

*Ford Motor Company*

**James P. Vondale, Director**  
Automotive Safety Office  
Environmental & Safety Engineering

April 15, 2005

Mr. George Person, Chief  
Recall Management Division (NVS-215)  
Office of Defects Investigation  
National Highway Traffic Safety Administration  
400 Seventh Street, S.W.  
Washington, DC 20590


Dear Mr. Person:

Subject: Safety Recall 05V-135  
(Ford Number 05S30)

Pursuant to the requirements set forth in Part 573 of Title 49 of the Code of Federal Regulations -- Defect and Noncompliance Reports, Ford Motor Company is submitting a true or representative copy of information that relates directly to the subject campaign.

Attached are dealer and owner letters issued by Ford Customer Service Division regarding a recall of certain 2005 model year Ford F-450 and F-550 vehicles. Specific details were submitted to you in a letter dated April 1, 2005. Owner notification letters were mailed on April 6, 2005.

Sincerely,



J. P. Vondale

Attachment(s)  
05S30 Dealer-Owner Bulletin





Frank M. Ligon  
Director  
Service Engineering Operations  
Ford Customer Service Division

Ford Motor Company  
P. O. Box 1904  
Dearborn, Michigan 48121

April 2005

**TO:** All U.S. Ford and Lincoln Mercury Dealers

**SUBJECT:** DEMONSTRATION / DELIVERY HOLD: Safety Recall 05S30:  
Certain 2005 Model Year F450/550 Vehicles  
Steering Gear Inspection/Replacement

**Ref:** Advance Notice - DEMONSTRATION / DELIVERY HOLD Safety Recall 05S30 Dated  
March 23, 2005.

### **AFFECTED VEHICLES**

Certain 2005 Model Year F450/550 vehicles built at the Kentucky Truck Assembly Plant from March 9, 2005 through March 14, 2005. Affected vehicles are identified in OASIS. In addition, for a list of vehicles assigned to your dealership, visit <https://web.fsavinlists.dealerconnection.com>. This information was available on March 23, 2005.

### **REASON FOR THIS SAFETY RECALL**

A limited number of vehicles (less than 600) may have been equipped with a steering gear built with an incorrect spacer that retains the re-circulating ball tube. A steering gear that contains an incorrect spacer may experience noise and increased steering effort, eventually progressing to impaired steering or potential loss of steering that may result in an accident.

### **SERVICE ACTION**

Before demonstrating or delivering any of the vehicles involved in this recall, dealers are to inspect the steering gear for a specific date code and/or green certification mark. Those vehicles that do not pass the inspection will have the steering gear replaced at no charge to the vehicle owner. This must be performed on all of the affected vehicles in your new inventory as well as vehicles that have been delivered to customers.

#### **On-site Inspection**

Customers are being asked not to drive any affected vehicle until the steering gear inspection, or possible steering gear replacement, is completed. Therefore, dealer technicians will need to perform an on-site inspection at the customer's location of all affected vehicles. The expense of the on-site inspection is covered by this program. See Attachment I for claiming details.

#### **Towing**

If the vehicle does not pass the on-site inspection, the affected vehicle should not be driven prior to replacement of the steering gear. The expense of towing the vehicle to the dealership for repairs is covered. See Attachment I for claiming details.

### **CUSTOMER NOTIFICATION**

Owners will be notified to arrange for an inspection of the steering gear and, if necessary, replacement. Dealers are authorized to provide a rental vehicle to affected customers until the inspection and, if necessary, repairs are completed. Please note that dealers should repair any affected vehicles that arrive at their dealerships, whether or not the customer has received a letter.

**PLEASE NOTE:**

Federal law requires dealers to complete any outstanding safety recall service before a new vehicle is delivered to the buyer or lessee. Violation of this requirement by a dealer could result in a civil penalty of up to \$5,000 per vehicle. Correct all vehicles in your new vehicle inventory before delivery.

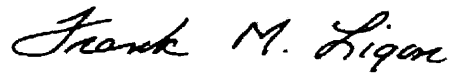
**ATTACHMENTS**

Attachment I: Administrative Information  
Attachment II: Labor Allowances and Parts Ordering Information  
Attachment III: Technical Information  
Customer Notification Letter

**QUESTIONS?**

Claims Information: ..... 1-800-423-8851  
Special Service Support Center (Dealer Only) Questions: ..... 1-800-325-5621

Sincerely,



Frank M. Ligon

**DEMONSTRATION / DELIVERY HOLD: Safety Recall 05S30**  
Certain 2005 Model Year F450/550 Vehicles  
Steering Gear Inspection/Replacement

**OASIS ACTIVATED?** Yes. OASIS was activated March 23, 2005.

**FSA VIN LIST ACTIVATED?** Yes

Available through FMCDealer.com or at <https://web.fsavinlists.dealerconnection.com> on March 23, 2005. Owner names and addresses will be available by April 1, 2005.

NOTE: Your FSA VIN list may contain owner names and addresses obtained from motor vehicle registration records. The use of such motor vehicle registration data for any purpose other than in connection with this recall is a violation of law in several states, provinces, and countries. Accordingly, you must limit the use of this listing to the follow-up necessary to complete this recall action.

**STOCK VEHICLES**

Correct all affected units in your new vehicle inventory before delivery.

**SOLD VEHICLES**

- Owners of affected vehicles will be directed to dealers for repairs.
- Immediately contact any of your affected owners whose vehicles are not on your VIN lists but are identified in OASIS. Give the owner a copy of the Customer Notification Letter and schedule a service date.
- Correct other affected vehicles identified in OASIS which are brought to your dealership.

**TITLE BRANDED / SALVAGED VEHICLES**

Affected title branded and salvaged vehicles are eligible for this Field Service Action.

**RELATED DAMAGE**

If a related damage condition exists that you believe to be caused by the covered condition, call the Special Service Support Center to request approval **prior** to the repair of any related damage. Requests for approval after completion of the repair will not be granted.

**ADDITIONAL LABOR TIME**

- If a condition exists that requires additional labor to complete the repair, call the Special Service Support Center to request approval **prior** to performing any additional labor. Requests for approval after completion of the repair will not be granted.
- If you encounter aftermarket equipment or modifications to the vehicle which might prevent the repair of the covered condition, call the Special Service Support Center to request approval prior to performing.

**DEMONSTRATION / DELIVERY HOLD: Safety Recall 05S30**  
Certain 2005 Model Year F450/550 Vehicles  
Steering Gear Inspection/Replacement

**OWNER REFUNDS**

Refunds are not authorized for this program.

**RENTAL VEHICLES**

Ford Motor Company will pay for a rental vehicle, except for fuel and insurance which will be at the owner's expense. Follow Extended Service Plan (ESP) guidelines for rental dollar amounts. Enter the word "RENTAL" plus the number of days the vehicle was used in the Miscellaneous Expense area of the recall claim form.

**TOWING**

If the steering gear must be replaced, reimbursement for towing may be claimed through the DWE/ACES II system. See below for claiming instructions.

**SERVICE CALLS**

Service calls are reimbursable under the same conditions that cover towing. The service call **MUST** be documented by the standard towing log requirements. Ford will reimburse:

- Technician travel time at actual time at the dealership's warranty labor rate.
- Mileage provided the total amount to be reimbursed is reasonable and does not exceed the normal amount that would have been allowed if the vehicle had been towed to the dealership.

See below for claiming instructions.

**CLAIMS PREPARATION AND SUBMISSION**

- Enter claims using Direct Warranty Entry (DWE).
- For towing reimbursement enter "TOW" in the "Misc. Area" of the claim, enter a full explanation of the service call in the "Technical Comments" section of the claim, and enter the tow invoice number in the invoice field of the claim.
- For service calls the ACES II input must be designated as "TOWM" in the "Misc. Area" of the warranty claim with a full explanation of the service call in the "Technician Comments" section.
- Related damage must be claimed on a repair line that is separate from the repair line on which the FSA is claimed.
- "MT" labor should be submitted on a separate repair line with the related damage flag checked.
- Refer to ACESII manual for claims preparation and submission information.

**DEMONSTRATION / DELIVERY HOLD: Safety Recall 05S30**  
 Certain 2005 Model Year F450/550 Vehicles  
 Steering Gear Inspection/Replacement

**LABOR ALLOWANCES**

Description	Labor Operation	Labor Time
<b><u>Vehicles Equipped With 6.0L Diesel Engines</u></b>		
Inspect Steering Gear Date Code	05S30A	0.3 Hour
Replace Steering Gear (includes inspect)	05S30B	1.9 Hours
<b><u>Vehicles Equipped With 6.8L Engines</u></b>		
Inspect Steering Gear Date Code	05S30A	0.2 Hour
Replace Steering Gear (includes inspect)	05S30B	1.7 Hours

**PARTS REQUIREMENTS / ORDERING INFORMATION**

Parts will not be direct shipped for this recall. Order your parts requirements through normal order processing channels.

Part Number	Description	Quantity
5C3Z-3504-BA	Steering Gear Assembly	1
W709143-S426	Steering Gear Mounting Bolt	3 Needed Sold in pack of 4.
N803942-S101	Intermediate Shaft-to-Steering Gear Bolt	1
N642569-S426	Cotter Pin	1 Needed Sold in pack of 2.
N806316-S	Teflon Seal	1
W709296-S426	Sector Arm-to-Sector Shaft Nut	1 Needed Sold in pack of 4.
XT-2-QDX	MERCON Multi-Purpose (ATF) transmission Fluid	As Needed

The DOR/COR for this program is 50351.

**DEALER PRICE**

For latest prices, refer to DOES II.

**PARTS RETENTION AND RETURN**

Affected removed steering gears are to be returned to the Ford Warranty Parts Analysis Center (WPAC). Refer to your daily PEARS (Parts Evaluation and Return System) register for part disposition and return instructions

Follow the provisions of the Warranty and Policy Manual for "Parts Retention and Return Procedures."

**EXCESS STOCK RETURN**

Excess stock returned for credit must have been purchased from Ford Customer Service Division in accordance with Policy Procedure Bulletin 4000.

## CERTAIN 2005 MODEL YEAR F-450 AND F-550 VEHICLES — STEERING GEAR INSPECTION

### OVERVIEW

This program involves inspecting the steering gear to see if it was built within a specified date range and if there is a green certification mark applied to one of the assembly bolts.

- If the steering gear was built within the date range but is missing the green certification mark, the gear must be replaced.
- If the gear contains the green certification mark or if it was not built within the specific date range, no further action is required.

### INSPECTION

1. Open the hood and remove the air cleaner assembly.
  - On 6.0L engine applications, remove the air cleaner element and outlet housing.
  - On 6.8L engines, remove the air cleaner element and the housing assembly.
2. Disconnect the steering gear coupling shield from the line fittings and slide the shield up the intermediate shaft.



3. NOTE: The identification tag is located on the rear face of the steering gear assembly. It may be necessary to position aside the power steering hose assembly to obtain a clear view of the steering gear identification tag and bolt.

Locate the identification tag and read the date code (shown as DDMMYY). See Figure 1.

- If the date code indicates the gear was **not** built on March 2nd, 3rd or 4th 2005 (020305, 030305 or 040305), no further action is required. Reposition the steering gear coupling shield, reinstall the air cleaner assembly and release the vehicle.
- If the date code indicates the steering gear was built on March 2nd, March 3rd or March 4th, 2005 (020305, 030305 or 040305), check for a green certification mark on the bolt head just to the right of the ID tag.
  - If the green mark is present, no further action is required. Reposition the steering gear coupling shield, reinstall the air cleaner assembly and release the vehicle.
  - If the green mark is **not** present, the gear must be replaced. Proceed to Steering Gear Replacement in this Attachment III.

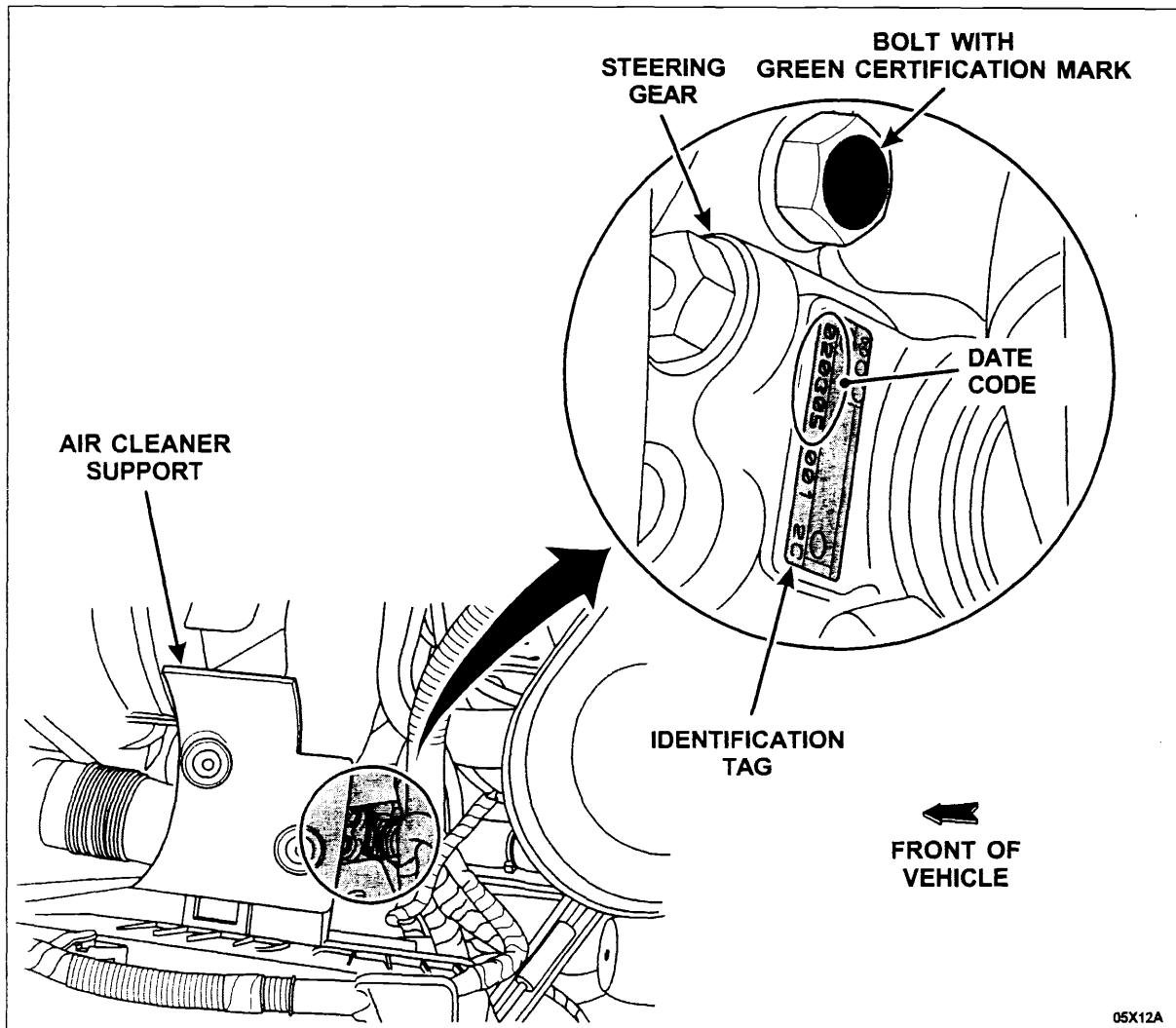


FIGURE 1

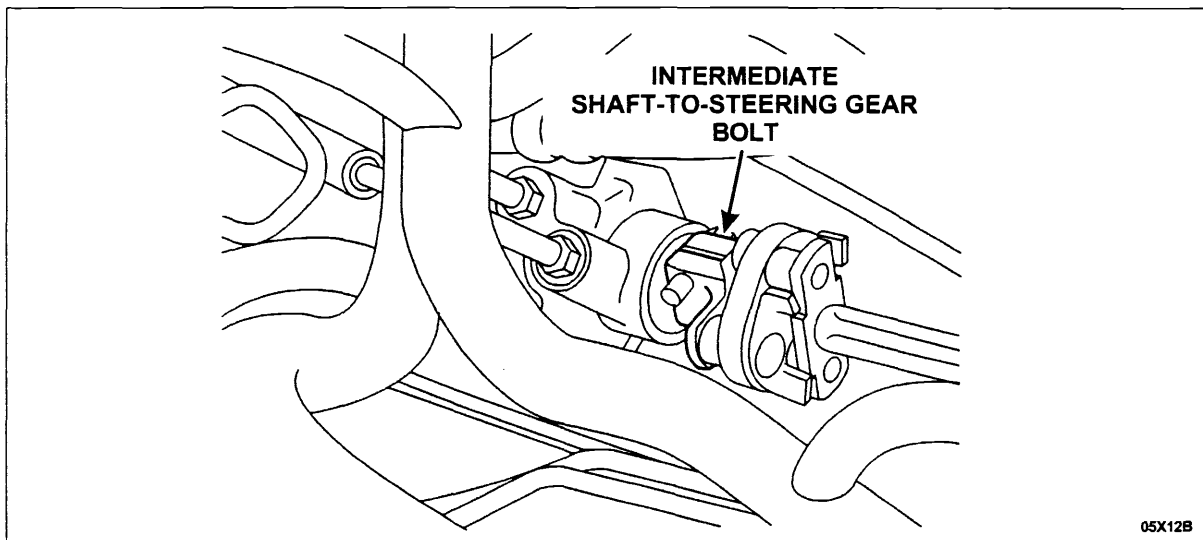


## STEERING GEAR REMOVAL

NOTE: The steering gear mounting bolts, the intermediate shaft-to-gear bolt and the sector arm-to-sector shaft nut have a dry adhesive on the threads. These fasteners **MUST NOT** be reused. **New** fasteners must be used for this repair.

NOTE: For 6.8L engine applications, go to Step 4. Steps 1, 2 and 3 pertain only to 6.0L engine applications.

1. Disconnect the battery terminals, remove the battery cover then remove the battery.
2. Remove the battery tray.
3. Remove the charge air cooler (CAC) tube.
4. Remove and discard the intermediate shaft-to-steering gear bolt. See Figure 2.



**FIGURE 2**

5. Position a drain pan under the vehicle and disconnect the power steering fluid lines from the gear.
6. Raise the vehicle on a hoist.



7. Remove the cotter pin, nut cover and drag link-to-sector arm nut. Discard the cotter pin. See Figure 3.

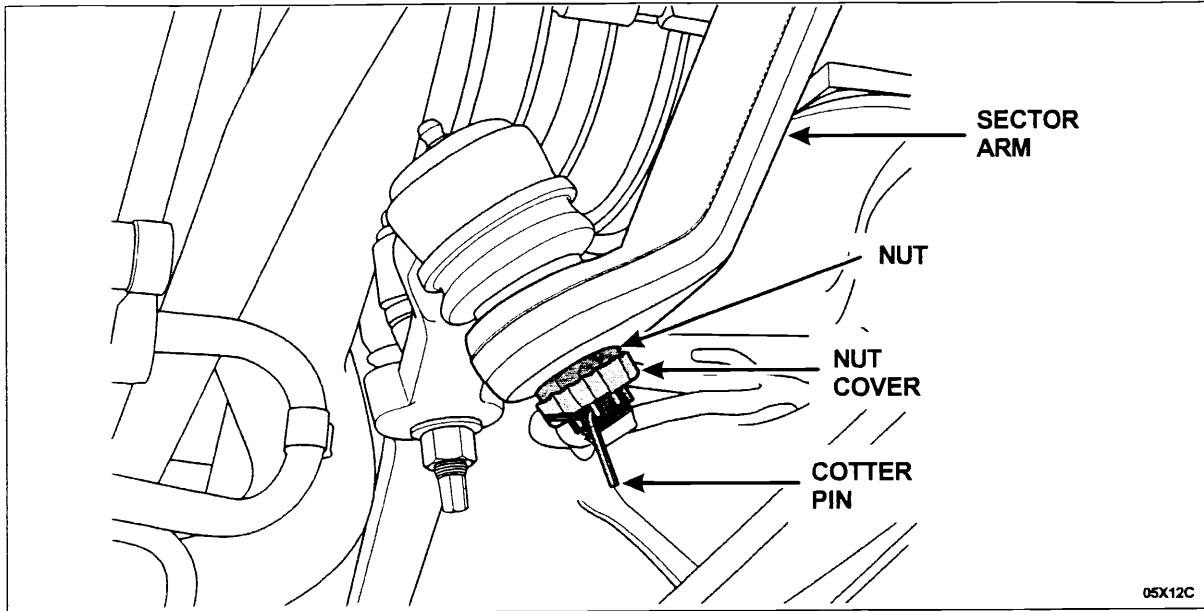


FIGURE 3

8. Using Steering Arm Remover 211-003 (T64P-3590-F) or equivalent, remove the sector arm from the drag link. See Figure 4.

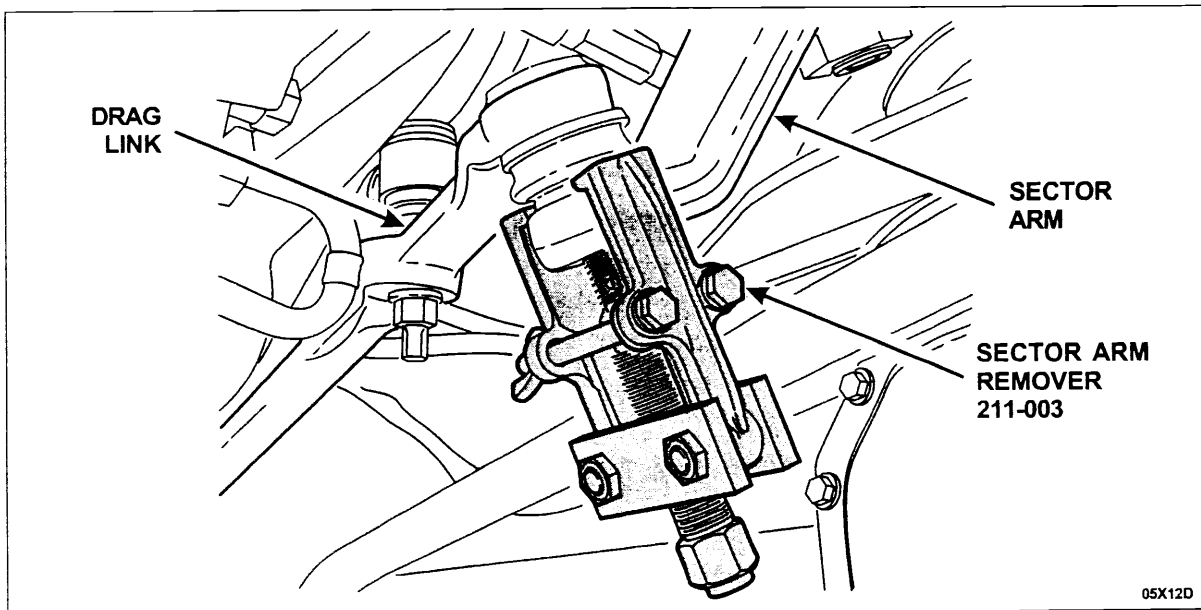
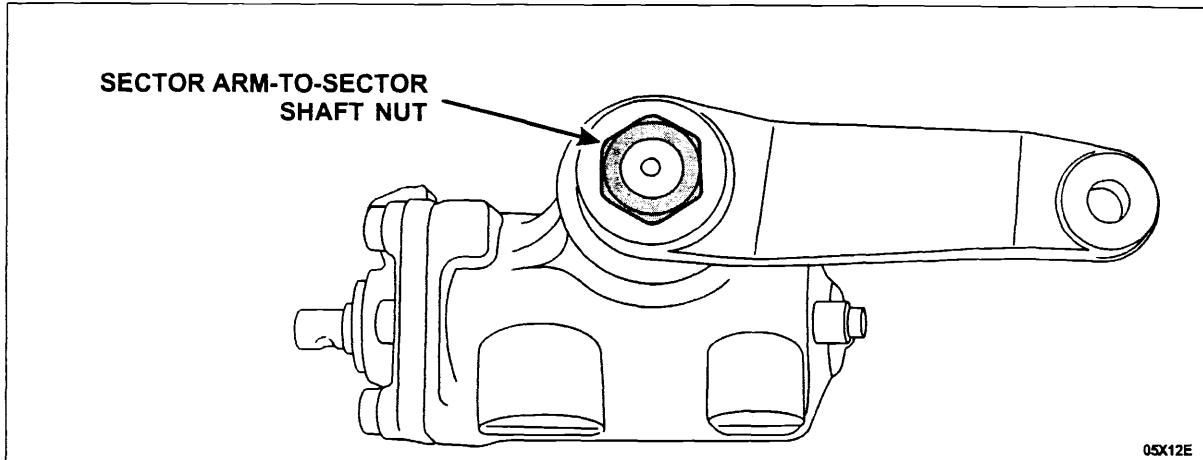


FIGURE 4



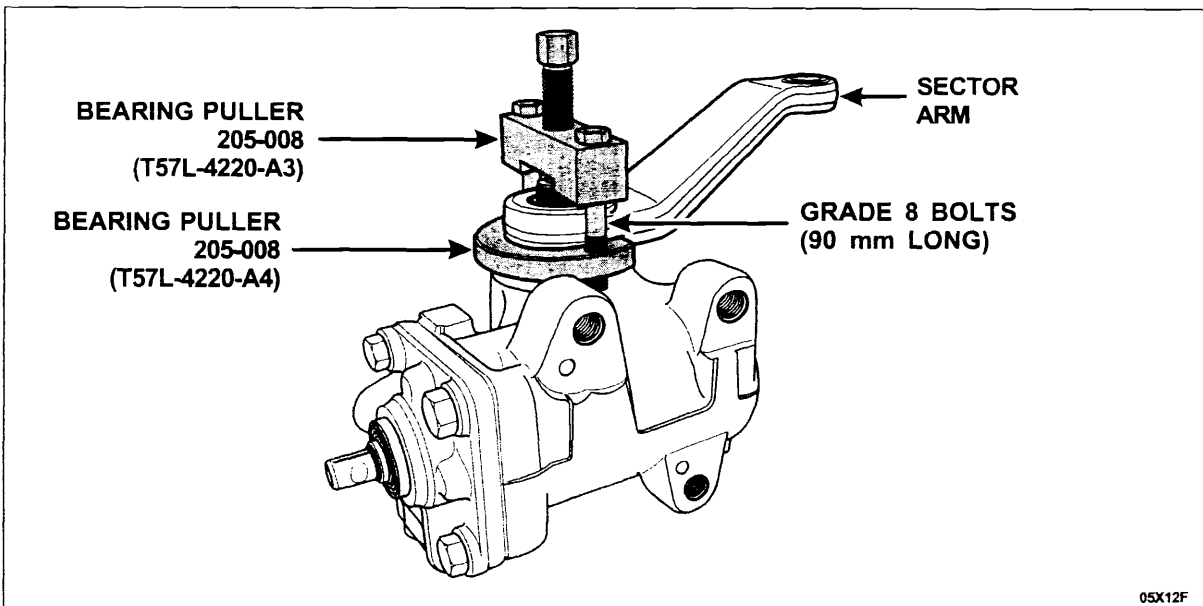
9. With the aid of an assistant supporting the gear, remove the three (3) steering gear mounting bolts and remove the gear from the vehicle. Discard the mounting bolts.
10. Remove and discard the sector arm-to-sector shaft nut. See Figure 5.



**FIGURE 5**

11. NOTE: A standard gear puller may not be robust enough to remove the sector arm from the shaft. Use the recommended tools or equivalents to safely remove the arm from the shaft.

Using Bearing Puller 205-008 (T57L-4220-A3 and A4) or equivalent, and locally procured 90 mm Grade 8 bolts, remove the sector arm from the sector shaft. See Figure 6.



**FIGURE 6**

12. Remove the Teflon® seal from the power steering return line.



## STEERING GEAR INSTALLATION

1. **CAUTION: Be sure to use a *new* nut. This nut has a dry adhesive coating which is destroyed when removed.**

NOTE: The sector arm and shaft have a blind spline to assure proper orientation of the arm to the gear.

With the steering gear mounted in a suitable vise or secured in an appropriate manner, install the sector arm onto the gear/sector shaft and install a *new* nut. Tighten the nut to 475 Nm (350 lb-ft).

2. **CAUTION: Be sure to use *new* mounting bolts. These bolts have a dry adhesive which is destroyed when the bolt is removed.**

NOTE: While positioning the gear in the vehicle, position the sector arm into the drag link before final positioning of the gear.

Position the steering gear in the vehicle and install *new* mounting bolts. Tighten the bolts to 275 Nm (203 lb-ft).

3. Install the sector arm-to-drag link nut. Tighten the nut to 200 Nm (148 lb-ft). Install the nut cover and a *new* cotter pin.
4. Lower the vehicle.
5. Wrap the threads of the power steering line connectors with 3-5 layers of Teflon® tape. See Figure 7.
6. Using Teflon Seal Installer Set 211-D027 (D90P-3517-A) or equivalents, install a *new* Teflon® seal onto the power steering return line. See Figure 7.

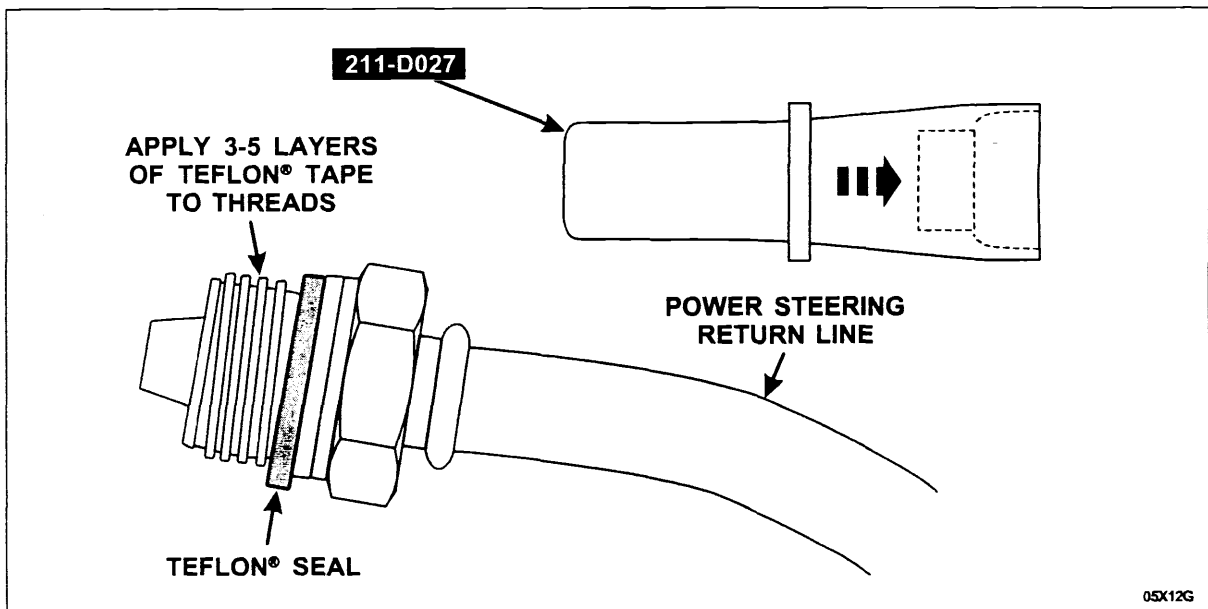


FIGURE 7



7. **CAUTION:** When tightening the power steering hose connections, a crowfoot adapter must be used on a torque wrench. This increases the length of the tool and changes the actual torque value. To achieve the proper torque on the fasteners, you must use the formula provided in this document to calculate the proper setting for the torque wrench/crowfoot you are using. See Figure 8.

Tighten both fittings to the calculated torque specification to achieve 35 Nm (26 lb-ft).

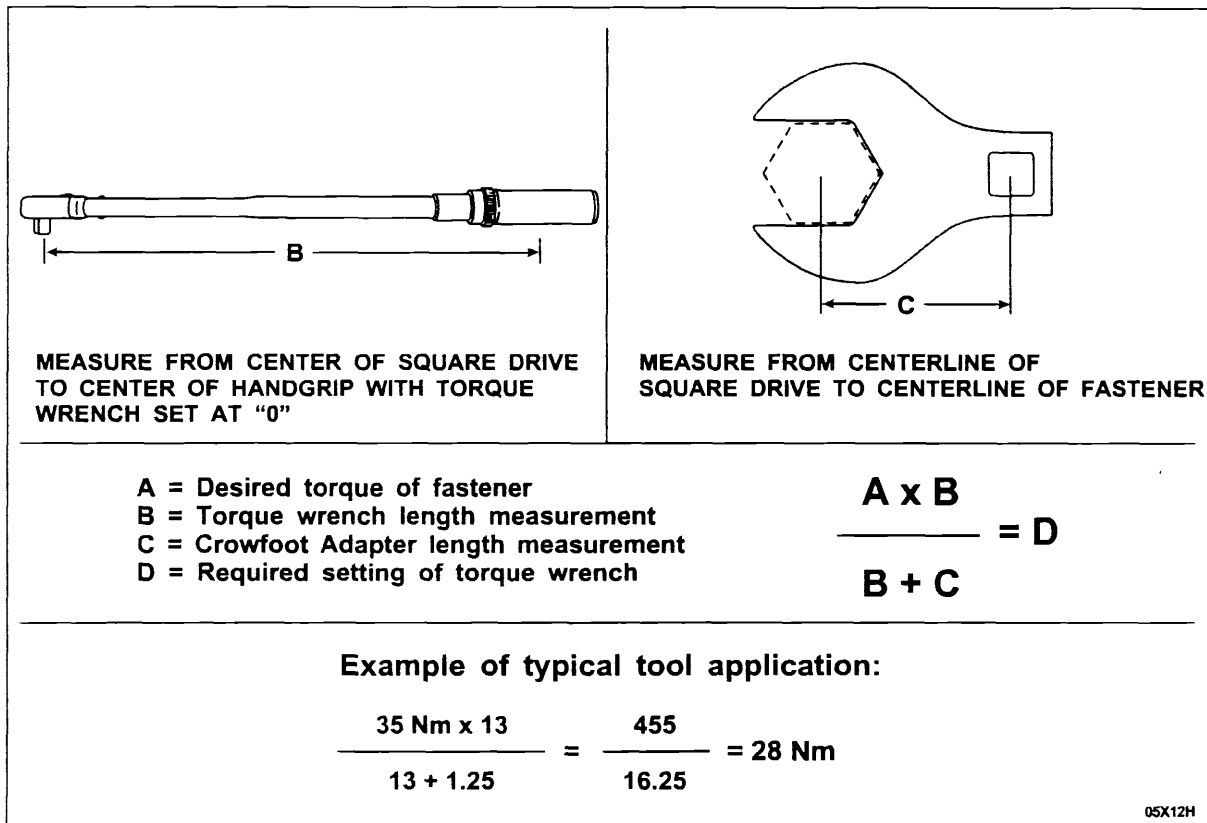


FIGURE 8

8. **CAUTION:** Be sure to use a *new* shaft-to gear bolt.

Connect the intermediate shaft and install a *new* shaft-to-gear bolt. Tighten the bolt to 48 Nm (36 lb-ft).

9. Reposition the coupling shaft shield.

NOTE: For 6.8L engine applications, go to Step 14. Steps 10 through 13 pertain only to 6.0L engine applications.

10. Install the CAC tube (Diesel applications only). Tighten the clamps to 12 Nm (9 lb-ft).
11. Install the battery tray. Tighten the bolts to 16 Nm (12 lb-ft).
12. Install the battery and the battery hold down. Tighten the hold down to 10 Nm (89 lb-in).
13. Install the battery cover and connect the battery terminals.
14. Install the engine air cleaner assembly.
15. Proceed to Power Steering System Fill.



## POWER STEERING SYSTEM FILL

### Required Tools:

- Vacuum Pump Kit 416-D002 (D95L-7559-A) or equivalent
- Evacuation Cap, Power Steering 211-265 or equivalent
- Fill Adapter Manifold, Power Steering 211-327 or equivalent

NOTE: This system uses MERCON® Multi-Purpose ATF Transmission Fluid XT-2-QDX. Do not use any other fluids in this system.

1. **CAUTION: If the air is not purged from the power steering system correctly, premature power steering pump failure can result.**

Remove the power steering pump reservoir cap.

2. Tightly install the evacuation cap to the power steering pump reservoir.
3. Install the hose from the fill adapter manifold tee to the evacuation cap on the power steering pump reservoir.
4. Install the vacuum pump to the fill adapter manifold control valve.
5. Install the hose to the opposite fill adapter manifold control valve and submerge the open end of the hose into a **new** container of MERCON® XT-2-QDX.
6. NOTE: The fill adapter manifold control valves are in the open position when the point of the handles face the center of the fill adapter manifold.  
  
Close the fill adapter manifold control valve connected to the container of MERCON® XT-2-QDX.
7. Open the fill adapter manifold control valve connected to the vacuum pump.
8. Using the vacuum pump, apply 68-85 kPa (20-25 in-Hg) of vacuum to the power steering system.
9. Observe the vacuum gauge for 30 seconds.
10. If the vacuum gauge reading drops more than 3 kPa (0.88 in-Hg), correct any leaks in the power steering system or the filling tools before proceeding.
11. NOTE: The vacuum pump gauge reading will drop slightly during this step.  
  
Slowly open the fill adapter manifold control valve connected to the MERCON® container until power steering fluid completely fills the hose.
12. Close the fill adapter manifold control valve connected to the MERCON® container.
13. Using the vacuum pump, apply 68-85 kPa (20-25 in-Hg) of vacuum to the power steering system.
14. Close the fill adapter manifold control valve connected to the vacuum pump.
15. Slowly open the fill adapter manifold control valve connected to the power steering fluid container.
16. When the power steering fluid has drained from the hose connected to the power steering fluid container, close the fill adapter manifold control valve connected to the MERCON® container.



17. **CAUTION: Do not hold the steering wheel against the stops for more than 3 to 5 seconds at a time. Damage to the power steering pump can occur.**

NOTE: There will be a slight drop in the power steering fluid level in the power steering fluid reservoir when the engine is started.

Start the engine and turn the steering wheel from stop-to-stop.

18. Apply 68-85 kPa (20-25 in-Hg) of vacuum once more to the power steering system to remove any air trapped in the system.
19. Slowly open the fill adapter manifold control valve connected to the MERCON® container.
20. When the power steering fluid has drained from the hose connected to the MERCON® container, close the fill adapter manifold control valve connected to the container.
21. Remove the tools from the vehicle.
22. Install the power steering reservoir cap.
23. If equipped with Hydro-Boost®, apply the brake pedal twice.
24. Turn the ignition switch to the OFF position.
25. **CAUTION: Do not overfill the reservoir.**  
Remove the power steering reservoir cap and fill the reservoir.
26. Install the power steering reservoir cap.





Frank M. Ligon  
Ford Motor Company  
P. O. Box 1904  
Dearborn, Michigan 48121

April 2005

**Safety Recall 05S30**

Mr. John Sample  
123 Main Street  
Anywhere, USA 12345

Your Vehicle Identification Number: 12345678901234567

This notice is sent to you in accordance with the requirements of the National Traffic and Motor Vehicle Safety Act.

Ford Motor Company has decided that a defect which relates to motor vehicle safety exists in certain 2005 model year F450/550 vehicles. We apologize for this situation and want to assure you that, with your assistance, we will correct this condition. Our commitment, together with Ford dealers, is to provide you with the highest level of service and support.

**What is the issue?**

Your vehicle may have been equipped with a steering gear that contains an incorrect spacer. If this condition exists on your vehicle, you may experience noise and increased steering effort, eventually progressing to impaired steering or potential loss of steering that may result in a crash.

**What will Ford and your dealer do?**

Ford Motor Company and your dealer will inspect the steering gear on your vehicle for a specific date code. We recommend that you not operate your vehicle and contact your dealer immediately to arrange for this inspection. If your vehicle has a steering gear with the specific date code, the steering gear will be replaced at no charge to you.

**Do you need a rental vehicle?**

Your dealer is authorized to provide you with a rental vehicle at no charge (except for fuel and insurance) until the inspection and, if necessary, repairs are completed. We urge you to call your dealer as soon as possible to arrange for this inspection.

**How long will it take?**

The time needed for this repair is less than one-half day. However, due to service scheduling requirements, your dealer may need your vehicle for a longer period of time. In addition, your vehicle will require inspection prior to determining if parts need to be ordered.

**What are we asking you to do?**

Please call your dealer without delay and request a service date for Recall 05S30. Provide the dealer with the Vehicle Identification Number (VIN) of your vehicle. The VIN is printed near your name at the beginning of this letter.

**Fleet Owners:** To locate a dealer, call 1-800-34FLEET. Representatives are available 8:30AM to 6:00PM Monday through Friday (Eastern Time Zone).

**All Other Owners:** If you do not already have a servicing dealer, you can access <http://www.genuineflmservice.com> for dealer addresses, maps, and driving instructions.

**Please note: Federal law requires that any vehicle lessor receiving this recall notice must forward a copy of this notice to the lessee within ten days.**

**Have you changed your address or sold the vehicle?**

If you have, please fill out the enclosed prepaid postcard and mail it to us so we can update our records. If you have sold the vehicle, the information you provide on the postcard will be used to notify the new owner about this recall.

**Can we assist you further?**

If you have difficulty getting your vehicle repaired promptly and without charge, please contact your dealership's Service Manager for assistance.

Fleet Owners: If you still have concerns, please contact the Fleet Customer Information Center at 1-800-34-FLEET and one of our representatives will be happy to assist you. Representatives are available 8:30AM to 6:00PM Monday through Friday (Eastern Time Zone).

Or you may contact us through the internet at [www.fleet.ford.com](http://www.fleet.ford.com).

All Other Owners: If you still have concerns, please contact the Ford Motor Company Customer Relationship Center and one of our representatives will be happy to assist you.

Call 1-800-392-3673. For the hearing impaired call 1-800-232-5952 (TDD).

For the hearing impaired call 1-800-232-5952 (TDD).

Office Hours: (Eastern Time Zone)

Monday – Friday: 8AM – 8PM

Saturday: 9AM – 5:30PM

If you wish to contact us through the Internet, our address is:

**[www.ownerconnection.com](http://www.ownerconnection.com)**

If you are still having difficulty getting your vehicle repaired in a reasonable time or without charge, you may write the Administrator, National Highway Traffic Safety Administration, 400 Seventh Street S. W., Washington, D. C. 20590 or call the toll free Auto Safety Hotline at 1-888-327-4236 or 1-800-424-9393.

Thank you for your attention to this important matter.

Sincerely,



Frank M. Ligon

Director

Service Engineering Operations