

**EA02025**

**TEXAS INSTRUMENTS, INC.'S  
09/10/03 LETTER TO ODI**

**REQUEST 9**

**BOX 12**

**PART A – 0**

**PART N**

**Currey, Pat**

---

**From:** Foster, Barbara [bfoster@email.mn.ti.com]  
**Sent:** Tuesday, June 08, 1999 8:38 AM  
**To:** Martin, Scott; Milkey, Mary-Jean  
**Cc:** Pechonis, John; Douglas, Charles; McGuirk, Andy; Spencer, John; O'Neill, Ed; Pombo, Julie; Haynes, John  
**Subject:** Ford Service Recall Parts 77PSL2-1

Scott,  
As per our telephone conversation, Hollingsworth called this morning to tell me they are going to amend their purchase order. They are asking us to build 30,600 more devices for them. He said he wanted them next week, but I told him that we had to catch up on other production, before we could promise him the 30,600. Julie is all set with material. All I need to know is when I can tell him ship dates. He said we could split it into a couple of weeks if need be.  
Barb

~~CONFIDENTIAL~~

**CONFIDENTIAL**

Graveline, Dana

From: Julie Page Downing(SMTP:jdownin4@ford.com)  
Sent: Thursday, June 17, 1999 4:13 PM  
To: Sharpe, Robert; Terino, Gerard  
Subject: Speed Control Deac Switch

Thanks,  
Julie Downing (JDOWNIN4)  
WIN06/WIN126 Chassis Engineering  
Phone:32-32630 FAX:32-31511  
\*\*\* Forwarding note from DTBORNB2--DREH005 06/17/99 08:44 \*\*\*  
To: JDOWNIN4--DREH005  
cc: RALVEY --DREH005

FROM: Douglas Thornburg  
Subject: Speed Control Deac Switch  
Eyl  
USANT(UTC -04:00)

Regards,  
Douglas Thornburg  
Phone/Fax: (313)843-3012; Email: dthornb2@ford.com  
Building 1, 11C147; Mail Drop 1115  
\*\*\* Forwarding note from RALVEY --DREH005 06/16/99 16:18 \*\*\*  
To: DTBORNB2--DREH005

FROM: Ray Alvey (RALVEY)  
Subject: Speed Control Deac Switch  
Doug can you please forward this to Julie (sorry don't have/remember her last name) who took over for Pam Wylie. It may help her . . .  
USANT(UTC -04:00)

She has called me a couple times requesting something be done.

Remember the Past, Live in the Present, Work for the Future . . .  
Raymond S Alvey (Slid #5/10006)  
Supervisor, Large/Lux Car Switch Applications  
Phone:(313)322-7484 Fax:(313)322-2923  
\*\*\* Forwarding note from REINERS--DREH007 06/16/99 11:27 \*\*\*  
To: LLOTRY --DREH007  
cc: RALVEY --DREH005  
FFORTER --DREH007 Porter, F.J. DTBORNB2--DREH005  
REINERS--DREH007 Reiners, S. J.

FROM: Steve Reiners  
Subject: Speed Control Deac Switch  
I have been investigating this switch application in the Town Car underhood fire allegations which resulted in the recent safety recall (99S15). The local TI rep is Rob Sharpe (248-305-5724). There is pending litigation which may limit his answers to some questions. I am trying to uncover quality issues with this switch which may explain the increase in fire incidents. I would be very interested in getting a sample ( 30 ) of switches that are failing. What are the failures that are being seen on Windstar? Also, I have been told that Windstar does not use this switch in MY2000. What is the build date when this transition occurs? Please call if you questions.  
thanks,  
USANT(UTC -04:00)

Steve Reiners  
building 5 3E308  
Page 1

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RVT Chassis E/E System Applications  
39-01286 SREIMERS sreimersford.com

mail drop 5011  
Fax 39-04145 />

Page 2

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Graveline, Dora

From: Julie Page Downing(SMTP:jdownin4@ford.com)  
Sent: Thursday, June 17, 1999 4:13 PM  
To: Sharpe, Robert; Terino, Gerard  
Subject: Speed Control Dead Switch

Thanks,

Julie Downing (JDOWNIN4)  
WIN28/WIN126 Chassis Engineering  
Phcom:32-39680 Fax:32-31811  
\*\*\* Forwarding note from LLOTRYE --DREW007 06/17/99 11:13 \*\*\*  
To: JDOWNIN4--DREW008

FROM: Larry Lotrey\_(LLOTRYE) USAFT(UTC USAFT(UTC -04:00)  
Subject: Speed Control Dead Switch

Julie, read down and you'll see info on Safety Recall with TI, where they may refuse to answer any of our questions with DIRECT switches. Not sure, but that's the presumption. FTI.

Regards,

Larry Lotrey (llotrye) Phone: 84-80741  
WIN126/DEN98 Speed Control Subsys. Fax: 32-39687  
IBM Mail (USFKCSPJ) Loc.: Bldg.81; MD 1114  
e-mail: llotrye@ford.com Cube: 1B073

\*\*\* Forwarding note from LLOTRYE --DREW007 06/17/99 07:02 \*\*\*  
To: BREINER--DREW007  
CC: BALVEY --DREW008 FRONTIER --DREW007  
OTROMBA--DREW008 FROEL, --DREW007  
BROOKS1--DREW007 DRUDYNS--VISTEON  
OSICHO --DREW004 REALL --DREW007  
KFRIND --DREW006 JDOMEK --DREW006

FROM: Larry Lotrey\_(LLOTRYE) USAFT(UTC USAFT(UTC -04:00)  
Subject: Speed Control Dead Switch

Steve, I gave you another note on this as well, but forgot to answer one of your inquiries - getting samples of the failed DIRECT switches - either at Oakville or from the field thru warranty return system, etc.

Well, with us not being O&M for this switch, we don't get them back to us, however, they show up in our spd ctrl warranty database where we are required to respond when the warranty is high - which it is now - ten-fold from where it was.

I have asked O&M-PVT to start collecting bad ones. The rash of bad parts may now be over and, unfortunately, we may miss them now from the plant. However, I had asked my boss, Dan Sudzynski, if we could talk to FCSD and get Dealer Direct Return using their system via a rep we have at Visteon. He had told me that he will contact that person and see if we can get some that way. Other than that, in the meantime, we need to find the correct design engineer to this switch and start getting him or her involved to do this work for us.

I may contact the supplier TI to discuss, see if they've gotten back any parts

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from the field - they should if they're at all interested in their quality. However, I need to hear more from you on this fire investigation before we proceed with TI - it may turn out that it is totally independent causes of failure. Thks.

Regards,

Larry Lotrey (llorey)  
WIN125/DEN56 Speed Control Subsys.  
IBM Mail (USFMCSFJ)  
e-mail: llorey@ford.com

Phone: 84-50741  
Fax: 32-39657  
Loc.: Bldg.#1; MD 1114  
Cube: 1B073

\*\*\* Forwarding note from SRINERS--DREN007 06/16/99 13:27 \*\*\*

To: LLOREY --DREN007

cc: HALVEY --DREN005

FPORTER --DREN007 Porter, F.J.

DTHORNB2--DREN005

SRINERS--DREN007 Reimers, S. J.

FROM: Steve Reimers

USART(UTC -04:00)

Subject: Speed Control Deac Switch

I have been investigating this switch application in the Town Car underhood fire allegations which resulted in the recent safety recall (89M15). The local TI rep is Rob Sharpe (248-305-5774). There is pending litigation which may limit his answers to some questions. I am trying to uncover quality issues with this switch which may explain the increase in fire incidents. I would be very interested in getting a sample ( 30 ) of switches that are failing. What are the failures that are being seen on Windstar? Also, I have been told that Windstar does not use this switch in MY2000. What is the build date when this transition occurs? Please call if you questions.  
thanks.

Steve Reimers  
EVI Chassis E/E System Applications  
39-07264 SRINERS sreimers@ford.com

building 9 32008  
mail drop 5011  
fax 39-04145

**Graveline, Dora**

From: Julie Page Downing(SMTP:jdownm4@ford.com)  
Sent: Thursday, June 17, 1999 4:13 PM  
To: Sharpe, Robert; Terino, Gerard  
Subject: Speed Control Deac Switch

Thanks,

Julie Downing (JDOWNM4)  
WIN88/WIN126 Chassis Engineering  
Phone:32-39450 Fax:32-31511

\*\*\* Forwarding note from LLOTREY --DREMO07 06/17/99 11:05 \*\*\*

To: SREIMERS--DREMO07  
cc: FROML --DREMO07  
D'ROCHNE2--DREMO05  
VPORTER --DREMO07  
GITCHO --DREMO06  
KFEALI --DREMO07  
RALVEY --DREMO08  
SRECOOKS1--DREMO07  
JDOWNM4--DREMO05  
DRUCKYSS--VISTROE  
JDOMEK --DREMO06  
KFRSTIND --DREMO06

FROM: Larry Lotrey\_(LLOTREY) USAET(UTC) USAET(UTC -04:00)  
Subject: Speed Control Deac Switch

Thks Steve. Fred, no need to respond. Julie and others, FWI.

Also, Steve, I'm very aware of the pedal mounted SPB switch and it's woes - on D/EW specifically, but had affected Continental and Taurus/Sable spd cntrl warranty in a big way - in fact it's the worst player for car/truck spd cntrl.

Regards

Larry Lotrey (llofrey) Phone: 84-50741  
WIN126/DREMO Speed Control Subsys. Fax: 32-18687  
IBM Mail (USFWCENJ) Loc.: Bldg.#1; RD 1114  
e-mail: llofrey@ford.com Cube: 18073

\*\*\* Forwarding note from SREIMERS--DREMO07 06/17/99 10:50 \*\*\*

To: LLOTREY --DREMO07  
cc: SREIMERS--DREMO07 Reimers, S. J.

FROM: Steve Reimers USAET(UTC -04:00)  
Subject: Speed Control Deac Switch

Larry, The Town Car switch is a different part number prefix (F1VC). It is made by Texas Instrument on the same production line as the Windstar switch (F58A). I am not aware of any fires on Windstar related to this switch. We have not established root cause for the fires. The Haffey recall involves replacing the old switches on Town Cars, Crown Vic, and Grand Marquis built aproximatley between Feb. 1992 and Nov. 1992 with a recently manufactured switch. As for deletion of the switch in '00, I cannot confirm and apparently you would know. In car applications it has been replaced by a brake pedal travel switch (not the BOC switch). I work for Fred Portar. Fred Kohl has been involved with the Town Car issue since February this year.

Steve Reimers building 5 18006  
RVT Chassis E/E System Applications mail drop 5011  
39-01286 SREIMERS sreimers@ford.com Fax 39-84148 :>  
\*\*\* Forwarding note from LLOTREY --DREMO07 06/17/99 06:46 \*\*\*

Page 1

TI-NHTSA 017142

To: SREINERS--DREH007  
cc: SALVEY --DREH008  
DTROBME2--DREH008  
HFRREHD --DREH006  
KREALI --DREH007  
CGITCRD --DREH006

FPORTER --DREH007  
DEUDEYNS--VISTCOM  
JCOONEK --DREH006  
FKOHL --DREH007  
SBROCKSI--DREH007

FROM: Larry Lotrey (LLOTREY) USAET(UTC) USAET(UTC -04:00)  
Subject: Speed Control Dead Switch

Boy, this is news to me. Fire investigations on Town Car? Fred, are you aware of this on Town Car? Is it anything to do with our spd cntrl subsystem? I'm not sure how a DEACT switch could cause fires underhood, are you?

Pls substantiate that we are talking about DEACT switch F88A-3F924-AA, and mounted to the master brake cylinder reservoir. Fred, are you using this EXACT same DEACT switch for Town Car? I have no information telling me this. I know there was a recent spd cntrl issue on Town Car that involved a burned out brake light, I believe, where the customer couldn't get enough brake for DEACT. However, not sure what else is out there from what is stated here.

Do you know how the fire occurred on Town Car? Pls give exact details, we are very interested if it involves this switch and spd cntrl. Thks.

Also, I am here at OAS currently and need to check if the above mentioned and affected DEACT switch has been eliminated or replaced with another, on 2000 Windstar. I looked yesterday, and saw that it is still there, screwed into the master cylinder. Where did you get the info that it was replaced on '00 Windstar? I don't think it was, otherwise, I would've been notified as a system eng'r for spd cntrl long ago - we are the main user of that switch, Traction Control is the other user, maybe more. In general, 2000 is a quiet year and a change to the DEACT design may have been pushed off to 2001, with Adjustable Pedals, etc. There is another DEACT switch that I got involved with on BMW and Continental, it is pedal mounted and presents a cost savings over the pure-hydraulic switch we're talking about here. However, it also has seen VERY HIGH WARRANTY recently on Con't and Taurus - diminishing now.

Pls make sure we're definitely talking about the correct switch here and please offer more data on the fire incidents with Town Car. Thks.

Regards,  
Larry Lotrey (llotrey)  
M1W12S/DENSS Speed Control Subsys.  
IBM Mail (CSEWCSBJ)  
e-mail: llotrey@ford.com

Phone: 84-50741  
Fax: 31-39857  
Loc.: Bldg.#1, RD 1116  
Cube: 1B073

\*\*\* Forwarding note from SREINERS--DREH007 06/16/99 13:27 \*\*\*

To: LLOTREY --DREH007  
cc: SALVEY --DREH008 DTROBME2--DREH008  
FPORTER --DREH007 Porter, F.J. SREINERS--DREH007 Reimers, S. J.

FROM: Steve Reimers USAET(UTC -04:00)  
Subject: Speed Control Dead Switch

I have been investigating this switch application in the Town Car underhood fire allegations which resulted in the recent safety recall (99018). The local TI rep is Rob Sharpe (248-105-5734). There is pending litigation which may limit his answers to some questions. I am trying to uncover quality issues with this switch which may explain the increase in fire incidents. I would be very interested in getting a sample ( 30 ) of switches that are failing. What

Page 2

TI-NHTSA 017143



**Graveline, Dora**

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From: Julie Page Downing[SMTP:jdownin4@ford.com]  
Sent: Friday, June 18, 1999 7:44 AM  
To: Sharpe, Robert; Terino, Gerard  
Subject: RE: Speed Control Deac Switch

Thanks,

Julie Downing (JDOWNIN4)  
WIN56/WIN126 Chassis Engineering  
Phone:32-39680 Fax:32-31511  
\*\*\* Forwarding note from JDOWNEK --DRENG06 06/17/99 19:08 \*\*\*  
To: JDOWNIN4--DRENG06 Downing, Julie  
cc: LLOTRY --DRENG07 DTCHOWNE2--DRENG06  
JDOWNEK --DRENG06

FROM: James Downek  
Subject: RE: Speed Control Deac Switch  
CAWRT(UTC -04:00)

Julie, the TI rep should contact me if he wants to visit the plant, my phone is 908-848-3511 X3255, pager is 1-800-171-7938. I will review the process, BOL and repair bay procedures with him.

I discussed the DEACT switch failures with the two dayshift SEC/RSDS repairmen, Ted and Jerry. I know and trust both of these guys. They told me they have not been seeing the DEACT switch failures at BOL, where tapping the switch would allow the vehicle to pass. I asked Jerry and Ted to save all DEACT switches that they change. I will ask the two nightshift SEC/RSDS repairmen, Billy and Eli to do the same. I will forward all switches that they save to you.

Bob Mann is a good start for returned parts from the dealership. If he can't do it, he should be able to give you a contact.

A23 is the Customer Concern Code (CCC) which is a subset of Vehicle Function Group (VFG) #1. These are the codes used to categorize warranty reporting in the Global Warranty Reporting System AWS. See Harry Freund for a copy of the codes or I can send a copy by FAX. They are also available from the FAO Quality Office.

Yes, the customer brings the vehicle in because the speed control will not engage. I went through the claims for the month of March production. This is where you need to use some judgement. The technicians wry not the list the correct base part number for the part that was the root cause of the concern. You need to read the technicians comments and then make a decision based on the information available to you as listed in the claim. The primary switch is the BOC (Brake On Off) switch part number XF3T-13480-AA. There are 3 claims for the -13480- BOC switch in March.

I hope this info helps out.

James Downek  
PTSE Resident Engineer  
Oakville Assembly Plant  
Ford Nat 9-1-853-3285, FAX 908-845-0132  
\*\*\* Forwarding note from JDOWNIN4--DRENG06 06/17/99 16:24 \*\*\*  
To: LLOTRY --DRENG07  
JDOWNEK --DRENG06

Page 1

TI-NHTSA 017144

Texas Instruments Inc.  
34 Forest Street, ME 12-37  
Attleboro, Mass. 02703-0964  
Phone # (508) 238-3009

Best Regards,

Rob Sharpe  
Texas Instruments  
Phone (248) 305-5729  
Fax (248) 305-9724  
rsharpe@ti.com

Page 2

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this switch. They may be looking at a cost reduction to the DEACT switch for 2001 Windstar, adjustable pedal design, etc. However, I think it was declined due to packaging on that one as well. That would have moved it off the master cylinder to the brake pedal support bracket, as it is on DEW, Continental, and some others.

-----  
Another point that I want to make is that OAP had a sna-fu with EOL tester for a period of time in March, where the EOL tester did not catch any DEACT, or for that matter, we think any speed control faults. We are not sure of the exact timeline for this, and have asked EOL for an SD on this. However, after March, into April and May warranty, we now see the same high incident rate for the DEACT in warranty. These claims do not say DEACT being disconnected, as many of them have in March with the EOL test concern. They say that the switch is bad, they replace the switch to get speed control to function. This is where we got further alarmed in that we may be seeing double jeopardy with this switch, one attributable to EOL, another being switch failure.

We do not know why the switch is failing, have no data on that and desperately need the supplier and us to start getting these back to conduct a full-blown failure analysis on them. We should at least have the supplier start an SD, if they haven't already (manufactured by TI). They may not have even gotten part one in their hands yet, or they possibly don't even know this concern exists with Windstar.

I do know there is a pending investigation with Town Car. I think with this same switch, where the supplier may not divulge information readily. It is connected with an underhood fire concern on that carline. I will forward you a note about this. It did suggest that Texas Instruments may hold back data on what's going on until that investigation is done. In that case, I would suggest we get some parts back via Dealer Direct Return System and find out for ourselves using internal failure analysis labs - Central Lab, etc.

Hope this helps, and pls call us for any more information. Thks.

Regards,

Larry Lotrey (llotrey)  
WIN126/DEWSS Speed Control Subsys.  
IBM Mail (UEFWCHSJ)  
e-mail: llotrey@ford.com

Phone: 84-50741  
Fax: 11-39687  
Loc.: Bldg.#1; MD 1114  
Cube: 1E073

\*\*\* Forwarding note from JDOWNING--DEW005 06/17/99 09:49 \*\*\*

To: LLOTREY --DEW007  
cc: DTORRES2--DEW005  
YPORTER --DEW007

RALVBY --DEW005  
WBRIMERS--DEW007

FROM: Julie P. Downing  
Subject: Speed Control Deac Switch

UEANT(UTC -04:00)

Larry

Well, it's official, no one owns this part. So, Doug and I have decided to jointly go after this and try to get some resolution. In order to do this we need to understand the following:

1) How was this issue identified? I heard there was a warranty spike but I do not know what the customer was complaining of.

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- 2) What does the customer experience with a "bad" part?
- 3) How does the plant know when a part is bad - both at install, repair bay or any other place?
- 4) How does the plant attempt to fix it? I've heard about tapping and hammers - are either of these true? To process?
- 5) Is this part being eliminated in MY2000?

Any other information you could provide would be helpful. Remember we are starting from ground ZERO since neither of us own the part.

Thanks,  
 Julie Downing (JDOWNIN4)  
 WINES/WIN16 Chassis Engineering  
 Phone:32-39690 Fax:32-11811  
 \*\*\* Forwarding note from DTHORNB2--DRENG05 06/17/99 08:44 \*\*\*  
 To: JDOWNIN4--DRENG05  
 cc: RALVEY --DRENG05

FROM: Douglas Thornburg  
 Subject: Speed Control Deac Switch  
 fyi  
 USANT(UTC -04:00)

Regards,  
 Douglas Thornburg  
 Phone/Fax: (313)448-5812; Email: dthornb2@ford.com  
 Building 1, 11C147; Mail Drop 1115  
 \*\*\* Forwarding note from RALVEY --DRENG05 06/16/99 16:18 \*\*\*  
 To: DTHORNB2--DRENG05

FROM: Ray Alvey (RALVEY)  
 Subject: Speed Control Deac Switch  
 Doug can you please forward this to Julie (sorry don't have/remember her last name) who took over for Pam Wylie. It may help her . . .  
 USANT(UTC -04:00)

she has called me a couple times requesting something be done.

Remember the Past, Live in the Present, Work for the Future . . .  
 Raymond S Alvey (Bldg #4/10006)  
 Supervisor, Large/Lux Car Switch Applications  
 Phone:(313)322-7484 Fax:(313)322-1933  
 \*\*\* Forwarding note from SREINERS--DRENG07 06/16/99 13:27 \*\*\*  
 To: LLOJREY --DRENG07  
 cc: RALVEY --DRENG05  
 DTHORNB2--DRENG05  
 SREINERS--DRENG07 Porter, F.J. Reiners, S. J.

FROM: Steve Reiners  
 Subject: Speed Control Deac Switch  
 I have been investigating this switch application in the Town Car underhood fire allegations which resulted in the recent safety recall (99-015). The local TI rep is Rob Sharpe (248-308-5734). There is pending litigation which may limit his answers to some questions. I am trying to uncover quality issues with this switch which may explain the increase in fire incidents. I would be very interested in getting a sample ( 30 ) of switches that are failing. What are the failures that are being seen on Windstar? Also, I have been told that Windstar does not use this switch in MY2000. What is the build date when this transition occurs? Please call if you questions.  
 USANT(UTC -04:00)

Page 3

thanks,

Steve Reiners  
RVT Chassis E/E System Applications  
39-0126 BREWERS sreiners@ford.com

building 5 3E08  
mail drop 5011  
fax 39-04149 ;>

Page 4

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Best Regards,

Rob Sharp  
Texas Instruments  
Phone (248) 309-5729  
Fax (248) 108-5734  
rsharp@ti.com

Page 3

TI-NHTSA 017149

**Epstein, Sally**

---

**From:** Sharpe, Robert [rsharp@emil.ti.com]  
**Sent:** Monday, June 21, 1999 8:19 AM  
**To:** McGulrk, Andy  
**Cc:** Spencer, John; Douglas, Charles; Watt, Jim  
**Subject:** 8/25/99 Ford STA visit



Hi Andy,

As discussed last week, John Rantis is scheduled to visit Attleboro this Friday. The attached file is a proposed agenda that I reviewed with John last Friday (6/18). I informed John that the core 77PS team related to the '92 Town Car issue may not be available on Friday as a result of on-site meetings with our legal dept.. This means that we will not be discussing the '92 Town Car issue. Since this is the third attempt of trying to get Mr.Rantis into Attleboro, his desire to see our facility, review our QOS/Supplier Rating Management, and understand the TI products he is responsible for, he does not want to reschedule. In addition, the recent 77PS issues with Windstar has generated more interest to understand current 77PS manufacturing. John understands that the '92 Town Car issue will not be discussed.

Please confirm Mr.Rantis's schedule for Attleboro. I will need help in coordinating the agenda as I will not be available to escort John to Attleboro on 6/25 (I am now checking with Alison if she is available).

<<Rantisvisit.PPT>>

Best Regards,

Rob Sharpe  
Texas Instruments  
Phone (248) 305-5729  
Fax (248) 305-5734  
rsharp@ti.com



## **Automotive Sensors & Controls Ford Motor Company - June 25, 1999**

---

- **8:00 am** Introduction to TI
- **8:30 am** 77PS Design Overview
- **8:45 am** 77PS Process Overview
- **9:00 am** 77PS Line Walk
- **9:30 am** QOS Overview
- **10:00 am** Supplier Rating Management  
Overview (K9L1E, A9H2E)
- **11:30 pm** Lunch





**Automotive Sensors & Controls  
Ford Motor Company - June 25, 1999**

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- **1:00 pm TRS Design Review (Mansfield)**
- **1:15 pm TRS Process/Line Review**
- **2:00 pm CAS/IVD Design Review**
- **2:15 pm CAS/IVD Process/Line review**
- **3:00 pm Depart for Attleboro**
- **3:30 pm Materials (K9L1A) Overview  
Process/Design review of  
XW4P-7E440-AA**

**Currey, Pat**

---

**From:** Steve Reimers [sreimers@ford.com]  
**Sent:** Thursday, June 24, 1999 12:08 PM  
**To:** McGuirk, Andy  
**Cc:** Porter, F.J.  
**Subject:** Change Management Documents

Andy, Please provide a hardcopy of the documents that define the changes made to the brake pressure switch used on Town Car, Crown Victoria, Grand Marquis model years 1992 and 1993. Please include changes made to the production line equipment and processes.

Steve Reimers	building 5 3E008
RVT Chassis E/E System Applications	mail drop 5011
39-03286 SREIMERS sreimers@ford.com	fax 39-04149 />

**Currey, Pat**

---

**From:** Steve Reimers [sreimers@ford.com]  
**Sent:** Thursday, June 24, 1999 12:15 PM  
**To:** McGuirk, Andy  
**Cc:** Porter, F.J.; jrentis@ford.com  
**Subject:** SPC Data Records

Andy, Please provide a hardcopy of the documents that report the statistical process control data for the brake pressure switch used on Town Car, Crown Victoria, Grand Marquis model years 1992 and 1993. Please include the most recent 12 months of production of these parts.

Steve Reimers	building 5 3E008
RVT Chassis E/E System Applications	mail drop 5011
39-03286 SREIMERS sreimers@ford.com	fax 39-04145 ;>

**Epstein, Sally**

---

**From:** McGuirk, Andy [a-mcguirk@aol.com]  
**Sent:** Thursday, June 24, 1999 12:52 PM  
**To:** Rahman, Aziz  
**Subject:** FW: Ford/77PS Pressure Switch Meeting

AUTOMOTIVE SENSORS AND CONTROLS QRA MANAGER  
34 FOREST ST M/S 23-05  
ATTLEBORO, MA 02703  
TEL : (508) 236-3080  
FAX : (508) 236-3745  
MOBILE: (508) 208-6119  
PAGE: (800) 467-3700 PIN 604-2044

-----  
**From:** Baumann, Russ  
**Sent:** Wednesday, June 23, 1999 9:36 AM  
**To:** Gleesman, Bruce; Henderson, Tom; Beringhouse, Steven; Pechonis, John; McGuirk, Andy; Rowland, Thomas  
**Cc:** Sullivan, Martha  
**Subject:** Ford/77PS Pressure Switch Meeting

Please find set forth below an outline for our meeting on Friday.

Bruce and Tom, I will meet you along with Eric at your hotel on Thursday evening at 6:00 p.m.

Regards,  
Russ

REB:dmg

8:00 a.m. - 8:10 a.m.	Introduction of Flayers	All
8:10 a.m.	Product History and Description	All
9:00 a.m.	Recall Timeline	Team
9:30 a.m.	Failure Mode	B. Beringhouse
10:15 a.m.	Break	All
10:30 a.m.	Discussion of TI/Ford Liability	All
	- Recall	
	- Lawsuits	
11:30 a.m.	Overview of Litigation/Ford Interaction Strategy	R. Baumann B. Gleesman
	- Documents and Data	
12:00 p.m.	Working Lunch	All
1:00 p.m.	Line Tour	J. Pechonis
1:30 p.m.	Wrap-up	All

TI-NHTSA 017165



**Currey, Pat**

---

**From:** McGuirk, Andy [a-mcguirk@email.mc.ti.com]  
**Sent:** Thursday, June 24, 1999 1:02 PM  
**To:** Dague, Bryan; Proia, Stephen; Watt, Jim; Kelsall, Jack; Johnson, Alan; Johnson, Larry; Reidemeister, Eric; Perkins, Thomas; Foster, Barbara; Perry, Lorraine; Spencer, John  
**Cc:** Douglas, Charles; Watt, Jim; O'Neill, Ed; Haynes, John; Desrosiers, Ann; Wellman, Stacey; Pechonis, John; Castillo, Alberto; Beringhouse, Steven; Tourangeau, Ray  
**Subject:** 6/25/99 Ford STA visit



Ford Visit  
Agenda\_6-25.ppt

SORRY, I FORCED ONE MORE CHANGE TO THE STA VISIT..... TO PUT THE CUSTOMER IN THE BEST ROOM IN BLDG 12 AND MY MEETING INTO BLDG 23

AUTOMOTIVE SENSORS AND CONTROLS QRA MANAGER  
34 FOREST ST M/S 23-05  
ATTLEBORO, MA 02703  
TEL : (508) 236-3080  
FAX : (508) 236-3745  
MOBILE: (508) 208-6119  
PAGE: (800) 467-3700 PIN 604-2044

Please note the following conference room changes:  
AM....Bldg 12 Conf. 12-1B

-----  
**From:** Spencer, John  
**Sent:** Wednesday, June 23, 1999 4:25 PM  
**To:** McGuirk, Andy; Sharpe, Robert; Dague, Bryan; Proia, Stephen; Watt, Jim; Kelsall, Jack; Johnson, Alan; Johnson, Larry; Reidemeister, Eric; Perkins, Thomas; Foster, Barbara; Perry, Lorraine  
**Cc:** Douglas, Charles; Watt, Jim; Rahman, Aziz; O'Neill, Ed; Haynes, John  
**Subject:** RE: 6/25/99 Ford STA visit

Please see the attached preliminary agenda for John Rantis, Ford STA, visit to TI.  
<<Ford Visit Agenda\_6-25.ppt>>  
Please invite anyone that you feel should attend the meeting

Thanks

John

**Currey, Pat**

---

**From:** Tolbert, Kenneth [ktolbert@email.mc.ti.com]  
**Sent:** Friday, June 25, 1999 2:52 PM  
**To:** McGuirk, Andy  
**Subject:** FW: Ford STA Visit

FYI

Ken

-----  
**From:** Reidemeister, Eric  
**Sent:** Friday, June 25, 1999 3:34 PM  
**To:** Bruce Wright; Andrew Willner; John Spencer; Larry Johnson; Robert Sabo; Sasha Brishkovski  
**Cc:** Kenneth Tolbert; Michael DeMattia; Rahul Patel; Raymond Tourangeau; Tina Briand; Sharpe, Robert; Douglas Strott  
**Subject:** Ford STA Visit

Excellent job showing John Rentis the CAS area today! This is a brief summary of John Rentis' comments that I heard:

- Commended Mansfield (TRS/CAS) on excellent supplier rating status.
- Thought business communication was excellent between TRS/CAS and engineers/line due to close-knit team environment.
- Liked CAS line big visual aids versus no 'visual' aids in B12.
- Liked having incoming and outgoing material tubes at each operation. Perhaps benches should also be labeled permanently with spaces for material.
- Recommended we get in writing the agreement that Systron AIQ issues will not count against TI.
- Recommended adding machine downtime, machine efficiency, machine ppm, finished goods, and raw inventory levels to operator visual displays.
- Recommended streamlining to remove excess CAS space.

Larry, please add these comments to your Ford action item list for future team meetings.

Regards, Eric

**Currey, Pat**

---

**From:** Terino, Gerard [gterino@email.ms.ti.com]  
**Sent:** Thursday, July 01, 1999 5:18 PM  
**To:** Beringhause, Steven; Baumann, Russ; McGuirk, Andy; Pechonis, John; Rowland, Thomas; Sharpe, Robert  
**Subject:** Attorney-Client Privilege Communications - DEACT Switch Oasis Message to Dealers



RE: DEACT Switch  
Oasis Message...



RE: DEACT Switch  
Oasis Message...

Attorney-Client Privilege Communications

As some of you may know, Julie Downing ( Ford Windstar assigned Engineer ) considers me a TI contact to get prompt response to her concerns, as you can see below on some very recent Ford communications. Andy, Steve, please direct your responses as you see fit. I will continue to forward any needs Ford may have.

<<RE: DEACT Switch Oasis Message to Dealers>> <<RE: DEACT Switch Oasis Message to Dealers>>

Thank you, Gerry Terino TI Product Return Coordinator  
REGARDS / GERRY TERINO  
TEL . 508-236-3009 FAX 508-236-2328  
MAIL STOP 12-37 MSID GTRR  
GTERINO@TI.COM

TEXAS INSTRUMENTS INC.  
34 FOREST STREET  
ATTLEBORO, MA 02703-0964



**Currey, Pat**

**From:** Julie Page Downing [jdownin4@ford.com]  
**Sent:** Thursday, July 01, 1999 8:44 AM  
**To:** Terino, Gerard; Sharpe, Robert  
**Subject:** RE: DEACT Switch Oasis Message to Dealers

Here's what the plant (OAP) is seeing in warranty.

Thanks,  
Julie Downing (JDOWNIN4)  
WIN88/WIN126 Chassis Engineering  
Phone:32-39650 Fax:32-31511  
\*\*\* Forwarding note from KNEAL1 --DRBN007 06/30/99 14:32 \*\*\*  
**To:** JDOWNIN4--DRBN005  
**cc:** DKORNOSK--DRBN005 GTHORNTON--DRBN005  
JDOMEK --DRBN006 DBUDZYNS--VISTEON  
CRUKNOW --DRBN005 LLOTREY --DRBN007

**FROM:** KAREN NEAL USAET(UTC -04:00)  
**Subject:** RE: DEACT Switch Oasis Message to Dealers

Julie,  
The data I have from ICCD calls (17) in the last four weeks is as follows:

<u>Repair</u>	<u>Vehicle build dates</u>
10 vehicles - DEACT sw. replaced	April 1,21,26 May 3,6,11
3 servo modules replaced (one vehicle subsequently had the Deact switch replaced, a second was replacing the servo until we helped the tech with diagnostics and it turned out to be a defective Deact switch).	May 3
2 intermittent speed control "fixed itself". No repair done (yet!)	April 12 May 3
7 vehicles where the customer has not scheduled repair (ICCD has called the purchase dir on these asking them to call the customer to schedule repair so that we can get info/parts).	April 7,12,21,26 May 4,10

I think we know from this data that we have an increase in Deact Switch failures for the months of April/May. We already have servos replaced unnecessarily followed by a second repair to change the switch. I would like to get this message out now to direct the dealers to check the Deact switch first for "speed control won't engage/intermittent" symptoms, in order to prevent customers being upset at a second repair for the same problem, and unnecessary warranty cost.

Regards,  
KAREN NEAL  
Resident Engineer, Oakville Assembly Plant (905) 338 2877  
EMAIL(USEMC326) kneali@ford.com  
\*\*\* Forwarding note from JDOWNIN4--DRBN005 06/30/99 12:38 \*\*\*  
**To:** LLOTREY --DRBN007  
**cc:** OTFWOGYK--EXTERNAL Rob Sharpe - Texas BURR987--EXTERNAL Gerry Terino -

Text

DKORNOSK--DRBN005  
KNEALL --DRBN007  
GTHORNTG--DRBN005

JDOMEK --DRBN006  
CBUDZYNS--VISTEON

FROM: Julie P. Downing  
Subject: RE: DEACT Switch Oasis Message to Dealers

USAET(UTC -04:00)

Larry

I agree with my supplier - at this point it is speculation that the switch is bad, either by product quality or OAP process. So let's allow them to look at the 2 parts you've given me and look at the one part from the deal and make the root cause analysis themselves.

I am interested in seeing the warranty data on this switch itself. I've contacted the RCD (Rapid Concern Definition) group and they have seen an increase of 100% in service parts being ordered, but this increase is 100% of a very small number (data to be faxed to me today - I'll share when it arrives).

In addition to this warranty search, I've contacted TI's service department and their service orders (made in bulk) have not changed in the last 6 months, so the "spike" can't be that severe.

Texas Instruments IS dedicated to helping us so let's be careful with what we say before root cause is determined.

Thanks,

Julie Downing (JDOWNIN4)  
WING9/WIN126 Chassis Engineering  
Phone:32-39650 Fax:32-31511  
\*\*\* Forwarding note from OTFMQYK--EXTERNAL 06/30/99 00:29 \*\*\*  
To: JDOWNIN4--FORMAIL Julie Page Downing

From: Sharpe, Robert  
Subject: RE: DEACT Switch Oasis Message to Dealers

From: "Sharpe, Robert"<rsharpe@email.nc.ti.com>

Ki Julie,

Thanks for the information. I am however very concerned regarding some of the statements enclosed within these attachments, as it seems that blame has been put on our switch with no analysis on any returns. Where did statements such as "failure mode is a sticky internal contact" and "vehicles built after Feb'99 have a high incidence rate of switch failure" come from ??

Has Ford analyzed any switches to generate these comments ?? Other than warranty information and verbal comments from Oakville, I am unaware of any confirmed failures ?? These comments are somewhat severe and without verification, somewhat speculative. If there is some confirmed analysis from Ford, can you share it with me. If there has been this amount of confidence that the switch is the root cause, why was TI not informed much earlier ??

Again, I am very concerned about the nature of these comments without confirmation. We (TI) will do everything necessary to find the root cause but we need parts to analyze. I will be back in town after the upcoming Holiday and will plan on visiting with you.

TI-NHTSA 017161

Best Regards,

Rob Sharpe  
Texas Instruments  
Phone (248) 305-5729  
Fax (248) 305-5734  
rsharpe@ti.com

-----Original Message-----  
From: Julie Page Downing [mailto:jdownin4@ford.com]  
Sent: Tuesday, June 29, 1999 6:52 AM  
To: Rob Sharpe - Texas; Gerry Terino - Tex  
Subject: DEACT Switch Oasis Message to Dealers

Here's the latest I've heard. Did you get the part yet?

Thanks,  
Julie Downing (JDOWNIN4)  
WIN88/WIN126 Chassis Engineering  
Phone:32-39650 Fax:32-11511  
\*\*\* Forwarding note from LLOTREY --DRBN007 06/28/99 15:54 \*\*\*  
To: JDOWNIN4--DRBN005  
cc: KNEALI --DRBN007 JDOMEK --DRBN006  
DBUDZYNS--VISTEON

FROM: Larry Lotrey (LLOTREY) USAET(UTC USAET(UTC -04:00)  
Subject: DEACT Switch Oasis Message to Dealers

Julie, FYI. Forgot you on the OASIS we're attempting to put out there on this.

Regards,  
Larry Lotrey (llotrey) Phone: 84-50741  
WIN126/DEW98 Speed Control Subsys. Fax: 32-39657  
IBM Mail (USEMCSBJ) Loc.: Bldg.#1; MD 1114  
e-mail: llotrey@ford.com Cube: 1B073

\*\*\* Forwarding note from LLOTREY --DRBN007 06/28/99 15:44 \*\*\*  
To: KNEALI --DRBN007 JDOMEK --DRBN006  
cc: HFERIND --DRBN006 DBUDZYNS--VISTEON  
GGITCHO --DRBN006 TBECK1 --FORDNA1  
SSIMFEO3--VISTEON

FROM: Larry Lotrey (LLOTREY) USAET(UTC USAET(UTC -04:00)  
Subject: DEACT Switch Oasis Message to Dealers

Karen, as we spoke on the phone, I will try to give you "text" verbage of how I think the Oasis Message should read for the DEACT Switch failures that we're seeing in the field currently, p/n F58A-9F924-AA. As you are aware, Visteon does not own this part but our speed control warranty is getting greatly impacted by it. This also comes from the fact that an ex-speed control engineer's '99 Windstar just failed where the DEACT Switch was verified to be the culprit (Tim Beck, TBECK1 for reference).

-----  
It is highly suspect that the Deactivator Switch, p/n F58A-9F924-AA, fails OPEN and does not allow the speed control system to engage, making the system inoperative. This switch is a normally CLOSED switch when the brake pedal is

TI-NHTSA 017162

not depressed and becomes OPEN when the brake pedal is FULLY depressed with engine running. When performing Service Diagnostics, please refer to Service Manual and follow all steps under "Inspection and Verification." Download NGS Tester codes and verify that DTC 1127 is retrieved for continuous code. This code relates to a Deactivator Switch Circuit Failure. For the current and immediate concern on Windstar, it should be the Deactivator Switch itself.

Even if speed control system works when customer drives into service, this switch has a tendency to be intermittent with its failure mode. Many customers will complain that it doesn't work after service or the service technician may replace the servo which wasn't root cause. Nonetheless, DTC 1127 should always be present when retrieving codes if speed control does not work and if this switch is faulty.

In addition, by checking to see if this switch is closed either in or out of the vehicle will not tell you if the switch is, in fact, good. We believe the failure mode is a "sticky" internal contact and is totally intermittent on the suspect vehicles.

Please look at replacing the Deactivator Switch first before attempting to replace any other part from the speed control system. It is believed that vehicles built after February 1999 have a high incidence rate of failure for this switch and is most likely the first candidate that should be looked at.

After replacing the switch, please road test the vehicle for a period of time that allows the brakes to be used where this switch will see use. You will need to FULLY depress the brake past the BOO switch point (primary brake switch) and into the range of the deactivator switch point (redundant brake switch). This will allow the deactivator switch to go OPEN and CLOSED repeatedly and to fully test the normal operation of the switch.

-----  
---

Please let me know if this will suffice and forward to me the final version once you and OAP's FCSD rep reviews this. Thks.

Regards,  
Larry Lotrey (llotrey)  
WIN126/DEW98 Speed Control Subsys.  
IBM Mail (USFMC52J)  
e-mail: llotrey@ford.com

Phone: 84-50741  
Fax: 32-39657  
Loc.: Bldg.#1; MD 1114  
Cube: 18073

Currey, Pat

**From:** Julie Page Downing [jdownin4@ford.com]  
**Sent:** Thursday, July 01, 1999 8:38 AM  
**To:** Sharpe, Robert; Terino, Gerard  
**Subject:** RE: DEACT Switch Oasis Message to Dealers

When you tear down the failed parts, please let me know if root cause is the same as the Town Car issue.

Thanks,

Julie Downing (JDOWNIN4)  
WIN88/WIN126 Chassis Engineering  
Phone: 32-39650 Fax: 32-31511

\*\*\* Forwarding note from LLOTREY --DRBN007 06/30/99 15:32 \*\*\*  
To: JDOWNIN4--DRBN005  
cc: DKORNOSK--DRBN005 JDOMEK --DRBN006  
CKUMROW --DRBN005 GTHORNT0--DRBN005  
DBUDZYNS--VISTEON HFREIND --DRBN006  
KNEAL1 --DRBN007

FROM: Larry Lotrey (LLOTREY) USAET(UTC USAET(UTC -04:00)  
Subject: RE: DEACT Switch Oasis Message to Dealers

Forgot to mention, the Town Car DEACT switch made by TI is under Safety Recall currently - thought to be causing underhood fires!! The Recall No. is 99S15.

Not sure we have a similar situation going on here, but this should be checked out as well with TI if they are willing to share information given a certain sensitivity with the other part. We should certainly ask the question though.

Regards,

Larry Lotrey (llotrey)  
WIN126/DEN98 Speed Control Subsys.  
IBM Mail (USFNC5PJ)  
e-mail: llotrey@ford.com

Phone: 84-50741  
Fax: 32-39657  
Loc.: Bldg.#1, MD 1114  
Cube: 18073

\*\*\* Forwarding note from KNEAL1 --DRBN007 06/30/99 14:32 \*\*\*  
To: JDOWNIN4--DRBN005  
cc: DKORNOSK--DRBN005 GTHORNT0--DRBN005  
JDOMEK --DRBN006 DBUDZYNS--VISTEON  
CKUMROW --DRBN005 LLOTREY --DRBN007

FROM: KAREN NEAL USAET(UTC -04:00)  
Subject: RE: DEACT Switch Oasis Message to Dealers

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servo until we helped the tech with diagnostics and it turned out to be a defective Deact switch).

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May 3

7 vehicles where the customer has not scheduled repair (ICCD has called the purchase dir on these asking them to call the customer to schedule repair so that we can get info/parts). April 7,12,21,26  
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Regards,

KAREN NEAL

Resident Engineer, Oakville Assembly Plant (905) 338 2877

EMAIL(USFMC326) kneal1@ford.com

\*\*\* Forwarding note from JDOWNIN4--DRBN005 06/30/99 12:38 \*\*\*

To: LLOTREY --DRBN007

cc: OTFWOGYK--EXTERNAL Rob Sharpe - Texas PJRRX987--EXTERNAL Gerry Terino - Tex

DRORVOSK--DRBN005

JDOMER --DRBN006

KNEAL1 --DRBN007

DBUDZYNS--VISTEON

GTHORNT0--DRBN005

FROM: Julie P. Downing

USAET(UTC -04:00)

Subject: RE: DEACT Switch Oasis Message to Dealers

Larry

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Thanks,

Julie Downing (JDOWNIN4)

WIN88/WIN126 Chassis Engineering

Phone:32-39650 Fax:32-31511

\*\*\* Forwarding note from OTFWOGYK--EXTERNAL 06/30/99 00:29 \*\*\*

To: JDOWNIN4--FORDMAIL Julie Page Downing

1

TI-NHTSA 017165

From: Sharpe, Robert  
Subject: RE: DEACT Switch Oasis Message to Dealers

From: "Sharpe, Robert" <rsharpe@email.nc.ti.com>

Hi Julie,

Thanks for the information. I am however very concerned regarding some of the statements enclosed within these attachments, as it seems that blame has been put on our switch with no analysis on any returns. Where did statements such as "failure mode is a sticky internal contact" and "vehicles built after Feb'99 have a high incidence rate of switch failure" come from ??

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Best Regards,

Rob Sharpe  
Texas Instruments  
Phone (248) 305-5729  
Fax (248) 305-5734  
rsharpe@ti.com

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

From: Julie Page Downing [mailto:jdownin4@ford.com]  
Sent: Tuesday, June 29, 1999 6:52 AM  
To: Rob Sharpe - Texas; Garry Terino - Tex  
Subject: DEACT Switch Oasis Message to Dealers

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WIN88/WIN126 Chassis Engineering  
Phone:32-39650 Fax:32-31511  
\*\*\* Forwarding note from LLOTREY --DBEN007 06/28/99 15:54 \*\*\*  
To: JDOWNIN4--DBEN005  
cc: KNEAL1 --DBEN007 JDOMEK --DBEN006  
OBUDEYNS--VISTEON

FROM: Larry Lotrey (LLOTREY) USAET(UTC) USAET(UTC -04:00)  
Subject: DEACT Switch Oasis Message to Dealers

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Regards,  
Larry Lotrey (llotrey) Phone: 84-50741  
WIN126/DEW98 Speed Control Subsys. Fax: 32-39657  
ISM Mail (USFMC5PJ) Loc.: Bldg.#1; MD 1114

TI-NHTSA 017186

e-mail: llotrey@ford.com

Subj: 1B073

\*\*\* Forwarding note from LLOTREY --DRBN007 06/29/99 13:44 \*\*\*  
To: KNEALL --DRBN007 JOCMEK --DRBN006  
cc: NPREIND --DRBN006 SBUDZYNS--VISTEON  
GGITCHO --DRBN006 TBECK1 --FORONAL  
SSIMPSON--VISTEON

FROM: Larry Lotrey (LLOTREY) USAET(UTC) USAET(UTC -04:00)  
Subject: DEACT Switch Oasis Message to Dealers

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After replacing the switch, pls road test the vehicle for a period of time that allows the brakes to be used where this switch will see use. You will need to FULLY depress the brake past the BOD switch point (primary brake switch) and into the range of the deactivator switch point (redundant brake switch). This



will allow the deactivator switch to go OPEN and CLOSED repeatedly and to fully test the normal operation of the switch.

---

Please let me know if this will suffice and forward to me the final version once you and OAF's FCSD rep reviews this. Thks.

Regards,

Larry Lotrey (llotrey)  
WIN126/DEW98 Speed Control Subsys.  
IBM Mail (USFMC5PJ)  
e-mail: llotrey@ford.com

Phone: 84-50741  
Fax: 32-39657  
Loc.: Bldg.#1; MD 1114  
Cube: 1B073

**Morris, Irene**

---

**From:** Berrighaus, Steven  
**Sent:** Thursday, September 02, 1999 7:55 AM  
**To:** Baumann, Russ  
**Subject:** FW: Field Campaign Analysis Report

**From:** Berrighaus, Steven  
**Sent:** Wednesday, September 01, 1999 4:31 PM  
**To:** 'Steve Reimer'  
**Subject:** Field Campaign Analysis Report

Steve,

Here is the summary document you requested. We were able to complete the analysis on all forty parts. Why don't you call me in the morning so we can discuss this in more detail.

  
File Message Page .doc

Regards,  
Steve 806-236-3375

Page 1

TI-NHTSA 017169

**77PSL2-1 Field Campaign Analysis Report**  
**September 1, 1999**

**Objective:**

The purpose of this report is to document the general condition of field campaign pressure switches obtained by TI.

**Procedure:**

- 1) TI visited and requested some of the local dealers to set replaced switches aside for TI to pick up later. As a result of the recent field campaign, dealers responded by saving the replaced switch for TI.
- 2) TI conducted the analysis per the attached sheet.

**Results/Observations:**

The condition and state of the switches received to be analyzed varied widely. Some were returned loose, some in the new switch box, some with missing connectors, some with seals, and some completely wrong part numbers. Only those switches that could be identified as TI part number 77PSL2-1 were included in this analysis.

To date 40 switches have been obtained and analyzed. The date codes obtained are as follows:

					2067				
					2067				
					2068				
					2054				
					2052	2078			
					2048	2068			
					2048	2085			
		1352	2014		2048	2066			
		1347	2013		2038	2063			
		1347	2009		2038	2062		2128	2287
		1348	2008		2038	2062	2120	2128	2278
1282	1331	1538	2006	2028	2062	2104	2128	2278	
Oct '91	Nov '91	Dec '91	Jan '92	Feb '92	Mar '92	Apr '92	May '92	Oct '92	

From this group of switches the following observations were made:

- 1) There were no signs of field leakage into the connector cavity.
- 2) 28 switches were returned with foam connector seals, 1 with silicone seals and 11 with no seals.
- 3) Terminal to terminal resistance on all 40 switches was within specifications.
- 4) With harness grounded and terminals subject to 14 Vdc, there was no detectable current flowing from terminal to ground.
- 5) Internal inspection of the internal components (pin, arm, washers, converters, and Kapton) showed wear as would be expected in a part that has seen significant number of pressure cycles.
- 6) All switches pass the sensor leak check.
- 7) First layer of Teflon on all switches showed some signs of delamination, as would be expected with cycling, while some switches had two or three layers delaminated.
- 8) No cracking was seen on the second and third layer of Kapton.
- 9) Four switches had Kapton cracks on the first layer.
- 10) Wear from all of the internal components was seen to erode and discolor the converter side Kapton.
- 11) Environment seal gasket and internal pressure media seal gasket were present and in good condition on all switches.

(2) Teardrops were seen on roughly 60% of the switches. No correlation between level of wear and teardrops.

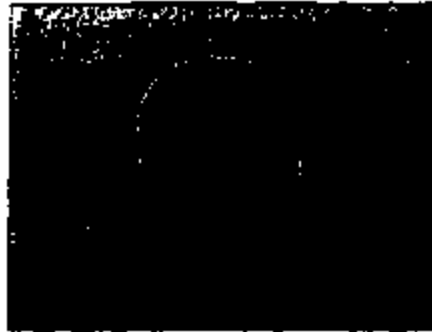


Figure 1. Ceramic pin with wear marks seen on top and around the sides.



Figure 2. Wear marks can be seen as a flat spot on the bump and curved discoloration on the arm.

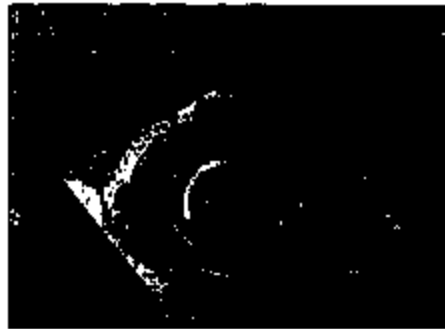


Figure 3. Delamination of the Teflon from the Kapton can be seen as a circular bubble.

77PSJ-1 Repair Analyst Sheet

Device ID: \_\_\_\_\_ Date: \_\_\_\_\_  
 Operator's Name: \_\_\_\_\_ Sr. Dept. Code: \_\_\_\_\_

Part Part #  
 Technician

1	Visual Inspection General condition of Switch: Sign of leakage into capacitor? Major connector seal? capacitors? Wax harvest returned? Wax retention components?	Good No Poor Yes Yes No	5/1/74	Bad Yes			
2	Current draw: Terminal to Terminal? Terminal to Neutral?	Obv n/A			14 Vdc supply Current limited to 10 amps.		
3	Open Crimp Ring						
4	Visual Inspection Connector Lock? Connector wear? RF leak? Environment seal condition? If not seal, Why? Corrosion? Polarity	No None No Good Yes None		Yes Light Yes Bad No	Medium	Heavy	
5	Leak Test Sensor Area	Pass		Fail			
6	Open Cap Crimp.						
7	Diagnosis Inspection						
		Neutral Field Flux Teflon	Converter Teflon	Middle Field Teflon	22 Converter Keflon Teflon	Neutral Converter Flux Teflon	Converter Keflon
	Teflon Teflon screws Teflon screws Teflon sealant Keflon screws Screw washers Wear parts/adjustments						
8	Coiler Inspection						
	Polarity Misalignment Coiler thickness	inches inches	inches	Yes Yes		No No	
9	Packaging and Store						
10	Analysis Summary:	NTP			Issue Discussed		

End of Document.

Attorney Client Privileged Communication  
 77PSL-1-1 Life Test Report  
 "Bubbled" Diaphragms  
 Ryan Dague 8/17/99

**Purpose:**

The purpose of this test is to determine if there is a significant difference in diaphragm life when "bubbled" Diaphragms are exposed to pressure cycles.

**Procedure:**

- 1) 3 groups of switches (77PSL-1-1) that were previously used to generate weibull plots were obtained. These 3 groups contained a total of 23 switches. Of these 23 switches 9 had been cycled to produce leaks for the weibull analysis.
- 2) The previous weibull tests were suspended at 1,307,000 cycles.
- 3) The 23 switches were opened to obtain a clear view of the diaphragm.
- 4) The opened switches were sorted into 2 groups; those with a visually detectable bubbled diaphragm and those with no sign of a bubbled diaphragm.

**Results:**

The test produced 11 switches with bubbled diaphragms and 14 without bubbled diaphragms. Moreover 4 out of the 11 and 5 out of the 14 had leaked during the previous cycle test.

Since there were less than 6 failures in each group a weibull plot was not possible. Therefore, the average number of cycles each group was calculated and used to compare the two groups.

As can be seen from the data, the group with bubbles had an average of 1.27 million cycles, and the group without bubbles in the kapton diaphragm had an average of 1.25 million cycles.

Bubbles in Kapton Diaphragm		No Bubbles in Kapton Diaphragm	
1187000	leaked	1275507	leaked
1187000	leaked	1273347	leaked
1187000	leaked	1172000	leaked
1213000	leaked	1268000	leaked
1207000		1212000	leaked
1207000		1307000	
1207000		1307000	
1207000		1307000	
1207000		1307000	
1207000		1307000	
1207000		1307000	
1207000		1307000	
1207000		1307000	
Average:	1222400	1307000	
Std	77782	1207000	
		Average:	1262100
		Std	126874

**Conclusion:**

Based on the above results, there does not seem to be any significant difference in cycle life between switches built with bubbled diaphragms and switches built without bubbled diaphragms.

End of document.

**Beringhouse, Steven**

From: Steve Reimers [SMTP:sreimers@ford.com]  
Sent: Friday, September 17, 1999 10:38 AM  
To: sberinghouse@aol.com  
Subject: Please forward to Beringhouse

This is the same email I sent to andy to forward to you.

Steve Reimers building 5 3E008  
RVT Chassis E/E System Applications mail drop 5011  
39-03286 SREIMERS sreimers@ford.com fax 39-04145  
\*\*\* Forwarding note from SREIMERS--DRB007 09/17/99 08:18 \*\*\*  
To: PIR43P4A--EXTERNAL A.McGuirk, a-mcgui  
cc: SREIMERS--DRB007 Reimers, S. J. FPORTER --DRB007 Porter, F.J.

FROM: Steve Reimers USAET(UTC -04:00)

Subject: Please forward to Beringhouse  
Steve, This is a follow-up to my voice message of 9/17/99 AM. Did you get any -BB suffix parts from dealers? Analysis results on -BB parts? Were there any -BB parts in the 40 parts you gave me a preliminary report on? Have you completed any more testing on the 40? Of the 25 life tested parts... Do any show cracks in the terminal structure (fatigue, stress,...etc) in particular the stationary terminal minimum cross-section at the thru hole? ANY more testing done on the 25 parts? Your tear drop occurrence numbers show a radical drop after Feb 1992... why? Info... we have x-rayed a -BB part and are amazed by the radical design differences compared to -AB. have a good weekend, thanks.

Steve Reimers building 5 3E008  
RVT Chassis E/E System Applications mail drop 5011  
39-03286 SREIMERS sreimers@ford.com fax 39-04145

*9/22/99 - phone call with Steve Reimers - 390 parts - still waiting about 20*

cracks on two parts (knobs) - one reddish parts in area  
one recall part - crack - Recall parts - 25 parts only  
Build date vs. date code  
Speed by 102 days  
now less than 56 days  
4 between 100 + 50 days  
120 parts out to 150 days

3 BB - parts off twin car  
vehicle manufacture ~~11/91~~ 2/92 12/92

→ Steve Reimers  
- Did they ship calibration station back?  
Based on this data the correlation to the switch change may be being by the way side.

Phone call with Steve Remers + Steve Brygcase  
9/28/99

~1500 parts received from field campaign

2002 in spreadsheet - no correlation between switch date code  
+ vehicle build date

Test measured for terminal-terminal continuity & terminal to

- 2 open circuit terminal to terminal
- 1 w/ 27Ω resistance terminal to terminal

25 parts to be sent to TI for P/A

1999 date codes - Ford dealers say test ok or do  
not work right

- Tentative meeting set up for 10/13 to review results



**Epstein, Sally**

---

**From:** Steve Reimers [sreimers@ford.com]  
**Sent:** Friday, September 17, 1999 9:35 AM  
**To:** Beringhouse, Steven  
**Subject:** Please forward to Beringhouse

This is the mass email I sent to notify to forward to you.

Steve Reimers                    building 5 3E008  
RVT Chassis E/E System Applications    mail drop 5011  
39-01286 SREIMERS    sreimers@ford.com    fax 39-04145    ;>  
\*\*\* Forwarding note from SREIMERS-DREB007 09/17/99 08:18 \*\*\*  
To: FIRA3P4A-EXTERNAL A.McGuirk, a-mcgui  
cc: SREIMERS-DREB007 Reimers, S. J.    FPORTER -DREB007 Porter, F.I.

**FROM:** Steve Reimers                    USAET(UTC -04:00)  
**Subject:** Please forward to Beringhouse  
Steve, This is a follow-up to my voice message of 9/17/99 AM. Did you get any -BB suffix parts from dealers? Analysis results on -BB parts? Were there any -BB parts in the 40 parts you gave me a preliminary report on? Have you completed any more testing on the 40? \*\*\*\*\* Of the 25 life tested parts...Do any show cracks in the terminal structure (fatigue, stress,...etc) in particular the stationary terminal minimum cross-section at the thru hole? Any more testing done on the 25 parts? Your wear drop occurrence numbers show a radical drop after Feb 1992... why? Infb...we have x-rayed a -BB part and are amazed by the radical design differences compared to -AB. have a good weekend, thanks.

Steve Reimers                    building 5 3E008  
RVT Chassis E/E System Applications    mail drop 5011  
39-01286 SREIMERS    sreimers@ford.com    fax 39-04145    ;>

1/6/00

TI-NHTSA 017176

**Epstein, Sally**

---

**From:** Steve Reimers (sreimers@ford.com)  
**Sent:** Friday, September 17, 1999 9:38 AM  
**To:** Beringhaus, Steven  
**Subject:** Please forward to Beringhaus

This is the same email I sent to sally to forward to you.

Steve Reimers building 5 3B008  
RVT Chassis E/E System Applications mail drop 5011  
39-03286 SREIMERS sreimers@ford.com fax 39-04143 >  
\*\*\* Forwarding note from SREIMERS-DREB007 09/17/99 09:38 \*\*\*  
To: F04374A-EXTERNAL A.McGuirk, a-mcgui  
cc: SREIMERS-DREB007 Reimers, S. J. FPORTER -DREB007 Porter, F.J.

**FROM:** Steve Reimers USAET(UTC -04:00)

**Subject:** Please forward to Beringhaus

Steve, This is a follow-up to my voice message of 9/17/99 AM. Did you get any -BB suffix parts from Detroit? Analysis results on -BB parts? Were there any -BB parts in the 40 parts you gave me a preliminary report on? Have you completed any more testing on the 407 \*\*\*\*\* Of the 25 life tested parts...Do any show cracks in the terminal structure (design, mount...etc) in particular the stationary terminal, minimum cross-section at the Open hole? Any more testing done on the 23 parts? Your wear drop occurrence numbers show a marked drop after Feb 1993... why? hah...we have a-ayest a -BB part and are amazed by the radial design differences compared to -AB. have a good weekend, thanks.

Steve Reimers building 5 3B008  
RVT Chassis E/E System Applications mail drop 5011  
39-03286 SREIMERS sreimers@ford.com fax 39-04143 >

1/6/00

TI-NHTSA 017177

Sheet1

DateCode	Bld date	Veh line	miles	location	prefix	suffix
2056	11/18/91	tc	48869			
2160	11/20/91	tc	84868			aa
1276	11/21/91	tc	85000	morgan city		bb
1123	12/4/91	tc	127011			
9142	12/11/91	tc	71900			
1278	12/18/91	tc	49299			
2008	12/18/91	tc	98015			ab
2450	12/20/91	tc	84390			
1291	1/16/92	tc	85253			bb
2114	1/23/92	tc	35786			
1352	2/6/92	tc	92873			ab
1291	2/7/92	tc	122616			bb
1312	2/10/92	tc	89329			
1312	2/12/92	tc	78795			bb
1289	2/13/92	tc	95085	alf, eureka		bb
none	2/13/92	tc	115181			
2014	2/18/92	tc	110012			
1347	2/25/92	tc	103899			
1347	2/28/92	tc	98115			
1276	3/2/92	tc	254389	i, ft. pierce		bb
1347	3/3/92	tc	89875			
3208	3/3/92	tc	118331			
1291	3/9/92	tc	89459			
1385	3/9/92	tc	70741			ab
2153	3/11/92	tc	30210			
9141	3/11/92	tc	123094			
1345	3/12/92	tc	71885			
2056	3/12/92	tc	76000			
2055	3/13/92	tc	87489			
2147	3/17/92	tc	94091			
2030	4/2/92	tc	129451			
1331	4/7/92	tc	77732			
1280	4/10/92	tc	73827			
2154	4/13/92	tc	88998			
2008	4/21/92	tc	71892			ab
2031	4/27/92	tc	122674			
2038	4/28/92	tc	84372			
9142	4/29/92	tc	98852			
1884	5/8/92	tc	83348			
1291	5/20/92	tc	116064			
2084	5/26/92	tc	90000			
2082	5/28/92	tc	100000			
2079	6/4/92	tc	84518			
9133	6/8/92	tc	80875			
1338	7/14/92	tc	63007			ab
2080	7/15/92	tc	133348			
2137	7/21/92	tc	58238	springfie	f2ac	aa
2052	7/23/92	tc	104341			

Sheet1

2052	5/5/92	tc	104047		
1312	8/20/92	tc	52541		bb
2063	8/20/92	tc	46586		
2062	8/25/92	tc	77800	morgan city	ab
9128	8/27/92	tc	37282		
2255	8/28/92	tc	85184		
2042	8/3/92	tc	122230		
2057	9/4/92	tc	111005		
2079	9/9/92	tc	81648		
2063	9/10/92	tc	74000	morgan city	ab
1291	9/11/92	tc	44804		
2065	9/17/92	tc	58392	morgan city	ab
2057	9/18/92	tc	83428		
2055	9/24/92	tc	33402		
1140	9/25/92	tc	40009		
1338	9/25/92	tc	10728		ab
2088	9/28/92	tc	120111		
2042	9/30/92	tc	116493	, annandale	ab
2059	10/5/92	tc	140835		
1331	10/7/92	tc	90867		
2015	10/13/92	tc	51210		
2057	10/21/92	tc	115321		
9188	10/21/92	tc	124734		
2035	11/3/92	tc	101200	morgan city	ab
2031	11/6/92	tc	89452		
2108	11/17/92	tc	131003		
2287	11/17/92	tc	84307		
1364	11/18/92	tc	158225		
1364	11/24/92	tc	92168		ab
2079	11/24/92	tc	46647		
1312	11/30/92	tc	34239	a, anahelm	bb
2043	2/24/92	cv	99840		
2008	2/25/92	cv	45935		ab
1338	2/27/92	cv	172680		ab
2112	3/2/92	cv	97783		
1352	3/4/92	cv	51242		
1358	3/8/92	cv	34308		
2064	3/8/92	cv	55587		
3028	3/9/92	cv	53288		
1280	3/24/92	cv	126264		
2038	3/24/92	cv	73588		
2042	3/24/92	cv	78947		
2281	4/2/92	cv	90546	, woodriver	ab
1140	4/6/92	cv	22648		bb
6197	4/25/92	cv	50237		ca
8142	5/1/92	cv	91174		
2038	5/4/92	cv	78840		
2108	5/5/92	cv	73129		
2043	5/7/92	cv	98695		

Sheet1

2014	5/18/92	cv	87819			
1289	6/18/92	cv	129043			
1312	6/16/92	cv	89272			
2108	6/17/92	cv	40771			
2139	7/2/92	cv	118189			
2139	7/2/92	cv	114877			
2137	7/28/92	cv	76622			
2153	8/19/92	cv	81517			
2147	8/25/92	cv	75255	morgan cl	flac	aa
2071	8/28/92	cv	68907			
1280	8/27/92	cv	88224			
2058	9/21/92	cv	39068			
1384	9/22/92	cv	48773			
9133	9/29/92	cv	85048			
2027	10/2/92	cv	47341			
2085	10/21/92	cv	95779			
2114	10/22/92	cv	89184			
1347	10/28/92	cv	85161			ab
2042	10/30/92	cv	87971			
9142	11/10/92	cv	80306			
2039	11/17/92	cv	70517			
9189	2/24/92	gm	76828			
2069	2/25/92	gm	44218			
9138	2/25/92	gm	37786			
1312	3/3/92	gm	89585			
7317	3/13/92	gm	85797			
1343	3/17/92	gm	83593			
2142	3/17/92	gm	80090			
2031	3/19/92	gm	106499			
1289	3/20/92	gm	17310			
1308	3/24/92	gm	55848			
2055	3/24/92	gm	55071			
1347	3/27/92	gm	33701			ab
1345	4/1/92	gm	88201			ab
1352	4/15/92	gm	75231			ab
2119	4/16/92	gm	75449			
1275	5/1/92	gm	48733			
2108	5/4/92	gm	137390			
2082	5/5/92	gm	91395	t, billings		ab
9142	5/7/92	gm	88338			
2052	5/20/92	gm	47551	base gone		
1291	5/21/92	gm	37961			
2113	5/22/92	gm	109007			
2016	5/8/92	gm	91812			
2031	5/8/92	gm	16281			
2120	5/8/92	gm	119320			
1364	6/10/92	gm	48873			
2115	6/11/92	gm	75002			aa
2119	6/12/92	gm	73795			

Sheet1

2138	6/18/92	gm	87344		
2119	6/18/92	gm	29720		
1291	6/24/92	gm	94596		bb
2137	6/28/92	gm	87547		
2054	7/1/92	gm	99752		
2055	7/1/92	gm	70523		
2137	7/7/92	gm	36001		
2137	7/10/92	gm	61486		
2154	7/29/92	gm	61078		
2160	7/30/92	gm	67136		
2197	7/31/92	gm	86104		
2069	8/10/92	gm	64000		
2115	8/11/92	gm	93484		
1331	8/14/92	gm	98579		
2083	8/14/92	gm	98893		
2089	8/19/92	gm	31827		
2040	8/19/92	gm	148859	s, spokane	ab
9126	8/20/92	gm	51742		
2155	8/21/92	gm	61252	y, kenmore	zac
9142	8/21/92	gm	71210		aa
2079	8/25/92	gm	55109		
2043	8/26/92	gm	108511		
1346	8/28/92	gm	68587		
2071	8/31/92	gm	66226	morgan city	ab
2038	9/1/92	gm	87580		
2113	8/3/92	gm	55094		
1348	8/5/92	gm	80400		ab
2045	8/5/92	gm	76180	l, ypollantl	
2119	9/18/92	gm	48574		
2052	9/21/92	gm	43474	artz, mesa	ab
2069	10/2/92	gm	71883	, port richie	ab
1280	10/15/92	gm	65285		bb
9132	10/16/92	gm	48180		
2256	10/20/92	gm	93456		aa
1343	10/22/92	gm	57468		
2120	10/22/92	gm	69141		
2069	11/9/92	gm	63101		
1289	11/20/92	gm	77092		bb
1338	11/28/92	gm	46821		ab
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7082			



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none

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Sheet1

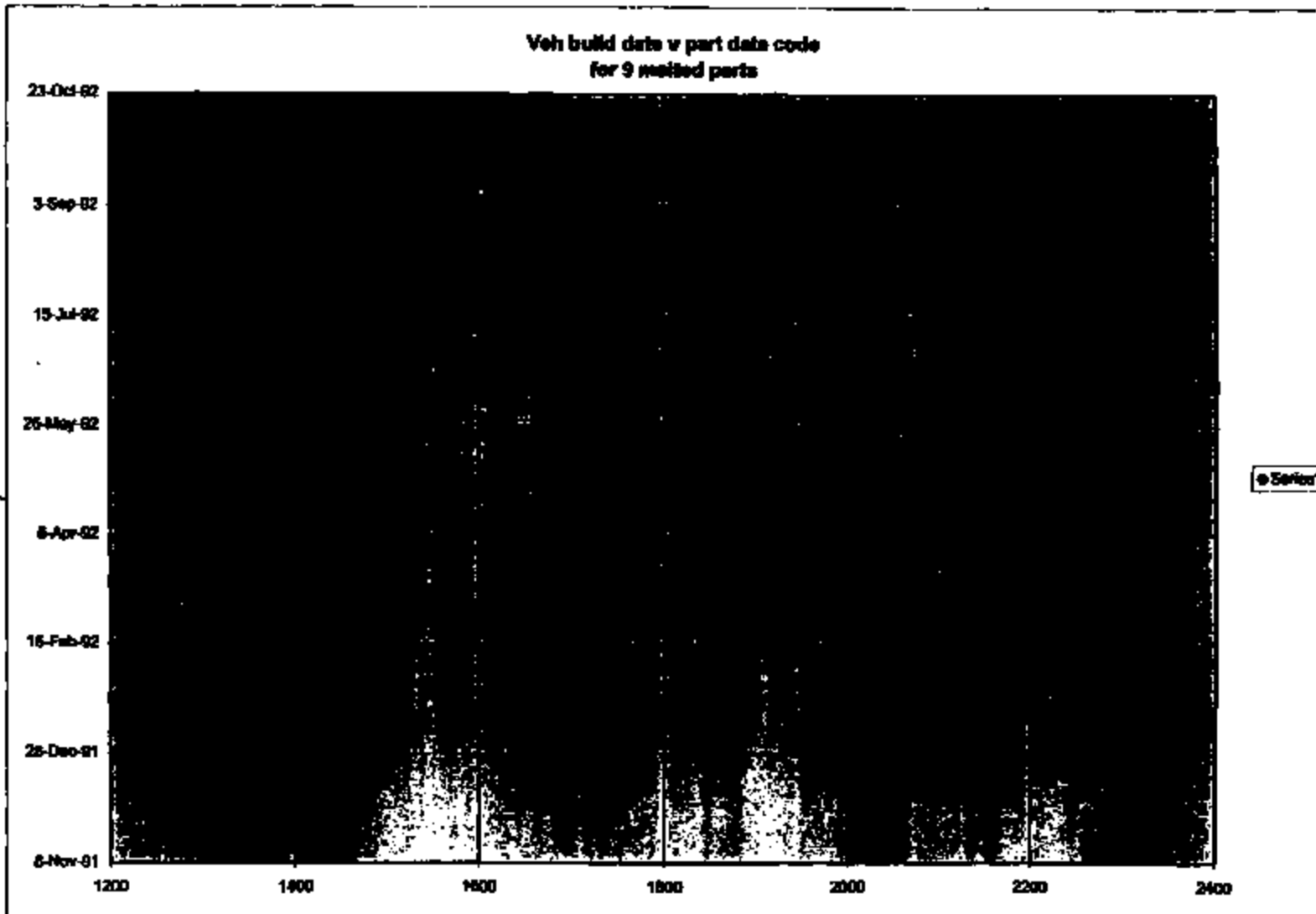
DateCode	Bld date	Veh line	miles	location	prefix	suffix
1289	2/13/92	tc	98085	slf, eureka		bb
2052	9/21/92	gm	43474	eriz, mesa		ab
1312	11/30/92	tc	34239	a, anshelm		bb
2137	7/21/92	tc	58238	, springfiel	f2ac	aa
2281	4/2/92	cv	90548	l, woodriver		ab
2080	8/19/92	gm	145859	a, spokane		ab
2082	5/6/92	gm	91385	mt, billings		ab
2165	8/21/92	gm	61252	y, kenmore	2ac	aa
2089	10/2/92	gm	71883	l, port richie		ab
2042	9/30/92	tc	116483	, annandale		ab
2083	9/10/92	tc	74000	, morgan city		ab
1276	11/21/91	tc	65000	, morgan city		bb
2147	8/26/92	cv	75255	, morgan ci	f2ac	aa
2035	11/3/92	tc	101200	, morgan city		ab
2062	8/26/92	tc	77500	, morgan city		ab
2068	9/17/92	tc	59382	, morgan city		ab
2071	8/31/92	gm	65228	, morgan city		ab

Simon Stone Pliners at Ford

9/23/99

From Ford plot

TI-NHTSA 017186



*Large*

*Switch*

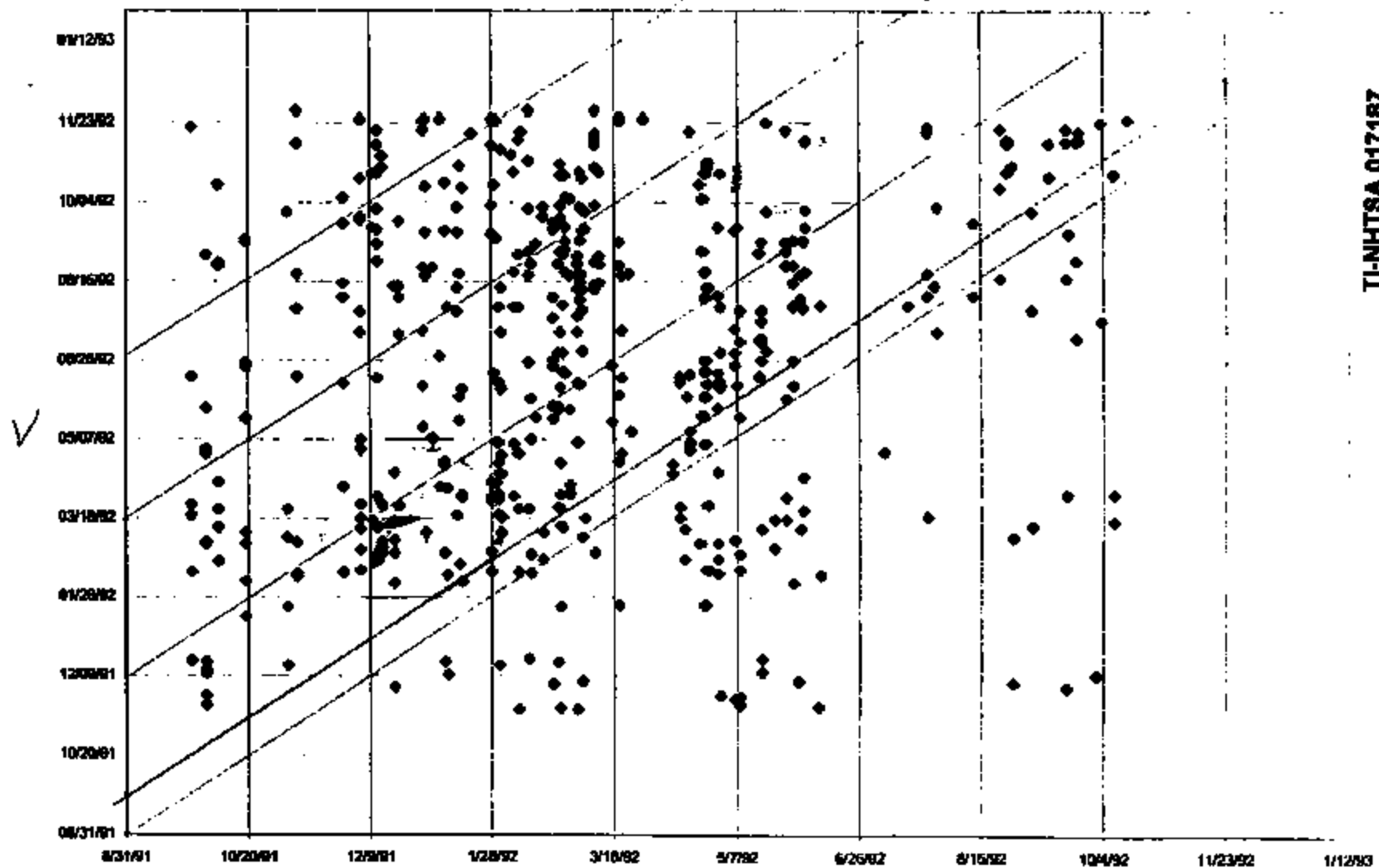
From Steel Penetration  
10/13/49

Profit Date v Date Code

30%

20%

10%



TI-NHTSA 017187

Steve Reimers

313-390-3286

TI 00011112B

TI-NHTSA 017188

**DATA LOG**  
**Brake Pressure Switch**

Log updated 2/18/2008

Run #	Run Date Code	Vehicle	VIN	Event	Mileage	Trans-Header Resistance	Lepton 7	Lepton #1	Lepton #2	Lepton #3	Present Status
Attempts	2000	Town Car	FV62207	Br Fire							
A	2001	Town Car	FV62207	Unintended Fire			crack	crack	crack	crack	Analysis Complete
B	2114	Town Car	NY748410	Unintended Fire			no info	no info	no info	no info	Analysis Complete
C	2000	Town Car	NY748205	Unintended Fire							Sur. not available
D		Crown Vic Police Car	1W148272	Crack Insp		4 MEGACHIPS	yes	crack	crack	crack	Analysis in Progress
E	2137	Town Car	NY730774	Reference		OPEN	no	work, no crack	work, no crack	work, no crack	Analysis Complete
F	2136	Town Car	NY730905	Crack Insp		4MEGACHIPS	yes	crack	crack	crack	Analysis Complete
1	2000	Town Car	ND702005	Reference	70104	OPEN					
2	2000	Town Car	FV720000	Reference	71027	OPEN					
3	2000	Town Car	FV622070	Reference	80007	OPEN					
4	2000	Town Car	FV622070	Reference	80000	OPEN					
5	2004	Town Car	yy20020	Reference	80000						Analysis in Progress
6	2005	Town Car	yy20041	Reference	07205						Analysis in Progress
7	2000	Town Car	ND720000	Reference	80022	OPEN					
8	2000	Town Car	FX100023	Reference	80014	OPEN					
9	2000	Town Car	FV622070	Reference	77	OPEN					
10	2001	Town Car	FV622070	Reference	82224	OPEN					
11	2000	Town Car	FV720000	Reference	81360	OPEN					
12	2000	Town Car	FV622070	Reference	80000	OPEN					
13	2000	Town Car	NY748205	Reference	82227	OPEN					
14	2001	Town Car	FV622072	Reference	80100	OPEN					
15	2001	Town Car	FV622074	Reference	77	OPEN					
16	77	Town Car	NY622004	Reference	87100	OPEN					
17	77	Town Car	FV622070	Reference	70114	OPEN					
18	2000	Town Car	FV622070	Reference		OPEN					
19	77	Town Car	FV720000	Reference	87500	OPEN					
20	77	Town Car	FV740020	Reference	40021	OPEN					
21	77	Town Car	FV622070	Reference	40021	OPEN					
22	2004	77	77	Reference	77						
23	77	Town Car	FV622074	Reference	80000	OPEN					

From TX logs of 2/10 to 2/12, John McManey Group

1	2000	Town Car	FV622070	Reference							
2	2000	Crown Vic Police Car	FV622070	Reference	10000						
3	2000	Crown Vic	00001000	Reference	77						
4	2000	Crown Vic	FV622070	Reference	40002						
5	2000	Town Car	FV622074	Reference	70115						
6	77	Town Car	NY720000	Unintended Fire	77						
7	2000	Town Car	FV720000	Reference	77						
8	2000	Town Car	NY720000	Unintended Fire	10000						
9	2000	Town Car	FV720000	Reference	77						
10	2002	Crown Vic	FX101100	Reference	72014						
11	2010	Town Car	NY720000	Reference	77						
12	2000	Town Car	FV720000	Reference	77						
13	2000	Town Car	FV720000	Reference	10000						

TI-NHTSA 0171899

PC File(s) sent to you...

**Epstein, Sally**

---

**From:** Steve Reimers [sreimers@ford.com]  
**Sent:** Tuesday, September 28, 1999 3:22 PM  
**To:** Beringhaus, Steven  
**Subject:** PC File(s) sent to you...

Excel file of the parts we have logged so far. Those without vehicle line, mile  
age, etc. have not yet been matched to the vehicle tag data file.

Steve Reimers                      building 5 3E008  
RVT Chassis E/E System Applications    mail drop 5011  
39-03286 SREIMERS    sreimers@ford.com    fax 39-04143    :->

TI-NHTSA 017180

1/6/00

Exhibit, Entry

---

From:  
Sent:  
To:  
Subject:

brewers@ford.com  
Tuesday, September 20, 1999 3:21 PM  
Boringhaus, Steven  
File STEVES.xls\_PC from BREWERS@ORBN007



STEVES.xls



DateCode	Bld date	Veh line	miles	location	prefix	suffix
2088	11/10/91	tc	48669			
2169	11/20/91	tc	64846			sa
1278	11/21/91	tc	65000	morgan city		bb
1123	12/4/91	tc	127011			
9142	12/11/91	tc	71800			
1278	12/16/91	tc	48229			
2008	12/19/91	tc	99015			ab
2480	12/20/91	tc	84380			
1291	1/16/92	tc	66263			bb
2114	1/23/92	tc	36788			
1362	2/6/92	tc	62673			ab
1291	2/7/92	tc	122616			bb
1312	2/16/92	tc	68339			
1312	2/12/92	tc	78796			bb
1299	2/13/92	tc	90065	all, euroka		bb
none	2/13/92	tc	115101			
2014	2/18/92	tc	110012			
1347	2/25/92	tc	103869			
1347	2/26/92	tc	96118			
1278	3/2/92	tc	254399	l. ft. pierce		bb
1347	3/3/92	tc	89678			
3906	3/3/92	tc	116331			
1291	3/9/92	tc	69469			
1366	3/9/92	tc	70741			ab
2183	3/11/92	tc	30210			
9141	3/11/92	tc	122894			
1348	3/12/92	tc	71800			
2088	3/12/92	tc	72998			
2088	3/12/92	tc	97499			
2147	3/17/92	tc	94801			
2038	4/3/92	tc	125351			
1331	4/7/92	tc	77722			
1399	4/10/92	tc	79827			
2154	4/13/92	tc	86999			
2008	4/21/92	tc	71662			ab
2831	4/27/92	tc	122674			
2838	4/28/92	tc	84372			
9142	4/28/92	tc	90662			
1864	5/6/92	tc	63346			
1291	5/20/92	tc	118064			
2054	5/20/92	tc	96496			
2062	5/20/92	tc	100009			
2079	6/4/92	tc	64813			
9133	6/5/92	tc	89678			
1238	7/14/92	tc	62667			ab
2088	7/16/92	tc	133348			
2157	7/21/92	tc	66239	, springfs	flac	sa
2062	7/22/92	tc	104341			
2062	8/8/92	tc	104047			
1312	8/26/92	tc	82841			bb

2043	8/20/92	tc	44894		
2042	8/26/92	tc	77800	morgan city	ab
9128	8/27/92	tc	27292		
2040	8/28/92	tc	82184		
2042	8/3/92	tc	122230		
2067	8/4/92	tc	111905		
2079	8/6/92	tc	81643		
2043	8/18/92	tc	74088	morgan city	ab
1281	8/11/92	tc	44884		
2065	8/17/92	tc	88382	morgan city	ab
2067	8/18/92	tc	83438		
2066	8/24/92	tc	33402		
1146	8/25/92	tc	40008		
1338	8/25/92	tc	10726		ab
2088	8/28/92	tc	120111		
2042	8/30/92	tc	118483	, annandale	ab
2089	10/4/92	tc	140338		
1331	10/7/92	tc	90867		
2015	10/13/92	tc	81210		
2067	10/21/92	tc	118321		
9188	10/21/92	tc	124734		
2038	11/2/92	tc	181209	morgan city	ab
2031	11/8/92	tc	89482		
2188	11/17/92	tc	131068		
2287	11/17/92	tc	64387		
1384	11/18/92	tc	188328		
1384	11/24/92	tc	82168		ab
2079	11/24/92	tc	48647		
1312	11/30/92	tc	34239	A, asahelm	bb
2043	2/24/92	cv	88648		
2006	2/26/92	cv	48938		ab
1338	2/27/92	cv	172688		ab
2112	3/2/92	cv	97783		
1382	3/4/92	cv	81242		
1388	3/6/92	cv	34388		
2084	3/6/92	cv	88967		
2029	3/8/92	cv	83298		
1380	3/24/92	cv	128254		
2038	3/24/92	cv	73882		
2042	3/24/92	cv	78847		
2281	4/2/92	cv	98548	, woodriver	ab
1148	4/6/92	cv	22648		bb
8187	4/28/92	cv	80227		ca
8142	5/1/92	cv	91174		
2036	5/6/92	cv	78848		
2188	5/8/92	cv	78128		
2043	5/7/92	cv	88888		
2014	5/19/92	cv	87818		
1288	6/16/92	cv	128843		
1312	6/16/92	cv	68272		
2188	6/17/92	cv	48771		

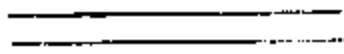
2136	7/2/92	CV	116189			
2139	7/2/92	CV	114877			
2137	7/28/92	CV	78822			
2183	8/18/92	CV	81817			
2147	8/26/92	CV	78268	morgan cl	f2ac	aa
2071	8/26/92	CV	85607			
1289	8/27/92	CV	88324			
2088	8/21/92	CV	33086			
1384	8/23/92	CV	48773			
8133	8/29/92	CV	88848			
2027	10/2/92	CV	47241			
2068	10/21/92	CV	86779			
2114	10/22/92	CV	89184			
1347	10/28/92	CV	88181			ab
2042	10/30/92	CV	87871			
8141	11/10/92	CV	88388			
2039	11/17/92	CV	78817			
8188	2/24/92	GM	78628			
2069	2/26/92	GM	44218			
8138	2/26/92	GM	27788			
1312	3/3/92	GM	88888			
7317	3/13/92	GM	88787			
1343	3/17/92	GM	88888			
2142	3/17/92	GM	88888			
2031	3/18/92	GM	18888			
1288	3/28/92	GM	17318			
1388	3/28/92	GM	88888			
2068	3/28/92	GM	88871			
1347	3/27/92	GM	23781			ab
1348	4/1/92	GM	28881			ab
1382	4/18/92	GM	78881			ab
2118	4/18/92	GM	78888			
1378	6/1/92	GM	48782			
2188	6/4/92	GM	18788			
2082	6/8/92	GM	81288	t, billings		ab
8142	6/7/92	GM	88388			
2082	6/28/92	GM	47881	base garr		
1281	6/21/92	GM	37881			
2113	6/22/92	GM	18888			
2018	6/8/92	GM	81812			
2001	6/8/92	GM	18884			
2128	6/8/92	GM	11888			
1384	6/18/92	GM	48878			
2118	6/11/92	GM	78882			aa
2118	6/12/92	GM	73788			
2128	6/18/92	GM	87844			
2118	6/18/92	GM	28788			
1281	6/24/92	GM	84888			bb
2127	6/28/92	GM	87847			
2084	7/1/92	GM	88782			
2086	7/1/92	GM	78882			

2137	7/7/92	gm	36001		
2137	7/16/92	gm	61456		
2154	7/29/92	gm	61079		
2186	7/30/92	gm	57138		
2197	7/31/92	gm	58104		
2099	8/16/92	gm	54390		
2118	8/11/92	gm	93484		
1231	8/14/92	gm	98879		
2083	8/14/92	gm	98883		
2069	8/16/92	gm	31827		
2088	8/18/92	gm	148859	a, speke	ab
9129	8/20/92	gm	61743		
2156	8/21/92	gm	61352	y, kanmore	fac ab
9542	8/21/92	gm	71210		
2079	8/28/92	gm	68100		
2843	8/25/92	gm	108511		
1346	8/26/92	gm	68867		
2871	8/31/92	gm	68328	morgan city	ab
2036	9/1/92	gm	87868		
2113	9/2/92	gm	85084		
1346	9/8/92	gm	80408		ab
2046	9/8/92	gm	78188	i, ypellard	
2119	9/18/92	gm	48674		
2882	9/21/92	gm	43474	ariz, rassa	ab
2060	10/2/92	gm	71863	, port richie	ab
1388	10/18/92	gm	88288		bb
9132	10/18/92	gm	48188		
2285	10/26/92	gm	83488		ca
1343	10/22/92	gm	87488		
2120	10/22/92	gm	88141		
2089	11/8/92	gm	63181		
1288	11/26/92	gm	77882		bb
1338	11/26/92	gm	48621		ab
1140					
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9138  
9142

B143  
B148  
B148  
B168  
B168  
None



Robert, Kelly

From:  
Sent:  
To:  
Subject:

steven@ford.com  
Wednesday, September 22, 1999 2:41 PM  
Heringhaus, Steven  
Re: STEVEB.XLS\_FC



steven@ford.com



## Sheet1

DateCode	Bld date	Veh line	miles	location	prefix	suffix
1280	2/13/82	tc	98085	alt. eureka		bb
2082	8/21/82	gm	43474	ariz, mesa		ab
1312	11/30/82	tc	34239	a, anaheim		bb
2137	7/21/82	tc	59238	, springfie	f2ac	aa
2281	4/2/82	cv	80848	l, woodriver		ab
2080	8/18/82	gm	148859	a, spokane		ab
2082	8/5/82	gm	81365	mt, billings		ab
2188	8/21/82	gm	81252	y, kenmore	f2ac	aa
2088	10/2/82	gm	71883	l, port richie		ab
2042	9/30/82	tc	118483	, annandale		ab
2083	8/10/82	tc	74000	, morgan city		ab
1278	11/21/81	tc	85000	, morgan city		bb
2147	8/25/82	cv	75256	, morgan ci	f2ac	aa
2055	11/3/82	tc	101200	, morgan city		ab
2082	8/28/82	tc	77500	, morgan city		ab
2066	8/17/82	tc	58382	, morgan city		ab
2071	8/31/82	gm	66228	, morgan city		ab

Phone Conversation with Steve Peiners 10/7/99  
by Steve Bevington

- Believes data on Switch date codes + vehicle build dates is 80-90% correct.
- Agrees that there is no correlation between Switch datecodes + vehicle build dates
- Switches from <sup>using</sup> fires datecodes do not correlate to vehicle build datecodes
- 11 parts with melted bases found to date.
  - Some have crud in the ~~base~~<sup>base</sup>, some do not.
  - one part has the base fully consumed
- Up to 3000 parts in house to date.

248-305-5732  
248-613-2782

Meeting at Ford 10/13/99  
Steve Rivers  
Bob Paek (Expert)  
Steve Bortchase

Component Drawings - BB + AB suffix  
Requested by Steve late '91 - 92 drawing  
each revision thru '93

- 11 melted out of 1700 parts (visually inspected by Ford from recall) -
- #8 - AA suffix - truck part - ~~came back w/ car recall~~ 2030 F3TA - AA  
No terminals in base - ~~12/16/91~~
- #4 - 1275B BB - suffix - ~~12/16/91~~ vehicle build date  
Moly connector present + melted. - could result in poor connection - why was this on a Town Car?  
3/2/92 UM 1LNL M81 W7NY691826
- #5 - 9133C Latches melted - dropped on sandy lot  
3/13/92 (when cut open - inside clean)
- #1 - 2263 F2AC - AA 93 spec. v/c melted  
9/14/92 vch. Bid date
- #2 - 2262 F2AC - AA 12/3/91 ~~12/3/91~~ - Bid date melted
- #3 - 2052 F2C - AB most of the plastic consumed 5/20/92 UBD
- #7 - F2C - AB 2008 not melted 4/23/92 - vch.
- #6 F2C (2036) - AB 4/1/92 Bid date melted
- #9 - BB (57B) - not melted 1280A - wet, no seal on connector 2/20/92 UBD
- #10 - Semi F150 F3TA<sup>CA</sup> 3298 Dealer saw smoke →  
melted base - some smoke in bag  
at bottom  
148,000 miles on the vehicle 1994 Mercedes  
VIN# KA 65363
- #11 ~~12/16/91~~ melted base 2104 BID 3/18/92 - 1LNL M 81 W3N7 699341

	<u>SW Datecode</u>	<u>Vehicle build date</u>		<u>Res - Hot + Cold</u>
①	2263	4/14/92	Melted	8Ω
②	2262	12/2/91	Melted Didn't leak	100Ω
③	2052	5/20/92	Melted	
④	1275	3/2/92	Melted	91Ω
⑤	9133	3/13/92	Melted - G. Parent?	OL
⑥	2036	4/1/92	Melted	OL
⑦	2008	4/23/92	Conductivity to ground?	3K
⑧	2030	12/16/91	Melted	
⑨	1290	2/20/92	Conductivity to ground?	90kΩ
⑩	3298	1994	Melted - F150	4Ω or OL?
⑪	2104	3/18/92	Melted	20Ω

7/1700 <sup>ball</sup> melted with internal corrosion received from recall campaign.

Site vs spring

- Spring on drums <sup>ball</sup> per Ford - away from key

<sup>ball</sup>  
1 - melted w/ corrosion from F150  
2 - Not melted w/ high conductivity to ground

~~#1 - 14.92 ohms - F150 to ground~~

#2 - split in foam seal  
- held pressure 500 psi for 1 minute

#10 - Did not leak.  
#4

- All parts had fluid in the switch cavity except for #5 (looks like it was dropped on something hot).

- Ford hired Exponent to help out with analysis (Rob Panek)

Phone call with  
Steve Reiners 10/27/99 8:15 AM.

- Finished opening melted parts
  - chemical analysis not done yet
  - opened parts to top layer
  - all seem to have fluid between layers
- Did see on 4 or several washers
  - Top of chamber - on flat facing top part
    - discontinuity on edge - aligned with cracks
    - will scan - protrusion or pit?
  - Single straight line in washer as identifier  
one had two
- Sample from high mileage vehicle
  - No leakage - no moisture - good electrical function
- will send spreadsheet from melted parts
- Search Datecodes from files:  
2056, 2281, 2114, 2003, 2045, 2089,  
2080,
- Seven parts for analysis from an array of datecodes  
2 - Feb 92, 2 - Mar 92, 2 - 1999  
1 - BB's suffix
- About 6000 in house
  - 1100 logged - will send spreadsheet
- one more melted part - not in base - from 1900. Job 41-

**Encls. 3 of 7**

**From:** shemera@ford.com  
**Sent:** Wednesday, October 27, 1999 7:29 AM  
**To:** Sarnghouse, Steven  
**Subject:** File STEVE\_00.XLS\_PC from SHEMERS@CRSNO07

  
STEVE\_00.XLS

Sample Information			
Prod Date	MY/Vehicle	Prefax/ Date Code	Condition
10-Sep-82	1993 TC	F2VC/2068	Partially burned
24-Nov-82	1993 TC	????/2281	Burned
18-Jun-82	1992 TC	F2VC/2114	Burned
18-Mar-82	1992 TC	F2VC/2093	Burned
NY733181	TC	2048	Underhood fire.
PY814885	TC	2088	Underhood fire.
NY738847	TC	2088	Underhood fire.
NY708341	Lincoln	?	Underhood fire.
NO714858	GM	?	Underhood fire.

PC File(s) sent to you. .

**Epstein, Sally**

---

**From:** Steve Reimers [sreimers@ford.com]  
**Sent:** Wednesday, October 27, 1999 7:29 AM  
**To:** Beringhouse, Steven  
**Subject:** PC File(s) sent to you...

This is the melted switch data.

Steve Reimers                      building 5 3E008  
RVT Chassis E/E System Applications    mail drop 5011  
39-03186 SREIMERS    sreimers@ford.com    fax 39-04145    ;>

1/6/00

TI-NHTSA 017207



PC File(s) sent to you

**Epstein, Sally**

---

**From:** Steve Reimers [sreimers@ford.com]  
**Sent:** Wednesday, October 27, 1999 7:33 AM  
**To:** Beringhouse, Steven  
**Subject:** PC File(s) sent to you...

This really is the right file for the melted parts. The prior one was not.

Steve Reimers                      building 3 3E08  
RVT Chassis E/E System Applications    mail drop 3011  
39-03186 SREIMERS    sreimers@ford.com    fax 39-04145    >

1/6/00

TI-NHTSA 017208



**System: Body**

---

**From:** sremers@ford.com  
**Sent:** Wednesday, October 27, 1999 7:41 AM  
**To:** Beringhouse, Steven  
**Subject:** File LOG27\_00.XLS\_PC from SREMERS@DREH007

  
LOG27\_00.XLS

DateCode	Std date	Veh time	miles	location	prefix	suffix
2065	11/12/91	tc	42417			
2038	11/18/91	tc	97408			
2062	11/18/91	tc	132850			
2089	11/18/91	tc	14001			
2085	11/18/91	tc	48659			
2114	11/20/91	tc	68606			
2160	11/20/91	tc	64898			aa
1275	11/21/91	tc	65000	la, morgan city		bb
2126	11/21/91	tc	18298			
2126	11/25/91	tc	28841			
2126	11/25/91	tc	51661			
1275	11/27/91	tc	35698			
2120	11/27/91	tc	67200			
1275	12/2/91	tc	69290			
1362	12/2/91	tc	65136			
2113	12/2/91	tc	151817			
2262	12/2/91	tn	48854	metted		aa
2113	12/3/91	tc	110705			
7082	12/3/91	tc	63665			
1133	12/4/91	tc	127011			
2082	12/4/91	tc	53858			
8142	12/4/91	tc	92745			
1275	12/5/91	tc	86801			
2240	12/5/91	tc	94000			
2064	12/6/91	tc	109828			
2162	12/6/91	tc	127023			
1275	12/6/91	tc	88909			
1262	12/6/91	tc	61489			
1275	12/10/91	tc	63678			
2009	12/10/91	tc	168540			
2119	12/10/91	tn	89897			
2274	12/10/91	tc	87830			
1275	12/11/91	tc	68923			
2030	12/11/91	tc	138874			
2267	12/11/91	tc	98863			
3188	12/11/91	tc	34194			
9142	12/11/91	tc	71900			
1268	12/12/91	tc	66424			
2137	12/12/91	tc	63848			
1275	12/13/91	tc	133736			
1308	12/18/91	tc	102418			
2080	12/18/91	tc	83137	base vacant	731a	aa
1275	12/18/91	tc	48289			
2008	12/18/91	tc	98019			ab
2064	12/18/91	tc	96015			
2088	12/18/91	tc	46386			
1268	12/18/91	tc	30882			
2009	12/19/91	tc	82808			
2028	12/19/91	tc	80154			
2206	12/19/91	tc	40778			

1289	12/20/91	tc	95110	
2042	12/20/91	tc	71824	
2137	12/20/91	tc	67095	
2450	12/20/91	tc	84300	
1275	1/13/92	tc	68886	
1280	1/13/92	tc	75620	
7111	1/15/92	tc	44359	
1291	1/16/92	tc	69253	bb
1291	1/21/92	tc	60700	
2031	1/21/92	tc	118380	
1306	1/22/92	tc	52123	
2015	1/22/92	tc	488144	
2055	1/22/92	tc	123844	
2079	1/23/92	tc	91881	
2114	1/23/92	tc	36758	
1312	1/24/92	tc	81484	
1306	2/4/92	tc	73845	
2036	2/5/92	tc	143912	
2266	2/5/92	tc	109587	
1362	2/6/92	tc	92573	eb
2150	2/6/92	tc	131132	
1291	2/7/92	tc	122916	bb
1312	2/7/92	tc	113082	bb
2015	2/7/92	tc	56583	
2048	2/7/92	tc	42570	
1312	2/10/92	tc	69329	
2181	2/11/92	tc	133230	
1312	2/12/92	tc	78795	bb
2043	2/12/92	tc	68216	
2119	2/12/92	tc	81787	
1289	2/13/92	tc	98068	caif, aureka
1289	2/13/92	tc	98068	bb
1308	2/13/92	tc	82458	
1331	2/13/92	tc	69188	
2027	2/13/92	tc	84348	
2038	2/13/92	tc	104684	
2248	2/13/92	tc	112287	
9146	2/13/92	tc	86096	
none	2/13/92	tc	115181	
1330	2/14/92	tc	83851	
1338	2/17/92	tc	88848	
2120	2/17/92	tc	19208	
2014	2/18/92	tc	110012	
2038	2/18/92	tc	311801	
2119	2/18/92	tc	110889	
2183	2/20/92	tc	56308	
2108	2/21/92	tc	148827	
2119	2/24/92	tc	81586	
2128	2/24/92	tc	110168	
1275	2/28/92	tc	79918	
1347	2/28/92	tc	103668	

2029	2/25/92	tc	154318
2080	2/25/92	tc	111781
1347	2/28/92	tc	98115
1275	3/2/92	tc	254389 fl. fl. pierce
1347	3/3/92	tc	88678
3208	3/3/92	tc	115331
3208	3/3/92	tc	115331
1343	3/4/92	tc	82368
2052	3/4/92	tc	121000
2088	3/4/92	tc	49301
1352	3/5/92	tc	83830
2083	3/5/92	tc	45874
4052	3/5/92	tc	70882
2089	3/5/92	tc	82844
1291	3/8/92	tc	89489
1385	3/8/92	tc	70741
2052	3/10/92	tc	88381
2107	3/10/92	tc	114243
2153	3/11/92	tc	30210
8141	3/11/92	tc	123084
1280	3/12/92	tc	82084
1345	3/12/92	tc	71865
2088	3/12/92	tc	75000
2008	3/13/92	tc	88870
2008	3/13/92	tc	108882
2085	3/18/92	tc	97489
2113	3/18/92	tc	28711
9184	3/18/92	tc	107812
2147	3/17/92	tc	84091
1338	3/18/92	tc	104375
2008	3/18/92	tc	128830
2008	3/18/92	tc	178248
2013	3/18/92	tc	201882
2085	3/18/92	tc	28824
2104	3/18/92	tc	78804
2208	3/18/92	tc	43842
1338	3/20/92	tc	88841
2003	3/20/92	tc	82028
2013	3/20/92	tc	88485
2030	3/20/92	tc	84088
2224	3/20/92	tc	58280
2154	3/23/92	tc	84714
2088	3/24/92	tc	88287
2194	3/25/92	tc	88738
1384	3/26/92	tc	78815
2118	3/26/92	tc	103880
2183	3/26/92	tc	87537
1288	3/27/92	tc	88707
1308	3/27/92	tc	88808
1338	3/27/92	tc	81884
1248	3/30/92	tc	88402

bb

ab

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ab

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STARTED TO MELT

2027	3/30/92	tc	29141
2088	3/30/92	tc	25000
9140	3/30/92	tc	88783
2008	3/31/92	tc	85478
2015	3/31/92	tc	83780
2015	4/2/92	tc	111988
2029	4/2/92	tc	80758
2030	4/2/92	tc	126851
2089	4/2/92	tc	81883
2059	4/3/92	tc	78828
1331	4/7/92	tc	77732
2014	4/7/92	tc	70138
2036	4/8/92	tc	43804
2112	4/8/92	tc	91910
2281	4/8/92	tc	86714
2014	4/8/92	tc	71000
1280	4/10/92	tc	73827
2027	4/10/92	tc	84876
2038	4/13/92	tc	74213
2164	4/13/92	tc	88998
2294	4/13/92	tc	82138
2028	4/14/92	tc	47377
2030	4/15/92	tc	124603
2030	4/15/92	tc	81821
2112	4/15/92	tc	112870
3039	4/15/92	tc	83182
2008	4/21/92	tc	71852
2030	4/22/92	tc	140282
2079	4/22/92	tc	93833
2031	4/27/92	tc	122874
2031	4/27/92	tc	118745
2281	4/27/92	tc	13250
2008	4/28/92	tc	70251
2038	4/28/92	tc	84372
2038	4/28/92	tc	84372
1582	4/29/92	tc	118834
9142	4/29/92	tc	98882
2030	4/30/92	tc	39328
4128	4/30/92	tc	84734
2114	5/4/92	tc	131885
2030	5/8/92	tc	97411
2102	5/8/92	tc	48387
1280	5/8/92	tc	38480
2014	5/8/92	tc	103882
2038	5/8/92	tc	78000
no code	5/8/92	tc	182333
1338	5/7/92	tc	79891
2038	5/7/92	tc	82452
1884	5/8/92	tc	93348
2039	5/8/92	tc	88884
2009	5/12/92	tc	48228

ab

ab

ab

n

2246	5/12/92	tc	27830
1384	5/15/92	tc	51835
1275	5/18/92	tc	134481
2078	5/18/92	tc	85882
2205	5/18/92	tc	83282
1291	5/20/92	tc	115084
1312	5/20/92	tc	94890
2045	5/21/92	tc	103307
2128	5/21/92	tc	102486
1140	5/28/92	tc	94771
2064	5/28/92	tc	90000
2240	5/28/92	tc	89808
1275	5/27/92	tc	64878
2082	5/28/92	tc	100000
9134	5/28/92	tc	72183
2078	5/28/92	tc	98981
2080	5/29/92	tc	70885
2114	5/29/92	tc	86243
2048	6/1/92	tc	112378
2137	6/1/92	tc	89423
1291	6/2/92	tc	112709
2043	6/2/92	tc	102878
2107	6/3/92	tc	91120
2114	6/3/92	tc	105782
1331	6/4/92	tc	98722
2078	6/4/92	tc	54818
2029	6/5/92	tc	118941
2036	6/6/92	tc	20886
9133	6/6/92	tc	80878
2086	6/9/92	tc	128081
2080	6/9/92	tc	88234
9142	6/9/92	tc	48831
2086	6/10/92	tc	84004
2147	6/10/92	tc	118488
2071	6/11/92	tc	130088
2138	6/11/92	tc	88888
1384	6/12/92	tc	58883
2030	6/12/92	tc	77818
2104	6/12/92	tc	124181
2206	6/12/92	tc	38877
9132	6/12/92	tc	84887
1280	6/15/92	tc	88000
2018	6/15/92	tc	87887
2030	6/15/92	tc	82811
2064	6/15/92	tc	81719
2188	6/15/92	tc	40138
2284	6/15/92	tc	84278
2082	6/17/92	tc	72113
2038	6/18/92	tc	82870
2084	6/19/92	tc	88872
2114	6/19/92	tc	78882

ab

(STARTING TO MELT)



1291	6/22/92	tc	78482			
2107	6/22/92	tc	47180			
2119	6/22/92	tc	48087			
2294	6/22/92	tc	109428			
2078	6/23/92	tc	83484			
1384	6/24/92	tc	52830			
1384	6/24/92	tc	94280			
2083	6/24/92	tc	82416			
1291	6/25/92	tc	91583			
2042	6/25/92	tc	44484			
2082	6/25/92	tc	88252			
2079	6/28/92	tc	45488			
2114	6/28/92	tc	79972			
1384	7/13/92	tc	114714			
2071	7/13/92	tc	74782			ab
1338	7/14/92	tc	83007			
1345	7/14/92	tc	88838			
2031	7/14/92	tc	84817			
2088	7/14/92	tc	84807			
2082	7/14/92	tc	85820			
2128	7/14/92	tc	78840			
2209	7/14/92	tc	77320			ab
1338	7/15/92	tc	107738			
1384	7/15/92	tc	120882			
2080	7/15/92	tc	133345			
2128	7/16/92	tc	94888			
2137	7/16/92	tc	101371			
2008	7/20/92	tc	88817			
2090	7/20/92	tc	80133			ab
2031	7/20/92	tc	108832			
2147	7/20/92	tc	42134			
1348	7/21/92	tc	38818			
2127	7/21/92	tc	38831			
2137	7/21/92	tc	58238	pa, springfield	f2ac	as
2137	7/21/92	tc	58238			
2276	7/21/92	tc	87283			
2088	7/22/92	tc	119082		ab	n
2128	7/22/92	tc	83782			
1308	7/23/92	tc	90016			ab
2052	7/23/92	tc	104341			
2128	7/23/92	tc	31416			
1388	7/24/92	tc	58837			
2082	7/24/92	tc	132114			
2088	7/24/92	tc	88834			
2154	7/24/92	tc	82011			
8300	7/24/92	tc	82883			
9188	7/24/92	tc	57887			
1338	7/27/92	tc	41830			
2128	7/27/92	tc	100188			
2128	7/27/92	tc	20403			
2128	7/28/92	tc	83881			

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2079	7/29/92	tc	33381	
2036	7/30/92	tc	57505	
2038	7/30/92	tc	45348	
2137	7/30/92	tc	81206	
2275	7/30/92	tc	118029	
2039	7/31/92	tc	108865	
2048	7/31/92	tc	38821	
2088	7/31/92	tc	49408	
2128	7/31/92	tc	125050	ab
2150	7/31/92	tc	47233	
2063	8/3/92	tc	71377	
2114	8/4/92	tc	154288	
1354	8/5/92	tc	114080	
2052	8/5/92	tc	104047	
2114	8/5/92	tc	78232	
2063	8/6/92	tc	39714	
2205	8/6/92	tc	89729	Two switches in one box.
2224	8/6/92	tc	89729	
2065	8/7/92	tc	57288	
2008	8/10/92	tc	28725	
2084	8/10/92	tc	183888	
2058	8/11/92	tc	83818	
1275	8/13/92	tc	53108	
2068	8/13/92	tc	20247	
2071	8/14/92	tc	78877	
2084	8/17/92	tc	97279	
2260	8/17/92	tc	108048	
2282	8/17/92	tc	77894	
2083	8/18/92	tc	84047	
2127	8/18/92	tc	98082	
9154	8/18/92	tc	96885	
2042	8/18/92	tc	28538	
1312	8/20/92	tc	52641	bb
2014	8/20/92	tc	55889	
2063	8/20/92	tc	48588	
2063	8/20/92	tc	82832	
9126	8/20/92	tc	117186	
2114	8/21/92	tc	83281	
2114	8/21/92	tc	71747	
2115	8/21/92	tc	72871	
4157	8/24/92	tc	89838	
2082	8/26/92	tc	77500	la, morgan city
2071	8/26/92	tc	137780	ab
2127	8/28/92	tc	84907	
2187	8/27/92	tc	112880	
3088	8/27/92	tc	119611	
9128	8/27/92	tc	27282	
2288	8/28/92	tc	88184	
2288	8/28/92	tc	88184	
2274	8/28/92	tc	140133	
2062	8/31/92	tc	88994	

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1275	9/1/92	tc	56993		
2042	9/1/92	tc	77178		
2066	9/1/92	tc	86598		
2042	9/3/92	to	122230		
2067	9/4/92	tc	111005		
2069	9/4/92	tc	98803		
2080	9/4/92	tc	57029		
1364	9/8/92	tc	50260		
2014	9/9/92	tc	117700		
2057	9/9/92	tc	88530		
2079	9/9/92	to	81648		
2137	9/9/92	tc	118252		
1362	9/10/92	tc	135614		
2083	9/10/92	tc	74000	la, morgan city	ab
1291	9/11/92	tc	44504		
2013	9/15/92	tc	54280		
2068	9/16/92	to	107259		
2069	9/16/92	to	87358		
2128	9/16/92	tc	104441		
2086	9/17/92	tc	56392	la, morgan city	ab
2104	9/17/92	tc	158776		
2067	9/18/92	tc	83426		
2128	9/18/92	tc	90916		
1331	9/21/92	tc	84818		
1336	9/23/92	tc	102191		ab
2071	9/23/92	tc	136847		
2055	9/24/92	to	33402		
1140	9/26/92	to	40009		
1338	9/26/92	tc	10728		ab
2049	9/26/92	tc	91929		
1308	9/28/92	tc	71689		
1343	9/28/92	tc	88386		
2028	9/28/92	tc	117719		
2085	9/28/92	tc	120111		
2139	9/28/92	tc	217953		
1289	9/29/92	tc	103682		
1335	9/29/92	to	89022		
1345	9/30/92	to	44877		
2042	9/30/92	tc	116493	va, annandale	ab
2042	9/30/92	to	116493		
2014	10/1/92	to	84490		
2083	10/1/92	to	84178		
2287	10/1/92	tc	111628		
2086	10/2/92	to	108997		
2086	10/2/92	tc	41833		
2066	10/6/92	to	84135		
2080	10/6/92	to	75155		
2046	10/6/92	tc	123480		
2089	10/6/92	to	140935		
2113	10/6/92	tc	35878		
1331	10/7/92	to	60887		

2087	10/7/92	lc	88324
9140	10/7/92	lc	126886
2114	10/8/92	lc	80154
2015	10/13/92	lc	81210
2027	10/13/92	lc	71430
9148	10/13/92	lc	137288
2028	10/14/92	lc	94218
2048	10/14/92	lc	74218
2084	10/14/92	lc	48550
2089	10/14/92	lc	86408
2028	10/18/92	lc	110032
1123	10/18/92	lc	41887
2064	10/19/92	lc	71582
2014	10/20/92	lc	85078
2057	10/21/92	lc	115321
2281	10/21/92	lc	88907
9188	10/21/92	lc	124734
9188	10/21/92	lc	124734
2058	10/22/92	lc	88875
2281	10/22/92	lc	114847
2015	10/23/92	lc	104088
2038	10/23/92	lc	88008
2166	10/23/92	lc	52870
2054	10/26/92	lc	99200
2118	10/28/92	lc	184808
2116	10/28/92	lc	338001
2206	10/29/92	lc	34000
2055	10/30/92	lc	80010
1347	11/2/92	lc	121478
2066	11/2/92	lc	88834
2108	11/2/92	lc	78481
2034	11/3/92	lc	101200
2114	11/3/92	lc	81864
2104	11/5/92	lc	88213
2031	11/6/92	lc	88482
2018	11/6/92	lc	87182
2027	11/8/92	lc	88384
2153	11/8/92	lc	137204
8016	11/10/92	lc	74808
2286	11/11/92	lc	10065
2282	11/12/92	lc	108487
2287	11/12/92	lc	44981
2088	11/13/92	lc	41863
2102	11/13/92	lc	78780
2285	11/13/92	lc	103288
2014	11/16/92	lc	101221
2019	11/16/92	lc	78824
2030	11/16/92	lc	81258
1312	11/17/92	lc	78283
2089	11/17/92	lc	118888
2108	11/17/92	lc	131008

la, morgan city

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2287	11/17/92	lc	54307		
2278	11/17/92	lc	72053		
1345	11/18/92	lc	98527		
1384	11/18/92	lc	158225		
2057	11/18/92	lc	45977		
2139	11/23/92	lc	129919		
1384	11/24/92	lc	92198		ab
2055	11/24/92	lc	82578		
2079	11/24/92	lc	48947		
1385	11/25/92	lc	77935		
2009	11/25/92	lc	154392		
2027	11/25/92	lc	36827		
2287	11/25/92	lc	77957		
9131	11/25/92	lc	91428		
1312	11/30/92	lc	34239	ca, anenheim	bb
2089	11/30/92	lc	34239		
2287	11/30/92	lc	61877		
2009	2/11/92	cv	112329		
2115	2/14/92	cv	59031		
1280	2/20/92	cv	76158		
1345	2/20/92	cv	156799		
2248	2/20/92	cv	149910		
2119	2/21/92	cv	80918		
9154	2/21/92	cv	71058		
2043	2/24/92	cv	89640		
9142	2/24/92	cv	59782		
2008	2/26/92	cv	45935		ab
2036	2/26/92	cv	88481		
5235	2/26/92	cv	94083		
1338	2/27/92	cv	172890		ab
1289	3/2/92	cv	38309		
2112	3/2/92	cv	97783		
2119	3/2/92	cv	214728		
1352	3/4/92	cv	51242		
1308	3/6/92	cv	34308		
2064	3/6/92	cv	85857		
2240	3/6/92	cv	41419		
1336	3/8/92	cv	191031		
2048	3/8/92	cv	154931		
3028	3/8/92	cv	53288		
1338	3/11/92	cv	86045		
1291	3/12/92	cv	70491		
2014	3/16/92	cv	64329		
1336	3/16/92	cv	86899		
1289	3/24/92	cv	125254		
2038	3/24/92	cv	73899		
2042	3/24/92	cv	78847		
2064	3/25/92	cv	197782		
2071	3/28/92	cv	183998		
2147	3/31/92	cv	47588		
2036	4/1/92	cv	91856	meted	ab

2276	4/1/92	CV	48199		
2046	4/2/92	CV	89602		
2281	4/2/92	CV	90548	il,woodraver	ab
1140	4/6/92	CV	22645		DD
2043	4/6/92	CV	151421		
2006	4/7/92	CV	85763		
1364	4/9/92	CV	118790		
2030	4/9/92	CV	104442		
2031	4/13/92	CV	108069		
2031	4/15/92	CV	137670		
9144	4/27/92	CV	46667		
8187	4/28/92	CV	80237	3ta	ca
1338	5/1/92	CV	42998		
9142	5/1/92	CV	91174		
2038	5/4/92	CV	78640		
2029	5/6/92	CV	188666		
2071	5/6/92	CV	115325		
2108	5/6/92	CV	78125		
6300	5/8/92	CV	174491	(Part #P2VC-9F924-AB)	
2043	5/7/92	CV	88695		
2108	5/11/92	CV	71634		
1308	5/12/92	CV	36682		
2084	5/12/92	CV	47338		
2013	5/14/92	CV	104672		
2014	5/19/92	CV	87819		
2127	5/20/92	CV	58318		
2084	5/21/92	CV	94708		
4154	5/25/92	CV	102881		
2082	5/26/92	CV	107629	ab	n
2119	5/27/92	CV	127720		
2113	5/28/92	CV	96484		
2113	5/29/92	CV	97003		
2067	6/2/92	CV	120118		
2287	6/2/92	CV	43682		
2031	6/6/92	CV	81661		
2063	6/9/92	CV	182280		
2048	6/10/92	CV	71029		
2120	6/10/92	CV	97220		
2127	6/10/92	CV	74688		
2150	6/10/92	CV	173180		
4172	6/10/92	CV	88783		
1364	6/11/92	CV	72466		
2118	6/11/92	CV	74661		
2082	6/12/92	CV	88388		
2184	6/12/92	CV	101885		
2120	6/12/92	CV	42864		
1348	6/16/92	CV	77634		
1288	6/18/92	CV	128043		
1291	6/18/92	CV	33482		
1312	6/18/92	CV	88272		
2104	6/18/92	CV	81888		

2108	5/17/92	CV	40771
2296	5/17/92	CV	77542
2028	5/18/92	CV	111013
2114	5/25/92	CV	117843
2295	5/30/92	CV	177656
2120	7/1/92	CV	74039
2113	7/2/92	CV	57698
2139	7/2/92	CV	116159
2139	7/2/92	CV	114977
9133	7/6/92	CV	88440
2136	7/6/92	CV	172861
2205	7/8/92	CV	194790
2137	7/27/92	CV	53747
2084	7/28/92	CV	134481
2137	7/28/92	CV	78522
2150	7/28/92	CV	84664
1312	7/28/92	CV	113810
2120	7/28/92	CV	92888
2181	7/31/92	CV	94880
1331	8/5/92	CV	123770
9138	8/5/92	CV	60083
2119	8/5/92	CV	78585
9184	8/5/92	CV	83220
2108	8/7/92	CV	82844
2052	8/10/92	CV	87874
2031	8/11/92	CV	34880
2138	8/12/92	CV	88627
2139	8/12/92	CV	99733
2147	8/12/92	CV	74716
9133	8/12/92	CV	83093
1312	8/13/92	CV	74077
2090	8/13/92	CV	58789
9140	8/13/92	CV	43637
2150	8/14/92	CV	115989
2153	8/18/92	CV	61517
2088	8/20/92	CV	115108
2142	8/20/92	CV	20991
2205	8/20/92	CV	88548
1312	8/21/92	CV	83028
2098	8/21/92	CV	12276
2112	8/24/92	CV	108398
4235	8/24/92	CV	37577
2147	8/25/92	CV	75255
2150	8/25/92	CV	125161
2043	8/25/92	CV	48413
2071	8/25/92	CV	68907
2071	8/25/92	CV	68907
2150	8/25/92	CV	103774
2205	8/25/92	CV	102584
1280	8/27/92	CV	66224
2213	8/28/92	CV	80295

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2088	8/1/82	CV	101884
2137	8/1/82	CV	54850
2138	8/2/82	CV	78749
1348	8/3/82	CV	80214
4154	8/8/82	CV	98773
2147	8/8/82	CV	124232
2160	8/8/82	CV	98238
2150	8/10/82	CV	88788
2059	8/14/82	CV	44742
2283	8/14/82	CV	18385
1385	8/15/82	CV	83700
2055	8/16/82	CV	75335
2180	8/17/82	CV	44575
1343	8/18/82	CV	88076
2066	8/21/82	CV	33085
2063	8/21/82	CV	88401
2127	8/21/82	CV	82824
2224	8/21/82	CV	58848
8133	8/21/82	CV	84834
1384	8/22/82	CV	48773
2028	8/23/82	CV	50047
2248	8/24/82	CV	10825
2052	8/25/82	CV	72812
2160	8/25/82	CV	108448
2240	8/25/82	CV	121727
1140	8/28/82	CV	108854
2082	8/28/82	CV	18821
8133	8/28/82	CV	88048
2013	10/1/82	CV	81708
2038	10/1/82	CV	132817
2048	10/1/82	CV	50888
2209	10/1/82	CV	88810
1275	10/2/82	CV	88828
2027	10/2/82	CV	47341
2235	10/13/82	CV	67888
1388	10/14/82	CV	82835
8145	10/16/82	CV	118862
2008	10/16/82	CV	53788
1345	10/21/82	CV	47088
2055	10/21/82	CV	88779
2248	10/21/82	CV	105778
1346	10/22/82	CV	88237
2114	10/22/82	CV	88184
2083	10/23/82	CV	40328
2071	10/23/82	CV	88214
2112	10/23/82	CV	80814
1347	10/28/82	CV	85181
2240	10/27/82	CV	38867
2042	10/28/82	CV	138772
8188	10/28/82	CV	118850
2042	10/30/82	CV	87871

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1345	11/8/92	cv	39500		
2238	11/10/92	cv	106330		
9142	11/10/92	cv	80308		
2240	11/11/92	cv	60930		
9154	11/11/92	cv	70670		
2039	11/12/92	cv	58460		
2156	11/12/92	cv	66797	(NO	TAG)
2235	11/12/92	cv	63658		
2234	11/13/92	cv	146803		
2069	11/16/92	cv	75228		
2208	11/16/92	cv	75112		
2039	11/17/92	cv	70917		
2113	11/17/92	cv	93703		
2009	11/18/92	cv	67201		
2262	11/18/92	cv	171134		
2069	11/24/92	cv	66707		
2125	11/24/92	cv	66829		
1140	11/27/92	cv	28145		
2262	11/27/92	cv	72057		
2264	11/27/92	cv	66084		
2042	11/30/92	cv	61712		
2278	11/30/92	cv	66997		
2038	2/5/92	gm	71048		
9148	2/8/92	gm	91003		
2127	2/10/92	gm	81737		
2281	2/13/92	gm	103580		
1339	2/14/92	gm	78310		
2071	2/14/92	gm	181215		
2126	2/14/92	gm	110886		
1308	2/17/92	gm	98000		
1362	2/20/92	gm	42000		
2049	2/21/92	gm	71022		
1362	2/24/92	gm	84571		
2003	2/24/92	gm	69911		
2006	2/24/92	gm	67964		
9168	2/24/92	gm	76628		
9168	2/24/92	gm	76528		
1339	2/25/92	gm	71260		
1352	2/25/92	gm	21842		
2029	2/25/92	gm	75163		
2069	2/25/92	gm	44218		
2115	2/25/92	gm	49103		
2119	2/25/92	gm	82525		
9138	2/25/92	gm	37766		
2027	2/26/92	gm	53036		
2035	2/26/92	gm	34841		
2055	2/26/92	gm	92217		
2080	2/26/92	gm	119556		
1308	2/26/92	gm	76760		
1331	2/26/92	gm	39911		
2142	2/26/92	gm	106744		

1291	3/2/92	gm	95038
1275	3/3/92	gm	12230
1312	3/3/92	gm	56568
1312	3/3/92	gm	66218
9149	3/3/92	gm	131078
2126	3/4/92	gm	82830
nabpaw	3/4/92	gm	91534
2036	3/6/92	gm	95875
2031	3/9/92	gm	93870
2032	3/9/92	gm	84852
2138	3/9/92	gm	84273
2080	3/11/92	gm	88989
2108	3/11/92	gm	83879
2137	3/11/92	gm	83773
1275	3/12/92	gm	82272
1275	3/12/92	gm	83144
1345	3/13/92	gm	91738
2248	3/13/92	gm	128380
2271	3/13/92	gm	87308
7317	3/13/92	gm	88787
7317	3/13/92	gm	88787
2281	3/16/92	gm	122070
1343	3/17/92	gm	83553
2049	3/17/92	gm	88535
2142	3/17/92	gm	80000
2031	3/19/92	gm	108488
1289	3/20/92	gm	17310
2038	3/20/92	gm	61873
1308	3/24/92	gm	56846
2035	3/24/92	gm	28336
2065	3/24/92	gm	56671
2101	3/24/92	gm	61808
7018	3/26/92	gm	72804
1347	3/27/92	gm	33701
2030	3/30/92	gm	39717
9140	3/31/92	gm	77294
1345	4/1/92	gm	85201
2009	4/2/92	gm	82509
2282	4/2/92	gm	38814
2287	4/2/92	gm	70819
2009	4/6/92	gm	78899
2045	4/7/92	gm	53202
9131	4/7/92	gm	78410
2089	4/8/92	gm	83932
1289	4/8/92	gm	84854
2029	4/8/92	gm	53813
2033	4/8/92	gm	98066
1140	4/13/92	gm	53080
2101	4/15/92	gm	101213
2104	4/15/92	gm	32821
2114	4/15/92	gm	94740

ab

ab

1352	4/18/92	gm	75231		ab
1352	4/18/92	gm	75231		
2119	4/18/92	gm	78448		
1949	4/21/92	gm	50841		
2101	4/21/92	gm	42814		
2102	4/21/92	gm	78887		
2055	4/22/92	gm	52684		
2008	4/23/92	gm	111443		
2085	4/23/92	gm	81883		
2079	4/23/92	gm	42339		
2102	4/23/92	gm	102853		
7317	4/24/92	gm	72228		
2082	4/27/92	gm	21833		
1275	4/28/92	gm	87508		
2080	4/28/92	gm	57580		
1385	4/29/92	gm	88987		
2107	4/30/92	gm	88358		
2108	4/30/92	gm	72225		
1275	5/1/92	gm	45783		
1331	5/4/92	gm	88216		
2108	5/4/92	gm	137580		
2029	5/5/92	gm	138112		
2029	5/5/92	gm	72189		
2082	5/5/92	gm	81388	mt, billing	ab
2104	5/5/92	gm	50487		
2112	5/7/92	gm	20418		
9142	5/7/92	gm	88338		
2003	5/8/92	gm	74059		
2108	5/12/92	gm	88330		
2138	5/12/92	gm	82271		
2036	5/18/92	gm	108000		
2062	5/20/92	gm	47881	base gone	
1281	5/21/92	gm	37981		
2068	5/22/92	gm	38218		
2113	5/22/92	gm	108907		
2030	5/25/92	gm	131707		ab
2008	5/26/92	gm	85045		
2089	5/26/92	gm	172240		
9142	5/27/92	gm	43313		
1280	5/28/92	gm	81190		
2054	5/28/92	gm	85188		
2113	5/28/92	gm	130072		
9144	5/28/92	gm	88737		
2147	6/2/92	gm	18874		
4082	6/2/92	gm	101050		
2014	6/3/92	gm	73184		
2128	6/4/92	gm	90119		
1338	6/5/92	gm	112820		
2015	6/6/92	gm	81612		
2031	6/6/92	gm	18281		
2080	6/8/92	gm	108481		

6039	6/6/92	gm	99482
9133	6/6/92	gm	81298
2120	6/9/92	gm	118320
2120	6/9/92	gm	118320
7074	6/9/92	gm	70840
1280	6/10/92	gm	98082
1364	6/10/92	gm	48875
2058	6/10/92	gm	68877
2127	6/10/92	gm	112898
2083	6/11/92	gm	63301
2118	6/11/92	gm	78002
1331	6/12/92	gm	52886
2104	6/12/92	gm	68922
2119	6/12/92	gm	73788
1338	6/13/92	gm	72846
2080	6/15/92	gm	28798
2120	6/15/92	gm	62211
2120	6/15/92	gm	84428
2138	6/16/92	gm	87344
2038	6/17/92	gm	47780
2048	6/17/92	gm	47874
2028	6/18/92	gm	69942
2057	6/18/92	gm	84741
2083	6/18/92	gm	78828
2119	6/18/92	gm	28720
2058	6/19/92	gm	100831
2150	6/19/92	gm	57078
1280	6/22/92	gm	86288
2062	6/22/92	gm	73841
2016	6/23/92	gm	48808
2038	6/23/92	gm	74164
2128	6/23/92	gm	103658
1291	6/24/92	gm	94888
2074	6/24/92	gm	108217
2114	6/28/92	gm	108003
2127	6/28/92	gm	81280
2137	6/28/92	gm	87947
2150	6/28/92	gm	17887
2008	6/29/92	gm	41318
2084	7/1/92	gm	88752
2058	7/1/92	gm	70823
2128	7/1/92	gm	83182
2084	7/2/92	gm	121201
1308	7/7/92	gm	82811
2008	7/7/92	gm	73488
2128	7/7/92	gm	68886
2137	7/7/92	gm	38001
2084	7/8/92	gm	88828
2128	7/8/92	gm	97704
2028	7/8/92	gm	78818
9138	7/8/92	gm	84883

(Red Shell)

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2137	7/10/92	gm	61458		
2288	7/10/92	gm	31425		
7343	7/10/92	gm	167252		
2013	7/27/92	gm	28989		
2248	7/28/92	gm	63599		
2029	7/29/92	gm	56438		
2083	7/29/92	gm	94788		
2138	7/29/92	gm	98132		
2154	7/29/92	gm	51076		
2009	7/30/92	gm	38844		
2030	7/30/92	gm	41709		
2120	7/30/92	gm	129720		
2150	7/30/92	gm	87158		
2128	7/31/92	gm	151840		
2197	7/31/92	gm	89104		
2153	8/4/92	gm	101988		
2055	8/7/92	gm	88278		
2089	8/10/92	gm	84000		
2013	8/11/92	gm	85212		
2118	8/11/92	gm	93484		
1382	8/12/92	gm	34847		
1354	8/12/92	gm	101978		
2208	8/12/92	gm	85825		
1331	8/14/92	gm	98379		
2083	8/14/92	gm	98893		
2139	8/14/92	gm	91248		
2055	8/17/92	gm	88534		
2235	8/17/92	gm	138688		
2000	8/18/92	gm	148888		
2089	8/19/92	gm	31827		
2080	8/19/92	gm	148888	wt, spokane	ab
2127	8/19/92	gm	97343		
9128	8/20/92	gm	51742		
2087	8/21/92	gm	80987		
2158	8/21/92	gm	81252	ry, kenmore	12ac
2188	8/21/92	gm	81252		aa
9128	8/21/92	gm	88747		
9142	8/21/92	gm	71210		
1384	8/24/92	gm	48429		
2003	8/24/92	gm	39168		
1280	8/25/92	gm	45388		
2079	8/26/92	gm	59109		
2188	8/26/92	gm	87311		
2027	8/26/92	gm	84299		
2043	8/26/92	gm	108811		
2064	8/26/92	gm	81581		
2086	8/27/92	gm	80670		
2088	8/27/92	gm	83671		
1348	8/28/92	gm	58687		
2048	8/28/92	gm	114331		
2128	8/28/92	gm	68790		

Sheet1

2137	8/28/92	gm	41068		
2042	8/31/92	gm	76902		
2071	8/31/92	gm	86228	la, morgan city	ab
8143	8/31/92	gm	81836		
2038	9/1/92	gm	87550		
2027	9/2/92	gm	98492		
2055	9/3/92	gm	29834		
2113	9/3/92	gm	55064		
2147	9/3/92	gm	20282		
9130	9/3/92	gm	67018		
1345	9/8/92	gm	80400		ab
1345	9/8/92	gm	80400		
2046	9/8/92	gm	78160	ml, ypsilanti	
2045	9/8/92	gm	78160		
2129	9/8/92	gm	88587		
2147	9/8/92	gm	84911		
1291	9/9/92	gm	118406		
2128	9/9/92	gm	70083		
2154	9/10/92	gm	167047		
2029	9/11/92	gm	23729		
2027	9/14/92	gm	67788		
2085	9/15/92	gm	70571		
2026	9/16/92	gm	104198		ab y
2084	9/16/92	gm	68118		
1345	9/17/92	gm	80088		
2082	9/17/92	gm	80717		
2080	9/18/92	gm	37062		
2119	9/18/92	gm	48674		
2127	9/18/92	gm	78743		
2186	9/18/92	gm	79739		
2288	9/18/92	gm	104363		
2062	9/21/92	gm	43474	artz, mesa	ab
2082	9/21/92	gm	43474		
2066	9/21/92	gm	42833		
2166	9/21/92	gm	50487		
1306	9/24/92	gm	138431		
2147	9/24/92	gm	20872		
2028	9/25/92	gm	44742		
2248	9/28/92	gm	31810		
2248	9/28/92	gm	115471		
2080	9/28/92	gm	48993		
2168	9/28/92	gm	89848		
9133	9/28/92	gm	89440		
2003	9/30/92	gm	108891		
2080	10/1/92	gm	53696		
1348	10/2/92	gm	59182		
2089	10/8/92	gm	71863	fl, port richie	ab
1278	10/16/92	gm	72838		
1280	10/16/92	gm	85266		bb
2016	10/16/92	gm	54700		
2112	10/16/92	gm	87622		

9132	10/16/92	gm	48180
1338	10/16/92	gm	70218
2014	10/20/92	gm	87055
2256	10/20/92	gm	93456
2255	10/20/92	gm	93456
9168	10/20/92	gm	82827
1308	10/22/92	gm	105485
1343	10/22/92	gm	57488
2120	10/22/92	gm	59141
2235	10/23/92	gm	129489
2238	10/23/92	gm	24487
2089	10/26/92	gm	32982
2014	10/27/92	gm	38808
2139	10/27/92	gm	38824
2248	10/27/92	gm	24741
7317	10/27/92	gm	80149
2056	10/28/92	gm	89405
7174	10/30/92	gm	83875
9138	10/30/92	gm	88908
2088	11/8/92	gm	53101
1312	11/10/92	gm	52221
2255	11/10/92	gm	128141
2155	11/11/92	gm	28717
2282	11/11/92	gm	83884
2069	11/13/92	gm	19281
2068	11/13/92	gm	79788
2205	11/17/92	gm	81254
2147	11/18/92	gm	32014
2063	11/19/92	gm	87103
2235	11/19/92	gm	87025
2236	11/19/92	gm	43718
1268	11/20/92	gm	77082
2206	11/20/92	gm	52828
2274	11/23/92	gm	57287
2278	11/23/92	gm	101887
2038	11/24/92	gm	84878
2029	11/24/92	gm	7
1338	11/25/92	gm	48521
2089	11/26/92	gm	73704
1275	11/28/92	gm	41788
2079	11/28/92	gm	104481
2208	11/27/92	gm	87419
2071	11/30/92	gm	40800
2127	11/20/91	tc	88749
1278	12/3/91	tc	82883
1278	12/3/91	tc	84083
1278	12/4/91	tc	128837
1280	12/16/91	tc	71871
1306	1/13/92	tc	81120
2014	1/21/92	tc	80807
1308	1/23/92	tc	88883

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2155	2/12/92	tc	89295
2015	2/17/92	tc	138711
2082	2/18/92	tc	84782
1291	3/11/92	tc	88079
2125	3/13/92	tc	99593
2248	3/16/92	tc	102254
2034	3/18/92	tc	100339
1345	3/30/92	tc	28000
2027	3/31/92	tc	122855
2031	4/2/92	tc	89557
1347	4/14/92	tc	72798
2084	5/1/92	tc	57232
2078	5/4/92	tc	28185
2090	5/5/92	tc	89463
2039	5/6/92	tc	49580
2059	5/7/92	tc	53564
2088	5/7/92	tc	80872
1280	5/13/92	tc	51842
2045	5/18/92	tc	74705
2236	5/20/92	tc	72490
8315	5/20/92	tc	88984
1338	5/28/92	tc	94806
2060	5/27/92	tc	45595
2278	6/2/92	tc	108088
2080	6/4/92	tc	60389
2288	6/18/92	tc	67578
2065	6/18/92	tc	54307
2018	6/23/92	tc	48885
2082	7/20/92	tc	88884
1338	7/26/92	tc	81858
2058	7/30/92	tc	81858
8320	8/11/92	tc	88743
1382	8/13/92	tc	74802
1364	8/26/92	tc	64234
2079	8/25/92	tc	124312
2084	9/3/92	tc	78278
2098	9/23/92	tc	38047
2082	9/25/92	tc	88022
2291	9/25/92	tc	106338
2128	9/28/92	tc	89893
1375	9/28/92	tc	123891
2064	9/28/92	tc	88978
2285	10/9/92	tc	87711
1312	10/12/92	tc	27448
2027	10/19/92	tc	82888
2064	10/20/92	tc	78371
2118	10/21/92	tc	111267
2084	11/8/92	tc	118221
2287	11/8/92	tc	88482
2120	11/11/92	tc	88818
2278	11/17/92	tc	881



2043	11/20/92	tc	102988
2120	3/24/92	cv	107186
2083	4/8/92	cv	55743
2056	4/8/92	cv	73703
1278	4/15/92	cv	14901
2150	4/15/92	cv	72902
2150	6/2/92	cv	90602
2048	6/19/92	cv	61108
2062	8/11/92	cv	30568
2055	9/1/92	cv	114853
2120	9/9/92	cv	52989
2205	10/1/92	cv	86948
2071	10/21/92	cv	60021
2083	10/30/92	cv	35033
2278	11/17/92	cv	47756
2102	11/24/92	cv	92486
2071	11/27/92	cv	52014
2079	11/30/92	cv	178166
2205	2/21/92	gm	105253
1364	2/21/92	gm	69047
2008	3/9/92	gm	46102
1275	3/12/92	gm	75739
2055	5/1/92	gm	120681
2107	5/1/92	gm	76822
2262	5/6/92	gm	75497
2038	5/11/92	gm	66330
1312	6/5/92	gm	82788
2120	6/9/92	gm	32928
2029	6/12/92	gm	12737
2080	7/2/92	gm	61625
2139	7/7/92	gm	43431
2127	7/8/92	gm	72956
2137	7/28/92	gm	32960
2108	8/4/92	gm	32622
2137	8/10/92	gm	11804
2154	8/12/92	gm	84561
2083	9/9/92	gm	94215
2185	9/10/92	gm	118388
2066	9/21/92	gm	127900
2218	9/22/92	gm	40696
1364	10/15/92	gm	101843
2286	10/18/92	gm	59081
2055	10/29/92	gm	69977
2120	11/10/92	gm	46216
1289			
1289			
1275			
1275			
1262			
1291			
1306			

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2184	
2208	
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2238	
2287	
2276	

2276	_____
2281	_____
2284	_____
4147	_____
9129	_____
9140	_____

**Epstein, Sally**

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**From:** Steve Reimers [sreimers@ford.com]  
**Sent:** Wednesday, October 27, 1999 7:42 AM  
**To:** Beringhaus, Steven  
**Subject:** PC File(s) sent to you...

This is the latest log file. Some parts have not matched up with a vehicle yet.

Steve Reimers                      building 5 3E008  
RVT Chassis E/E System Applications    mail drop 5011  
39-01286 SREIMERS sreimers@ford.com    fax 39-04145    >

1/6/00

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**Epstein, Sally**

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**From:** Steve Reimers [sreimers@ford.com]  
**Sent:** Wednesday, October 27, 1999 7:43 AM  
**To:** Beringhaus, Steven  
**Subject:** Emailed 3 files

I have emailed you 3 times with 3 different files. Hope they got there.

Steve Reimers                      building 5 3E008  
RVT Chassis E/E System Applications    mail drop 5011  
39-03286 SREIMERS    sreimers@ford.com    fax 39-04145    ;>

1/6/00

TI-NHTSA 017238



Office of the General Counsel  
Ford Motor Company  
Direct Dial: (313) 337-3642  
Facsimile: (313) 348-7737

Parliane Towers West  
Suite 300  
Three Parliane Boulevard  
Dearborn, Michigan 48125-2888

November 9, 1999

Russ Bauman, Esquire  
Texas Instruments  
34 Forest Street  
Mail Station 2021  
Attleboro, MA 02703

Re: Litigation Involving the Brake Pressure Switch/Speed Deactivation Switch

Dear Mr. Bauman:

Ford Motor Company has been named as a defendant in many product liability suits which allege that the component supplied by your company and installed on the vehicle described in the complaints failed, causing injury to the plaintiff/plaintiffs. Please see Attachment A for a listing of these suits. Ford has also received many pre-suit claims seeking damages for such events. Please see Attachment B for a listing of these claims.

In accordance with the purchase agreement between our companies for the affected part, this letter provides written notice of the pending litigation and requests that your company enter these cases and assume the defense and indemnify Ford. State law also requires such indemnity. Ford will provide your company with whatever assistance may be necessary to fully inform your selected trial counsel of the status of these matters and will provide your counsel with all information which has been developed in the course of discovery and investigation. Ford will provide any additional assistance you may require in defending these suits, including, if you so request, assistance in selecting counsel.

If your company chooses not to assume the defense of these matters, it will still be bound by any determination of fact common to these cases and subsequent cases in which it is a party, including any subsequent litigation which may involve Ford and your company. Because Plaintiff's theories in these matters are directed at a product supplied to Ford by your company, if there is a verdict against Ford, we will seek indemnification from your company in the amount of the judgment Ford is ultimately required to pay, as well as our attorneys' fees and other costs of litigation. Texas Instruments will further be bound and required to reimburse Ford for any settlement disbursements.

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This letter does not indicate that Ford has reached any conclusions with respect to the merits of these suits and claims. It is intended solely to provide you with notice and to request that your company assume the defense of these matters. Should you or your counsel have any questions or desire additional information, please contact me at the address above.

Very truly yours,

  
Doug Lampe  
Attorney

Phone call with Steve Revers 9:15 AM  
11/24/99

- Central Lab not yet completed chemical analysis
- Kaper cracked on all parts with melted buses
- outside company - logging & binning parts

in total of about 8000 parts back

- working to make sure first 1700 received is representative population

→ Planning to run cycle life test

→ 100k miles - cycle life left  
Comparing early to late datecodes  
will TI run test?

→ Five from each group



Phone call with  
Steve Rivers 12/14/09 9 AM  
Reviewed data

Pressure Cycling of Used Switches  
Started 12/8/09

Look

Switch ID	Date Code	# of Cycles	
3	2018	58586	56.6k
11	2008	77837	76k
7	2014	254000	254k
8	2013	280000	260k
4	2001	294000	244k
10	2013	345000	345k
9	2008	350683	350k

380k - still going - 4 out/now.

Steve R's thoughts:  
I don't know -  
Big disparity on 2008

Tech review meeting - Director of Quality

Present actions

- get switch out of car
- replaced switch on brake pedal
- relay on two vehicle - getting mileage

- Do not have root cause yet

Agree about other platforms

- Still Town car strikes up

→ Generate term for an acid  
Per Steve R. no evidence ~~that~~  
exists that shows that  
Switches do not meet SPEC  
only evidence is what TI  
provided that all switches  
meet SPEC

REDACTED

# Important Message

Time: 11:07 Date: 12/  
For: Buss  
From: Paul Roster  
Ford Motor Co  
Telephone: (313) 845-3722

- Telephoned
- Please call
- Wants to see you
- Will call again
- Returned your call
- URGENT
- Was here to see you

Message: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Taken by: \_\_\_\_\_  
\_\_\_\_\_

Form # 7074-4 6887 1088