMONGST THESES LARGE PICKUP TRUCKS, AND JUST TAP THE BRAKES UNTIL THE VIBRATIONS SUBSIDE, IT SHOULDN'T LAST LONG. YESTERDAY I WAS TRAVELING AT ABOUT 60 MILES AN HOUR ON THE HIGHWAY, WHEN I WENT OVER A SEWER GRATE IN THE LEFT LANE. THE VIBRATION BECAME SO VIOLENT THAT I HAD NO CONTROL OF THE STEERING AT ALL. I NARROWLY AVOIDED A COLLISION WITH A FUEL TRUCK AND SEVERAL OTHER CARS ON MY WAY OFF THE ROAD AND INTO WOODS CAUSING MULTIPLE TIRE DAMAGE, AND SUFFERING DENTS AND DAMAGE TO THE VEHICLE. I THANK GOD NO ONE WAS HURT, INCLUDING ME. I WAS ABLE TO DRIVE THE TRUCK AWAY AFTER CHANGING THE TIRES AND	vibration
[redacted]	VOQ Ford	chassis;steering;steering linkage	flaw in material ;function-malfunction/inoperative;function-steering/brake ineffective;loss of control;misaligned/out of position/adjustment/poor fit;mod-driving condition-at cruise;mod-driving condition-over bump(s);mod-driving condition-while driving;mod-intermittent/random;repair-prior repair mentioned;vibration/pulsation		Y	[redacted]	NKN	3/5/2006	USA	"01"	steering	STEERING	*1FTSX21506E	1/1/1900	2006	F-250 SD	13000	NORMAL HIGHWAY DRIVING CONDITIONS. SPEEDS BETWEEN 65 AND 75 MPH WHEN THE INCIDENTS OCCURRED, HIT A BUMP OR DIP IN ROAD. VIOLENT SHAKING OF THE FRONT END, RESULTING IN DANGEROUS LOSS OF CONTROL AND LANE CHANGES. HAD TO SLOW VEHICLE DOWN TO BELOW 30 MPH OR A FULL STOP IN ORDER TO END THE VIOLENT SHAKING. HAPPENED MORE OFTEN AFTER VEHICLE HAS BEEN DRIVEN FOR LONG DISTANCES. GETS WORSE AND MORE FREQUENT AS DRIVING CONTINUED. FIRST OCCURRENCE, TAKEN TO FORD DEALER, AND THEY REPLACED DEFECTIVE" STEERING DAMPER. SECOND TIME TAKEN TO FORD DEALER - THEY RAN TCP FOR NEW ALIGNMENT SPECS AND NEW, IMPROVED STEERING DAMPER. THIRD TIME TAKEN TO FORD DEALER - REPLACED TRACK ARM BALL JOINT AND ADJUSTED ALIGNMENT TO MORE NEW SPECS. FOURTH TIME AT FORD DEALER - TSB ADJUSTED ALIGNMENT TO NEW SPECS AND REPLACED STEERING DAMPER WITH ANOTHER NEW, IMPROVED PART. *AK VEHICLE IS IN REPAIR SHOP FOR FIFTH TIME AT THIS MOMENT. NO ATTEMPTED REPAIRS HAVE LASTED MORE THAN 2000 MILES.	shaking
[redacted]	VOQ Ford	chassis;steering	function-malfunction/inoperative;mod-driving condition-at cruise;mod-driving condition-on deceleration/braking;mod-driving condition-while driving;vibration/pulsation		Y	[redacted]	NKN	6/6/2007	USA	"01"	steering	STEERING	*1FTSX21506E	1/1/1900	2006	F-250 SD	5	I OWN A 2006 F250 4*4 AND WHILE DRIVING AT SPEEDS IN EXCESS OF 60 MPH THE TRUCK SHAKES VIOLENTLY AND EVEN SWAYS FROM LANE TO LANE, WHEN ENCOUNTERING ANY ROUGH PLACE IN THE ROADWAY. THIS IS A VERY VIOLENT SHAKING AND I HAVE BEEN FORTUNATE ENOUGH TO KEEP THE TRUCK FROM WRECKING. THE SHAKING WILL NOT STOP UNTIL YOU HAVE SLOWN DOWN DRAMATICALLY OR COME TO A STOP. FORD HAS COMMENTED THAT IT COULD BE THE AIR PRESSURE AND HAVE ORDERED A STEERING DAMPER TO TRY TO CORRECT THE PROBLEM. THIS TRUCK HAS DONE THIS SINCE DAY ONE AND WITH THE FACTORY TIRES AND THE NEW TIRES THAT I HAVE ON IT NOW. THIS PROBLEM NEEDS TO BE ADDRESSED BEFORE SOMEONE IS KILLED IN AN ACCIDENT RESULTING FROM THE DEFECT IN DESIGN.	shaking

ECI Record ID	Source Code	Commodity(ies)	Symptoms	Significant Events	Verified	Source Claim Key	Version Series Code	Repair/Report/ Paid Date	Dealer Country	Tread Category Code	Tread Category Description	VOQ Component Description Code	VIN	Production Date	Model Year	Vehicle Description	Mileage	Customer Comments	Sort Field 1
[redacted]	VOQ Ford	chassis;steering;steering linkage	field service action;mod-driving condition-at cruise;mod-driving condition-while driving;vibration/pulsation		Y	[redacted]	UNKN	5/18/2007	USA	"01"	steering	STEERING:LINKAGES	*1FTWW33P05E	1/1/1900	2005	F-350 SD	59000	I HAVE A 2005 FORD F350 SUPERDUTY AND ON SEVERAL OCCASIONS I HAVE BEEN DRIVING DOWN THE ROAD AND HAVE GONE OVER BLEMISHES IN THE HIGHWAY AND IT HAS CAUSED A VIOLENT SHAKING IN THE FRONT END. IT HAS GOTTEN SO BAD AT POINTS THAT IT ALMOST CAUSED A SEVERE ACCIDENT WHICH MIGHT HAVE INVOLVED MANY. THIS HAS HAPPENED ON MANY OCCASIONS AND I HAVE TO SLOW DOWN AND STOP BEFORE IT SUBSIDES. I HAVE BEEN TO SEVERAL DEALERS AND THEY ALL SAY THAT THEY HAVE A QUICK FIX BUT NOTHING SEEMS TO WORK. EVERYTIME I HAVE TRIED TO FIX THE PROBLEM I HAVE PAID FOR IT OUT OF MY OWN POCKET. I HAVE SPOEKN WITH MANY FOR SUPERDUTY OWNERS THAT HAVE HAD THIS PROBLEM AND THEY ALL SAY THE SAME THING. THIS IS NOT ONLY A PROBLEM FOR THE DRIVER OF THE VEHICLE BUT ALSO FOR OTHERS ON THE ROAD AS WELL. DO PEOPLE NEED TO START DYING BEFORE THERE IS A SERVICE RECALL TO FIX THE PROBLEM. FORD DIDN'T START REPLACING TIRES ON TRUCKS AND SUV'S BEFORE SO MANY PEOPLE DIED IN CARE CRASHES. THIS IS A SEVERE PROBLEM AND NEEDS TO BE ADDRESSED. THERE SHOULD BE NO CALL FOR PAYING FOR AND BEING FINANCIALLY LOCKED INTO A $50,000 VEHICLE THAT COULD BE CONSIDERED A DEATH TRAP. TH	shaking
	VOQ Ford	chassis;steering	damage-road hazard;mod-driving condition-at cruise;mod-driving condition-over bump(s);mod-driving condition-while driving;vibration/pulsation		Y		UNKN	5/1/2007	USA	"01"	steering	STEERING	*VBKEXM4016M	1/1/1900	2006	F-450 SD	9000	I HAVE A 2006 FORD F250 4X4 THAT WHEN YOU HIP POT HOLE WITH ONE TIRE AT 55 MPH OR HIGHER THE TRUCK GOES INTO A VERY BAD SHIMMY AND GOES FROM BAD TO WORSE IF YOU DON'T GET ON THE BRAKES FAST AND HARD.	shimmy
	VOQ Ford	chassis;steering;steering wheel	function-steering/brake ineffective;loss of control;mod-driving condition-at cruise;mod-driving condition-over bump(s);mod-driving condition-while driving;mod-location-interior;vibration/pulsation		Y		UNKN	6/1/2007	USA	"01"	steering	STEERING	*	1/1/1900	2005	F-250 SD	24500	VIOLENT SHAKING IN FRONT END AND STEERING WHEEL WHEN TRAVELLING AT HIGHWAY SPEED AND HITTING A BUMP IN THE ROAD. LOSS OF STEERING CONTROL UNTIL SLOWING UNDER 45MPH.	shaking

From: Mayer, Donna (D.P.)
Sent: Tuesday, December 05, 2006 5:03 PM
To: Ufford, Donald (D.A.)
Cc: Choe, Mark (M.J.); Seufert, David (D.C.); Gompper, Dan (D.B.); Billups, Bill (B.); Teeley, Nicole (N.); Hale, Curt (B.C.)
Subject: FW: Super-Duty RAVs

Attachments: Bump.xls

Don,
Dave Seufert looked into the warranty claims that had been submitted on those RAVs and has summarized his findings below.

Let us know if you have any other questions or if you need anything further.

Regards,

Donna P. Mayer
KTP PVT -- Vehicle/Chassis Engineering Supervisor
Phone: 502-339-3938 [redacted] Fax: 502-429-2111 Page: 313-805-2161 (Ford text DMAYER5)

In the office Mondays, Tuesdays, and Thursdays
Job Share Partner -- Nicole Teeley (NTEELEY) 502-339-4040

From: Seufert, David (D.C.)
Sent: Tuesday, December 05, 2006 2:46 PM
To: Teeley, Nicole (N.); Billups, Bill (B.)
Cc: Mayer, Donna (D.P.); Hale, Curt (B.C.); Gompper, Dan (D.B.)
Subject: RE: Super-Duty RAVs

It appears that only one dealer clearly followed the TSB (VIN 6E[redacted]). Other claims did not show any indication of dealers insuring that tires are inflated properly. I added the warranty claims to the attached spreadsheet. Here is a summary of the claims:

6E[redacted]
- 8 warranty claims, 5 for shimmy
  - 2 claims for balance tires
  - 1 claim for TSB 05 22 1 (which is for Expedition/Navigator A/C hoot????) where dealer torqued suspension components, tightened mesh load, and checked alignment
  - 1 claim for alignment - lowered caster
  - 1 claim for road force (R1H) balance

6E[redacted]
- 6 warranty claims, 2 for shimmy
  - 1 claim for adjust mesh load
  - 1 claim for vehicle evaluation

6E[redacted]
- 7 warranty claims, 1 for shimmy
  - 1 claim for check torque on suspension components and tighten mesh load

6E[redacted]
- 11 warranty claims, 4 for shimmy
  - 2 claim for replace steering damper
  - 1 claim for replace ball joint
  - 1 claim for check ball joints

6E[redacted]
- 7 warranty claims, 4 for shimmy
  - 2 claims for TSB 06 15 1
  - 1 claim for check ball joints

- 1 claim for tire balance

Bump.xls (137 KB)

David C. Seufert
Ford Motor Co.
Kentucky Truck Plant
PVT - NVH Engineer
Phone: (502) 429-2568
Cell: (313) 805-2172
FAX: (502) 429-2111

From: Teeley, Nicole (N.)
Sent: Tuesday, December 05, 2006 8:38 AM
To: Billups, Bill (B.)
Cc: Mayer, Donna (D.P.); Hale, Curt (B.C.); Seufert, David (D.C.)
Subject: FW: Super-Duty RAVs

Bill,
As the RAV analyst, do you have the information that Don needs available to you - or do we need to start investigating?

Nicole Teeley
KTP PVT Vehicle & Chassis Engineering Supervisor
502-339-4040
nteeley@ford.com
In the office on Tuesday, Wednesday, and Friday
Job share partner is Donna Mayer (dmayer5)

From: Ufford, Donald (D.A.)
Sent: Monday, December 04, 2006 5:40 PM
To: Billups, Bill (B.); Teeley, Nicole (N.); Mayer, Donna (D.P.)
Cc: Choe, Mark (M.J.)
Subject: Super-Duty RAVs

Bill/Nicole/Donna

The attached file has 5 2006 4x4 trucks that we bought back from customers for Shimmy/Bumps

Can one of you get me:
- a more detailed description of the customer issue
- what was done during the attempted repairs
- did they try TSB 06-22-14 or TSB 06-15-1

Thank you

<< File: Bump.xls >>

1FTSW21P06EA0[redacted]	F-Series	F-250 Crew Cab- Super Duty (4X4)	New	Y	Open	Carl Hanson	Central	2006	NE	Auction
1FTSW21PX6EB[redacted]	F-Series	F-250 Crew Cab- Super Duty (4X4)	New	Y	Open	DOREEN MUTER	Midwest	2006	WI	Auction
1FTSW21P16EA[redacted]	F-Series	F-250 Crew Cab- Super Duty (4X4)	New	Y	Open	MARQUIS MORRIS	California	2006	AZ	Auction
1FTSX21P26EA[redacted]	F-Series	F-250 Super Cab- Super Duty (4X4)	New	Y	Open	MARGOT AUSTIN	Midwest	2006	WV	Auction
1FTNF21546EB2[redacted]	F-Series	F-250 Regular Cab- Super Duty (4X4)	New	N	Open	MARGOT AUSTIN	Midwest	2006	WV	Auction

14,437	Lemon Law Eligible	1/23/2006	FINANCE	07116	Anderson Bros Ford L-M	53027	NE	Replacement	3/9/2006
19,254	Lemon Law Eligible	5/16/2006	CASH	06360	Griffin Ford Inc	41343	WI	Replacement	10/16/2006
17,084	DRP Arbitration Award	7/20/2006	FINANCE	20346	Bradley Ford Lincoln-Mercury	54539	AZ	Refund	8/9/2006
31,723	Lemon Law Eligible	10/3/2006	FINANCE	02067	Jack Garrett Ford Inc	47552	WV	Replacement	10/23/2006
13,140	Lemon Law Eligible	10/3/2006	FINANCE	02067	Jack Garrett Ford Inc	47552	WV	Replacement	10/17/2006

$46,213.95	$37,240.16	$8,973.79	4/19/2006	5/9/2006	$36,600.00	52203	Reynolds Ford	6/1/2006
$43,309.29	$36,561.86	$6,747.43	11/1/2006					
$41,678.86	$34,980.86	$6,698.00	11/1/2006					
$34,196.58	$27,143.86	$7,052.72						
$25,340.50	$21,603.00	$3,737.50						

303353-STRG/HNDLNG VIB/SHIMMY BUMPS	5				
303353-STRG/HNDLNG VIB/SHIMMY BUMPS	4				
303353-STRG/HNDLNG VIB/SHIMMY BUMPS	1	204219-INSTR/DISPLAY ANALOG ODOMETER	1	401842-OIL SYS LEAKS P	1
303353-STRG/HNDLNG VIB/SHIMMY BUMPS	6				
303353-STRG/HNDLNG VIB/SHIMMY BUMPS	3				

Unable to Repair	1FTWW33P56EB[redacted]	F-350 Crew Cab- Super Duty (4X4) DI	5KGDE039
Number of Repair Attempts	1FTSW31P87E[redacted]	F-350 Crew Cab- Super Duty (4X4)	6DCP6012
Number of Repair Attempts			
Number of Repair Attempts	1FTSX21P77E[redacted]	F-250 Super Cab- Super Duty (4X4)	6HNBI005
Number of Repair Attempts	1FTRX14W87N[redacted]	F-150 Style Side Super Cab (4X4)	6HNBI005

VIN	AWS VL	WERS VL	MKT DER	BODY CAB	VER SERIES	DRIVE TYPE	PLANT CD	TRANS CD	ENG COD	PROD DATE	WARR DATE
[redacted]	F7	T/F7	F	T/BC	T/BD	T/E	A1	T/BE	T/YB	27-05-05	30-08-05
Key:	[redacted]	**Doc #:**	[redacted]		**Trx Code:**		2	**Labor Hrs:**		2.3	**Labor Cost:**
Cd:	07116-*	**Name:**	ANDERSON FORD LINCOLN MERCURY				**Ph:**	308-3841700		**St:** NE	**Ctry Cd:**
Comments:	CUSTOMER STATES VEHICLE HAS A VIBRATION WHEN DRIVING 60 65MPH AND YOU CAN FEEL IT IN THE STEERING WHEEL										
Tech Comments:	2021 NVH DIAGNOSE ROAD TEST, DUPLICATED CONCERN, ROTATED AND BALANCED ALL 4 TIRES. ROAD TEST, RAISED VEHICLE AND MEASURED RUNOUT, WHEEL REPAIRED.										

[redacted]	F7	T/F7	F	T/BC	T/BD	T/E	A1	T/BE	T/YB	27-05-05	30-08-05
Key:	[redacted]	**Doc #:**	[redacted]		**Trx Code:**		2	**Labor Hrs:**		0	**Labor Cost:**
Cd:	07116-*	**Name:**	ANDERSON FORD LINCOLN MERCURY				**Ph:**	308-3841700		**St:** NE	**Ctry Cd:**
Comments:	CUSTOMER STATES STEERING WHEEL SHAKES AT 60 TO 65MPH										
Comments:	3463 SUBLET OUT TO CROSS DILLON TIRE TO HAVE TIRESBALANCED, VEHICLE TO BIG FOR OUT MACHINE INVOICE #[redacted]										

05 22 1 is a TSB for Expedition/Navigator A/C hoot

[redacted]	F7	T/F7	F	T/BC	T/BD	T/E	A1	T/BE	T/YB	27-05-05	30-08-05
Key:	[redacted]	**Doc #:**	[redacted]		**Trx Code:**		2	**Labor Hrs:**		3.2	**Labor Cost:**
Cd:	07116-*	**Name:**	ANDERSON FORD LINCOLN MERCURY				**Ph:**	308-3841700		**St:** NE	**Ctry Cd:**
Comments:	CUSTOMER STATES VEHICLE HAS AN INTERMITTENT VIBRATION SOMETIMES AT 45 55 65 MPH AND THERE IS NO PATTERN TO VIBRATION										
Tech Comments:	6138 TEST DRIVE, STEERING WHEEL NIBLES BACK AND FORTH INTERM, MOSTLY AFTER HITING BUMPS FOUND TSB 05 22 1 SAID TO RETORQUE ALL FRONT SUSPE CHECKED FRONT ALIGNMENT, NO ADJUSTMENTS WERE MADE, PRINTER WOULD NOT PRINT. OSCILLATIONS WERE MUCH BETTER, ALTHOUGH TSB SAID										

[redacted]	F7	T/F7	F	T/BC	T/BD	T/E	A1	T/BE	T/YB	27-05-05	30-08-05
Key:	[redacted]	**Doc #:**	[redacted]		**Trx Code:**		2	**Labor Hrs:**		2.3	**Labor Cost:**
Cd:	07116-*	**Name:**	ANDERSON FORD LINCOLN MERCURY				**Ph:**	308-3841700		**St:** NE	**Ctry Cd:**
Comments:	CUSTOMER STATES THERE IS A VIBRATION IN THE FRONT END WHEN GOING OVER BUMPS SEE HISTORY										
Comments:	7007 TEST DRIVE WITH FIELD SERVICE ENGINIER. ADJUSTED FRONT ALIGNMENT, LOWERED FRONT CASTER FROM 3.3 TO ABOUT 2.5 RESET TOE CNETERERED ST										

[redacted]	F7	T/F7	F	T/BC	T/BD	T/E	A1	T/BE	T/YB	27-05-05	30-08-05
Key:	[redacted]	**Doc #:**	[redacted]		**Trx Code:**		P86	**Labor Hrs:**		1.2	**Labor Cost:**
Cd:	10969-*	**Name:**	INDEPENDENCE LINCOLN-MERCURY, INC.				**Ph:**	*-*		**St:** MO	**Ctry Cd:**
Comments:	CHECK VIB SHIMMY ON BUMPS										
Comments:	14449 80090 ROAD FORCE TIRES FOUND THREE TO BE EXCESSIVE LF RF RR										

Unrelated Claims

[redacted]	F7	T/F7	F	T/BC	T/BD	T/E	A1	T/BE	T/YB	27-05-05	30-08-05
Key:	[redacted]	Doc #:	[redacted]		Trx Code:		S07	Labor Hrs:		2.4	Labor Cost:
Cd:	07116-*	Name:	ANDERSON FORD LINCOLN MERCURY				Ph:	308-3841700		St: NE	Ctry Cd:
Comments:	ADD ON REPAIR ENGINE IS RUNNING ROUGH ACTS LIKE IT IS MISSING										
Comments:	7007 RAN ENHANCED POWER BALANCE. FOUND THAT CYLINDER 7 IN 20% DOWN UNDER A LOAD. REPLACED 7 INJECTOR. ROAD TEST. OPERATES NORMALLY										

[redacted]	F7	T/F7	F	T/BC	T/BD	T/E	A1	T/BE	T/YB	27-05-05	30-08-05
Key:	[redacted]	Doc #:	[redacted]		Trx Code:		S07	Labor Hrs:		2.4	Labor Cost:
Cd:	07116-*	Name:	ANDERSON FORD LINCOLN MERCURY				Ph:	308-3841700		St: NE	Ctry Cd:
Comments:	CUSTOMER STATES VEHICLE RUNS ROUGH										
Comments:	10279 FOUND THAT VEHICLE IS MISING. RAN ENHANCED POWE R BALANCE. FOUND INJECTORS 3 AND 5 MISSING. REPLACED INJECTORS. ROAD TEST OPERATES N										

[redacted]	F7	T/F7	F	T/BC	T/BD	T/E	A1	T/BE	T/YB	27-05-05	30-08-05
Key:	[redacted]	Doc #:	[redacted]		Trx Code:		RAV	Labor Hrs:		1	Labor Cost:
Cd:	10969-*	Name:	INDEPENDENCE LINCOLN-MERCURY, INC.				Ph:	*-*		St: MO	Ctry Cd:
Comments:	RAV INSPECTION										
Comments:	14449 80069 PEFORRMED RAV INSPECTION T10.										

[redacted]	F7	T/F7	F	T/BC	T/BD	T/E	A1	T/BE	T/YB	27-05-05	30-08-05
Key:	[redacted]	Doc #:	[redacted]		Trx Code:		5.00E+16	Labor Hrs:		0.7	Labor Cost:
Cd:	10969-*	Name:	INDEPENDENCE LINCOLN-MERCURY, INC.				Ph:	*-*		St: MO	Ctry Cd:
Comments:	RECALL 05E16 ENG. CONT RECALIBRATION										
Comments:	14449 80069 80069 PERFORMED 05E16 REPRO PCM T7.										

[redacted]	F7	T/F7	F	T/BC	T/BD	T/E	A1	T/BE	T/YB	27-05-05	30-08-05
Key:	[redacted]	Doc #:	[redacted]		Trx Code:		RAV	Labor Hrs:		0.2	Labor Cost:

Cd:	10969-*	**Name:**	INDEPENDENCE LINCOLN-MERCURY, INC.				**Ph:**	*-*		**St:** MO	**Ctry Cd:**
Comments:	PROGRAM ONE NEW KEY AND ONE NEW FOB										
Comments:	14449 PROGRAM KEYLESS ENTRY REMOTE AND GET EXTRA KEY T12										
[redacted]	F7	T/F7	F	T/BC	T/BD	T/E	A1	T/BE	T/YB	27-05-05	30-08-05
Key:	[redacted]	**Doc #:**	[redacted]		**Trx Code:**		RAV	**Labor Hrs:**		1	**Labor Cost:**
Cd:	10969-*	**Name:**	INDEPENDENCE LINCOLN-MERCURY, INC.				**Ph:**	*-*		**St:** MO	**Ctry Cd:**
Comments:	INSTALL BEDLINER										
Comments:	14449 80069 INSTALLED BED LINER T10.										
[redacted]	F7	T/F7	F	T/BC	T/BD	T/E	A1	T/BE	T/YB	27-05-05	30-08-05
Key:	[redacted]	**Doc #:**	[redacted]		**Trx Code:**		P86	**Labor Hrs:**		1	**Labor Cost:**
Cd:	10969-*	**Name:**	INDEPENDENCE LINCOLN-MERCURY, INC.				**Ph:**	*-*		**St:** MO	**Ctry Cd:**
Comments:	REPLACE ALL FOUR TIRES										
Comments:	14449 80090 FOUR TIRES T14 W										

DEALER	SELL CNT	TIS	WCC	PREF	BASE	SUFF	VRT NA	VRT ROW	VFG	CCC	CD
153027	USA	1	5K04	*	TIRE	*	S13	S10	V89	N24	42
	154.89	**Material Cost:**			230.71	**Total Cost:**		385.6			
USA	**Reg Cd:**		NA	**Repr Date:**13-SEP-2005				**DIST(Mile):**1990			
RUN OUT IS .008 .012, OK. LT.FRT TIRE RUNOUT IS OVER .060. REPLACED TIRE, MOUNTED AND BALANCED ONE NEW TIRE. ROAD TEST, CONCERN IS											
153027	USA	2	5K04	*	ALBAL	*	S13	S10	V89	N24	D9
	43.5	**Material Cost:**			0	**Total Cost:**		43.5			
USA	**Reg Cd:**		NA	**Repr Date:**29-SEP-2005				**DIST(Mile):**3463			
153027	USA	3	5R02	*	3600	*	S13	S10	V89	N24	42
	215.49	**Material Cost:**			0	**Total Cost:**		215.49			
USA	**Reg Cd:**		NA	**Repr Date:**03-NOV-2005				**DIST(Mile):**6138			
NSION COMPONETS TO SPEC, RESET GEAR MESH IN STEERING GEAR AND CHECK ALIGNMENT RETORQUED FRONT END RESET GEAR MESH											
153027	USA	3	5G02	5C3Z	3B440	EEE	S13	S10	V89	N22	W6
	154.89	**Material Cost:**			19.96	**Total Cost:**		174.85			
USA	**Reg Cd:**		NA	**Repr Date:**22-NOV-2005				**DIST(Mile):**7007			
EERING WHEEL RETEST DRIVE GOOD											
153027	USA	7	5K04	*	ALBAL	*	S13	S10	V89	N25	D9
	92.32	**Material Cost:**			0	**Total Cost:**		92.32			
USA	**Reg Cd:**		NA	**Repr Date:**15-MAR-2006				**DIST(Mile):**14449			

153027	USA	3	2.00E+06	4C3Z	9E527	AA	S11	S11	V52	D41	28
	161.61	**Material Cost:**			261.17	**Total Cost:**		422.78			
USA	**Reg Cd:**		NA	**Repr Date:**22-NOV-2005				**DIST(Mile):**7007			
153027	USA	4	2.00E+06	4C3Z	9E527	AA	S11	S11	V52	D41	28
	161.61	**Material Cost:**			527.35	**Total Cost:**		688.96			
USA	**Reg Cd:**		NA	**Repr Date:**21-DEC-2005				**DIST(Mile):**10279			
NORMAL.											
153027	USA	7	6Y20	*	RAV	*	SXX	SXX	V00	A98	82
	76.93	**Material Cost:**			0	**Total Cost:**		76.93			
USA	**Reg Cd:**		NA	**Repr Date:**15-MAR-2006				**DIST(Mile):**14449			
153027	USA	7	*	*	*	*	SXX	SXX	V00	*	*
	53.85	**Material Cost:**			0	**Total Cost:**		53.85			
USA	**Reg Cd:**		NA	**Repr Date:**15-MAR-2006				**DIST(Mile):**14449			
153027	USA	7	7W04	2L3Z	15K601	AB	S09	S09	V17	L20	42
	15.39	**Material Cost:**			41.92	**Total Cost:**		57.31			

USA	**Reg Cd:**		NA	**Repr Date:**15-MAR-2006				**DIST(Mile):**14449			
153027	USA	7	6Y21	F81Z	9900038	BA	SXX	SXX	V00	A98	42
	76.93	**Material Cost:**			334.6	**Total Cost:**		411.53			
USA	**Reg Cd:**		NA	**Repr Date:**15-MAR-2006				**DIST(Mile):**14449			
153027	USA	7	6Y20	*	MISC	*	SXX	SXX	V00	A98	82
	76.93	**Material Cost:**			795	**Total Cost:**		871.93			
USA	**Reg Cd:**		NA	**Repr Date:**15-MAR-2006				**DIST(Mile):**14449			

VIN	AWS VL	WERS VL	MKT DER	BODY CAB	VER SERIES	DRIVE TYPE	PLANT CD	TRANS CD	ENG COD	PROD DATE	WARR DATE	DEALER
E[redacted]	F7	T/F7	F	T/BC	T/BD	T/E	A1	T/BE	T/YB	19-11-05	18-01-06	141343
Key:	[redacted]	**Doc #:**	[redacted]		**Trx Code:**		2	**Labor Hrs:**		0.7	**Labor Cost:**	
Cd:	06360-*	**Name:**	GRIFFIN FORD LINCOLN MERCURY				**Ph:**	262-5425781		**St:** WI	**Ctry Cd:**	USA
Comments:	FRONT SUSPENSION SEEMS TO WOBBLE WHEN DRIVING OVER BUMPS											
Comments:	SUSPENSION SEEMS TO WOBBLE ROTATIONAL NOISE VIBRATION HARSHNESS DIAGNOSIS											
E[redacted]	F7	T/F7	F	T/BC	T/BD	T/E	A1	T/BE	T/YB	19-11-05	18-01-06	141343
Key:	[redacted]	**Doc #:**	[redacted]		**Trx Code:**		2	**Labor Hrs:**		5.5	**Labor Cost:**	
Cd:	06360-*	**Name:**	GRIFFIN FORD LINCOLN MERCURY				**Ph:**	262-5425781		**St:** WI	**Ctry Cd:**	USA
Comments:	STEERING WHEEL SHAKES WHEN HITTING BUMPS SHAKES WORSE WITH WEIGHT IN THE BACK OF THE TRUCK											
Comments:	STEERING WHEEL SHAKES PERFORM INSPECTION EVALUATION **ADJUST MESH LOAD**											

Unrelated Claims

E[redacted]	F7	T/F7	F	T/BC	T/BD	T/E	A1	T/BE	T/YB	19-11-05	18-01-06	141343
Key:	[redacted]	**Doc #:**	[redacted]		**Trx Code:**		2	**Labor Hrs:**		1.4	**Labor Cost:**	
Cd:	06360-*	**Name:**	GRIFFIN FORD LINCOLN MERCURY				**Ph:**	262-5425781		**St:** WI	**Ctry Cd:**	USA
Comments:	STEERING WHEEL SHAKES BACK AND FORTH SEVERELY WHEN HITTING BUMPS IS WORSE WHEN THERE IS WEIGHT IN THE BACK OF THE TRUCK											
Comments:	ALIGNMENT TEST DROVE AND CK SUSPENSION. AJUST ALIGNMENT AND RETESTED ALL OK											
E[redacted]	F7	T/F7	F	T/BC	T/BD	T/E	A1	T/BE	T/YB	19-11-05	18-01-06	141343
Key:	[redacted]	**Doc #:**	[redacted]		**Trx Code:**		RAV	**Labor Hrs:**		1	**Labor Cost:**	
Cd:	06347-*	**Name:**	JOE MADDEN FORD				**Ph:**	*-*		**St:** IL	**Ctry Cd:**	USA
Comments:	PERFORM REACQUIRED VEHICLE INSPECTION PER ATTACHED SHEET											
Comments:	PERFORM RAV INSPECTION											
E[redacted]	F7	T/F7	F	T/BC	T/BD	T/E	A1	T/BE	T/YB	19-11-05	18-01-06	141343
Key:	[redacted]	**Doc #:**	[redacted]		**Trx Code:**		E84	**Labor Hrs:**		0.2	**Labor Cost:**	
Cd:	06347-*	**Name:**	JOE MADDEN FORD				**Ph:**	*-*		**St:** IL	**Ctry Cd:**	USA
Comments:	ENGINE OIL LEAK											
Comments:	REPLACE LEAKING OIL DRAIN PLUG											
E[redacted]	F7	T/F7	F	T/BC	T/BD	T/E	A1	T/BE	T/YB	19-11-05	18-01-06	141343

Key:	[redacted]	**Doc #:**	[redacted]	**Trx Code:**	2	**Labor Hrs:**	0	**Labor Cost:**	
Cd:	06360-*	**Name:**	GRIFFIN FORD LINCOLN MERCURY	**Ph:**	262-5425781	**St:** WI		**Ctry Cd:**	USA
Comments:	REAR POWER SLIDING WINDOW WILL NOT WORK OR WILL WORK VERY SLOWLY WHEN COLD OUTSIDE MOTOR SEEMS TO RUN BUT WILL NOT MOVE								
Comments:	REAR POWER SLIDING WINDOW SUBLET REPAIR								

SELL CNT	TIS	WCC	PREF	BASE	SUFF	VRT NA	VRT ROW	VFG	CCC	CD
USA	2	5K01	*	1007	*	S13	S10	V89	C50	42
53.13	**Material Cost:**			0	**Total Cost:**		53.13			
Reg Cd:		NA	**Repr Date:**13-MAR-2006				**DIST(Mile):**2873			
USA	3	5G02	5C3Z	3B440	EEE	S13	S10	V89	N23	42
417.45	**Material Cost:**			19.96	**Total Cost:**		437.41			
Reg Cd:		NA	**Repr Date:**23-MAR-2006				**DIST(Mile):**3369			
USA	3	5G05	*	3001	*	S10	S10	V87	H21	42
106.26	**Material Cost:**			0	**Total Cost:**		106.26			
Reg Cd:		NA	**Repr Date:**03-APR-2006				**DIST(Mile):**3895			
USA	10	6Y20	*	RAV	*	SXX	SXX	V00	A98	82
92.32	**Material Cost:**			0	**Total Cost:**		92.32			
Reg Cd:		NA	**Repr Date:**24-OCT-2006				**DIST(Mile):**19256			
USA	10	1D01	3C3Z	6730	AA	S11	S11	V44	L85	D8
18.46	**Material Cost:**			6.96	**Total Cost:**		25.42			
Reg Cd:		NA	**Repr Date:**24-OCT-2006				**DIST(Mile):**19256			
USA	2	6H08	*	25422B30	*	S06	S06	V09	G07	42

55	**Material Cost:**		0	**Total Cost:**	55		
Reg Cd:	NA	**Repr Date:** 13-MAR-2006			**DIST(Mile):** 2873		

VIN	AWS VL	WERS VL	MKT DER	BODY CAB	VER SERIES	DRIVE TYPE	PLANT CD	TRANS CD	ENG COD	PROD DATE	WARR DATE	DEALER
E[redacted]	F7	T/F7	F	T/BC	T/BD	T/E	A1	T/BE	T/YB	23-05-05	18-08-05	171465
Key:	[redacted]	**Doc #:**	[redacted]		**Trx Code:**		2	**Labor Hrs:**		3.1	**Labor Cost:**	
Cd:	20346-*	**Name:**	BRADLEY FORD LINCOLN-MERCURY				**Ph:**	928-8551191		**St:** AZ	**Ctry Cd:**	USA
Comments:	CUST STATES NOTICES WHEN HITS A BUMP EXCESSIVE MOVEMENT IN STEERING WHEEL											
Tech Comments:	ROAD TESTED VERIFIED STEERING BUMP AFTER GOING OVER BUMPS IN ROAD. CHECKED ALL SUSPENSION COMP ONENTS. NO PROBLEMS FOUND. **ADJUSTED S ADJ UST AGAIN FOUND STEERING GEAR BINDING UP. REPLA CED STEERING GEAR**. RETEST DROVE,ALL OK AT THIS TIME.											

Unrelated Claims

E[redacted]	F7	T/F7	F	T/BC	T/BD	T/E	A1	T/BE	T/YB	23-05-05	18-08-05	171465
Key:	[redacted]	**Doc #:**	[redacted]		**Trx Code:**		S07	**Labor Hrs:**		2.1	**Labor Cost:**	
Cd:	20346-*	**Name:**	BRADLEY FORD LINCOLN-MERCURY				**Ph:**	928-8551191		**St:** AZ	**Ctry Cd:**	USA
Comments:	CUST POINTED OUT TO ADVISOR THAT SPEEDO GAGE READS WHEN VEHICLE IS TURNED OFF AND KEY OUT OF IT READS AT 10 MPH.AND WHILE DRIVING NOTICE											
Comments:	CHECK SPEEDO,TEST SYSTEM NO CODES IN SYSTEM.TES T DRIVE AND MONITOR PIDS.RUN PINPOINT TEST FOUN D OPEN IN INSTRUMENT CLUSTER REPLACE CL											
E[redacted]	F7	T/F7	F	T/BC	T/BD	T/E	A1	T/BE	T/YB	23-05-05	18-08-05	171465
Key:	[redacted]	**Doc #:**	[redacted]		**Trx Code:**		5.00E+16	**Labor Hrs:**		0.7	**Labor Cost:**	
Cd:	20346-*	**Name:**	BRADLEY FORD LINCOLN-MERCURY				**Ph:**	928-8551191		**St:** AZ	**Ctry Cd:**	USA
Comments:	CHECK ALL RECALLS ON OASIS,CHECK PRIOR HISTORY OF ANY RECALLS BEING PERFORMED AT OTHER DEALERS 05E16											
Comments:	PERFORM 05E16 RECALL REPROGRAM PCM.											
E[redacted]	F7	T/F7	F	T/BC	T/BD	T/E	A1	T/BE	T/YB	23-05-05	18-08-05	171465
Key:	[redacted]	**Doc #:**	[redacted]		**Trx Code:**		S07	**Labor Hrs:**		1.4	**Labor Cost:**	
Cd:	20346-*	**Name:**	BRADLEY FORD LINCOLN-MERCURY				**Ph:**	928-8551191		**St:** AZ	**Ctry Cd:**	USA
Comments:	CUST STATES NOTICES OIL LEAK SUSPECTS AT CAC CURVED BLUE											
Comments:	CHECK FOR OIL LEAK WITH BLACK LIGHT VERIFIED FO UND LEAK FROM CAC CONNECTOR CURVED BLUE AT TURB O REPLACE 6C640											
E[redacted]	F7	T/F7	F	T/BC	T/BD	T/E	A1	T/BE	T/YB	23-05-05	18-08-05	171465
Key:	[redacted]	**Doc #:**	[redacted]		**Trx Code:**		RAV	**Labor Hrs:**		1	**Labor Cost:**	
Cd:	01565-*	**Name:**	DON SANDERSON FORD, INC.				**Ph:**	*-*		**St:** AZ	**Ctry Cd:**	USA
Comments:	VEHICLE INSPECTION											
Comments:	VEHICLE INSPECTION											

E[redacted]	F7	T/F7	F	T/BC	T/BD	T/E	A1	T/BE	T/YB	23-05-05	18-08-05	171465
Key:	[redacted]	**Doc #:**	[redacted]		**Trx Code:**		E84	**Labor Hrs:**		1	**Labor Cost:**	
Cd:	01565-*	**Name:**	DON SANDERSON FORD, INC.				**Ph:**	*-*		**St:** AZ	**Ctry Cd:**	USA
Comments:	OIL SYS LEAKS PCV SYSTEM AREA											
Comments:	ADDED ENG OIL DYE PINPOINTED OIL LEAKING FORM CMP SENSOR O RINGS. REMOVED CMP SENSOR REPLACED BOTH O RINGS.MT TO RPLC ORINS.ROAD TEST											
E[redacted]	F7	T/F7	F	T/BC	T/BD	T/E	A1	T/BE	T/YB	23-05-05	18-08-05	171465
Key:	[redacted]	**Doc #:**	[redacted]		**Trx Code:**		S07	**Labor Hrs:**		0.5	**Labor Cost:**	
Cd:	01565-*	**Name:**	DON SANDERSON FORD, INC.				**Ph:**	*-*		**St:** AZ	**Ctry Cd:**	USA
Comments:	CHECK PCM,TCM,& FICM FOR UPDATES											
Comments:	REPROGRAMED PCM,TCM 6C3A 12A650 EYB.											
E[redacted]	F7	T/F7	F	T/BC	T/BD	T/E	A1	T/BE	T/YB	23-05-05	18-08-05	171465
Key:	[redacted]	**Doc #:**	[redacted]		**Trx Code:**		P86	**Labor Hrs:**		1	**Labor Cost:**	
Cd:	01565-*	**Name:**	DON SANDERSON FORD, INC.				**Ph:**	*-*		**St:** AZ	**Ctry Cd:**	USA
Comments:	ROAD TEST 1.0 HR PER RAV											
Comments:	1 PERFORMED RAV ROAD TEST ENGINE STARTS AND NORMAL. TRANS SHIFTS NORMAL.NO FURTHER DRIVEABILTY SYMPTOMS AND NO MORE OIL LEAKS PRESEN											

SELL CNT	TIS	WCC	PREF	BASE	SUFF	VRT NA	VRT ROW	VFG	CCC	CD
USA	4	5O01	5C3Z	3504	AA	S10	S10	V87	H21	42
214.74	**Material Cost:**			697.3	**Total Cost:**		912.04			
Reg Cd:		NA	**Repr Date:**09-DEC-2005				**DIST(Mile):**3696			
TEERING GE AR IN CHASSIS, RETEST DROVE. STEERING STILL LOO SET DROVE. STEERING GEAR LOOSE **ATTEMPTED TO**										
USA	6	7K11	6C3Z	10849	JA	S09	S09	V83	G32	42
145.47	**Material Cost:**			255.98	**Total Cost:**		401.45			
Reg Cd:		NA	**Repr Date:**26-JAN-2006				**DIST(Mile):**6852			
S READS FASTER THAN ACTUALLING GOING AND ODOMETER										
USTER AN D REPROGRAM.										
USA	6	*	*	*	*	SXX	SXX	V00	*	*
48.49	**Material Cost:**			0	**Total Cost:**		48.49			
Reg Cd:		NA	**Repr Date:**26-JAN-2006				**DIST(Mile):**6852			
USA	7	2H01	6C3Z	6C640	A	S11	S11	V44	L65	D8
96.98	**Material Cost:**			62.97	**Total Cost:**		159.95			
Reg Cd:		NA	**Repr Date:**14-FEB-2006				**DIST(Mile):**6875			
USA	14	6Y20	*	RAV	*	SXX	SXX	V00	A98	82
83.91	**Material Cost:**			0	**Total Cost:**		83.91			
Reg Cd:		NA	**Repr Date:**27-SEP-2006				**DIST(Mile):**17085			

USA	14	2.00E+02	3C3Z	9N693	HA	S11	S11	V44	L65	D8
83.92	**Material Cost:**			15.21	**Total Cost:**		99.13			
Reg Cd:		NA	**Repr Date:**27-SEP-2006				**DIST(Mile):**17085			
REINSPECTED NO MORE OIL LEAKS PRESENT.										
USA	14	2G05	*	RECALEM	*	S11	S11	V44	D50	4
41.96	**Material Cost:**			0	**Total Cost:**		41.96			
Reg Cd:		NA	**Repr Date:**27-SEP-2006				**DIST(Mile):**17085			
USA	14	6Y20	*	MISC	*	SXX	SXX	V00	A98	82
83.91	**Material Cost:**			0	**Total Cost:**		83.91			
Reg Cd:		NA	**Repr Date:**27-SEP-2006				**DIST(Mile):**17085			
T.										

VIN	AWS VL	WERS VL	MKT DER	BODY CAB	VER SERIES	DRIVE TYPE	PLANT CD	TRANS CD	ENG COD	PROD DATE	WARR DATE	DEALER
E[redacted]	F7	T/F7	F	T/BD	T/BD	T/E	A1	T/VG	T/YB	16-05-05	6/9/2005	147551
Key:	[redacted]	**Doc #:**	[redacted]		**Trx Code:**		E84	**Labor Hrs:**		0.5	**Labor Cost:**	
Cd:	02067-*	**Name:**	JACK GARRETT FORD, INC.				**Ph:**	304-9272490		**St:** WV	**Ctry Cd:**	USA
Comments:	VIBRATION IN FRONT WHILE DRIVING											
Comments:	REPLACE SHIMMING SHOCK											
E[redacted]	F7	T/F7	F	T/BD	T/BD	T/E	A1	T/VG	T/YB	16-05-05	6/9/2005	147551
Key:	[redacted]	**Doc #:**	[redacted]		**Trx Code:**		E84	**Labor Hrs:**		2.2	**Labor Cost:**	
Cd:	02067-*	**Name:**	JACK GARRETT FORD, INC.				**Ph:**	304-9272490		**St:** WV	**Ctry Cd:**	USA
Comments:	SHIMMY WHILE DRIVING											
Comments:	CK BALL JOINT LOOSE REPLACE BALL JOINT											
E[redacted]	F7	T/F7	F	T/BD	T/BD	T/E	A1	T/VG	T/YB	16-05-05	6/9/2005	147551
Key:	[redacted]	**Doc #:**	[redacted]		**Trx Code:**		E90	**Labor Hrs:**		4.2	**Labor Cost:**	
Cd:	02067-*	**Name:**	JACK GARRETT FORD, INC.				**Ph:**	304-9272490		**St:** WV	**Ctry Cd:**	USA
Comments:	NOISE IN FRONT END ON ROUGH ROAD											
Comments:	CK FRONT END BALL JOINTS LOOSE REPLACE BALL JOINTS											
E[redacted]	F7	T/F7	F	T/BD	T/BD	T/E	A1	T/VG	T/YB	16-05-05	6/9/2005	147551
Key:	[redacted]	**Doc #:**	[redacted]		**Trx Code:**		E84	**Labor Hrs:**		1.4	**Labor Cost:**	
Cd:	02071-*	**Name:**	I77 FORD MERCURY				**Ph:**	304-3723673		**St:** WV	**Ctry Cd:**	USA
Comments:	CUSTOMER STATES STEERING VIBRATION AFTER HITTING BUMPS.											
Comments:	TECH CHECKED OUT AND INSTALLED STEERING DAMPNER AND RETORQUE BOLTS IN THE FRONT END.											

Unrelated Claims

E[redacted]	F7	T/F7	F	T/BD	T/BD	T/E	A1	T/VG	T/YB	16-05-05	6/9/2005	147551
Key:	[redacted]	**Doc #:**	[redacted]		**Trx Code:**		RAV	**Labor Hrs:**		1	**Labor Cost:**	
Cd:	04215-*	**Name:**	NORRIS FORD				**Ph:**	*-*		**St:** MD	**Ctry Cd:**	USA
Comments:	RAV INSPECTION											
Comments:	RAV INSPECTION COMPLETED PER RAV HEADQUARTER INSTRUCTIONS											
E[redacted]	F7	T/F7	F	T/BD	T/BD	T/E	A1	T/VG	T/YB	16-05-05	6/9/2005	147551

Key:	[redacted]	**Doc #:**	[redacted]		**Trx Code:**		E84	**Labor Hrs:**		1	**Labor Cost:**	
Cd:	04215-*	**Name:**	NORRIS FORD				**Ph:**	*-*		**St:** MD	**Ctry Cd:**	USA
Comments:	DIESEL ENGINE INSPECTION											
Comments:	6.0 L DIESEL ENGINE INSPECTION PERFORMED. OK . SEE LN 54 FOR RECALIBERATE											
E[redacted]	F7	T/F7	F	T/BD	T/BD	T/E	A1	T/VG	T/YB	16-05-05	6/9/2005	147551
Key:	[redacted]	**Doc #:**	[redacted]		**Trx Code:**		S07	**Labor Hrs:**		1	**Labor Cost:**	
Cd:	04215-*	**Name:**	NORRIS FORD				**Ph:**	*-*		**St:** MD	**Ctry Cd:**	USA
Comments:	RUNS ROUGH COLD											
Comments:	RECALRE CALIBRATE FICM PER TSB											
E[redacted]	F7	T/F7	F	T/BD	T/BD	T/E	A1	T/VG	T/YB	16-05-05	6/9/2005	147551
Key:	[redacted]	**Doc #:**	[redacted]		**Trx Code:**		P86	**Labor Hrs:**		0	**Labor Cost:**	
Cd:	04215-*	**Name:**	NORRIS FORD				**Ph:**	*-*		**St:** MD	**Ctry Cd:**	USA
Comments:	SEE BELOW FOR DETAILS											
Comments:	REPLACED 4 WORN TIRES. AUTHORIZED BY RAV. TIRES NEEDED TO BE REPLACED FOR RESALE AT FORD SPONSORED AUCTION											
E[redacted]	F7	T/F7	F	T/BD	T/BD	T/E	A1	T/VG	T/YB	16-05-05	6/9/2005	147551
Key:	[redacted]	**Doc #:**	[redacted]		**Trx Code:**		E83	**Labor Hrs:**		1.8	**Labor Cost:**	
Cd:	02010-*	**Name:**	STEPHENS AUTO CENTER				**Ph:**	304-3692411		**St:** WV	**Ctry Cd:**	USA
Comments:	VEHICLE STALLED WHILE DRIVING ALTERNATOR GAUGE READING LOW											
Comments:	VERIFY CONCERN REPALCE ALTERNATOR ASSEMBLY											
E[redacted]	F7	T/F7	F	T/BD	T/BD	T/E	A1	T/VG	T/YB	16-05-05	6/9/2005	147551
Key:	[redacted]	**Doc #:**	[redacted]		**Trx Code:**		5.00E+16	**Labor Hrs:**		0.7	**Labor Cost:**	
Cd:	02071-*	**Name:**	I77 FORD MERCURY				**Ph:**	304-3723673		**St:** WV	**Ctry Cd:**	USA
Comments:	RECALL 05E16											
Comments:	PERFORMED RECALL											
E[redacted]	F7	T/F7	F	T/BD	T/BD	T/E	A1	T/VG	T/YB	16-05-05	6/9/2005	147551
Key:	[redacted]	**Doc #:**	[redacted]		**Trx Code:**		2	**Labor Hrs:**		3.9	**Labor Cost:**	
Cd:	02071-*	**Name:**	I77 FORD MERCURY				**Ph:**	304-3723673		**St:** WV	**Ctry Cd:**	USA

Comments:	CUSTOMER STATES RATTLE IN RIGHT FRONT OVER ROUGH ROADS.
Comments:	TECH CHECKED OUT AND REPLACED THE CLUTCH PRESSURE PLATE AND BEARING.

SELL CNT	TIS	WCC	PREF	BASE	SUFF	VRT NA	VRT ROW	VFG	CCC	CD
USA	8	5N01	5C3Z	3E651	CA	S13	S10	V89	N23	63
21.44	**Material Cost:**			23.76	**Total Cost:**		45.2			
Reg Cd:		NA	**Repr Date:**18-APR-2006				**DIST(Mile):**19423			
USA	10	5G03	5C3Z	3050	CA	S13	S10	V89	C50	33
98.01	**Material Cost:**			66.14	**Total Cost:**		164.15			
Reg Cd:		NA	**Repr Date:**05-JUN-2006				**DIST(Mile):**24607			
USA	11	5G03	5C3Z	3050	AB	S13	S05	V39	N50	33
187.11	**Material Cost:**			311.11	**Total Cost:**		498.22			
Reg Cd:		NA	**Repr Date:**19-JUL-2006				**DIST(Mile):**27162			
USA	12	5N01	5C3Z	3E651	CA	S13	S10	V89	N24	42
90.15	**Material Cost:**			23.76	**Total Cost:**		113.91			
Reg Cd:		NA	**Repr Date:**04-AUG-2006				**DIST(Mile):**27910			
USA	15	6Y20	*	RAV	*	SXX	SXX	V00	A98	82
77.19	**Material Cost:**			0	**Total Cost:**		77.19			
Reg Cd:		NA	**Repr Date:**03-NOV-2006				**DIST(Mile):**31723			
USA	15	1A03	*	6006	*	S11	S11	V44	D50	42

77.19	**Material Cost:**			0	**Total Cost:**		77.19			
Reg Cd:		NA	**Repr Date:**03-NOV-2006				**DIST(Mile):**31723			
USA	15	2.00E+03	*	9E527	*	S11	S11	V52	D21	42
77.19	**Material Cost:**			0	**Total Cost:**		77.19			
Reg Cd:		NA	**Repr Date:**03-NOV-2006				**DIST(Mile):**31723			
USA	15	6Y20	*	MISC	*	SXX	SXX	V00	A98	82
0	**Material Cost:**			0	**Total Cost:**		683.52			
Reg Cd:		NA	**Repr Date:**03-NOV-2006				**DIST(Mile):**31723			
USA	9	7B02	5C3Z	10346	DA	S11	S11	V52	D02	42
112.45	**Material Cost:**			230.92	**Total Cost:**		343.37			
Reg Cd:		NA	**Repr Date:**16-MAY-2006				**DIST(Mile):**22091			
USA	12	*	*	*	*	SXX	SXX	V00	*	*
45.07	**Material Cost:**			0	**Total Cost:**		45.07			
Reg Cd:		NA	**Repr Date:**04-AUG-2006				**DIST(Mile):**27910			
USA	1	4A02	5C3Z	7563	A	S11	S11	V47	P22	42
241.68	**Material Cost:**			547.23	**Total Cost:**		788.91			
Reg Cd:		NA	**Repr Date:**28-SEP-2005				**DIST(Mile):**1986			

VIN	AWS VL	WERS VL	MKT DER	BODY CAB	VER SERIES	DRIVE TYPE	PLANT CD	TRANS CD	ENG COD	PROD DATE	WARR DATE	DEALER
E[redacted]	F7	T/F7	F	T/BB	T/BD	T/E	A1	T/VP	T/WX	16-09-05	31-12-05	147552
Key:	[redacted]	**Doc #:**	[redacted]		**Trx Code:**		1	**Labor Hrs:**		1.4	**Labor Cost:**	
Cd:	02067-*	**Name:**	JACK GARRETT FORD, INC.				**Ph:**	304-9272490		**St:** WV	**Ctry Cd:**	USA
Comments:	SHAKES AND SHIMMYS IN FRONT END											
Comments:	CK FRONT END PERFORM **TSB 06 15 1**											
E[redacted]	F7	T/F7	F	T/BB	T/BD	T/E	A1	T/VP	T/WX	16-09-05	31-12-05	147552
Key:	[redacted]	**Doc #:**	[redacted]		**Trx Code:**		1	**Labor Hrs:**		2.2	**Labor Cost:**	
Cd:	02067-*	**Name:**	JACK GARRETT FORD, INC.				**Ph:**	304-9272490		**St:** WV	**Ctry Cd:**	USA
Comments:	FRONT END SHAKES WHILE DRIVING											
Comments:	CK FRONT END BALL JOINT LOOSE ON STABILIZER BAR											
E[redacted]	F7	T/F7	F	T/BB	T/BD	T/E	A1	T/VP	T/WX	16-09-05	31-12-05	147552
Key:	[redacted]	**Doc #:**	[redacted]		**Trx Code:**		1	**Labor Hrs:**		2.3	**Labor Cost:**	
Cd:	02067-*	**Name:**	JACK GARRETT FORD, INC.				**Ph:**	304-9272490		**St:** WV	**Ctry Cd:**	USA
Comments:	HARD SHAKE IN FRONT END											
Comments:	TEST DRIVE CALL TECH LINE LOWER CASTER TORQUE ALL BOLTS & NUTS CK TIRE PRESSURE CK DAMPER PER **TSB 06 15 1** STILL HAS SOME SHAKE WHEN HITS B											
E[redacted]	F7	T/F7	F	T/BB	T/BD	T/E	A1	T/VP	T/WX	16-09-05	31-12-05	147552
Key:	[redacted]	**Doc #:**	[redacted]		**Trx Code:**		RAV	**Labor Hrs:**		2.1	**Labor Cost:**	
Cd:	04215-*	**Name:**	NORRIS FORD				**Ph:**	*-*		**St:** MD	**Ctry Cd:**	USA
Comments:	STEERING HANDLING VIBRATION OVER BUMPS											
Comments:	OUT OF BALANCE DID ROTATIONAL NOISE VIBRATION HARSHNESS DIAGNOSIS. ROAD TEST BALANCE ALL TIRES AND REINDEX WHEELS AND CK RUN OUT. ALIGNE											

Unrelated Claims

E[redacted]	F7	T/F7	F	T/BB	T/BD	T/E	A1	T/VP	T/WX	16-09-05	31-12-05	147552
Key:	[redacted]	**Doc #:**	[redacted]		**Trx Code:**		E83	**Labor Hrs:**		0.5	**Labor Cost:**	
Cd:	04215-*	**Name:**	NORRIS FORD				**Ph:**	*-*		**St:** MD	**Ctry Cd:**	USA
Comments:	BATTERY TEST, CHARGE, AND RE TEST											
Comments:	INOP BATTERY TEST, CHARGE, AND RE TEST USED MICRON TESTOR. REPL WITH MOTORCRAFT BATTERY.											
E[redacted]	F7	T/F7	F	T/BB	T/BD	T/E	A1	T/VP	T/WX	16-09-05	31-12-05	147552

Key:	[redacted]	**Doc #:**	[redacted]		**Trx Code:**		1	**Labor Hrs:**		0.9	**Labor Cost:**		
Cd:	02067-*	**Name:**	JACK GARRETT FORD, INC.				**Ph:**	304-9272490		**St:** WV	**Ctry Cd:**	USA	
Comments:	SPEEDOMETER IS ERRACTIV												
Comments:	REPLACE CLUSTER ASSM RECHECK OK												
E[redacted]	F7	T/F7	F	T/BB	T/BD	T/E	A1	T/VP	T/WX	16-09-05	31-12-05	147552	
Key:	[redacted]	**Doc #:**	[redacted]		**Trx Code:**		RAV	**Labor Hrs:**		1	**Labor Cost:**		
Cd:	04215-*	**Name:**	NORRIS FORD				**Ph:**	*-*		**St:** MD	**Ctry Cd:**	USA	
Comments:	RAV INSPECTION												
Comments:	RAV INSPECTION COMPLETED. FOLLOWED RAV PROTOCAL.												

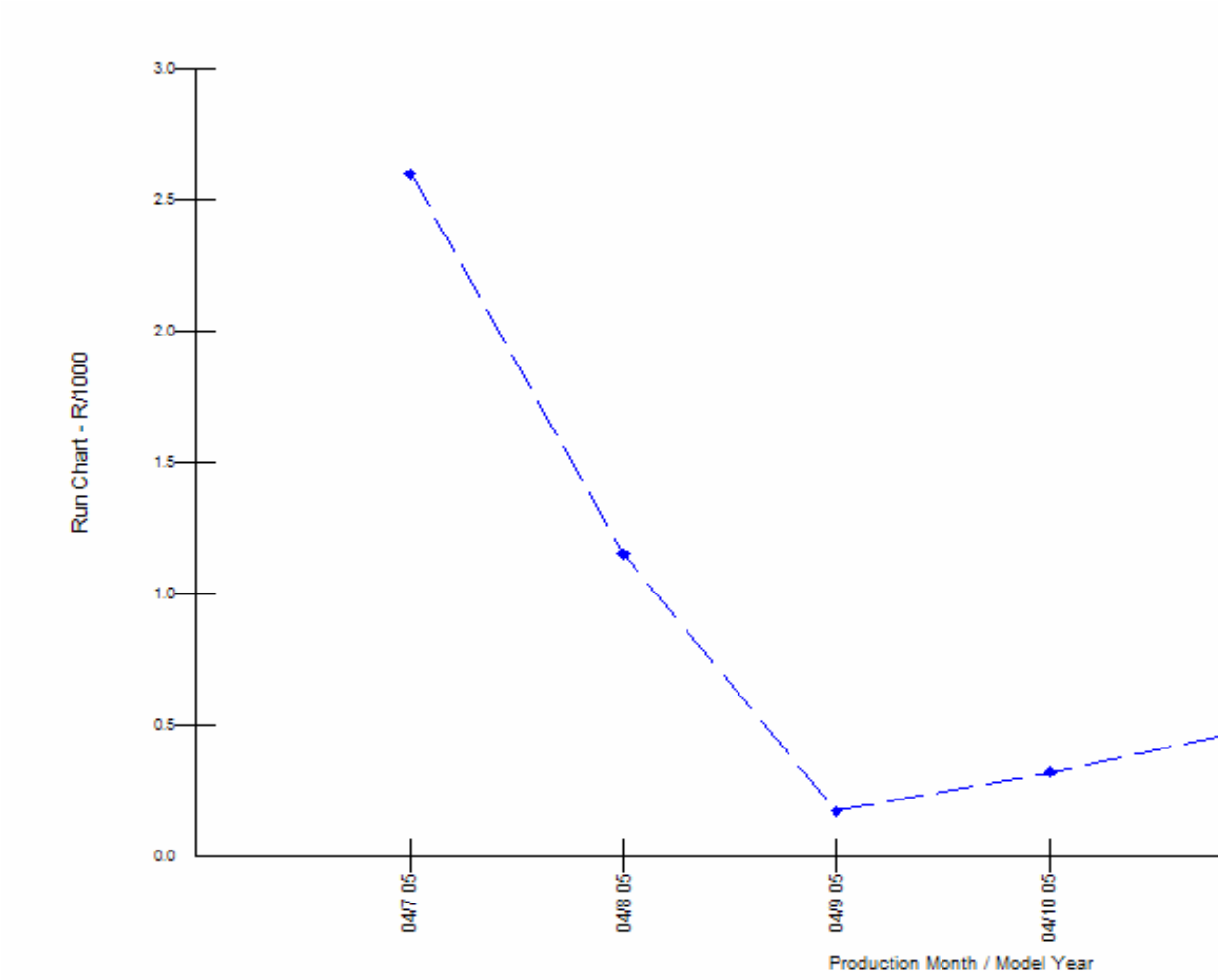
SELL CNT	TIS	WCC	PREF	BASE	SUFF	VRT NA	VRT ROW	VFG	CCC	CD
USA	7	5N01	*	3E651	*	S13	S10	V89	C50	42
62.37	**Material Cost:**			0	**Total Cost:**		62.37			
Reg Cd:		NA	**Repr Date:**17-JUL-2006				**DIST(Mile):**7021			
USA	7	5G03	5C3Z	3050	CA	S13	S10	V89	N24	33
98.01	**Material Cost:**			66.14	**Total Cost:**		164.15			
Reg Cd:		NA	**Repr Date:**22-JUL-2006				**DIST(Mile):**7497			
USA	9	5G02	5C3Z	3B440	DDD	S13	S10	V89	C50	W6
102.47	**Material Cost:**			19.96	**Total Cost:**		122.43			
Reg Cd:		NA	**Repr Date:**07-SEP-2006				**DIST(Mile):**8093			
UMPS										
USA	10	5K04	*	ALBAL	*	S13	S10	V89	N25	D9
162.1	**Material Cost:**			0	**Total Cost:**		162.1			
Reg Cd:		NA	**Repr Date:**26-OCT-2006				**DIST(Mile):**13142			
D MOTOR MOUNTS.										
USA	10	7A01	BXT	65	750	S09	S09	V19	C25	42
38.6	**Material Cost:**			98.95	**Total Cost:**		137.55			
Reg Cd:		NA	**Repr Date:**26-OCT-2006				**DIST(Mile):**13142			
USA	5	7K11	6C3Z	10849	LA	S09	S09	V83	A37	42

38.59	**Material Cost:**			255.98	**Total Cost:**		294.57			
Reg Cd:		NA	**Repr Date:**11-MAY-2006				**DIST(Mile):**3114			
USA	10	6Y20	*	RAV	*	SXX	SXX	V00	A98	82
77.19	**Material Cost:**			0	**Total Cost:**		77.19			
Reg Cd:		NA	**Repr Date:**26-OCT-2006				**DIST(Mile):**13142			

LARIAT	4X4	Aug-04	Getting a lot of bump steer in the steering wheel. I'm not happy with the coil springs, except for the better turning radius.
LARIAT	4X4	Aug-04	Steering shimmies after going over bumps.
LARIAT	4X4	Aug-04	Truck has a severe bump steer problem. When driving on city streets or on freeway when you go over an overpass or hit uneven pavement steering wheel shakes back & forth. When brought to dealer's attention I was told that's the way the truck drives.
LARIAT	4X4	Aug-04	Steering wheel shimmy when crossing rough pavement on slight turn.
LARIAT	4X4	Aug-04	Steering wheel vibrates/shimmies after going over small potholes or rough roads.
LARIAT	4X4	Sep-04	When you hit bumps or cracks in road you feel them.
LARIAT	4x2	Sep-04	When you drive above 45 MPH only on a semi-bumpy road.
LARIAT	4X4	Oct-04	When hitting dip or bump in line of travel steering wheel has a lot of ply into bump and there is a shimmy in the wheel.
XLT	4x2	Dec-04	Tires not balanced properly at factory.
LARIAT	4X4	Jan-05	Hit a pothole and wheel will shake. Need more bumper.

2005 US GQRS 3MIS SUPER DUTY REQUEST (SEPTEMBER THROUGH FEBRUARY REGISTRATIONS								
MODEL	SERIES	REGISTRATION MONTH	BUILD MONTH	RESPONDENT	WHEEL	VFG DESCRIPTION	TGW DESCRIPTION	VERBATIM
F250S_PU	LARIAT	SEPTEMBER	Jul-04	1184440	4X4	HANDLING/RIDE Troubles	VEHICLE VIBRATES-Above 45 Mph	Very bad shaking of steering wheel. Dealer has worked on steering box. Still has shaking on rough roads.
F350S_PU	LARIAT	SEPTEMBER	Aug-04	1186006	RWD	HANDLING/RIDE Troubles	VEHICLE VIBRATES-Above 45 Mph	When driving down the road, the vehicle shimmies. When putting in reverse to back out, with the wheel turned tight, it makes a noise and vibration.
F350S_PU	LARIAT	SEPTEMBER	Aug-04	1196445	4X4	HANDLING/RIDE Troubles	VEHICLE VIBRATES-Above 45 Mph	Common to 1-ton trucks.
F250S_PU	XLT	OCTOBER	Sep-04	2363203	RWD	HANDLING/RIDE Troubles	VEHICLE VIBRATES-Above 45 Mph	After having 5 - F-250's. This is the worst ride I have seen. My `95 - F-250, that I still have rides better than this 2005 and the `95 has 106,000+ miles. The dealership says there is nothing theycan do.
F350S_PU	LARIAT	OCTOBER	Sep-04	2374057	4X4	HANDLING/RIDE Troubles	VEHICLE VIBRATES-Above 45 Mph	At 47 MPH body vibrates.
F250S_PU	LARIAT	NOVEMBER	Jul-04	3244981	4X4	HANDLING/RIDE Troubles	VEHICLE VIBRATES-Above 45 Mph	Passenger's seat shakes at speeds over 70 MPH.
F350S_PU	LARIAT	NOVEMBER	Sep-04	3246249	RWD	HANDLING/RIDE Troubles	VEHICLE VIBRATES-Above 45 Mph	Vibration between 45-50 MPH, otherwise it's very smooth.
F350S_PU	XLT	NOVEMBER	Sep-04	3246313	RWD	HANDLING/RIDE Troubles	VEHICLE VIBRATES-Above 45 Mph	Very light vibration. Little noise when making right turn.
F250S_PU	XLT	DECEMBER	Dec-04	3762333	RWD	HANDLING/RIDE Troubles	VEHICLE VIBRATES-Above 45 Mph	Tires not balanced properly at factory.
F350S_PU	LARIAT	DECEMBER	Oct-04	3770052	RWD	HANDLING/RIDE Troubles	VEHICLE VIBRATES-Above 45 Mph	Above 75 MPH vehicle has a slight vibration. Will have dealer check.
F350S_PU	XLT	DECEMBER	Nov-04	3772740	4X4	HANDLING/RIDE Troubles	VEHICLE VIBRATES-Above 45 Mph	Vibration (drive line) @ 60-65 MPH; then goes away as you go faster.
F350S_PU	LARIAT	JANUARY	Aug-04	4241988	RWD	HANDLING/RIDE Troubles	VEHICLE VIBRATES-Above 45 Mph	At least one of the wheels seems a little out of balance.
F350S_PU	LARIAT	FEBRUARY	Feb-05	4728088	RWD	HANDLING/RIDE Troubles	VEHICLE VIBRATES-Above 45 Mph	Shake in rear end.

STEER WHEEL VIBRATES < 45MPH TGW VERBATIMS			
TRIM	ENGINE	DRIVE	VERBATIM
LARIAT	6.0L	4X2	When driving down the road, the vehicle shimmies. When putting in reverse to back out, with the wheel turned tight, it makes a noise and vibration.
XLT	5.4L	4X2	After having 5 - F-250's. This is the worst ride I have seen. My `95 - F-250, that I still have rides better than this 2005 and the `95 has 106,000+ miles. The dealership says there is nothing theycan do.
XLT	6.0L	4X2	Rear end not fluid enough. Bumping or jumping feeling.
LARIAT	6.0L	4X4	Very bad shaking of steering wheel. Dealer has worked on steering box. Still has shaking on rough roads.
LARIAT	6.0L	4X4	Vibrates window at 45 MPH.
LARIAT	6.0L	4X4	Common to 1-ton trucks.
LARIAT	6.0L	4X4	Truck pulled to right and steering wheel not correctly aligned. Truck also vibrates between 40-45 mph even after tires had been rebalanced.
XLT	6.0L	4X4	At low RPM.



Production Month / Model Year

NAV 6.0L OHV D TC V8

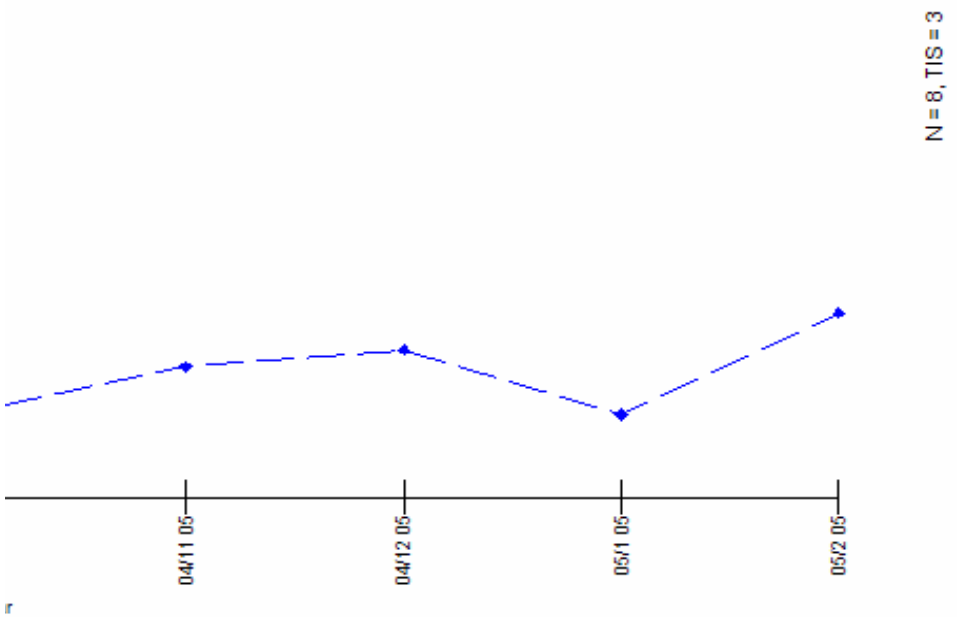
NAV 6.0L OHV D TC V8

NAV 6.0L OHV D TC V8

5.4L SOHC EFI G NA V8 (3V)

NAV 6.0L OHV D TC V8

NAV 6.0L OHV D TC V8
NAV 6.0L OHV D TC V8
NAV 6.0L OHV D TC V8



005 US GQRS 3MIS FORD SUPER DUTY (SEPTEMBER - JANUARY REGISTRATIONS									
MODEL	SERIES	REGISTRATION I	BUILD MOI	ENGINE	TRANSMISSION	WHEEL	TGW MAP 2	TGW MAP 3	VERBATIM
F250S_PU	LARIAT	SEPTEMBER	Jul-04	NAV 6.0L OHV D TC V8	AUTO 5R110W	4X4	VEHICLE VIBRATES-Below 45 Mph	VEHICLE VIBRATES-Below 45 Mph	Very bad shaking of steering wheel. Dealer has worked on steering box. Still has shaking on rough roads.
F350S_PU	LARIAT	SEPTEMBER	Aug-04	NAV 6.0L OHV D TC V8	AUTO 5R110W	RWD	VEHICLE VIBRATES-Below 45 Mph	VEHICLE VIBRATES-Below 45 Mph	When driving down the road, the vehicle shimmies. When putting in reverse to back out, with the wheel turned tight, it makes a noise and vibration.
F350S_PU	LARIAT	SEPTEMBER	Aug-04	NAV 6.0L OHV D TC V8	AUTO 5R110W	4X4	VEHICLE VIBRATES-Below 45 Mph	VEHICLE VIBRATES-Below 45 Mph	Vibrates window at 45 MPH.
F350S_PU	LARIAT	SEPTEMBER	Aug-04	NAV 6.0L OHV D TC V8	AUTO 5R110W	4X4	VEHICLE VIBRATES-Below 45 Mph	VEHICLE VIBRATES-Below 45 Mph	Common to 1-ton trucks.
F250S_PU	XLT	OCTOBER	Sep-04	5.4L SOHC EFI G NA V8 (3V)	AUTO 5R110W	RWD	VEHICLE VIBRATES-Below 45 Mph	VEHICLE VIBRATES-Below 45 Mph	After having 5 - F-250's. This is the worst ride I have seen. My `95 - F-250, that I still have rides better than this 2005 and the `95 has 106,000+ miles. The dealership says there is nothing theycan do.
F250S_PU	LARIAT	OCTOBER	Aug-04	NAV 6.0L OHV D TC V8	AUTO 5R110W	4X4	VEHICLE VIBRATES-Below 45 Mph	VEHICLE VIBRATES-Below 45 Mph	Truck pulled to right and steering wheel not correctly aligned. Truck also vibrates between 40-45 mph even after tires had been rebalanced.
F350S_PU	XLT	OCTOBER	Sep-04	NAV 6.0L OHV D TC V8	AUTO 5R110W	RWD	VEHICLE VIBRATES-Below 45 Mph	VEHICLE VIBRATES-Below 45 Mph	Rear end not fluid enough. Bumping or jumping feeling.
F350S_PU	XLT	OCTOBER	Jul-04	NAV 6.0L OHV D TC V8	AUTO 5R110W	4X4	VEHICLE VIBRATES-Below 45 Mph	VEHICLE VIBRATES-Below 45 Mph	At low RPM.

07/27/2005 13:43:59 Ford Motor Company Proprietary and Confidential								
Super duty N23								
REPORT TYPE: GQRS TGW Detail(US, EU, Brazil) Style: TREND								
Study: GQRS-US - Global Quality Research System								
Survey(s): GQRS Superduty: MY2005, GQRS 2005 Year to Data US, GQRS 2004 YTD US MY2004, GQRS 2004 YTD US MY2005								
FILTER: MODEL								
SURVEY	GQRS 2004 YTD	GQRS 2004 YTD	GQRS 2004 YTD	GQRS 2004 YTD	GQRS 2004 YTD	GQRS 2004 YTD	GQRS 2004 YTD	GQRS 2004 YTD
VIN Position 7: 0=4x2 SRW, 1=4x4 SRW, 2=4x2 DRW, 3=4x4 DRW	0	0	0	1	1	1	2	2
Model Name	F250S_PU	F350S_PU	TOTAL	F250S_PU	F350S_PU	TOTAL	F350S_PU	TOTAL
Model Year	2004	2004		2004	2004		2004	
TOTAL TGW/1000	2243	2048	2220	2047	2390	2189	2283	2283
STEERING WHEEL VIB-Below 45 mph	6	10	7	5	0	3	6	6
SAMPLE SIZE	784	147	931	975	711	1686	304	304
File created by InfoLink (MRO: Production) Interfac	EU		Brazil) Version: 2.02"					
# Sample size:								
less than 50 - insufficient for reliable analysis								
less than 30 - will not be printed								
N/A Indicates that the question was Not Asked or Answered								
in the particular survey								
(.) Indicates a missing value								
** Item not specifically asked on questionnaire								
a/ Total Vehicle Squeak/Rattle represents an aggregation of all								

squeaks and rattles reported by customers								
b/ Satisfaction Item: Percent of respondents indicating top 2 boxes								
*** 0=4x2 SRW, 1=4x4 SRW, 2=4x2 DRW, 3=4x4 DRW)								

GQRS 2004 YTD	GQRS 2004 YTD	GQRS 2005 YTD	GQRS 2005 YTD	GQRS 2005 YTD	GQRS 2005 YTD	GQRS 2005 YTD	GQRS 2005 YTD	GQRS 2005 YTD	GQRS 2005 YTD	GQRS 2005 YTD	GQRS 2005 YTD	GQRS Super
3	3	0	0	0	1	1	1	2	2	3	3	0
F350S_PU	TOTAL	F250S_PU	F350S_PU	TOTAL	F250S_PU	F350S_PU	TOTAL	F350S_PU	TOTAL	F350S_PU	TOTAL	F250S_PU
2004		2005	2005		2005	2005		2005		2005		2005
2891	2891	1984	1519	1920	2049	2574	2227	1831	1831	2734	2734	1827
0	0	3	0	2	13	19	15	5	5	26	26	18
163	163	451	74	525	614	617	1231	221	221	218	218	51

GQRS Super	GQRS Super	GQRS Super	GQRS Super	GQRS Super	GQRS Super	GQRS Super	GQRS Super	GQRS Super
0	0	1	1	1	2	2	3	3
F350S_PU	TOTAL	F250S_PU	F350S_PU	TOTAL	F350S_PU	TOTAL	F350S_PU	TOTAL
2005		2005	2005		2005		2005	
	1843	1852		1899				
	16	0		0				
3#	54	66	27#	93	12#	12#	13#	13#

REPORT TYPE: GQRS TGW Detail(US, EU, Brazil) Style: TREND

Study: GQRS-US - Global Quality Research System
Survey(s): GQRS Superduty: MY2005, GQRS 2005 Year to Data US, GQRS 2004 YTD US MY2004, GQRS 2

FILTER: MODEL

SURVEY	GQRS 2004 YTD	GQRS 2004 YTD	GQRS 2004 YTD	GQRS 2004 YTD	GQRS 2005 YTD
VIN Position 7: 0=4x2 SRW, 1=4x4 SRW, 2=4x2 DRW, 3=4x4 DRW	0	1	2	3	0
Model Name	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL
Model Year					
TOTAL TGW/1000	2220	2189	2283	2891	1920
	2004				2005
	4x2 SRW	4x4 SRW	4x2 DRW	4x4 DRW	4x2 SRW
STEERING WHEEL VIB-Below 45 mph	7	3	6	0	2
SAMPLE SIZE	931	1686	304	163	525

File created by InfoLink (MRO: Production) Interface Version: 1.14. " GQRS TGW Detail(US

Sample size:
less than 50 - insufficient for reliable analysis
less than 30 - will not be printed

N/A Indicates that the question was Not Asked or Answered
in the particular survey

(.) Indicates a missing value

** Item not specifically asked on questionnaire
a/ Total Vehicle Squeak/Rattle represents an aggregation of all
squeaks and rattles reported by customers
b/ Satisfaction Item: Percent of respondents indicating top 2 boxes

*** 0=4x2 SRW, 1=4x4 SRW, 2=4x2 DRW, 3=4x4 DRW)

4x2	SRW	7	931
4x4	SRW	3	1686

4x2	DRW	6	304
4x4	DRW	0	163
4x2	SRW	2	525
4x4	SRW	15	1231
4x2	DRW	5	221
4x4	DRW	26	218

2004 YTD US MY2005

GQRS 2005 YTD	GQRS 2005 YTD	GQRS 2005 YTD
1	2	3
TOTAL	TOTAL	TOTAL
2227	1831	2734
4x4 SRW	4x2 DRW	4x4 DRW
15	5	26
1231	221	218

2005 MY TGW

		Total	Series		Cab Type			Drive		Transmission		Engine	
CCC	Description		250	350	Reg.	Crew	Super	4X4	4X2	Auto	Manual	5.4L	6.0L
	SAMPLE SIZE	2195	1065	1130	362	1086	747	1449	746	2046	149	321	1759
N23	STEERING WHEEL VIB-Below 45 mph	15	11	19	4	18	5	16	3	15	0	1	15
H44	HARSH RIDE	23	17	33	11	23	28	22	36	24	3	22	20

2004 MY TGW

		Total	Series		Cab Type			Drive		Transmission		Engine	
CCC	Description		250	350	Reg.	Crew	Super	4X4	4X2	Auto	Manual	Diesel	Gas
	SAMPLE SIZE	3084	1759	1325	796	1143	1145	1849	1235	2781	303	1743	1341
N23	STEERING WHEEL VIB-Below 45 mph	3	5	1	2	3	4	2	7	3	2	2	5
H44	HARSH RIDE	37	45	28	46	31	44	36	44	40	13	28	53

2004

N23	STEERING WHEEL VIB-Below 45 mph
H44	HARSH RIDE

vb

	Trim				
6.8L	Lariat	XL	XLT	**SRW**	**DRW**
115	1103	209	871	1756	439
37	11	39	15	14	22
101	28	8	13	23	28

Trim			King
Lariat	XL	XLT	**Ranch**
927	610	1541	122
1	12	3	0
26	29	48	21

Vehicle Line	TGW	**Dodge 250/ 350**	**Silver ado**
		638	390
		0	1
		20	13

Silver ado
390
1
13

From: McDonagh, Scot (S.M.)
Sent: Tuesday, October 31, 2006 10:21 AM
To: Johnston, Steven (S.J.); O'Connor, Tammy (T.A.); Meier, Kenneth (K.W.)
Cc: Hale, Curt (B.C.); Knapp, David (D.); Lightner, Shawn (S.E.); Conroy, Jerry (J.R.); Hofman, Michael (M.V.); Cowley, Mike (M.D.)
Subject: RE: Barrick Thursday meeting
Attachments: tsb06-22-14.pdf; tsb06-19-15.pdf

I agree this sounds like Severe-Duty application. Why weren't we in the loop before this escalated to vehicles parked, switching to other OEM status ?

Front End Shaking- TSB 06-22-14 ?

Revised Canisters and Fresh Air vent kit- TSB 06-19-15

Scot G. McDonagh
Super-Duty/Excursion
Powertrain Quality Leader
Phone: (313)337-8091
smcdonag@ford.com

From: Johnston, Steven (S.J.)
Sent: Tuesday, October 31, 2006 8:57 AM
To: O'Connor, Tammy (T.A.); McDonagh, Scot (S.M.)
Cc: Meier, Kenneth (K.W.); Hale, Curt (B.C.)
Subject: RE: Barrick Thursday meeting

Scot anything to add?

#2 The external fuel pump module is located in a position where it is exposed to gravel coming up from the wheels and, when damaged, has caused vehicles to loose power, making steering and braking very difficult. The potential for accidents exists under these conditions. Only unprotected if the spare tire is not in place. If this is a special cause failure for this fleet they should work with dealer to install a shield.

#3 is the carbon filter canister location. The canister gets filled with mud, making in nearly impossible to get the fuel tank full. The interim solution for this has been to remove the carbon from the canister. TSB out for this concern, need to install revised canister and relocate fresh air intake to a non-dirty area.

#4 is the age old issue with the dome light switches. This has been an issue sense 1999. Any help here?

#5 is premature universal joint failure, especially in the front drivelines. This is mostly caused by the inability to grease the factory joints. Mostly? Whats premature? 1000 miles or 60,000 miles? Need more info. Has not been something I have seen, but it sounds like these vehicles operate in very dirty conditions and this may be normal for those conditions.

Steve Johnston
Product Concern Engineer
Super Duty and Excursion Powertrain
FCSD, Service Engineering Operations
Phone - 313-322-1785

From: O'Connor, Tammy (T.A.)
Sent: Tuesday, October 31, 2006 8:48 AM
To: Johnston, Steven (S.J.); McDonagh, Scot (S.M.)
Cc: Meier, Kenneth (K.W.); Hale, Curt (B.C.)
Subject: FW: Barrick Thursday meeting
Importance: High

Steve/Scot/Curt:

I've already set up a meeting with Engineering to address the shimmy issue - but they have several other issues listed below which are not in my area.

Any information/recommendations you have on the other items would be greatly appreciated.

I believe you may want to put together an e-mail to send to CVO with the latest information on the other issues.

I will work on #1, 4, and 5.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thur,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

From: Meier, Kenneth (K.W.)
Sent: Monday, October 30, 2006 2:51 PM
To: O'Connor, Tammy (T.A.)
Subject: FW: Barrick Thursday meeting
Importance: High

Tammy,

Just sending this as an F-Y-I. The concern is so big with Duke Energy that they are parking their vehicles. See below. Maybe engineering wants to get involved with this one?

Ken Meier
Commercial Vehicle Operations
Commercial Service Manager
Regent Court Building
16800 Executive Pl. Dr.
Dearborn, MI 48126-4207
Phone: 313-317-1867 Fax: 313-248-3481

From: Witthar, Mark (M.B.)
Sent: Monday, October 30, 2006 1:47 PM
To: Meier, Kenneth (K.W.)

Subject: FW: Barrick Thursday meeting
Importance: High

Mark Witthar

Commercial Vehicle Operations Manager
Phone: (313) 248-3882
Fax: (313) 248-3444
[redacted]

From: Byers, Michael (M.R.)
Sent: Monday, October 30, 2006 1:08 PM
To: Witthar, Mark (M.B.)
Cc: Kachel, Victor (V.R.); Michon, Jim (J.B.); Bedard, Michael (M.R.); Koss, Gerald (G.N.)
Subject: FW: Barrick Thursday meeting
Importance: High

Mark, although this is not a new issue, it has reached a critical point where it is costing Ford business. We have many loyal Ford customers who believe we are walking away from the problem. We either have to change customer perceptions, find an engineering fix, or accept the fact that customers will buy competitive products.

Your insights are welcome. Do you know if there have been any changes to the 08 Super Duty which would correct the front end shaking issue?

Mike Byers
Western Regional Sales Manager
North American Fleet, Lease, and Remarketing Operations
313-390-0974

From: Kachel, Victor (V.R.)
Sent: Monday, October 30, 2006 11:58 AM
To: Byers, Michael (M.R.)
Cc: Michon, Jim (J.B.)
Subject: Barrick Thursday meeting
Importance: High

Hi, Mike and Jim.

Here are a list of concerns that Barrick Gold has identified. They are once again raising the issue of the front end shaking among other things. Please forward this to the engineering community so we can look at solutions for these things.

This has been ongoing for the past year with many customers. Today I learned that Duke Energy Field Services will be parking 200+ Ford super duty trucks and will be forced by their lawyers to buy GM's if we cannot provide them with some sort of 'fix' for this.

Barrick says they've come up with a stabilizer system that will fix the problem. We will see them on Thursday and I'll

take pictures of their solution.

Thanks for your help.

Vic Kachel
National Account Manager
Ford Motor Company
6312 South Fiddler's Green Circle
suite 503 East
Englewood, CO 80111
Phone 303-694-8709
Fax 303-804-8280

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-----Original Message-----
From: Hicks, Farley (GoldStrike) [mailto:FHicks@barrick.com]
Sent: Monday, October 30, 2006 11:21 AM
To: Asay, Larry (L.L.); Kachel, Victor (V.R.)
Subject: Thursday meeting

Larry & Vic,
Here's a heads up on some of the questions the reps from the new Barrick sites will have for you. The first two are genuine safety concerns. The others are more maintenance and convenience issues.

#1 on the list will be, what has been done on the 2008 Super Duty to correct the front end shaking issue? While airing the tires to a higher pressure drastically reduces the problem, it continues to be an issue.

#2 is the external fuel pump module is located in a position where it is exposed to gravel coming up from the wheels and, when damaged, has caused vehicles to loose power, making steering and braking very difficult. The potential for accidents exists under these conditions.

#3 is the carbon filter canister location. The canister gets filled with mud, making in nearly impossible to get the fuel tank full. The interim solution for this has been to remove the carbon from the canister.

#4 is the age old issue with the dome light switches. This has been an issue sense 1999. Any help here?

#5 is premature universal joint failure, especially in the front drivelines. This is mostly caused by the inability to grease the factory joints.

I hope this will enable you to prepare some information to have available at the time of the meeting. I think it is important to have a positive response to some or all of these issues. It will go a long way in building the trust in the other sites that we at Goldstrike have.

Looking forward to seeing you both.
Farley Hicks
Asset Recovery
Barrick North America
(775) 778-8351
([redacted]
fhicks@barrick.com

STEERING WHEEL OSCILLATION | TSB 06-22-14

FORD:
2005-2007 F-Super Duty

This article supersedes TSB **06-15-1** to update the service labor operations.

ISSUE

Some 2005-2007 F-Super Duty vehicles may exhibit steering wheel oscillation (back and forth motion), immediately following front or rear wheel impacts (i.e. pavement joints, frost heaves, rough roads, etc.). Steering wheel motion is typically in the range of ± 5 degrees, and typically dampens out in fewer than five oscillations. This condition occurs mostly on 4X4 vehicles, and is more evident on trucks equipped with a gas engine.

ACTION

Refer to the following Service Procedure to minimize the steering wheel oscillations on impacts, however, there may be some remaining minor oscillation which would be considered normal.

SERVICE PROCEDURE SUMMARY

- Set tire pressure and road test vehicle to evaluate vehicle before proceeding with further repairs. If issue is resolved, do not proceed with the rest of this TSB
- If concern still exists, check steering damper for leaks; torque steering and suspension fasteners per Workshop Manual
- If concern still exists, check front alignment and reduce front caster
- Replacement of redundant control steering wheel (if equipped and vehicle built prior to 10/8/2004)

VEHICLE INSPECTION - TIRE PRESSURE

1. Set tire pressures as indicated on the vehicle label (located on driver's door label).

NOTE
SETTING TIRE PRESSURE TO DOOR SPECIFICATION IS ONE OF THE SINGLE MOST IMPORTANT MEASURES IN RESOLVING THIS ISSUE. LOWERING TIRE PRESSURE WILL MAKE THIS ISSUE WORSE.

ROAD TEST

1. Ask customer what type of road surface and speed generates the steering wheel oscillation.
2. Road test vehicle on similar road surface and speed, to gain a feel for the customer's issue.
3. If no issues are identified during the road test, do not proceed with the rest of this TSB.

STEERING DAMPER INSPECTION AND STEERING/SUSPENSION FASTENER TORQUE CHECK

1. Wipe down and inspect the steering damper. Turn the steering wheel from lock to lock several times to cycle the steering damper and inspect for leaks.
   a. If leaks are present, install a new steering damper.
2. Check torques on the following steering and suspension fasteners and adjust to specification as required (see following Table).

Torque Specification		
Description	**Lb-ft**	**Nm**
Damper nuts (4X2)	59	80
Damper-to-bracket (F-250, F-350 4X4)	26	35
Damper-to-drag link	67	91
Drag link-to-pitman arm nut	148	201
Inner tie-rod end nuts	85	115
Outer tie-rod end nuts	85	115
Track bar bracket-to-frame nuts and bolts	129	175
Track bar-to-track bar bracket bolt	406	550
Track bar-to-axle nut	185	250
Radius arm to axle bolts	222	300
Radius arm to bracket nut	222	300

NOTE
ADJUSTING TORQUE ON STEERING AND SUSPENSION FASTENERS IS VERY IMPORTANT IN RESOLVING THIS ISSUE. FASTENERS THAT ARE IMPROPERLY TORQUED WILL MAKE THIS ISSUE WORSE.

NOTE: The information in Technical Service Bulletins is intended for use by trained, professional technicians with the knowledge, tools, and equipment to do the job properly and safely. It informs these technicians of conditions that may occur on some vehicles, or provides information that could assist in proper vehicle service. The procedures should not be performed by "do-it-yourselfers". Do not assume that a condition described affects your car or truck. Contact a Ford, Lincoln, or Mercury dealership to determine whether the Bulletin applies to your vehicle. Warranty Policy and Extended Service Plan documentation determine Warranty and/or Extended Service Plan coverage unless stated otherwise in the TSB article.The information in this Technical Service Bulletin (TSB) was current at the time of printing. Ford Motor Company reserves the right to supercede this information with updates.The most recent information is available through Ford Motor Company's on-line technical resources.

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FRONT WHEEL ALIGNMENT AND REDUCE FRONT CASTER

NOTE
OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

Measure wheel alignment. Verify that Front Caster, Camber, and Total Toe are within specification. Adjust as required. Refer to the Workshop Manual, Section 204-00 for complete alignment specifications.

REDUCE FRONT CASTER

- Note the current front caster
- Use alignment adjustment bushings to reduce front caster by 0.5 to 0.75 degrees. The caster setting may be at the lower end of the specification as long as the vehicle drives smoothly. Do not put caster setting below the lower specification limit. Use alignment adjustment bushings

F-250/350 4X4:

- 5C3Z-3B440-CCC (0.5 degree bushing)
- 5C3Z-3B440-DDD (0.75 degree bushing)
- 5C3Z-3B440-EEE (1.0 degree bushing)

F-450/550 4X4 and 4X2:

- 5C3Z-3B440-HHH (0.5 degree bushing)
- 5C3Z-3B440-JJJ (0.75 degree bushing)
- 5C3Z-3B440-KKK (1.0 degree bushing)

F-250/350 4X2:

- 5C3Z-3B440-C (0.5 degree busing)
- 5C3Z-3B440-D (0.75 degree bushing)
- 5C3Z-3B440-E (1.0 degree bushing)

For All 4X4 and for F-450/550 4X2:

- Rotate the alignment adjustment bushing so that the bushing hole is in the 45 degree forward and inboard position (See Figure 1)

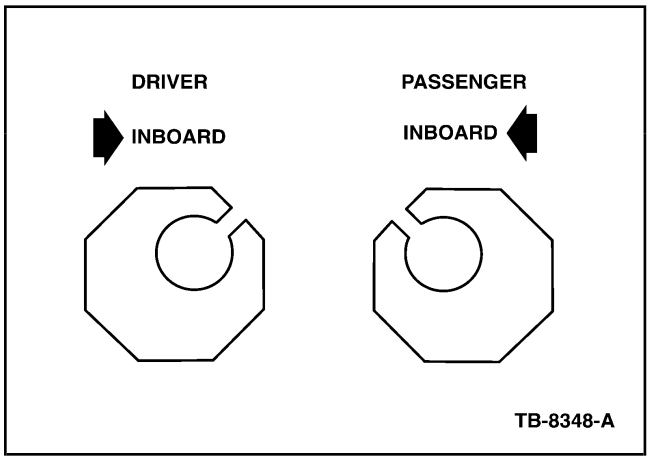

Figure 1 - Article 06-22-14

- This should lower the caster, while keeping the camber within the specification range. If the camber is not in the specification range than rotate the alignment adjustment bushing as needed
- The final caster and camber settings must be within the specification limits
- Maintain the current front camber, cross-camber and cross-caster settings as close as you possibly can
- Adding weight behind the rear axle lowers the rear of the vehicle, which decreases the frame angle, which in effect increases caster

For All F-250/350 4X2:

- Observe the camber position of the alignment bushing that is currently in the truck and attempt to maintain that position while moving the caster position forward in the truck
- The final caster and camber settings must be within the specification limits

NOTE
CASTER SETTING IS VERY IMPORTANT IN RESOLVING THIS ISSUE. INCREASING THE CASTER SETTING WILL MAKE THIS ISSUE WORSE.

REPLACEMENT OF REDUNDANT CONTROL STEERING WHEEL - Vehicles Built Prior To 10/8/2004 Only

NOTE
THE REPLACEMENT STEERING WHEEL WILL CONTAIN THE REDUNDANT CONTROLS.

1. Remove driver air bag assembly. Refer to Workshop Manual, Section 211-04 for complete instructions.
2. Remove the steering wheel.

3. Install new steering wheel.
4. Reinstall driver air bag assembly.
5. Re-set clear vision as required.

NOTE
FOR ADDITIONAL INFORMATION, PLEASE REFER TO SECTION 211-04 OF THE WORKSHOP MANUAL FOR COMPLETE REMOVAL AND INSTALLATION PROCEDURES FOR THE STEERING COLUMN.

PART NUMBER	PART NAME
5C7Z-3600-ABA	Redundant Control Steering Wheel Assy (King Ranch Tan/Peb)
5c7z-3600-CBA	Redundant Control Steering Wheel Assy (Charcoal Black)
5C3Z-3E651-D	Steering Damper
5C3Z-3B440-C	F-250/350 4X2 (0.5 degree bushing)
5C3Z-3B440-D	F-250/350 4X2 (0.75 degree bushing)
5C3Z-3B440-E	F-250/350 4X2 (1.0 degree bushing)
5C3Z-3B440-CCC	F-250/350 4X4 (0.5 degree bushing)
5C3Z-3B440-DDD	F-250/350 4X4 (0.75 degree bushing)
5C3Z-3B440-EEE	F-250/350 4X4 (1.0 degree bushing)
5C3Z-3B440-HHH	F-450/550 4X4 and 4X2 (0.5 degree bushing)
5C3Z-3B440-JJJ	F-450/550 4X4 and 4X2 (0.75 degree bushing)
5C3Z-3B440-KKK	F-450/550 4x4 and 4x2 (1.0 degree bushing)

NOTE
LABOR OPERATIONS IN THIS TSB CAN BE CLAIMED TOGETHER.

NOTE
OSCILLATION ISSUES RESOLVED BY WHEEL ALIGNMENT ARE WARRANTED FOR 12/12 ONLY, REGARDLESS OF OTHER STEPS PERFORMED.

WARRANTY STATUS: Eligible Under Provisions Of New Vehicle Limited Warranty Coverage

OPERATION	DESCRIPTION	TIME
062214A	2005-2007 F-Super Duty: Check Tire Pressure, Road Test To Verify Repair, Concern Resolved, Return To Customer (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	0.4 Hr.
062214B	2005-2007 F-Super Duty: Check Tire Pressure, Road Test To Verify Repair, Concern Not Resolved, Check Steering Damper Replace If Necessary, Verify Proper Torque On Steering Components, Road Test If Concern Is Resolved Return To Customer (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	1.4 Hrs.
062214C	2005-2007 F-Super Duty 250/350 4X2 SINGLE REAR WHEEL: Check And Adjust Front Wheel Alignment, This Labor Operation Can Be Claimed With Operation B Only (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	1.5 Hrs.
062214C	2005-2007 F-Super Duty 250/350 4X4 SINGLE REAR WHEEL: Check And Adjust Front Wheel Alignment, This Labor Operation Can Be Claimed With Operation B Only (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	1.8 Hrs.
062214D	2005-2007 F-Super Duty 250/350 4X2 DUAL REAR WHEEL: Check And Adjust Front Wheel Alignment, This Labor Operation Can Be Claimed With Operation B Only (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	1.9 Hrs.
062214D	2005-2007 F-Super Duty 250/350 4X4 DUAL REAR WHEEL: Check And Adjust Front Wheel Alignment, This Labor Operation Can Be Claimed With Operation B Only (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	2.1 Hrs.

062214D	2005-2007 F-Super Duty F450/550 4X2/4X4 DUAL REAR WHEEL: Check And Adjust Front Wheel Alignment, This Labor Operation Can Be Claimed With Operation B Only (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	2.3 Hrs.	**DEALER CODING**	
			BASIC PART NO.	CONDITION CODE
			(OPERATION A) NPF	82
			(OPERATION B) 3E651	42
			(OPERATION C) FRONT	W6
			(OPERATION D) FRONT	W6
			(OPERATION E) 3600	42
062214E	2005-2007 F-Super Duty With Redundant Steering Control Built Prior To 10-8-2004: Replace Steering Wheel, Includes Time To Depower And Repower The Supplemental Restraints System Can Be Claimed With Operation A Or B (Do Not Use With 1007D, 3001A, 3001A1, 3001A6, 3600A)	0.7 Hr.		

SLOW FUEL FILL | TSB 06-19-15

FORD:
2005-2007 F-250, F-350

ISSUE

Some 2005-2007 F-Super Duty 250/350 vehicles may experience premature automatic shut off of the fuel fill nozzle, or repeated fuel shut off at the fuel station delivery nozzle. Vehicles operated in muddy or dusty environments can encounter a dirt-clogged carbon canister system. More specifically, the carbon canister's vent, fresh-air box, and filters, clogged with dirt from operating in such environments.

ACTION

Use the following Service Procedure to resolve the concern if the carbon canister system is dirt clogged.

NOTE
THIS TSB ONLY APPLIES TO F-250/350 PICKUPS, AND F-250/350 PICKUP BOX DELETE / CHASSIS CAB VEHICLES.

SERVICE PROCEDURE

Inspect the vehicle carbon canister system and if it is found to be dirt clogged then continue with this TSB.

NOTE
IF THE VEHICLES CARBON CANISTER SYSTEM IS NOT DIRT CLOGGED, THEN PROCEED WITH NORMAL DIAGNOSTICS AND DO NOT CONTINUE WITH THIS TSB.

Vehicles with Pick Up Boxes:

1. If the vehicle was built on or after 9/14/2006, proceed to Step 2. If the vehicle was built prior to 9/14/2006, replace the carbon canister assembly. This carbon canister has a revised internal filter media.
2. Relocate the fresh-air intake port to a more protected location using the Fresh Air Hose Kit, for pick up applications only.

Vehicles with Pick Up Box Removed or Chassis Cab:

1. If the vehicle was built on or after 9/14/2006, proceed to Step 2. If the vehicle was built prior to 9/14/2006, replace the carbon canister assembly. This carbon canister has a revised internal filter media.
2. Relocate the fresh-air intake port to a more protected location using QVM bulletin Q-132 at the body builder's website - https://www.fleet.ford.com/truckbbas/index.htm for fresh air intake routing recommendations.

PART NUMBER	PART NAME
7C3Z-9049-A	Fresh Air Kit
6C3Z-9D653-AB	Carbon Canister - Pick up
6C3Z-9D653-DB	Carbon Canister - Chassis Cab

WARRANTY STATUS: Eligible Under Provisions Of New Vehicle Limited Warranty Coverage And Emissions Warranty Coverage

OPERATION	DESCRIPTION	TIME
061915A	2005-2007 F-Super Duty 250/350: Inspect Canister Vent Fresh-Air Box, Replace The Carbon Canister Assembly, Install Fresh-Air Kit (Do Not Use With 9653A)	1.2 Hrs.
061915B	2005-2007 F-Super Duty 250-350 Built On/Or After 09-14-2006: Inspect Canister Vent Fresh Air box, Install Fresh Air Kit:(Do Not Use With 9653A)	0.4 Hr.

DEALER CODING

BASIC PART NO.	CONDITION CODE
9D653	55

NOTE: The information in Technical Service Bulletins is intended for use by trained, professional technicians with the knowledge, tools, and equipment to do the job properly and safely. It informs these technicians of conditions that may occur on some vehicles, or provides information that could assist in proper vehicle service. The procedures should not be performed by "do-it-yourselfers". Do not assume that a condition described affects your car or truck. Contact a Ford, Lincoln, or Mercury dealership to determine whether the Bulletin applies to your vehicle. Warranty Policy and Extended Service Plan documentation determine Warranty and/or Extended Service Plan coverage unless stated otherwise in the TSB article.The information in this Technical Service Bulletin (TSB) was current at the time of printing. Ford Motor Company reserves the right to supercede this information with updates.The most recent information is available through Ford Motor Company's on-line technical resources.

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KTP Super Duty GQRS Comparison Report

2006 MY 1st Qtr Report (Sept-Nov Registrations) on 3MIS Vehicles/
2005 MY 1st Qtr Report (Sept-Nov Registrations) on 3MIS Vehicles

3MIS 2006MY by Month of Prod										3MIS 2005MY by Month of Prod					
May-05	Jun-05	Jul-05	Aug-05	Sep-05	Oct-05	Nov-05	MYTD	CCC	Description	Jul-04	Aug-04	Sep-04	Oct-04	Nov-04	MYTD
2110	1704	1977	1903	1694	1802	1867	1820		TOTAL TGW/1000	2641	2551	2258	1809	4607	2467
171	326	172	531	628	396	76	2300		Sample Size						
233	174	292	292	236	250	321	251		CHASSIS TGW/1000	353	423	325	398	680	398
17%	14%	17%	17%	16%	17%	25%	17%		Reported At Least One Trouble (%)	23%	25%	23%	21%	24%	23%
166	124	203	200	155	176	218	172		STEERING/HANDLING AND RIDE TGW/1000	334	295	209	275	382	270
13%	10%	13%	13%	11%	13%	19%	12%		Reported At Least One Trouble (%)	22%	17%	18%	19%	16%	18%
85%	81%	83%	85%	85%	84%	75%	84%		Visibility from driver's seat b/	88%	84%	83%	94%	71%	85%
37	32	38	52	40	40	94	43	**V87**	STEERING	58	48	84	132	179	90
11	10	9	7	5	18	7	9	**H21**	EXCESSIVE FREE PLAY/WANDER	0	3	25	18	89	21
14	7	22	17	13	8	80	15	**H22**	STEERING REQ. EXTRA OR UNEVEN EFFORT	3	2	20	22	78	19
3	4	0	7	5	5	7	5	**L68**	POWER STEERING FLUID LEAKS	3	12	14	0	0	8
9	12	6	18	11	8	0	12	**N58**	STEERING NOISY	52	31	25	93	11	42
0	0	0	4	5	0	0	2	**H50**	STEERING GEAR/PUMP TROUBLES **	0	0	1	0	0	0
129	91	165	148	115	136	125	129	**V89**	HANDLING AND RIDE	275	247	125	144	204	180
82%	79%	76%	80%	78%	79%	71%	79%		Overall handling b/	82%	82%	79%	85%	69%	81%
84%	83%	77%	83%	82%	84%	77%	82%		Handling on highway b/	81%	85%	83%	84%	70%	83%
66%	61%	57%	64%	67%	64%	59%	64%		Handling in city/parking b/	59%	62%	70%	69%	64%	66%
76%	74%	72%	74%	73%	72%	72%	73%		Smoothness of ride b/	75%	69%	76%	80%	65%	74%
86%	81%	81%	83%	82%	81%	77%	82%		Fun to drive b/	76%	83%	87%	85%	70%	84%
83%	83%	81%	88%	84%	86%	78%	85%		Towing performance b/	86%	83%	86%	84%	69%	83%
7	12	17	38	20	22	26	23		CONSTANT PULL/DRIFT TO ONE SIDE	37	14	29	0	7	17
3	10	13	16	8	10	0	10	**H25**	CONSTANT PULL/DRIFT-Left	0	2	17	0	7	7
4	2	4	22	12	14	26	13	**H26**	CONSTANT PULL/DRIFT-Right	37	13	11	0	0	10
22	27	40	21	25	24	14	25		STEERING WHEEL VIBRATION/SHIMMY	37	57	24	47	46	41
9	13	14	12	10	14	7	12	**N23**	STEERING WHEEL VIB-Below 45 mph	37	14	14	47	46	25
22	13	37	14	20	20	14	19	**N24**	STEERING WHEEL VIB-Above 45 mph	34	55	16	15	0	26
20	20	58	24	16	15	14	22		VEHICLE VIBRATES WHILE DRIVING	128	64	11	7	53	36
3	0	23	9	4	8	7	7	**N22**	VEHICLE VIBRATES-Below 45 mph	42	13	6	3	46	13
18	20	45	18	14	7	14	17	**N25**	VEHICLE VIBRATES-Above 45 mph	125	41	10	7	0	25
41	6	48	32	13	23	22	23	**H44**	HARSH RIDE	50	33	17	23	0	24
17	12	0	1	3	10	12	6	**H45**	MUSHY RIDE	0	3	22	0	0	8
15	7	0	14	11	8	12	10	**H62**	IMPROPER TIRE WEAR	0	19	1	31	0	12
7	3	0	6	14	6	0	7	**H24**	STEERING WHEEL SPOKES NOT CORRECTLY	14	35	13	14	91	26
0	5	3	12	12	28	26	13	**C50**	OTHER HANDLING AND RIDE	9	22	9	23	7	15
0	0	0	0	0	0	0	0		OTHER CHASSIS TROUBLES **	0	0	0	0	0	0
171	326	172	531	628	396	76	2300		Sample Size	100	441	365	203	61	1171

From: Repasky, Steve (S.)
Sent: Wednesday, April 12, 2006 5:06 PM
To: Choe, Mark (M.J.); Gompper, Dan (D.B.); Nilles, Tom (T.J.)
Cc: Kane, Michael (M.D.)
Subject: RE: AWS Verbatims Requested from Last Thursday

A review of verbatims from Oct. registrations covering July 2005 - Oct. 2005 MoP include:

- 32 total verbatims; (24) F-250 and (8) F-350
- (23) Diesel/(9) gas with (21) 4x4 and (11) 4x2
- Pareto of CCCs were:
  - (10) C50 with (4) "comments" i.e. turning radius too large, (4) steering related i.e. "needs constant correcting" /"steering wanders and is slow to react" , (1) bump steer and (1) handling related (137" R/C 4x4 Diesel with LT245 BFG tires).
  - (9) Drift/pull concerns usually just indicating a certain direction without much detail.
  - (5), all F250 H44 with (3) indicating "harsh" or "stiff" Ride, (1) freeway hop and (1) skate concerns. (3) Supercabs and (2) Crewcabs
  - (5), all F250 N24 with (2) "shimmy" after hitting a bump, (3) other i.e. Alignment, tire balance and SW shakes above 45 MPH.
- No distinct vehicle configuration pattern emerges other than these verbatims more closely resembles the Diesel/Gas and 4x2/4x4 take rates.

From: Repasky, Steve (S.)
Sent: Wednesday, April 12, 2006 4:10 PM
To: Choe, Mark (M.J.); Janitor, Bill (W.A.); Gompper, Dan (D.B.); Kalis, Eric (E.L.); Nilles, Tom (T.J.)
Cc: Kane, Michael (M.D.)
Subject: RE: AWS Verbatims Requested from Last Thursday

Trindy's breakdown by configuration (sent to you earlier today) show the following results:

- Versus 2005, the following CCCs are up: Drift/Pull (+9), SWVWD (+4), VVWD (+4) and H62 (+1). Down are H44/45 (-2), H24 (-3) and C50 (-3).
- Diesel sample size n=131 out of 2300 total. V89 TGW for diesel was 56. Our take rate for diesel is approx. 70+% ??
- 6.8L sample size n=1736 is disproportionate to take rate. Why? TBD V89 TGW was 133 for 6.8L
- 4x2 was 159 TGW vs. 4x4 at 125 TGW. Of 159 for 4x2, almost 1/2 was due to Harsh Ride 47 TGW (vs. H44 overall at 23) and C50 23 TGW vs. overall of 13.
- **I would therefore speculate that 6.8L 4x2 Crew and/or Supercab is suspect for Harsh Ride**

concerns.

- The breakdown by MoP (Month of Prod.) indicates an especially bad month for July (Shutdown for two weeks) at 165 TGW and August at 148 TGWs.
- The July blowout (168 vs. YTD of 129) was due to SWVWD at 40 (YTD=25), VVWD at 58 (YTD= 22) and Harsh Ride at 48 (YTD=22).
- Other blowouts include May 2005 with Ride at 58 total (YTD=29) and C50 for Oct./Nov. at 28/26 (YTD=13).
- **Graphing the MoP results on the BSAQ roadmap indicates we are on target for Nov. MoP at 125 (vs. roadmap at 126.4) Approx 12 TGWs worth of actions have been incorporated in the Dec. - Feb. 2006 timeframe. Tire room tie to broadcast (~ 2 TGW) has been delayed to May.**
- April 2006 results are estimated to be at 112 TGWs or 20 TGW deficient to 2006 target of 92 TGWs.
- I am looking at some verbatims now from Oct. registrations.. Verbatims from GQRS are not on the quality website yet as of ~ 1:30PM. More to follow...

From: Choe, Mark (M.J.)
Sent: Wednesday, April 12, 2006 3:21 PM
To: Repasky, Steve (S.); Janitor, Bill (W.A.); Gompper, Dan (D.B.); Kalis, Eric (E.L.); Nilles, Tom (T.J.)
Subject: FW: AWS Verbatims Requested from Last Thursday

Tom/Steve, pls. review verbatims to diagnose/understand V89 increase for all Truck platforms…
Pls. give me a summary of findings (critical config/tire…).
Need SuperDuty input COB today in preparation of VP HTFB review tomorrow.
Thanks.

Mark J. Choe
Vehicle Dynamics Manager
PickUp Truck & Commercial Vehicle

From: Martin, Sandi (S.L.)
Sent: Wednesday, April 12, 2006 2:47 PM
To: Choe, Mark (M.J.); Heider, John (J.W.); Lindstrom, Scott (S.K.); Rushbrook, Mark (M.A.)
Cc: Haley, William (W.J.); Wasczenski, Pamela (P.M.); Arbitter, Daniel (D.S.)
Subject: AWS Verbatims Requested from Last Thursday

This file contains several worksheets (1 for each vehicle line) of verbatims for those that were identified as unusual or as an area of conern in last Thursday's meeting.

Please note that the R/1000 data is calculated only once per month, while the actual claims are uploaded more frequently (I've sorted each sheet by repair date -- so you can scroll down to February repairs if you choose to.

I'll also add this file to DocuCenter, please let me know if you have questions or need further data.

Thank you.

<< File: AWS Verbatims 12APR2006.xls >>

Sandi Martin
Core Vehicle Dynamics
(313) 845-8893

Super Duty-Kentucky Truck

2005MYOctober GQRS Report

		Total	Series		Cab Type			Drive		Transmission		Engine			Trim			Appear.Group		
CCC			250	350	Reg.	Crew	Super	4X4	4X2	Auto	Manual	5.4L	6.8L	6.0L	Lariat	XL	XLT	B	F	L
	SAMPLE SIZE	3157	1627	1530	623	1446	1088	2008	1149	2927	230	589	201	2367	1382	393	1363	111	240	1055
	TOTAL TGW/1000	2142	2060	2265	2050	2161	2102	2195	1761	2102	2889	2302	2413	2100	2071	1921	2265	2763	1999	2034
	CHASSIS TGW/1000	295	248	366	276	311	248	300	263	292	352	308	306	292	315	310	268	355	332	314
	Reported At Least One Trouble (%)	18%	16%	21%	19%	18%	18%	18%	18%	18%	17%	23%	23%	17%	19%	16%	18%	25%	17%	20%
	STEERING/HANDLING AND RIDE TGW/1000	181	171	196	149	192	155	180	191	181	179	225	235	171	188	197	168	213	204	187
	Reported At Least One Trouble (%)	13%	12%	14%	12%	13%	13%	13%	14%	13%	11%	18%	20%	12%	13%	13%	13%	17%	13%	13%
	Visibility from driver's seat b/	84%	84%	84%	80%	85%	82%	84%	86%	84%	86%	76%	84%	85%	86%	84%	80%	77%	86%	86%
V87	STEERING	57	60	52	59	59	49	56	66	55	96	88	64	52	57	43	60	81	29	56
H21	EXCESSIVE FREE PLAY/WANDER	16	18	12	23	18	7	14	25	15	34	14	4	17	19	9	12	2	5	18
H22	STEERING REQ. EXTRA OR UNEVEN EFFORT	16	18	13	10	20	6	16	15	15	29	34	4	14	15	2	18	9	4	12
L68	POWER STEERING FLUID LEAKS	5	6	4	2	5	6	5	7	4	24	1	1	6	5	1	5	5	1	7
N58	STEERING NOISY	19	15	23	24	15	28	19	19	19	9	34	54	14	15	32	23	65	19	16
H50	STEERING GEAR/PUMP TROUBLES **	2	3	0	0	2	2	2	1	2	0	4	1	2	3	0	1	0	0	3
V89	HANDLING AND RIDE	124	111	144	90	132	106	124	125	126	83	137	171	119	131	154	108	132	175	131
	Overall handling b/	82%	81%	82%	77%	83%	80%	82%	82%	82%	81%	77%	73%	83%	83%	85%	79%	79%	87%	84%
	Handling on highway b/	84%	83%	84%	76%	85%	82%	84%	84%	84%	79%	80%	81%	84%	84%	86%	83%	85%	87%	85%
	Handling in city/parking b/	68%	67%	69%	72%	67%	69%	68%	64%	68%	60%	68%	57%	69%	69%	71%	67%	69%	68%	68%
	Smoothness of ride b/	74%	74%	75%	64%	76%	70%	75%	72%	75%	70%	64%	64%	77%	77%	74%	71%	67%	74%	75%
	Fun to drive b/	83%	82%	83%	77%	84%	81%	83%	80%	83%	81%	76%	77%	84%	84%	86%	80%	85%	87%	84%
	Towing performance b/	85%	86%	84%	79%	86%	84%	85%	86%	85%	84%	79%	82%	86%	86%	89%	83%	86%	89%	87%
	CONSTANT PULL/DRIFT TO ONE SIDE	14	10	21	16	17	4	15	10	15	0	9	37	14	15	3	16	25	0	18
H25	CONSTANT PULL/DRIFT-Left	10	4	19	6	13	2	11	5	11	0	2	37	10	12	1	10	22	0	14
H26	CONSTANT PULL/DRIFT-Right	4	6	2	10	5	1	4	5	5	0	7	0	4	3	2	7	3	0	4
	STEERING WHEEL VIBRATION/SHIMMY	21	15	30	10	24	13	22	15	22	4	24	30	20	22	58	12	14	66	27
N23	STEERING WHEEL VIB-Below 45 mph	12	7	20	5	15	5	13	6	13	0	6	14	13	13	19	9	12	4	16
N24	STEERING WHEEL VIB-Above 45 mph	15	12	19	7	16	10	15	12	15	4	23	17	13	17	41	8	2	61	21
	VEHICLE VIBRATES WHILE DRIVING	23	21	27	7	27	16	23	26	24	12	7	26	26	25	45	17	8	58	25
N22	VEHICLE VIBRATES-Below 45 mph	11	11	10	3	13	5	11	9	11	0	2	24	11	14	5	5	2	0	13
N25	VEHICLE VIBRATES-Above 45 mph	14	9	20	5	15	10	13	19	14	9	5	26	14	13	40	11	8	57	14
H44	HARSH RIDE	27	27	28	25	24	39	26	35	28	20	71	49	19	26	23	29	51	22	24
H45	MUSHY RIDE	4	5	1	6	2	7	3	5	4	0	5	0	4	3	6	4	0	10	4
H62	IMPROPER TIRE WEAR	9	4	16	7	9	7	9	8	8	12	2	0	10	14	5	3	0	6	17
H24	STEERING WHEEL SPOKES NOT CORRECTLY	10	13	6	7	11	8	11	7	9	32	7	13	10	7	4	16	17	5	7
C50	OTHER HANDLING AND RIDE	16	17	13	11	17	14	15	18	16	3	12	17	16	18	9	11	17	8	8
	SAMPLE SIZE	3157	1627	1530	623	1446	1088	2008	1149	2927	230	589	201	2367	1382	393	1363	111	240	1055

Dodge Ram
2005MY October GQRS Report

		Total	Series			Cab Type		Drive		Transmission		Engine		Trim	Fuel	
CCC			2	3	4	CREW CAB	REG PU	4X4	4X2	Auto	Manual	5.7L	5.9L	HD	DIESEL	GAS
	TOTAL TGW/1000	1766	1728	1852	1813	1765	1784	1752	1833	1766	1791	1704	1778	1766	1778	1704
	No Reported Troubles (%)	41%	41%	42%	41%	41%	47%	42%	36%	43%	37%	53%	39%	41%	39%	53%
	Reported At Least One Trouble (%)	59%	59%	58%	59%	59%	53%	58%	64%	57%	63%	47%	61%	59%	61%	47%
	Overall ownership experience b/	75%	77%	73%	71%	76%	71%	74%	79%	77%	72%	87%	73%	75%	73%	87%
	Overall quality of your vehicle b/	75%	76%	71%	75%	74%	79%	74%	79%	75%	74%	85%	73%	75%	73%	85%
	Solid and durable construction b/	81%	82%	78%	82%	81%	89%	80%	87%	83%	77%	89%	80%	81%	80%	89%
	BODY	761	763	706	792	763	738	769	724	740	821	612	788	761	788	612
	Reported At Least One Trouble (%)	39%	40%	33%	39%	39%	37%	39%	41%	39%	40%	30%	41%	39%	41%	30%
	Overall condition of exterior b/	85%	86%	84%	83%	84%	97%	84%	87%	85%	83%	92%	84%	85%	84%	92%
V33	EXTERIOR PAINT APPEARANCE TGW/1000	128	125	145	124	133	69	139	74	130	125	69	139	128	139	69
	Reported At Least One Trouble (%)	10%	11%	10%	10%	11%	7%	11%	7%	11%	8%	7%	11%	10%	11%	7%
	Paint appearance b/	85%	86%	82%	85%	85%	90%	85%	88%	86%	84%	93%	84%	85%	84%	93%
F06	PEELED PAINT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	PEELED-Front Side Door	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	PEELED-Rear Side Door	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	PEELED-Hood	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	PEELED-Trnk Ld/Htch/Tgate/Cargo	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	PEELED-Pickup Bed	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	PEELED-Front Fender	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	PEELED-Rear Fender	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	PEELED-Roof	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F19	CHIPPED/SCRATCHED PAINT	74	62	101	90	81	2	77	59	65	98	10	86	74	86	10
	CHIPPED PAINT (NOT BUMPER)	34	28	80	19	37	0	34	31	21	67	0	40	34	40	0
	CHIPPED-Front Side Door	10	5	42	0	11	0	12	0	7	17	0	12	10	12	0
	CHIPPED-Rear Side Door	2	2	0	1	2	0	0	8	2	1	0	2	2	2	0
	CHIPPED-Hood	9	5	28	4	9	0	10	1	5	18	0	10	9	10	0
	CHIPPED-Trnk Ld/Htch/Tgate/Cargo	2	3	1	1	3	0	3	0	0	8	0	3	2	3	0
	CHIPPED-Pickup Bed	18	17	34	10	20	0	20	11	5	49	0	21	18	21	0
	CHIPPED-Front Fender	9	0	50	6	10	0	10	3	1	29	0	11	9	11	0
	CHIPPED-Rear Fender	12	6	41	8	13	0	11	15	6	26	0	14	12	14	0
	CHIPPED-Roof	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	SCRATCHED PAINT (Not Bumper)	36	34	21	50	39	2	37	28	38	29	10	40	36	40	10
	SCRTCHD-Front Side Door	3	2	1	6	3	0	3	0	2	3	0	3	3	3	0
	SCRTCHD-Rear Side Door	3	0	0	12	3	0	2	7	2	4	0	3	3	3	0
	SCRTCHD-Hood	7	0	19	18	8	2	9	0	10	1	0	8	7	8	0
	SCRTCHD-Trnk Ld/Htch/Tgate/Cargo	5	1	1	18	5	0	5	3	7	0	4	5	5	5	4
	SCRTCHD-Pickup Bed	18	17	2	30	19	0	21	2	18	18	6	20	18	20	6
	SCRTCHD-Front Fender	4	1	0	15	4	0	3	9	4	3	0	4	4	4	0
	SCRTCHD-Rear Fender	11	8	20	14	12	0	13	6	15	3	0	13	11	13	0
	SCRTCHD-Roof	5	5	1	9	6	0	7	0	6	3	0	6	5	6	0
	CHIPPED PAINT-BUMPER	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
	SCRATCHED PAINT-BUMPER	5	0	0	21	5	0	6	0	6	3	0	6	5	6	0
F13	FADED/DULL PAINT	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0
	FADED/DL-Front Side Door	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	FADED/DL-Rear Side Door	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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		Total	Series			Cab Type		Drive		Transmission		Engine		Trim	Fuel	
CCC			2	3	4	CREW CAB	REG PU	4X4	4X2	Auto	Manual	5.7L	5.9L	HD	DIESEL	GAS
	FADED/DL-Hood	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	FADED/DL-Trnk Ld/Htch/Tgate/Cargo	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	FADED/DL-Pickup Bed	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
	FADED/DL-Front Fender	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	FADED/DL-Rear Fender	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0
	FADED/DL-Roof	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F05	SAGS/RUNS IN PAINT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	SAGS/RUNS-Front Side Door	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	SAGS/RUNS-Rear Side Door	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	SAGS/RUNS-Hood	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	SAGS/RUNS-Trnk Ld/Htch/Tgate/Cargo	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	SAGS/RUNS-Pickup Bed	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	SAGS/RUNS-Front Fender	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	SAGS/RUNS-Rear Fender	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	SAGS/RUNS-Roof	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F04	THIN/NO PAINT	10	14	0	4	10	2	11	6	13	2	0	11	10	11	0
	THIN/NO-Front Side Door	7	11	0	0	7	2	8	0	9	1	0	8	7	8	0
	THIN/NO-Rear Side Door	7	11	0	0	7	2	8	0	9	1	0	8	7	8	0
	THIN/NO-Hood	7	11	0	0	7	2	8	0	9	2	0	8	7	8	0
	THIN/NO-Trnk Ld/Htch/Tgate/Cargo	7	11	0	0	7	2	8	0	9	1	0	8	7	8	0
	THIN/NO-Pickup Bed	10	14	0	4	10	2	11	6	13	2	0	11	10	11	0
	THIN/NO-Front Fender	7	11	0	0	7	2	8	0	9	1	0	8	7	8	0
	THIN/NO-Rear Fender	7	11	0	0	7	2	8	0	9	1	0	8	7	8	0
	THIN/NO-Roof	7	10	0	0	7	0	8	0	9	1	0	8	7	8	0
F12	STAINED/SPOTTED PAINT	3	3	9	1	4	0	4	0	5	0	12	2	3	2	12
	STND/SPOT-Front Side Door	1	0	9	0	1	0	2	0	2	0	0	2	1	2	0
	STND/SPOT-Rear Side Door	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	STND/SPOT-Hood	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
	STND/SPOT-Trnk Ld/Htch/Tgate/Cargo	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	STND/SPOT-Pickup Bed	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
	STND/SPOT-Front Fender	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	STND/SPOT-Rear Fender	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
	STND/SPOT-Roof	2	3	0	0	2	0	2	0	3	0	12	0	2	0	12
F20	DIRT IN PAINT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	DIRT-Front Side Door	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	DIRT-Rear Side Door	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	DIRT-Hood	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	DIRT-Trnk Ld/Htch/Tgate/Cargo	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	DIRT-Pickup Bed	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	DIRT-Front Fender	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	DIRT-Rear Fender	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	DIRT-Roof	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F30	UNEVEN COLOR/COLOR DIFFERENCES BETW	6	9	0	0	0	62	7	1	8	1	34	1	6	1	34
	COLOR-Front Side Door	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	COLOR-Rear Side Door	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0
	COLOR-Hood	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	COLOR-Trnk Ld/Htch/Tgate/Cargo	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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		Total	Series			Cab Type		Drive		Transmission		Engine		Trim	Fuel	
CCC			2	3	4	CREW CAB	REG PU	4X4	4X2	Auto	Manual	5.7L	5.9L	HD	DIESEL	GAS
	COLOR-Pickup Bed	5	9	0	0	0	62	6	1	8	0	34	0	5	0	34
	COLOR-Front Fender	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	COLOR-Rear Fender	5	8	0	0	0	62	6	1	8	0	34	0	5	0	34
	COLOR-Roof	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F10	PAINT SPRAY OVER BODY FINISH	3	1	2	10	3	2	3	2	4	0	1	3	3	3	1
	PAINT SPRAY OVER BDY FNSH (NOT BMPR)	3	1	2	10	3	2	3	2	4	0	1	3	3	3	1
	SPRAY-Front Side Door	0	0	0	0	0	2	0	1	0	0	1	0	0	0	1
	SPRAY-Rear Side Door	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0
	SPRAY-Hood	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	SPRAY-Trnk Ld/Htch/Tgate/Cargo	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	SPRAY-Pickup Bed	2	0	0	10	3	0	3	1	4	0	0	3	2	3	0
	SPRAY-Front Fender	0	0	1	0	0	2	0	1	0	0	1	0	0	0	1
	SPRAY-Rear Fender	0	0	0	0	0	2	0	1	0	0	1	0	0	0	1
	SPRAY-Roof	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	PAINT SPRAY OVER BODY FINISH-BMPR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F11	BODY RUST/CORROSION	19	21	32	6	21	0	22	5	18	23	12	21	19	21	12
	BODY RUST/CORROSION (NOT UNDERBODY)	5	8	0	0	6	0	6	0	7	0	0	6	5	6	0
	RUST/COR-Front Side Door	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	RUST/COR-Rear Side Door	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	RUST/COR-Hood	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	RUST/COR-Trnk Ld/Htch/Tgate/Cargo	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	RUST/COR-Pickup Bed	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	RUST/COR-Front Fender	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	RUST/COR-Rear Fender	5	8	0	0	6	0	6	0	7	0	0	6	5	6	0
	RUST/COR-Roof	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	BODY RUST/CORROSION-UNDERBODY	14	13	32	6	15	0	16	5	10	23	12	14	14	14	12
F15	DETAIL PAINT OR TAPE STRIPES COMING	3	5	0	0	3	0	4	0	4	0	0	4	3	4	0
F07	BUBBLES/BLISTERS IN PAINT **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F09	OTHER EXTERIOR PAINT TROUBLES	9	10	1	12	10	1	11	0	13	0	0	11	9	11	0
V01	CORROSION TGW/1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Reported At Least One Trouble (%)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
F25	RUST PERFORATION **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
V31	SHEET METAL TGW/1000	55	53	63	54	53	76	54	59	56	52	70	52	55	52	70
	Reported At Least One Trouble (%)	5%	5%	6%	5%	5%	8%	5%	5%	5%	5%	7%	5%	5%	5%	7%
	Door opening/closing efforts b/	89%	90%	89%	85%	88%	97%	88%	92%	89%	88%	97%	87%	89%	87%	97%
	Trunk lib/hatchback opening/closing e	87%	89%	82%	85%	86%	96%	86%	89%	89%	83%	95%	85%	87%	85%	95%
B01	DENTS/DINGS	27	22	57	21	30	0	25	37	28	25	22	28	27	28	22
	DENTS/DINGS-Front Side Door	3	4	0	1	3	0	3	3	4	0	12	1	3	1	12
	DENTS/DINGS-Rear Side Door	2	1	9	0	2	0	2	3	3	0	0	2	2	2	0
	DENTS/DINGS-Hood	6	3	9	14	7	0	4	16	6	7	6	6	6	6	6
	DENTS/DINGS-Trnk Ld/Htch/Tgate/Cargo	5	2	20	6	6	0	6	3	4	8	4	6	5	6	4
	DENTS/DINGS-Front Fender	1	0	0	3	1	0	1	0	0	3	0	1	1	1	0
	DENTS/DINGS-Rear Fender	10	10	19	3	11	0	11	5	9	12	0	12	10	12	0

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		Total	Series			Cab Type		Drive		Transmission		Engine		Trim	Fuel	
CCC			2	3	4	CREW CAB	REG PU	4X4	4X2	Auto	Manual	5.7L	5.9L	HD	DIESEL	GAS
	DENTS/DINGS-Roof	3	3	0	3	3	0	2	5	3	3	0	3	3	3	0
B02	FITS POORLY	25	27	1	33	20	76	28	10	24	27	47	20	25	20	47
	FIFITS POORLY (NOT CAB-TO_BOX ALGNMT	21	22	1	33	16	76	24	8	22	21	41	18	21	18	41
	FITS POORLY Front Side Door	6	9	1	3	7	0	8	0	8	3	0	7	6	7	0
	FITS POORLY Rear Side Door	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	FITS POORLY Hood	2	0	0	10	3	0	3	0	0	8	0	3	2	3	0
	FITS POORLY Trnk Ld/Htch/Tgate/Carg	2	3	0	0	2	0	2	0	3	0	0	2	2	2	0
	FITS POORLY Front Fender	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	FITS POORLY Rear Fender	13	10	0	30	7	76	14	8	11	18	41	8	13	8	41
	FITS POORLY-PICKUP CAB-TO-BOX ALGNMT	3	5	0	0	3	0	3	2	2	6	6	3	3	3	6
B05	HARD TO OPEN	1	1	0	0	1	0	0	5	1	0	0	1	1	1	0
	HARD TO OPN-Front Side Door	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	HARD TO OPN-Rear Side Door	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	HARD TO OPN-Hood	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	HARD TO OPN-Trnk Ld/Htch/Tgate/Cargo	1	1	0	0	1	0	0	5	1	0	0	1	1	1	0
B15	HARD TO CLOSE	1	2	0	0	1	0	0	7	2	0	0	1	1	1	0
	HARD TO CLO-Front Side Door	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	HARD TO CLO-Rear Side Door	0	1	0	0	0	0	0	2	0	0	0	0	0	0	0
	HARD TO CLO-Hood	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	HARD TO CLO-Trnk Ld/Htch/Tgate/Cargo	1	1	0	0	1	0	0	5	1	0	0	1	1	1	0
B19	OTHER BODY PANEL TROUBLES **	1	0	5	0	1	0	1	0	1	0	0	1	1	1	0
V75	EXTERIOR TRIM AND BUMPER TGW/1000	63	67	36	68	53	162	62	68	58	74	58	64	63	64	58
	Reported At Least One Trouble (%)	6%	7%	4%	5%	5%	16%	6%	7%	6%	6%	6%	6%	6%	6%	6%
	Exterior styling b/	85%	86%	80%	87%	85%	85%	84%	90%	87%	81%	91%	84%	85%	84%	91%
	Exterior molding and trim b/	83%	83%	80%	85%	83%	86%	82%	87%	84%	80%	90%	82%	83%	82%	90%
B64	MLDGS/EXT.TRIM POORLY ALIGNED OR FIT	10	12	0	10	7	38	9	13	13	3	6	10	10	10	6
	MLD/TRM FIT-Front Side Door	6	7	0	6	3	38	4	13	8	0	6	5	6	5	6
	MLD/TRM FIT-Rear Side Door	1	0	0	6	2	0	0	8	2	0	0	2	1	2	0
	MLD/TRM FIT-Hood	1	0	0	3	1	0	1	0	0	3	0	1	1	1	0
	MLD/TRM FIT-Trnk Ld/Htch/Tgate/Cargo	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	MLD/TRM FIT-Bumper	4	5	0	3	4	0	5	0	4	3	0	5	4	5	0
	MLD/TRM FIT-Front Fender	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	MLD/TRM FIT-Rear Fender	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
	MLD/TRM FIT-Roof	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B63	MLDGS/EXT.TRIM LOOSE/MISSING	5	7	0	5	6	0	5	6	5	7	0	6	5	6	0
	MLD/TRM L/M-Front Side Door	4	7	0	0	5	0	4	6	5	3	0	5	4	5	0
	MLD/TRM L/M-Rear Side Door	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	MLD/TRM L/M-Hood	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	MLD/TRM L/M-Trnk Ld/Htch/Tgate/Cargo	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
	MLD/TRM L/M-Bumper	1	0	0	3	1	0	1	0	0	3	0	1	1	1	0
	MLD/TRM L/M-Front Fender	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	MLD/TRM L/M-Rear Fender	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
	MLD/TRM L/M-Roof	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B62	MLDGS/EXT.TRIM CORRODED	0	0	0	0	0	2	0	0	0	1	0	0	0	0	0
	MLD/TRM COR-Front Side Door	0	0	0	0	0	2	0	0	0	1	0	0	0	0	0

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		Total	Series			Cab Type		Drive		Transmission		Engine		Trim	Fuel	
CCC			2	3	4	CREW CAB	REG PU	4X4	4X2	Auto	Manual	5.7L	5.9L	HD	DIESEL	GAS
	MLD/TRM COR-Rear Side Door	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	MLD/TRM COR-Hood	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	MLD/TRM COR-Trnk Ld/Htch/Tgate/Cargo	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	MLD/TRM COR-Front Fender	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	MLD/TRM COR-Rear Fender	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	MLD/TRM COR-Roof	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	BUMPER PAINT TROUBLES	11	12	0	18	11	12	9	22	14	5	0	14	11	14	0
F41	BMPR-PEELED	1	0	0	6	1	0	0	7	0	4	0	2	1	2	0
F33	BMPR-FADED/DULL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F34	BMPR-SAGS/RUNS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F35	BMPR-THIN/NO PAINT	8	10	0	6	8	0	8	7	11	1	0	9	8	9	0
F36	BMPR-STAINED/SPOTTED	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
F37	BMPR-DIRT IN PAINT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F38	BMPR-UNEVEN COLOR/COLOR DIFF.	1	0	0	6	1	0	0	7	2	0	0	2	1	2	0
F39	BMPR-RUST/CORROSION	1	2	0	0	0	12	1	0	1	0	0	1	1	1	0
	BMPR-RUST/CORROSION (NOT MLD/TRIM)	1	2	0	0	0	12	1	0	1	0	0	1	1	1	0
	BMPR-RUST/CORROSION ON MLD/TRM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B06	BUMPER DENTS/DINGS	3	4	2	0	3	0	2	8	3	1	4	2	3	2	4
B07	BUMPER FITS POORLY	7	10	0	3	1	76	9	0	9	3	41	1	7	1	41
B65	WHEEL/HUBCAP CONDITION	8	0	32	13	9	0	7	13	3	20	0	10	8	10	0
B66	OTHER BODY/EXT. TRIM TROUBLES	18	22	3	18	17	35	21	5	11	35	6	20	18	20	6
B69	OTHER BUMPER TROUBLES **	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
	MECHANISMS TGW/1000	46	40	53	55	50	0	45	49	45	48	34	48	46	48	34
	Reported At Least One Trouble (%)	4%	4%	2%	5%	4%	.	4%	4%	4%	5%	3%	4%	4%	4%	3%
V07	LATCHING AND SECURITY	32	22	51	48	35	0	31	39	38	20	12	36	32	36	12
	Security features b/	81%	82%	82%	79%	81%	88%	81%	81%	83%	76%	92%	80%	81%	80%	92%
L06	EXTERIOR DOOR LOCK TROUBLES-MANUAL	1	1	0	0	1	0	0	4	1	0	0	1	1	1	0
L07	EXTERIOR DOOR LOCK TROUBLES-POWER	8	6	17	9	9	0	7	12	9	5	0	10	8	10	0
L08	EXTERIOR DOOR HANDLE TROUBLES	3	0	1	13	3	0	4	0	2	5	0	3	3	3	0
L20	REMOTE/KEYLESS ENTRY	7	1	17	15	7	0	7	7	9	1	0	8	7	8	0
L16	INTERIOR DOOR LOCK TROUBLES-MANUAL	3	0	0	12	3	0	3	0	0	9	0	3	3	3	0
L17	INTERIOR DOOR LOCK TROUBLES-POWER	5	8	0	0	5	0	5	5	7	0	0	6	5	6	0
L18	INTERIOR DOOR HANDLE TROUBLES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
L19	DOOR AJAR INDICATOR/WARNING LIGHTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
L13	IGNITION SWITCH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
L14	ANTI-THEFT/ALARM SYSTEM	2	2	0	0	2	0	0	9	2	0	0	2	2	2	0
L10	FUEL-FILLER DOOR TROUBLES	5	4	15	0	5	0	5	2	6	0	12	3	5	3	12
L23	KEY TROUBLES **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
L15	OTHER LOCK/MECHANISM TROUBLES **	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0
	OTHER MECHANISM TROUBLES **	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0
	OTHER LOCK TROUBLES **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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		Total	Series			Cab Type		Drive		Transmission		Engine		Trim	Fuel	
CCC			2	3	4	CREW CAB	REG PU	4X4	4X2	Auto	Manual	5.7L	5.9L	HD	DIESEL	GAS
V09	GLASS	1	1	0	0	1	0	0	5	1	0	0	1	1	1	0
G05	WINDOW OPENING/CLOSING TROUBLES-MAN	1	1	0	0	1	0	0	5	1	0	0	1	1	1	0
G07	WINDOW OPENING/CLOSING TROUBLES-POW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
G02	GLASS BROKEN/CHPPD/CRCKD/DSTRT/OTHR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	GLASS BROKEN/CHIPPED/CRCKD/DSTRTD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	OTHER GLASS TROUBLES **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
J03	SUN/MOON/T-TOP/CONV. FITS POORLY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
J04	SUN/MOON/T-TOP/CONV. DIFF TO OPN/CLS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
V15	FRONT GLASS WIPING AND WASHING	12	17	2	7	13	0	14	4	6	28	22	11	12	11	22
	FRONT WINDSHIELD WIPERS	6	7	2	7	7	0	6	4	6	6	22	3	6	3	22
	FRONT WINDSHIELD WASHERS	6	10	0	0	7	0	8	0	0	22	0	7	6	7	0
	OTHER WIPER/WASHER TROUBLES **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
V16	REAR GLASS WIPING AND WASHING	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	REAR WINDSHIELD WIPERS (Car/SUV/Van)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	REAR WINDSHIELD WASHERS(Car/SUV/Van)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
V11	WIND NOISE TGW/1000	185	182	139	222	194	78	187	173	162	242	128	195	185	195	128
	Reported At Least One Trouble (%)	14%	14%	14%	15%	15%	8%	14%	13%	12%	19%	12%	14%	14%	14%	12%
R22	WN-AROUND FRONT SIDE DOOR/WINDOW	92	106	48	83	94	65	90	102	83	114	75	95	92	95	75
R23	WN-AROUND REAR SIDE DOOR/WINDOW	39	35	23	61	43	0	42	28	34	53	1	46	39	46	1
R32	WN-AROUND SIDE DOOR/WINDOW-UNSPEC. **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
R21	WN-AROUND WINDSHIELD	3	2	1	7	3	0	1	9	4	0	0	3	3	3	0
R29	WN-AROUND SUN/MOON/T-TOP/CONV. ROOF	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
R24	WN-AROUND BACK/NON-SLDNG REAR	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
	WN-AROUND BACK WINDOW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	WN-AROUND NON-SLIDING REAR WINDOW	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
R25	WN-AROUND SLIDING REAR WINDOW	27	25	34	29	29	12	29	17	23	37	10	30	27	30	10
R26	WN-AROUND TRNK LD/HTCH/TGATE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
R30	OTHER WIND NOISE TROUBLES	23	15	33	41	26	0	25	17	17	39	42	20	23	20	42
R31	OTHER GASKET/SEALING TROUBLES **	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0
V37	WATER LEAKS TGW/1000	24	24	39	14	26	2	25	23	11	58	12	27	24	27	12
	Reported At Least One Trouble (%)	2%	2%	4%	1%	3%	0%	2%	2%	1%	6%	1%	3%	2%	3%	1%
R02	WL-AROUND FRONT SIDE DOOR/WINDOW	15	24	0	0	16	0	16	6	6	36	12	15	15	15	12
R03	WL-AROUND REAR SIDE DOOR/WINDOW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
R11	WL-AROUND SIDE DOOR/WINDOW-UNSPEC. **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
R01	WL-AROUND WINDSHIELD	1	0	1	5	2	0	1	6	1	2	0	2	1	2	0
R09	WL-AROUND SUN/MOON/T-TOP/CONV. ROOF	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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		Total	Series			Cab Type		Drive		Transmission		Engine		Trim	Fuel	
CCC			2	3	4	CREW CAB	REG PU	4X4	4X2	Auto	Manual	5.7L	5.9L	HD	DIESEL	GAS
R04	WL-AROUND BACK WINDOW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
R05	WL-AROUND SLIDING REAR WINDOW	0	0	1	1	1	0	0	2	0	1	0	1	0	1	0
R08	WL-AROUND NON-SLIDING REAR WINDOW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
R06	WL-AROUND TRNK LD/HTCH/TGATE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
R10	OTHER WATER LEAK TROUBLES	8	1	36	8	8	2	8	8	3	19	0	9	8	9	0
V13	MIRRORS TGW/1000	8	12	2	3	9	0	9	5	12	0	0	10	8	10	0
	Reported At Least One Trouble (%)	1%	1%	0%	0%	1%	.	1%	1%	1%	0%	.	1%	1%	1%	.
M05	EXTERIOR MIRROR TROUBLES	8	12	2	3	9	0	9	5	12	0	0	10	8	10	0
M06	INTERIOR MIRROR TROUBLE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M10	OTHER MIRROR TROUBLES **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	INTERIOR TRIM TGW/1000	67	55	78	93	59	161	55	127	77	45	89	63	67	63	89
	Reported At Least One Trouble (%)	6%	5%	6%	8%	5%	15%	5%	10%	7%	4%	8%	6%	6%	6%	8%
	Overall condition of interior b/	85%	86%	82%	82%	85%	84%	85%	84%	86%	83%	89%	84%	85%	84%	89%
	Interior styling b/	83%	85%	79%	80%	83%	84%	83%	84%	85%	78%	84%	83%	83%	83%	84%
	Interior quietness b/	80%	82%	80%	74%	80%	83%	80%	82%	82%	76%	79%	81%	80%	81%	79%
V73	DOOR PANEL	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
	DOOR-HLS/TRS/SNGS/CRCK/CT/SCRTCH/SCF	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
B44	DOOR-HOLES/TEARS/SNAGS/CRACKS/CUTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	DOOR-SCRATCHED/SCUFFED	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
B45	DOOR-FADED/DISCOLORED/SOILED/WORN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	DOOR-FADED/DISCOLORED/SOILED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	DOOR-EXCESSIVE WEAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B43	DOOR-LOOSE/POOR FIT/WARPED/WRINKLED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B47	DOOR-BLISTERED/BUBBLED/PEELED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B50	DOOR-SPLITTING SEAMS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
V71	I.P. AND CONSOLE	26	26	19	31	20	90	25	32	29	19	51	22	26	22	51
	Instrument panel appearance b/	85%	86%	85%	83%	85%	84%	85%	87%	86%	83%	85%	85%	85%	85%	85%
	Cupholders b/	78%	80%	75%	76%	77%	88%	78%	80%	80%	73%	87%	77%	78%	77%	87%
	INSTRUMENT PANEL/DASHBOARD	2	0	0	11	3	1	3	0	0	8	0	3	2	3	0
B81	IP-HLS/TRS/SNGS/CRCK/CT/SCRTCH/SCF	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0
	IP-HOLES/TEARS/SNAGS/CRACKS/CUTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	IP-SCRATCHED/SCUFFED	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0
B82	IP-FADED/DISCOLORED/SOILED/WORN	2	0	0	10	3	0	3	0	0	8	0	3	2	3	0
	IP-FADED/DISCOLORED/SOILED	2	0	0	10	3	0	3	0	0	8	0	3	2	3	0
	IP-EXCESSIVE WEAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B53	IP-LOOSE/POOR FIT/WARPED/WRINKLED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B84	IP-BLISTERED/BUBBLED/PEELED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	CENTER FLOOR CONSOLE	0	0	2	0	0	0	0	0	0	1	0	0	0	0	0
B91	CON-HLS/TRS/SNGS/CRCK/CT/SCRTCH/SCF	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0

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		Total	Series			Cab Type		Drive		Transmission		Engine		Trim	Fuel	
CCC			2	3	4	CREW CAB	REG PU	4X4	4X2	Auto	Manual	5.7L	5.9L	HD	DIESEL	GAS
	CON-HOLES/TEARS/ SNAGS/CRACKS/CUTS	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
	CON-SCRATCHED/SCUFFED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B92	CON-FADED/DISCOLORED/SOILED/WORN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	CON-FADED/DISCOLORED/SOILED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	CON-EXCESSIVE WEAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B54	CON-LOOSE/POOR FIT/WARPED/WRINKLED	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
B94	CON-BLISTERED/BUBBLED/PEELED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B85	GLOVE BOX DOOR GAPS/FITS POORLY/DIF	6	9	0	5	7	0	6	6	8	3	0	8	6	8	0
T50	CUPHOLDER TROUBLES	17	18	17	15	10	89	15	25	21	7	51	11	17	11	51
B95	OTHER IP/CONSOLE TROUBLES **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
V74	OTHER INTERIOR TRIM	41	29	58	63	38	71	30	95	48	25	38	42	41	42	38
	Reported At Least One Trouble (%)	4%	3%	6%	6%	4%	7%	3%	8%	4%	3%	4%	4%	4%	4%	4%
	Trunk/cargo capacity b/	88%	88%	87%	88%	87%	96%	88%	86%	88%	88%	94%	87%	88%	87%	94%
	ROOF LINING MATERIAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
T02	ROOF-HL/TR/SNG/CRCK/CT/SCRT/SCF/SPL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	ROOF-HOLES/TEARS/SNAGS/CRACKS/CUTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	ROOF-SCRATCHED/SCUFFED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	ROOF-SPLITTING SEAMS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
T03	ROOF-FADED/DISCOLORED/SOILED/WORN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	ROOF-FADED/DISCOLORED/SOILED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	ROOF-EXCESSIVE WEAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B73	ROOF-LOOSE/POOR FIT/WARPED/WRINKLED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	CARPET/FLOOR COVERING	5	2	5	15	5	2	4	9	5	5	0	6	5	6	0
T12	CRPT-HLS/TRS/SNGS/CRCK/CT/SCRTCH/SC	1	0	0	6	1	0	2	0	2	0	0	2	1	2	0
	CRPT-HOLES/TEARS/SNAGS/CRACKS/CUTS	1	0	0	6	1	0	2	0	2	0	0	2	1	2	0
	CRPT-SCRATCHED/SCUFFED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
T13	CRPT-FADED/DISCOLORED/SOILED/WORN	2	0	0	6	1	2	2	0	0	5	0	2	2	2	0
	CRPT-FADED/DISCOLORED/SOILED	1	0	0	6	1	0	2	0	0	5	0	2	1	2	0
	CRPT-EXCESSIVE WEAR	0	0	0	0	0	2	0	0	0	1	0	0	0	0	0
B74	CRPT-LOOSE/POOR FIT/WARPED/WRINKLED	2	1	5	3	2	0	1	9	3	0	0	3	2	3	0
T15	CRPT-SPLITTING SEAMS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TRUNK/CARGO LINING	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
T22	TRNK-ALL BUT LSE/PR FT/WRPD/WRNKLD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TRNK-HOLES/TEARS/SNAGS/CRACKS/CUTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TRNK-FADED/DISCOLORED/SOILED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TRNK-SCRATCHED/SCUFFED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TRNK-EXCESSIVE WEAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TRNK-SPLITTING SEAMS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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		Total	Series			Cab Type		Drive		Transmission		Engine		Trim	Fuel	
CCC			2	3	4	CREW CAB	REG PU	4X4	4X2	Auto	Manual	5.7L	5.9L	HD	DIESEL	GAS
B75	TRNK-LOOSE/POOR FIT/WARPED/WRINKLED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
T51	SUN VISOR TROUBLES	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
T52	ASHTRAY TROUBLES	7	1	15	17	7	2	3	22	9	0	2	7	7	7	2
T53	INT. MLDNGS LSE/POOR FIT/WRPD/WRNKLD	5	7	0	0	0	54	5	0	6	0	29	0	5	0	29
B78	INTERIOR ODOR	2	4	1	0	3	0	2	3	3	0	0	3	2	3	0
T54	INTERIOR MOLDINGS MISSING **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
T55	INT FSTNRS LOOSE/MSSNG/PR FT/WRPD **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
T90	OTHER INTERIOR TROUBLES	22	15	37	31	23	13	14	61	23	20	6	25	22	25	6
V03	SEATING TGW/1000	27	28	26	23	29	4	23	45	32	14	6	30	27	30	6
	Reported At Least One Trouble (%)	3%	3%	3%	2%	3%	0%	2%	4%	3%	1%	1%	3%	3%	3%	1%
	Seat comfort b/	77%	80%	72%	73%	76%	87%	77%	79%	78%	74%	93%	74%	77%	74%	93%
	Front seat roominess b/	87%	90%	88%	79%	87%	87%	87%	91%	90%	81%	97%	86%	87%	86%	97%
	Rear seat roominess b/	73%	74%	72%	68%	72%	100%	72%	74%	73%	72%	76%	72%	73%	72%	76%
	Seating capacity b/	83%	87%	81%	76%	83%	85%	83%	83%	86%	78%	89%	83%	83%	83%	89%
	Interior storage space b/	85%	86%	85%	83%	85%	92%	85%	85%	88%	78%	96%	83%	85%	83%	96%
	Ease of entry and exit b/	78%	79%	76%	76%	78%	76%	77%	82%	80%	73%	78%	78%	78%	78%	78%
	3rd row seat access (SUV/Van) b/	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3rd row seat use/operate (SUV/Van) b/	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	SEAT UPHOLSTERY	19	18	26	15	20	4	14	39	23	7	6	21	19	21	6
S52	SEAT-HLS/TRS/SNGS/CRCK/CT/SCRTCH/SCF	12	16	5	6	13	0	8	31	15	5	6	13	12	13	6
	SEAT-HOLES/TEARS/SNAGS/CRACKS/CUTS	9	15	1	0	10	0	8	16	13	1	6	10	9	10	6
	SEAT-SCRATCHED/SCUFFED	3	1	4	6	3	0	0	14	2	4	0	3	3	3	0
S53	SEAT-FADED/DISCOLORED/SOILED/WORN	1	1	1	0	1	2	1	1	1	1	0	1	1	1	0
	SEAT-FADED/DISCOLORED/SOILED	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
	SEAT-EXCESSIVE WEAR	1	1	0	0	0	2	1	1	1	1	0	1	1	1	0
S50	SEAT-LOOSE/POOR FIT/WARPED/WRINKLED	6	1	19	9	6	0	5	7	8	0	0	7	6	7	0
S55	SEAT-SPLITTING SEAMS	0	0	1	1	0	1	1	0	0	1	0	0	0	0	0
S03	FRONT SEAT LOOSE	6	8	0	3	6	0	7	0	7	3	0	7	6	7	0
S04	REAR SEAT LOOSE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S08	THIRD ROW SEAT LOOSE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S15	FRONT SEAT POWER CONTROL ADJUSTMENT	1	1	0	2	1	1	0	6	2	1	0	1	1	1	0
S06	FRONT SEAT MANUAL CONTROL ADJUSTMENT	1	0	0	3	1	0	1	0	0	3	0	1	1	1	0
S07	REAR SEAT(S) ADJUSTMENT/OPERATION TRB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S18	SEAT ADJUSTMENT TROUBLES - UNSPEC. **	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
S56	HEATED/COOLED SEAT TROUBLES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
V05	RESTRAINTS TGW/1000	25	30	17	16	20	85	25	26	29	15	51	20	25	20	51
	Reported At Least One Trouble (%)	3%	3%	2%	2%	2%	9%	2%	3%	3%	1%	5%	2%	3%	2%	5%
	Vehicle safety b/	82%	81%	79%	87%	82%	83%	81%	89%	82%	81%	83%	82%	82%	82%	83%

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		Total	Series			Cab Type		Drive		Transmission		Engine		Trim	Fuel	
CCC			2	3	4	CREW CAB	REG PU	4X4	4X2	Auto	Manual	5.7L	5.9L	HD	DIESEL	GAS
	Comfort of seat belt b/	79%	81%	72%	78%	78%	88%	79%	78%	79%	77%	83%	78%	79%	78%	83%
	Seat belt access b/	80%	82%	76%	76%	80%	75%	80%	80%	82%	73%	83%	79%	80%	79%	83%
	Seat belt ease of use b/	79%	81%	76%	75%	79%	75%	78%	81%	81%	73%	83%	78%	79%	78%	83%
S21	SEAT BELT SOILED/DIRTY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S25	SEAT BELT COIL/UNCOIL TROUBLES	25	30	17	15	19	83	25	25	29	14	51	20	25	20	51
S38	AIR BAG (SRS) TROUBLES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S39	AIR BAG INDICATOR/WARNING LIGHTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S27	STEERING WHEEL TRIM APPEARANCE **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S26	SEAT BELT BUCKLE LATCHING TROUBLES **	0	0	0	0	0	2	0	0	0	1	0	0	0	0	0
S40	OTHER RESTRAINT TROUBLES **	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
	OTHR RSTRNT TRBLS (NOT CHLD SEAT) **	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
	INTEGRATED CHILD SAFETY SEAT TRBL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
V39	SQUEAKS AND RATTLES a/	134	145	109	120	137	100	146	75	128	148	95	141	134	141	95
	Reported At Least One Trouble (%)	11%	11%	10%	9%	11%	10%	11%	7%	10%	12%	8%	11%	11%	11%	8%
N33	INSTRUMENT PANEL/DASHBOARD SQUEAK a/	13	9	23	19	15	0	15	4	9	21	0	16	13	16	0
N30	OVERHEAD CONSOLE SQUEAK/RATTLE a/	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
N31	CENTER FLOOR CONSOLE SQK/RTL a/	8	8	1	15	9	0	10	0	0	27	0	10	8	10	0
N32	GLOVE BOX DOOR SQUEAK/RATTLE a/	1	0	5	0	1	0	1	0	1	0	0	1	1	1	0
N57	STEERNG WHEEL/STEERNG COL SQK/RTL a/	3	3	0	4	3	0	3	3	3	2	0	3	3	3	0
S09	FRONT SEAT SQUEAKS AND RATTLES	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
S17	REAR/THIRD ROW SEAT SQKS AND RTLS	8	12	1	1	9	0	9	3	11	0	0	9	8	9	0
	REAR SEAT SQUEAKS AND RATTLES	8	12	1	1	9	0	9	3	11	0	0	9	8	9	0
	THIRD ROW SEAT SQUEAKS AND RATTLES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S19	SEAT SQUEAKS AND RATTLES - UNSPEC. **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
G09	WINDOW SQUEAK/RATTLE/SCRAPE a/	7	4	20	5	7	0	6	11	5	11	0	8	7	8	0
N43	SQK AT SUN/MOON/T-TOP/CONV. ROOF a/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
N40	FRONT SIDE DOOR SQUEAK/RATTLE a/	31	37	16	24	25	94	36	7	34	24	50	27	31	27	50
N41	REAR SIDE DOOR SQUEAK/RATTLE a/	12	19	0	1	13	0	14	2	10	18	0	14	12	14	0
N42	TRNK LD/HTCH/TGAT/CRGO DR SQK/RTL a/	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0
N44	DOOR SQUEAK/RATTLE-UNSPEC. ** a/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B09	BODY PANEL HINGE SQUEAK a/	15	19	0	15	17	0	17	5	17	11	0	18	15	18	0
	BP HINGE SQ-Front Side Door	4	1	0	14	4	0	4	1	1	11	0	4	4	4	0
	BP HINGE SQ-Rear Side Door	6	9	0	1	6	0	6	5	8	0	0	7	6	7	0
	BP HINGE SQ-Trnk Ld/Htch/Tgate/Cargo	9	10	0	13	10	0	11	0	9	10	0	11	9	11	0
	BP HINGE SQ-Hood	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
N50	FRONT VEHICLE EXTERIOR SQK/RTL	13	8	16	22	14	2	11	22	9	21	12	13	13	13	12
	FRONT UNDERBODY VEHICLE EXT. SQK/RTL	12	8	15	22	13	2	10	20	9	20	12	12	12	12	12
	OTHER FRONT VEHICLE EXT. SQK/RTL	0	0	1	1	1	0	0	2	0	1	0	1	0	1	0

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		Total	Series			Cab Type		Drive		Transmission		Engine		Trim	Fuel	
CCC			2	3	4	CREW CAB	REG PU	4X4	4X2	Auto	Manual	5.7L	5.9L	HD	DIESEL	GAS
N51	REAR VEHICLE EXTERIOR SQK/RTL	8	13	1	1	9	2	10	2	11	1	33	4	8	4	33
	REAR UNDERBODY VEHICLE EXT. SQK/RTL	8	13	1	1	9	2	10	2	11	1	33	4	8	4	33
	OTHER REAR VEHICLE EXT. SQK/RTL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
N52	OTHER VEHICLE EXTERIOR SQK/RTL-UNSPEC	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
N59	OTHER SQUEAK/RATTLE a/	15	14	26	11	16	0	15	15	17	9	0	18	15	18	0
	ELECTRICAL TGW/1000	296	289	444	215	310	148	312	223	321	239	297	296	296	296	297
	Reported At Least One Trouble (%)	19%	20%	23%	12%	19%	14%	19%	14%	21%	14%	18%	19%	19%	19%	18%
	Overall electrical comp. and accessori	78%	78%	75%	78%	77%	90%	76%	84%	77%	80%	84%	77%	78%	77%	84%
	Location of switches and controls b/	84%	85%	84%	80%	83%	90%	83%	87%	83%	84%	91%	82%	84%	82%	91%
	Ease of understanding controls b/	83%	85%	77%	82%	83%	90%	83%	85%	84%	82%	93%	81%	83%	81%	93%
	Ease of operating controls b/	84%	85%	85%	82%	84%	90%	84%	87%	83%	87%	93%	83%	84%	83%	93%
	Illumination of switches and controls	82%	84%	79%	78%	81%	90%	82%	82%	81%	84%	93%	80%	82%	80%	93%
V79	TEMPERATURE CONTROL TGW/1000	157	179	155	96	159	132	164	123	187	85	178	153	157	153	178
	Reported At Least One Trouble (%)	11%	13%	11%	7%	11%	13%	12%	11%	14%	6%	10%	12%	11%	12%	10%
	Overall temperature control b/	77%	76%	72%	80%	75%	90%	75%	84%	74%	82%	88%	75%	77%	75%	88%
	Heater b/	81%	81%	76%	83%	81%	82%	79%	88%	80%	83%	86%	80%	81%	80%	86%
	Air conditioner b/	76%	76%	66%	81%	74%	90%	74%	81%	74%	80%	87%	74%	76%	74%	87%
	Defroster/defogger b/	80%	80%	75%	80%	79%	88%	78%	85%	78%	83%	82%	79%	80%	79%	82%
	Air circulation b/	76%	75%	74%	77%	74%	90%	75%	79%	74%	80%	80%	75%	76%	75%	80%
	WINDSHIELD DEFROSTING/DEFOGGING	29	36	17	15	31	4	33	7	38	8	60	23	29	23	60
C21	WINDSHIELD DEF-Slow/Uneven Clearing	26	33	17	12	28	4	30	7	35	5	60	20	26	20	60
	WINDSHIELD DEF-Slow To Clear	17	20	15	9	18	2	20	2	23	2	19	16	17	16	19
	WINDSHIELD DEF-Uneven Clearing	11	15	3	3	11	2	12	5	14	3	41	5	11	5	41
C12	WINDSHIELD DEF-Does Not Work	3	3	0	3	3	0	3	0	3	3	0	3	3	3	0
C23	BACK WINDOW DEFROSTING/DEFOGGING	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	BACK WINDOW DEF-Slow To Clear	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	BACK WINDOW DEF-Uneven Clearing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	BACK WINDOW DEF-Does Not Work	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C22	SIDE WINDOW DEFROSTING/DEFOGGING	9	8	2	16	9	4	10	2	8	11	13	8	9	8	13
	SIDE WINDOW DEF-Slow/Uneven Clearing	9	8	2	15	9	4	10	2	8	10	13	8	9	8	13
	SIDE WINDOW DEF-Slow To Clear	7	5	2	15	7	4	8	2	5	10	13	5	7	5	13
	SIDE WINDOW DEF-Uneven Clearing	2	3	1	0	2	0	3	0	3	0	0	3	2	3	0
C15	SIDE WINDOW DEF-Does Not Work	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
C30	AIR CONDITIONER/HEATER/DEFROSTER ODOR	11	6	32	9	12	0	8	22	7	20	12	10	11	10	12
	AC/HEAT/DEF ODOR-Only At Startup	10	6	32	5	11	0	8	16	5	20	12	9	10	9	12
	AC/HEAT/DEF ODOR-Continues While On	1	0	0	4	1	0	0	6	1	0	0	1	1	1	0
	AIR CONDITIONER	62	85	43	13	67	7	60	71	81	17	51	64	62	64	51
C01	AC-Slow To Cool	32	36	43	13	34	0	28	47	38	17	0	37	32	37	0
C02	AC-Not Cold Enough	34	51	9	8	37	7	32	47	49	0	51	32	34	32	51
C05	AC-Does Not Work	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	HEATER	33	31	55	22	30	58	36	16	37	23	13	36	33	36	13
C03	HEATER-Slow To Heat	27	28	36	19	24	56	29	15	34	10	13	29	27	29	13

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		Total	Series			Cab Type		Drive		Transmission		Engine		Trim	Fuel	
CCC			2	3	4	CREW CAB	REG PU	4X4	4X2	Auto	Manual	5.7L	5.9L	HD	DIESEL	GAS
C04	HEATER-Not Hot Enough	5	1	20	4	5	2	5	1	1	14	1	5	5	5	1
C07	HEATER-Does Not Work	2	3	0	0	2	0	2	0	3	0	0	2	2	2	0
C09	HEATER, DEFROSTER, OR AC NOISE TROUBL	6	10	0	0	2	54	8	0	9	0	29	2	6	2	29
C19	REGISTER/VENT ADJUSTMENT TROUBLES	1	1	1	0	1	0	0	3	1	0	0	1	1	1	0
C24	A/C WATER LEAK/CONDENSATION TROUBL **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C20	OTHER/UNSPECIFIED TEMP CONTROL TRBLS	7	2	5	21	7	4	7	4	7	6	0	8	7	8	0
	OTHER TEMPERATURE CONTROL TROUBLES	7	2	5	21	7	4	7	4	7	6	0	8	7	8	0
	AC-UNSPECIFIED **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	HEATER-UNSPECIFIED **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	ELECTRICAL COMPONENTS AND ACCESSORIES	140	110	289	119	151	16	148	99	135	154	119	144	140	144	119
	Reported At Least One Trouble (%)	11%	10%	19%	10%	12%	2%	12%	7%	11%	11%	8%	12%	11%	12%	8%
V83	INSTRUMENTATION	13	14	25	4	14	2	15	6	17	5	2	15	13	15	2
A37	SPEEDOMETER	5	6	1	4	5	0	4	6	5	3	1	5	5	5	1
	SPEEDOMETER-Not Working At All	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	SPEEDOMETER-Inaccurate	4	5	0	4	5	0	4	5	5	3	0	5	4	5	0
	SPEEDOMETER-Noisy	0	0	1	0	0	0	0	1	0	0	1	0	0	0	1
A34	HORN	3	0	19	0	3	0	4	0	4	0	0	3	3	3	0
A35	COMPASS/THERMOMETER TROUBLES **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A40	TIRE PRESSURE MONITORING TROUBLES **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
G30	ODOMETER TROUBLES **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
G31	ENGINE TEMP GAUGE TROUBLES **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
G32	ENGINE CLUST/MESSAGE CENTER TRBLS **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
G29	OTHER INDICATOR/WARNING LIGHTS	6	8	5	0	6	2	7	0	8	2	1	7	6	7	1
V77	LIGHTING	23	13	43	38	25	1	26	11	17	40	2	27	23	27	2
	Headlight Effectiveness b/	76%	79%	66%	75%	76%	85%	75%	82%	76%	77%	83%	75%	76%	75%	83%
L25	INTERIOR LIGHTS NOT WORKING	1	0	6	1	1	0	1	1	1	0	0	1	1	1	0
L26	EXTERIOR LIGHTS NOT WORKING	10	3	21	21	11	0	11	7	10	10	0	12	10	12	0
L22	HEADLIGHT AIM/ALIGNMENT	11	9	15	15	13	0	13	3	5	28	1	13	11	13	1
L30	TURN SIGNAL TROUBLES **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
L29	OTHER LIGHTING TROUBLES **	1	1	1	1	1	1	1	0	0	1	1	1	1	1	1
V81	ENTERTAINMENT AND COMMUNICATION	82	70	182	49	90	1	87	61	79	93	103	79	82	79	103
	Audio system b/	73%	73%	67%	75%	72%	79%	72%	78%	72%	75%	69%	74%	73%	74%	69%
A02	STEREO/RADIO RECEPTION	20	16	41	17	22	0	21	17	18	26	21	20	20	20	21
A04	STEREO/RADIO SOUND QUALITY	19	13	52	12	20	0	19	15	15	27	41	15	19	15	41
A15	TAPE PLAYER/CD	7	7	10	4	8	0	5	16	9	3	0	8	7	8	0
	Tape Player/CD Unspec	7	7	8	3	7	0	5	16	8	3	0	8	7	8	0
A16	CD Player **	0	0	2	1	0	0	0	0	0	1	0	0	0	0	0
A17	Cassette Player **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A06	SPEAKERS	31	33	45	17	34	1	35	13	33	26	41	29	31	29	41
A86	CELLULAR PHONE TROUBLES	1	0	5	1	1	0	1	0	1	0	0	1	1	1	0

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CCC			2	3	4	CREW CAB	REG PU	4X4	4X2	Auto	Manual	5.7L	5.9L	HD	DIESEL	GAS
A07	OTHER AUDIO/CLOCK TROUBLES **	5	0	30	0	5	0	6	0	2	11	0	5	5	5	0
	OTHER AUDIO TROUBLES **	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
	CLOCK	5	0	29	0	5	0	5	0	2	11	0	5	5	5	0
	FAMILY ENTERTAINMENT SYSTEM TRBLS **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A59	TRIP COMPUTER/NAV SYSTEM TROUBLES **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A60	SAT DIG AUDIO SYS RECEIVER TRBLS **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
V19	ELECTRICAL POWER	12	7	20	18	13	0	13	8	12	12	0	14	12	14	0
C25	DEAD BATTERY	3	1	20	0	4	0	4	2	0	12	0	4	3	4	0
C26	WEAK OR LOW ELECTRICAL POWER	8	7	0	18	9	0	9	6	12	0	0	10	8	10	0
C27	POWER SUPPLY TROUBLES **	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
V17	OTHER ELECTRICAL ACCESSORIES	9	6	19	9	9	12	8	14	11	4	12	8	9	8	12
A87	CIGARETTE LIGHTER/POWERPOINT TROUBLE	1	0	0	5	1	0	0	6	0	4	0	1	1	1	0
A85	OTHER ELECTRICAL AND ACCESSORY TROUB	8	6	19	4	7	12	8	8	11	1	12	7	8	7	12
A88	WIRING TROUBLES **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E40	ELECTRONIC MODULE TROUBLES **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	CHASSIS TGW/1000	246	256	210	244	240	309	242	267	257	224	430	213	246	213	430
	Reported At Least One Trouble (%)	16%	15%	16%	18%	16%	18%	15%	20%	17%	13%	19%	15%	16%	15%	19%
	STEERING/HANDLING AND RIDE TGW/1000	190	223	131	139	185	245	193	174	205	156	355	160	190	160	355
	Reported At Least One Trouble (%)	13%	14%	13%	12%	13%	18%	13%	16%	15%	10%	19%	12%	13%	12%	19%
	Visibility from driver's seat b/	79%	79%	76%	80%	80%	67%	77%	86%	79%	79%	76%	79%	79%	79%	76%
V87	STEERING	31	47	3	7	34	0	35	15	33	26	43	29	31	29	43
H21	EXCESSIVE FREE PLAY/WANDER	13	21	0	0	14	0	14	7	11	18	41	8	13	8	41
H22	STEERING REQ. EXTRA OR UNEVEN EFFORT	6	8	1	2	6	0	7	1	7	4	0	7	6	7	0
L68	POWER STEERING FLUID LEAKS	11	16	1	4	12	0	13	1	14	3	0	13	11	13	0
N58	STEERING NOISY	1	2	1	1	2	0	1	6	1	1	1	2	1	2	1
H50	STEERING GEAR/PUMP TROUBLES **	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
V89	HANDLING AND RIDE	159	176	128	132	151	245	159	159	171	130	312	131	159	131	312
	Overall handling b/	87%	90%	79%	85%	87%	90%	87%	87%	89%	83%	90%	86%	87%	86%	90%
	Handling on highway b/	87%	87%	84%	87%	87%	85%	86%	91%	88%	85%	86%	87%	87%	87%	86%
	Handling in city/parking b/	73%	75%	60%	73%	72%	82%	72%	74%	76%	65%	72%	73%	73%	73%	72%
	Smoothness of ride b/	73%	73%	71%	74%	75%	52%	73%	73%	74%	69%	60%	75%	73%	75%	60%
	Fun to drive b/	87%	88%	85%	85%	87%	82%	87%	86%	89%	82%	91%	86%	87%	86%	91%
	Towing performance b/	89%	90%	89%	86%	89%	90%	89%	88%	89%	88%	94%	88%	89%	88%	94%
	CONSTANT PULL/DRIFT TO ONE SIDE	48	63	2	37	46	63	48	43	54	31	116	35	48	35	116
H25	CONSTANT PULL/DRIFT-Left	16	19	0	17	11	63	15	20	22	1	34	12	16	12	34
H26	CONSTANT PULL/DRIFT-Right	32	44	2	20	35	0	34	23	32	31	82	23	32	23	82
	STEERING WHEEL VIBRATION/SHIMMY	2	2	0	4	2	0	1	9	3	1	2	2	2	2	2
N23	STEERING WHEEL VIB-Below 45 mph	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
N24	STEERING WHEEL VIB-Above 45 mph	2	2	0	4	2	0	1	9	3	1	2	2	2	2	2
	VEHICLE VIBRATES WHILE DRIVING	25	28	16	24	28	0	28	14	24	30	49	21	25	21	49
N22	VEHICLE VIBRATES-Below 45 mph	7	6	16	3	8	0	7	5	9	3	6	7	7	7	6
N25	VEHICLE VIBRATES-Above 45 mph	21	22	16	21	23	0	23	9	18	27	43	17	21	17	43

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		Total	Series			Cab Type		Drive		Transmission		Engine		Trim	Fuel	
CCC			2	3	4	CREW CAB	REG PU	4X4	4X2	Auto	Manual	5.7L	5.9L	HD	DIESEL	GAS
H44	HARSH RIDE	48	46	89	28	36	180	45	65	53	38	103	38	48	38	103
H45	MUSHY RIDE	1	2	0	0	1	2	0	5	1	1	0	1	1	1	0
H62	IMPROPER TIRE WEAR	5	0	0	20	5	0	5	0	6	0	0	5	5	5	0
H24	STEERING WHEEL SPOKES NOT CORRECTLY	17	22	5	14	19	0	20	6	15	24	0	21	17	21	0
C50	OTHER HANDLING AND RIDE	13	15	15	6	14	0	12	15	16	5	42	7	13	7	42
V21	BRAKES TGW/1000	56	33	79	105	56	64	49	93	52	68	75	53	56	53	75
	Reported At Least One Trouble (%)	5%	3%	6%	10%	5%	6%	4%	8%	5%	6%	7%	5%	5%	5%	7%
	Brakes b/	83%	87%	70%	78%	82%	91%	82%	87%	84%	80%	88%	82%	83%	82%	88%
H06	VEHICLE PULLS LEFT WHILE BRAKING	4	2	1	8	4	0	2	13	2	7	0	4	4	4	0
H07	VEHICLE PULLS RIGHT WHILE BRAKING	2	0	0	8	2	0	0	11	2	2	0	2	2	2	0
H08	VEHICLE PULLS WHILE BRAKING-UNSPEC.**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
H15	BRAKE PEDAL SPONGY	8	10	1	5	8	0	8	8	11	0	41	2	8	2	41
H02	BRAKES GRAB OR LOCK UP	4	1	19	3	4	0	4	5	5	2	0	5	4	5	0
N27	VIBRATION/SHUDDER WHILE BRAKING	6	0	0	25	6	0	7	0	0	19	0	7	6	7	0
N17	NOISY BRAKES	16	9	32	21	11	62	14	23	11	28	34	12	16	12	34
H05	EXCESS PRESSURE REQUIRED	9	5	23	12	10	2	11	1	10	9	0	11	9	11	0
H19	ABS INDICATOR/WARNING LIGHT TROUBLES	2	0	0	6	2	0	0	8	2	0	0	2	2	2	0
H04	PARKING BRAKE TROUBLES	3	0	1	12	3	0	2	9	4	0	0	4	3	4	0
L63	BRAKE FLUID LEAK	1	1	0	0	1	0	0	3	1	0	0	1	1	1	0
H16	BRAKES TOO SENSITIVE **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
H39	TRCTN CTRL/ADV TRAC WRN LGHT TRBLS **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
H20	OTHER BRAKE TROUBLES	3	3	1	3	3	0	1	12	4	0	0	4	3	4	0
V88	TIRES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TA1	ENTIRE/PARTIAL TREAD SEP FROM TIRE **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TA3	BUBBLE/BULGE IN TIRE SIDEWALL **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TA4	SPLITS/CRACKS IN SIDEWALL TREAD **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TA5	TIRE TREAD CHUNKS MISSING **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TB2	FLAT TIRE (SELF SEALING) **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TB3	VEH VIBRATION (TIRE OUT OF ROUND) **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TB6	TIRE SLOW LEAKS/VALVE STEM TRBLS **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TB7	TIRE PREMATURE TREAD WEAR **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TB8	TIRE PULLS/DRIFTS **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TC8	OTHER TIRE COSMETIC **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	POWERTRAIN TGW/1000	463	419	492	561	451	589	429	620	447	507	365	481	463	481	365
	Reported At Least One Trouble (%)	28%	26%	30%	33%	28%	33%	27%	34%	26%	34%	22%	30%	28%	30%	22%
V25	FUEL FILL AND DELIVERY	18	22	16	7	19	3	18	17	22	7	25	16	18	16	25
	Reported At Least One Trouble (%)	2%	2%	2%	1%	2%	0%	2%	2%	2%	1%	3%	2%	2%	2%	3%
	Fuel economy b/	46%	48%	53%	39%	46%	49%	45%	54%	45%	51%	33%	49%	46%	49%	33%
E68	FUEL TANK LEAK/ODOR	6	9	1	1	6	0	7	0	8	1	0	7	6	7	0
L69	FUEL GAUGE	5	8	0	1	5	3	4	8	7	1	7	5	5	5	7

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		Total	Series			Cab Type		Drive		Transmission		Engine		Trim	Fuel	
CCC			2	3	4	CREW CAB	REG PU	4X4	4X2	Auto	Manual	5.7L	5.9L	HD	DIESEL	GAS
E65	SLOW FUEL TANK FILL/SPITBACK	7	5	14	6	7	0	6	9	7	6	19	5	7	5	19
	DRIVEABILITY TGW/1000	75	79	79	62	57	279	76	72	77	72	205	52	75	52	205
	Reported At Least One Trouble (%)	7%	7%	7%	6%	5%	20%	7%	7%	7%	6%	16%	5%	7%	5%	16%
	Overall engine operation b/	89%	91%	85%	85%	89%	86%	89%	89%	90%	87%	87%	89%	89%	89%	87%
	Overall transmission operation b/	73%	76%	68%	68%	73%	77%	73%	74%	75%	68%	79%	72%	73%	72%	79%
V40	ENGINE IDLES	16	13	29	17	10	83	19	4	16	18	49	10	16	10	49
	REPORTED AT LEAST ONE TROUBLE (%)	2%	1%	3%	2%	1%	8%	2%	0%	2%	2%	5%	1%	2%	1%	5%
	ENGINE IDLES	16	13	29	17	10	83	19	4	16	18	49	10	16	10	49
D11	ENGINE IDLES-TOO FAST	12	11	19	11	6	83	14	3	14	9	41	7	12	7	41
D10	ENGINE IDLES-TOO SLOW	1	2	0	1	1	0	1	0	1	0	6	0	1	0	6
D13	ENGINE IDLES-Rough	3	0	10	6	3	0	3	1	0	9	1	3	3	3	1
V41	SMOOTH RESPONSE	32	34	9	40	22	140	31	34	33	28	77	23	32	23	77
	REPORTED AT LEAST ONE TROUBLE (%)	3%	3%	1%	4%	2%	14%	3%	3%	3%	3%	8%	2%	3%	2%	8%
	ENGINE POWER AND PICKUP B/	86%	89%	81%	83%	86%	90%	85%	92%	87%	84%	86%	86%	86%	86%	86%
	ENGINE HESITATES/SURGES	11	10	9	14	12	2	9	23	12	8	2	13	11	13	2
D36	ENGINE HES/SURGES-WHEN ACCELERATING	10	10	9	12	11	2	9	19	11	8	2	12	10	12	2
D41	ENGINE HES/SURGES-AT STEADY SPEED	1	0	0	3	1	0	0	4	1	0	0	1	1	1	0
	AUTOMATIC SPEED/CRUISE CONTROL	20	24	0	22	9	138	22	11	21	17	75	10	20	10	75
A25	CRUISE-ENGAGEMENT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A26	CRUISE-DISENGAGEMENT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A27	CRUISE-NOT MAINTAIN CONSISTENT SPEE	20	24	0	22	9	138	22	11	21	17	75	10	20	10	75
	POOR PERFORMANCE/LACKS POWER **	1	0	0	4	1	0	1	1	0	3	0	1	1	1	0
V42	ENGINE STALLS	8	12	0	0	8	2	8	7	11	0	50	0	8	0	50
	REPORTED AT LEAST ONE TROUBLE (%)	1%	1%	.	.	1%	0%	1%	1%	1%	.	5%	.	1%	.	5%
D21	ENGINE STALLS	8	12	0	0	8	2	8	7	11	0	50	0	8	0	50
V43	QUICK AND EASY START	20	19	42	5	16	54	18	27	17	25	29	18	20	18	29
	REPORTED AT LEAST ONE TROUBLE (%)	2%	2%	4%	1%	2%	5%	2%	3%	2%	3%	3%	2%	2%	2%	3%
	EASE OF STARTING ENGINE B/	81%	83%	73%	83%	81%	86%	80%	87%	83%	78%	87%	80%	81%	80%	87%
D02	ENGINE WOULD NOT START	0	1	0	1	0	0	0	2	0	1	0	1	0	1	0
D03	DIFFICULT OR SLOW TO START	19	19	42	5	16	54	18	25	17	24	29	17	19	17	29
V44	MECHANICAL MALFUNCTION	85	76	119	86	86	74	83	94	93	66	5	100	85	100	5
	Reported At Least One Trouble (%)	8%	8%	11%	8%	8%	7%	8%	9%	9%	6%	0%	10%	8%	10%	0%
E23	ENGINE OVERHEATS/RADIATOR TROUBLES	5	2	20	6	6	0	6	3	3	11	0	6	5	6	0
E50	ENGINE BELT BREAKING/SLIPPNG/SQUEALNG	23	30	19	6	24	12	25	11	29	9	0	27	23	27	0
	ENG BELT-Brkng/Slpng/Sqlng Unspec	23	30	19	6	24	12	25	11	29	9	0	27	23	27	0
E19	ENG BELT-Slipping/Squealing **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E20	ENG BELT-Off/Fryd/Cmng Aprt/Brkn **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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		Total	Series			Cab Type		Drive		Transmission		Engine		Trim	Fuel	
CCC			2	3	4	CREW CAB	REG PU	4X4	4X2	Auto	Manual	5.7L	5.9L	HD	DIESEL	GAS
E29	CHECK/OTHER ENGINE LIGHT TROUBLES	6	4	10	11	7	0	5	15	5	10	5	7	6	7	5
	CHECK ENGINE LIGHT TROUBLES	6	4	10	11	7	0	5	15	5	10	5	7	6	7	5
	OTHER ENGINE LIGHT TROUBLES **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
L65	ENGINE LEAKS OIL	18	22	24	1	19	0	20	6	21	9	0	21	18	21	0
E26	EXCESSIVE OIL CONSUMPTION	5	7	0	0	0	54	5	0	6	0	0	5	5	5	0
L66	EXHAUST SYSTEM TROUBLES	5	0	1	19	5	0	4	8	6	0	0	5	5	5	0
D50	OTHER ENGINE TROUBLES	17	8	35	29	18	0	13	34	19	12	0	20	17	20	0
	OTHER ENGINE TRBLS (NOT RUST/RUN-ON)	12	2	35	25	14	0	8	33	14	10	0	15	12	15	0
	ENGINE COMPARTMENT RUST/CORROSION	4	6	0	3	5	0	5	2	5	3	0	5	4	5	0
	ENGINE RUNS WITH THE KEY OFF	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
L85	UNDETERMINED ENGINE LEAK **	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
K01	OTHER AXLE/TRANSFER CASE TROUBLES **	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
L72	TRANSMISSION FLUID LEAKS	6	3	9	13	6	9	4	15	3	13	0	7	6	7	0
	MEMO: A-TRANSMISSION FLUID LEAKS	2	1	0	7	2	0	0	12	3	0	0	3	2	3	0
	MEMO: M-TRANS/CLUTCH FLUID LEAKS	4	2	9	6	3	9	4	3	0	13	0	4	4	4	0
E41	UNUSUAL EXHAUST SYSTEM ODOR **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E42	UNUSUAL EXHAUST SYSTEM NOISE **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E43	EXHAUST SYSTEM RUST/CORROSION/APP. **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
K02	AXLE WHINE/HOWL/GROAN **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
K03	AXLE VIBRATION/SHAKE **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
L87	COOLANT LEAK **	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
L88	FRONT/REAR AXLE OR DRVSHFT LEAKS **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E69	LOW OIL PRESSURE **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TRANSMISSION SHIFTING	242	210	239	331	252	135	210	396	225	286	68	274	242	274	68
	Reported At Least One Trouble (%)	17%	16%	20%	20%	18%	13%	16%	24%	15%	23%	7%	19%	17%	19%	7%
	MEMO: AUTOMATIC TRANSMISSION TGW/1000	225	197	129	414	232	147	187	370	225	.	54	263	225	263	54
	Reported At Least One Trouble (%)	11%	12%	6%	12%	11%	9%	9%	19%	15%	.	4%	12%	11%	12%	4%
	Smoothness of transmission b/	75%	77%	69%	72%	75%	75%	76%	71%	75%	.	87%	73%	75%	73%	87%
	SHIFTS ROUGH OR JERKY FROM PARK	24	19	34	33	25	14	17	49	24	.	0	29	24	29	0
	SHIFTS ROUGH OR JERKY WHILE DRIVING	60	58	11	104	64	5	51	95	60	.	1	73	60	73	1
	GEAR CHANGES TAKE TOO LONG TO COMPLET	20	9	1	77	21	2	10	56	20	.	0	24	20	24	0
	SHIFTS OCCUR TOO EARLY/LATE/OFTEN	46	43	25	77	50	0	40	70	46	.	0	56	46	56	0
	DIFFICULT TO OPERATE SHIFT LEVER	25	14	45	51	27	0	16	58	25	.	0	30	25	30	0
	NO FORWARD/REV MOVEMENT IN GEAR **	0	0	0	0	0	0	0	0	0	.	0	0	0	0	0
	A-4-WHEEL/ALL-WHEEL DRIVE TROUBLES	34	47	9	0	27	121	43	0	34	.	50	31	34	31	50
	A-OTHER AUTOMATIC TRANSMISSION TROUBL	17	5	4	71	18	4	10	42	17	.	2	20	17	20	2

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		Total	Series			Cab Type		Drive		Transmission		Engine		Trim	Fuel	
CCC			2	3	4	CREW CAB	REG PU	4X4	4X2	Auto	Manual	5.7L	5.9L	HD	DIESEL	GAS
V48	AUTOMATIC TRANSMISSION TGW/1000	159	155	79	223	165	91	126	316	225	0	44	180	159	180	44
	Reported At Least One Trouble (%)	15%	15%	10%	21%	16%	14%	14%	22%	15%	.	5%	18%	15%	18%	5%
	Smoothness of transmission b/	75%	77%	69%	72%	75%	75%	76%	71%	75%	.	87%	73%	75%	73%	87%
P68	SHIFTS ROUGH OR JERKY FROM PARK	17	15	21	18	18	9	12	41	24	0	0	20	17	20	0
P66	SHIFTS ROUGH OR JERKY WHILE DRIVING	42	46	7	56	46	3	34	82	60	0	1	50	42	50	1
P69	GEAR CHANGES TAKE TOO LONG TO COMPLET	14	7	1	42	15	1	7	48	20	0	0	17	14	17	0
P67	SHIFTS OCCUR TOO EARLY/LATE/OFTEN	33	34	15	41	36	0	27	60	46	0	0	39	33	39	0
P51	DIFFICULT TO OPERATE SHIFT LEVER	17	11	27	28	19	0	11	49	25	0	0	21	17	21	0
P83	NO FORWARD/REV MOVEMENT IN GEAR **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
P82	A-4-WHEEL/ALL-WHEEL DRIVE TROUBLES	24	37	6	0	19	76	29	0	34	0	41	21	24	21	41
P59	A-OTHER AUTOMATIC TRANSMISSION TROUBL	12	4	3	38	13	2	6	36	17	0	2	13	12	13	2
	MEMO: MANUAL TRANSMISSION TGW/1000	286	262	415	243	307	115	260	573	.	286	133	303	286	303	133
	Reported At Least One Trouble (%)	7%	4%	14%	8%	7%	4%	7%	5%	.	23%	2%	7%	7%	7%	2%
	Ease of changing gears b/	55%	57%	54%	54%	56%	47%	55%	56%	.	55%	21%	59%	55%	59%	21%
	Clutch operation b/	77%	76%	77%	77%	77%	71%	77%	74%	.	77%	51%	79%	77%	79%	51%
	DIFFICULT TO CHANGE GEARS	161	111	338	121	168	105	151	268	.	161	120	165	161	165	120
	M-4-WHEEL/ALL-WHEEL DRIVE TROUBLES	20	37	15	1	22	6	22	0	.	20	6	22	20	22	6
	CLUTCH REQ. TOO MUCH OR UNEVEN EFFORT	13	5	0	33	15	2	10	49	.	13	0	15	13	15	0
	CLUTCH CHATTERS/GRABS/SLIPS/JERKS	45	41	46	49	50	2	40	102	.	45	6	49	45	49	6
	OTHER CLUTCH TROUBLES **	1	0	0	2	1	0	1	0	.	1	0	1	1	1	0
	M-OTHER MANUAL TRANSMISSION TROUBLES	46	68	16	36	52	0	36	153	.	46	0	51	46	51	0
V47	MANUAL TRANSMISSION TGW/1000	83	55	160	108	87	43	84	80	0	286	24	94	83	94	24
	Reported At Least One Trouble (%)	23%	20%	35%	19%	24%	11%	21%	37%	.	23%	12%	24%	23%	24%	12%
	Ease of changing gears b/	55%	57%	54%	54%	56%	47%	55%	56%	.	55%	21%	59%	55%	59%	21%
	Clutch operation b/	77%	76%	77%	77%	77%	71%	77%	74%	.	77%	51%	79%	77%	79%	51%
P01	DIFFICULT TO CHANGE GEARS	47	23	130	54	47	39	49	37	0	161	22	51	47	51	22
P31	M-4-WHEEL/ALL-WHEEL DRIVE TROUBLES	6	8	6	1	6	2	7	0	0	20	1	7	6	7	1
P23	CLUTCH REQ. TOO MUCH OR UNEVEN EFFORT	4	1	0	15	4	1	3	7	0	13	0	5	4	5	0
P22	CLUTCH CHATTERS/GRABS/SLIPS/JERKS	13	9	18	22	14	1	13	14	0	45	1	15	13	15	1
P24	OTHER CLUTCH TROUBLES **	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0
P09	M-OTHER MANUAL TRANSMISSION TROUBLES	13	14	6	16	15	0	12	21	0	46	0	16	13	16	0
V49	POWERTRAIN SOUND AND NVH	43	32	38	76	38	98	43	41	30	76	62	39	43	39	62
	Reported At Least One Trouble (%)	4%	3%	4%	8%	4%	10%	4%	4%	3%	8%	6%	4%	4%	4%	6%
	Quietness of engine b/	87%	88%	88%	84%	87%	90%	86%	88%	86%	89%	87%	87%	87%	87%	87%
	Quietness of transmission b/	79%	81%	73%	76%	79%	75%	78%	84%	81%	73%	79%	79%	79%	79%	79%
	UNUSUAL ENGINE NOISE	10	11	6	8	10	2	5	31	13	2	14	9	10	9	14
N12	UNUSUAL ENGINE NOISE-While Driving	6	8	1	4	7	0	3	23	9	0	6	6	6	6	6
N11	UNUSUAL ENGINE NOISE-At Idle	5	5	5	8	6	2	2	19	7	2	14	4	5	4	14
N18	UNUSUAL TRANSMISSION NOISE	33	20	33	68	27	96	38	10	17	73	47	31	33	31	47
	MEMO: A-UNUSUAL TRANSMISSION NOISE	12	18	1	2	6	77	13	5	17	0	47	5	12	5	47
	MEMO: M-UNUSUAL TRANSMISSION NOISE	21	2	32	67	21	19	25	5	0	73	0	25	21	25	0
	4-WHEEL/ALL-WHEEL DRIVE TROUBLES	30	45	11	1	26	78	36	0	34	20	42	28	30	28	42
	OTHER TRANSMISSION TROUBLES	25	19	9	54	27	2	18	58	17	46	2	29	25	29	2
	MEMO: TOTAL PTO ENGINE	102	96	163	77	104	75	95	133	111	82	14	118	102	118	14
	MEMO: TOTAL PTO ENGINE (GAS)	14	15	.	0	18	4	8	80	18	0	14	.	14	.	14

Dodge Ram
2005MY October GQRS Report

		Total	Series			Cab Type		Drive		Transmission		Engine		Trim	Fuel	
CCC			2	3	4	CREW CAB	REG PU	4X4	4X2	Auto	Manual	5.7L	5.9L	HD	DIESEL	GAS
	MEMO: TOTAL PTO ENGINE (DIESEL)	118	122	163	78	116	144	113	138	131	90	.	118	118	118	.
	MEMO: TOTAL ENGINE TGW/1000	163	164	195	142	147	346	160	182	180	126	224	152	163	152	224
	MEMO: TOTAL TRANSMISSION TGW/1000	281	234	281	412	285	240	252	421	245	373	116	312	281	312	116
	MEMO: TOTAL PTO TRANSMISSION ONLY	234	179	252	374	241	160	199	400	211	293	72	264	234	264	72
	MEMO: TOTAL AUTOMATIC TRANS TGW/1000	173	175	80	232	174	169	139	333	245	0	91	188	173	188	91
	MEMO: TOTAL PTO AUTOMATIC TRANS ONLY	149	137	75	232	154	93	110	333	211	0	50	167	149	167	50
	MEMO: TOTAL MANUAL TRANS TGW/1000	108	59	200	181	112	71	112	88	0	373	24	123	108	123	24
	MEMO: TOTAL PTO MANUAL TRANS ONLY	85	41	177	142	87	67	89	67	0	293	22	97	85	97	22
	MEMO: OTHER SATISFACTION RESPONSES (%)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Selling dealership b/	71%	70%	75%	73%	71%	72%	70%	77%	71%	72%	77%	70%	71%	70%	77%
	Servicing dealership (if appl.) b/	70%	68%	72%	73%	70%	72%	69%	74%	68%	74%	77%	69%	70%	69%	77%
	Condition of vehicle upon delivery b/	82%	80%	91%	79%	82%	81%	81%	85%	81%	83%	90%	80%	82%	80%	90%
	Value for the money b/	57%	58%	65%	49%	55%	80%	56%	61%	59%	52%	74%	54%	57%	54%	74%
	Purchase price b/	49%	51%	53%	40%	48%	59%	47%	56%	50%	44%	59%	47%	49%	47%	59%
	Warranty terms and conditions b/	66%	71%	64%	55%	66%	68%	65%	69%	69%	59%	81%	63%	66%	63%	81%
	Operating costs b/	43%	44%	45%	41%	44%	43%	41%	55%	43%	44%	37%	45%	43%	45%	37%
	Credit/fin./lease terms (if appl.) b/	58%	60%	55%	54%	57%	73%	56%	65%	61%	50%	69%	56%	58%	56%	69%
	SAMPLE SIZE	1048	555	199	294	983	65	655	393	764	277	80	968	1048	968	80

Silverado 250/350

2005MY October GQRS Report

		Total	Series		Cab Type			Drive		Trans	Engine		Trim		Fuel	
CCC			250	350	CREW CAB	EXT PU	REG PU	4X4	4X2	Auto	6.0L	6.6L	Base	HD	DIESEL	GAS
	TOTAL TGW/1000	1507	1458	2093	1510	1628	948	1528	1386	1496	1414	1597	2093	1458	1597	1397
	No Reported Troubles (%)	44%	45%	33%	43%	39%	73%	44%	42%	44%	46%	44%	33%	45%	44%	44%
	Reported At Least One Trouble (%)	56%	55%	67%	57%	61%	27%	56%	58%	56%	54%	56%	67%	55%	56%	56%
	Overall ownership experience b/	72%	72%	71%	73%	69%	78%	72%	71%	72%	73%	72%	71%	72%	72%	72%
	Overall quality of your vehicle b/	74%	73%	83%	72%	74%	82%	73%	76%	73%	74%	74%	83%	73%	74%	73%
	Solid and durable construction b/	88%	87%	96%	89%	86%	86%	88%	85%	87%	89%	86%	96%	87%	86%	89%
	BODY	880	899	655	908	928	459	907	725	872	838	915	655	899	915	838
	Reported At Least One Trouble (%)	43%	44%	38%	41%	51%	23%	44%	40%	43%	45%	40%	38%	44%	40%	47%
	Overall condition of exterior b/	85%	84%	96%	83%	89%	86%	85%	87%	85%	87%	87%	96%	84%	87%	84%
V33	EXTERIOR PAINT APPEARANCE TGW/1000	138	139	131	224	27	0	149	76	141	50	197	131	139	197	66
	Reported At Least One Trouble (%)	11%	10%	13%	17%	2%	.	11%	6%	11%	5%	14%	13%	10%	14%	6%
	Paint appearance b/	87%	86%	98%	82%	94%	86%	86%	90%	87%	88%	87%	98%	86%	87%	86%
F06	PEELED PAINT	8	9	0	14	0	0	10	0	8	0	15	0	9	15	0
	PEELED-Front Side Door	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	PEELED-Rear Side Door	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	PEELED-Hood	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	PEELED-Trnk Ld/Htch/Tgate/Cargo	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	PEELED-Pickup Bed	8	9	0	14	0	0	10	0	8	0	15	0	9	15	0
	PEELED-Front Fender	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	PEELED-Rear Fender	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	PEELED-Roof	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F19	CHIPPED/SCRATCHED PAINT	68	62	130	113	7	0	74	29	68	15	96	130	62	96	33
	CHIPPED PAINT (NOT BUMPER)	57	51	130	96	5	0	64	14	58	9	82	130	51	82	26
	CHIPPED-Front Side Door	7	6	29	10	5	0	7	10	8	3	11	29	6	11	3
	CHIPPED-Rear Side Door	3	1	25	1	5	0	3	3	3	1	4	25	1	4	1
	CHIPPED-Hood	35	27	130	57	5	0	40	4	36	1	48	130	27	48	19
	CHIPPED-Trnk Ld/Htch/Tgate/Cargo	10	8	24	14	5	0	11	2	10	1	17	24	8	17	1
	CHIPPED-Pickup Bed	18	11	101	31	0	0	21	0	18	4	29	101	11	29	4
	CHIPPED-Front Fender	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0
	CHIPPED-Rear Fender	9	10	0	15	0	0	10	0	9	0	1	0	10	1	18
	CHIPPED-Roof	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	SCRATCHED PAINT (Not Bumper)	11	12	0	18	2	0	10	15	10	7	14	0	12	14	6
	SCRTCHD-Front Side Door	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	SCRTCHD-Rear Side Door	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0
	SCRTCHD-Hood	1	2	0	2	0	0	0	10	0	3	0	0	2	0	3
	SCRTCHD-Trnk Ld/Htch/Tgate/Cargo	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0
	SCRTCHD-Pickup Bed	8	9	0	14	2	0	9	5	9	2	14	0	9	14	2
	SCRTCHD-Front Fender	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1
	SCRTCHD-Rear Fender	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0
	SCRTCHD-Roof	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	CHIPPED PAINT-BUMPER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	SCRATCHED PAINT-BUMPER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F13	FADED/DULL PAINT	14	15	1	24	0	0	16	1	14	0	25	1	15	25	0
	FADED/DL-Front Side Door	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	FADED/DL-Rear Side Door	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Silverado 250/350

2005MY October GQRS Report

		Total	Series		Cab Type			Drive		Trans	Engine		Trim		Fuel	
CCC			250	350	CREW CAB	EXT PU	REG PU	4X4	4X2	Auto	6.0L	6.6L	Base	HD	DIESEL	GAS
	FADED/DL-Hood	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0
	FADED/DL-Trnk Ld/Htch/Tgate/Cargo	7	7	0	12	0	0	8	0	7	0	12	0	7	12	0
	FADED/DL-Pickup Bed	7	7	1	12	0	0	8	0	7	0	12	1	7	12	0
	FADED/DL-Front Fender	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	FADED/DL-Rear Fender	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0
	FADED/DL-Roof	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0
F05	SAGS/RUNS IN PAINT	10	10	0	17	0	0	11	0	10	0	17	0	10	17	0
	SAGS/RUNS-Front Side Door	9	10	0	16	0	0	11	0	10	0	17	0	10	17	0
	SAGS/RUNS-Rear Side Door	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	SAGS/RUNS-Hood	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0
	SAGS/RUNS-Trnk Ld/Htch/Tgate/Cargo	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	SAGS/RUNS-Pickup Bed	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	SAGS/RUNS-Front Fender	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	SAGS/RUNS-Rear Fender	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	SAGS/RUNS-Roof	9	10	0	16	0	0	11	0	10	0	17	0	10	17	0
F04	THIN/NO PAINT	3	3	0	1	6	0	0	15	3	5	1	0	3	1	5
	THIN/NO-Front Side Door	2	2	0	0	6	0	0	15	2	5	0	0	2	0	5
	THIN/NO-Rear Side Door	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	THIN/NO-Hood	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	THIN/NO-Trnk Ld/Htch/Tgate/Cargo	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0
	THIN/NO-Pickup Bed	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0
	THIN/NO-Front Fender	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	THIN/NO-Rear Fender	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	THIN/NO-Roof	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F12	STAINED/SPOTTED PAINT	2	3	0	1	6	0	0	15	3	5	1	0	3	1	5
	STND/SPOT-Front Side Door	2	2	0	0	6	0	0	15	2	5	0	0	2	0	5
	STND/SPOT-Rear Side Door	2	2	0	0	6	0	0	15	2	5	0	0	2	0	5
	STND/SPOT-Hood	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0
	STND/SPOT-Trnk Ld/Htch/Tgate/Cargo	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	STND/SPOT-Pickup Bed	2	2	0	0	6	0	0	15	2	5	0	0	2	0	5
	STND/SPOT-Front Fender	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	STND/SPOT-Rear Fender	2	2	0	0	6	0	0	15	2	5	0	0	2	0	5
	STND/SPOT-Roof	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F20	DIRT IN PAINT	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0
	DIRT-Front Side Door	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	DIRT-Rear Side Door	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	DIRT-Hood	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	DIRT-Trnk Ld/Htch/Tgate/Cargo	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	DIRT-Pickup Bed	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	DIRT-Front Fender	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	DIRT-Rear Fender	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	DIRT-Roof	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0
F30	UNEVEN COLOR/COLOR DIFFERENCES BETW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	COLOR-Front Side Door	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	COLOR-Rear Side Door	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	COLOR-Hood	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	COLOR-Trnk Ld/Htch/Tgate/Cargo	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Silverado 250/350

2005MY October GQRS Report

		Total	Series		Cab Type			Drive		Trans	Engine		Trim		Fuel	
CCC			250	350	CREW CAB	EXT PU	REG PU	4X4	4X2	Auto	6.0L	6.6L	Base	HD	DIESEL	GAS
	COLOR-Pickup Bed	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	COLOR-Front Fender	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	COLOR-Rear Fender	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	COLOR-Roof	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F10	PAINT SPRAY OVER BODY FINISH	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0
	PAINT SPRAY OVER BDY FNSH (NOT BMPR)	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0
	SPRAY-Front Side Door	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0
	SPRAY-Rear Side Door	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	SPRAY-Hood	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0
	SPRAY-Trnk Ld/Htch/Tgate/Cargo	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	SPRAY-Pickup Bed	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	SPRAY-Front Fender	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0
	SPRAY-Rear Fender	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	SPRAY-Roof	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	PAINT SPRAY OVER BODY FINISH-BMPR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F11	BODY RUST/CORROSION	18	20	0	27	7	0	19	15	19	6	28	0	20	28	6
	BODY RUST/CORROSION (NOT UNDERBODY)	7	8	0	13	0	0	9	0	8	0	13	0	8	13	0
	RUST/COR-Front Side Door	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	RUST/COR-Rear Side Door	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	RUST/COR-Hood	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	RUST/COR-Trnk Ld/Htch/Tgate/Cargo	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	RUST/COR-Pickup Bed	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	RUST/COR-Front Fender	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	RUST/COR-Rear Fender	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	RUST/COR-Roof	7	8	0	13	0	0	9	0	8	0	13	0	8	13	0
	BODY RUST/CORROSION-UNDERBODY	11	12	0	14	7	0	10	15	11	6	15	0	12	15	6
F15	DETAIL PAINT OR TAPE STRIPES COMING	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F07	BUBBLES/BLISTERS IN PAINT **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F09	OTHER EXTERIOR PAINT TROUBLES	15	16	0	26	0	0	18	1	16	19	13	0	16	13	18
V01	CORROSION TGW/1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Reported At Least One Trouble (%)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
F25	RUST PERFORATION **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
V31	SHEET METAL TGW/1000	60	64	14	55	71	46	60	62	59	58	64	14	64	64	55
	Reported At Least One Trouble (%)	6%	6%	1%	5%	7%	5%	6%	5%	6%	6%	6%	1%	6%	6%	5%
	Door opening/closing efforts b/	86%	85%	95%	87%	83%	86%	86%	84%	85%	83%	87%	95%	85%	87%	84%
	Trunk lib/hatchback opening/closing e	85%	85%	84%	85%	86%	85%	86%	84%	85%	88%	83%	84%	85%	83%	88%
B01	DENTS/DINGS	22	23	5	30	4	37	24	10	21	3	36	5	23	36	4
	DENTS/DINGS-Front Side Door	12	13	0	15	1	37	14	2	12	0	21	0	13	21	1
	DENTS/DINGS-Rear Side Door	3	3	0	0	0	37	3	0	3	0	5	0	3	5	0
	DENTS/DINGS-Hood	9	9	4	15	0	0	10	0	9	1	15	4	9	15	1
	DENTS/DINGS-Trnk Ld/Htch/Tgate/Cargo	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	DENTS/DINGS-Front Fender	0	0	1	1	0	0	0	1	0	0	1	1	0	1	0
	DENTS/DINGS-Rear Fender	1	1	0	1	3	0	0	7	0	2	1	0	1	1	2

Silverado 250/350

2005MY October GQRS Report

		Total	Series		Cab Type			Drive		Trans	Engine		Trim		Fuel	
CCC			250	350	CREW CAB	EXT PU	REG PU	4X4	4X2	Auto	6.0L	6.6L	Base	HD	DIESEL	GAS
	DENTS/DINGS-Roof	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B02	FITS POORLY	12	12	4	3	27	4	10	25	12	26	2	4	12	2	24
	FIFITS POORLY (NOT CAB-TO_BOX ALGNMT	11	12	0	3	27	0	9	25	11	25	1	0	12	1	23
	FITS POORLY Front Side Door	9	10	0	0	27	0	8	16	10	22	1	0	10	1	20
	FITS POORLY Rear Side Door	2	2	0	3	0	0	0	9	2	3	1	0	2	1	3
	FITS POORLY Hood	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	FITS POORLY Trnk Ld/Htch/Tgate/Carg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	FITS POORLY Front Fender	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	FITS POORLY Rear Fender	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	FITS POORLY-PICKUP CAB-TO-BOX ALGNMT	1	0	4	1	0	4	1	0	1	1	1	4	0	1	1
B05	HARD TO OPEN	2	2	0	1	2	4	2	0	2	1	3	0	2	3	1
	HARD TO OPN-Front Side Door	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	HARD TO OPN-Rear Side Door	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	HARD TO OPN-Hood	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	HARD TO OPN-Trnk Ld/Htch/Tgate/Cargo	2	2	0	1	2	4	2	0	2	1	3	0	2	3	1
B15	HARD TO CLOSE	25	26	4	20	38	1	24	26	23	28	23	4	26	23	27
	HARD TO CLO-Front Side Door	23	24	4	20	32	1	22	26	21	28	19	4	24	19	27
	HARD TO CLO-Rear Side Door	2	2	0	0	6	0	3	0	2	0	4	0	2	4	0
	HARD TO CLO-Hood	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	HARD TO CLO-Trnk Ld/Htch/Tgate/Cargo	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B19	OTHER BODY PANEL TROUBLES **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
V75	EXTERIOR TRIM AND BUMPER TGW/1000	42	45	7	45	38	37	39	57	41	57	32	7	45	32	54
	Reported At Least One Trouble (%)	4%	4%	1%	4%	3%	4%	4%	5%	4%	5%	3%	1%	4%	3%	5%
	Exterior styling b/	84%	83%	97%	83%	85%	92%	84%	84%	84%	89%	81%	97%	83%	81%	88%
	Exterior molding and trim b/	85%	85%	84%	85%	84%	85%	85%	85%	84%	87%	82%	84%	85%	82%	88%
B64	MLDGS/EXT.TRIM POORLY ALIGNED OR FIT	0	0	1	1	0	0	0	1	0	0	1	1	0	1	0
	MLD/TRM FIT-Front Side Door	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	MLD/TRM FIT-Rear Side Door	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	MLD/TRM FIT-Hood	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	MLD/TRM FIT-Trnk Ld/Htch/Tgate/Cargo	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	MLD/TRM FIT-Bumper	0	0	1	0	0	0	0	1	0	0	0	1	0	0	0
	MLD/TRM FIT-Front Fender	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0
	MLD/TRM FIT-Rear Fender	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	MLD/TRM FIT-Roof	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B63	MLDGS/EXT.TRIM LOOSE/MISSING	2	2	0	3	0	0	2	0	2	0	3	0	2	3	0
	MLD/TRM L/M-Front Side Door	2	2	0	3	0	0	2	0	2	0	3	0	2	3	0
	MLD/TRM L/M-Rear Side Door	2	2	0	3	0	0	2	0	2	0	3	0	2	3	0
	MLD/TRM L/M-Hood	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	MLD/TRM L/M-Trnk Ld/Htch/Tgate/Cargo	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	MLD/TRM L/M-Bumper	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	MLD/TRM L/M-Front Fender	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	MLD/TRM L/M-Rear Fender	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	MLD/TRM L/M-Roof	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B62	MLDGS/EXT.TRIM CORRODED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	MLD/TRM COR-Front Side Door	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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		Total	Series		Cab Type			Drive		Trans	Engine		Trim		Fuel	
CCC			250	350	CREW CAB	EXT PU	REG PU	4X4	4X2	Auto	6.0L	6.6L	Base	HD	DIESEL	GAS
	MLD/TRM COR-Rear Side Door	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	MLD/TRM COR-Hood	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	MLD/TRM COR-Trnk Ld/Htch/Tgate/Cargo	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	MLD/TRM COR-Front Fender	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	MLD/TRM COR-Rear Fender	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	MLD/TRM COR-Roof	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	BUMPER PAINT TROUBLES	8	9	0	0	23	0	9	0	8	19	0	0	9	0	18
F41	BMPR-PEELED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F33	BMPR-FADED/DULL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F34	BMPR-SAGS/RUNS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F35	BMPR-THIN/NO PAINT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F36	BMPR-STAINED/SPOTTED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F37	BMPR-DIRT IN PAINT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F38	BMPR-UNEVEN COLOR/COLOR DIFF.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F39	BMPR-RUST/CORROSION	8	9	0	0	23	0	9	0	8	19	0	0	9	0	18
	BMPR-RUST/CORROSION (NOT MLD/TRIM)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	BMPR-RUST/CORROSION ON MLD/TRM	8	9	0	0	23	0	9	0	8	19	0	0	9	0	18
B06	BUMPER DENTS/DINGS	5	6	0	1	6	37	4	13	4	5	6	0	6	6	4
B07	BUMPER FITS POORLY	0	0	4	1	0	0	0	0	0	0	1	4	0	1	0
B65	WHEEL/HUBCAP CONDITION	3	3	1	3	3	0	0	18	2	6	1	1	3	1	6
B66	OTHER BODY/EXT. TRIM TROUBLES	23	25	1	36	6	0	23	24	24	27	21	1	25	21	26
B69	OTHER BUMPER TROUBLES **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	MECHANISMS TGW/1000	47	51	0	46	39	87	43	70	48	50	47	0	51	47	47
	Reported At Least One Trouble (%)	4%	4%	.	3%	3%	9%	3%	6%	4%	5%	3%	.	4%	3%	4%
V07	LATCHING AND SECURITY	26	29	0	31	24	0	23	44	27	23	30	0	29	30	22
	Security features b/	85%	84%	86%	80%	90%	94%	85%	84%	84%	90%	80%	86%	84%	80%	90%
L06	EXTERIOR DOOR LOCK TROUBLES-MANUAL	2	2	0	0	5	0	0	11	2	4	0	0	2	0	4
L07	EXTERIOR DOOR LOCK TROUBLES-POWER	7	8	0	12	0	0	8	0	7	0	13	0	8	13	0
L08	EXTERIOR DOOR HANDLE TROUBLES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
L20	REMOTE/KEYLESS ENTRY	12	13	0	12	14	0	12	13	12	11	13	0	13	13	10
L16	INTERIOR DOOR LOCK TROUBLES-MANUAL	1	1	0	2	0	0	0	9	1	3	0	0	1	0	3
L17	INTERIOR DOOR LOCK TROUBLES-POWER	2	2	0	0	5	0	0	9	2	4	0	0	2	0	4
L18	INTERIOR DOOR HANDLE TROUBLES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
L19	DOOR AJAR INDICATOR/WARNING LIGHTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
L13	IGNITION SWITCH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
L14	ANTI-THEFT/ALARM SYSTEM	2	2	0	3	0	0	2	0	2	0	3	0	2	3	0
L10	FUEL-FILLER DOOR TROUBLES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
L23	KEY TROUBLES **	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0
L15	OTHER LOCK/MECHANISM TROUBLES **	0	0	0	0	1	0	0	0	0	1	0	0	0	0	1
	OTHER MECHANISM TROUBLES **	0	0	0	0	1	0	0	0	0	1	0	0	0	0	1
	OTHER LOCK TROUBLES **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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		Total	Series		Cab Type			Drive		Trans	Engine		Trim		Fuel	
CCC			250	350	CREW CAB	EXT PU	REG PU	4X4	4X2	Auto	6.0L	6.6L	Base	HD	DIESEL	GAS
V09	GLASS	18	19	0	15	6	87	17	24	18	24	13	0	19	13	23
G05	WINDOW OPENING/CLOSING TROUBLES-MAN	4	4	0	2	6	0	0	24	4	8	0	0	4	0	8
G07	WINDOW OPENING/CLOSING TROUBLES-POW	7	7	0	0	0	87	8	0	7	16	0	0	7	0	15
G02	GLASS BROKEN/CHPPD/CRCKD/DSTRT/OTHR	7	8	0	13	0	0	9	0	8	0	13	0	8	13	0
	GLASS BROKEN/CHIPPED/CRCKD/DSTRTD	7	8	0	13	0	0	9	0	8	0	13	0	8	13	0
	OTHER GLASS TROUBLES **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
J03	SUN/MOON/T-TOP/CONV. FITS POORLY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
J04	SUN/MOON/T-TOP/CONV. DIFF TO OPN/CLS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
V15	FRONT GLASS WIPING AND WASHING	3	3	0	0	8	0	3	2	3	2	3	0	3	3	2
	FRONT WINDSHIELD WIPERS	2	2	0	0	5	0	2	0	2	0	3	0	2	3	0
	FRONT WINDSHIELD WASHERS	1	1	0	0	2	0	0	2	1	2	0	0	1	0	2
	OTHER WIPER/WASHER TROUBLES **	0	0	0	0	1	0	0	0	0	1	0	0	0	0	1
V16	REAR GLASS WIPING AND WASHING	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	REAR WINDSHIELD WIPERS (Car/SUV/Van)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	REAR WINDSHIELD WASHERS(Car/SUV/Van)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
V11	WIND NOISE TGW/1000	211	206	265	116	398	75	222	142	212	256	185	265	206	185	242
	Reported At Least One Trouble (%)	16%	16%	14%	7%	31%	7%	16%	14%	16%	22%	12%	14%	16%	12%	20%
R22	WN-AROUND FRONT SIDE DOOR/WINDOW	123	121	135	65	236	38	128	93	123	159	100	135	121	100	150
R23	WN-AROUND REAR SIDE DOOR/WINDOW	46	41	101	27	87	0	53	5	47	43	50	101	41	50	40
R32	WN-AROUND SIDE DOOR/WINDOW-UNSPEC. **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
R21	WN-AROUND WINDSHIELD	32	34	0	23	44	37	30	40	31	36	30	0	34	30	34
R29	WN-AROUND SUN/MOON/T-TOP/CONV. ROOF	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
R24	WN-AROUND BACK/NON-SLDNG REAR	8	8	0	0	22	0	9	2	8	18	0	0	8	0	17
	WN-AROUND BACK WINDOW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	WN-AROUND NON-SLIDING REAR WINDOW	8	8	0	0	22	0	9	2	8	18	0	0	8	0	17
R25	WN-AROUND SLIDING REAR WINDOW	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
R26	WN-AROUND TRNK LD/HTCH/TGATE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
R30	OTHER WIND NOISE TROUBLES	3	1	28	0	7	0	3	1	3	1	4	28	1	4	1
R31	OTHER GASKET/SEALING TROUBLES **	0	0	0	0	1	0	0	0	0	0	1	0	0	1	0
V37	WATER LEAKS TGW/1000	10	11	6	6	21	0	7	30	11	5	10	6	11	10	11
	Reported At Least One Trouble (%)	1%	1%	1%	0%	2%	.	1%	3%	1%	1%	1%	1%	1%	1%	1%
R02	WL-AROUND FRONT SIDE DOOR/WINDOW	6	6	1	4	11	0	3	26	6	5	7	1	6	7	5
R03	WL-AROUND REAR SIDE DOOR/WINDOW	1	1	0	1	0	0	0	4	1	0	1	0	1	1	0
R11	WL-AROUND SIDE DOOR/WINDOW-UNSPEC. **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
R01	WL-AROUND WINDSHIELD	1	1	0	0	2	0	1	0	1	0	1	0	1	1	0
R09	WL-AROUND SUN/MOON/T-TOP/CONV. ROOF	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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		Total	Series		Cab Type			Drive		Trans	Engine		Trim		Fuel	
CCC			250	350	CREW CAB	EXT PU	REG PU	4X4	4X2	Auto	6.0L	6.6L	Base	HD	DIESEL	GAS
R04	WL-AROUND BACK WINDOW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
R05	WL-AROUND SLIDING REAR WINDOW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
R08	WL-AROUND NON-SLIDING REAR WINDOW	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0
R06	WL-AROUND TRNK LD/HTCH/TGATE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
R10	OTHER WATER LEAK TROUBLES	3	3	4	1	8	0	4	0	3	0	1	4	3	1	6
V13	MIRRORS TGW/1000	12	13	1	21	0	0	12	11	12	3	20	1	13	20	3
	Reported At Least One Trouble (%)	1%	1%	0%	2%	0%	.	1%	1%	1%	0%	2%	0%	1%	2%	0%
M05	EXTERIOR MIRROR TROUBLES	12	13	1	20	0	0	12	10	12	3	19	1	13	19	3
M06	INTERIOR MIRROR TROUBLE	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0
M10	OTHER MIRROR TROUBLES **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	INTERIOR TRIM TGW/1000	76	80	32	123	14	5	77	69	78	77	62	32	80	62	94
	Reported At Least One Trouble (%)	7%	7%	3%	11%	1%	0%	7%	6%	7%	5%	6%	3%	7%	6%	7%
	Overall condition of interior b/	88%	87%	94%	85%	91%	90%	88%	84%	88%	90%	86%	94%	87%	86%	90%
	Interior styling b/	79%	77%	97%	77%	78%	92%	78%	82%	78%	85%	73%	97%	77%	73%	86%
	Interior quietness b/	80%	79%	82%	80%	79%	79%	80%	80%	79%	86%	74%	82%	79%	74%	86%
V73	DOOR PANEL	19	20	0	32	0	0	20	9	19	22	0	0	20	0	41
	DOOR-HLS/TRS/SNGS/CRCK/CT/SCRTCH/SCF	17	19	0	30	0	0	20	0	18	19	0	0	19	0	39
B44	DOOR-HOLES/TEARS/SNAGS/CRACKS/CUTS	9	10	0	16	0	0	11	0	10	0	0	0	10	0	21
	DOOR-SCRATCHED/SCUFFED	8	9	0	14	0	0	9	0	8	19	0	0	9	0	18
B45	DOOR-FADED/DISCOLORED/SOILED/WORN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	DOOR-FADED/DISCOLORED/SOILED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	DOOR-EXCESSIVE WEAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B43	DOOR-LOOSE/POOR FIT/WARPED/WRINKLED	1	1	0	2	0	0	0	9	1	3	0	0	1	0	3
B47	DOOR-BLISTERED/BUBBLED/PEELED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B50	DOOR-SPLITTING SEAMS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
V71	I.P. AND CONSOLE	19	20	4	32	1	0	20	13	19	4	31	4	20	31	4
	Instrument panel appearance b/	83%	82%	96%	78%	88%	94%	83%	85%	83%	93%	75%	96%	82%	75%	93%
	Cupholders b/	68%	67%	82%	67%	67%	79%	67%	70%	67%	69%	66%	82%	67%	66%	70%
	INSTRUMENT PANEL/DASHBOARD	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0
B81	IP-HLS/TRS/SNGS/CRCK/CT/SCRTCH/SCF	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	IP-HOLES/TEARS/SNAGS/CRACKS/CUTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	IP-SCRATCHED/SCUFFED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B82	IP-FADED/DISCOLORED/SOILED/WORN	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0
	IP-FADED/DISCOLORED/SOILED	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0
	IP-EXCESSIVE WEAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B53	IP-LOOSE/POOR FIT/WARPED/WRINKLED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B84	IP-BLISTERED/BUBBLED/PEELED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	CENTER FLOOR CONSOLE	7	8	0	13	0	0	9	0	8	0	13	0	8	13	0
B91	CON-HLS/TRS/SNGS/CRCK/CT/SCRTCH/SCF	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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		Total	Series		Cab Type			Drive		Trans	Engine		Trim		Fuel	
CCC			250	350	CREW CAB	EXT PU	REG PU	4X4	4X2	Auto	6.0L	6.6L	Base	HD	DIESEL	GAS
	CON-HOLES/TEARS/ SNAGS/CRACKS/CUTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	CON-SCRATCHED/SCUFFED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B92	CON-FADED/DISCOLORED/SOILED/WORN	7	8	0	13	0	0	9	0	8	0	13	0	8	13	0
	CON-FADED/DISCOLORED/SOILED	7	8	0	13	0	0	9	0	8	0	13	0	8	13	0
	CON-EXCESSIVE WEAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B54	CON-LOOSE/POOR FIT/WARPED/WRINKLED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B94	CON-BLISTERED/BUBBLED/PEELED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B85	GLOVE BOX DOOR GAPS/FITS POORLY/DIF	2	2	0	2	1	0	0	9	2	3	1	0	2	1	3
T50	CUPHOLDER TROUBLES	10	10	4	17	0	0	11	3	10	1	17	4	10	17	1
B95	OTHER IP/CONSOLE TROUBLES **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
V74	OTHER INTERIOR TRIM	39	39	28	59	13	5	37	47	40	51	30	28	39	30	49
	Reported At Least One Trouble (%)	3%	3%	3%	4%	1%	0%	3%	4%	3%	3%	3%	3%	3%	3%	3%
	Trunk/cargo capacity b/	87%	86%	94%	84%	89%	93%	86%	88%	86%	88%	85%	94%	86%	85%	88%
	ROOF LINING MATERIAL	16	18	0	28	0	0	19	0	17	39	0	0	18	0	36
T02	ROOF-HL/TR/SNG/CRCK/CT/SCRT/SCF/SPL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	ROOF-HOLES/TEARS/SNAGS/CRACKS/CUTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	ROOF-SCRATCHED/SCUFFED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	ROOF-SPLITTING SEAMS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
T03	ROOF-FADED/DISCOLORED/SOILED/WORN	8	9	0	14	0	0	10	0	8	19	0	0	9	0	18
	ROOF-FADED/DISCOLORED/SOILED	8	9	0	14	0	0	10	0	8	19	0	0	9	0	18
	ROOF-EXCESSIVE WEAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B73	ROOF-LOOSE/POOR FIT/WARPED/WRINKLED	8	9	0	14	0	0	10	0	8	19	0	0	9	0	18
	CARPET/FLOOR COVERING	4	3	24	1	10	0	3	12	4	4	5	24	3	5	4
T12	CRPT-HLS/TRS/SNGS/CRCK/CT/SCRTCH/SC	1	1	0	0	2	0	0	4	1	1	0	0	1	0	1
	CRPT-HOLES/TEARS/SNAGS/CRACKS/CUTS	1	1	0	0	2	0	0	4	1	1	0	0	1	0	1
	CRPT-SCRATCHED/SCUFFED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
T13	CRPT-FADED/DISCOLORED/SOILED/WORN	1	1	0	1	2	0	0	4	1	1	1	0	1	1	1
	CRPT-FADED/DISCOLORED/SOILED	1	1	0	0	2	0	0	4	1	1	0	0	1	0	1
	CRPT-EXCESSIVE WEAR	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0
B74	CRPT-LOOSE/POOR FIT/WARPED/WRINKLED	3	1	24	1	7	0	3	4	3	1	4	24	1	4	1
T15	CRPT-SPLITTING SEAMS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TRUNK/CARGO LINING	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
T22	TRNK-ALL BUT LSE/PR FT/WRPD/WRNKLD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TRNK-HOLES/TEARS/SNAGS/CRACKS/CUTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TRNK-FADED/DISCOLORED/SOILED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TRNK-SCRATCHED/SCUFFED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TRNK-EXCESSIVE WEAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TRNK-SPLITTING SEAMS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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		Total	Series		Cab Type			Drive		Trans	Engine		Trim		Fuel	
CCC			250	350	CREW CAB	EXT PU	REG PU	4X4	4X2	Auto	6.0L	6.6L	Base	HD	DIESEL	GAS
B75	TRNK-LOOSE/POOR FIT/WARPED/WRINKLED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
T51	SUN VISOR TROUBLES	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0
T52	ASHTRAY TROUBLES	2	2	0	3	0	5	0	12	2	1	3	0	2	3	1
T53	INT. MLDNGS LSE/POOR FIT/WRPD/WRNKLD	5	5	4	8	0	0	4	8	5	3	6	4	5	6	3
B78	INTERIOR ODOR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
T54	INTERIOR MOLDINGS MISSING **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
T55	INT FSTNRS LOOSE/MSSNG/PR FT/WRPD **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
T90	OTHER INTERIOR TROUBLES	11	12	0	18	2	0	10	14	11	4	16	0	12	16	5
V03	SEATING TGW/1000	27	29	4	27	26	37	26	34	27	13	39	4	29	39	13
	Reported At Least One Trouble (%)	3%	3%	0%	3%	3%	4%	3%	3%	3%	1%	4%	0%	3%	4%	1%
	Seat comfort b/	84%	83%	93%	85%	84%	80%	85%	81%	84%	86%	82%	93%	83%	82%	86%
	Front seat roominess b/	84%	85%	74%	81%	90%	84%	84%	87%	84%	88%	81%	74%	85%	81%	88%
	Rear seat roominess b/	75%	74%	84%	80%	63%	99%	73%	84%	74%	81%	69%	84%	74%	69%	81%
	Seating capacity b/	81%	80%	93%	83%	78%	80%	80%	87%	81%	85%	79%	93%	80%	79%	84%
	Interior storage space b/	75%	75%	81%	77%	72%	79%	76%	72%	75%	75%	75%	81%	75%	75%	76%
	Ease of entry and exit b/	82%	81%	95%	80%	83%	92%	82%	79%	82%	88%	77%	95%	81%	77%	87%
	3rd row seat access (SUV/Van) b/	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3rd row seat use/operate (SUV/Van) b/	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	SEAT UPHOLSTERY	21	23	4	25	11	37	22	20	20	6	33	4	23	33	7
S52	SEAT-HLS/TRS/SNGS/CRCK/CT/SCRTCH/SCF	9	9	4	4	10	37	7	17	8	6	11	4	9	11	6
	SEAT-HOLES/TEARS/SNAGS/CRACKS/CUTS	7	8	4	2	10	37	7	8	8	2	11	4	8	11	3
	SEAT-SCRATCHED/SCUFFED	1	1	0	2	0	0	0	9	0	3	0	0	1	0	3
S53	SEAT-FADED/DISCOLORED/SOILED/WORN	4	4	0	5	1	0	4	2	4	0	6	0	4	6	0
	SEAT-FADED/DISCOLORED/SOILED	3	3	0	5	1	0	3	2	3	0	6	0	3	6	0
	SEAT-EXCESSIVE WEAR	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0
S50	SEAT-LOOSE/POOR FIT/WARPED/WRINKLED	9	10	0	16	0	0	10	1	9	1	16	0	10	16	1
S55	SEAT-SPLITTING SEAMS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S03	FRONT SEAT LOOSE	1	1	0	1	0	0	1	0	1	0	1	0	1	1	0
S04	REAR SEAT LOOSE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S08	THIRD ROW SEAT LOOSE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S15	FRONT SEAT POWER CONTROL ADJUSTMENT	5	5	0	1	12	0	4	9	5	7	3	0	5	3	6
S06	FRONT SEAT MANUAL CONTROL ADJUSTMENT	1	1	0	0	3	0	0	4	1	0	2	0	1	2	0
S07	REAR SEAT(S) ADJUSTMENT/OPERATION TRB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S18	SEAT ADJUSTMENT TROUBLES - UNSPEC. **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S56	HEATED/COOLED SEAT TROUBLES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
V05	RESTRAINTS TGW/1000	13	14	2	8	24	0	12	18	14	23	6	2	14	6	22
	Reported At Least One Trouble (%)	1%	1%	0%	1%	2%	.	1%	2%	1%	2%	1%	0%	1%	1%	2%
	Vehicle safety b/	85%	84%	95%	84%	85%	92%	85%	88%	85%	92%	79%	95%	84%	79%	92%

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		Total	Series		Cab Type			Drive		Trans	Engine		Trim		Fuel	
CCC			250	350	CREW CAB	EXT PU	REG PU	4X4	4X2	Auto	6.0L	6.6L	Base	HD	DIESEL	GAS
	Comfort of seat belt b/	75%	75%	82%	73%	78%	79%	75%	80%	75%	80%	72%	82%	75%	72%	80%
	Seat belt access b/	76%	76%	85%	75%	75%	92%	75%	83%	76%	78%	74%	85%	76%	74%	78%
	Seat belt ease of use b/	77%	75%	95%	76%	77%	82%	76%	82%	76%	79%	75%	95%	75%	75%	79%
S21	SEAT BELT SOILED/DIRTY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S25	SEAT BELT COIL/UNCOIL TROUBLES	13	14	0	8	23	0	12	16	13	23	6	0	14	6	21
S38	AIR BAG (SRS) TROUBLES	0	0	0	0	1	0	0	0	0	1	0	0	0	0	1
S39	AIR BAG INDICATOR/WARNING LIGHTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S27	STEERING WHEEL TRIM APPEARANCE **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S26	SEAT BELT BUCKLE LATCHING TROUBLES **	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0
S40	OTHER RESTRAINT TROUBLES **	0	0	1	0	0	0	0	1	0	0	0	1	0	0	0
	OTHR RSTRNT TRBLS (NOT CHLD SEAT) **	0	0	1	0	0	0	0	1	0	0	0	1	0	0	0
	INTEGRATED CHILD SAFETY SEAT TRBL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
V39	SQUEAKS AND RATTLES a/	243	248	193	237	270	173	258	157	230	244	254	193	248	254	230
	Reported At Least One Trouble (%)	16%	16%	15%	14%	18%	17%	16%	15%	15%	18%	15%	15%	16%	15%	17%
N33	INSTRUMENT PANEL/DASHBOARD SQUEAK a/	22	22	25	21	30	0	25	5	14	21	24	25	22	24	19
N30	OVERHEAD CONSOLE SQUEAK/RATTLE a/	0	0	0	0	1	0	0	0	0	0	1	0	0	1	0
N31	CENTER FLOOR CONSOLE SQK/RTL a/	7	8	0	12	1	0	8	0	7	16	1	0	8	1	15
N32	GLOVE BOX DOOR SQUEAK/RATTLE a/	3	4	0	5	1	0	3	3	3	0	6	0	4	6	0
N57	STEERNG WHEEL/STEERNG COL SQK/RTL a/	15	16	0	17	0	64	13	24	14	15	15	0	16	15	14
S09	FRONT SEAT SQUEAKS AND RATTLES	11	12	4	2	29	4	12	9	12	25	1	4	12	1	23
S17	REAR/THIRD ROW SEAT SQKS AND RTLS	3	3	0	0	8	0	3	0	3	7	0	0	3	0	6
	REAR SEAT SQUEAKS AND RATTLES	3	3	0	0	8	0	3	0	3	7	0	0	3	0	6
	THIRD ROW SEAT SQUEAKS AND RATTLES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S19	SEAT SQUEAKS AND RATTLES - UNSPEC. **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
G09	WINDOW SQUEAK/RATTLE/SCRAPE a/	14	14	4	19	7	0	11	29	13	8	18	4	14	18	8
N43	SQK AT SUN/MOON/T-TOP/CONV. ROOF a/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
N40	FRONT SIDE DOOR SQUEAK/RATTLE a/	44	46	17	35	68	0	44	41	45	26	59	17	46	59	24
N41	REAR SIDE DOOR SQUEAK/RATTLE a/	29	30	23	14	60	0	33	7	21	40	21	23	30	21	39
N42	TRNK LD/HTCH/TGAT/CRGO DR SQK/RTL a/	8	9	0	14	0	0	10	0	8	0	15	0	9	15	0
N44	DOOR SQUEAK/RATTLE-UNSPEC. ** a/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B09	BODY PANEL HINGE SQUEAK a/	27	20	116	29	31	0	31	4	28	21	34	116	20	34	20
	BP HINGE SQ-Front Side Door	12	11	29	17	6	0	14	3	12	1	21	29	11	21	1
	BP HINGE SQ-Rear Side Door	17	19	0	15	25	0	20	0	18	21	15	0	19	15	20
	BP HINGE SQ-Trnk Ld/Htch/Tgate/Cargo	8	9	0	14	0	0	10	0	8	0	15	0	9	15	0
	BP HINGE SQ-Hood	15	9	87	12	23	0	17	0	15	19	12	87	9	12	18
N50	FRONT VEHICLE EXTERIOR SQK/RTL	13	14	0	17	6	17	13	15	13	7	18	0	14	18	7
	FRONT UNDERBODY VEHICLE EXT. SQK/RTL	12	14	0	17	4	17	12	15	13	7	17	0	14	17	6
	OTHER FRONT VEHICLE EXT. SQK/RTL	1	1	0	0	2	0	1	0	1	1	1	0	1	1	1

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		Total	Series		Cab Type			Drive		Trans	Engine		Trim		Fuel	
CCC			250	350	CREW CAB	EXT PU	REG PU	4X4	4X2	Auto	6.0L	6.6L	Base	HD	DIESEL	GAS
N51	REAR VEHICLE EXTERIOR SQK/RTL	31	34	0	31	20	87	36	4	32	32	32	0	34	32	30
	REAR UNDERBODY VEHICLE EXT. SQK/RTL	31	33	0	30	20	87	35	4	32	32	31	0	33	31	30
	OTHER REAR VEHICLE EXT. SQK/RTL	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0
N52	OTHER VEHICLE EXTERIOR SQK/RTL-UNSPEC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
N59	OTHER SQUEAK/RATTLE a/	15	16	4	22	8	0	15	15	16	25	9	4	16	9	23
	ELECTRICAL TGW/1000	126	114	259	132	121	104	110	217	127	107	144	259	114	144	104
	Reported At Least One Trouble (%)	9%	9%	14%	9%	10%	5%	8%	15%	9%	8%	10%	14%	9%	10%	8%
	Overall electrical comp. and accessori	81%	81%	78%	80%	83%	76%	80%	84%	80%	83%	79%	78%	81%	79%	84%
	Location of switches and controls b/	81%	82%	77%	78%	83%	95%	81%	84%	81%	85%	78%	77%	82%	78%	86%
	Ease of understanding controls b/	79%	79%	79%	77%	77%	95%	79%	75%	78%	82%	75%	79%	79%	75%	83%
	Ease of operating controls b/	84%	84%	88%	84%	81%	95%	84%	83%	83%	83%	84%	88%	84%	84%	83%
	Illumination of switches and controls	87%	87%	89%	87%	85%	95%	87%	87%	87%	86%	87%	89%	87%	87%	86%
V79	TEMPERATURE CONTROL TGW/1000	81	67	252	98	50	100	74	121	82	50	109	252	67	109	47
	Reported At Least One Trouble (%)	5%	4%	14%	6%	4%	5%	5%	7%	5%	4%	6%	14%	4%	6%	3%
	Overall temperature control b/	85%	86%	75%	82%	88%	97%	85%	87%	85%	90%	81%	75%	86%	81%	90%
	Heater b/	85%	85%	84%	83%	88%	93%	85%	85%	85%	88%	82%	84%	85%	82%	89%
	Air conditioner b/	86%	85%	86%	85%	84%	94%	86%	84%	85%	90%	81%	86%	85%	81%	91%
	Defroster/defogger b/	85%	85%	87%	85%	86%	90%	86%	84%	85%	87%	83%	87%	85%	83%	88%
	Air circulation b/	84%	84%	85%	82%	85%	95%	84%	85%	83%	89%	79%	85%	84%	79%	89%
	WINDSHIELD DEFROSTING/DEFOGGING	15	15	14	21	7	13	14	23	16	6	23	14	15	23	6
C21	WINDSHIELD DEF-Slow/Uneven Clearing	14	14	14	19	7	13	14	16	15	6	21	14	14	21	6
	WINDSHIELD DEF-Slow To Clear	13	13	10	18	5	13	13	16	14	5	20	10	13	20	5
	WINDSHIELD DEF-Uneven Clearing	10	10	4	15	2	0	11	0	10	1	17	4	10	17	1
C12	WINDSHIELD DEF-Does Not Work	1	1	0	2	0	0	0	7	1	0	2	0	1	2	0
C23	BACK WINDOW DEFROSTING/DEFOGGING	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	BACK WINDOW DEF-Slow To Clear	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	BACK WINDOW DEF-Uneven Clearing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	BACK WINDOW DEF-Does Not Work	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C22	SIDE WINDOW DEFROSTING/DEFOGGING	21	22	13	20	17	49	21	22	22	20	23	13	22	23	19
	SIDE WINDOW DEF-Slow/Uneven Clearing	20	21	13	19	16	49	21	16	21	20	21	13	21	21	19
	SIDE WINDOW DEF-Slow To Clear	19	20	13	18	15	49	20	16	20	20	20	13	20	20	19
	SIDE WINDOW DEF-Uneven Clearing	9	10	0	15	1	0	10	0	9	0	16	0	10	16	0
C15	SIDE WINDOW DEF-Does Not Work	1	1	0	2	1	0	0	7	1	0	2	0	1	2	0
C30	AIR CONDITIONER/HEATER/DEFROSTER ODOR	2	2	0	2	0	13	0	13	2	5	0	0	2	0	4
	AC/HEAT/DEF ODOR-Only At Startup	1	1	0	0	0	13	0	7	1	2	0	0	1	0	2
	AC/HEAT/DEF ODOR-Continues While On	1	1	0	2	0	0	0	7	1	2	0	0	1	0	2
	AIR CONDITIONER	22	16	91	30	10	13	18	46	21	14	29	91	16	29	13
C01	AC-Slow To Cool	4	4	4	1	6	13	1	22	4	7	1	4	4	1	7
C02	AC-Not Cold Enough	17	11	87	28	4	0	17	18	16	6	26	87	11	26	6
C05	AC-Does Not Work	1	1	0	2	0	0	0	7	1	0	2	0	1	2	0
	HEATER	10	7	43	8	12	13	9	13	9	3	15	43	7	15	3
C03	HEATER-Slow To Heat	9	6	43	7	12	13	9	13	9	3	14	43	6	14	3

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		Total	Series		Cab Type			Drive		Trans	Engine		Trim		Fuel	
CCC			250	350	CREW CAB	EXT PU	REG PU	4X4	4X2	Auto	6.0L	6.6L	Base	HD	DIESEL	GAS
C04	HEATER-Not Hot Enough	1	1	0	1	0	0	1	0	1	0	1	0	1	1	0
C07	HEATER-Does Not Work	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C09	HEATER, DEFROSTER, OR AC NOISE TROUBL	8	1	87	13	1	0	9	0	8	1	13	87	1	13	1
C19	REGISTER/VENT ADJUSTMENT TROUBLES	1	1	4	2	0	0	2	0	1	0	3	4	1	3	0
C24	A/C WATER LEAK/CONDENSATION TROUBL **	0	0	0	0	1	0	0	0	0	1	0	0	0	0	1
C20	OTHER/UNSPECIFIED TEMP CONTROL TRBLS	2	2	0	2	2	0	2	2	2	0	4	0	2	4	0
	OTHER TEMPERATURE CONTROL TROUBLES	2	2	0	2	2	0	2	2	2	0	4	0	2	4	0
	AC-UNSPECIFIED **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	HEATER-UNSPECIFIED **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	ELECTRICAL COMPONENTS AND ACCESSORIES	44	48	7	34	71	4	36	96	45	57	35	7	48	35	57
	Reported At Least One Trouble (%)	4%	4%	1%	3%	6%	0%	3%	8%	4%	5%	3%	1%	4%	3%	5%
V83	INSTRUMENTATION	2	3	0	2	4	0	3	1	2	2	3	0	3	3	2
A37	SPEEDOMETER	1	1	0	1	2	0	2	0	1	1	2	0	1	2	1
	SPEEDOMETER-Not Working At All	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	SPEEDOMETER-Inaccurate	1	1	0	1	1	0	1	0	1	0	2	0	1	2	0
	SPEEDOMETER-Noisy	0	0	0	0	1	0	0	0	0	1	0	0	0	0	1
A34	HORN	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1
A35	COMPASS/THERMOMETER TROUBLES **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A40	TIRE PRESSURE MONITORING TROUBLES **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
G30	ODOMETER TROUBLES **	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0
G31	ENGINE TEMP GAUGE TROUBLES **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
G32	ENGINE CLUST/MESSAGE CENTER TRBLS **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
G29	OTHER INDICATOR/WARNING LIGHTS	0	0	0	0	1	0	0	0	0	1	0	0	0	0	1
V77	LIGHTING	9	9	2	13	3	0	8	11	9	5	12	2	9	12	4
	Headlight Effectiveness b/	88%	88%	89%	86%	90%	99%	89%	88%	88%	93%	84%	89%	88%	84%	93%
L25	INTERIOR LIGHTS NOT WORKING	6	6	0	10	0	0	7	0	6	0	10	0	6	10	0
L26	EXTERIOR LIGHTS NOT WORKING	0	0	1	0	1	0	0	3	0	1	0	1	0	0	1
L22	HEADLIGHT AIM/ALIGNMENT	2	2	1	2	1	0	1	7	2	3	1	1	2	1	3
L30	TURN SIGNAL TROUBLES **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
L29	OTHER LIGHTING TROUBLES **	1	1	0	1	1	0	1	0	1	1	1	0	1	1	1
V81	ENTERTAINMENT AND COMMUNICATION	19	20	4	5	46	4	13	53	20	38	4	4	20	4	38
	Audio system b/	81%	81%	78%	84%	75%	81%	80%	82%	80%	75%	86%	78%	81%	86%	74%
A02	STEREO/RADIO RECEPTION	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A04	STEREO/RADIO SOUND QUALITY	1	1	0	0	2	0	1	0	1	1	0	0	1	0	1
A15	TAPE PLAYER/CD	5	5	4	4	7	0	2	21	5	7	3	4	5	3	7
	Tape Player/CD Unspec	5	5	4	4	7	0	2	20	5	7	2	4	5	2	7
A16	CD Player **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A17	Cassette Player **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A06	SPEAKERS	11	12	0	0	31	0	10	15	11	25	0	0	12	0	24
A86	CELLULAR PHONE TROUBLES	3	3	0	1	7	0	0	17	3	5	1	0	3	1	6

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		Total	Series		Cab Type			Drive		Trans	Engine		Trim		Fuel	
CCC			250	350	CREW CAB	EXT PU	REG PU	4X4	4X2	Auto	6.0L	6.6L	Base	HD	DIESEL	GAS
A07	OTHER AUDIO/CLOCK TROUBLES **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	OTHER AUDIO TROUBLES **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	CLOCK	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	FAMILY ENTERTAINMENT SYSTEM TRBLS **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A59	TRIP COMPUTER/NAV SYSTEM TROUBLES **	0	0	0	0	0	4	0	0	0	0	1	0	0	1	0
A60	SAT DIG AUDIO SYS RECEIVER TRBLS **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
V19	ELECTRICAL POWER	0	0	1	0	1	0	0	0	0	1	0	1	0	0	1
C25	DEAD BATTERY	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0
C26	WEAK OR LOW ELECTRICAL POWER	0	0	0	0	1	0	0	0	0	1	0	0	0	0	1
C27	POWER SUPPLY TROUBLES **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
V17	OTHER ELECTRICAL ACCESSORIES	14	15	0	14	17	0	11	31	14	12	16	0	15	16	11
A87	CIGARETTE LIGHTER/POWERPOINT TROUBLE	7	8	0	5	12	0	5	16	7	12	4	0	8	4	11
A85	OTHER ELECTRICAL AND ACCESSORY TROUB	7	8	0	9	5	0	5	15	7	0	13	0	8	13	0
A88	WIRING TROUBLES **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E40	ELECTRONIC MODULE TROUBLES **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	CHASSIS TGW/1000	186	171	354	200	195	37	194	135	189	132	230	354	171	230	130
	Reported At Least One Trouble (%)	13%	12%	30%	16%	11%	4%	14%	10%	14%	6%	19%	30%	12%	19%	7%
	STEERING/HANDLING AND RIDE TGW/1000	79	71	163	55	135	0	75	97	81	86	72	163	71	72	87
	Reported At Least One Trouble (%)	6%	6%	16%	5%	10%	.	6%	8%	7%	6%	7%	16%	6%	7%	6%
	Visibility from driver's seat b/	89%	89%	85%	87%	91%	95%	90%	84%	89%	89%	88%	85%	89%	88%	90%
V87	STEERING	6	6	1	7	5	0	4	12	6	11	2	1	6	2	10
H21	EXCESSIVE FREE PLAY/WANDER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
H22	STEERING REQ. EXTRA OR UNEVEN EFFORT	3	3	0	5	0	0	3	0	3	7	0	0	3	0	6
L68	POWER STEERING FLUID LEAKS	1	1	1	1	0	0	1	0	1	0	1	1	1	1	0
N58	STEERING NOISY	2	2	0	1	5	0	0	12	2	4	1	0	2	1	4
H50	STEERING GEAR/PUMP TROUBLES **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
V89	HANDLING AND RIDE	73	65	162	49	130	0	71	85	75	75	70	162	65	70	77
	Overall handling b/	92%	91%	98%	89%	96%	95%	93%	88%	92%	93%	91%	98%	91%	91%	93%
	Handling on highway b/	90%	89%	98%	88%	94%	86%	90%	84%	89%	89%	89%	98%	89%	89%	90%
	Handling in city/parking b/	70%	72%	53%	71%	67%	80%	71%	65%	70%	75%	67%	53%	72%	67%	75%
	Smoothness of ride b/	79%	79%	78%	80%	76%	81%	79%	76%	78%	80%	77%	78%	79%	77%	81%
	Fun to drive b/	89%	89%	84%	86%	93%	93%	90%	84%	89%	91%	87%	84%	89%	87%	91%
	Towing performance b/	91%	92%	88%	89%	95%	99%	92%	89%	91%	93%	90%	88%	92%	90%	93%
	CONSTANT PULL/DRIFT TO ONE SIDE	17	19	0	16	24	0	20	2	18	0	31	0	19	31	0
H25	CONSTANT PULL/DRIFT-Left	9	9	0	1	24	0	10	1	9	0	15	0	9	15	0
H26	CONSTANT PULL/DRIFT-Right	9	9	0	15	0	0	10	1	9	0	16	0	9	16	0
	STEERING WHEEL VIBRATION/SHIMMY	3	3	1	1	8	0	4	0	3	7	1	1	3	1	6
N23	STEERING WHEEL VIB-Below 45 mph	3	3	1	0	8	0	3	0	3	7	0	1	3	0	6
N24	STEERING WHEEL VIB-Above 45 mph	0	0	1	1	0	0	0	0	0	0	1	1	0	1	0
	VEHICLE VIBRATES WHILE DRIVING	12	11	29	7	23	0	7	39	12	22	5	29	11	5	20
N22	VEHICLE VIBRATES-Below 45 mph	5	6	1	1	14	0	4	15	6	12	1	1	6	1	11
N25	VEHICLE VIBRATES-Above 45 mph	7	5	29	7	8	0	4	24	7	10	5	29	5	5	9

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		Total	Series		Cab Type			Drive		Trans	Engine		Trim		Fuel	
CCC			250	350	CREW CAB	EXT PU	REG PU	4X4	4X2	Auto	6.0L	6.6L	Base	HD	DIESEL	GAS
H44	HARSH RIDE	7	7	6	10	4	0	4	21	7	7	7	6	7	7	7
H45	MUSHY RIDE	9	9	0	0	25	0	10	1	9	20	0	0	9	0	19
H62	IMPROPER TIRE WEAR	18	11	101	14	29	0	20	12	19	19	19	101	11	19	18
H24	STEERING WHEEL SPOKES NOT CORRECTLY	2	0	24	0	5	0	2	0	2	0	3	24	0	3	0
C50	OTHER HANDLING AND RIDE	5	5	1	1	12	0	4	10	5	0	3	1	5	3	6
V21	BRAKES TGW/1000	107	99	191	144	59	37	119	36	108	46	158	191	99	158	43
	Reported At Least One Trouble (%)	9%	8%	19%	13%	4%	4%	10%	4%	9%	3%	14%	19%	8%	14%	3%
	Brakes b/	85%	84%	92%	82%	89%	86%	85%	88%	85%	89%	81%	92%	84%	81%	89%
H06	VEHICLE PULLS LEFT WHILE BRAKING	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
H07	VEHICLE PULLS RIGHT WHILE BRAKING	8	9	0	14	0	0	10	0	8	0	15	0	9	15	0
H08	VEHICLE PULLS WHILE BRAKING-UNSPEC.**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
H15	BRAKE PEDAL SPONGY	21	20	24	13	29	37	24	0	21	19	23	24	20	23	18
H02	BRAKES GRAB OR LOCK UP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
N27	VIBRATION/SHUDDER WHILE BRAKING	7	5	32	12	0	0	4	24	6	3	10	32	5	10	3
N17	NOISY BRAKES	37	29	134	62	6	0	42	10	38	3	65	134	29	65	3
H05	EXCESS PRESSURE REQUIRED	24	26	0	27	23	0	28	0	24	19	28	0	26	28	18
H19	ABS INDICATOR/WARNING LIGHT TROUBLES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
H04	PARKING BRAKE TROUBLES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
L63	BRAKE FLUID LEAK	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0
H16	BRAKES TOO SENSITIVE **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
H39	TRCTN CTRL/ADV TRAC WRN LGHT TRBLS **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
H20	OTHER BRAKE TROUBLES	10	10	1	16	1	0	11	0	10	1	17	1	10	17	1
V88	TIRES	0	0	0	0	1	0	0	1	0	0	1	0	0	1	0
TA1	ENTIRE/PARTIAL TREAD SEP FROM TIRE **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TA3	BUBBLE/BULGE IN TIRE SIDEWALL **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TA4	SPLITS/CRACKS IN SIDEWALL TREAD **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TA5	TIRE TREAD CHUNKS MISSING **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TB2	FLAT TIRE (SELF SEALING) **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TB3	VEH VIBRATION (TIRE OUT OF ROUND) **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TB6	TIRE SLOW LEAKS/VALVE STEM TRBLS **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TB7	TIRE PREMATURE TREAD WEAR **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TB8	TIRE PULLS/DRIFTS **	0	0	0	0	1	0	0	0	0	0	1	0	0	1	0
TC8	OTHER TIRE COSMETIC **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	POWERTRAIN TGW/1000	315	272	825	270	384	349	317	309	308	338	308	825	272	308	325
	Reported At Least One Trouble (%)	21%	19%	37%	19%	25%	16%	21%	16%	20%	20%	22%	37%	19%	22%	19%
V25	FUEL FILL AND DELIVERY	15	16	2	7	32	0	17	5	16	28	6	2	16	6	26
	Reported At Least One Trouble (%)	2%	2%	0%	1%	3%	.	2%	1%	2%	3%	1%	0%	2%	1%	3%
	Fuel economy b/	38%	38%	35%	41%	30%	48%	38%	38%	37%	32%	42%	35%	38%	42%	32%
E68	FUEL TANK LEAK/ODOR	4	4	0	6	0	0	4	0	4	0	6	0	4	6	0
L69	FUEL GAUGE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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		Total	Series		Cab Type			Drive		Trans	Engine		Trim		Fuel	
CCC			250	350	CREW CAB	EXT PU	REG PU	4X4	4X2	Auto	6.0L	6.6L	Base	HD	DIESEL	GAS
E65	SLOW FUEL TANK FILL/SPITBACK	12	13	2	1	32	0	13	5	12	28	0	2	13	0	26
	DRIVEABILITY TGW/1000	34	23	158	32	42	8	27	74	32	27	40	158	23	40	25
	Reported At Least One Trouble (%)	3%	2%	13%	3%	4%	0%	3%	5%	3%	2%	4%	13%	2%	4%	2%
	Overall engine operation b/	91%	90%	99%	90%	94%	86%	92%	86%	91%	89%	92%	99%	90%	92%	90%
	Overall transmission operation b/	83%	83%	77%	85%	80%	83%	82%	86%	83%	80%	85%	77%	83%	85%	81%
V40	ENGINE IDLES	6	4	28	4	8	4	3	22	5	2	8	28	4	8	2
	REPORTED AT LEAST ONE TROUBLE (%)	1%	0%	3%	0%	1%	0%	0%	2%	0%	0%	1%	3%	0%	1%	0%
	ENGINE IDLES	6	4	28	4	8	4	3	22	5	2	8	28	4	8	2
D11	ENGINE IDLES-TOO FAST	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0
D10	ENGINE IDLES-TOO SLOW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
D13	ENGINE IDLES-Rough	5	3	28	4	8	4	3	22	4	2	8	28	3	8	2
V41	SMOOTH RESPONSE	28	19	130	27	34	4	23	52	27	25	31	130	19	31	23
	REPORTED AT LEAST ONE TROUBLE (%)	3%	2%	13%	3%	3%	0%	2%	5%	3%	2%	3%	13%	2%	3%	2%
	ENGINE POWER AND PICKUP B/	85%	85%	84%	83%	89%	87%	85%	84%	85%	84%	85%	84%	85%	85%	85%
	ENGINE HESITATES/SURGES	26	18	130	26	32	4	22	52	26	24	29	130	18	29	23
D36	ENGINE HES/SURGES-WHEN ACCELERATING	22	13	130	22	27	0	21	30	23	21	24	130	13	24	20
D41	ENGINE HES/SURGES-AT STEADY SPEED	8	6	28	8	9	0	1	46	7	3	12	28	6	12	3
	AUTOMATIC SPEED/CRUISE CONTROL	1	1	0	1	1	0	1	0	1	0	1	0	1	1	0
A25	CRUISE-ENGAGEMENT	0	0	0	0	1	0	0	0	0	0	1	0	0	1	0
A26	CRUISE-DISENGAGEMENT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A27	CRUISE-NOT MAINTAIN CONSISTENT SPEE	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0
	POOR PERFORMANCE/LACKS POWER **	1	1	0	1	1	0	1	0	1	1	1	0	1	1	1
V42	ENGINE STALLS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	REPORTED AT LEAST ONE TROUBLE (%)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
D21	ENGINE STALLS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
V43	QUICK AND EASY START	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0
	REPORTED AT LEAST ONE TROUBLE (%)	0%	0%	.	0%	.	.	0%	.	0%	.	0%	.	0%	0%	.
	EASE OF STARTING ENGINE B/	92%	92%	90%	91%	97%	77%	92%	91%	92%	90%	93%	90%	92%	93%	91%
D02	ENGINE WOULD NOT START	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
D03	DIFFICULT OR SLOW TO START	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0
V44	MECHANICAL MALFUNCTION	45	27	261	55	37	5	37	91	46	11	72	261	27	72	12
	Reported At Least One Trouble (%)	4%	3%	23%	5%	4%	1%	4%	8%	4%	1%	7%	23%	3%	7%	1%
E23	ENGINE OVERHEATS/RADIATOR TROUBLES	3	1	28	4	1	0	1	15	3	1	5	28	1	5	1
E50	ENGINE BELT BREAKING/SLIPPNG/SQUEALNG	4	4	7	4	5	0	2	19	4	0	7	7	4	7	1
	ENG BELT-Brkng/Slpng/Sqlng Unspec	4	4	7	4	5	0	2	19	4	0	7	7	4	7	1
E19	ENG BELT-Slipping/Squealing **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E20	ENG BELT-Off/Fryd/Cmng Aprt/Brkn **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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		Total	Series		Cab Type			Drive		Trans	Engine		Trim		Fuel	
CCC			250	350	CREW CAB	EXT PU	REG PU	4X4	4X2	Auto	6.0L	6.6L	Base	HD	DIESEL	GAS
E29	CHECK/OTHER ENGINE LIGHT TROUBLES	14	4	130	8	27	1	11	31	14	3	22	130	4	22	3
	CHECK ENGINE LIGHT TROUBLES	14	4	130	8	27	1	11	31	14	3	22	130	4	22	3
	OTHER ENGINE LIGHT TROUBLES **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
L65	ENGINE LEAKS OIL	7	0	95	13	0	0	9	0	8	0	13	95	0	13	0
E26	EXCESSIVE OIL CONSUMPTION	0	0	0	0	0	4	0	0	0	0	0	0	0	0	1
L66	EXHAUST SYSTEM TROUBLES	3	3	0	3	4	0	0	18	3	6	1	0	3	1	6
D50	OTHER ENGINE TROUBLES	13	14	0	22	1	0	14	7	14	0	24	0	14	24	0
	OTHER ENGINE TRBLS (NOT RUST/RUN-ON)	13	14	0	22	1	0	14	7	14	0	24	0	14	24	0
	ENGINE COMPARTMENT RUST/CORROSION	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	ENGINE RUNS WITH THE KEY OFF	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
L85	UNDETERMINED ENGINE LEAK **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
K01	OTHER AXLE/TRANSFER CASE TROUBLES **	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0
L72	TRANSMISSION FLUID LEAKS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	MEMO: A-TRANSMISSION FLUID LEAKS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	MEMO: M-TRANS/CLUTCH FLUID LEAKS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E41	UNUSUAL EXHAUST SYSTEM ODOR **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E42	UNUSUAL EXHAUST SYSTEM NOISE **	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
E43	EXHAUST SYSTEM RUST/CORROSION/APP. **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
K02	AXLE WHINE/HOWL/GROAN **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
K03	AXLE VIBRATION/SHAKE **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
L87	COOLANT LEAK **	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0
L88	FRONT/REAR AXLE OR DRVSHFT LEAKS **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E69	LOW OIL PRESSURE **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TRANSMISSION SHIFTING	189	175	353	159	251	130	211	62	184	222	172	353	175	172	210
	Reported At Least One Trouble (%)	14%	14%	23%	14%	16%	13%	16%	4%	14%	15%	15%	23%	14%	15%	14%
	MEMO: AUTOMATIC TRANSMISSION TGW/1000	184	169	362	160	230	150	206	55	184	211	171	362	169	171	200
	Reported At Least One Trouble (%)	13%	13%	23%	14%	13%	13%	15%	3%	14%	13%	15%	23%	13%	15%	12%
	Smoothness of transmission b/	81%	82%	72%	82%	80%	73%	80%	86%	81%	78%	82%	72%	82%	82%	79%
	SHIFTS ROUGH OR JERKY FROM PARK	29	23	104	32	31	0	34	5	29	25	34	104	23	34	24
	SHIFTS ROUGH OR JERKY WHILE DRIVING	49	51	29	44	46	102	53	23	49	59	44	29	51	44	55
	GEAR CHANGES TAKE TOO LONG TO COMPLET	31	25	98	18	50	43	35	4	31	40	25	98	25	25	38
	SHIFTS OCCUR TOO EARLY/LATE/OFTEN	30	22	131	24	47	0	32	21	30	39	26	131	22	26	37
	DIFFICULT TO OPERATE SHIFT LEVER	8	9	0	13	1	0	9	0	8	0	14	0	9	14	1
	NO FORWARD/REV MOVEMENT IN GEAR **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	A-4-WHEEL/ALL-WHEEL DRIVE TROUBLES	10	11	0	13	8	0	12	0	10	14	8	0	11	8	13
	A-OTHER AUTOMATIC TRANSMISSION TROUBL	26	28	1	16	47	5	30	1	26	34	21	1	28	21	32

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		Total	Series		Cab Type			Drive		Trans	Engine		Trim		Fuel	
CCC			250	350	CREW CAB	EXT PU	REG PU	4X4	4X2	Auto	6.0L	6.6L	Base	HD	DIESEL	GAS
V48	AUTOMATIC TRANSMISSION TGW/1000	179	165	353	159	223	128	201	54	184	200	171	353	165	171	189
	Reported At Least One Trouble (%)	14%	13%	24%	14%	14%	15%	15%	3%	14%	13%	15%	24%	13%	15%	13%
	Smoothness of transmission b/	81%	82%	72%	82%	80%	73%	80%	86%	81%	78%	82%	72%	82%	82%	79%
P68	SHIFTS ROUGH OR JERKY FROM PARK	29	23	101	32	30	0	33	5	29	24	34	101	23	34	22
P66	SHIFTS ROUGH OR JERKY WHILE DRIVING	48	49	28	44	45	87	52	23	49	56	44	28	49	44	52
P69	GEAR CHANGES TAKE TOO LONG TO COMPLET	30	24	95	18	48	37	34	4	31	38	25	95	24	25	36
P67	SHIFTS OCCUR TOO EARLY/LATE/OFTEN	30	21	127	24	46	0	31	20	30	37	26	127	21	26	35
P51	DIFFICULT TO OPERATE SHIFT LEVER	8	9	0	13	1	0	9	0	8	0	14	0	9	14	1
P83	NO FORWARD/REV MOVEMENT IN GEAR **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
P82	A-4-WHEEL/ALL-WHEEL DRIVE TROUBLES	10	11	0	13	8	0	12	0	10	13	8	0	11	8	13
P59	A-OTHER AUTOMATIC TRANSMISSION TROUBL	25	27	1	16	45	4	29	1	26	32	21	1	27	21	30
	MEMO: MANUAL TRANSMISSION TGW/1000	418	455	0	0	922	13	416	434	.	457	407	0	455	407	418
	Reported At Least One Trouble (%)	1%	1%	.	.	3%	0%	1%	1%	.	2%	0%	.	1%	0%	2%
	Ease of changing gears b/	58%	54%	100%	100%	7%	99%	58%	54%	.	54%	51%	100%	54%	51%	58%
	Clutch operation b/	98%	98%	100%	100%	97%	99%	98%	94%	.	99%	59%	100%	98%	59%	99%
	DIFFICULT TO CHANGE GEARS	415	451	0	0	922	6	416	406	.	453	407	0	451	407	415
	M-4-WHEEL/ALL-WHEEL DRIVE TROUBLES	0	0	0	0	0	0	0	0	.	0	0	0	0	0	0
	CLUTCH REQ. TOO MUCH OR UNEVEN EFFORT	0	0	0	0	0	0	0	0	.	0	0	0	0	0	0
	CLUTCH CHATTERS/GRABS/SLIPS/JERKS	3	3	0	0	0	6	0	28	.	4	0	0	3	0	3
	OTHER CLUTCH TROUBLES **	0	0	0	0	0	0	0	0	.	0	0	0	0	0	0
	M-OTHER MANUAL TRANSMISSION TROUBLES	0	0	0	0	0	0	0	0	.	0	0	0	0	0	0
V47	MANUAL TRANSMISSION TGW/1000	10	10	0	0	27	2	10	8	0	22	1	0	10	1	21
	Reported At Least One Trouble (%)	41%	45%	.	.	92%	1%	42%	41%	.	45%	41%	.	45%	41%	41%
	Ease of changing gears b/	58%	54%	100%	100%	7%	99%	58%	54%	.	54%	51%	100%	54%	51%	58%
	Clutch operation b/	98%	98%	100%	100%	97%	99%	98%	94%	.	99%	59%	100%	98%	59%	99%
P01	DIFFICULT TO CHANGE GEARS	10	10	0	0	27	1	10	7	0	22	1	0	10	1	21
P31	M-4-WHEEL/ALL-WHEEL DRIVE TROUBLES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
P23	CLUTCH REQ. TOO MUCH OR UNEVEN EFFORT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
P22	CLUTCH CHATTERS/GRABS/SLIPS/JERKS	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
P24	OTHER CLUTCH TROUBLES **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
P09	M-OTHER MANUAL TRANSMISSION TROUBLES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
V49	POWERTRAIN SOUND AND NVH	33	31	52	16	22	205	25	78	30	50	17	52	31	17	52
	Reported At Least One Trouble (%)	2%	2%	5%	2%	2%	12%	2%	7%	2%	3%	2%	5%	2%	2%	3%
	Quietness of engine b/	83%	83%	86%	83%	86%	77%	84%	80%	83%	86%	81%	86%	83%	81%	87%
	Quietness of transmission b/	81%	81%	79%	82%	81%	76%	81%	83%	81%	78%	83%	79%	81%	83%	79%
	UNUSUAL ENGINE NOISE	19	16	52	12	9	112	15	39	17	23	13	52	16	13	26
N12	UNUSUAL ENGINE NOISE-While Driving	9	7	28	10	9	1	4	34	9	7	10	28	7	10	7
N11	UNUSUAL ENGINE NOISE-At Idle	14	11	52	7	5	111	12	29	13	20	7	52	11	7	23
N18	UNUSUAL TRANSMISSION NOISE	14	15	0	4	13	93	9	39	13	26	4	0	15	4	26
	MEMO: A-UNUSUAL TRANSMISSION NOISE	12	13	0	4	9	92	9	32	13	24	4	0	13	4	23
	MEMO: M-UNUSUAL TRANSMISSION NOISE	1	1	0	0	4	1	0	7	0	3	1	0	1	1	2
	4-WHEEL/ALL-WHEEL DRIVE TROUBLES	10	11	0	13	8	0	12	0	10	13	8	0	11	8	13
	OTHER TRANSMISSION TROUBLES	25	27	1	16	45	4	29	1	26	32	21	1	27	21	30
	MEMO: TOTAL PTO ENGINE	65	44	312	81	25	125	56	117	65	23	95	312	44	95	28
	MEMO: TOTAL PTO ENGINE (GAS)	28	24	512	0	14	146	27	31	25	23	.	512	24	.	28
	MEMO: TOTAL PTO ENGINE (DIESEL)	95	63	302	108	51	43	77	246	95	.	95	302	63	95	.

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		Total	Series		Cab Type			Drive		Trans	Engine		Trim		Fuel	
CCC			250	350	CREW CAB	EXT PU	REG PU	4X4	4X2	Auto	6.0L	6.6L	Base	HD	DIESEL	GAS
	MEMO: TOTAL ENGINE TGW/1000	97	66	471	99	89	126	79	203	96	61	125	471	66	125	63
	MEMO: TOTAL TRANSMISSION TGW/1000	203	190	353	163	264	223	220	101	196	249	176	353	190	176	236
	MEMO: TOTAL PTO TRANSMISSION ONLY	192	179	353	150	256	222	208	100	186	235	168	353	179	168	223
	MEMO: TOTAL AUTOMATIC TRANS TGW/1000	192	178	353	163	233	220	210	86	196	224	175	353	178	175	213
	MEMO: TOTAL PTO AUTOMATIC TRANS ONLY	182	167	353	150	225	220	198	86	186	211	167	353	167	167	200
	MEMO: TOTAL MANUAL TRANS TGW/1000	11	12	0	0	31	3	10	15	0	25	1	0	12	1	23
	MEMO: TOTAL PTO MANUAL TRANS ONLY	11	12	0	0	31	2	10	14	0	24	1	0	12	1	23
	MEMO: OTHER SATISFACTION RESPONSES (%)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Selling dealership b/	78%	78%	80%	76%	82%	84%	79%	77%	78%	81%	76%	80%	78%	76%	82%
	Servicing dealership (if appl.) b/	76%	77%	68%	76%	76%	84%	77%	75%	76%	81%	72%	68%	77%	72%	81%
	Condition of vehicle upon delivery b/	82%	82%	80%	77%	86%	96%	81%	85%	81%	88%	77%	80%	82%	77%	88%
	Value for the money b/	49%	48%	66%	50%	49%	46%	47%	64%	50%	51%	46%	66%	48%	46%	54%
	Purchase price b/	46%	46%	52%	44%	47%	58%	45%	57%	47%	50%	41%	52%	46%	41%	52%
	Warranty terms and conditions b/	56%	55%	62%	59%	50%	61%	55%	60%	56%	53%	56%	62%	55%	56%	55%
	Operating costs b/	39%	39%	41%	41%	33%	51%	39%	42%	39%	40%	39%	41%	39%	39%	40%
	Credit/fin./lease terms (if appl.) b/	62%	62%	66%	63%	57%	73%	61%	68%	63%	57%	64%	66%	62%	64%	60%
	SAMPLE SIZE	610	541	69	359	219	32#	349	261	596	198	396	69	541	396	214

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		Total	Series		Cab Type		Drive		Transmission	Engine		Trim		Fuel	
CCC			250	350	C	K	4X4	4X2	Auto	6.0L	6.6L	BASE	HD	DIESEL	GAS
	TOTAL TGW/1000	1816	1922	992	1673	2296	1868	1339	1816	1785	1845	992	1922	1845	1754
	No Reported Troubles (%)	43%	41%	59%	42%	43%	43%	45%	43%	42%	43%	59%	41%	43%	43%
	Reported At Least One Trouble (%)	57%	59%	41%	58%	57%	57%	55%	57%	58%	57%	41%	59%	57%	57%
	Overall ownership experience b/	73%	72%	81%	78%	62%	72%	78%	73%	72%	73%	81%	72%	73%	72%
	Overall quality of your vehicle b/	75%	74%	81%	76%	69%	74%	82%	75%	81%	71%	81%	74%	71%	80%
	Solid and durable construction b/	80%	78%	91%	80%	75%	79%	83%	80%	74%	83%	91%	78%	83%	74%
	BODY	1089	1169	466	1014	1356	1122	773	1089	1186	1021	466	1169	1021	1182
	Reported At Least One Trouble (%)	47%	50%	23%	45%	54%	47%	44%	47%	49%	45%	23%	50%	45%	49%
	Overall condition of exterior b/	82%	81%	91%	84%	78%	82%	83%	82%	78%	85%	91%	81%	85%	78%
V33	EXTERIOR PAINT APPEARANCE TGW/1000	131	138	68	192	45	143	26	131	118	145	68	138	145	106
	Reported At Least One Trouble (%)	9%	9%	7%	12%	5%	9%	3%	9%	12%	7%	7%	9%	7%	11%
	Paint appearance b/	81%	81%	84%	82%	76%	81%	83%	81%	80%	83%	84%	81%	83%	79%
F06	PEELED PAINT	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	PEELED-Front Side Door	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	PEELED-Rear Side Door	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	PEELED-Hood	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	PEELED-Trnk Ld/Htch/Tgate/Cargo	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	PEELED-Pickup Bed	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	PEELED-Front Fender	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	PEELED-Rear Fender	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	PEELED-Roof	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F19	CHIPPED/SCRATCHED PAINT	75	83	10	112	23	80	25	75	50	93	10	83	93	46
	CHIPPED PAINT (NOT BUMPER)	32	35	8	54	0	34	20	32	30	36	8	35	36	27
	CHIPPED-Front Side Door	7	8	0	12	0	8	0	7	0	12	0	8	12	0
	CHIPPED-Rear Side Door	8	9	0	13	0	9	0	8	0	13	0	9	13	0
	CHIPPED-Hood	24	26	8	40	0	25	19	24	29	23	8	26	23	26
	CHIPPED-Trnk Ld/Htch/Tgate/Cargo	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	CHIPPED-Pickup Bed	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	CHIPPED-Front Fender	0	0	0	0	0	0	2	0	1	0	0	0	0	0
	CHIPPED-Rear Fender	4	5	0	7	0	4	2	4	1	6	0	5	6	0
	CHIPPED-Roof	1	0	8	2	0	0	9	1	0	2	8	0	2	0
	SCRATCHED PAINT (Not Bumper)	27	30	1	33	23	30	5	27	20	32	1	30	32	19
	SCRTCHD-Front Side Door	4	4	0	6	0	4	0	4	0	6	0	4	6	0
	SCRTCHD-Rear Side Door	4	4	0	6	0	4	0	4	0	6	0	4	6	0
	SCRTCHD-Hood	4	4	0	6	0	4	0	4	0	6	0	4	6	0
	SCRTCHD-Trnk Ld/Htch/Tgate/Cargo	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	SCRTCHD-Pickup Bed	23	26	0	26	22	25	0	23	20	26	0	26	26	18
	SCRTCHD-Front Fender	4	5	0	7	0	4	3	4	0	7	0	5	7	0
	SCRTCHD-Rear Fender	11	12	1	6	23	12	2	11	20	6	1	12	6	18
	SCRTCHD-Roof	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	CHIPPED PAINT-BUMPER	15	17	0	25	0	17	0	15	0	25	0	17	25	0
	SCRATCHED PAINT-BUMPER	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F13	FADED/DULL PAINT	9	10	0	15	0	10	0	9	0	15	0	10	15	0
	FADED/DL-Front Side Door	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	FADED/DL-Rear Side Door	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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		Total	Series		Cab Type		Drive		Transmission	Engine		Trim		Fuel	
CCC			250	350	C	K	4X4	4X2	Auto	6.0L	6.6L	BASE	HD	DIESEL	GAS
	FADED/DL-Hood	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	FADED/DL-Trnk Ld/Htch/Tgate/Cargo	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	FADED/DL-Pickup Bed	8	9	0	14	0	9	0	8	0	14	0	9	14	0
	FADED/DL-Front Fender	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	FADED/DL-Rear Fender	1	1	0	1	0	1	0	1	0	1	0	1	1	0
	FADED/DL-Roof	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F05	SAGS/RUNS IN PAINT	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	SAGS/RUNS-Front Side Door	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	SAGS/RUNS-Rear Side Door	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	SAGS/RUNS-Hood	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	SAGS/RUNS-Trnk Ld/Htch/Tgate/Cargo	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	SAGS/RUNS-Pickup Bed	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	SAGS/RUNS-Front Fender	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	SAGS/RUNS-Rear Fender	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	SAGS/RUNS-Roof	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F04	THIN/NO PAINT	7	8	0	12	0	8	0	7	0	12	0	8	12	0
	THIN/NO-Front Side Door	7	8	0	12	0	8	0	7	0	12	0	8	12	0
	THIN/NO-Rear Side Door	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	THIN/NO-Hood	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	THIN/NO-Trnk Ld/Htch/Tgate/Cargo	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	THIN/NO-Pickup Bed	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	THIN/NO-Front Fender	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	THIN/NO-Rear Fender	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	THIN/NO-Roof	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F12	STAINED/SPOTTED PAINT	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	STND/SPOT-Front Side Door	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	STND/SPOT-Rear Side Door	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	STND/SPOT-Hood	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	STND/SPOT-Trnk Ld/Htch/Tgate/Cargo	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	STND/SPOT-Pickup Bed	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	STND/SPOT-Front Fender	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	STND/SPOT-Rear Fender	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	STND/SPOT-Roof	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F20	DIRT IN PAINT	9	10	0	14	0	9	1	9	0	14	0	10	14	0
	DIRT-Front Side Door	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	DIRT-Rear Side Door	8	9	0	14	0	9	0	8	0	14	0	9	14	0
	DIRT-Hood	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	DIRT-Trnk Ld/Htch/Tgate/Cargo	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	DIRT-Pickup Bed	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	DIRT-Front Fender	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	DIRT-Rear Fender	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	DIRT-Roof	0	0	0	0	0	0	1	0	0	0	0	0	0	0
F30	UNEVEN COLOR/COLOR DIFFERENCES BETW	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	COLOR-Front Side Door	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	COLOR-Rear Side Door	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	COLOR-Hood	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	COLOR-Trnk Ld/Htch/Tgate/Cargo	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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		Total	Series		Cab Type		Drive		Transmission	Engine		Trim		Fuel	
CCC			250	350	C	K	4X4	4X2	Auto	6.0L	6.6L	BASE	HD	DIESEL	GAS
	COLOR-Pickup Bed	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	COLOR-Front Fender	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	COLOR-Rear Fender	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	COLOR-Roof	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F10	PAINT SPRAY OVER BODY FINISH	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	PAINT SPRAY OVER BDY FNSH (NOT BMPR)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	SPRAY-Front Side Door	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	SPRAY-Rear Side Door	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	SPRAY-Hood	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	SPRAY-Trnk Ld/Htch/Tgate/Cargo	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	SPRAY-Pickup Bed	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	SPRAY-Front Fender	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	SPRAY-Rear Fender	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	SPRAY-Roof	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	PAINT SPRAY OVER BODY FINISH-BMPR	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F11	BODY RUST/CORROSION	7	8	0	0	22	8	0	7	20	0	0	8	0	18
	BODY RUST/CORROSION (NOT UNDERBODY)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	RUST/COR-Front Side Door	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	RUST/COR-Rear Side Door	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	RUST/COR-Hood	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	RUST/COR-Trnk Ld/Htch/Tgate/Cargo	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	RUST/COR-Pickup Bed	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	RUST/COR-Front Fender	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	RUST/COR-Rear Fender	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	RUST/COR-Roof	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	BODY RUST/CORROSION-UNDERBODY	7	8	0	0	22	8	0	7	20	0	0	8	0	18
F15	DETAIL PAINT OR TAPE STRIPES COMING	16	10	58	26	0	17	0	16	24	12	58	10	12	21
F07	BUBBLES/BLISTERS IN PAINT **	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F09	OTHER EXTERIOR PAINT TROUBLES	8	9	0	14	0	9	0	8	24	0	0	9	0	21
V01	CORROSION TGW/1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Reported At Least One Trouble (%)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
F25	RUST PERFORATION **	0	0	0	0	0	0	0	0	0	0	0	0	0	0
V31	SHEET METAL TGW/1000	174	188	58	157	209	184	78	174	205	141	58	188	141	221
	Reported At Least One Trouble (%)	15%	16%	6%	13%	19%	16%	8%	15%	16%	12%	6%	16%	12%	19%
	Door opening/closing efforts b/	74%	72%	92%	80%	60%	74%	78%	74%	69%	78%	92%	72%	78%	69%
	Trunk lib/hatchback opening/closing e	75%	74%	83%	77%	71%	74%	78%	75%	78%	74%	83%	74%	74%	76%
B01	DENTS/DINGS	42	48	0	58	5	45	14	42	36	48	0	48	48	33
	DENTS/DINGS-Front Side Door	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	DENTS/DINGS-Rear Side Door	2	2	0	3	0	2	0	2	0	3	0	2	3	0
	DENTS/DINGS-Hood	4	4	0	6	0	4	0	4	0	6	0	4	6	0
	DENTS/DINGS-Trnk Ld/Htch/Tgate/Cargo	9	11	0	16	0	10	0	9	0	15	0	11	15	0
	DENTS/DINGS-Front Fender	2	2	0	0	5	0	14	2	4	0	0	2	0	4
	DENTS/DINGS-Rear Fender	30	33	0	39	0	33	0	30	32	30	0	33	30	29

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		Total	Series		Cab Type		Drive		Transmission	Engine		Trim		Fuel	
CCC			250	350	C	K	4X4	4X2	Auto	6.0L	6.6L	BASE	HD	DIESEL	GAS
	DENTS/DINGS-Roof	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B02	FITS POORLY	29	25	58	22	49	32	1	29	20	26	58	25	26	33
	FIFITS POORLY (NOT CAB-TO_BOX ALGNMT	21	24	0	9	49	23	1	21	20	13	0	24	13	33
	FITS POORLY Front Side Door	13	15	0	9	23	15	0	13	0	12	0	15	12	14
	FITS POORLY Rear Side Door	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	FITS POORLY Hood	8	9	0	0	25	9	0	8	20	1	0	9	1	18
	FITS POORLY Trnk Ld/Htch/Tgate/Carg	6	7	0	0	18	6	1	6	0	0	0	7	0	15
	FITS POORLY Front Fender	7	8	0	0	22	8	0	7	20	0	0	8	0	18
	FITS POORLY Rear Fender	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	FITS POORLY-PICKUP CAB-TO-BOX ALGNMT	8	1	58	13	0	9	0	8	0	13	58	1	13	0
B05	HARD TO OPEN	34	38	0	44	22	37	9	34	40	32	0	38	32	36
	HARD TO OPN-Front Side Door	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	HARD TO OPN-Rear Side Door	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	HARD TO OPN-Hood	7	8	0	0	22	8	0	7	20	0	0	8	0	18
	HARD TO OPN-Trnk Ld/Htch/Tgate/Cargo	34	38	0	44	22	37	9	34	40	32	0	38	32	36
B15	HARD TO CLOSE	69	78	0	33	133	70	53	69	108	35	0	78	35	120
	HARD TO CLO-Front Side Door	40	45	0	20	66	40	42	40	29	34	0	45	34	49
	HARD TO CLO-Rear Side Door	31	35	0	0	97	33	14	31	59	16	0	35	16	53
	HARD TO CLO-Hood	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	HARD TO CLO-Trnk Ld/Htch/Tgate/Cargo	27	30	0	28	30	30	0	27	20	17	0	30	17	42
B19	OTHER BODY PANEL TROUBLES **	0	0	0	0	0	0	0	0	0	0	0	0	0	0
V75	EXTERIOR TRIM AND BUMPER TGW/1000	49	53	14	54	48	52	21	49	66	42	14	53	42	59
	Reported At Least One Trouble (%)	4%	4%	1%	4%	5%	4%	2%	4%	4%	4%	1%	4%	4%	4%
	Exterior styling b/	83%	83%	84%	85%	76%	83%	83%	83%	84%	82%	84%	83%	82%	83%
	Exterior molding and trim b/	78%	78%	82%	80%	74%	78%	80%	78%	78%	80%	82%	78%	80%	76%
B64	MLDGS/EXT.TRIM POORLY ALIGNED OR FIT	18	20	0	14	30	20	0	18	24	15	0	20	15	21
	MLD/TRM FIT-Front Side Door	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	MLD/TRM FIT-Rear Side Door	18	20	0	14	30	20	0	18	24	15	0	20	15	21
	MLD/TRM FIT-Hood	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	MLD/TRM FIT-Trnk Ld/Htch/Tgate/Cargo	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	MLD/TRM FIT-Bumper	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	MLD/TRM FIT-Front Fender	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	MLD/TRM FIT-Rear Fender	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	MLD/TRM FIT-Roof	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B63	MLDGS/EXT.TRIM LOOSE/MISSING	13	15	0	19	0	13	11	13	24	8	0	15	8	21
	MLD/TRM L/M-Front Side Door	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	MLD/TRM L/M-Rear Side Door	8	9	0	14	0	9	0	8	24	0	0	9	0	21
	MLD/TRM L/M-Hood	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	MLD/TRM L/M-Trnk Ld/Htch/Tgate/Cargo	2	2	0	3	0	2	0	2	0	3	0	2	3	0
	MLD/TRM L/M-Bumper	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	MLD/TRM L/M-Front Fender	3	3	0	3	0	2	11	3	0	5	0	3	5	0
	MLD/TRM L/M-Rear Fender	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	MLD/TRM L/M-Roof	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B62	MLDGS/EXT.TRIM CORRODED	7	8	0	12	0	8	0	7	0	12	0	8	12	0
	MLD/TRM COR-Front Side Door	7	8	0	12	0	8	0	7	0	12	0	8	12	0

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		Total	Series		Cab Type		Drive		Transmission	Engine		Trim		Fuel	
CCC			250	350	C	K	4X4	4X2	Auto	6.0L	6.6L	BASE	HD	DIESEL	GAS
	MLD/TRM COR-Rear Side Door	7	8	0	12	0	8	0	7	0	12	0	8	12	0
	MLD/TRM COR-Hood	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	MLD/TRM COR-Trnk Ld/Htch/Tgate/Cargo	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	MLD/TRM COR-Front Fender	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	MLD/TRM COR-Rear Fender	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	MLD/TRM COR-Roof	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	BUMPER PAINT TROUBLES	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F41	BMPR-PEELED	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F33	BMPR-FADED/DULL	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F34	BMPR-SAGS/RUNS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F35	BMPR-THIN/NO PAINT	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F36	BMPR-STAINED/SPOTTED	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F37	BMPR-DIRT IN PAINT	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F38	BMPR-UNEVEN COLOR/COLOR DIFF.	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F39	BMPR-RUST/CORROSION	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	BMPR-RUST/CORROSION (NOT MLD/TRIM)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	BMPR-RUST/CORROSION ON MLD/TRM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B06	BUMPER DENTS/DINGS	7	8	0	3	18	8	0	7	16	3	0	8	3	14
B07	BUMPER FITS POORLY	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B65	WHEEL/HUBCAP CONDITION	3	1	14	5	0	2	10	3	3	3	14	1	3	3
B66	OTHER BODY/EXT. TRIM TROUBLES	1	1	0	1	0	1	0	1	0	1	0	1	1	0
B69	OTHER BUMPER TROUBLES **	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	MECHANISMS TGW/1000	80	80	76	83	72	72	141	80	89	65	76	80	65	103
	Reported At Least One Trouble (%)	7%	7%	4%	7%	7%	6%	10%	7%	8%	5%	4%	7%	5%	9%
V07	LATCHING AND SECURITY	57	63	13	58	47	47	133	57	66	40	13	63	40	83
	Security features b/	79%	77%	94%	84%	71%	80%	76%	79%	79%	80%	94%	77%	80%	79%
L06	EXTERIOR DOOR LOCK TROUBLES-MANUAL	2	2	0	0	5	0	14	2	4	0	0	2	0	4
L07	EXTERIOR DOOR LOCK TROUBLES-POWER	30	33	7	47	6	27	60	30	30	32	7	33	32	27
L08	EXTERIOR DOOR HANDLE TROUBLES	0	0	0	0	0	0	0	0	0	0	0	0	0	0
L20	REMOTE/KEYLESS ENTRY	15	17	0	6	36	10	49	15	10	3	0	17	3	33
L16	INTERIOR DOOR LOCK TROUBLES-MANUAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0
L17	INTERIOR DOOR LOCK TROUBLES-POWER	2	2	3	4	0	2	7	2	0	4	3	2	4	0
L18	INTERIOR DOOR HANDLE TROUBLES	0	0	0	0	0	0	0	0	0	0	0	0	0	0
L19	DOOR AJAR INDICATOR/WARNING LIGHTS	7	8	0	0	0	8	0	7	21	0	0	8	0	19
L13	IGNITION SWITCH	0	0	0	0	0	0	0	0	0	0	0	0	0	0
L14	ANTI-THEFT/ALARM SYSTEM	0	0	3	1	0	0	3	0	1	0	3	0	0	1
L10	FUEL-FILLER DOOR TROUBLES	0	0	0	0	0	0	0	0	0	0	0	0	0	0
L23	KEY TROUBLES **	0	0	0	0	0	0	0	0	0	0	0	0	0	0
L15	OTHER LOCK/MECHANISM TROUBLES **	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	OTHER MECHANISM TROUBLES **	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	OTHER LOCK TROUBLES **	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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		Total	Series		Cab Type		Drive		Transmission	Engine		Trim		Fuel	
CCC			250	350	C	K	4X4	4X2	Auto	6.0L	6.6L	BASE	HD	DIESEL	GAS
V09	GLASS	4	4	0	6	0	4	0	4	0	6	0	4	6	0
G05	WINDOW OPENING/CLOSING TROUBLES-MAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0
G07	WINDOW OPENING/CLOSING TROUBLES-POW	0	0	0	0	0	0	0	0	0	0	0	0	0	0
G02	GLASS BROKEN/CHPPD/CRCKD/DSTRT/OTHR	4	4	0	6	0	4	0	4	0	6	0	4	6	0
	GLASS BROKEN/CHIPPED/CRCKD/DSTRTD	4	4	0	6	0	4	0	4	0	6	0	4	6	0
	OTHER GLASS TROUBLES **	0	0	0	0	0	0	0	0	0	0	0	0	0	0
J03	SUN/MOON/T-TOP/CONV. FITS POORLY	0	0	0	0	0	0	0	0	0	0	0	0	0	0
J04	SUN/MOON/T-TOP/CONV. DIFF TO OPN/CLS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
V15	FRONT GLASS WIPING AND WASHING	19	13	63	19	25	21	8	19	23	19	63	13	19	20
	FRONT WINDSHIELD WIPERS	16	13	31	13	25	16	8	16	23	12	31	13	12	20
	FRONT WINDSHIELD WASHERS	4	0	31	6	0	4	0	4	0	6	31	0	6	0
	OTHER WIPER/WASHER TROUBLES **	0	0	0	0	0	0	0	0	0	0	0	0	0	0
V16	REAR GLASS WIPING AND WASHING	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	REAR WINDSHIELD WIPERS (Car/SUV/Van)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	REAR WINDSHIELD WASHERS(Car/SUV/Van)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
V11	WIND NOISE TGW/1000	213	240	14	123	405	213	207	213	269	179	14	240	179	265
	Reported At Least One Trouble (%)	16%	18%	1%	11%	26%	16%	16%	16%	19%	13%	1%	18%	13%	20%
R22	WN-AROUND FRONT SIDE DOOR/WINDOW	107	121	14	50	209	105	127	107	144	79	14	121	79	153
R23	WN-AROUND REAR SIDE DOOR/WINDOW	67	75	0	32	150	68	53	67	104	48	0	75	48	94
R32	WN-AROUND SIDE DOOR/WINDOW-UNSPEC. **	0	0	0	0	0	0	0	0	0	0	0	0	0	0
R21	WN-AROUND WINDSHIELD	17	19	0	21	12	18	2	17	16	18	0	19	18	14
R29	WN-AROUND SUN/MOON/T-TOP/CONV. ROOF	0	0	0	0	0	0	0	0	0	0	0	0	0	0
R24	WN-AROUND BACK/NON-SLDNG REAR	0	0	0	0	0	0	1	0	0	0	0	0	0	0
	WN-AROUND BACK WINDOW	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	WN-AROUND NON-SLIDING REAR WINDOW	0	0	0	0	0	0	1	0	0	0	0	0	0	0
R25	WN-AROUND SLIDING REAR WINDOW	16	18	0	12	26	17	1	16	0	26	0	18	26	0
R26	WN-AROUND TRNK LD/HTCH/TGATE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
R30	OTHER WIND NOISE TROUBLES	6	7	0	6	7	4	21	6	4	7	0	7	7	4
R31	OTHER GASKET/SEALING TROUBLES **	0	0	0	0	0	0	2	0	1	0	0	0	0	0
V37	WATER LEAKS TGW/1000	18	20	0	12	34	18	11	18	19	18	0	20	18	17
	Reported At Least One Trouble (%)	2%	2%	.	1%	3%	2%	1%	2%	2%	2%	.	2%	2%	2%
R02	WL-AROUND FRONT SIDE DOOR/WINDOW	0	0	0	0	0	0	0	0	0	0	0	0	0	0
R03	WL-AROUND REAR SIDE DOOR/WINDOW	6	6	0	0	18	6	0	6	16	0	0	6	0	14
R11	WL-AROUND SIDE DOOR/WINDOW-UNSPEC. **	0	0	0	0	0	0	0	0	0	0	0	0	0	0
R01	WL-AROUND WINDSHIELD	12	14	0	12	16	12	11	12	3	18	0	14	18	3
R09	WL-AROUND SUN/MOON/T-TOP/CONV. ROOF	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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		Total	Series		Cab Type		Drive		Transmission	Engine		Trim		Fuel	
CCC			250	350	C	K	4X4	4X2	Auto	6.0L	6.6L	BASE	HD	DIESEL	GAS
R04	WL-AROUND BACK WINDOW	0	0	0	0	0	0	0	0	0	0	0	0	0	0
R05	WL-AROUND SLIDING REAR WINDOW	0	0	0	0	0	0	0	0	0	0	0	0	0	0
R08	WL-AROUND NON-SLIDING REAR WINDOW	0	0	0	0	0	0	0	0	0	0	0	0	0	0
R06	WL-AROUND TRNK LD/HTCH/TGATE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
R10	OTHER WATER LEAK TROUBLES	0	0	0	0	0	0	0	0	0	0	0	0	0	0
V13	MIRRORS TGW/1000	28	28	23	18	53	30	9	28	0	45	23	28	45	0
	Reported At Least One Trouble (%)	3%	3%	2%	2%	5%	3%	1%	3%	.	5%	2%	3%	5%	.
M05	EXTERIOR MIRROR TROUBLES	28	28	23	18	53	30	9	28	0	45	23	28	45	0
M06	INTERIOR MIRROR TROUBLE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M10	OTHER MIRROR TROUBLES **	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	INTERIOR TRIM TGW/1000	91	93	72	90	91	94	63	91	73	107	72	93	107	65
	Reported At Least One Trouble (%)	7%	7%	7%	8%	6%	8%	6%	7%	5%	9%	7%	7%	9%	5%
	Overall condition of interior b/	81%	79%	98%	82%	74%	81%	82%	81%	80%	82%	98%	79%	82%	80%
	Interior styling b/	77%	75%	89%	78%	70%	77%	78%	77%	78%	76%	89%	75%	76%	78%
	Interior quietness b/	72%	70%	85%	77%	58%	71%	78%	72%	69%	73%	85%	70%	73%	70%
V73	DOOR PANEL	1	1	0	0	4	0	11	1	3	0	0	1	0	3
	DOOR-HLS/TRS/SNGS/CRCK/CT/SCRTCH/SCF	1	1	0	0	4	0	11	1	3	0	0	1	0	3
B44	DOOR-HOLES/TEARS/SNAGS/CRACKS/CUTS	1	1	0	0	4	0	11	1	3	0	0	1	0	3
	DOOR-SCRATCHED/SCUFFED	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B45	DOOR-FADED/DISCOLORED/SOILED/WORN	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	DOOR-FADED/DISCOLORED/SOILED	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	DOOR-EXCESSIVE WEAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B43	DOOR-LOOSE/POOR FIT/WARPED/WRINKLED	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B47	DOOR-BLISTERED/BUBBLED/PEELED	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B50	DOOR-SPLITTING SEAMS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
V71	I.P. AND CONSOLE	55	62	0	63	27	56	39	55	69	50	0	62	50	61
	Instrument panel appearance b/	83%	82%	89%	82%	80%	83%	78%	83%	80%	85%	89%	82%	85%	80%
	Cupholders b/	62%	60%	81%	63%	59%	62%	68%	62%	62%	62%	81%	60%	62%	62%
	INSTRUMENT PANEL/DASHBOARD	24	27	0	37	3	25	9	24	43	14	0	27	14	38
B81	IP-HLS/TRS/SNGS/CRCK/CT/SCRTCH/SCF	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	IP-HOLES/TEARS/SNAGS/CRACKS/CUTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	IP-SCRATCHED/SCUFFED	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B82	IP-FADED/DISCOLORED/SOILED/WORN	8	9	0	12	3	8	9	8	23	0	0	9	0	20
	IP-FADED/DISCOLORED/SOILED	8	9	0	12	3	8	9	8	23	0	0	9	0	20
	IP-EXCESSIVE WEAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B53	IP-LOOSE/POOR FIT/WARPED/WRINKLED	7	8	0	12	0	8	0	7	20	0	0	8	0	18
B84	IP-BLISTERED/BUBBLED/PEELED	8	10	0	14	0	9	0	8	0	14	0	10	14	0
	CENTER FLOOR CONSOLE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B91	CON-HLS/TRS/SNGS/CRCK/CT/SCRTCH/SCF	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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		Total	Series		Cab Type		Drive		Transmission	Engine		Trim		Fuel	
CCC			250	350	C	K	4X4	4X2	Auto	6.0L	6.6L	BASE	HD	DIESEL	GAS
	CON-HOLES/TEARS/ SNAGS/CRACKS/CUTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	CON-SCRATCHED/SCUFFED	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B92	CON-FADED/DISCOLORED/SOILED/WORN	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	CON-FADED/DISCOLORED/SOILED	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	CON-EXCESSIVE WEAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B54	CON-LOOSE/POOR FIT/WARPED/WRINKLED	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B94	CON-BLISTERED/BUBBLED/PEELED	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B85	GLOVE BOX DOOR GAPS/FITS POORLY/DIF	14	15	0	22	1	14	12	14	0	22	0	15	22	0
T50	CUPHOLDER TROUBLES	18	20	0	3	23	17	18	18	26	14	0	20	14	23
B95	OTHER IP/CONSOLE TROUBLES **	0	0	0	0	0	0	0	0	0	0	0	0	0	0
V74	OTHER INTERIOR TRIM	35	30	72	27	60	38	13	35	1	57	72	30	57	0
	Reported At Least One Trouble (%)	3%	2%	7%	3%	3%	3%	1%	3%	0%	4%	7%	2%	4%	0%
	Trunk/cargo capacity b/	79%	77%	99%	82%	69%	79%	76%	79%	79%	79%	99%	77%	79%	79%
	ROOF LINING MATERIAL	0	0	0	0	0	0	2	0	0	0	0	0	0	0
T02	ROOF-HL/TR/SNG/CRCK/CT/SCRT/SCF/SPL	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	ROOF-HOLES/TEARS/SNAGS/CRACKS/CUTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	ROOF-SCRATCHED/SCUFFED	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	ROOF-SPLITTING SEAMS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
T03	ROOF-FADED/DISCOLORED/SOILED/WORN	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	ROOF-FADED/DISCOLORED/SOILED	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	ROOF-EXCESSIVE WEAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B73	ROOF-LOOSE/POOR FIT/WARPED/WRINKLED	0	0	0	0	0	0	2	0	0	0	0	0	0	0
	CARPET/FLOOR COVERING	1	1	0	1	0	1	0	1	0	1	0	1	1	0
T12	CRPT-HLS/TRS/SNGS/CRCK/CT/SCRTCH/SC	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	CRPT-HOLES/TEARS/SNAGS/CRACKS/CUTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	CRPT-SCRATCHED/SCUFFED	0	0	0	0	0	0	0	0	0	0	0	0	0	0
T13	CRPT-FADED/DISCOLORED/SOILED/WORN	1	1	0	1	0	1	0	1	0	1	0	1	1	0
	CRPT-FADED/DISCOLORED/SOILED	1	1	0	1	0	1	0	1	0	1	0	1	1	0
	CRPT-EXCESSIVE WEAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B74	CRPT-LOOSE/POOR FIT/WARPED/WRINKLED	0	0	0	0	0	0	0	0	0	0	0	0	0	0
T15	CRPT-SPLITTING SEAMS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TRUNK/CARGO LINING	0	0	0	0	0	0	0	0	0	0	0	0	0	0
T22	TRNK-ALL BUT LSE/PR FT/WRPD/WRNKLD	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TRNK-HOLES/TEARS/SNAGS/CRACKS/CUTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TRNK-FADED/DISCOLORED/SOILED	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TRNK-SCRATCHED/SCUFFED	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TRNK-EXCESSIVE WEAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TRNK-SPLITTING SEAMS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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		Total	Series		Cab Type		Drive		Transmission	Engine		Trim		Fuel	
CCC			250	350	C	K	4X4	4X2	Auto	6.0L	6.6L	BASE	HD	DIESEL	GAS
B75	TRNK-LOOSE/POOR FIT/WARPED/WRINKLED	0	0	0	0	0	0	0	0	0	0	0	0	0	0
T51	SUN VISOR TROUBLES	0	0	0	0	0	0	0	0	0	0	0	0	0	0
T52	ASHTRAY TROUBLES	1	1	0	2	0	0	8	1	0	1	0	1	1	0
T53	INT. MLDNGS LSE/POOR FIT/WRPD/WRNKLD	10	11	0	0	30	10	2	10	0	16	0	11	16	0
B78	INTERIOR ODOR	0	0	0	0	0	0	0	0	0	0	0	0	0	0
T54	INTERIOR MOLDINGS MISSING **	0	0	0	0	0	0	0	0	0	0	0	0	0	0
T55	INT FSTNRS LOOSE/MSSNG/PR FT/WRPD **	0	0	0	0	0	0	0	0	0	0	0	0	0	0
T90	OTHER INTERIOR TROUBLES	24	17	72	24	30	26	2	24	1	39	72	17	39	0
V03	SEATING TGW/1000	67	75	0	76	66	70	41	67	78	64	0	75	64	70
	Reported At Least One Trouble (%)	6%	7%	.	6%	7%	6%	4%	6%	5%	6%	.	7%	6%	5%
	Seat comfort b/	79%	77%	95%	80%	73%	79%	77%	79%	73%	82%	95%	77%	82%	73%
	Front seat roominess b/	80%	79%	96%	83%	76%	80%	86%	80%	78%	82%	96%	79%	82%	78%
	Rear seat roominess b/	76%	73%	96%	81%	65%	75%	81%	76%	71%	79%	96%	73%	79%	71%
	Seating capacity b/	82%	80%	99%	87%	72%	82%	82%	82%	79%	84%	99%	80%	84%	79%
	Interior storage space b/	66%	63%	92%	66%	67%	66%	70%	66%	66%	66%	92%	63%	66%	67%
	Ease of entry and exit b/	78%	75%	99%	82%	68%	78%	75%	78%	81%	77%	99%	75%	77%	80%
	3rd row seat access (SUV/Van) b/	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3rd row seat use/operate (SUV/Van) b/	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	SEAT UPHOLSTERY	21	23	0	31	5	19	34	21	28	17	0	23	17	25
S52	SEAT-HLS/TRS/SNGS/CRCK/CT/SCRTCH/SCF	2	3	0	4	0	0	20	2	0	4	0	3	4	0
	SEAT-HOLES/TEARS/SNAGS/CRACKS/CUTS	2	3	0	4	0	0	20	2	0	4	0	3	4	0
	SEAT-SCRATCHED/SCUFFED	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S53	SEAT-FADED/DISCOLORED/SOILED/WORN	10	11	0	14	5	9	14	10	28	0	0	11	0	25
	SEAT-FADED/DISCOLORED/SOILED	2	2	0	0	5	0	14	2	4	0	0	2	0	4
	SEAT-EXCESSIVE WEAR	8	9	0	14	0	9	0	8	24	0	0	9	0	21
S50	SEAT-LOOSE/POOR FIT/WARPED/WRINKLED	8	10	0	14	0	9	0	8	0	14	0	10	14	0
S55	SEAT-SPLITTING SEAMS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S03	FRONT SEAT LOOSE	9	10	0	14	0	9	1	9	0	14	0	10	14	0
S04	REAR SEAT LOOSE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S08	THIRD ROW SEAT LOOSE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S15	FRONT SEAT POWER CONTROL ADJUSTMENT	36	41	0	29	60	40	1	36	50	31	0	41	31	45
S06	FRONT SEAT MANUAL CONTROL ADJUSTMENT	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S07	REAR SEAT(S) ADJUSTMENT/OPERATION TRB	1	1	0	1	1	1	3	1	0	2	0	1	2	0
S18	SEAT ADJUSTMENT TROUBLES - UNSPEC. **	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S56	HEATED/COOLED SEAT TROUBLES	0	0	0	0	0	0	0	0	0	0	0	0	0	0
V05	RESTRAINTS TGW/1000	10	10	8	14	4	8	20	10	0	16	8	10	16	0
	Reported At Least One Trouble (%)	1%	1%	1%	1%	0%	1%	2%	1%	.	2%	1%	1%	2%	.
	Vehicle safety b/	81%	79%	99%	84%	74%	81%	80%	81%	80%	82%	99%	79%	82%	79%

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		Total	Series		Cab Type		Drive		Transmission	Engine		Trim		Fuel	
CCC			250	350	C	K	4X4	4X2	Auto	6.0L	6.6L	BASE	HD	DIESEL	GAS
	Comfort of seat belt b/	75%	73%	94%	76%	74%	75%	75%	75%	70%	79%	94%	73%	79%	71%
	Seat belt access b/	79%	77%	94%	79%	78%	80%	77%	79%	77%	81%	94%	77%	81%	77%
	Seat belt ease of use b/	77%	75%	91%	76%	76%	77%	79%	77%	78%	77%	91%	75%	77%	78%
S21	SEAT BELT SOILED/DIRTY	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S25	SEAT BELT COIL/UNCOIL TROUBLES	2	1	8	2	4	0	20	2	0	4	8	1	4	0
S38	AIR BAG (SRS) TROUBLES	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S39	AIR BAG INDICATOR/WARNING LIGHTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S27	STEERING WHEEL TRIM APPEARANCE **	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S26	SEAT BELT BUCKLE LATCHING TROUBLES **	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S40	OTHER RESTRAINT TROUBLES **	7	8	0	12	0	8	0	7	0	12	0	8	12	0
	OTHR RSTRNT TRBLS (NOT CHLD SEAT) **	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	INTEGRATED CHILD SAFETY SEAT TRBL	7	8	0	12	0	8	0	7	0	12	0	8	12	0
V39	SQUEAKS AND RATTLES a/	229	242	133	195	331	238	155	229	269	200	133	242	200	274
	Reported At Least One Trouble (%)	18%	18%	13%	15%	26%	18%	15%	18%	19%	16%	13%	18%	16%	20%
N33	INSTRUMENT PANEL/DASHBOARD SQUEAK a/	37	41	0	35	48	38	20	37	45	34	0	41	34	41
N30	OVERHEAD CONSOLE SQUEAK/RATTLE a/	0	0	0	0	0	0	0	0	0	0	0	0	0	0
N31	CENTER FLOOR CONSOLE SQK/RTL a/	0	0	0	0	0	0	0	0	0	0	0	0	0	0
N32	GLOVE BOX DOOR SQUEAK/RATTLE a/	1	1	0	1	0	1	0	1	0	1	0	1	1	0
N57	STEERNG WHEEL/STEERNG COL SQK/RTL a/	8	9	0	13	0	9	0	8	0	13	0	9	13	0
S09	FRONT SEAT SQUEAKS AND RATTLES	2	1	7	3	1	1	9	2	0	3	7	1	3	0
S17	REAR/THIRD ROW SEAT SQKS AND RTLS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	REAR SEAT SQUEAKS AND RATTLES	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	THIRD ROW SEAT SQUEAKS AND RATTLES	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S19	SEAT SQUEAKS AND RATTLES - UNSPEC. **	0	0	0	0	0	0	0	0	0	0	0	0	0	0
G09	WINDOW SQUEAK/RATTLE/SCRAPE a/	9	10	0	0	5	10	0	9	21	3	0	10	3	19
N43	SQK AT SUN/MOON/T-TOP/CONV. ROOF a/	0	0	0	0	0	0	0	0	0	0	0	0	0	0
N40	FRONT SIDE DOOR SQUEAK/RATTLE a/	10	12	0	0	33	11	3	10	0	17	0	12	17	0
N41	REAR SIDE DOOR SQUEAK/RATTLE a/	34	38	0	0	107	37	3	34	60	14	0	38	14	64
N42	TRNK LD/HTCH/TGAT/CRGO DR SQK/RTL a/	0	0	0	0	0	0	0	0	0	0	0	0	0	0
N44	DOOR SQUEAK/RATTLE-UNSPEC. ** a/	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B09	BODY PANEL HINGE SQUEAK a/	25	29	0	2	78	25	27	25	43	1	0	29	1	62
	BP HINGE SQ-Front Side Door	12	14	0	2	36	10	27	12	6	1	0	14	1	29
	BP HINGE SQ-Rear Side Door	14	16	0	0	45	14	10	14	40	0	0	16	0	36
	BP HINGE SQ-Trnk Ld/Htch/Tgate/Cargo	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	BP HINGE SQ-Hood	0	0	0	0	0	0	0	0	0	0	0	0	0	0
N50	FRONT VEHICLE EXTERIOR SQK/RTL	40	37	69	49	37	41	46	40	11	62	69	37	62	10
	FRONT UNDERBODY VEHICLE EXT. SQK/RTL	40	37	69	49	37	41	46	40	11	62	69	37	62	10
	OTHER FRONT VEHICLE EXT. SQK/RTL	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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		Total	Series		Cab Type		Drive		Transmission	Engine		Trim		Fuel	
CCC			250	350	C	K	4X4	4X2	Auto	6.0L	6.6L	BASE	HD	DIESEL	GAS
N51	REAR VEHICLE EXTERIOR SQK/RTL	27	31	0	44	0	26	41	27	73	3	0	31	3	65
	REAR UNDERBODY VEHICLE EXT. SQK/RTL	20	23	0	33	0	18	41	20	53	3	0	23	3	48
	OTHER REAR VEHICLE EXT. SQK/RTL	7	8	0	12	0	8	0	7	20	0	0	8	0	18
N52	OTHER VEHICLE EXTERIOR SQK/RTL-UNSPEC	0	0	0	0	0	0	0	0	0	0	0	0	0	0
N59	OTHER SQUEAK/RATTLE a/	36	32	58	48	22	39	5	36	16	49	58	32	49	15
	ELECTRICAL TGW/1000	268	276	190	286	277	285	112	268	182	326	190	276	326	173
	Reported At Least One Trouble (%)	16%	16%	11%	17%	16%	17%	9%	16%	10%	20%	11%	16%	20%	10%
	Overall electrical comp. and accessori	84%	83%	92%	85%	79%	84%	83%	84%	84%	84%	92%	83%	84%	83%
	Location of switches and controls b/	83%	82%	93%	86%	75%	83%	81%	83%	84%	83%	93%	82%	83%	83%
	Ease of understanding controls b/	78%	77%	91%	80%	72%	79%	72%	78%	80%	78%	91%	77%	78%	79%
	Ease of operating controls b/	84%	83%	92%	86%	78%	85%	78%	84%	83%	85%	92%	83%	85%	83%
	Illumination of switches and controls	85%	83%	97%	84%	81%	85%	80%	85%	87%	84%	97%	83%	84%	86%
V79	TEMPERATURE CONTROL TGW/1000	180	186	127	207	150	192	71	180	137	215	127	186	215	122
	Reported At Least One Trouble (%)	11%	12%	5%	11%	11%	12%	5%	11%	7%	14%	5%	12%	14%	6%
	Overall temperature control b/	81%	80%	89%	79%	81%	81%	83%	81%	86%	79%	89%	80%	79%	85%
	Heater b/	80%	79%	88%	80%	77%	80%	82%	80%	83%	78%	88%	79%	78%	82%
	Air conditioner b/	81%	80%	92%	82%	76%	81%	83%	81%	80%	82%	92%	80%	82%	80%
	Defroster/defogger b/	79%	76%	94%	79%	74%	78%	78%	79%	78%	79%	94%	76%	79%	78%
	Air circulation b/	80%	79%	86%	79%	75%	80%	80%	80%	81%	80%	86%	79%	80%	80%
	WINDSHIELD DEFROSTING/DEFOGGING	45	44	50	74	1	49	10	45	21	62	50	44	62	19
C21	WINDSHIELD DEF-Slow/Uneven Clearing	36	34	50	59	1	39	10	36	21	47	50	34	47	19
	WINDSHIELD DEF-Slow To Clear	29	26	50	48	1	31	10	29	1	47	50	26	47	1
	WINDSHIELD DEF-Uneven Clearing	25	28	0	41	1	28	2	25	20	29	0	28	29	18
C12	WINDSHIELD DEF-Does Not Work	9	10	0	15	0	10	0	9	0	15	0	10	15	0
C23	BACK WINDOW DEFROSTING/DEFOGGING	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	BACK WINDOW DEF-Slow To Clear	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	BACK WINDOW DEF-Uneven Clearing	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	BACK WINDOW DEF-Does Not Work	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C22	SIDE WINDOW DEFROSTING/DEFOGGING	47	46	46	53	46	52	2	47	40	53	46	46	53	36
	SIDE WINDOW DEF-Slow/Uneven Clearing	25	22	46	29	23	28	2	25	20	29	46	22	29	18
	SIDE WINDOW DEF-Slow To Clear	25	22	46	29	23	28	2	25	20	29	46	22	29	18
	SIDE WINDOW DEF-Uneven Clearing	9	10	0	14	1	9	2	9	0	14	0	10	14	0
C15	SIDE WINDOW DEF-Does Not Work	22	24	0	24	23	24	0	22	20	24	0	24	24	18
C30	AIR CONDITIONER/HEATER/DEFROSTER ODOR	11	12	0	0	35	10	14	11	4	15	0	12	15	4
	AC/HEAT/DEF ODOR-Only At Startup	11	12	0	0	35	10	14	11	4	15	0	12	15	4
	AC/HEAT/DEF ODOR-Continues While On	2	2	0	0	5	0	14	2	4	0	0	2	0	4
	AIR CONDITIONER	44	50	0	55	35	47	14	44	24	58	0	50	58	22
C01	AC-Slow To Cool	29	33	0	30	35	30	14	29	4	44	0	33	44	4
C02	AC-Not Cold Enough	9	10	0	12	5	8	14	9	4	12	0	10	12	4
C05	AC-Does Not Work	8	9	0	13	0	9	0	8	20	1	0	9	1	18
	HEATER	15	13	31	9	30	16	11	15	0	25	31	13	25	0
C03	HEATER-Slow To Heat	15	13	31	9	30	16	11	15	0	25	31	13	25	0

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		Total	Series		Cab Type		Drive		Transmission	Engine		Trim		Fuel	
CCC			250	350	C	K	4X4	4X2	Auto	6.0L	6.6L	BASE	HD	DIESEL	GAS
C04	HEATER-Not Hot Enough	1	1	0	2	0	0	8	1	0	1	0	1	1	0
C07	HEATER-Does Not Work	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C09	HEATER, DEFROSTER, OR AC NOISE TROUBL	8	9	0	13	0	8	9	8	23	0	0	9	0	20
C19	REGISTER/VENT ADJUSTMENT TROUBLES	8	9	0	1	0	9	0	8	21	1	0	9	1	19
C24	A/C WATER LEAK/CONDENSATION TROUBL **	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C20	OTHER/UNSPECIFIED TEMP CONTROL TRBLS	2	2	0	1	4	1	11	2	3	1	0	2	1	3
	OTHER TEMPERATURE CONTROL TROUBLES	2	2	0	1	4	1	11	2	3	1	0	2	1	3
	AC-UNSPECIFIED **	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	HEATER-UNSPECIFIED **	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	ELECTRICAL COMPONENTS AND ACCESSORIES	88	90	63	79	126	93	41	88	46	111	63	90	111	51
	Reported At Least One Trouble (%)	6%	6%	6%	6%	7%	6%	4%	6%	3%	7%	6%	6%	7%	3%
V83	INSTRUMENTATION	13	15	0	6	30	15	0	13	0	22	0	15	22	0
A37	SPEEDOMETER	4	4	0	6	0	4	0	4	0	6	0	4	6	0
	SPEEDOMETER-Not Working At All	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	SPEEDOMETER-Inaccurate	4	4	0	6	0	4	0	4	0	6	0	4	6	0
	SPEEDOMETER-Noisy	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A34	HORN	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A35	COMPASS/THERMOMETER TROUBLES **	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A40	TIRE PRESSURE MONITORING TROUBLES **	0	0	0	0	0	0	0	0	0	0	0	0	0	0
G30	ODOMETER TROUBLES **	0	0	0	0	0	0	0	0	0	0	0	0	0	0
G31	ENGINE TEMP GAUGE TROUBLES **	0	0	0	0	0	0	0	0	0	0	0	0	0	0
G32	ENGINE CLUST/MESSAGE CENTER TRBLS **	0	0	0	0	0	0	0	0	0	0	0	0	0	0
G29	OTHER INDICATOR/WARNING LIGHTS	9	11	0	0	30	10	0	9	0	15	0	11	15	0
V77	LIGHTING	20	14	60	30	6	20	16	20	4	30	60	14	30	4
	Headlight Effectiveness b/	84%	83%	93%	83%	81%	84%	84%	84%	90%	81%	93%	83%	81%	88%
L25	INTERIOR LIGHTS NOT WORKING	10	3	60	13	5	9	14	10	4	13	60	3	13	4
L26	EXTERIOR LIGHTS NOT WORKING	0	0	0	0	0	0	0	0	0	0	0	0	0	0
L22	HEADLIGHT AIM/ALIGNMENT	10	12	0	17	1	11	2	10	0	17	0	12	17	0
L30	TURN SIGNAL TROUBLES **	0	0	0	0	0	0	0	0	0	0	0	0	0	0
L29	OTHER LIGHTING TROUBLES **	0	0	0	0	0	0	0	0	0	0	0	0	0	0
V81	ENTERTAINMENT AND COMMUNICATION	45	50	3	29	87	49	13	45	41	44	3	50	44	46
	Audio system b/	82%	79%	99%	82%	77%	82%	78%	82%	84%	81%	99%	79%	81%	83%
A02	STEREO/RADIO RECEPTION	0	0	0	1	0	0	3	0	1	0	0	0	0	0
A04	STEREO/RADIO SOUND QUALITY	11	12	0	6	22	12	3	11	20	6	0	12	6	18
A15	TAPE PLAYER/CD	6	6	0	3	13	6	2	6	0	3	0	6	3	10
	Tape Player/CD Unspec	6	6	0	3	13	6	2	6	0	3	0	6	3	10
A16	CD Player **	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A17	Cassette Player **	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A06	SPEAKERS	18	21	0	3	52	20	2	18	20	18	0	21	18	18
A86	CELLULAR PHONE TROUBLES	10	11	3	16	0	10	3	10	0	16	3	11	16	0

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		Total	Series		Cab Type		Drive		Transmission	Engine		Trim		Fuel	
CCC			250	350	C	K	4X4	4X2	Auto	6.0L	6.6L	BASE	HD	DIESEL	GAS
A07	OTHER AUDIO/CLOCK TROUBLES **	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	OTHER AUDIO TROUBLES **	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	CLOCK	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	FAMILY ENTERTAINMENT SYSTEM TRBLS **	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A59	TRIP COMPUTER/NAV SYSTEM TROUBLES **	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A60	SAT DIG AUDIO SYS RECEIVER TRBLS **	0	0	0	0	0	0	0	0	0	0	0	0	0	0
V19	ELECTRICAL POWER	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C25	DEAD BATTERY	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C26	WEAK OR LOW ELECTRICAL POWER	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C27	POWER SUPPLY TROUBLES **	0	0	0	0	0	0	0	0	0	0	0	0	0	0
V17	OTHER ELECTRICAL ACCESSORIES	9	11	0	14	4	9	12	9	0	15	0	11	15	0
A87	CIGARETTE LIGHTER/POWERPOINT TROUBLE	1	1	0	1	0	1	0	1	0	1	0	1	1	0
A85	OTHER ELECTRICAL AND ACCESSORY TROUB	9	10	0	12	4	8	12	9	0	14	0	10	14	0
A88	WIRING TROUBLES **	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E40	ELECTRONIC MODULE TROUBLES **	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	CHASSIS TGW/1000	150	144	190	157	175	154	105	150	112	164	190	144	164	126
	Reported At Least One Trouble (%)	13%	12%	18%	12%	17%	13%	10%	13%	11%	13%	18%	12%	13%	12%
	STEERING/HANDLING AND RIDE TGW/1000	91	90	89	84	127	92	76	91	79	87	89	90	87	95
	Reported At Least One Trouble (%)	9%	9%	9%	8%	12%	9%	7%	9%	8%	9%	9%	9%	9%	9%
	Visibility from driver's seat b/	84%	83%	95%	87%	77%	85%	81%	84%	83%	85%	95%	83%	85%	82%
V87	STEERING	11	12	0	2	30	10	10	11	0	2	0	12	2	24
H21	EXCESSIVE FREE PLAY/WANDER	1	1	0	2	0	0	10	1	0	2	0	1	2	0
H22	STEERING REQ. EXTRA OR UNEVEN EFFORT	0	0	0	0	0	0	0	0	0	0	0	0	0	0
L68	POWER STEERING FLUID LEAKS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
N58	STEERING NOISY	9	11	0	0	30	10	0	9	0	0	0	11	0	24
H50	STEERING GEAR/PUMP TROUBLES **	0	0	0	0	0	0	0	0	0	0	0	0	0	0
V89	HANDLING AND RIDE	80	78	89	82	97	81	66	80	79	85	89	78	85	71
	Overall handling b/	83%	81%	95%	87%	72%	83%	80%	83%	77%	87%	95%	81%	87%	77%
	Handling on highway b/	83%	81%	99%	86%	75%	83%	86%	83%	80%	86%	99%	81%	86%	80%
	Handling in city/parking b/	67%	65%	85%	68%	62%	68%	60%	67%	74%	64%	85%	65%	64%	72%
	Smoothness of ride b/	66%	64%	80%	68%	59%	65%	68%	66%	67%	65%	80%	64%	65%	66%
	Fun to drive b/	83%	81%	97%	85%	75%	83%	79%	83%	79%	85%	97%	81%	85%	79%
	Towing performance b/	90%	89%	100%	92%	83%	90%	90%	90%	81%	96%	100%	89%	96%	81%
	CONSTANT PULL/DRIFT TO ONE SIDE	4	2	14	4	4	3	11	4	3	4	14	2	4	3
H25	CONSTANT PULL/DRIFT-Left	3	1	14	3	4	2	11	3	3	3	14	1	3	3
H26	CONSTANT PULL/DRIFT-Right	2	2	0	1	4	1	11	2	3	1	0	2	1	3
	STEERING WHEEL VIBRATION/SHIMMY	18	10	69	14	29	19	8	18	26	14	69	10	14	23
N23	STEERING WHEEL VIB-Below 45 mph	8	0	69	14	0	9	0	8	0	14	69	0	14	0
N24	STEERING WHEEL VIB-Above 45 mph	9	10	0	0	29	9	8	9	26	0	0	10	0	23
	VEHICLE VIBRATES WHILE DRIVING	10	11	7	16	3	9	17	10	3	15	7	11	15	3
N22	VEHICLE VIBRATES-Below 45 mph	1	0	7	1	0	0	7	1	0	1	7	0	1	0
N25	VEHICLE VIBRATES-Above 45 mph	10	11	0	14	3	9	10	10	3	14	0	11	14	3

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		Total	Series		Cab Type		Drive		Transmission	Engine		Trim		Fuel	
CCC			250	350	C	K	4X4	4X2	Auto	6.0L	6.6L	BASE	HD	DIESEL	GAS
H44	HARSH RIDE	39	44	0	49	31	40	30	39	47	37	0	44	37	42
H45	MUSHY RIDE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
H62	IMPROPER TIRE WEAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0
H24	STEERING WHEEL SPOKES NOT CORRECTLY	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C50	OTHER HANDLING AND RIDE	9	11	0	0	30	10	0	9	0	15	0	11	15	0
V21	BRAKES TGW/1000	59	53	100	73	49	63	29	59	33	77	100	53	77	31
	Reported At Least One Trouble (%)	5%	4%	10%	6%	5%	5%	3%	5%	3%	6%	10%	4%	6%	3%
	Brakes b/	82%	80%	96%	84%	73%	81%	83%	82%	82%	83%	96%	80%	83%	80%
H06	VEHICLE PULLS LEFT WHILE BRAKING	0	0	0	0	0	0	0	0	0	0	0	0	0	0
H07	VEHICLE PULLS RIGHT WHILE BRAKING	0	0	0	0	0	0	0	0	0	0	0	0	0	0
H08	VEHICLE PULLS WHILE BRAKING-UNSPEC.**	0	0	0	0	0	0	0	0	0	0	0	0	0	0
H15	BRAKE PEDAL SPONGY	5	5	0	1	12	4	7	5	2	6	0	5	6	2
H02	BRAKES GRAB OR LOCK UP	2	2	0	3	0	2	1	2	0	3	0	2	3	0
N27	VIBRATION/SHUDDER WHILE BRAKING	12	14	0	20	0	14	0	12	0	20	0	14	20	0
N17	NOISY BRAKES	21	10	100	34	1	22	10	21	1	33	100	10	33	2
H05	EXCESS PRESSURE REQUIRED	8	10	0	14	0	9	0	8	0	14	0	10	14	0
H19	ABS INDICATOR/WARNING LIGHT TROUBLES	1	1	0	0	4	0	10	1	3	0	0	1	0	3
H04	PARKING BRAKE TROUBLES	0	0	0	0	0	0	0	0	0	0	0	0	0	0
L63	BRAKE FLUID LEAK	0	0	0	0	0	0	0	0	0	0	0	0	0	0
H16	BRAKES TOO SENSITIVE **	0	0	0	0	0	0	0	0	0	0	0	0	0	0
H39	TRCTN CTRL/ADV TRAC WRN LGHT TRBLS **	0	0	0	0	0	0	0	0	0	0	0	0	0	0
H20	OTHER BRAKE TROUBLES	10	12	0	0	32	11	0	10	27	1	0	12	1	24
V88	TIRES	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TA1	ENTIRE/PARTIAL TREAD SEP FROM TIRE **	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TA3	BUBBLE/BULGE IN TIRE SIDEWALL **	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TA4	SPLITS/CRACKS IN SIDEWALL TREAD **	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TA5	TIRE TREAD CHUNKS MISSING **	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TB2	FLAT TIRE (SELF SEALING) **	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TB3	VEH VIBRATION (TIRE OUT OF ROUND) **	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TB6	TIRE SLOW LEAKS/VALVE STEM TRBLS **	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TB7	TIRE PREMATURE TREAD WEAR **	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TB8	TIRE PULLS/DRIFTS **	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TC8	OTHER TIRE COSMETIC **	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	POWERTRAIN TGW/1000	310	333	146	217	488	306	348	310	304	334	146	333	334	274
	Reported At Least One Trouble (%)	20%	21%	14%	16%	26%	20%	22%	20%	23%	20%	14%	21%	20%	21%
V25	FUEL FILL AND DELIVERY	16	17	12	7	40	15	27	16	37	6	12	17	6	33
	Reported At Least One Trouble (%)	2%	2%	1%	1%	4%	2%	3%	2%	4%	1%	1%	2%	1%	3%
	Fuel economy b/	28%	26%	45%	31%	24%	27%	37%	28%	18%	34%	45%	26%	34%	19%
E68	FUEL TANK LEAK/ODOR	0	0	0	0	0	0	0	0	0	0	0	0	0	0
L69	FUEL GAUGE	0	2	0	0	4	0	12	0	3	0	0	2	0	3

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		Total	Series		Cab Type		Drive		Transmission	Engine		Trim		Fuel	
CCC			250	350	C	K	4X4	4X2	Auto	6.0L	6.6L	BASE	HD	DIESEL	GAS
E65	SLOW FUEL TANK FILL/SPITBACK	15	16	12	7	36	15	14	15	34	6	12	16	6	30
	DRIVEABILITY TGW/1000	58	64	10	32	99	55	75	58	53	64	10	64	64	48
	Reported At Least One Trouble (%)	5%	5%	1%	3%	7%	4%	6%	5%	5%	5%	1%	5%	5%	4%
	Overall engine operation b/	86%	85%	93%	89%	78%	86%	86%	86%	82%	89%	93%	85%	89%	82%
	Overall transmission operation b/	84%	82%	100%	86%	80%	84%	81%	84%	75%	89%	100%	82%	89%	75%
V40	ENGINE IDLES	5	6	1	3	11	2	32	5	10	3	1	6	3	9
	REPORTED AT LEAST ONE TROUBLE (%)	1%	1%	0%	0%	1%	0%	3%	1%	1%	0%	0%	1%	0%	1%
	ENGINE IDLES	5	6	1	3	11	2	32	5	10	3	1	6	3	9
D11	ENGINE IDLES-TOO FAST	0	0	0	0	0	0	0	0	0	0	0	0	0	0
D10	ENGINE IDLES-TOO SLOW	1	1	0	0	4	0	11	1	3	0	0	1	0	3
D13	ENGINE IDLES-Rough	4	4	1	3	7	2	21	4	6	3	1	4	3	6
V41	SMOOTH RESPONSE	44	49	8	29	84	45	32	44	19	61	8	49	61	17
	REPORTED AT LEAST ONE TROUBLE (%)	3%	4%	1%	3%	5%	3%	3%	3%	2%	5%	1%	4%	5%	2%
	ENGINE POWER AND PICKUP B/	83%	81%	98%	86%	78%	83%	81%	83%	74%	89%	98%	81%	89%	74%
	ENGINE HESITATES/SURGES	34	37	8	27	55	35	22	34	19	44	8	37	44	17
D36	ENGINE HES/SURGES-WHEN ACCELERATING	16	19	0	0	52	17	12	16	19	16	0	19	16	17
D41	ENGINE HES/SURGES-AT STEADY SPEED	17	18	8	27	3	18	9	17	0	28	8	18	28	0
	AUTOMATIC SPEED/CRUISE CONTROL	11	12	0	2	30	10	10	11	0	17	0	12	17	0
A25	CRUISE-ENGAGEMENT	1	1	0	2	0	0	10	1	0	2	0	1	2	0
A26	CRUISE-DISENGAGEMENT	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A27	CRUISE-NOT MAINTAIN CONSISTENT SPEE	9	11	0	0	30	10	0	9	0	15	0	11	15	0
	POOR PERFORMANCE/LACKS POWER **	0	0	0	0	0	0	0	0	0	0	0	0	0	0
V42	ENGINE STALLS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	REPORTED AT LEAST ONE TROUBLE (%)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
D21	ENGINE STALLS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
V43	QUICK AND EASY START	8	10	0	0	4	8	10	8	24	0	0	10	0	21
	REPORTED AT LEAST ONE TROUBLE (%)	1%	1%	.	.	0%	1%	1%	1%	2%	.	.	1%	.	2%
	EASE OF STARTING ENGINE B/	91%	90%	100%	95%	82%	91%	87%	91%	89%	94%	100%	90%	94%	86%
D02	ENGINE WOULD NOT START	8	10	0	0	4	8	10	8	24	0	0	10	0	21
D03	DIFFICULT OR SLOW TO START	0	0	0	0	0	0	0	0	0	0	0	0	0	0
V44	MECHANICAL MALFUNCTION	68	78	0	33	128	68	70	68	93	59	0	78	59	84
	Reported At Least One Trouble (%)	7%	8%	.	3%	13%	7%	7%	7%	9%	6%	.	8%	6%	8%
E23	ENGINE OVERHEATS/RADIATOR TROUBLES	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E50	ENGINE BELT BREAKING/SLIPPNG/SQUEALNG	1	1	0	1	1	1	1	1	0	2	0	1	2	0
	ENG BELT-Brkng/Slpng/Sqlng Unspec	1	1	0	1	1	1	1	1	0	2	0	1	2	0
E19	ENG BELT-Slipping/Squealing **	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E20	ENG BELT-Off/Fryd/Cmng Aprt/Brkn **	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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		Total	Series		Cab Type		Drive		Transmission	Engine		Trim		Fuel	
CCC			250	350	C	K	4X4	4X2	Auto	6.0L	6.6L	BASE	HD	DIESEL	GAS
E29	CHECK/OTHER ENGINE LIGHT TROUBLES	25	29	0	16	26	26	26	25	46	16	0	29	16	41
	CHECK ENGINE LIGHT TROUBLES	25	29	0	16	26	26	26	25	46	16	0	29	16	41
	OTHER ENGINE LIGHT TROUBLES **	0	0	0	0	0	0	0	0	0	0	0	0	0	0
L65	ENGINE LEAKS OIL	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E26	EXCESSIVE OIL CONSUMPTION	0	0	0	0	1	0	3	0	0	0	0	0	0	1
L66	EXHAUST SYSTEM TROUBLES	8	9	0	1	24	7	17	8	20	2	0	9	2	18
D50	OTHER ENGINE TROUBLES	26	30	0	15	54	27	22	26	6	39	0	30	39	5
	OTHER ENGINE TRBLS (NOT RUST/RUN-ON)	25	29	0	14	54	27	13	25	6	38	0	29	38	5
	ENGINE COMPARTMENT RUST/CORROSION	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	ENGINE RUNS WITH THE KEY OFF	1	1	0	2	0	0	8	1	0	1	0	1	1	0
L85	UNDETERMINED ENGINE LEAK **	0	0	0	0	0	0	0	0	0	0	0	0	0	0
K01	OTHER AXLE/TRANSFER CASE TROUBLES **	0	0	0	0	0	0	0	0	0	0	0	0	0	0
L72	TRANSMISSION FLUID LEAKS	7	8	0	0	22	8	0	7	20	0	0	8	0	18
	MEMO: A-TRANSMISSION FLUID LEAKS	7	8	0	0	22	8	0	7	20	0	0	8	0	18
	MEMO: M-TRANS/CLUTCH FLUID LEAKS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E41	UNUSUAL EXHAUST SYSTEM ODOR **	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E42	UNUSUAL EXHAUST SYSTEM NOISE **	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E43	EXHAUST SYSTEM RUST/CORROSION/APP. **	0	0	0	0	0	0	0	0	0	0	0	0	0	0
K02	AXLE WHINE/HOWL/GROAN **	0	0	0	0	0	0	0	0	0	0	0	0	0	0
K03	AXLE VIBRATION/SHAKE **	0	0	0	0	0	0	0	0	0	0	0	0	0	0
L87	COOLANT LEAK **	0	0	0	0	0	0	0	0	0	0	0	0	0	0
L88	FRONT/REAR AXLE OR DRVSHFT LEAKS **	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E69	LOW OIL PRESSURE **	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TRANSMISSION SHIFTING	126	129	110	123	129	127	120	126	58	174	110	129	174	53
	Reported At Least One Trouble (%)	8%	8%	11%	8%	7%	8%	11%	8%	6%	10%	11%	8%	10%	5%
	MEMO: AUTOMATIC TRANSMISSION TGW/1000	126	128	112	124	130	128	115	126	56	174	112	128	174	51
	Reported At Least One Trouble (%)	8%	8%	11%	8%	7%	8%	10%	8%	5%	10%	11%	8%	10%	5%
	Smoothness of transmission b/	82%	80%	93%	84%	77%	82%	81%	82%	75%	86%	93%	80%	86%	75%
	SHIFTS ROUGH OR JERKY FROM PARK	14	15	0	4	35	13	16	14	4	20	0	15	20	4
	SHIFTS ROUGH OR JERKY WHILE DRIVING	17	20	0	26	5	17	16	17	4	25	0	20	25	4
	GEAR CHANGES TAKE TOO LONG TO COMPLET	22	25	0	9	30	24	9	22	21	24	0	25	24	19
	SHIFTS OCCUR TOO EARLY/LATE/OFTEN	26	29	0	18	48	25	34	26	20	31	0	29	31	18
	DIFFICULT TO OPERATE SHIFT LEVER	33	23	110	47	3	37	0	33	0	54	110	23	54	0
	NO FORWARD/REV MOVEMENT IN GEAR **	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	A-4-WHEEL/ALL-WHEEL DRIVE TROUBLES	8	9	0	14	0	9	0	8	0	14	0	9	14	0
	A-OTHER AUTOMATIC TRANSMISSION TROUBL	6	7	2	5	9	2	40	6	6	6	2	7	6	6

GMC 250/350

2005MYOctober GQRS Report

		Total	Series		Cab Type		Drive		Transmission	Engine		Trim		Fuel	
CCC			250	350	C	K	4X4	4X2	Auto	6.0L	6.6L	BASE	HD	DIESEL	GAS
V48	AUTOMATIC TRANSMISSION TGW/1000	126	127	110	123	129	127	110	126	55	174	110	127	174	50
	Reported At Least One Trouble (%)	8%	8%	11%	8%	7%	8%	11%	8%	6%	10%	11%	8%	10%	5%
	Smoothness of transmission b/	82%	80%	93%	84%	77%	82%	81%	82%	75%	86%	93%	80%	86%	75%
P68	SHIFTS ROUGH OR JERKY FROM PARK	14	15	0	4	35	13	16	14	4	20	0	15	20	4
P66	SHIFTS ROUGH OR JERKY WHILE DRIVING	17	19	0	26	5	17	16	17	4	25	0	19	25	4
P69	GEAR CHANGES TAKE TOO LONG TO COMPLET	22	25	0	9	30	24	8	22	21	24	0	25	24	19
P67	SHIFTS OCCUR TOO EARLY/LATE/OFTEN	26	29	0	18	48	25	32	26	19	31	0	29	31	17
P51	DIFFICULT TO OPERATE SHIFT LEVER	33	22	109	47	3	37	0	33	0	54	109	22	54	0
P83	NO FORWARD/REV MOVEMENT IN GEAR **	0	0	0	0	0	0	0	0	0	0	0	0	0	0
P82	A-4-WHEEL/ALL-WHEEL DRIVE TROUBLES	8	9	0	14	0	9	0	8	0	14	0	9	14	0
P59	A-OTHER AUTOMATIC TRANSMISSION TROUBL	6	7	1	5	9	2	39	6	6	6	1	7	6	6
	MEMO: MANUAL TRANSMISSION TGW/1000	.	457	0	0	0	0	457	.	457	0	0	457	0	457
	Reported At Least One Trouble (%)	.	0%	.	.	.	.	1%	.	0%	.	.	0%	.	0%
	Ease of changing gears b/	.	.	100%	100%	.	100%	.	.	.	100%	100%	.	100%	.
	Clutch operation b/	.	.	100%	100%	.	100%	.	.	.	100%	100%	.	100%	.
	DIFFICULT TO CHANGE GEARS	.	0	0	0	0	0	0	.	0	0	0	0	0	0
	M-4-WHEEL/ALL-WHEEL DRIVE TROUBLES	.	0	0	0	0	0	0	.	0	0	0	0	0	0
	CLUTCH REQ. TOO MUCH OR UNEVEN EFFORT	.	0	0	0	0	0	0	.	0	0	0	0	0	0
	CLUTCH CHATTERS/GRABS/SLIPS/JERKS	.	457	0	0	0	0	457	.	457	0	0	457	0	457
	OTHER CLUTCH TROUBLES **	.	0	0	0	0	0	0	.	0	0	0	0	0	0
	M-OTHER MANUAL TRANSMISSION TROUBLES	.	0	0	0	0	0	0	.	0	0	0	0	0	0
V47	MANUAL TRANSMISSION TGW/1000	0	1	0	0	0	0	9	0	3	0	0	1	0	3
	Reported At Least One Trouble (%)	.	46%	.	.	.	.	46%	.	46%	.	.	46%	.	46%
	Ease of changing gears b/	.	.	100%	100%	.	100%	.	.	.	100%	100%	.	100%	.
	Clutch operation b/	.	.	100%	100%	.	100%	.	.	.	100%	100%	.	100%	.
P01	DIFFICULT TO CHANGE GEARS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
P31	M-4-WHEEL/ALL-WHEEL DRIVE TROUBLES	0	0	0	0	0	0	0	0	0	0	0	0	0	0
P23	CLUTCH REQ. TOO MUCH OR UNEVEN EFFORT	0	0	0	0	0	0	0	0	0	0	0	0	0	0
P22	CLUTCH CHATTERS/GRABS/SLIPS/JERKS	0	1	0	0	0	0	9	0	3	0	0	1	0	3
P24	OTHER CLUTCH TROUBLES **	0	0	0	0	0	0	0	0	0	0	0	0	0	0
P09	M-OTHER MANUAL TRANSMISSION TROUBLES	0	0	0	0	0	0	0	0	0	0	0	0	0	0
V49	POWERTRAIN SOUND AND NVH	42	45	14	21	92	40	56	42	64	32	14	45	32	57
	Reported At Least One Trouble (%)	4%	5%	1%	2%	9%	4%	6%	4%	6%	3%	1%	5%	3%	6%
	Quietness of engine b/	79%	77%	98%	84%	68%	80%	78%	79%	78%	81%	98%	77%	81%	78%
	Quietness of transmission b/	86%	85%	99%	91%	78%	87%	79%	86%	82%	92%	99%	85%	92%	78%
	UNUSUAL ENGINE NOISE	27	29	14	18	52	29	11	27	23	32	14	29	32	20
N12	UNUSUAL ENGINE NOISE-While Driving	17	19	0	15	26	18	11	17	23	15	0	19	15	20
N11	UNUSUAL ENGINE NOISE-At Idle	10	10	14	3	27	11	0	10	0	17	14	10	17	0
N18	UNUSUAL TRANSMISSION NOISE	14	16	0	3	40	10	46	14	41	0	0	16	0	37
	MEMO: A-UNUSUAL TRANSMISSION NOISE	14	16	0	3	40	10	46	14	41	0	0	16	0	37
	MEMO: M-UNUSUAL TRANSMISSION NOISE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4-WHEEL/ALL-WHEEL DRIVE TROUBLES	8	9	0	14	0	9	0	8	0	14	0	9	14	0
	OTHER TRANSMISSION TROUBLES	6	7	1	5	9	2	39	6	6	6	1	7	6	6
	MEMO: TOTAL PTO ENGINE	84	91	24	65	141	87	50	84	29	119	24	91	119	27
	MEMO: TOTAL PTO ENGINE (GAS)	27	28	0	6	50	24	38	27	29	.	0	28	.	27
	MEMO: TOTAL PTO ENGINE (DIESEL)	120	140	27	80	285	123	69	120	.	119	27	140	119	.

GMC 250/350

2005MYOctober GQRS Report

		Total	Series		Cab Type		Drive		Transmission	Engine		Trim		Fuel	
CCC			250	350	C	K	4X4	4X2	Auto	6.0L	6.6L	BASE	HD	DIESEL	GAS
	MEMO: TOTAL ENGINE TGW/1000	146	163	24	84	257	145	156	146	149	154	24	163	154	134
	MEMO: TOTAL TRANSMISSION TGW/1000	148	153	110	126	191	146	165	148	119	174	110	153	174	107
	MEMO: TOTAL PTO TRANSMISSION ONLY	139	142	110	112	191	136	156	139	116	160	110	142	160	104
	MEMO: TOTAL AUTOMATIC TRANS TGW/1000	148	152	110	126	191	146	156	148	116	174	110	152	174	104
	MEMO: TOTAL PTO AUTOMATIC TRANS ONLY	139	142	110	112	191	136	156	139	116	160	110	142	160	104
	MEMO: TOTAL MANUAL TRANS TGW/1000	0	1	0	0	0	0	9	0	3	0	0	1	0	3
	MEMO: TOTAL PTO MANUAL TRANS ONLY	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	MEMO: OTHER SATISFACTION RESPONSES (%)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Selling dealership b/	77%	75%	94%	81%	69%	77%	76%	77%	70%	82%	94%	75%	82%	70%
	Servicing dealership (if appl.) b/	78%	77%	86%	75%	78%	78%	80%	78%	78%	76%	86%	77%	76%	81%
	Condition of vehicle upon delivery b/	86%	86%	91%	86%	85%	86%	86%	86%	87%	85%	91%	86%	85%	88%
	Value for the money b/	54%	53%	60%	53%	52%	53%	62%	54%	61%	48%	60%	53%	48%	62%
	Purchase price b/	46%	45%	55%	42%	52%	45%	56%	46%	52%	41%	55%	45%	41%	53%
	Warranty terms and conditions b/	56%	57%	50%	57%	54%	56%	59%	56%	57%	54%	50%	57%	54%	59%
	Operating costs b/	32%	30%	50%	34%	29%	31%	42%	32%	30%	32%	50%	30%	32%	32%
	Credit/fin./lease terms (if appl.) b/	63%	62%	73%	66%	62%	63%	62%	63%	56%	67%	73%	62%	67%	56%
	SAMPLE SIZE	333	291	48#	206	113	183	156	333	115	205	48#	291	205	134

From: Repasky, Steve (S.)
Sent: Wednesday, April 12, 2006 5:31 PM
To: Choe, Mark (M.J.); Gompper, Dan (D.B.); Nilles, Tom (T.J.)
Cc: Kane, Michael (M.D.)
Subject: RE: AWS Verbatims Requested from Last Thursday

Attachments: Copy of sdandcomptgwbrkdn_Oct05Rev1_ All.xls

2005 MY showing Diesel at 119 TGW vs. YTD Overall at 124..

Copy of
comptgwbrkdn_(

From: Repasky, Steve (S.)
Sent: Wednesday, April 12, 2006 5:19 PM
To: Choe, Mark (M.J.); Gompper, Dan (D.B.); Nilles, Tom (T.J.)
Cc: Kane, Michael (M.D.)
Subject: RE: AWS Verbatims Requested from Last Thursday

New Trindy chart comparing 2005 vs. 2006 for same point in time. Optimistically it shows 2005 V89 TGWs dropped from 180 TGWs to 124 YTD or a reduction of 56 TGWs. With a 2006 MY base of 129-56= 73 TGWs….See attached...

<< File: Copy of tgwsd1MIS_1stQtr_3MIS_06MYvs05MY.xls >>

From: Repasky, Steve (S.)
Sent: Wednesday, April 12, 2006 5:06 PM
To: Choe, Mark (M.J.); Gompper, Dan (D.B.); Nilles, Tom (T.J.)
Cc: Kane, Michael (M.D.)
Subject: RE: AWS Verbatims Requested from Last Thursday

A review of verbatims from Oct. registrations covering July 2005 - Oct. 2005 MoP include:

- 32 total verbatims; (24) F-250 and (8) F-350
- (23) Diesel/(9) gas with (21) 4x4 and (11) 4x2
- Pareto of CCCs were:
  - (10) C50 with (4) "comments" i.e. turning radius too large, (4) steering related i.e. "needs constant correcting" /"steering wanders and is slow to react" , (1) bump steer and (1) handling related (137" R/C 4x4 Diesel with LT245 BFG tires).
  - (9) Drift/pull concerns usually just indicating a certain direction without much detail.
  - (5), all F250 H44 with (3) indicating "harsh" or "stiff" Ride, (1) freeway hop and (1) skate concerns. (3) Supercabs and (2) Crewcabs
  - (5), all F250 N24 with (2) "shimmy" after hitting a bump, (3) other i.e. Alignment, tire balance and SW shakes above 45 MPH.

- No distinct vehicle configuration pattern emerges other than these verbatims more closely resembles the Diesel/Gas and 4x2/4x4 take rates.

From: Repasky, Steve (S.)
Sent: Wednesday, April 12, 2006 4:10 PM
To: Choe, Mark (M.J.); Janitor, Bill (W.A.); Gompper, Dan (D.B.); Kalis, Eric (E.L.); Nilles, Tom (T.J.)
Cc: Kane, Michael (M.D.)
Subject: RE: AWS Verbatims Requested from Last Thursday

Trindy's breakdown by configuration (sent to you earlier today) show the following results:

- Versus 2005, the following CCCs are up: Drift/Pull (+9), SWVWD (+4), VVWD (+4) and H62 (+1). Down are H44/45 (-2), H24 (-3) and C50 (-3).

- Diesel sample size n=131 out of 2300 total. V89 TGW for diesel was 56. Our take rate for diesel is approx. 70+% ??

- 6.8L sample size n=1736 is disproportionate to take rate. Why? TBD V89 TGW was 133 for 6.8L

- 4x2 was 159 TGW vs. 4x4 at 125 TGW. Of 159 for 4x2, almost 1/2 was due to Harsh Ride 47 TGW (vs. H44 overall at 23) and C50 23 TGW vs. overall of 13.

- **I would therefore speculate that 6.8L 4x2 Crew and/or Supercab is suspect for Harsh Ride concerns.**

- The breakdown by MoP (Month of Prod.) indicates an especially bad month for July (Shutdown for two weeks) at 165 TGW and August at 148 TGWs.

- The July blowout (168 vs. YTD of 129) was due to SWVWD at 40 (YTD=25), VVWD at 58 (YTD= 22) and Harsh Ride at 48 (YTD=22).

- Other blowouts include May 2005 with Ride at 58 total (YTD=29) and C50 for Oct./Nov. at 28/26 (YTD=13).

- **Graphing the MoP results on the BSAQ roadmap indicates we are on target for Nov. MoP at 125 (vs. roadmap at 126.4) Approx 12 TGWs worth of actions have been incorporated in the Dec. - Feb. 2006 timeframe. Tire room tie to broadcast (~ 2 TGW) has been delayed to May.**

- April 2006 results are estimated to be at 112 TGWs or 20 TGW deficient to 2006 target of 92 TGWs.

- I am looking at some verbatims now from Oct. registrations.. Verbatims from GQRS are not on the quality website yet as of ~ 1:30PM. More to follow...

From: Choe, Mark (M.J.)
Sent: Wednesday, April 12, 2006 3:21 PM
To: Repasky, Steve (S.); Janitor, Bill (W.A.); Gompper, Dan (D.B.); Kalis, Eric (E.L.); Nilles, Tom (T.J.)
Subject: FW: AWS Verbatims Requested from Last Thursday

Tom/Steve, pls. review verbatims to diagnose/understand V89 increase for all Truck platforms…

Pls. give me a summary of findings (critical config/tire…).
Need SuperDuty input COB today in preparation of VP HTFB review tomorrow.
Thanks.

Mark J. Choe
Vehicle Dynamics Manager
PickUp Truck & Commercial Vehicle

From: Martin, Sandi (S.L.)
Sent: Wednesday, April 12, 2006 2:47 PM
To: Choe, Mark (M.J.); Heider, John (J.W.); Lindstrom, Scott (S.K.); Rushbrook, Mark (M.A.)
Cc: Haley, William (W.J.); Wasczenski, Pamela (P.M.); Arbitter, Daniel (D.S.)
Subject: AWS Verbatims Requested from Last Thursday

This file contains several worksheets (1 for each vehicle line) of verbatims for those that were identified as unusual or as an area of conern in last Thursday's meeting.

Please note that the R/1000 data is calculated only once per month, while the actual claims are uploaded more frequently (I've sorted each sheet by repair date -- so you can scroll down to February repairs if you choose to.

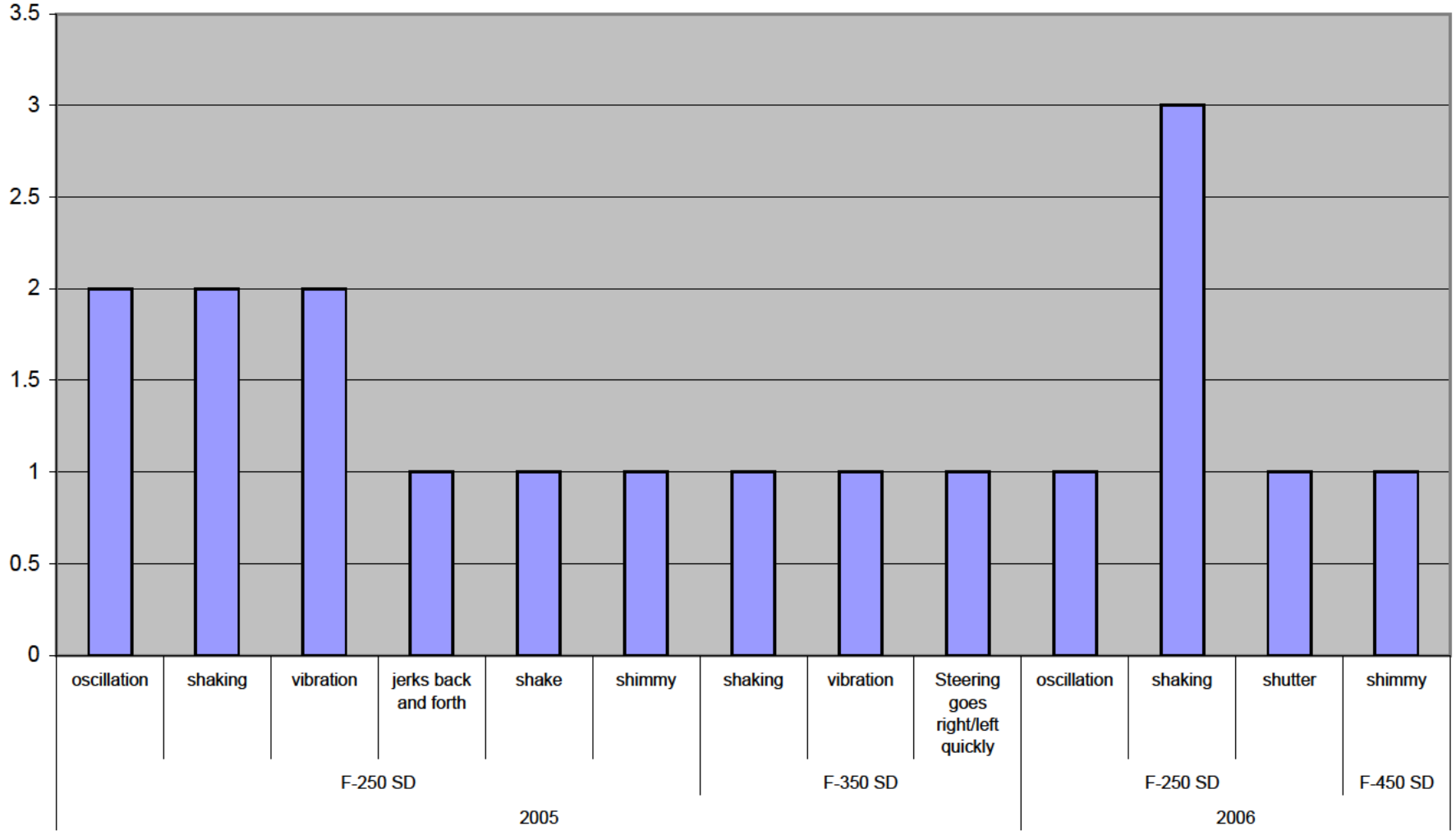
I'll also add this file to DocuCenter, please let me know if you have questions or need further data.

Thank you.

<< File: AWS Verbatims 12APR2006.xls >>

Sandi Martin
Core Vehicle Dynamics
(313) 845-8893

2005 thru 2007 F250 thru F550
VOQ data; Alleged steering shimmy/shake while driving after hitting bump in road
Data sorted by Model year, then by Body Style, then by Customer Symptom



KTP Super Duty GQRS Comparison Report

2006 MY 1st Qtr Report (Sept-Nov Registrations) on 3MIS Vehicles/
2005 MY 1st Qtr Report (Sept-Nov Registrations) on 3MIS Vehicles

3MIS 2006MY by Month of Prod										3MIS 2005MY by Month of Prod					
May-05	Jun-05	Jul-05	Aug-05	Sep-05	Oct-05	Nov-05	MYTD	CCC	Description	Jul-04	Aug-04	Sep-04	Oct-04	Nov-04	MYTD
2110	1704	1977	1903	1694	1802	1867	1820		TOTAL TGW/1000	2641	2551	2258	1809	4607	2467
171	326	172	531	628	396	76	2300		Sample Size						
233	174	292	292	236	250	321	251		CHASSIS TGW/1000	353	423	325	398	680	398
17%	14%	17%	17%	16%	17%	25%	17%		Reported At Least One Trouble (%)	23%	25%	23%	21%	24%	23%
166	124	203	200	155	176	218	172		STEERING/HANDLING AND RIDE TGW/1000	334	295	209	275	382	270
13%	10%	13%	13%	11%	13%	19%	12%		Reported At Least One Trouble (%)	22%	17%	18%	19%	16%	18%
85%	81%	83%	85%	85%	84%	75%	84%		Vis bility from driver's seat b/	88%	84%	83%	94%	71%	85%
37	32	38	52	40	40	94	43	**V87**	STEERING	58	48	84	132	179	90
11	10	9	7	5	18	7	9	**H21**	EXCESSIVE FREE PLAY/WANDER	0	3	25	18	89	21
14	7	22	17	13	8	80	15	**H22**	STEERING REQ. EXTRA OR UNEVEN EFFORT	3	2	20	22	78	19
3	4	0	7	5	5	7	5	**L68**	POWER STEERING FLUID LEAKS	3	12	14	0	0	8
9	12	6	18	11	8	0	12	**N58**	STEERING NOISY	52	31	25	93	11	42
0	0	0	4	5	0	0	2	**H50**	STEERING GEAR/PUMP TROUBLES **	0	0	1	0	0	0
129	91	165	148	115	136	125	129	**V89**	HANDLING AND RIDE	275	247	125	144	204	180
82%	79%	76%	80%	78%	79%	71%	79%		Overall handling b/	82%	82%	79%	85%	69%	81%
84%	83%	77%	83%	82%	84%	77%	82%		Handling on highway b/	81%	85%	83%	84%	70%	83%
66%	61%	57%	64%	67%	64%	59%	64%		Handling in city/parking b/	59%	62%	70%	69%	64%	66%
76%	74%	72%	74%	73%	72%	72%	73%		Smoothness of ride b/	75%	69%	76%	80%	65%	74%
86%	81%	81%	83%	82%	81%	77%	82%		Fun to drive b/	76%	83%	87%	85%	70%	84%
83%	83%	81%	88%	84%	86%	78%	85%		Towing performance b/	86%	83%	86%	84%	69%	83%
7	12	17	38	20	22	26	23		CONSTANT PULL/DRIFT TO ONE SIDE	37	14	29	0	7	17
3	10	13	16	8	10	0	10	**H25**	CONSTANT PULL/DRIFT-Left	0	2	17	0	7	7
4	2	4	22	12	14	26	13	**H26**	CONSTANT PULL/DRIFT-Right	37	13	11	0	0	10
22	27	40	21	25	24	14	25		STEERING WHEEL VIBRATION/SHIMMY	37	57	24	47	46	41
9	13	14	12	10	14	7	12	**N23**	STEERING WHEEL VIB-Below 45 mph	37	14	14	47	46	25
22	13	37	14	20	20	14	19	**N24**	STEERING WHEEL VIB-Above 45 mph	34	55	16	15	0	26
20	20	58	24	16	15	14	22		VEHICLE VIBRATES WHILE DRIVING	128	64	11	7	53	36
3	0	23	9	4	8	7	7	**N22**	VEHICLE VIBRATES-Below 45 mph	42	13	6	3	46	13
18	20	45	18	14	7	14	17	**N25**	VEHICLE VIBRATES-Above 45 mph	125	41	10	7	0	25
41	6	48	32	13	23	22	23	**H44**	HARSH RIDE	50	33	17	23	0	24
17	12	0	1	3	10	12	6	**H45**	MUSHY RIDE	0	3	22	0	0	8
15	7	0	14	11	8	12	10	**H62**	IMPROPER TIRE WEAR	0	19	1	31	0	12
7	3	0	6	14	6	0	7	**H24**	STEERING WHEEL SPOKES NOT CORRECTLY	14	35	13	14	91	26
0	5	3	12	12	28	26	13	**C50**	OTHER HANDLING AND RIDE	9	22	9	23	7	15
0	0	0	0	0	0	0	0		OTHER CHASSIS TROUBLES **	0	0	0	0	0	0
171	326	172	531	628	396	76	2300		Sample Size	100	441	365	203	61	1171

From: O'Connor, Tammy (T.A.)
Sent: Monday, August 29, 2005 3:52 PM
To: Wagner, Lacy (L.)
Subject: RE: F-250 steering shimmy

Attachments: RE: Update to TSB 04-26-1; Update to TSB 04-26-1

RE: Update to TSB 04-26-1

Update to TSB 04-26-1

Lacy:

Carefully reviewed both the original TSB and the revisions.

The most important items are tire pressure set correctly to door spec and camber.

I would appreciate any feedback and if this helps resolve issue.

If it does not resolve most of your issue, you may have a different concern?

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thurs,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

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-----Original Message-----
From: Wagner, Lacy (L.)
Sent: Monday, August 29, 2005 3:16 PM
To: O'Connor, Tammy (T.A.)
Subject: F-250 steering shimmy

Tammy,

One of my dealers is involved with a fleet of F-250s with a steering wheel shimmy over bumps. Specifically VIN # 1FTNF21525EB[redacted], CQIS #[redacted] They have followed TSB 04-26-01 and ISM 05-07-034 to no avail. I spoke with Steve Repasky and he advised there was a draft TSB related to this concern. Can you please provide me with any additional info or suggestions you may have. Thanks for your assistance

Lacy Wagner
Field Service Engineer
Cincinnati FCSD

Louisville Lexington Tri-Cities
Ph: 502-802-9910

From: Dixon, Brandon (B.A.)
Sent: Monday, September 12, 2005 8:53 AM
To: O'Connor, Tammy (T.A.)
Subject: RE: Report Summary for the CQIS Report#[redacted]

Tammy,
To be honest, I haven't encountered too many of these and don't have a good feel for how to solve the problem. This CQIS report is from my dealer and I told them to call the hotline as I thought we had a steering wheel change but it appears that it does not apply to this 2006 vehicle. I've asked the dealer to let me know of the customers satisfaction with the alignment change and I can let you know of the results.

Brandon A. Dixon
Ford Motor Company
Field Service Engineer
Chicago Region District F
West Illinois / Iowa
(630) 725-4531

-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Monday, September 12, 2005 7:11 AM
To: Dixon, Brandon (B.A.)
Subject: FW: Report Summary for the CQIS Report#[redacted]

Brandon: Attached is a draft TSB for this issue, I would appreciate any feedback on this draft and whether is covers everything needed to perform this repair. I will submit for publication in approx. 2 weeks.

Tammy A. O'Connor
Product Concern Engineer
FCSD, Service Engineering Operations
Super Duty F-Series/Excursion
Body/Chassis/Electrical
248/814-8698 Telecommuting Office (Mon,Thurs,Fri)
313/322-3824 DSCII, Cube 468 (Tuesday,Wednesday)

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-----Original Message-----
From: O'Connor, Tammy (T.A.)
Sent: Monday, September 12, 2005 7:45 AM
To: O'Connor, Tammy (T.A.)
Subject: Report Summary for the CQIS Report#[redacted]

Attachments : 0

Report# : [redacted] NHL **Received:** 09/09/2005

CCRG/EPRC:		**Reviewed Status:**		**Date:**	
Vehicle:	2006,F250 4X4,CRW CAB,PICKUP ,1FTSW21P16E[redacted]			**Build Date:**	07/20/2005
Odometer :	907 M	**Engine:**	6.0L DI	**Calibration:**	6F710D0A
Transmission:	5R110W DSL	**Axle:**		**A/C:**	YES
Dealer:	USA 04106 Carousel Ford, Inc.			**Phone#:**	(319) 338-7811
City:	Iowa City	**State:**	Iowa	**Country :**	USA
Originator:	MIKE GEROT				
Symptom:	3 03 3 53 CHASS.,STRG/HANDLING ,VIB./SHIMMY,OVER BUMPS				
Status:					
VFG:	V89 RIDE & HANDLING				
Additional Symptom:	SHIMMY OVER BUMPS				
Fix:	**Causal Component :**				
Condition Code:					

Hotliner:	MGIURLAN	**Phone:**	313 317-7041	**Regn Cd:**	41 Chicago - 41
Engineering:		**Phone:**		**TAR:**	
Dlr Contact:	MIKE GEROT	**Phone:**	319 338-7811	**Title Cde:**	T

Comments :

REPAIR 09/09/2005 12:52PM MARIO GIURLANDA MSS - FCSD - TECH SVC HOTLINE
SHIMMY OVER BUMPS AT HIWAY SPEEDS. TECH SPOKE WITH FSE WHO RECOMMENDED TO CALL THE HOTLINE FOR INFORMATION.

RECOMM 09/09/2005 12:52PM MARIO GIURLANDA MSS - FCSD - TECH SVC HOTLINE
ISM 05-09-001 VERIFY TIRE PRESSURES ARE SET TO SPECIFICATION, BOTH RADIUS ARMS ARE PROPERLY TORQUED - CHECK ALIGNMENT & SET CASTER 5 TO .75 BELOW NOMINAL ADVISED ABOVE INFORMATION.

07/27/2005 13:43:59 Ford Motor Company Proprietary and Confidential								
Super duty N23								
REPORT TYPE: GQRS TGW Detail(US, EU, Brazil) Style: TREND								
Study: GQRS-US - Global Quality Research System								
Survey(s): GQRS Superduty: MY2005, GQRS 2005 Year to Data US, GQRS 2004 YTD US MY2004, GQRS 2004 YTD US MY2005								
FILTER: MODEL								
SURVEY	GQRS 2004 YTD	GQRS 2004 YTD	GQRS 2004 YTD	GQRS 2004 YTD	GQRS 2004 YTD	GQRS 2004 YTD	GQRS 2004 YTD	GQRS 2004 YTD
VIN Position 7: 0=4x2 SRW, 1=4x4 SRW, 2=4x2 DRW, 3=4x4 DRW	0	0	0	1	1	1	2	2
Model Name	F250S_PU	F350S_PU	TOTAL	F250S_PU	F350S_PU	TOTAL	F350S_PU	TOTAL
Model Year	2004	2004		2004	2004		2004	
TOTAL TGW/1000	2243	2048	2220	2047	2390	2189	2283	2283
STEERING WHEEL VIB-Below 45 mph	6	10	7	5	0	3	6	6
SAMPLE SIZE	784	147	931	975	711	1686	304	304
File created by InfoLink (MRO: Production) Interfac	EU		Brazil) Version: 2.02"					
# Sample size:								
less than 50 - insufficient for reliable analysis								
less than 30 - will not be printed								
N/A Indicates that the question was Not Asked or Answered								
in the particular survey								
(.) Indicates a missing value								
** Item not specifically asked on questionnaire								
a/ Total Vehicle Squeak/Rattle represents an aggregation of all								

squeaks and rattles reported by customers								
b/ Satisfaction Item: Percent of respondents indicating top 2 boxes								
*** 0=4x2 SRW, 1=4x4 SRW, 2=4x2 DRW, 3=4x4 DRW)								

GQRS 2004 YTD	GQRS 2004 YTD	GQRS 2005 YTD	GQRS 2005 YTD	GQRS 2005 YTD	GQRS 2005 YTD	GQRS 2005 YTD	GQRS 2005 YTD	GQRS 2005 YTD	GQRS 2005 YTD	GQRS 2005 YTD	GQRS 2005 YTD	GQRS Super
3	3	0	0	0	1	1	1	2	2	3	3	0
F350S_PU	TOTAL	F250S_PU	F350S_PU	TOTAL	F250S_PU	F350S_PU	TOTAL	F350S_PU	TOTAL	F350S_PU	TOTAL	F250S_PU
2004		2005	2005		2005	2005		2005		2005		2005
2891	2891	1984	1519	1920	2049	2574	2227	1831	1831	2734	2734	1827
0	0	3	0	2	13	19	15	5	5	26	26	18
163	163	451	74	525	614	617	1231	221	221	218	218	51

GQRS Super	GQRS Super	GQRS Super	GQRS Super	GQRS Super	GQRS Super	GQRS Super	GQRS Super	GQRS Super
0	0	1	1	1	2	2	3	3
F350S_PU	TOTAL	F250S_PU	F350S_PU	TOTAL	F350S_PU	TOTAL	F350S_PU	TOTAL
2005		2005	2005		2005		2005	
	1843	1852		1899				
	16	0		0				
3#	54	66	27#	93	12#	12#	13#	13#

REPORT TYPE: GQRS TGW Detail(US, EU, Brazil) Style: TREND

Study: GQRS-US - Global Quality Research System
Survey(s): GQRS Superduty: MY2005, GQRS 2005 Year to Data US, GQRS 2004 YTD US MY2004, GQRS 2

FILTER: MODEL

SURVEY	GQRS 2004 YTD	GQRS 2004 YTD	GQRS 2004 YTD	GQRS 2004 YTD	GQRS 2005 YTD
VIN Position 7: 0=4x2 SRW, 1=4x4 SRW, 2=4x2 DRW, 3=4x4 DRW	0	1	2	3	0
Model Name	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL
Model Year					
TOTAL TGW/1000	2220	2189	2283	2891	1920
	2004				2005
	4x2 SRW	4x4 SRW	4x2 DRW	4x4 DRW	4x2 SRW
STEERING WHEEL VIB-Below 45 mph	7	3	6	0	2
SAMPLE SIZE	931	1686	304	163	525

File created by InfoLink (MRO: Production) Interface Version: 1.14. " GQRS TGW Detail(US

Sample size:
less than 50 - insufficient for reliable analysis
less than 30 - will not be printed

N/A Indicates that the question was Not Asked or Answered
in the particular survey

(.) Indicates a missing value

** Item not specifically asked on questionnaire
a/ Total Vehicle Squeak/Rattle represents an aggregation of all
squeaks and rattles reported by customers
b/ Satisfaction Item: Percent of respondents indicating top 2 boxes

*** 0=4x2 SRW, 1=4x4 SRW, 2=4x2 DRW, 3=4x4 DRW)

4x2	SRW	7	931
4x4	SRW	3	1686

4x2	DRW	6	304
4x4	DRW	0	163
4x2	SRW	2	525
4x4	SRW	15	1231
4x2	DRW	5	221
4x4	DRW	26	218

2004 YTD US MY2005

GQRS 2005 YTD	GQRS 2005 YTD	GQRS 2005 YTD
1	2	3
TOTAL	TOTAL	TOTAL
2227	1831	2734
4x4 SRW	4x2 DRW	4x4 DRW
15	5	26
1231	221	218