

PE14-030

FORD

12/19/2014

APPENDIX I

Engineering Review

Non Conf - Eng Review

PART 2 OF 2

PART 3 OF 3

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**From:** Napoli, Laura (L.)  
**Sent:** Thursday, September 29, 2011 7:51 PM  
**To:** Snider, Tim (T.O.)  
**Subject:** RE: CD3 xx B9A SW Implementation Date at QAO

Ok. then I'll put the change 6 weeks prior to your Dec 10 date.

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**From:** Snider, Tim (T.O.)  
**Sent:** Thursday, September 29, 2011 3:44 PM  
**To:** Napoli, Laura (L.)  
**Subject:** RE: CD3 xx B9A SW Implementation Date at QAO

I think we updated at Anting and waited for the parts to arrive.

Regards,  
Tim Snider ([tsnider1@ford.com](mailto:tsnider1@ford.com))

**C346N Steering Engineering**  
**Ford Motor Company**

Cell 313-805-3201  
2B-L18 Product Development Center  
Dearborn, MI 48124 USA

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**From:** Napoli, Laura (L.)  
**Sent:** Thursday, September 29, 2011 11:09 AM  
**To:** Snider, Tim (T.O.)  
**Subject:** RE: CD3 xx B9A SW Implementation Date at QAO

Were you updating SW at QAO or did you start it at Anting and wait for it to hit QAO?

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**From:** Snider, Tim (T.O.)  
**Sent:** Thursday, September 29, 2011 10:41 AM  
**To:** Napoli, Laura (L.)  
**Cc:** Flanagan, Thomas (T.P.)  
**Subject:** FW: CD3 xx B9A SW Implementation Date at QAO

Laura,

Use Dec 10, 2010 as CD3 B9A voltage regulator software fix implementation date at Hermosillo.

Regards,  
Tim Snider ([tsnider1@ford.com](mailto:tsnider1@ford.com))

**C346N Steering Engineering**

**Ford Motor Company**

Cell 313-805-3201

2B-L18 Product Development Center

Dearborn, MI 48124 USA

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**From:** JuanCarlos cano [mailto:[JuanCarlos.cano@TRW.COM](mailto:JuanCarlos.cano@TRW.COM)]

**Sent:** Tuesday, December 07, 2010 6:21 PM

**To:** Snider, Tim (T.O.)

**Cc:** Samuel Arreola

**Subject:** CD3 xx B9A SW Implementation Date at QAO

Tim,

Samuel and the team at QAO conducted a very precise cycle count on the motors we have on hand at QAO before we implement the B9A SW change and based on this quantity (~3, 620) we estimated our implementation date to be this Friday 12/10 once we deplete all the existing material.

If implemented on Friday we also wanted to confirm that is OK to have CG level SW (TDT +B9A) used on the CD level gear, since the releases for the CG level gear are not shown until ~Week 4 of next year.

We will keep you posted with the production serial number of the first batch produced with B9A SW for our records and warranty clean point. We will identify parts shipped to HSAP with the Alert number: A12403278

Thank you!

JC & Samuel

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**From:** Chacon, Jose (A.)  
**Sent:** Tuesday, November 30, 2010 11:34 PM  
**To:** Snider, Tim (T.O.)  
**Cc:** Gudino Mendoza, Martin (J.M.); Ulloa, Fernando (F.F.); Durand, Gerardo (G.D.)  
**Subject:** RE: CD3XX- 2011 > Report Summary for the CQIS Report#AKWBA013  
**Attachments:** EPAS - CD3XX- U3000XX.xls

Tim,

Thanks for the feedback. Lets work together on determining where we at, what needs improvement and/or move forward in reducing costs on these components. Your team may already have a chart with the contention data we are looking for; however, can you fill some of the boxes in the attached excel file? We believe we can start there, and look for opportunities for improvement. If you need me to run a meeting and/or review each action step by step, let us know.

Thank You!

Regards,

*José Chacón*

**Product Concern Engineer**  
**Fusion/Milan/Zephyr/MKZ**  
**Ford Customer Service Division**  
**(91-313)322-7062)**

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**From:** Snider, Tim (T.O.)  
**Sent:** Tuesday, November 30, 2010 4:21 PM  
**To:** Chacon, Jose (A.)  
**Cc:** Gudino Mendoza, Martin (J.M.); Ulloa, Fernando (F.F.); Durand, Gerardo (G.D.); Quijada, Jorge (J.); Estes, Eric (E.E.)  
**Subject:** RE: CD3XX- 2011 > Report Summary for the CQIS Report#AKWBA013

Jose,

U3000-XX can have many root causes. U3000 indicates an issue with the PSCM. To date, we have found 10 root causes for PSCM U3000-XX. Steering motor and torque sensor faults can also cause U3000-XX.

Regards,  
Tim Snider (tsnider1@ford.com)  
**CD3/C489 Steering Engineering**  
**Ford Motor Company**  
Cell 313-805-3201  
2B-L18 Product Development Center  
Dearborn, MI 48124 USA

**From:** Chacon, Jose (A.)  
**Sent:** Tuesday, November 30, 2010 10:05 AM  
**To:** Estes, Eric (E.E.); Snider, Tim (T.O.)  
**Cc:** Gudino Mendoza, Martin (J.M.); Ulloa, Fernando (F.F.); Durand, Gerardo (G.D.); Quijada, Jorge (J.)  
**Subject:** RE: CD3XX- 2011 > Report Summary for the CQIS Report#AKWBA013

Agree. Heat shield and code are different.

The concern we have, is we keep seeing improvements for EPAS gear assemblies on CD3XX, month after month, and still do not see a true clean point for permanent code U3000:XX. For service, of course we can replace the rack and the vehicle is fixed (No repeat repairs, win-win for dealer/customer). We continue to have hotline contacts on this system (GAS/HEV CD3XX Units)

For Ford/TRW warranty, we are in the high levels with this issue, and we continue to see code U3000:XX showing up on 2010-2011 units. Yes, we do understand there are internal components, external factors, or unforeseen situations.

+What has the returned racks show and/or does the data indicate a trend? I.e.: Sensor loose, grease on sensor, chip contamination, relays sticking, process contamination, poor weld application, etc.

+ What improvement had been incorporated to scientifically reduce the replacement of the rack, when permanent DTC code is set?

We are basically, want to make sure all the necessary Production contentions are in place and look forward for a true clean date(s). We can formulate this question differently: What is the expected R/1000 for this particular code for 2010-2011 MY units – Built prior to the Production Clean date XXXX/XX/XX?

Regards,

*José Chacon*

*Product Concern Engineer  
Fusion/Milan/Zephyr/MKZ  
Ford Customer Service Division  
(91-313)322-7062*

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**From:** Estes, Eric (E.E.)  
**Sent:** Tuesday, November 30, 2010 9:47 AM  
**To:** Chacon, Jose (A.); Snider, Tim (T.O.)  
**Cc:** Gudino Mendoza, Martin (J.M.); Ulloa, Fernando (F.F.); Durand, Gerardo (G.D.); Quijada, Jorge (J.)  
**Subject:** RE: CD3XX- 2011 > Report Summary for the CQIS Report#AKWBA013

U3000-96 is a generic lock out code that will set when the same code sets 3 times within 3 ignition cycles. This code has nothing to do with the heat shield.

*Eric J Estes*

TRW EPAS Steering Systems  
Quality Specialist  
Hotline ph# 313-317-9358  
Cell ph# 734-560-3493

<b>Report# :</b>	AKWBA013 NHL	<b>Received:</b>	11/23/2010
<b>CCRG/EPRC:</b>	<b>Reviewed Status:</b>		
<b>Vehicle:</b>	2011,FUSION,HYBRID ,SEDAN ,3FADP0L3XBR [REDACTED]	<b>Date:</b>	
<b>Odometer :</b>	255 M	<b>Engine:</b>	2.5 ATKINS
<b>Transmission:</b>	CVT AUTO	<b>Axle:</b>	2.57 RATIO
<b>Dealer:</b>	USA 04962 World Ford-Pensacola	<b>A/C:</b>	YES
<b>City:</b>	Pensacola	<b>State:</b>	Florida
<b>Originator:</b>	MICHAEL MATKOWSKI		
<b>Symptom:</b>	3 03 1 55 CHASS.,STRG/HANDLING ,FUNCTION,LOSS OF STRG		
<b>Status:</b>			
<b>VFG:</b>	V89 RIDE & HANDLING		
<b>Additional Symptom:</b>	LOSS OF POWER STEERING		
<b>Fix:</b>	<b>Causal Component :</b>		
<b>Condition Code:</b>			

<b>Hotliner:!!</b> MHINDERE	<b>Phone:</b> 313 337-9292	<b>Regn Cd:</b> S3 Orlando
<b>Engineering:</b>	<b>Phone:</b>	<b>TAR:</b>
<b>Dlr Contact:</b> MICHAEL MATKOWSKI	<b>Phone:</b> 850 476-9050	<b>Title Cde:</b> T

#### **DTCs:**

KOEO:

KOEC: !!

KOER:

#### **Comments**

:

REPAIR 11/23/2010 02:24PM MICHAEL HINDERER MSS - FCSD - TECH SVC HOTLINE  
 WEB FORM DATA - CONCERN: C/S NO POWER STEERING DIAGNOSTICS: EAPS  
 SELF TEST VISUAL INSP,INTERACTIVE DIAGNOSIS IS LIMITED HERE AT  
 WORLD FORD PENSACOLA DUE TO FIRE AT DEALERSHIP LAST  
 WEDNSDAY.INTERNET  
 ACCESS IS SPOTTY AT BEST. DTCS RECEIVED EAPS CMDTCS U3000 49 48,  
 U3000 96 C8, U3000 61 48. PINPOINT TEST C INDICATES FAULTY RACK  
 ASSY. PARTS REPLACED:: NONE TECH QUESTION: HAVE YOU ANY KNOWN  
 CONCERNS WITH EAPS INTERNAL MODULE FAILURE,LOW MILEAGE  
 UNITS? WERE YOU ABLE TO VERIFY THE CONCERN? YES IS THERE AN

APPROPRIATE PINPOINT TEST IN THE WSM FOR THIS CONCERN? YES WAS THE PINPOINT TEST FOLLOWED? YES

- RECOMM** 11/23/2010 02:24PM MICHAEL HINDERER MSS - FCSD - TECH SVC HOTLINE  
MICHAEL, VERIFY THE BATTERY CABLE NUT TORQUE AT THE DC/DC CONVERTER IS 17 NM OR 150 LB-IN. A LOSS OF OR LOW 12V BATTERY POWER SUPPLY IS TYPICALLY FIRST NOTICED AS A LOSS OF POWER STEERING. IF OK, LOAD TEST AND VOLTAGE DROP POWER AND GROUND AT THE PSCM (POWER STEERING CONTROL MODULE). PERFORM A NETWORK TEST TO VERIFY ALL MODULES ARE COMMUNICATING. THERE ARE NO PAST REPORTS IN THE HOTLINE DATABASE FOR THIS CONCERN ON THIS VEHICLE.
- REPAIR** 11/24/2010 02:30PM MICHAEL HINDERER MSS - FCSD - TECH SVC HOTLINE! !  
TECHNICIAN REPLY: ALL POWER AND GROUND CIRCUITS OK.NETWORK COMMUNICATION OK TO EPAS.ONLY DTC THAT REPEATS IS U3000 96 C8.ORDERED  
RACK ASSY PER PINPOINT TEST C INCICATIONS.NO HEAT SHIELD PRESENT ON ORIGINAL OR REPLACEMENT RACK.HAS THIS SHIELD BEEN DELETED? PLEASE ADVISE. WSM PART NO IS NOT IN PARTS CATALOG.
- RECOMM** 11/24/2010 02:30PM MICHAEL HINDERER MSS - FCSD - TECH SVC HOTLINE  
MICHAEL, FOR THIS PART CONCERN, RECOMMEND TO CONTACT PACO (PARTS ASSISTANCE CENTER ON LINE) LOCATED ON THE FMCDEALER HOME PAGE UNDER PARTS DEPARTMENT TOOLS. THERE IS NO INFORMATION IN THE HOTLINE DATABASE REGARDING THIS CONCERN.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1			CD3XX - Epas											
2	Issue	BSAQ #	WERS Concern	Supplier	MODEL YEAR AFFECTED 2010 2011 2010 & 2011	ICA -HSAP Date	PCA - HSAP Date	Plans To Correct Production	Plans To Correct Service	Draft Service Action # TSB ISM WSM SSM	Business Case	Contained YES/NO		
3	U:3000:XX Caused By:	TBD	TBD	TBD	TBD	TBD	TBD	YES/NO	YES/NO	TBD	TBD	YES/NO		
4	U:3000:XX Caused By:	TBD	TBD	TBD	TBD	TBD	TBD	YES/NO	YES/NO	TBD	TBD	YES/NO		
5	U:3000:XX Caused By:	TBD	TBD	TBD	TBD	TBD	TBD	YES/NO	YES/NO	TBD	TBD	YES/NO		
6	U:3000:XX Caused By:	TBD	TBD	TBD	TBD	TBD	TBD	YES/NO	YES/NO	TBD	TBD	YES/NO		
7	U:3000:XX Caused By:	TBD	TBD	TBD	TBD	TBD	TBD	YES/NO	YES/NO	TBD	TBD	YES/NO		
8	U:3000:XX Caused By:	TBD	TBD	TBD	TBD	TBD	TBD	YES/NO	YES/NO	TBD	TBD	YES/NO		
9	U:3000:XX Caused By:	TBD	TBD	TBD	TBD	TBD	TBD	YES/NO	YES/NO	TBD	TBD	YES/NO		
10	U:3000:XX Caused By:	TBD	TBD	TBD	TBD	TBD	TBD	YES/NO	YES/NO	TBD	TBD	YES/NO		
11	U:3000:XX Caused By:	TBD	TBD	TBD	TBD	TBD	TBD	YES/NO	YES/NO	TBD	TBD	YES/NO		
12	U:3000:XX Caused By:	TBD	TBD	TBD	TBD	TBD	TBD	YES/NO	YES/NO	TBD	TBD	YES/NO		
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**From:** Chacon, Jose (A.)  
**Sent:** Wednesday, December 01, 2010 6:48 PM  
**To:** Mrozek, Robert (R.M.)  
**Cc:** Annadi, Hari (H.); Snider, Tim (T.O.); Gudino Mendoza, Martin (J.M.)  
**Subject:** RE: CD3XX- 2011 > Report Summary for the CQIS Report#AKWBA013

Agree.

I'll work with Tim on setting a meeting on this concern with my team on this concern.

Thank You!

*José Chacon*

*Product Concern Engineer  
Fusion/Milan/Zephyr/MKZ  
Ford Customer Service Division  
(91-313)322-7062*

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**From:** Mrozek, Robert (R.M.)  
**Sent:** Wednesday, December 01, 2010 9:49 AM  
**To:** Snider, Tim (T.O.); Chacon, Jose (A.)  
**Cc:** Annadi, Hari (H.)  
**Subject:** RE: CD3XX- 2011 > Report Summary for the CQIS Report#AKWBA013

We have enough people tracking this...we do not need another one. U3000 is a generic code for one of a 1000 things that can go wrong with the electronics. There is nothing to be concerned about here and CD3 EPAS warranty is among the Top 3 in the company.

I suggest Tim sit down with Jose, face-to-face, and take him thru our Pareto and our process.

*Rob Mrozek*

Electric Power Steering Supervisor  
C346N/CD3/D3/D4/U502/Police/Limo Programs  
Ford Motor Company  
Phone: (313) 805-5947  
e-mail: rmrozek@ford.com

---

**From:** Snider, Tim (T.O.)  
**Sent:** Wednesday, December 01, 2010 9:37 AM  
**To:** Mrozek, Robert (R.M.)  
**Cc:** Annadi, Hari (H.)  
**Subject:** FW: CD3XX- 2011 > Report Summary for the CQIS Report#AKWBA013

Rob,

How do you want to handle this? Should I provide specific root causes or direct Jose to the Monday Steering Quality meeting?

Regards,  
Tim Snider (tsnider1@ford.com)  
**CD3/C489 Steering Engineering**  
**Ford Motor Company**  
Cell 313-805-3201  
2B-L18 Product Development Center  
Dearborn, MI 48124 USA

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**To:** Snider, Tim (T.O.)  
**Cc:** Gudino Mendoza, Martin (J.M.); Ulloa, Fernando (F.F.); Durand, Gerardo (G.D.)  
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*José Chacón*  
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Fusion/Milan/Zephyr/MKZ  
Ford Customer Service Division  
(91-313)322-7062)

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**From:** Snider, Tim (T.O.)  
**Sent:** Tuesday, November 30, 2010 4:21 PM  
**To:** Chacon, Jose (A.)  
**Cc:** Gudino Mendoza, Martin (J.M.); Ulloa, Fernando (F.F.); Durand, Gerardo (G.D.); Quijada, Jorge (J.); Estes, Eric (E.E.)  
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**CD3/C489 Steering Engineering**  
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Dearborn, MI 48124 USA

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Regards,

*José Chacón*  
**Product Concern Engineer**  
**Fusion/Milan/Zephyr/MKZ**  
**Ford Customer Service Division**  
**(91-313)322-7062**

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**Sent:** Tuesday, November 30, 2010 9:47 AM  
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**Cc:** Gudino Mendoza, Martin (J.M.); Ulloa, Fernando (F.F.); Durand, Gerardo (G.D.); Quijada, Jorge (J.)  
**Subject:** RE: CD3XX- 2011 > Report Summary for the CQIS Report#AKWBA013

U3000-96 is a generic lock out code that will set when the same code sets 3 times within 3 ignition cycles. This code has nothing to do with the heat shield.

# *Eric J Estes*

TRW EPAS Steering Systems  
Quality Specialist  
Hotline ph# 313-317-9358  
Cell ph# 734-560-3493

---

**From:** Chacon, Jose (A.)  
**Sent:** Monday, November 29, 2010 4:17 PM  
**To:** Snider, Tim (T.O.)  
**Cc:** Gudino Mendoza, Martin (J.M.); Ulloa, Fernando (F.F.); Durand, Gerardo (G.D.); Quijada, Jorge (J.); Estes, Eric (E.E.)  
**Subject:** RE: CD3XX- 2011 > Report Summary for the CQIS Report#AKWBA013

Thanks! I'll create an ISM to inform Hotline the shield was deleted on CD3XX vehicles.

On U3000-96 is there a clean date in effect?

Regards,

*José Chacón*

*Product Concern Engineer  
Fusion/Milan/Zephyr/MKZ  
Ford Customer Service Division  
(91-313)322-7062*

---

**From:** Snider, Tim (T.O.)  
**Sent:** Monday, November 29, 2010 4:16 PM  
**To:** Chacon, Jose (A.)  
**Cc:** Chacon, Jose (A.); Gudino Mendoza, Martin (J.M.); Ulloa, Fernando (F.F.); Durand, Gerardo (G.D.); Quijada, Jorge (J.); Estes, Eric (E.E.)  
**Subject:** RE: CD3XX- 2011 > Report Summary for the CQIS Report#AKWBA013

Yes, the EPAS heat shield was deleted. Clean date is April 12, 2010. U3000-96 indicates a fault with the PSCM. Since this vehicle has 255 miles, the gear will automatically be requested back by TRW for analysis.

Regards,  
Tim Snider (tsnider1@ford.com)  
***CD3/C489 Steering Engineering***  
***Ford Motor Company***  
Cell 313-805-3201  
2B-L18 Product Development Center  
Dearborn, MI 48124 USA

---

**From:** JCHACON3@ford.com [mailto:[JCHACON3@ford.com](mailto:JCHACON3@ford.com)]  
**Sent:** Monday, November 29, 2010 3:55 PM

**To:** Snider, Tim (T.O.); Ulloa, Fernando (F.F.); Durand, Gerardo (G.D.); Quijada, Jorge (J.)  
**Cc:** Chacon, Jose (A.); Gudino Mendoza, Martin (J.M.)  
**Subject:** CD3XX- 2011 > Report Summary for the CQIS Report#AKWBA013

Did a heat shield get deleted for production on EPAS racks? Clean point date? Clean Point date for U:3000:00 fault code?

**Attachments :** 0

<b>Report# :</b>	AKWBA013 NHL	<b>Received:</b>	11/23/2010	
<b>CCRG/EPRC:</b>	<b>Reviewed Status:</b>	<b>Date:</b>		
<b>Vehicle:</b>	2011,FUSION,HYBRID ,SEDAN ,3FADP0L3XBR [REDACTED]	<b>Build Date:</b>	08/26/2010	
<b>Odometer :</b>	255 M	<b>Engine:</b>	2.5 ATKINS	<b>Calibration:</b> BDE1HV0A
<b>Transmission:</b>	CVT AUTO	<b>Axle:</b>	2.57 RATIO	<b>A/C:</b> YES
<b>Dealer:</b>	USA 04962 World Ford-Pensacola			<b>Phone#:</b> (850) 479-1311
<b>City:</b>	Pensacola	<b>State:</b>	Florida	<b>Country :</b> USA
<b>Originator:</b>	MICHAEL MATKOWSKI			
<b>Symptom:</b>	3 03 1 55 CHASS.,STRG/HANDLING ,FUNCTION,LOSS OF STRG			
<b>Status:</b>				
<b>VFG:</b>	V89 RIDE & HANDLING			
<b>Additional Symptom:</b>	LOSS OF POWER STEERING			
<b>Fix:</b>	<b>Causal Component :</b>			
<b>Condition Code:</b>				

<b>Hotliner:</b> !! MHINDERE	<b>Phone:</b> 313 337-9292	<b>Regn Cd:</b> S3 Orlando
<b>Engineering:</b>	<b>Phone:</b>	<b>TAR:</b>
<b>Dlr Contact:</b> MICHAEL MATKOWSKI	<b>Phone:</b> 850 476-9050	<b>Title Cde:</b> T

**DTCs:**

KOEO:

KOEC: !!

KOER:

**Comments**

:

REPAIR 11/23/2010 02:24PM MICHAEL HINDERER MSS - FCSD - TECH SVC HOTLINE  
WEB FORM DATA - CONCERN: C/S NO POWER STEERING DIAGNOSTICS: EAPS  
SELF TEST VISUAL INSP,INTERACTIVE DIAGNOSIS IS LIMITED HERE AT

WORLD FORD PENSACOLA DUE TO FIRE AT DEALERSHIP LAST WEDNSDAY.INTERNET

ACCESS IS SPOTTY AT BEST. DTCS RECEIVED EAPS CMDTCS U3000 49 48, U3000 96 C8, U3000 61 48. PINPOINT TEST C INDICATES FAULTY RACK ASSY. PARTS REPLACED:: NONE TECH QUESTION: HAVE YOU ANY KNOWN CONCERNS WITH EAPS INTERNAL MODULE FAILURE,LOW MILEAGE UNITS? WERE YOU ABLE TO VERIFY THE CONCERN? YES IS THERE AN APPROPRIATE PINPOINT TEST IN THE WSM FOR THIS CONCERN? YES WAS THE PINPOINT TEST FOLLOWED? YES

**RECOMM 11/23/2010 02:24PM MICHAEL HINDERER MSS - FCSD - TECH SVC HOTLINE**

MICHAEL, VERIFY THE BATTERY CABLE NUT TORQUE AT THE DC/DC CONVERTER IS 17 NM OR 150 LB-IN. A LOSS OF OR LOW 12V BATTERY POWER SUPPLY IS TYPICALLY FIRST NOTICED AS A LOSS OF POWER STEERING. IF OK, LOAD TEST AND VOLTAGE DROP POWER AND GROUND AT THE PSCM (POWER STEERING CONTROL MODULE). PERFORM A NETWORK TEST TO VERIFY ALL MODULES ARE COMMUNICATING. THERE ARE NO PAST REPORTS IN THE HOTLINE DATABASE FOR THIS CONCERN ON THIS VEHICLE.

**REPAIR 11/24/2010 02:30PM MICHAEL HINDERER MSS - FCSD - TECH SVC HOTLINE! !**

TECHNICIAN REPLY: ALL POWER AND GROUND CIRCUITS OK.NETWORK COMMUNICATION OK TO EPAS.ONLY DTC THAT REPEATS IS U3000 96 C8.ORDERED RACK ASSY PER PINPOINT TEST C INCICATIONS.NO HEAT SHIELD PRESENT ON ORIGINAL OR REPLACEMENT RACK.HAS THIS SHIELD BEEN DELETED? PLEASE ADVISE. WSM PART NO IS NOT IN PARTS CATALOG.

**RECOMM 11/24/2010 02:30PM MICHAEL HINDERER MSS - FCSD - TECH SVC HOTLINE**

MICHAEL, FOR THIS PART CONCERN, RECOMMEND TO CONTACT PACO (PARTS ASSISTANCE CENTER ON LINE) LOCATED ON THE FMCDEALER HOME PAGE UNDER PARTS DEPARTMENT TOOLS. THERE IS NO INFORMATION IN THE HOTLINE DATABASE REGARDING THIS CONCERN.

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**From:** Ramirez santamaria, Javier (J.)  
**Sent:** Friday, October 30, 2009 4:16 PM  
**To:** Snider, Tim (T.O.)  
**Subject:** RE: Containment for crushed TS harness at Benteler

Tim:

Please see the pic attached, a long time ago was detected that condition where the torque sensor harness was really close to the bolt, that is used to attach the EPAS to the frame, with the risk that the harness may be crushed while the torque is applied in the bolt. The agreement between Wes, Benteler and I was that Benteler just to move away the cable while the torque is applied (see email attached), and that's it. What Benteler is doing is to mark the cable as an evidence that the harness was not crushed (pics.ppt). If I remember well, this paint mark was implemented since mid of June due to in one unit was detected the cable crushed, So far, if my memory does not fail to me, just one case has been detected in HSAP.



Imagen0656.jpg



Imagen0657.jpg



RE: fotos de  
interferencia en ...



pics.ppt

Please let me know your thoughts. Regards.

---

**From:** Snider, Tim (T.O.)  
**Sent:** Thursday, October 29, 2009 11:16 AM  
**To:** Estes, Eric (E.E.)  
**Cc:** Ramirez santamaria, Javier (J.)  
**Subject:** RE: Containment for crushed TS harness at Benteler

Eric,

Do you have a picture of the crushed torque sensor harness? Please also send the latest 8D or issue summary.

Regards,  
Tim Snider ([tsnider1@ford.com](mailto:tsnider1@ford.com))

**CD3 Steering Engineering  
Ford Motor Company**

Cell 313-805-3201  
2B-L18 Product Development Center  
Dearborn, MI 48124 USA

---

**From:** Ramirez santamaria, Javier (J.)  
**Sent:** Thursday, October 29, 2009 12:00 PM  
**To:** Snider, Tim (T.O.)  
**Subject:** RE: Containment for crushed TS harness at Benteler

Hello Tim:

Yes, I'm responsible for the CD3 Suspension Modules for Benteler. Can you please send me a pic to understand better the issue???

Thanks

---

**From:** Snider, Tim (T.O.)

**Sent:** Thursday, October 29, 2009 8:38 AM  
**To:** Ramirez santamaria, Javier (J.)  
**Subject:** FW: Containment for crushed TS harness at Benteler

Hello Javier,

I am the new CD3 steering gear engineer, taking over from Wes Porter. Are you responsible for CD3 Bentler Chassis issues? I would like to find out what Bentler has done to contain and resolve the electric power steering gear crushed torque sensor harness, and what the clean date is. Let me know if you are the right contact. Thanks.

Regards,  
Tim Snider ([tsnider1@ford.com](mailto:tsnider1@ford.com))

***CD3 Steering Engineering***

***Ford Motor Company***

Cell 313-805-3201  
2B-L18 Product Development Center  
Dearborn, MI 48124 USA

---

**From:** Bouse, William (Bill.)  
**Sent:** Thursday, October 29, 2009 11:30 AM  
**To:** Snider, Tim (T.O.)  
**Subject:** RE: Containment for crushed TS harness at Benteler

Ford Engineer Responsible for Benteler is:

Ramirez santamaria, Javier (J.)

---

**From:** Snider, Tim (T.O.)  
**Sent:** Thursday, October 29, 2009 10:57 AM  
**To:** Rogero, Antonio (A.); Quijada, Jorge (J.); 'Martha Abundis'  
**Cc:** Estes, Eric (E.E.); Bouse, William (Bill.); Mrozek, Robert (R.M.); 'cano, JuanCarlos'  
**Subject:** FW: Containment for crushed TS harness at Benteler

Antonio, Jorge, Martha,

What has Bentler done to contain the crushed torque sensor harness issue? Looks like another issue just popped up in warranty. What's the clean date for containment? Who is the Bentler Chassis contact? Please send his or her e-mail address. Thanks.

Regards,

Tim Snider ([tsnider1@ford.com](mailto:tsnider1@ford.com))

***CD3 Steering Engineering***

***Ford Motor Company***

Cell 313-805-3201  
2B-L18 Product Development Center  
Dearborn, MI 48124 USA

---

**From:** Estes, Eric (E.E.)  
**Sent:** Wednesday, October 28, 2009 6:17 PM  
**To:** Snider, Tim (T.O.)  
**Cc:** Bouse, William (Bill.)  
**Subject:** Containment for crushed TS harness at Benteler

Tim could you see what kind of containment actions were done at Benteler to prevent the crushed TS harnesses, not sure if they just moved the harness before picking up with the machine. I don't think there was any permanent containment actions but I can't remember exactly what was done to prevent this and the clean date. We closed FR0042 for this issue and now have another FR0076 here in my car for inspection. Bill might be able to fill you in on this issue.

<< OLE Object: Picture (Metafile) >>

*Eric J Estes*

TRW EPAS Steering Systems  
Quality Specialist  
Hotline ph# 313-317-9358  
Cell ph# 734-560-3493

PE14-030 000271

PE14-030 000272

---

**From:** Porter, Wesley (W.)  
**Sent:** Wednesday, December 10, 2008 1:33 PM  
**To:** Lazarevski, Peter (P.S.); Bouse, William (Bill.)  
**Cc:** Ramirez santamaria, Javier (J.)  
**Subject:** RE: fotos de interferencia en perno

Pete,  
TRW was looking at expensive clip options but Benteler said they would just move the wire before driving the bolt so we made no design changes.

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

From: Lazarevski, Peter (P.S.)  
Sent: Tuesday, December 09, 2008 8:53 AM  
To: Bouse, Bill (W.J.); Porter, Wesley (W.)  
Cc: Ramirez santamaria, Javier (J.)  
Subject: FW: fotos de interferencia en perno

Gents,

Any word on this from the TRW side? I thought they were supposed to reduce the length a bit?

---

peter lazarevski | Fusion / Milan / MkZ Chassis Integration | PDC 1G-K13 | ph 313.805.0341 |

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

From: Ramirez santamaria, Javier (J.)  
Sent: Tuesday, December 09, 2008 5:07 AM  
To: Lazarevski, Peter (P.S.)  
Subject: fotos de interferencia en perno

Sr. Peter:

Today during the build we saw an interference between the EPAS harness and the bolt that attach the gear to the frame, see pics. I remember this issue in VP's but I do not remember what was the last word on it, Do you remember if the length of the harness would be reduce to prevent this??? Or what was the last word????

Thanks.



After apply the torque the operator mark the harness as an evidence that the cable was not crashed



## **Snider, Tim (T.O.)**

---

**From:** Estes, Eric (E.E.)  
**Sent:** Monday, November 02, 2009 1:19 PM  
**To:** Snider, Tim (T.O.); Bahena, Miguel (Mike.); Bouse, William (Bill.); Mrozek, Robert (R.M.)  
**Cc:** Ramirez santamaria, Javier (J.); Carlos Gomes; Jeff Justice; Ken Eaton; Valerie Williams;  
JuanCarlos cano; Angel Andres; Engelbert Lu; Joel Rabideau; Mark Burrough; Martha  
Abundis; Nick turovich  
**Subject:** RE: Containment for crushed TS harness at Benteler

**Attachments:** QAO pictures- FR0076 crushed harness 018.jpg; QAO pictures- FR0076 crushed harness  
017.jpg; QAO pictures- FR0076 crushed harness 016.jpg; QAO pictures- FR0076 crushed  
harness 015.jpg; QAO pictures- FR0076 crushed harness 013.jpg; QAO pictures- FR0076  
crushed harness 012.jpg

Here are the crushed harness pictures for FR0076. This vehicle had 2749 miles on it and 2 MIS before it was returned to the dealer 10/1/2009. Warranty start date 8/5/2009, Gear build date 7/14/2009, & vehicle build date 7/17/2009. I don't have the 8D for this issue, see the only AWS warranty claim below.



Model Year: 2010

Document Number: 06739851

Market Derived: F - FORD

Repair Date: 01-  
OCT-2009

Body/Cab Type: C/FA - 4 DOOR SEDAN-4 LITE

Distance: 2749

Version/Series: \*-[N/A]

TIS:2

Drive Type: C/A-2 WHL L/H FRONT DRIVE

Vehicle Line: C/DE-FUSION/MILAN/MKZ  
(ZEPHYR) [06-10]

Warranty Start Date: 05-AUG-2009

Production Date: 17-JUL-2009

VIN: 3FADP0L3XAR



### **Expense Information**

#### **Dealer Information:**

<u>Dealer Name</u> : BOZEMAN FORD	Customer Paid Amount: .00
Dealer Code: 08316 - *	Deductible Amount: .00
	Dealer Paid Amount: .00

Address: 2900 NORTH 19TH STREET	Labor Cost:	250.90
City: BOZEMAN	Misc. Expense Amount:	.00
State: MT Zip Code: 59718	Part Markup Amount:	375.92
Country: USA Region Code: NA	Material Cost:	1315.72
Phone: (406)587-1221	Total Cost Gross:	1566.62

Cust. Concern Code: H22 - STEERING REQUIRES EXTRA OR UNEVEN EFFORT

Condition Code: 42 - DOES NOT OPERATE PROPERLY

Technician Comment: EPAS GEAR STEERING GEAR ASSEMBLY EPAS  
DIAGNOSIS

Customer Comment: POWER STEERING NOT WORKING, LIGHT ON

<u>Labor Op Code</u>	<u>Labor Op Description</u>	<u>Labor Op Cost</u>
3504E		15.21
3504E45		22.81
3504E47		22.81
3504A	STEERING GEAR ASSEMBLY REMOVE AND INSTALL OR REPLACE	152.06
3001A	CASTER, CAMBER, TOE-IN CHECK	30.41
3001A6F	TOE-IN CORRECT	7.60

Causal	Full Part Number			Part	Part	Extended	
Flag	PREF	BASE	SUFF	Description	CPSC	Quantity	Amount
Y	AE5Z	3504	B	GEAR ASY-STEERING	110201	1	1315.72

*Eric J Estes*  
TRW EPAS Steering Systems

Quality Specialist  
Hotline ph# 313-317-9358  
Cell ph# 734-560-3493

---

**From:** Snider, Tim (T.O.)  
**Sent:** Thursday, October 29, 2009 2:16 PM  
**To:** Estes, Eric (E.E.)  
**Cc:** Ramirez santamaria, Javier (J.)  
**Subject:** RE: Containment for crushed TS harness at Benteler

Eric,

Do you have a picture of the crushed torque sensor harness? Please also send the latest 8D or issue summary.

Regards,  
Tim Snider (tsnider1@ford.com)  
***CD3 Steering Engineering***  
***Ford Motor Company***  
Cell 313-805-3201  
2B-L18 Product Development Center  
Dearborn, MI 48124 USA

---

**From:** Ramirez santamaria, Javier (J.)  
**Sent:** Thursday, October 29, 2009 12:00 PM  
**To:** Snider, Tim (T.O.)  
**Subject:** RE: Containment for crushed TS harness at Benteler

Hello Tim:

Yes, I'm responsible for the CD3 Suspension Modules for Benteler. Can you please send me a pic to understand better the issue???

Thanks

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**Sent:** Thursday, October 29, 2009 8:38 AM  
**To:** Ramirez santamaria, Javier (J.)  
**Subject:** FW: Containment for crushed TS harness at Benteler

Hello Javier,

I am the new CD3 steering gear engineer, taking over from Wes Porter. Are you responsible for CD3 Bentler Chassis issues? I would like to find out what Bentler has done to contain and resolve the electric power steering gear crushed torque sensor harness, and what the clean date is. Let me know if you are the right contact. Thanks.

Regards,  
Tim Snider (tsnider1@ford.com)  
***CD3 Steering Engineering***  
***Ford Motor Company***  
Cell 313-805-3201  
2B-L18 Product Development Center  
Dearborn, MI 48124 USA

**From:** Bouse, William (Bill.)  
**Sent:** Thursday, October 29, 2009 11:30 AM  
**To:** Snider, Tim (T.O.)  
**Subject:** RE: Containment for crushed TS harness at Benteler

Ford Engineer Responsible for Benteler is:

Ramirez santamaria, Javier (J.)

---

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**Sent:** Thursday, October 29, 2009 10:57 AM  
**To:** Rogero, Antonio (A.); Quijada, Jorge (J.); 'Martha Abundis'  
**Cc:** Estes, Eric (E.E.); Bouse, William (Bill.); Mrozek, Robert (R.M.); 'cano, JuanCarlos'  
**Subject:** FW: Containment for crushed TS harness at Benteler

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What has Benteler done to contain the crushed torque sensor harness issue? Looks like another issue just popped up in warranty. What's the clean date for containment? Who is the Benteler Chassis contact? Please send his or her e-mail address. Thanks.

Regards,  
Tim Snider (tsnider1@ford.com)  
***CD3 Steering Engineering***  
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Cell 313-805-3201  
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Dearborn, MI 48124 USA

---

**From:** Estes, Eric (E.E.)  
**Sent:** Wednesday, October 28, 2009 6:17 PM  
**To:** Snider, Tim (T.O.)  
**Cc:** Bouse, William (Bill.)  
**Subject:** Containment for crushed TS harness at Benteler

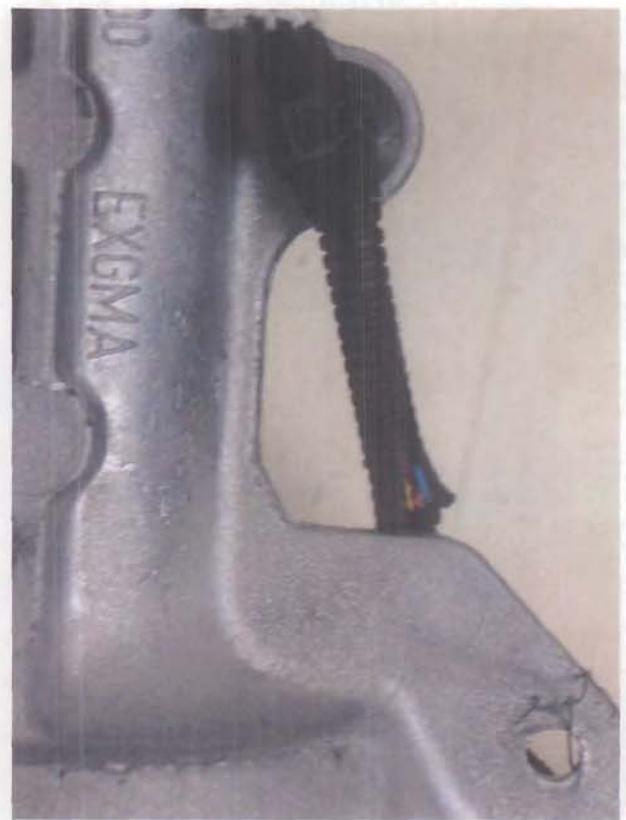
Tim could you see what kind of containment actions were done at Benteler to prevent the crushed TS harnesses, not sure if they just moved the harness before picking up with the machine. I don't think there was any permanent containment actions but I can't remember exactly what was done to prevent this and the clean date. We closed FR0042 for this issue and now have another FR0076 here in my car for inspection. Bill might be able to fill you in on this issue.

<< OLE Object: Picture (Metafile) >>

*Eric J Estes*  
TRW EPAS Steering Systems  
Quality Specialist  
Hotline ph# 313-317-9358  
Cell ph# 734-560-3493



PE14-030 000279



PE14-030 000280

---

**From:** Frey, Martin (M.F.)  
**Sent:** Friday, March 11, 2011 8:23 PM  
**To:** Geoff Jacks; Napoli, Laura (L.); Andy Partridge; Greg Austin; Gregory Sheets; Michael Fontana; Nick turovich; Phil Browne; Robert Kostadina; Salim Semssar; Simon Malsbury; 'Sanjay Singh'; matt.hett@trw.com; Mark Stewart  
**Cc:** Mattern, Don (D.); Bahena, Miguel (Mike.); Kingstrom, Mark (M.D.); Mrozek, Robert (R.M.); Quis, Rudolf (R.); Diez, Timothy (T.P.); Snider, Tim (T.O.); Geoff Collins  
**Subject:** RE: Data on Management Lease B3A Vehicle

Is there another supplier available for the rivets? The failure rate on the Explorer is completely unacceptable. This situation is damaging TRW's reputation as regular Explorer quality score cards are being published to VP's showing the TRW EPAS gear failures.

This needs to get cut off.

Martin Frey  
Manager Electric Steering/Advanced Features/R&P Gear Chassis Engineering Cell # 313 805 6301

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

From: Geoff Jacks [mailto:[Geoff.Jacks@TRW.COM](mailto:Geoff.Jacks@TRW.COM)]  
Sent: Friday, March 11, 2011 1:43 PM  
To: Napoli, Laura (L.); Andy Partridge; Greg Austin; Gregory Sheets; Michael Fontana; Nick turovich; Phil Browne; Robert Kostadina; Salim Semssar; Simon Malsbury  
Cc: Mattern, Don (D.); Bahena, Miguel (Mike.); Frey, Martin (M.F.); Kingstrom, Mark (M.D.); Mrozek, Robert (R.M.); Quis, Rudolf (R.); Diez, Timothy (T.P.); Snider, Tim (T.O.); Geoff Collins  
Subject: RE: Data on Management Lease B3A Vehicle

Laura,

I just wanted to update you with our efforts to identify the location of the suspect relays.

- Tyco have identified that 3 of the 4 confirmed Mg failures used the same rivet batch. The other is from a different rivet batch.
- Based upon this data Tyco have identified the 2 relay build periods for which the 2 rivet batches were used as follows:
  - From 17 July until 1 August
  - From 26 August until 7 September
- This data has been supplied to Nidec today. They have been asked to supply a list of all motor serial numbers built with relays from these periods. Please Note: It is not yet clear whether the recent earthquake has affected the Nidec facilities.
- This data will then be supplied to Anting and they will supply a list of EPP serial numbers.
- This data can then be provided to QAO and MAO.

Regards

Geoff

Geoff Jacks  
Quality and Product Support Manager  
Steering and Powertrain Products  
TRW Electronic Engineering (TEE)  
Technical Centre  
Stratford Road  
Shirley  
Solihull  
B90 4GW

Tel: +44 (0)121 627 4602  
Fax: +44 (0)121 627 3773  
Mob: +44 (0)7740 915 904  
email: geoff.jacks@trw.com  
>>> "Napoli, Laura (L.)" 03/10/11 6:47 PM >>>  
Simon, Geoff, Phil, and Team,

We had a management review today regarding B3A failures. Since yesterday, we have 2 more confirmed U502 B3A failures. That brings our count to 6 with 2 as confirmed Mg, S, Na contamination.

I have gotten no response on the quarantine of suspect bad parts. Where are the rivets that are from the same lot as our known contaminated relays? TRW has confirmed 4 relays with Mg, S, and Na contamination--2 U502, 1 CD3, 1 C346EU. I know the 2 U502 relay build dates were confirmed as Aug 30. What about the other 2? What about the 3rd relay that is in route from 26mile?

PLEASE IMMEDIATELY QUARANTINE ALL RELAYS, MOTORS, AND EPPs THAT HAVE BEEN BUILT WITH CONTACTS FROM THE SAME BATCH AS THE 4 CONFIRMED CONTAMINATED CONTACT BATCHES. I want all future shipments out of MAO and QAO to CAP, HSAP, and OAP to be certified. That means they have to be built with contacts that have all ICA's in place. We CANNOT wait 6 months before seeing these parts at our assy plants.

Please respond by COB tomorrow with a plan to quarantine and certify all stock.

Regards,

Laura Napoli  
U502 EPAS  
Ford Motor Company  
Cube: 2B-G66 PDC  
Phone: 313.323.0634  
Mobile: 313.805.0482

> \_\_\_\_\_  
> From: Napoli, Laura (L.)  
> Sent: Tuesday, March 08, 2011 12:05 AM  
> To: 'Michael Fontana'; 'Simon Malsbury'; 'Geoff Jacks'; 'Andy  
> Partridge'; 'Robert Kostadina'; 'Nick turovich'; 'Greg Austin';  
> 'Gregory Sheets'; 'Phil Browne'; 'Salim Semssar'  
> Cc: Snider, Tim (T.O.); Diez, Timothy (T.P.); Kingstrom, Mark  
> (M.D.); Bahena, Miguel (Mike.); Mrozek, Robert (R.M.)  
> Subject: RE: Data on Management Lease B3A Vehicle  
> Importance: High

>

>

> Simon, Geoff, Phil, and Team,

>

> For the 10am meeting on Wed, we need Tyco on the call. Need to go  
> through Doduco process in detail. We need answers to the following  
> list of questions:

>

> 1. Immediately scrap all relays that were built +\-\ one week of all

> failed relays. If relays are already build into EPP's, set EPP's

> aside.

> 2. For ICA, an immediate implementation of double wash at Doduco for  
> each de-ionized wash process must be implemented.

> 3. Start thinking about a wash process at Tyco for the contacts.

> 4. The wash process at Doduco is not sufficient. Chemicals used in  
> Doduco's process are left behind on the contacts when shipped.

> Someone from TRW needs to be at Doduco to deep-dive all wash  
> processes. I'm interested in the following: 1. The effectiveness of  
> the deionized water "shower" wash done after each chemical wash and  
> before the parts are dried and bagged; and 2. The controls in place to  
> ensure no cross-contamination in the plastic buckets.

> 5. From previous data shown, it seems that laser cleaning reduces  
> resistance of materials present on the contact but does not remove the  
> non-organic materials. What would be the effect of running the laser  
> cleaner twice?

> 6. In the Tyco fishbone, you have "Contacts Supplied with  
> Contamination". Need this broken out into it's own fishbone.

> 7. There are 4 known failures and 2 suspect B3A's shipped to Ford.  
> Are these the first of the EPP's that have contacts from this common  
> batch from Doduco? Where did the relays go that used contacts from  
> this same batch of contaminated contacts? Need to understand how many  
> EPPs were built and shipped with this batch.

> 8. I need Tyco to perform the following study: Step 1. Build 4 relays  
> contaminated with Mg, S, and Na. Run SCM and measure resistance on  
> these contaminated contacts. Step 2. Build 4 relays, contaminate  
> them, run them through one Hot Puma test as it would be run at QAO and  
> MAO. Run SCM and resistance tests. Step 3. Build 4 relays,  
> contaminate them, run them on a 24-48hr test that exercises the relays  
> continually. Run SCM and resistance tests. We'd like to compare the  
> SCM pictures and resistance measurements between the 3 sample sets to  
> understand how the contamination changes. We can discuss this test in  
> Wed mtg.

>  
>  
> Regards,  
>  
> Laura Napoli  
> U502 EPAS  
> Ford Motor Company  
> Cube: 2B-G66 PDC  
> Phone: 313.323.0634  
> Mobile: 313.805.0482  
>  
>  
>  
> From: Mrozek, Robert (R.M.)  
> Sent: Monday, March 07, 2011 3:14 PM  
> To: Napoli, Laura (L.); 'Michael Fontana'; 'Simon Malsbury'; 'Geoff  
Jacks'; 'Andy Partridge'; 'Robert Kostadina'; 'Nick turovich'; 'Greg  
Austin'; 'Gregory Sheets'; 'Phil Browne'  
> Cc: Snider, Tim (T.O.); Diez, Timothy (T.P.); Kingstrom, Mark  
> (M.D.); Bahena, Miguel (Mike.)  
> Subject: RE: Data on Management Lease B3A Vehicle  
> Importance: High  
>  
> What does it take to only produce with certified Doduco stock at Tyco  
> from today forward? This is getting embarrassing. Tell Doduco to get  
> their process out of the dark ages.  
>  
> Rob Mrozek  
> Electric Power Steering Supervisor  
> CD3/D3/D4/U502/Police/Limo EPAS Programs +  
> Active Front Steering Applications Engineering  
> Ford Motor Company  
> Phone: (313) 805-5947  
> e-mail: rmrozek@ford.com  
>  
>  
>  
> From: Napoli, Laura (L.)  
> Sent: Monday, March 07, 2011 3:06 PM  
> To: Michael Fontana; 'Simon Malsbury'; 'Geoff Jacks'; Andy  
Partridge; Robert Kostadina; Nick turovich; 'Greg Austin'; 'Gregory  
Sheets'; 'Phil Browne'  
> Cc: Mrozek, Robert (R.M.); Snider, Tim (T.O.); Diez, Timothy (T.P.);  
> Kingstrom, Mark (M.D.); Bahena, Miguel (Mike.)  
> Subject: Data on Management Lease B3A Vehicle  
> Importance: High  
>  
> Team,  
>  
> We have another B3A on a U502 management lease car. This one happened  
> on Friday and I pulled the data out of the vehicle in Dearborn this  
> afternoon. Driver lost assist one time on Friday morning. They will

> be taking their vehicle in for a gear swap in the management garage.  
> Eric Estes will expedite the replacement and pickup of this gear to  
> get it to 26mi as soon as possible.  
>  
> Attached is the data. A few points...  
>  
> 1. VIN is BGA02812. Eric, please send ECU and EPP serial numbers so  
> we can get relay build date ASAP.  
> 2. This vehicle had 36 E66's present in the LIC data. There was only  
> one that lead to a B3A.  
> 3. I don't want any more contacts built at Doduco until an ICA is in  
> place!  
>  
>  
> << File: BGA02812\_Taras.ppt >> << File: BGA02812\_Taras.PAR >>  
>  
> Regards,  
>  
> Laura Napoli  
> U502 EPAS  
> Ford Motor Company  
> Cube: 2B-G66 PDC  
> Phone: 313.323.0634  
> Mobile: 313.805.0482  
>

TRW Limited  
Registered in England, No. 872948  
Registered Office Address: Stratford Road, Solihull B90 4AX

---

**From:** Estes, Eric (E.E.)  
**Sent:** Tuesday, August 04, 2009 1:00 PM  
**To:** Bouse, William (Bill.)  
**Cc:** Diez, Timothy (T.P.); Bahena, Miguel (Mike.); Kostadina@TRW.COM Robert.  
(Robert.Kostadina@TRW.COM); Thiha Than; paul.ireland@trw.com; 'Anthony Fleenor';  
'Jason Johnson-contr'; 'Costas Chrysochoidis'; 'Simon Malsbury'; 'Geoff Jacks'  
**Subject:** RE: Data pull FR0024,27,34,36

Here is the hotline report below. Not sure if the tech followed the hotliners instructions.

Report# :	9F4AJ295 NHL	Received:	06/30/2009
CCRG/EPRC:	Reviewed Status:	Date:	
Vehicle:	2010,FUSION,HYBRID ,SEDAN ,3FADP0L37AR [REDACTED]	Build Date: 04/15/2009	
Odometer :	1,579 M	Engine:	2.5 ATKINS
Transmission:	CVT AUTO	Axle:	A/C: YES
Dealer:	USA 09623 SIGNATURE FORD LINCOLN-MERCURY	Phone#:	(989) 725-2888
City:	Owosso	State:	Michigan
Country :	USA		
Originator:	DOUGLAS STACEY		
Symptom:	3 03 1 50 CHASS.,STRG/HANDLING ,FUNCTION,HIGH EFFORT		
Status:			
VFG:	V87 STEERING		
Additional Symptom:	NO P/S ASSIST, NO COMM /W PSCM		
Fix:	Causal Component :		
Condition Code:			

Hotliner: TFUMEROL Phone: 000 317-9383 Regn Cd: G2 Detroit

Engineering: Phone: TAR:

Dlr Contact: DOUGLAS STACEY Phone: 989 725-2888 Title Cde: T

**KOEO:**

**KOEC:**

**KOER:**

REPAIR 06/30/2009 04:20PM TOM FUMEROLA MSS - FCSD - TECH SVC HOTLINE

WEB FORM DATA - CONCERN: CUSTOMER STATES VEHICLE HAS NO POWER

STEERING DIAGNOSTICS: IDS TEST UNABLE TO COMMUNICATE WITH POWER

STERING MODULE PARTS REPLACED:: NONE TECH QUESTION: WOULD LIK TO

KNOW IF THERE IS ANY KNOWN CONCERNS WERE YOU ABLE TO VERIFY THE

CONCERN? YES IS THERE AN APPROPRIATE PINPOINT TEST IN THE WSM FOR

THIS CONCERN? YES WAS THE PINPOINT TEST FOLLOWED? YES

RECOM M 06/30/2009 04:20PM TOM FUMEROLA MSS - FCSD - TECH SVC HOTLINE

DOUG, LOAD TEST THE POWER AND GROUNDS TO THE PSCM. VOLTAGE DROP THE

NETWORK CIRCUITS FROM THE DLC TO THE PSCM. VERIFY PROPER PIN FIT IN

THE CONNECTOR. THERE ARE NO COMMON TRENDS FOR FAILURE IN THIS VEHICLE.

---

**From:** Bouse, William (Bill.)  
**Sent:** Monday, August 03, 2009 8:55 PM  
**To:** Estes, Eric (E.E.)  
**Cc:** Diez, Timothy (T.P.); Bouse, William (Bill.); Bahena, Miguel (Mike.); Kostadina@TRW. COM Robert. (Robert.Kostadina@TRW.COM); Thiha Than; paul.ireland@trw.com; 'Anthony Fleenor'; 'Jason Johnson-contr'; 'Costas Chrysochoidis'; 'Simon Malsbury'; 'Geoff Jacks'  
**Subject:** RE: Data pull FR0024,27,34,36

FR-0027 is an A5D. Vehicle mis-match according to the EFF buffer. Why was this replaced?

---

**From:** Estes, Eric (E.E.)  
**Sent:** Monday, August 03, 2009 5:51 PM  
**To:** Diez, Timothy (T.P.); Bouse, William (Bill.); Bahena, Miguel (Mike.); 'Robert Kostadina'; 'Thiha Than'; 'Paul IRELAND'; 'Anthony Fleenor'; 'Jason Johnson-contr'; 'Costas Chrysochoidis'; 'Simon Malsbury'; 'Geoff Jacks'  
**Subject:** Data pull FR0024,27,34,36

Guy's look at FR0027 (B00) not sure about this B- level code, this hybrid was returned with a no communication concern. I don't think the tech followed the proper diagnosis on this return. Here are the other data pulls results.

FR0024 (B3A)

FR0034 (B3A)

FR0036 (B95)

<< File: FR0024090071173H101WGAug\_03\_09\_02\_44\_PM.TXT >> << File: FR0024.doc >> << File: FR0024.rtf >> << File: FR0024090071173H101WGAug\_03\_09\_02\_44\_PM.mdf >> << File: FR0024090071173H101WGAug\_03\_09\_02\_44\_PM.par >>

<< File: FR0027083331173E10XKYAug\_03\_09\_01\_43\_PM.TXT >> << File: FR0027.doc >> << File: FR0027a.rtf >>  
<< File: FR0027083331173E10XKYAug\_03\_09\_01\_43\_PM.mdf >> << File:  
FR0027083331173E10XKYAug\_03\_09\_01\_43\_PM.par >>

<< File: FR0034090571173H1166PAug\_03\_09\_03\_02\_PM.TXT >> << File: FR0034.doc >> << File: FR0034.rtf >> << File: FR0034090571173H1166PAug\_03\_09\_03\_02\_PM.mdf >> << File:  
FR0034090571173H1166PAug\_03\_09\_03\_02\_PM.par >>

<< File: FR0036090411173H10VH9Aug\_03\_09\_02\_22\_PM.TXT >> << File: FR0036.doc >> << File: FR0036.rtf >> << File: FR0036090411173H10VH9Aug\_03\_09\_02\_22\_PM.mdf >> << File:  
FR0036090411173H10VH9Aug\_03\_09\_02\_22\_PM.par >>

*Eric J Estes*

TRW EPAS Steering Systems  
Quality Specialist  
Hotline ph# 313-317-9358  
Cell ph# 734-560-3493

---

**From:** Aaron Blancas <Aaron.Blancas@TRW.COM>  
**Sent:** Thursday, April 15, 2010 4:32 PM  
**To:** Aguilar, Guillermo; Bahena, Miguel (Mike.); Snider, Tim (T.O.)  
**Cc:** cano, JuanCarlos; Collier, Greg; Davies, Mike; Jacks, Geoff; Mrozek, Robert (R.M.); Salazar, Angel  
**Subject:** RE: DTC C200D-49

Mike,

The diagnosis team has been able to confirm that B7E has bee due to Motor PCB clearance issue. However the team is continuing investigation if is any other combination with the issue you have describe.

Aaron.

>>> "Bahena, Miguel (Mike.)" <[mbahena1@ford.com](mailto:mbahena1@ford.com)> 4/14/2010 11:29 AM >>>  
Guillermo,

Do we know conclusively that this 0 Km failure is a motor PCB clearance issue? I caution us to draw that conclusion because we currently have 4 different B9a root causes (see below) and it may very well not be the motor PCB clearance issue.

1. F126 - Poor Flux Density Returns
2. FR141 - Poor Solder joint on pin 3 encoder supply
3. FR129 - Main Voltage Regulator failure
4. Motor PCB clearance Issue

Sincerely,

**Mike Bahena**  
**D3 Electric Power Steering Systems**  
**Ford Motor Co.**  
Ph: (313) 805-3680  
[mbahena1@ford.com](mailto:mbahena1@ford.com)  
Pager: Click Here <<<<mailto:3138053680@vttext.com>>>>

---

**From:** Guillermo Aguilar [<mailto:Guillermo.Aguilar@TRW.COM>]  
**Sent:** Tuesday, April 13, 2010 5:43 PM  
**To:** Snider, Tim (T.O.)  
**Cc:** Bahena, Miguel (Mike.); Blancas, Aaron; cano, JuanCarlos; Collier, Greg; Davies, Mike; Jacks, Geoff; Mrozek, Robert (R.M.); Salazar, Angel; Ulloa, Fernando (F.F.)  
**Subject:** RE: DTC C200D-49

Tim,

We are confident while the rest of the lot has been ran without issues and our records show good results.

Anyhow and per my e.mail, we need to define if there could be another extra containment we could perform to once again verify. Please let me confirm this by tomorrow noon.

Thanks.,

>>> "Snider, Tim (T.O.)" <[tsnider1@ford.com](mailto:tsnider1@ford.com)> 4/13/2010 1:22 PM >>>  
Guillermo,

Okay, please let me know why TRW is confident these parts will not have B9A.

Regards,  
Tim Snider ([tsnider1@ford.com](mailto:tsnider1@ford.com))

**CD3 Steering Engineering**

**Ford Motor Company**

Cell 313-805-3201  
2B-L18 Product Development Center  
Dearborn, MI 48124 USA

---

**From:** Guillermo Aguilar [<mailto:Guillermo.Aguilar@TRW.COM>]  
**Sent:** Monday, April 12, 2010 5:05 PM  
**To:** Snider, Tim (T.O.); Ulloa, Fernando (F.F.)  
**Cc:** Bahena, Miguel (Mike.); Blancas, Aaron; cano, JuanCarlos; Collier, Greg; Davies, Mike; Jacks, Geoff; Mrozek, Robert (R.M.); Salazar, Angel  
**Subject:** RE: DTC C200D-49

Tim,

This issue it's very well related to the PCB clearance issue from Nidec. Containment at Nidec is in place by checking through out a resistance check to 0V. We are in the middle of the EC implementation (testing has been approved), and are Hot PUMA testing. Parts should be OK but, please let me confirm with my team if there could be another sorting method to be 200% sure.

It is possible for me to give an answer by Wednesday noon (Hermosillo's time)?

Thanks,

>>> "Snider, Tim (T.O.)" <[tsnider1@ford.com](mailto:tsnider1@ford.com)> 4/12/2010 3:46 PM >>>  
Fernando,

C200D-49 could be a TRW B9A, which is basically an issue with the motor position sensor or magnet. TRW is currently analyzing the B9A issue. Some root causes have been identified with containment, but all B9A issues do not yet have final root cause. I'm not aware of an approved sorting method. At this point I would recommend sending the 150 gears back to TRW.

Guillermo,

What do you think?

Regards,  
Tim Snider ([tsnider1@ford.com](mailto:tsnider1@ford.com))  
**CD3 Steering Engineering**

**Ford Motor Company**

Cell 313-805-3201

2B-L18 Product Development Center

Dearborn, MI 48124 USA

---

**From:** Ulloa, Fernando (F.F.)

**Sent:** Monday, April 12, 2010 4:32 PM

**To:** Snider, Tim (T.O.); 'Guillermo Aguilar'; 'Angel Salazar'

**Subject:** DTC C200D-49

Tim/Guillermo, Again we need our support. There is this car with DTC C200D-49 which is almost ready to be shipped to Queretaro, but the question is that we have 150 EPAS with the same production date as the one which is bad, we usually use as a containment to put on quarantine the material produced in the same date, but can we do a sorting besides to put away this material? Any routine, repair? Or just send back those 150 pieces?

Thanks.

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Fernando Ulloa  
 Chassis/Ride & Handling VRT Leader  
 Hermosillo Stamping & Assembly Plant  
 Phone:(662)259-8162.

---

**From:** Bahena, Miguel (Mike.)  
**Sent:** Friday, July 31, 2009 3:23 PM  
**To:** Galindo, Sergio (S.N.); Quijada, Jorge (J.)  
**Cc:** Delannoy, Enrique (E.); Frey, Martin (M.F.); Hochrein, Brad (B.G.); Bouse, William (Bill.); Mrozek, Robert (R.M.); Rossi, Roberto (R.A.); Diez, Timothy (T.P.); Porter, Wesley (W.); McIntyre, Kathryn (K.L.); Harris, Jonathan (J.E.); Hernandez, Victor (V.M.)  
**Subject:** RE: EPAS issue at HSAP: Yard on hold

Sergio, Jorge,

With regards to the two July 30th EPAS loss of assist failures PD's recommendation is to ship vehicles and continue working root cause analysis of the two failures. This recommendation is based on the following:

- Successful drive evaluation of 85 vehicles with no EPAS issues observed.
- No indication of any emerging quality issue on these faults at TRW or upstream in their Tier 2-4 suppliers.
- Activation sorting test at Bentler has been running since 1:00 AM last night with zero defects identified.
- The two faults that occurred are different faults(B43 vs. B3a) in the ECU that could have completely different root causes and in themselves do not indicate a single emerging issue.

The team will update you on root cause as we learn more. The parts just arrived in Detroit for analysis. Thanks you for all your help in expediting removal of the gears from the vehicles.

Sincerely,

**Mike Bahena**  
**D3 Electric Power Steering Systems**  
**Ford Motor Co.**  
Ph: (313) 805-3680  
[mbahena1@ford.com](mailto:mbahena1@ford.com)  
Pager: Click Here <<<<mailto:3138053680@messaging.sprintpcs.com>>>>

---

**From:** Galindo, Sergio (S.N.)  
**Sent:** Friday, July 31, 2009 10:46 AM  
**To:** Bahena, Miguel (Mike.)  
**Cc:** Quijada, Jorge (J.); Galindo, Sergio (S.N.); Delannoy, Enrique (E.)  
**Subject:** FW: EPAS issue at HSAP: Yard on hold

Mike, please take a look at the 2nd page of attached presentation, the recommendation last time, was to continue working with root cause analysis and ICA, and continue shipping vehicles.

Please advise ASAP

Pd: we already drove additional 40 vehicles 25 miles, besides of current driven evaluation which is 20 FCPA vehicles, plus 25 M10's.

Sergio Galindo  
HSAP CD3 PVT Manager  
[sgalind1@ford.com](mailto:sgalind1@ford.com)  
Cell 011 521 6621 420197  
Office 011 52 6622 598308

---

**From:** Ulloa, Fernando (F.F.)  
**Sent:** Wednesday, November 14, 2012 12:31 AM  
**To:** Gudino Mendoza, Martin (J.M.); Galindo, Sergio (S.N.); Kerastas, Michael (M.W.); Durand, Gerardo (G.D.)  
**Cc:** Remington, Philip (P.M.); Howard, Matthew (M.B.)  
**Subject:** RE: EPAS Not Working/Lacks Assist - CQIS Issues

The latest call for a Lack of assist in the plant was on vehicle DR801427 produced on Oct 26<sup>th</sup>, the steering rack defective was produced on Oct 10<sup>th</sup> in Line 1 at ZF plant. We raised a QR (L241257) for this last one.

**From:** Gudino Mendoza, Martin (J.M.)  
**Sent:** Tuesday, November 13, 2012 3:27 PM  
**To:** Galindo, Sergio (S.N.); Kerastas, Michael (M.W.); Durand, Gerardo (G.D.); Ulloa, Fernando (F.F.)  
**Cc:** Remington, Philip (P.M.); Howard, Matthew (M.B.)  
**Subject:** RE: EPAS Not Working/Lacks Assist - CQIS Issues

A car build on 9/22/2012, is the most recent in CQIS, however we cannot determine with unit build date the EPAS build date. The VIN is 3FA6POLU3DR [REDACTED]

Regards

Mgm

---

**From:** Galindo, Sergio (S.N.)  
**Sent:** Tuesday, November 13, 2012 3:19 PM  
**To:** Kerastas, Michael (M.W.); Durand, Gerardo (G.D.); Gudino Mendoza, Martin (J.M.); Ulloa, Fernando (F.F.)  
**Cc:** Remington, Philip (P.M.); Howard, Matthew (M.B.)  
**Subject:** RE: EPAS Not Working/Lacks Assist - CQIS Issues

Martin / Fernando, when was the last EPAS concern on CQIS or ECBs or Internal?

<< OLE Object: Picture (Device Independent Bitmap) >>

---

**From:** Kerastas, Michael (M.W.)  
**Sent:** Tuesday, November 13, 2012 1:44 PM  
**To:** Galindo, Sergio (S.N.); Durand, Gerardo (G.D.)  
**Cc:** Kerastas, Michael (M.W.); Remington, Philip (P.M.); Howard, Matthew (M.B.)  
**Subject:** EPAS Not Working/Lacks Assist - CQIS Issues

Sergio/Gerardo,  
Matt Howard reported in today's PDQR that the EPAS supplier has implemented an internal ICA as of 8/28/12. Can you confirm that the CQIS reports are built prior to this cutoff at the supplier? This will be reviewed in Wednesday's CD391 Quality War Room Meeting. Thanks.

*Regards,*

Michael W. Kerastas

Global CD Program Quality Manager

Global PD Quality

PDC, 2VC16

Phone: (313) 845-5311

Fax: (313) 845-9196

E-mail: [mkerasta@ford.com](mailto:mkerasta@ford.com)

---

**From:** Galindo, Sergio (S.N.)  
**Sent:** Friday, May 06, 2011 9:24 PM  
**To:** Bazan, Gerardo ( ); Larios, Karla (K.L.); Kingstrom, Mark (M.D.); Surella, Matthew (M.M.); Perri, Ron (R.J.)  
**Cc:** Durand, Gerardo (G.D.); Estes, Eric (E.E.); Ulloa, Fernando (F.F.); Diaz, Juan Manuel (J.M.)  
**Subject:** RE: EPAS replaced at dealerships - February 2011 production month.

We have PDQR next 5/12, EPAS still on the help needed sections, specially since we see an increase on ECBs starting February.

As we all know, EPAS has a high CPU impact .....

Pd: if we look at the ECB trend over the time, EPAS has not been reduce, has been stable, and increase in Feb production month

Rank	Part (Item)	Concern	Avg Cost	First ECB Load Date	2010 MYTD Count	2011 MYTD Count	2010-05	2010-06	2010-07	2010-08	2010-09	2010-10
	<b>TOTAL based on Top 100</b>		<b>291</b>	<b>6/28/2008</b>	<b>3627</b>	<b>3115</b>	<b>262</b>	<b>350</b>	<b>154</b>	<b>389</b>	<b>330</b>	<b>3</b>
12	STEERING RACK	EFFORT	1369	5/20/2009	147	64	7	14	4	5	7	.

Sergio Galindo  
HSAP PVT Manager  
[sqalind1@ford.com](mailto:sqalind1@ford.com)  
011 521 6621420197  
011 52 6622598308

---

**From:** Rogero, Antonio (A.)  
**Sent:** Tuesday, May 03, 2011 5:03 PM  
**To:** 'Guillermo Aguilar'; Bazan, Gerardo ( )  
**Cc:** Durand, Gerardo (G.D.); Galindo, Sergio (S.N.); Rogero, Antonio (A.); Estes, Eric (E.E.); Kingstrom, Mark (M.D.); Ulloa, Fernando (F.F.); Larios, Karla (K.L.); Diaz, Juan Manuel (J.M.)  
**Subject:** RE: EPAS replaced at dealerships - February 2011 production month.

According to the file shared by Eric Estes, 7 (of 15) EPAS-gears have been sent and received at WPAC for analysis (February month of production)

Also, 2 EPAS gears of March month of production have been sent to WPAC.

Current updates --- in column "F".

Issue status ----- in column "G".

Vehicle production date ---- column "R"

Issues detected at Hermosillo Assembly Plant (0 mile) : see rows 90 - 98.

Guillermo,

Please, review the file and be prepared to discuss and provide to Ford team:

- status

- additional details
- next steps/analysis .....to find root causes of the issues.

I will discuss with my team the day of the week (and time) to have a special weekly audio conference with you.

<< File: V87 2010-11 CD3-D3 EPAS Warranty May 3\_2011.xls >>      << File: V87 EPAS February month of production.xls >>

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**From:** Rogero, Antonio (A.)  
**Sent:** Viernes, 29 de Abril de 2011 05:06 p.m.  
**To:** Guillermo Aguilar; Estes, Eric (E.E.)  
**Cc:** Kingstrom, Mark (M.D.); Ulloa, Fernando (F.F.); Durand, Gerardo (G.D.); Rogero, Antonio (A.)  
**Subject:** EPAS replaced at dealerships - February 2011 production month.

Eric / Guillermo:

Who can provide status of the 15 EPAS gears (February 2011 month of production) replaced at dealerships ?  
Did you find repetitive issues on the suspect gears? ....or , are you detecting new issues ?  
See attached file.

<< File: V87 EPAS February month of production.xls >>

Antonio Rogero  
Hermosillo Assembly Plant  
Fusion / Milan / MKZ - PVT Chassis Engineer  
+52 662 259 8317

---

**From:** Estes, Eric (E.E.)  
**Sent:** Wednesday, August 03, 2011 4:24 PM  
**To:** Snider, Tim (T.O.)  
**Cc:** Flanagan, Thomas (T.P.); 'Andy Partridge'; Surella, Matthew (M.M.); Napoli, Laura (L.)  
**Subject:** RE: EPP failures on CD3

The PCA date for the power module voltage change is April 8, 2011 at Anting and those changes would arrive at the Marion plant **May 20th** & QAO plant **May 27th**

Let me know if you have any further questions

Eric

---

**From:** Snider, Tim (T.O.)  
**Sent:** Wednesday, August 03, 2011 10:48 AM  
**To:** Estes, Eric (E.E.)  
**Cc:** Flanagan, Thomas (T.P.); Andy Partridge; Surella, Matthew (M.M.)  
**Subject:** RE: EPP failures on CD3

Eric,

Also, please provide the PCA dates for lowering the voltage at Anting on the line that checks for shorts. Which piece of EOL test equipment has the voltage lowered?

Regards,  
Tim Snider ([tsnider1@ford.com](mailto:tsnider1@ford.com))  
**C346N/C489 Steering Engineering**  
**Ford Motor Company**  
Cell 313-805-3201  
2B-L18 Product Development Center  
Dearborn, MI 48124 USA

---

**From:** Surella, Matthew (M.M.)  
**Sent:** Tuesday, August 02, 2011 11:15 PM  
**To:** Estes, Eric (E.E.)  
**Cc:** Flanagan, Thomas (T.P.); Snider, Tim (T.O.)  
**Subject:** EPP failures on CD3

Eric,  
We have a BSAQ project in our system here that is titled, "CD3 EPAS Power module internal failures (electrical shorts)". I think Tim Snider mentioned that this project has to do with failed FETS but I could not find a "failed FET" failure mode on your latest CD3 warranty return pareto. Do you know why this failure mode is not showing up in the pareto or am I just missing it?

Matthew (Matt) Surella  
Steering EPAS Supervisor / MBB  
313-805-3997

---

**From:** Mrozek, Robert (R.M.)  
**Sent:** Wednesday, September 08, 2010 10:57 PM  
**To:** Snider, Tim (T.O.)  
**Cc:** Bahena, Miguel (Mike.); Mattern, Don (D.); Mrozek, Robert (R.M.); Napoli, Laura (L.)  
**Subject:** RE: Estimated R/1000 for B9A Software Fix

Do we have a BSAQ on this fix...sounds like a high impact one to issue.

*Rob Mrozek*

Electric Power Steering Supervisor  
C346N/CD3/D3/D4/U502/Police/Limo Programs  
Ford Motor Company  
Phone: (313) 805-5947  
e-mail: [rmrozek@ford.com](mailto:rmrozek@ford.com)

---

**From:** Snider, Tim (T.O.)  
**Sent:** Wednesday, September 08, 2010 3:46 PM  
**To:** Napoli, Laura (L.)  
**Cc:** Bahena, Miguel (Mike.); Mattern, Don (D.); Mrozek, Robert (R.M.)  
**Subject:** Estimated R/1000 for B9A Software Fix

Laura,

Here's an estimate on CD3 Steering System R/1000 for the B9A software fix for the voltage regulator double startup:

1. Total TRW returned gears ~ 300
2. Total number of B9A gears with voltage regulator double startup issue ~ 19
3.  $19 / 300 = 6\%$
4.  $6\% \times \text{current 3 MIS R/1000 number of } 0.84 = 0.05$
5. So, I think 0.05 is a good estimate on R/1000 affect for CD3.

You could apply 6% to other program R/1000 numbers for an estimate.

Regards,  
Tim Snider ([tsnider1@ford.com](mailto:tsnider1@ford.com))

***CD3 Steering Engineering***

***Ford Motor Company***

Cell 313-805-3201

2B-L18 Product Development Center

Dearborn, MI 48124 USA

---

**From:** Guillermo Aguilar <Guillermo.Aguilar@TRW.COM>  
**Sent:** Thursday, November 04, 2010 4:13 PM  
**To:** Snider, Tim (T.O.)  
**Cc:** Ulloa, Fernando (F.F.); Larios, Karla (K.); Bahena, Miguel (Mike.); Mrozek, Robert (R.M.); Diez, Timothy (T.P.); Beltran, Victor (V.); Hernandez, Victor (V.M.); angelsaa@prodigy.net.mx; Geoff Jacks; JoseJ Lopez  
**Subject:** RE: EXGMA Quality Concern J241223 From Hermosillo (Trw Delplas Sa De Cv)

Thanks Tim, I believe this explanation can help very much the team in HSAP to understand a little better on what the change is proposed for.

Now then and based on the explanation, this is helping me get where I want to get as this detail is confirming the issue is generated by a design related problem but not to a poor quality issue. What I'm trying to agree with you all guys, is that a design issue should be managed as what it is, and not as a quality issue; I'm disputing a quality concern as the affected part was produced to the approved design so we consider our quality should not be affected..

Thanks once again for the e.mail and your comments,

Memo,

**GUILLERMO AGUILAR**

QRCM Mgr.

Office: +52.442.211.0873

Mobile: +52.1.442.156.0154

>>> "Snider, Tim (T.O.)" <tsnider1@ford.com> 11/4/2010 7:30 AM >>>

Memo,

The B9A software fix is a quick fix for about 40% of the B9A warranty issues. If there was more time, the TRW system design would be changed. I think it's fair to say this is not a TRW Queretaro issue, but it is a TRW electrical design issue. The B9A diagnostic is reading a faulty system interaction involving the voltage regulator and micro. Tracker outputs from the voltage regulator fail to start some times (reason unknown), and so the software fix gives a command that starts them before the B9A diagnostic turns on, thus preventing the B9A code from incorrectly turning on and enabling the B9A diagnostic to function properly for the rest of the key cycle. Geoff Jacks can probably explain this better.

Regards,

Tim Snider (tsnider1@ford.com)

**CD3/C489 Steering Engineering**

**Ford Motor Company**

Cell 313-805-3201

2B-L18 Product Development Center

Dearborn, MI 48124 USA

---

**From:** Guillermo Aguilar [mailto:Guillermo.Aguilar@TRW.COM]

**Sent:** Wednesday, November 03, 2010 6:25 PM

**To:** Ulloa, Fernando (F.F.); Snider, Tim (T.O.); Beltran, Victor (V.)

**Cc:** Larios, Karla (K.); angelsaa@prodigy.net.mx; JoseJ Lopez  
**Subject:** RE: EXGMA Quality Concern J241223 From Hermosillo (Trw Delplas Sa De Cv)

Thanks Victor.

Tim.-

To clarify our statement, is that the logic for this issue being treated as an engineering/design issue, it's because the affected EPP was programmed to the specified software version complying with it to the approved specification, the part was never produced out of spec; it failed afterwards but, the root cause for this failure it's an engineering related issue, no something produced out spec.

The software change as mentioned, was generated to include into the software certain considerations that were not included in the previous version and that generate the double start up; therefore, the solution being a design problem, it's being solved by updating (making more robust) the EPP software version; otherwise, if the issue would have been a quality problem, the design shouldn't had been changed but the quality issue generator (process, component, etc. out spec) should had been corrected.

Hope this makes our position more reasonable.

Any comments, please let me know.

**GUILLERMO AGUILAR**

QRCM Mgr.

Office: +52.442.211.0873

Mobile: +52.1.442.156.0154

>>> "Beltran, Victor (V.)" <vbeltran@ford.com> 11/2/2010 11:02 AM >>>

See note bellow from PD:

**From:** Snider, Tim (T.O.)  
**Sent:** Monday, November 01, 2010 10:35 AM  
**To:** Ulloa, Fernando (F.F.)  
**Subject:** RE: EXGMA Quality Concern J241223 From Hermosillo (Trw Delplas Sa De Cv)

Fernando,

I don't understand TRW's logic here. The current software is being changed to fix a B9A quality issue. So, I disagree with the dispute.

Regards,  
Tim Snider (tsnider1@ford.com)  
**CD3/C489 Steering Engineering**  
**Ford Motor Company**  
Cell 313-805-3201  
2B-L18 Product Development Center  
Dearborn, MI 48124 USA

**Regards.**

**Victor Beltran**

**Incoming Quality**

**Ford Hermosillo**

**vbeltran@ford.com**

**52 662 259 8164**

---

**From:** Guillermo Aguilar [mailto:Guillermo.Aguilar@TRW.COM]

**Sent:** Lunes, 01 de Noviembre de 2010 03:24 p.m.

**To:** Gomez, Bertha (B.); Ulloa, Fernando (F.F.); Incoming Quality I, Deparmen (.); Cerecer, Mayra (M.); Izaguirre, Pedro (P.); Alvarado, Viridiana (V.); Beltran, Victor (V.)

**Cc:** Durand, Gerardo (G.D.); Larios, Karla (K.); Hernandez, Victor (V.M.); angelsaa@prodigy.net.mx; Chris Conto; Pavel Vetz

**Subject:** RE: EXGMA Quality Concern J241223 From Hermosillo (Trw Delplas Sa De Cv)

Victor,

The ownership of the design it's a shared responsibility between TRW and Ford.

**GUILLERMO AGUILAR**

QRCM Mgr.

Office: +52.442.211.0873

Mobile: +52.1.442.156.0154

>>> "Beltran, Victor (V.)" <vbeltran@ford.com> 11/1/2010 4:11 PM >>>

Guillermo Who is the owner of the design Lear or Ford?

**Regards.**

**Victor Beltran**

**Incoming Quality**

**Ford Hermosillo**

**vbeltran@ford.com**

**52 662 259 8164**

---

**From:** Incoming Quality I, Deparmen (.)

**Sent:** Lunes, 01 de Noviembre de 2010 09:43 a.m.

**To:** Ulloa, Fernando (F.F.); Beltran, Victor (V.); Cerecer, Mayra (M.); Alvarado, Viridiana (V.); Gomez, Bertha (B.); Izaguirre, Pedro (P.)

**Cc:** 'Guillermo Aguilar'; angelsaa@prodigy.net.mx; Chris Conto; Pavel Vetz; Hernandez, Victor (V.M.)

**Subject:** FW: EXGMA Quality Concern J241223 From Hermosillo (Trw Delplas Sa De Cv)

Good morning team,

Please see note below and attached dispute regarding to concern J241223: (Cremallera Pierde Asistencia)Power Steering Inter Nal Electronic Failure,Motor Rotation Angle Sensor,Gives Code C200d.

Supplier states that the returned part is meeting the approved specification, but the problem is related to an Engineering issue.

Your prompt feedbacks related to this concern will be really appreciated.

Regards,

*Ana Lizett Elias*

Incoming Quality Engineer  
Ford Motor Company  
Phone ☎: +52(662)259-8165  
E-mail ✉: iqualit7@ford.com

---

**From:** Guillermo Aguilar [mailto:Guillermo.Aguilar@TRW.COM]  
**Sent:** Saturday, October 30, 2010 6:13 AM  
**To:** Incoming Quality I, Deparmen (.); angelsaa@prodigy.net.mx; Chris Conto; Pavel Vetz  
**Cc:** Hernandez, Victor (V.M.)  
**Subject:** RE: EXGMA Quality Concern J241223 From Hermosillo (Trw Delplas Sa De Cv)

Dear Ana,

In regards to the issue related to the mentioned QR, attached I'm sending the correspondent 8D, as well as the dispute for it, as the returned part is meeting the approved specification, but the problem is related to an Engineering issue.

The issue consists on a double start of the EPP generated by the EPP's regulator, being this caused by the designed EPP software. Based on this, the EPAS is conforming to the drawing specification and current software; the issue therefore, it's not a quality related issue but, due to an Engineering/Design issue. The permanent action to prevent this from happening again, is detailed in the 8D and it's the EPP's software update, that has already been implemented at our supplier's location, and that will be hitting HSAP by the first week of December.

Please let me know if you have any doubt, so that if needed, I can give you a call to detail over the subject.

Regards,

**GUILLERMO AGUILAR**

QRCM Mgr.

Office:+52.442.211.0873

Mobile: +52.1.442.156.0154

>>> "Incoming Quality I, Deparmen (.)" <iqualit7@ford.com> 10/29/2010 10:02 AM >>>

Good morning,

We request final 8D in order to close this QR. Please send this information ASAP, include evidence and Support quality documents (before and after) of the Corrective Actions.

*Ana Lizett Elias*

Incoming Quality Engineer  
Ford Motor Company  
Phone ☎: +52(662)259-8165  
E-mail ✉: iqualit7@ford.com

---

**From:** Guillermo Aguilar [mailto:Guillermo.Aguilar@TRW.COM]

**Sent:** Monday, October 18, 2010 2:29 PM

**To:** Incoming Quality I, Deparmen (.) ; Hernandez, Victor (V.M.) ; angelsaa@prodigy.net.mx ; Chris Conto ; Pavel Vetz

**Subject:** RE: EXGMA Quality Concern J241223 From Hermosillo (Trw Delplas Sa De Cv)

Gricelda,

Please find attached 24 hr. response as well as preliminary 8D for the reported issue. We are waiting for the defect part at the moment to confirm root cause, I'll keep you posted as soon as we complete our analysis.

Thanks,

**GUILLERMO AGUILAR**  
QRQM Mgr.  
Office: +52.442.211.0873  
Mobile: +52.1.442.156.0154

>>> "Incoming Quality I, Deparmen (.)" <iqualit7@ford.com> 10/15/2010 6:58 PM >>>

Team,

Please find attached a picture of the defect reported on this Quality Concern, and start containment at your facility as soon as possible. Certify material need to be labelled and witness mark on part, please communicate all this to Ford Hermosillo Incoming Quality in the **24 hrs response, Quality Alert** and the **initial 8D (until 3D)**. According to procedures <https://web.qpr.ford.com/sta/VOPQUN008.html>, in order to improve our mutual supplier response and rating process.

Any question do not hesitate on calling us.

Regards,

*Gricelda Avalos*

Incoming Quality Engineer  
Ford Motor Company  
Phone ☎: +52(662)259-8165  
E-mail ✉: iqualit7@ford.com

 Please consider the environment before printing this e-mail

---

**From:** iqualit7@ford.com [mailto:iqualit7@ford.com]

**Sent:** Friday, October 15, 2010 3:37 PM

**To:** Flores Montijo, Roberto (R.); Incoming Quality I, Deparmen (.) ; pavel.vetz@trw.com; Hernandez, Victor (V.M.); chris.conto@trw.com; Larios, Karla (K.); Morales, Luis Manuel (L.); Flores Montijo, Roberto (R.); Castaneda, Juan pedro (J.); Cordova, Jose (J.); guillermo.aguilar@trw.com; angelsaa@prodigy.net.mx

**Subject:** EXGMA Quality Concern J241223 From Hermosillo (Trw Delplas Sa De Cv)

A quality concern (CR) has been identified with a part from your facility.

Please review the attached form and the required actions identified in **red text**.

Complete the shaded areas and return this form to the concern originator within 24 hours.

**All correspondence with this concern must be emailed to iqualit7@ford.com, smaldon4@ford.com, and vbeltran@ford.com. Failure to include iqualit7@ford.com, smaldon4@ford.com, and vbeltran@ford.com may result in a 'Does Not Meet' rating.**

### **Concern Description**

Stng Gr & Lnkg Asy(Cremallera Pierde Asistencia)Power Steering Inter  
Nal Electronic Failure,Motor Rotation Angle Sensor,Gives Code C200d  
Rot:6487 Vin-Br154043 Detected On Ftt Reported By Fernando Ulloa  
For More Info Call Mayra Cerecer 526622598165.

\*\*\* Important \*\*\*

Please Send Us 24hrs Response (Date And Identification For Certified  
Material)In The Excel File Attached And Initial 8d (Until D3)  
Specifying The Method (Visual Or Functional) For The Containment  
Action, As Well, The Quality Alert. Failure To Send This Information  
Within 24hrs Is Going To Result In A Does Not Meet Rating.

Codes:Fusion On-Ftt Resp-Repr Cat-Nrepit Sys-Calid Build-Currprod

---

**From:** Napoli, Laura (L.)  
**Sent:** Thursday, October 13, 2011 8:48 PM  
**To:** Moses, Barry (B.A.)  
**Cc:** Abrams, Donald (D.)  
**Subject:** RE: Explorer or Fusion with Power Steering Loss of Assist

Barry,

Are we still clean on EPAS loss of assist issues for Explorer and Fusion?

Regards,

*Laura Napoli*

D3 and U502 EPAS  
Ford Motor Company  
Cube: 2B-G66 PDC  
Phone: 313.323.0634  
Mobile: 313.805.0482

---

**From:** Moses, Barry (B.A.)  
**Sent:** Monday, September 19, 2011 10:23 AM  
**To:** Napoli, Laura (L.)  
**Cc:** Abrams, Donald (D.); Moses, Barry (B.A.)  
**Subject:** RE: Explorer or Fusion with Power Steering Loss of Assist

Yes I will we haven't seen any lately

Barry Moses  
Supervisor  
WHQ VSC  
Ford Motor Company  
313-322-0314  
313-248-4060

---

**From:** Napoli, Laura (L.)  
**Sent:** Monday, September 19, 2011 9:46 AM  
**To:** Moses, Barry (B.A.)  
**Cc:** Estes, Eric (E.E.)  
**Subject:** Explorer or Fusion with Power Steering Loss of Assist

Barry,

We are currently working on a warranty issue that is popping on Explorer and Fusions with EPAS. Can you contact me or Eric Estes and let us know if you have any management vehicles in service with a loss of assist with PSCM DTC C200D? We'd like to test vehicles that have this fault.

Regards,

*Laura Napoli*

D3 and U502 EPAS

Ford Motor Company

Cube: 2B-G66 PDC

Phone: 313.323.0634

Mobile: 313.805.0482

---

**From:** Setili, Frank (F.E.)  
**Sent:** Thursday, March 21, 2013 6:11 PM  
**To:** Surella, Matthew (M.M.)  
**Subject:** RE: Fault in TRW Systems

Matt,

Thanks for the clarification.

Frank Setili  
Automotive Safety Office  
Global Automotive Safety Compliance  
313-323-7893, CDSID - FSETILI

---

**From:** Surella, Matthew (M.M.)  
**Sent:** Thursday, March 21, 2013 12:32 PM  
**To:** Setili, Frank (F.E.)  
**Cc:** Napoli, Laura (L.); Bouse, William (Bill.); Surella, Matthew (M.M.)  
**Subject:** FW: Fault in TRW Systems

Frank,

Just a correction from yesterday's meeting. Laura and I said that the DTC codes stay in history status until cleared. This is only correct when you are looking at supplier codes which the dealers do not have the ability to read. Ford codes do clear after 64 key cycles as Bill says below. The clinic we proposed yesterday is still worth doing however. We will just check these clinic vehicles the same way a dealer would check it and get data on what Ford codes are in history status (within last 64 key cycles). This would then be what we would expect at the dealerships.

Matthew (Matt) Surella  
Steering EPAS Supervisor / MBB  
313-805-3997

---

**From:** Bouse, William (Bill.)  
**Sent:** Thursday, March 21, 2013 10:39 AM  
**To:** Surella, Matthew (M.M.)  
**Cc:** Napoli, Laura (L.)  
**Subject:** Fault in TRW Systems

Matt, it was stated that the faults do not clear themselves. The part II specification says that the DTC ages (removes from history) at a value to 40.

Counter Value when Aged

40

This would be 64 key cycles the way I understand it. Talked with TRW SW and they agree that it will clear over some period key cycles without a failure. The counter will start over if in those 64 key cycles it is set a second time or becomes active.

Thanks,

Bill Bouse |EPAS Systems Technical Specialist |Ford Motor Company | email: [wbose@ford.com](mailto:wbose@ford.com) | c313-805-2289

---

**From:** Mrozek, Robert (R.M.)  
**Sent:** Thursday, November 05, 2009 7:00 PM  
**To:** Snider, Tim (T.O.); Bouse, William (Bill.)  
**Cc:** Bahena, Miguel (Mike.)  
**Subject:** RE: Follow-up call - Monday 5:30 EST (gage R&R for x-ray)

Different. Not worth it at this moment. Ship has sailed.

*Rob Mrozek*

Electric Power Steering Supervisor  
CD3/D3/D4/U502/Police/Limo Programs  
Ford Motor Company  
Phone: (313) 805-5947  
e-mail: [rmrozek@ford.com](mailto:rmrozek@ford.com)

---

**From:** Snider, Tim (T.O.)  
**Sent:** Thursday, November 05, 2009 1:42 PM  
**To:** Mrozek, Robert (R.M.); Bouse, William (Bill.)  
**Cc:** Bahena, Miguel (Mike.)  
**Subject:** RE: Follow-up call - Monday 5:30 EST (gage R&R for x-ray)

I'm following up on old e-mail. Is this covered by Bill's alert A12275400 - CHANGE TO THE PRODUCTION PROCESS TO SCREEN PARTS AT ELEVATED TEMPERATURE DUE TO RELAY ISSUE? If not, it looks like an alert is still needed, and I can write one.

Regards,  
Tim Snider ([tsnider1@ford.com](mailto:tsnider1@ford.com))  
***CD3 Steering Engineering***  
***Ford Motor Company***  
Cell 313-805-3201  
2B-L18 Product Development Center  
Dearborn, MI 48124 USA

---

**From:** Mrozek, Robert (R.M.)  
**Sent:** Monday, September 28, 2009 9:18 PM  
**To:** Snider, Tim (T.O.); Bahena, Miguel (Mike.)  
**Subject:** RE: Follow-up call - Monday 5:30 EST (gage R&R for x-ray)

Just fyi...bouse may have a cd3 specific alert in place. But you may be looking for the **R** alert as reference.

Latest info is that x-ray will likely be approved in next day or two. Katherine is going to Laredo on Tuesday and we may still airship tonight. We will have to understand from TRW how they plan to mark the x-ray parts and note that in the alert.

*Rob Mrozek*

Electric Power Steering Supervisor  
D3/D4/U502/Limo Programs  
Ford Motor Company

Phone: (313) 805-5947  
e-mail: [rmrozek@ford.com](mailto:rmrozek@ford.com)

---

**From:** Snider, Tim (T.O.)  
**Sent:** Monday, September 28, 2009 4:48 PM  
**To:** Bahena, Miguel (Mike.)  
**Cc:** Bouse, William (Bill.); Diez, Timothy (T.P.); Mrozek, Robert (R.M.)  
**Subject:** RE: Follow-up call - Monday 5:30 EST (gage R&R for x-ray)

Mike,

What's the **R** alert number?

Regards,  
Tim Snider ([tsnider1@ford.com](mailto:tsnider1@ford.com))  
**CD3/CD4 Steering Engineering**  
**Ford Motor Company**  
Cell 313-805-3201  
2B-L18 Product Development Center  
Dearborn, MI 48124 USA

---

**From:** Mrozek, Robert (R.M.)  
**Sent:** Monday, September 28, 2009 7:29 AM  
**To:** Diez, Timothy (T.P.); Bahena, Miguel (Mike.); Snider, Tim (T.O.); Bouse, William (Bill.)  
**Subject:** FW: Follow-up call - Monday 5:30 EST (gage R&R for x-ray)

Fyi..

For CD3 we will need an alert or update alert with comments to state we are x-raying and how we are identifying that x-ray (sticker, etc.). Bahena already updated the **R** alert.

*Rob Mrozek*

Electric Power Steering Supervisor  
D3/D4/U502/Limo Programs  
Ford Motor Company  
Phone: (313) 805-5947  
e-mail: [rmrozek@ford.com](mailto:rmrozek@ford.com)

---

**From:** McIntyre, Kathryn (K.L.)  
**Sent:** Monday, September 28, 2009 7:26 AM  
**To:** Mrozek, Robert (R.M.)  
**Subject:** FW: Follow-up call - Monday 5:30 EST (gage R&R for x-ray)

FYI - on our next meeting.

*Kathryn McIntyre*  
Cell 313 805-2408

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**From:** McIntyre, Kathryn (K.L.)  
**Sent:** Monday, September 28, 2009 7:24 AM  
**To:** 'Salim Semssar'; 'Greg Collier'; 'Martha Abundis'  
**Cc:** Hernandez, Victor (V.M.); Garcia, Sr Martin (M.); Harris, Jonathan (J.E.); 'Morrison, Robert (R.R.)'; Diez, Timothy (T.P.); White, Isiah (I.C.)  
**Subject:** Follow-up call - Monday 5:30 EST (gage R&R for x-ray)

Hi - would you be so kind and setup the next conference call at 5:30 EST? This time should work for most.

Agenda:

- 1) Status of Gage Study
- 2) Review/agreement study results
- 3) Discuss next steps

Thanks

*Kathryn McIntyre,*  
STA Chassis Site Manager  
Ford Motor Company  
Fairlane Business Park II, B042  
17425 Federal Drive  
Allen Park, MI, 48101 USA  
[kmcinty2@ford.com](mailto:kmcinty2@ford.com)  
313 84-55179  
313 805-2408 (cell)

"Time is not our enemy, fear of change is..."

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**From:** Bahena, Miguel (Mike.)  
**Sent:** Wednesday, April 14, 2010 4:28 PM  
**To:** Estes, Eric (E.E.); 'Guillermo Aguilar'  
**Cc:** Diez, Timothy (T.P.); 'Geoff Jacks'; Mrozek, Robert (R.M.); Snider, Tim (T.O.); 'Simon Wright'; 'Mike Davies'  
**Subject:** RE: Ford / TRW Torque Sensor Warranty Review Meeting

Eric,

Next week we will be replacing the Torque Sensor meeting with a B9a 8D status review of the following failure modes. Simon Wright will be sending out a meeting notice.

1. F126 - Poor Flux Density Returns
2. FR141 - Poor Solder joint on pin 3 encoder supply
3. FR129 - Main Voltage Regulator failure
4. 0 km HSAP Failure from AR35449

Simon - please include everyone else on this distribution. Thanks.

Sincerely,

**Mike Bahena**  
**D3 Electric Power Steering Systems**  
**Ford Motor Co.**  
Ph: (313) 805-3680  
[mbahena1@ford.com](mailto:mbahena1@ford.com)  
Pager: [Click Here <<<<mailto:3138053680@vtext.com>>>>](#)

---

**From:** Estes, Eric (E.E.)  
**Sent:** Wednesday, April 07, 2010 10:26 AM  
**To:** Estes, Eric (E.E.); 'Sergio Alvarez'; 'anthony.fleenor@trw.com'; 'Ian Ingram'; 'JoseJ Lopez'; 'Jim Loria'; 'Simon Malsbury'; Bahena, Miguel (Mike.); Mrozek, Robert (R.M.); Snider, Tim (T.O.); Diez, Timothy (T.P.); 'Costas Chrysochoidis'; 'Markus.Nowak@hella.com'; 'jason.johnson@trw.com'; 'Engelbert Lu'; 'Angie Caudill'; 'Thomas.Surmann@hella.com'; 'Guillermo Aguilar'  
**Cc:** 'Greg Bendzinski'; 'andrew.ellison@trw.com'; 'Mark Karwowski'; Puleri, Michael (M.J.); 'Salim Semssar'; 'Sanjay.Singh@TRW.COM'; 'Andrew Williams'; 'Geoff Jacks'; 'Todd Williams'; 'Robert Kostadina'; 'Michael Fontana'; 'joel.rabideau@trw.com'; 'Mathew Alder'  
**Subject:** Updated: Ford / TRW Torque Sensor Warranty Review Meeting  
**When:** Wednesday, April 21, 2010 12:00 PM-1:00 PM (GMT-05:00) Eastern Time (US & Canada).  
**Where:** Teleconference 866-251-9196 CC: 1842273552

New updated meeting number for Wednesday's TRW/Ford warranty meetings.

Topic: Ford/ TRW Torque Sensor Workshop Review  
Date: Every Wednesday, from Wednesday, March 31, 2010 to Wednesday, June 2, 2010  
Time: 12:00 pm, Eastern Standard Time (New York, GMT-05:00)

Meeting Number: **592 291 871**

Meeting Password: (This meeting does not require a password.)

---

To start the online webmeeting

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1. Go to <https://www.meetingcenter.net>
2. Join a meeting

3. click on "Attend a Meeting"
4. Enter meeting# **592 291 871**

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Teleconference information

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Call-in toll-free number: 1-866-2519196 (US)

Call-in number: 1-248-2265571 (US)

Show global numbers:

<https://www2.audiocontrols.net/WebExAdaptor/globalnumber?participantcode=1842273552&tollfreecc=1&tollfree=866-2519196&tollnumbercc=1&tollnumber=248-2265571>

Leader PIN:

Conference Code: 184 227 3552

To check whether you have the appropriate players installed for UCF (Universal Communications Format) rich media files, go to <https://intercall.webex.com/intercall/systemdiagnosis.php>

CCM:+12482265571x5716#

*Eric J Estes*

TRW EPAS Steering Systems

Quality Specialist

Hotline ph# 313-317-9358

Cell ph# 734-560-3493

---

**From:** Angel Salazar <angelsaa@prodigy.net.mx>  
**Sent:** Saturday, April 03, 2010 7:02 PM  
**To:** Snider, Tim (T.O.)  
**Cc:** Bahena, Miguel (Mike.); Mrozek, Robert (R.M.); Hernandez, Victor (V.M.); Guillermo Aguilar; Ulloa, Fernando (F.F.); Estes, Eric (E.E.)  
**Subject:** Re: Ford Hermosillo Daily report for 03 / 22 / 2010

Good morning Tim,

This week I am planning to go with Fernando Ulloa to check if the HEV vehicles reported in warranties had some repair around the affected area, before they were released to the sales yard. The QLS will be very helpfull for this task. In this way we can track if some repair procedure can be a potential risk.

Thanks & Best Regards. Have a nice day  
A. Salazar

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

**From:** Snider, Tim (T.O.)  
**To:** Angel Salazar  
**Cc:** Bahena, Miguel (Mike.) ; Mrozek, Robert (R.M.) ; Hernandez, Victor (V.M.) ; Guillermo Aguilar ; Ulloa, Fernando (F.F.) ; Estes, Eric (E.E.)  
**Sent:** Wednesday, March 31, 2010 9:51 AM  
**Subject:** RE: Ford Hermosillo Daily report for 03 / 22 / 2010

Angel,

Any update?

Regards,  
Tim Snider ([tsnider1@ford.com](mailto:tsnider1@ford.com))  
**CD3 Steering Engineering**  
**Ford Motor Company**  
Cell 313-805-3201  
2B-L18 Product Development Center  
Dearborn, MI 48124 USA

---

**From:** Snider, Tim (T.O.)  
**Sent:** Wednesday, March 24, 2010 9:13 AM  
**To:** 'Angel Salazar'  
**Cc:** Bahena, Miguel (Mike.); Mrozek, Robert (R.M.); Hernandez, Victor (V.M.); Guillermo Aguilar; Ulloa, Fernando (F.F.)  
**Subject:** RE: Ford Hermosillo Daily report for 03 / 22 / 2010

Angel,

Okay. Please also check the repair bay to see if there is some repair procedure for hybrids that may cause this damage.

Regards,  
Tim Snider ([tsnider1@ford.com](mailto:tsnider1@ford.com))

**CD3 Steering Engineering**

**Ford Motor Company**

Cell 313-805-3201

2B-L18 Product Development Center

Dearborn, MI 48124 USA

---

**From:** Angel Salazar [mailto:[angelsaa@prodigy.net.mx](mailto:angelsaa@prodigy.net.mx)]

**Sent:** Wednesday, March 24, 2010 8:08 AM

**To:** Snider, Tim (T.O.)

**Cc:** Bahena, Miguel (Mike.); Mrozek, Robert (R.M.); Hernandez, Victor (V.M.); Guillermo Aguilar

**Subject:** Fw: Ford Hermosillo Daily report for 03 / 22 / 2010

Good morning Tim,

Due to the information received from Eric Estes regarding the fact that out of the seven TS harness damage warranty claims 6 are 2.5L hybrid vehicles, I have been checking the operations performed in the moon buggies area for the hybrid option and so far I have not found significative differences with the operations performed in the Gas options., however I am still checking these operations to get a final conclusion.

Also, although the risk is really remote, I would like to check again the operation performed when the HEV engine is installed and the operations performed in the rest of the production line.

I am still wondering how the Gears with the TS harness damage that were found in warranties could get their way out of the plant.

I will keep You informed about my findings.

Best Regards. Have a nice day.

A. Salazar

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

**From:** Guillermo Aguilar

**To:** Tim (T.O.) Snider ; [angelsaa@prodigy.net.mx](mailto:angelsaa@prodigy.net.mx)

**Cc:** Miguel (Mike.) Bahena ; Robert (R.M.) Mrozek ; Victor (V.M.) Hernandez

**Sent:** Tuesday, March 23, 2010 2:07 PM

**Subject:** RE: Ford Hermosillo Daily report for 03 / 22 / 2010

Angel,

Can you please confirm Tim's question?

Thanks,

>>> "Snider, Tim (T.O.)" <[tsnider1@ford.com](mailto:tsnider1@ford.com)> 3/23/2010 11:27 AM >>>

Memo,

What is different in the hybrid moon buggies, or the hybrid moon buggy process?

Regards,

Tim Snider ([tsnider1@ford.com](mailto:tsnider1@ford.com))

**CD3 Steering Engineering**

**Ford Motor Company**

Cell 313-805-3201

---

**From:** Guillermo Aguilar [mailto:[Guillermo.Aguilar@TRW.COM](mailto:Guillermo.Aguilar@TRW.COM)]  
**Sent:** Tuesday, March 23, 2010 12:08 PM  
**To:** Bahena, Miguel (Mike.); Mrozek, Robert (R.M.); Snider, Tim (T.O.); Hernandez, Victor (V.M.)  
**Subject:** Fwd: Ford Hermosillo Daily report for 03 / 22 / 2010

Guys,

FYI.

>>> "Angel Salazar" <[angelsaa@prodigy.net.mx](mailto:angelsaa@prodigy.net.mx)> 3/23/2010 8:03 AM >>>

Good morning Glenn,

1.- Here is the information for the production of vehicles with EPAS for 03 / 22 / 2010

a).- production : 827 units

b).- The total quantity of vehicles built with EPAS from Job # 1 to date is : 262, 631 units ( to be updated ).

**2.- Critical Issues :**

a).- No critical issues to report today ( meaning, no CRs and no rejects neither from Final Assy nor from the quality audits ).

**3.- Comments of the day :**

a).- Visit to the Final assy repair area. I found no issues involving the TRW Gears.

b).- Visit to the quality control area. There were no calls for TRW.

c).- I have started a close verification of the operations performed at the moon boogies for the Hybrid option due to the damages found in the torque harness. The evidences are pointing to this option as the critical one. The Hybrid option is of a very low volume, so this verification will take some time.

d).-We have three open CRs at Ford Hermosillo ( J240232 , J240304 & J240339 ).

e)- Currently, We have no containment actions at Benteler plant.

Thanks & Best regards. Have a nice day.

A. Salazar

---

**From:** Mrozek, Robert (R.M.)  
**Sent:** Wednesday, March 24, 2010 1:09 PM  
**To:** Snider, Tim (T.O.)  
**Subject:** RE: Ford Hermosillo Daily report for 03 / 22 / 2010

I wonder if there is any standard predelivery action or oil change that could potentially cause some damage?

*Rob Mrozek*

Electric Power Steering Supervisor  
C346N/CD3/D3/D4/U502/Police/Limo Programs  
Ford Motor Company  
Phone: (313) 805-5947  
e-mail: [rmrozek@ford.com](mailto:rmrozek@ford.com)

---

**From:** Angel Salazar [<mailto:angelsaa@prodigy.net.mx>]  
**Sent:** Wednesday, March 24, 2010 8:08 AM  
**To:** Snider, Tim (T.O.)  
**Cc:** Bahena, Miguel (Mike.); Mrozek, Robert (R.M.); Hernandez, Victor (V.M.); Guillermo Aguilar  
**Subject:** Fw: Ford Hermosillo Daily report for 03 / 22 / 2010

Good morning Tim,

Due to the information received from Eric Estes regarding the fact that out of the seven TS harness damage warranty claims 6 are 2.5L hybrid vehicles, I have been checking the operations performed in the moon buggies area for the hybrid option and so far I have not found significative differences with the operations performed in the Gas options., however I am still checking these operations to get a final conclusion.

Also, although the risk is really remote, I would like to check again the operation performed when the HEV engine is installed and the operations performed in the rest of the production line.

I am still wondering how the Gears with the TS harness damage that were found in warranties could get their way out of the plant.

I will keep You informed about my findings.

Best Regards. Have a nice day.  
A. Salazar

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

**From:** Guillermo Aguilar  
**To:** Tim (T.O.) Snider ; [angelsaa@prodigy.net.mx](mailto:angelsaa@prodigy.net.mx)  
**Cc:** Miguel (Mike.) Bahena ; Robert (R.M.) Mrozek ; Victor (V.M.) Hernandez  
**Sent:** Tuesday, March 23, 2010 2:07 PM  
**Subject:** RE: Ford Hermosillo Daily report for 03 / 22 / 2010

Angel,

Can you please confirm Tim's question?

Thanks,

>>> "Snider, Tim (T.O.)" <[tsnider1@ford.com](mailto:tsnider1@ford.com)> 3/23/2010 11:27 AM >>>  
Memo,

What is different in the hybrid moon buggies, or the hybrid moon buggy process?

Regards,  
Tim Snider ([tsnider1@ford.com](mailto:tsnider1@ford.com))

**CD3 Steering Engineering  
Ford Motor Company**

Cell 313-805-3201  
2B-L18 Product Development Center  
Dearborn, MI 48124 USA

---

**From:** Guillermo Aguilar [<mailto:Guillermo.Aguilar@TRW.COM>]  
**Sent:** Tuesday, March 23, 2010 12:08 PM  
**To:** Bahena, Miguel (Mike.); Mrozek, Robert (R.M.); Snider, Tim (T.O.); Hernandez, Victor (V.M.)  
**Subject:** Fwd: Ford Hermosillo Daily report for 03 / 22 / 2010

Guys,

FYI.

>>> "Angel Salazar" <[angelsaa@prodigy.net.mx](mailto:angelsaa@prodigy.net.mx)> 3/23/2010 8:03 AM >>>  
Good morning Glenn,

1.- Here is the information for the production of vehicles with EPAS for 03 / 22 / 2010

a).- production : 827 units

b).- The total quantity of vehicles built with EPAS from Job # 1 to date is : 262, 631 units ( to be updated ).

**2.- Critical Issues :**

a).- No critical issues to report today ( meaning, no CRs and no rejects neither from Final Assy nor from the quality audits ).

**3.- Comments of the day :**

a).- Visit to the Final assy repair area. I found no issues involving the TRW Gears.

b).- Visit to the quality control area. There were no calls for TRW.

c).- I have started a close verification of the operations performed at the moon boogies for the Hybrid option due to the damages found in the torque harness. The evidences are pointing to this option as the critical one. The Hybrid option is of a very low volume, so this verification will take some time.

d).-We have three open CRs at Ford Hermosillo ( J240232 , J240304 & J240339 ).

e)- Currently, We have no containment actions at Benteler plant.

Thanks & Best regards. Have a nice day.

A. Salazar

---

**From:** Angel Salazar <angelsaa@prodigy.net.mx>  
**Sent:** Tuesday, May 18, 2010 1:31 PM  
**To:** Snider, Tim (T.O.)  
**Cc:** Bahena, Miguel (Mike.); Mrozek, Robert (R.M.); Hernandez, Victor (V.M.); Rogero, Antonio (A.); Ulloa, Fernando (F.F.); Guillermo Aguilar; Mathew Alder; Estes, Eric (E.E.)  
**Subject:** Re: Ford Hermosillo Daily report for 05 / 05 / 2010

Good morning Tim,

To me the AWD is a potential risk to damage the harness, however this option is low and We have had damaged harness in all the options . Maybe, the AWD is just one more of the several potential risks we are facing. I will try to get some pictures of the AWD option during the engine assembly to front suspension

Thanks & Best Regards. Have a nice day.

A. Salazar

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

**From:** Snider, Tim (T.O.)  
**To:** [angelsaa@prodigy.net.mx](mailto:angelsaa@prodigy.net.mx)  
**Cc:** Bahena, Miguel (Mike.) ; Mrozek, Robert (R.M.) ; Hernandez, Victor (V.M.) ; Rogero, Antonio (A.) ; Ulloa, Fernando (F.F.) ; Guillermo Aguilar ; Mathew Alder ; Estes, Eric (E.E.)  
**Sent:** Monday, May 17, 2010 11:37 AM  
**Subject:** RE: Ford Hermosillo Daily report for 05 / 05 / 2010

Angel,

Could the engine also contact or damage the torque sensor harness for HEV or 3.0L AWD vehicles during engine decking?

Regards,

Tim Snider ([tsnider1@ford.com](mailto:tsnider1@ford.com))

**CD3 Steering Engineering**

**Ford Motor Company**

Cell 313-805-3201

2B-L18 Product Development Center

Dearborn, MI 48124 USA

---

**From:** Guillermo Aguilar [mailto:[Guillermo.Aguilar@TRW.COM](mailto:Guillermo.Aguilar@TRW.COM)]

**Sent:** Thursday, May 06, 2010 1:24 PM

**To:** Bahena, Miguel (Mike.); Mrozek, Robert (R.M.); Snider, Tim (T.O.); Hernandez, Victor (V.M.)

**Subject:** Fwd: Ford Hermosillo Daily report for 05 / 05 / 2010

Guys,

Attached HSAP report for 05/05

>>> "Angel Salazar" <[angelsaa@prodigy.net.mx](mailto:angelsaa@prodigy.net.mx)> 5/6/2010 9:10 AM >>>

Good morning Glenn,

1.- Here is the information for the production of vehicles with EPAS for 05 / 05 / 2010

a).- production : 1,078 units

b).- The total quantity of vehicles built with EPAS from Job # 1 to date is : 296, 275 units ( to be updated ).

**2.- Critical Issues :**

a).- No critical issues to report today ( meaning, no CRs and no rejects neither from Final Assy nor from the quality audits ).

**3.- Comments of the day :**

a).- Visit to the quality audits and the Final assy repair bay. Met with G.Izaguirre ( VRT analyst ). Again, there are no problems with TRW Gears.

b).- .The second shift reported a Gear with the **connectors damaged ( broken )**. I talked with Incoming Quality ( Jazmin Botello ) and Salvador Velazquez ( Final assy repair area leader ). This condition was determined to be caused during the engine assembled to the front suspension over the moon buggies ( Ford production line ). This vehicle is All wheel drive where the transmision sometimes is causing problems to be assembled

c).- I talked with Antonio Rogero ( PVT Engineer ) to inform to him I will recieve from Mat Alder an inner tie rod machined in a way to represent the buckling fuse, or narrower section ( 15 to 10 mm) according to an engineering change in this section. Antonio wants to be sure this change will not affect the pac-man wrench used for the wheels alignment.

d).- Visit the Incoming Quality office.No issues to report over here.

e).- The quarantine crib is clean.

f).- We have two open CRs at Ford Hermosillo ( J240339 and J240482 ).

g)- Currently, We have not containment action at Benteler plant.

Thanks & Best regards. Have a nice day.

A. Salazar

---

**From:** Guillermo Aguilar <Guillermo.Aguilar@TRW.COM>  
**Sent:** Thursday, June 10, 2010 1:55 PM  
**To:** Snider, Tim (T.O.); Angel Salazar  
**Cc:** Rogero, Antonio (A.); Estes, Eric (E.E.); Ulloa, Fernando (F.F.); Durand, Gerardo (G.D.); Bahena, Miguel (Mike.); Mrozek, Robert (R.M.); Bejarano, Sergio (SBF.); Toledo, Salvador (S.T.); Hernandez, Victor (V.M.); Aaron Blancas; Engelbert Lu; Jim Loria; Joel Rabideau; JuanCarlos cano; Mathew Alder; Robert Kostadina  
**Subject:** RE: Ford Hermosillo Daily report for 06 / 08 / 2010  
**Attachments:** Re: Ford Hermosillo Daily report for 06 / 08 / 2010

Tim,

Attached Angel's comments on the damaged harness. This is a certified harness from our end of line certification.

>>> "Snider, Tim (T.O.)" <[tsnider1@ford.com](mailto:tsnider1@ford.com)> 6/10/2010 8:14 AM >>>  
Memo,

Usual questions, where was the torque sensor harness damaged? Is this a certified harness from TRW? What in the TRW Queretaro, Bentler, or Hermosillo process could damage the harness? Is this a hybrid vehicle?

Angel,

Did you find anything in the hybrid process that could cause this type of damage?

Regards,  
Tim Snider ([tsnider1@ford.com](mailto:tsnider1@ford.com))

**CD3 Steering Engineering**  
**Ford Motor Company**

Cell 313-805-3201  
2B-L18 Product Development Center  
Dearborn, MI 48124 USA

---

**From:** Guillermo Aguilar [<mailto:Guillermo.Aguilar@TRW.COM>]  
**Sent:** Wednesday, June 09, 2010 7:59 PM  
**To:** Bahena, Miguel (Mike.); Mrozek, Robert (R.M.); Snider, Tim (T.O.); Hernandez, Victor (V.M.)  
**Subject:** Fwd: Ford Hermosillo Daily report for 06 / 08 / 2010

Guys,

HSAP operation report for June 8.

Confirmation for the LOA mentioned in point 3.e) has been confirmed not to be related to the EPAS. Tomorrow's report will detail the mentioned info.

>>> "Angel Salazar" <[angelsaa@prodigy.net.mx](mailto:angelsaa@prodigy.net.mx)> 6/9/2010 8:28 AM >>>  
Good morning Glenn,

1.- Here is the information for the production of vehicles with EPAS for 06 / 08 / 2010

a).- production : 1,125 units

b).- The total quantity of vehicles built with EPAS from Job # 1 to date is : 323,848 units ( to be updated ).

**2.- Critical Issues :**

a).- The Final assy repair bay, during the second shift, reported a vehicle without steering Gear assistance. Back in Ford, I found with the Ford Diagnosis Tool and the CANape that it is another case of damaged sensor harness..

Vehicle rotation # 2923 / VIN : AR407556  
EPP # 101322002B31297

Ford Tool : DTCs : C200B-2F and C200C-2F ( erratic torque signals # 1 and # 2 )

CANape : BD0h, BD2h, BD3h

Later, the harness damage was confirmed.

**3.- Comments of the day :**

a).- During the first shift I visited theFinal assy repair bay and the quality audits. Neither the repair bay nor the quality audits reported issues with the Gears.

b).- The quarantine crib is clean.

c).- We have one open QR at Ford Hermosillo ( J240482 ).

d)- We have not containment actions at Benteler plant.

e).- There is a report in the third shift about a vehicle which had lost the assistance on the road test and after an ignition cycle the assistance was recovered. I will check for this car today ( June 9th ).

Thanks & Best regards. Have a nice day.

A. Salazar

---

**From:** Angel Salazar <angelsaa@prodigy.net.mx>  
**Sent:** Thursday, June 10, 2010 1:51 PM  
**To:** Snider, Tim (T.O.)  
**Cc:** Guillermo Aguilar  
**Subject:** Re: Ford Hermosillo Daily report for 06 / 08 / 2010

Good morning Tim,

This car is not an HEV .

The latest two damages are located too close to the harness connector to the EPP, so they could be produced during the engine assembly to the front suspension on the moon buggies.. I am checking again for this possibility. And regarding the HEV I have not found any potential risk yet beside the current ones found in the other options.

I will let You know if I found something else during these days.

Thanks & Best Regards. Have a nice day.

A. Salazar

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

**From:** Snider, Tim (T.O.)  
**To:** Guillermo Aguilar ; Angel Salazar  
**Cc:** Ulloa, Fernando (F.F.) ; Durand, Gerardo (G.D.) ; Rogero, Antonio (A.) ; Bahena, Miquel (Mike.) ; Mrozek, Robert (R.M.) ; Hernandez, Victor (V.M.) ; Toledo, Salvador (S.T.) ; Bejarano, Sergio (SBF.) ; Aaron Blancas ; JuanCarlos cano ; Jim Loria ; Engelbert Lu ; Robert Kostadina ; Joel Rabideau ; Estes, Eric (E.E.) ; Mathew Alder  
**Sent:** Thursday, June 10, 2010 6:14 AM  
**Subject:** RE: Ford Hermosillo Daily report for 06 / 08 / 2010

Memo,

Usual questions, where was the torque sensor harness damaged? Is this a certified harness from TRW? What in the TRW Queretaro, Bentler, or Hermosillo process could damage the harness? Is this a hybrid vehicle?

Angel,

Did you find anything in the hybrid process that could cause this type of damage?

Regards,  
Tim Snider ([tsnider1@ford.com](mailto:tsnider1@ford.com))  
**CD3 Steering Engineering**  
**Ford Motor Company**  
Cell 313-805-3201  
2B-L18 Product Development Center  
Dearborn, MI 48124 USA

---

**From:** Guillermo Aguilar [<mailto:Guillermo.Aguilar@TRW.COM>]  
**Sent:** Wednesday, June 09, 2010 7:59 PM

**To:** Bahena, Miguel (Mike.); Mrozek, Robert (R.M.); Snider, Tim (T.O.); Hernandez, Victor (V.M.)  
**Subject:** Fwd: Ford Hermosillo Daily report for 06 / 08 / 2010

Guys,

HSAP operation report for June 8.

Confirmation for the LOA mentioned in point 3.e) has been confirmed not to be related to the EPAS. Tomorrow's report will detail the mentioned info.

>>> "Angel Salazar" <[angelsaa@prodigy.net.mx](mailto:angelsaa@prodigy.net.mx)> 6/9/2010 8:28 AM >>>

Good morning Glenn,

1.- Here is the information for the production of vehicles with EPAS for 06 / 08 / 2010

a).- production : 1,125 units

b).- The total quantity of vehicles built with EPAS from Job # 1 to date is : 323,848 units ( to be updated ).

**2.- Critical Issues :**

a).- The Final assembly repair bay, during the second shift, reported a vehicle without steering Gear assistance. Back in Ford, I found with the Ford Diagnosis Tool and the CANape that it is another case of damaged sensor harness..

Vehicle rotation # 2923 / VIN : AR407556  
EPP # 101322002B31297

Ford Tool : DTCs : C200B-2F and C200C-2F ( erratic torque signals # 1 and # 2 )  
CANape : BD0h, BD2h, BD3h

Later, the harness damage was confirmed.

**3.- Comments of the day :**

a).- During the first shift I visited the final assembly repair bay and the quality audits. Neither the repair bay nor the quality audits reported issues with the Gears.

b).- The quarantine crib is clean.

c).- We have one open QR at Ford Hermosillo ( J240482 ).

d).- We have no containment actions at Benteler plant.

e).- There is a report in the third shift about a vehicle which had lost the assistance on the road test and after an ignition cycle the assistance was recovered. I will check for this car today ( June 9th ).

Thanks & Best regards. Have a nice day.

A. Salazar

---

**From:** Guillermo Aguilar <Guillermo.Aguilar@TRW.COM>  
**Sent:** Thursday, June 10, 2010 10:23 PM  
**To:** Snider, Tim (T.O.); Angel Salazar  
**Cc:** Rogero, Antonio (A.); Estes, Eric (E.E.); Ulloa, Fernando (F.F.); Durand, Gerardo (G.D.); Bahena, Miguel (Mike.); Mrozek, Robert (R.M.); Bejarano, Sergio (SBF.); Toledo, Salvador (S.T.); Hernandez, Victor (V.M.); Aaron Blancas; Engelbert Lu; Jim Loria; Joel Rabideau; JuanCarlos cano; Mathew Alder; Robert Kostadina  
**Subject:** RE: Ford Hermosillo Daily report for 06 / 08 / 2010  
**Attachments:** damaged harness Jun 8\_a.JPG; damaged harness Jun 8\_b.JPG

Tim,

Attached,

>>> "Snider, Tim (T.O.)" <[tsnider1@ford.com](mailto:tsnider1@ford.com)> 6/10/2010 9:32 AM >>>  
Memo,

Okay. Do you have pictures?

Regards,  
Tim Snider ([tsnider1@ford.com](mailto:tsnider1@ford.com))

**CD3 Steering Engineering**  
**Ford Motor Company**

Cell 313-805-3201  
2B-L18 Product Development Center  
Dearborn, MI 48124 USA

---

**From:** Guillermo Aguilar [<mailto:Guillermo.Aguilar@TRW.COM>]  
**Sent:** Thursday, June 10, 2010 9:55 AM  
**To:** Snider, Tim (T.O.); Angel Salazar  
**Cc:** Rogero, Antonio (A.); Estes, Eric (E.E.); Ulloa, Fernando (F.F.); Durand, Gerardo (G.D.); Bahena, Miguel (Mike.); Mrozek, Robert (R.M.); Bejarano, Sergio (SBF.); Toledo, Salvador (S.T.); Hernandez, Victor (V.M.); Aaron Blancas; Engelbert Lu; Jim Loria; Joel Rabideau; JuanCarlos cano; Mathew Alder; Robert Kostadina  
**Subject:** RE: Ford Hermosillo Daily report for 06 / 08 / 2010

Tim,

Attached Angel's comments on the damaged harness. This is a certified harness from our end of line certification.

>>> "Snider, Tim (T.O.)" <[tsnider1@ford.com](mailto:tsnider1@ford.com)> 6/10/2010 8:14 AM >>>  
Memo,

Usual questions, where was the torque sensor harness damaged? Is this a certified harness from TRW? What in the TRW Queretaro, Bentler, or Hermosillo process could damage the harness? Is this a hybrid vehicle?

Angel,

Did you find anything in the hybrid process that could cause this type of damage?

Regards,  
Tim Snider ([tsnider1@ford.com](mailto:tsnider1@ford.com))

**CD3 Steering Engineering**  
**Ford Motor Company**

Cell 313-805-3201  
2B-L18 Product Development Center  
Dearborn, MI 48124 USA

---

**From:** Guillermo Aguilar [<mailto:Guillermo.Aguilar@TRW.COM>]

**Sent:** Wednesday, June 09, 2010 7:59 PM

**To:** Bahena, Miguel (Mike.); Mrozek, Robert (R.M.); Snider, Tim (T.O.); Hernandez, Victor (V.M.)

**Subject:** Fwd: Ford Hermosillo Daily report for 06 / 08 / 2010

Guys,

HSAP operation report for June 8.

Confirmation for the LOA mentioned in point 3.e) has been confirmed not to be related to the EPAS. Tomorrows report will detail the mentioned info.

>>> "Angel Salazar" <[angelsaa@prodigy.net.mx](mailto:angelsaa@prodigy.net.mx)> 6/9/2010 8:28 AM >>>

Good morning Glenn,

1.- Here is the information for the production of vehicles with EPAS for 06 / 08 / 2010

a).- production : 1,125 units

b).- The total quantity of vehicles built with EPAS from Job # 1 to date is : 323,848 units ( to be updated ).

## 2.- Critical Issues :

a).- The Final assy repair bay, during the second shift, reported a vehicle without steering Gear assistance. Back in Ford, I found with the Ford Diagnosis Tool and the CANape that it is another case of damaged sensor harness..

Vehicle rotation # 2923 / VIN : AR407556  
EPP # 101322002B31297

Ford Tool : DTCs : C200B-2F and C200C-2F ( erratic torque signals # 1 and # 2 )  
CANape : BD0h, BD2h, BD3h

Later, the harness damage was confirmed.

## 3.- Comments of the day :

a).- During the first shift I visited theFinal assy repair bay and the quality audits. Neither the repair bay nor the quality audits reported issues with the Gears.

b).- The quarantine crib is clean.

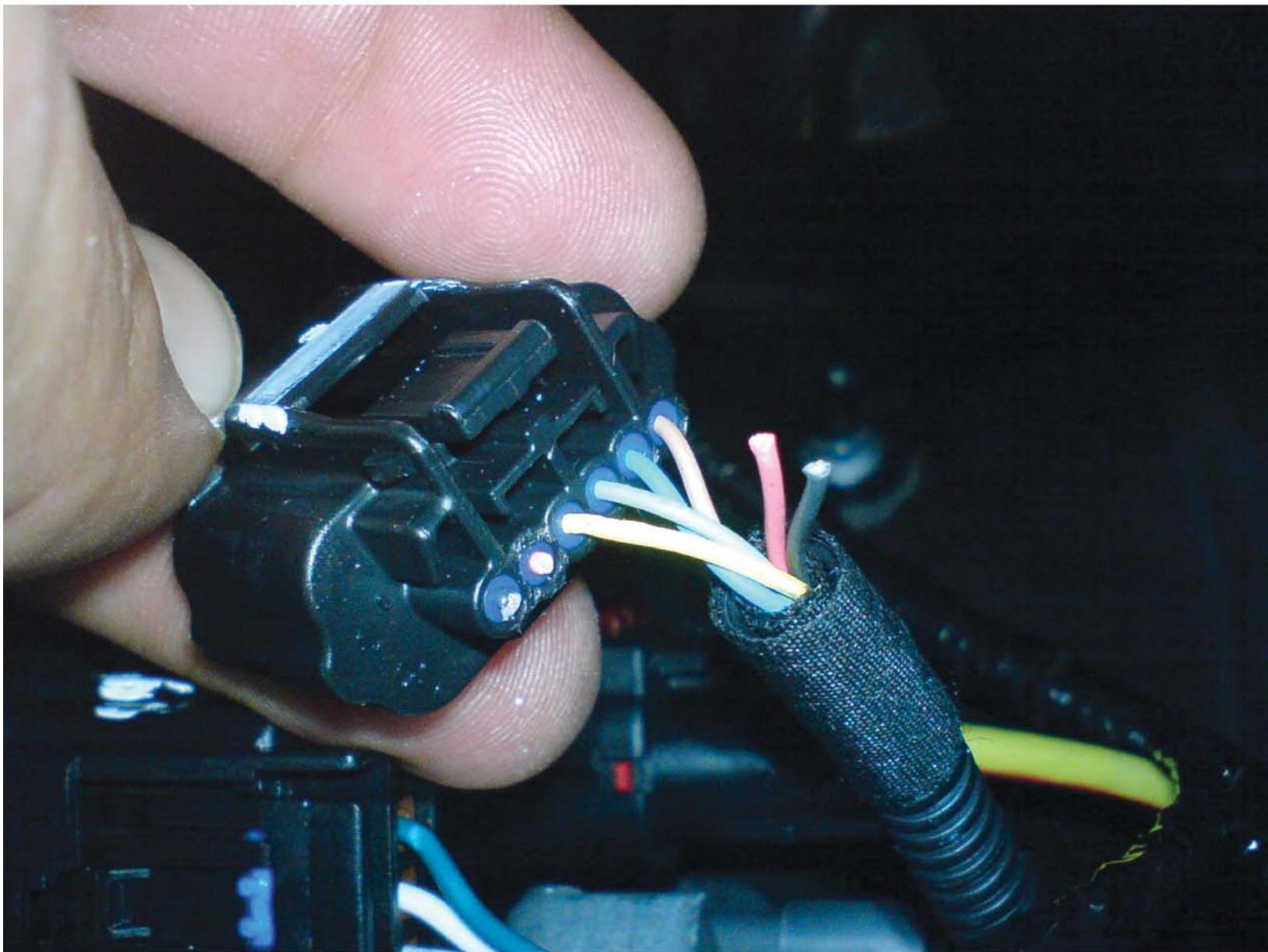
c).- We have one open QR at Ford Hermosillo ( J240482 ).

d)- We have not containment actions at Benteler plant.

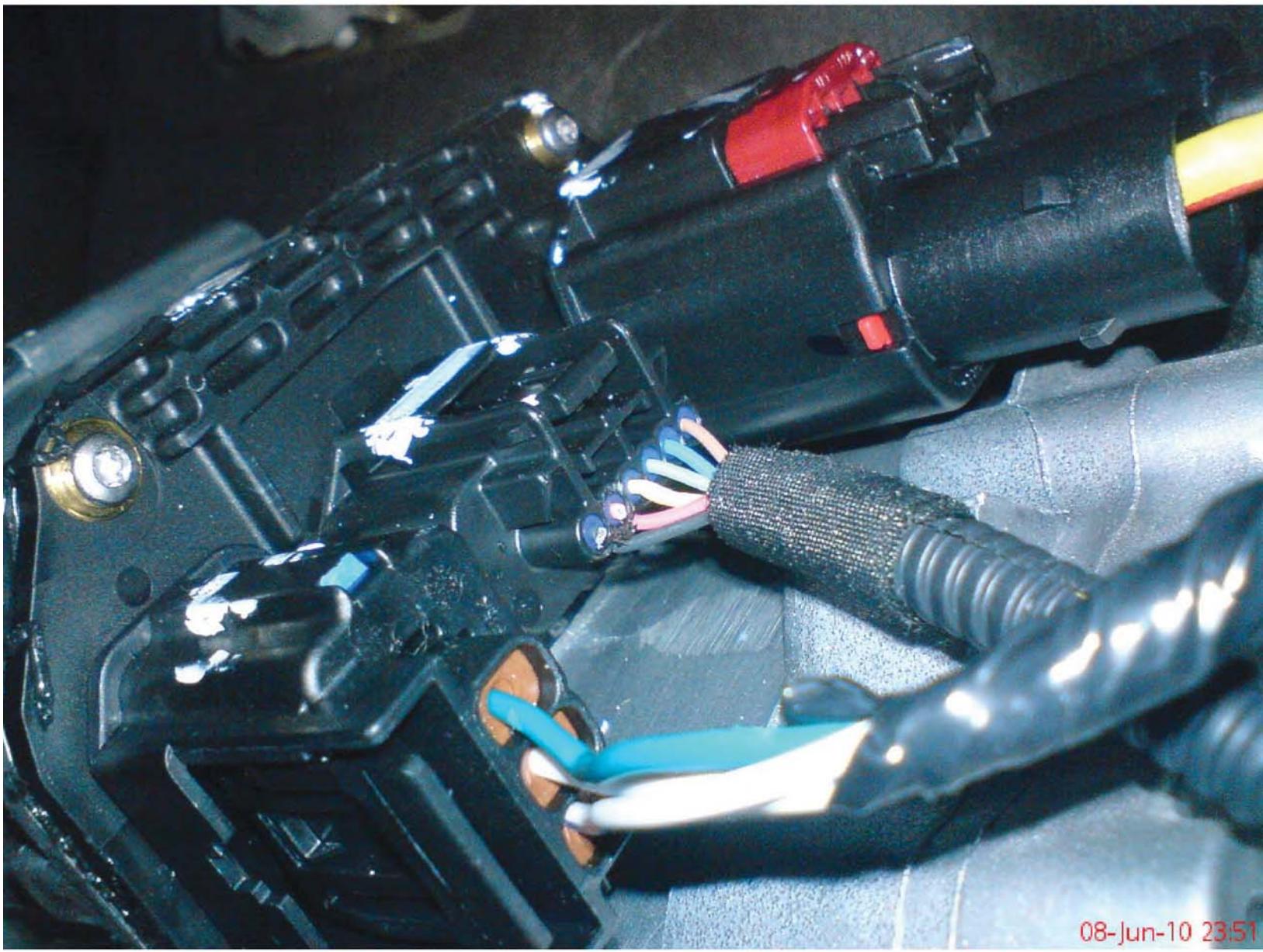
e).- There is a report in the third shift about a vehicle which had lost the assistance on the road test and after an ignition cycle the assistance was recovered. I will check for this car today ( June 9th ).

Thanks & Best regards. Have a nice day.

A. Salazar



PE14-030 000329



08-Jun-10 23:51

PE14-030 000330

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**From:** Guillermo Aguilar <Guillermo.Aguilar@TRW.COM>  
**Sent:** Friday, June 11, 2010 3:01 PM  
**To:** Estes, Eric (E.E.); Mrozek, Robert (R.M.); Snider, Tim (T.O.); angelsaa@prodigy.net.mx  
**Cc:** Ulloa, Fernando (F.F.)  
**Subject:** RE: Ford Hermosillo Daily report for 06 / 08 / 2010

Tim,

This is not in the tracker sheet while is a non TRW's caused issue. Anyhow, let me talk to Angel to support the VTR team on getting the part to them for analysis.

Angel.- Please find out if the EPAS for the damaged harness from Tuesday stills available and if so, turn the harness into the VTR team for analysis.

>>> "Snider, Tim (T.O.)" <tsnider1@ford.com> 6/11/2010 8:23 AM >>>  
I like the microscope idea.

Eric,

Do you have this as a 0 km failure on your tracker sheet?

Regards,  
Tim Snider (tsnider1@ford.com)

**CD3 Steering Engineering**  
**Ford Motor Company**  
Cell 313-805-3201  
2B-L18 Product Development Center  
Dearborn, MI 48124 USA

---

**From:** Mrozek, Robert (R.M.)  
**Sent:** Friday, June 11, 2010 6:50 AM  
**To:** Guillermo Aguilar  
**Cc:** Snider, Tim (T.O.)  
**Subject:** RE: Ford Hermosillo Daily report for 06 / 08 / 2010

We should get the harness under a microscope to understand the mechanism of the failure.  
Anyone find out how this happened? I am not sure the certification process looks at this area of the harness.

*Rob Mrozek*

Electric Power Steering Supervisor  
C346N/CD3/D3/D4/U502/Police/Limo Programs  
Ford Motor Company  
Phone: (313) 805-5947  
e-mail: rmrozek@ford.com

---

**From:** Guillermo Aguilar [mailto:[Guillermo.Aguilar@TRW.COM](mailto:Guillermo.Aguilar@TRW.COM)]  
**Sent:** Thursday, June 10, 2010 6:23 PM  
**To:** Snider, Tim (T.O.); Angel Salazar  
**Cc:** Rogero, Antonio (A.); Estes, Eric (E.E.); Ulloa, Fernando (F.F.); Durand, Gerardo (G.D.); Bahena, Miguel (Mike.); Mrozek, Robert (R.M.); Bejarano, Sergio (SBF.); Toledo, Salvador (S.T.); Hernandez, Victor (V.M.); Aaron Blancas; Engelbert Lu; Jim Loria; Joel Rabideau; JuanCarlos cano; Mathew Alder; Robert Kostadina  
**Subject:** RE: Ford Hermosillo Daily report for 06 / 08 / 2010

Tim,

Attached,

>>> "Snider, Tim (T.O.)" <[tsnider1@ford.com](mailto:tsnider1@ford.com)> 6/10/2010 9:32 AM >>>  
Memo,

Okay. Do you have pictures?

Regards,  
Tim Snider ([tsnider1@ford.com](mailto:tsnider1@ford.com))

**CD3 Steering Engineering**  
**Ford Motor Company**

Cell 313-805-3201  
2B-L18 Product Development Center  
Dearborn, MI 48124 USA

---

**From:** Guillermo Aguilar [mailto:[Guillermo.Aguilar@TRW.COM](mailto:Guillermo.Aguilar@TRW.COM)]  
**Sent:** Thursday, June 10, 2010 9:55 AM  
**To:** Snider, Tim (T.O.); Angel Salazar  
**Cc:** Rogero, Antonio (A.); Estes, Eric (E.E.); Ulloa, Fernando (F.F.); Durand, Gerardo (G.D.); Bahena, Miguel (Mike.); Mrozek, Robert (R.M.); Bejarano, Sergio (SBF.); Toledo, Salvador (S.T.); Hernandez, Victor (V.M.); Aaron Blancas; Engelbert Lu; Jim Loria; Joel Rabideau; JuanCarlos cano; Mathew Alder; Robert Kostadina  
**Subject:** RE: Ford Hermosillo Daily report for 06 / 08 / 2010

Tim,

Attached Angel's comments on the damaged harness. This is a certified harness from our end of line certification.

>>> "Snider, Tim (T.O.)" <[tsnider1@ford.com](mailto:tsnider1@ford.com)> 6/10/2010 8:14 AM >>>  
Memo,

Usual questions, where was the torque sensor harness damaged? Is this a certified harness from TRW? What in the TRW Queretaro, Bentler, or Hermosillo process could damage the harness? Is this a hybrid vehicle?

Angel,

Did you find anything in the hybrid process that could cause this type of damage?

Regards,  
Tim Snider ([tsnider1@ford.com](mailto:tsnider1@ford.com))

## **CD3 Steering Engineering**

### **Ford Motor Company**

Cell 313-805-3201

2B-L18 Product Development Center

Dearborn, MI 48124 USA

---

**From:** Guillermo Aguilar [mailto:[Guillermo.Aguilar@TRW.COM](mailto:Guillermo.Aguilar@TRW.COM)]

**Sent:** Wednesday, June 09, 2010 7:59 PM

**To:** Bahena, Miguel (Mike.); Mrozek, Robert (R.M.); Snider, Tim (T.O.); Hernandez, Victor (V.M.)

**Subject:** Fwd: Ford Hermosillo Daily report for 06 / 08 / 2010

Guys,

HSAP operation report for June 8.

Confirmation for the LOA mentioned in point 3.e) has been confirmed not to be related to the EPAS. Tomorro'w report will detail the mentioned info.

>>> "Angel Salazar" <[angelsaa@prodigy.net.mx](mailto:angelsaa@prodigy.net.mx)> 6/9/2010 8:28 AM >>>

Good morning Glenn,

1.- Here is the information for the production of vehicles with EPAS for 06 / 08 / 2010

a).- production : 1,125 units

b).- The total quantity of vehicles built with EPAS from Job # 1 to date is : 323,848 units ( to be updated ).

#### **2.- Critical Issues :**

a).- The Final assy repair bay, during the second shift, reported a vehicle without steering Gear assistance. Back in Ford, I found with the Ford Diagnosis Tool and the CANape that it is another case of damaged sensor harness..

Vehicle rotation # 2923 / VIN : AR407556

EPP # 101322002B31297

Ford Tool : DTCs : C200B-2F and C200C-2F ( erratic torque signals # 1 and # 2 )

CANape : BD0h, BD2h, BD3h

Later, the harness damage was confirmed.

#### **3.- Comments of the day :**

a).- During the first shift I visited theFinal asy repair bay and the quality audits. Neither the repair bay nor the quality audits reported issues with the Gears.

b).- The quarantine crib is clean.

c).- We have one open QR at Ford Hermosillo ( J240482 ).

d)- We have not containment actions at Benteler plant.

e).- There is a report in the third shift about a vehicle which had lost the assistance on the road test and after an ignition cycle the assistance was recovered. I will check for this car today ( June 9th ).

Thanks & Best regards. Have a nice day.

A. Salazar

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**From:** Angel Salazar <angelsaa@prodigy.net.mx>  
**Sent:** Thursday, June 10, 2010 1:51 PM  
**To:** Snider, Tim (T.O.)  
**Cc:** Guillermo Aguilar  
**Subject:** Re: Ford Hermosillo Daily report for 06 / 08 / 2010

Good morning Tim,

This car is not an HEV .

The latest two damages are located too close to the harness connector to the EPP, so they could be produced during the engine assembly to the front suspension on the moon buggies.. I am checking again for this possibility. And regarding the HEV I have not found any potential risk yet beside the current ones found in the other options.

I will let You know if I found something else during these days.

Thanks & Best Regards. Have a nice day.

A. Salazar

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

**From:** Snider, Tim (T.O.)  
**To:** Guillermo Aguilar ; Angel Salazar  
**Cc:** Ulloa, Fernando (F.F.) ; Durand, Gerardo (G.D.) ; Rogero, Antonio (A.) ; Bahena, Miquel (Mike.) ; Mrozek, Robert (R.M.) ; Hernandez, Victor (V.M.) ; Toledo, Salvador (S.T.) ; Bejarano, Sergio (SBF.) ; Aaron Blancas ; JuanCarlos cano ; Jim Loria ; Engelbert Lu ; Robert Kostadina ; Joel Rabideau ; Estes, Eric (E.E.) ; Mathew Alder  
**Sent:** Thursday, June 10, 2010 6:14 AM  
**Subject:** RE: Ford Hermosillo Daily report for 06 / 08 / 2010

Memo,

Usual questions, where was the torque sensor harness damaged? Is this a certified harness from TRW? What in the TRW Queretaro, Bentler, or Hermosillo process could damage the harness? Is this a hybrid vehicle?

Angel,

Did you find anything in the hybrid process that could cause this type of damage?

Regards,  
Tim Snider ([tsnider1@ford.com](mailto:tsnider1@ford.com))  
**CD3 Steering Engineering**  
**Ford Motor Company**  
Cell 313-805-3201  
2B-L18 Product Development Center  
Dearborn, MI 48124 USA

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**From:** Guillermo Aguilar [<mailto:Guillermo.Aguilar@TRW.COM>]  
**Sent:** Wednesday, June 09, 2010 7:59 PM

**To:** Bahena, Miguel (Mike.); Mrozek, Robert (R.M.); Snider, Tim (T.O.); Hernandez, Victor (V.M.)  
**Subject:** Fwd: Ford Hermosillo Daily report for 06 / 08 / 2010

Guys,

HSAP operation report for June 8.

Confirmation for the LOA mentioned in point 3.e) has been confirmed not to be related to the EPAS. Tomorrow's report will detail the mentioned info.

>>> "Angel Salazar" <[angelsaa@prodigy.net.mx](mailto:angelsaa@prodigy.net.mx)> 6/9/2010 8:28 AM >>>

Good morning Glenn,

1.- Here is the information for the production of vehicles with EPAS for 06 / 08 / 2010

a).- production : 1,125 units

b).- The total quantity of vehicles built with EPAS from Job # 1 to date is : 323,848 units ( to be updated ).

**2.- Critical Issues :**

a).- The Final assembly repair bay, during the second shift, reported a vehicle without steering Gear assistance. Back in Ford, I found with the Ford Diagnosis Tool and the CANape that it is another case of damaged sensor harness..

Vehicle rotation # 2923 / VIN : AR407556  
EPP # 101322002B31297

Ford Tool : DTCs : C200B-2F and C200C-2F ( erratic torque signals # 1 and # 2 )  
CANape : BD0h, BD2h, BD3h

Later, the harness damage was confirmed.

**3.- Comments of the day :**

a).- During the first shift I visited the final assembly repair bay and the quality audits. Neither the repair bay nor the quality audits reported issues with the Gears.

b).- The quarantine crib is clean.

c).- We have one open QR at Ford Hermosillo ( J240482 ).

d).- We have no containment actions at Benteler plant.

e).- There is a report in the third shift about a vehicle which had lost the assistance on the road test and after an ignition cycle the assistance was recovered. I will check for this car today ( June 9th ).

Thanks & Best regards. Have a nice day.

A. Salazar

---

**From:** Mrozek, Robert (R.M.)  
**Sent:** Wednesday, July 21, 2010 5:13 PM  
**To:** 'Guillermo Aguilar'; Bahena, Miguel (Mike.); Snider, Tim (T.O.); Hernandez, Victor (V.M.)  
**Cc:** Rogero, Antonio (A.); Ulloa, Fernando (F.F.); angelsaa@prodigy.net.mx  
**Subject:** RE: Ford Hermosillo Daily report for 07 / 20 / 2010

good idea to walk the process again....we need to keep on looking until we find the gremlin that is cutting these harnesses for us.

*Rob Mrozek*

Electric Power Steering Supervisor  
C346N/CD3/D3/D4/U502/Police/Limo Programs  
Ford Motor Company  
Phone: (313) 805-5947  
e-mail: [rmrozek@ford.com](mailto:rmrozek@ford.com)

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**From:** Guillermo Aguilar [<mailto:Guillermo.Aguilar@TRW.COM>]  
**Sent:** Wednesday, July 21, 2010 12:26 PM  
**To:** Bahena, Miguel (Mike.); Mrozek, Robert (R.M.); Snider, Tim (T.O.); Hernandez, Victor (V.M.)  
**Cc:** Rogero, Antonio (A.); Ulloa, Fernando (F.F.); [angelsaa@prodigy.net.mx](mailto:angelsaa@prodigy.net.mx)  
**Subject:** Fwd: Ford Hermosillo Daily report for 07 / 20 / 2010

Guys,

Attached Tuesday's report of HSAP's operation.

As you may find in the report, the gear that lost assist. on Monday was confirmed to be a damaged harness; next Tuesday and Wednesday I'll be in Hermosillo, and I'll walk the process with Angel and perhaps Fernando and Antonio Rogero's support, to help identify any possible assembly or mat. handle issues both at HSAP and Benteler.

>>> "Angel Salazar" <[angelsaa@prodigy.net.mx](mailto:angelsaa@prodigy.net.mx)> 7/21/2010 8:39 AM >>>  
Good morning Glenn,

1.- Here is the information for the production of vehicles with EPAS for 07 / 20 / 2010

a).- production : 970 units..

b).- The total quantity of vehicles built with EPAS from Job # 1 to date is : 347, 020 units ( to be updated ).

**2.- Critical Issues :**

a).- No critical issues to report today ( meaning, no CRs and no rejects neither from Final Assy nor from the quality audits ).

### **3.- Comments of the day :**

a).- Regarding the vehicle without Gear assistance reported yesterday by the end of the second shift, We have that today I met Bertha Gomez ( Incoming Quality ) and G. Izaguirre to continue the analysis at the repair bay. With the Ford Diagnosis Tool I could confirm that it is a case of a damaged sensor harness. Once the vehicle was raised on the hoist, We could find the damage ( please see the pictures attached )

Vehicle rotation# 9019 / VIN : AR430801

The Gear was charged to the Final assy production line. The harness will be kept by the VRT for future analysis.

b).- TRW QOA has sent to Ford Incoming Quality an updated 8D report for the QR J240704.

c).- Visit to the Incoming Quality office. Met with the engineers. No issues to report over here. The quarantine crib is clean..

d).- We have one open QR at Ford Hermosillo ( J240704 ).

e)- We have not containment actions at Benteler plant.

Thanks & Best regards. Have a nice day.

A. Salazar

---

**From:** Angel Salazar <angelsaa@prodigy.net.mx>  
**Sent:** Wednesday, October 06, 2010 2:09 PM  
**To:** Snider, Tim (T.O.)  
**Cc:** Bahena, Miguel (Mike.); Guillermo Aguilar; Mrozek, Robert (R.M.); Hernandez, Victor (V.M.)  
**Subject:** Re: Ford Hermosillo Daily report for 10 / 01 / 2010

Good morning Tim,

I agree with You about the dunnage could not damage the torque sensor harness. A collapsed dunnage could affect the EPP connectors but the harness can not be reached as far as We can see. Moreover, the lately reported damaged harnesses ( last week ), are into the time We are performing a revision of all the collapsed dunnage at Benteler plant ( started on Sep 24th ). None of the 5 collapsed pallets reported so far got damaged Gears. Anyway I will took another look on this issue.

Thanks & Best Regards. Have a nice day.

A. Salazar

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

**From:** Snider, Tim (T.O.)  
**To:** angelsaa@prodigy.net.mx  
**Cc:** Bahena, Miguel (Mike.) ; Guillermo Aguilar ; Mrozek, Robert (R.M.) ; Hernandez, Victor (V.M.)  
**Sent:** Tuesday, October 05, 2010 11:14 AM  
**Subject:** RE: Ford Hermosillo Daily report for 10 / 01 / 2010

Angel,

Please investigate.

Mike,

I don't think the dunnage could damage the torque sensor harness. I don't think the dunnage is sharp enough by the harness. But, we can check.

Regards,  
Tim Snider ([tsnider1@ford.com](mailto:tsnider1@ford.com))  
**CD3 Steering Engineering**  
**Ford Motor Company**  
Cell 313-805-3201  
2B-L18 Product Development Center  
Dearborn, MI 48124 USA

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**From:** Bahena, Miguel (Mike.)  
**Sent:** Monday, October 04, 2010 11:17 AM  
**To:** 'Guillermo Aguilar'; Mrozek, Robert (R.M.); Snider, Tim (T.O.); Hernandez, Victor (V.M.)  
**Subject:** RE: Ford Hermosillo Daily report for 10 / 01 / 2010

Guys,

Could the dunnage possibly be damaging the torque sensor harnesses? Just a thought.

Sincerely,

**Mike Bahena**  
**D3 Electric Power Steering Systems**  
**Ford Motor Co.**  
Ph: (313) 805-3680  
[mbahena1@ford.com](mailto:mbahena1@ford.com)

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**From:** Guillermo Aguilar [<mailto:Guillermo.Aguilar@TRW.COM>]

**Sent:** Monday, October 04, 2010 11:14 AM

**To:** Bahena, Miguel (Mike.); Mrozek, Robert (R.M.); Snider, Tim (T.O.); Hernandez, Victor (V.M.)

**Subject:** Fwd: Ford Hermosillo Daily report for 10 / 01 / 2010

Guys,

Operation report at HSAP on Friday Oct. 1st.

>>> "Angel Salazar" <[angelsaa@prodigy.net.mx](mailto:angelsaa@prodigy.net.mx)> 10/3/2010 12:42 PM >>>

Good morning Glenn,

1.- Here is the information for the production of vehicles with EPAS for 10 / 01 / 2010

a).- production : 1,042 units

b).- The total quantity of vehicles built with EPAS from Job # 1 to date is : 409, 006 units ( aprox / to be updated ).

**2.- Critical Issues :**

a).- No critical issues to report today ( meaning, no CRs and no rejects neither from Final Assy nor from the quality audits ).

**3.- Comments of the day :**

a).-The Final assy repair bay, first shift, reported a vehicle without steering Gear assistance and rejected by the Prerolls with the code U3000 ( Vehicle VIN : BR152885 ). With the Ford Diagnosis Tool I found erratic torques for signals # 1 and # 2 ( please see the file attached ). When the Gear was removed from the car the sensor harnes was found damaged ( please see picture ). This is the second one in the week. The damage is in the same place.

b).- And during the second shift the Final assy repair bay reported one more vehicle without steering Gear assistance and rejected by the Prerolls with the code U3000 ( Vehicle VIN : BR155838 ). Again with the Ford Diagnosis Tool I found erratic torques for signals # 1 and # 2. ( please see the file attached ). This Gear has not been removed from the car yet however there is a high possibility to be another damaged sensor harness. It would be the third one in the week.

c).- No problems were reported from the quality audits regarding the Gears.

d).- Visit to the Incoming Quality office. Met with the Engineers. They had no issues to report for TRW supplier.

e).-We have three CRs at Ford Hermosillo ( J241036, J241058 and J241079 ). TRW QOA has sent updated information for all them.

f)- The containment action for collapsed pallets is still on going at Benteler plant. We are still having the same status : 5 pallets found since Friday 24th . No damaged Gears in them.

Thanks & Best regards. Have a nice day.  
A. Salazar

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\_\_\_\_\_ Información de NOD32, revisión 5505 (20101005) \_\_\_\_\_

Este mensaje ha sido analizado con NOD32 antivirus system  
<http://www.nod32.com>

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**From:** Mrozek, Robert (R.M.)  
**Sent:** Wednesday, December 01, 2010 7:29 PM  
**To:** Snider, Tim (T.O.); 'Mathew Alder'  
**Cc:** 'Guillermo Aguilar'; Bahena, Miguel (Mike.); Hernandez, Victor (V.M.)  
**Subject:** RE: Ford Hermosillo Daily report for 11 / 30 / 2010

Good....so this is not a current production issue.

Sounds like this nib height needs to be a HIC on the print.

*Rob Mrozek*

Electric Power Steering Supervisor  
C346N/CD3/D3/D4/U502/Police/Limo Programs  
Ford Motor Company  
Phone: (313) 805-5947  
e-mail: [rmrozek@ford.com](mailto:rmrozek@ford.com)

---

**From:** Snider, Tim (T.O.)  
**Sent:** Wednesday, December 01, 2010 2:28 PM  
**To:** Mrozek, Robert (R.M.); 'Mathew Alder'  
**Cc:** 'Guillermo Aguilar'; Bahena, Miguel (Mike.); Hernandez, Victor (V.M.)  
**Subject:** RE: Ford Hermosillo Daily report for 11 / 30 / 2010

Rob,

This is a PP vehicle, so it's Rane.

Mat,

What does the TRW drawing allow for locating / manufacturing feature height on the bottom right side of the gear? I'll give you a call.

Regards,  
Tim Snider ([tsnider1@ford.com](mailto:tsnider1@ford.com))

**CD3/C489 Steering Engineering**  
**Ford Motor Company**

Cell 313-805-3201  
2B-L18 Product Development Center  
Dearborn, MI 48124 USA

---

**From:** Mrozek, Robert (R.M.)  
**Sent:** Wednesday, December 01, 2010 2:14 PM

**To:** 'Guillermo Aguilar'; Bahena, Miguel (Mike.); Snider, Tim (T.O.); Hernandez, Victor (V.M.)  
**Subject:** RE: Ford Hermosillo Daily report for 11 / 30 / 2010

Good find.

Who makes this housing and is it part of the Sensus housings we are currently launching in production? If so, we need a containment asap.

*Rob Mrozek*

Electric Power Steering Supervisor  
C346N/CD3/D3/D4/U502/Police/Limo Programs  
Ford Motor Company  
Phone: (313) 805-5947  
e-mail: [rmrozek@ford.com](mailto:rmrozek@ford.com)

---

**From:** Guillermo Aguilar [<mailto:Guillermo.Aguilar@TRW.COM>]

**Sent:** Wednesday, December 01, 2010 1:54 PM

**To:** Bahena, Miguel (Mike.); Mrozek, Robert (R.M.); Snider, Tim (T.O.); Hernandez, Victor (V.M.)

**Subject:** Fwd: Ford Hermosillo Daily report for 11 / 30 / 2010

Guys,

Operation report at HSAP.

>>> "Angel Salazar" <[angelsaa@prodigy.net.mx](mailto:angelsaa@prodigy.net.mx)> 12/1/2010 8:01 AM >>>

Good morning Glenn,

1.- Here is the information for the production of vehicles with EPAS for 11 / 30 / 2010

a).- production : 1,038 units

b).- The total quantity of vehicles built with EPAS from Job # 1 to date is : 459, 673 units ( aprox / to be updated ).

**2.- Critical Issues :**

a).- The S&R VRT analyst reported a PP HEV Vehicle ( Pre Production / Hybrid / 2011.5 J2 ) due to a squeak ( like an old door hinges ) that seems coming from the steering Gear when the steering wheel is turned. The analysis is on going to confirm if the Gear is really generating the squeak. Due to this vehicle is a pre-production, the Launch Team is following up this issue.

Vehicle rotation # 9315 ; VIN : BR174331.

Gear part # AE5C-3200-CG

Continuing with the analysis, it was found that the cause is a pin of the Gear's housing which is touching the suspension frame. I joined Pedrazzini at the PDI area to confirm this condition. The given explanation was that when the steering Gear is turned there is a slight movement of the Gear's housing due to the torque forces ( specially when the car is not in movement ). The Gear is mounted on the suspension frame with metal bushings surrounded by rubber, then the rubber allows some compression and movement.

I am attaching a picture taken by Ford Hermosillo of the pin touching the frame. This pin is longer than the pins on the current Gears level CD. The PP Gear is level CG. We think this pin is used as a locator for the Gear's housing manufacturing.

The Ford Hermosillo Launch Team issued the SRI Notification # 3160416 to TRW. As containment action, the Launch Team requested that those pins be removed in all the PP 2011.5 MY vehicles. This task is being performed by Ford

### **3.- Comments of the day**

a).- Visit the Quality audits. I found no call for TRW Gears. The Final assy repair bay did not report issues for TRW Gears.

b).- Visit the Incoming Quality office. I joined the Engrs. They had no issues to inform about the TRW Gears. The quarantine crib is clean.

c).- We have four open QRs at Ford Hermosillo : J241058 / damaged connector EPP ), J241319 ( codes B25, B95 & B97 ), J241361 ( code BD4 ) and J241366 ( rattle from the input shaft ).

d ).- We have no sorts at Benteler plant.

Thanks & Best regards. Have a nice day.

A. Salazar  
TRW Rep.

---

**From:** Guillermo Aguilar <Guillermo.Aguilar@TRW.COM>  
**Sent:** Wednesday, December 01, 2010 8:01 PM  
**To:** Alder, Mathew; Mrozek, Robert (R.M.); Snider, Tim (T.O.)  
**Cc:** Bahena, Miguel (Mike.); Hernandez, Victor (V.M.)  
**Subject:** RE: Ford Hermosillo Daily report for 11 / 30 / 2010

We have a height of 6mm max, we are analyzing a few parts we have in house. Keep you posted.



>>> "Snider, Tim (T.O.)" <[tsnider1@ford.com](mailto:tsnider1@ford.com)> 12/1/2010 1:27 PM >>>  
Rob,

This is a PP vehicle, so it's Rane.

Mat,

What does the TRW drawing allow for locating / manufacturing feature height on the bottom right side of the gear? I'll give you a call.

Regards,  
Tim Snider ([tsnider1@ford.com](mailto:tsnider1@ford.com))  
**CD3/C489 Steering Engineering**  
**Ford Motor Company**  
Cell 313-805-3201  
2B-L18 Product Development Center  
Dearborn, MI 48124 USA

---

**From:** Mrozek, Robert (R.M.)  
**Sent:** Wednesday, December 01, 2010 2:14 PM  
**To:** 'Guillermo Aguilar'; Bahena, Miguel (Mike.); Snider, Tim (T.O.); Hernandez, Victor (V.M.)  
**Subject:** RE: Ford Hermosillo Daily report for 11 / 30 / 2010

Good find.

Who makes this housing and is it part of the Sensus housings we are currently launching in production? If so, we need a containment asap.

*Rob Mrozek*

Electric Power Steering Supervisor  
C346N/CD3/D3/D4/U502/Police/Limo Programs  
Ford Motor Company  
Phone: (313) 805-5947  
e-mail: [rmozek@ford.com](mailto:rmozek@ford.com)

---

**From:** Guillermo Aguilar [<mailto:Guillermo.Aguilar@TRW.COM>]  
**Sent:** Wednesday, December 01, 2010 1:54 PM  
**To:** Bahena, Miguel (Mike.); Mrozek, Robert (R.M.); Snider, Tim (T.O.); Hernandez, Victor (V.M.)  
**Subject:** Fwd: Ford Hermosillo Daily report for 11 / 30 / 2010

Guys,

Operation report at HSAP.

>>> "Angel Salazar" <[angelsaa@prodigy.net.mx](mailto:angelsaa@prodigy.net.mx)> 12/1/2010 8:01 AM >>>

Good morning Glenn,

1.- Here is the information for the production of vehicles with EPAS for 11 / 30 / 2010

a).- production : 1,038 units

b).- The total quantity of vehicles built with EPAS from Job # 1 to date is : 459, 673 units ( aprox / to be updated ).

## 2.- Critical Issues :

a).- The S&R VRT analyst reported a PP HEV Vehicle ( Pre Production / Hybrid / 2011.5 J2 ) due to a squeak ( like an old door hinges ) that seems coming from the steering Gear when the steering wheel is turned. The analysis is on going to confirm if the Gear is really generating the squeak. Due to this vehicle is a pre-production, the Launch Team is following up this issue.

Vehicle rotation # 9315 ; VIN : BR174331.

Gear part # AE5C-3200-CG

Continuing with the analysis, it was found that the cause is a pin of the Gear's housing which is touching the suspension frame. I joined Pedrazzini at the PDI area to confirm this condition. The given explanation was that when the steering Gear is turned there is a slight movement of the Gear's housing due to the torque forces ( specially when the car is not in movement ). The Gear is mounted on the suspension frame with metal bushings surrounded by rubber, then the rubber allows some compression and movement.

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## 3.- Comments of the day

a).- Visit the Quality audits. I found no call for TRW Gears. The Final assy repair bay did not report issues for TRW Gears.

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d ).- We have no sorts at Benteler plant.

Thanks & Best regards. Have a nice day.

A. Salazar

TRW Rep.

---

**From:** Snider, Tim (T.O.)  
**Sent:** Wednesday, December 01, 2010 7:28 PM  
**To:** Mrozek, Robert (R.M.); 'Mathew Alder'  
**Cc:** 'Guillermo Aguilar'; Bahena, Miguel (Mike.); Hernandez, Victor (V.M.)  
**Subject:** RE: Ford Hermosillo Daily report for 11 / 30 / 2010  
**Attachments:** RYR Steering Gear 2011.5 PP.ppt

Rob,

This is a PP vehicle, so it's Rane.

Mat,

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Regards,  
Tim Snider ([tsnider1@ford.com](mailto:tsnider1@ford.com))

**CD3/C489 Steering Engineering**  
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**From:** Mrozek, Robert (R.M.)  
**Sent:** Wednesday, December 01, 2010 2:14 PM  
**To:** 'Guillermo Aguilar'; Bahena, Miguel (Mike.); Snider, Tim (T.O.); Hernandez, Victor (V.M.)  
**Subject:** RE: Ford Hermosillo Daily report for 11 / 30 / 2010

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*Rob Mrozek*

Electric Power Steering Supervisor  
C346N/CD3/D3/D4/U502/Police/Limo Programs  
Ford Motor Company  
Phone: (313) 805-5947  
e-mail: [rmrozek@ford.com](mailto:rmrozek@ford.com)

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**From:** Guillermo Aguilar [<mailto:Guillermo.Aguilar@TRW.COM>]  
**Sent:** Wednesday, December 01, 2010 1:54 PM

**To:** Bahena, Miguel (Mike.); Mrozek, Robert (R.M.); Snider, Tim (T.O.); Hernandez, Victor (V.M.)  
**Subject:** Fwd: Ford Hermosillo Daily report for 11 / 30 / 2010

Guys,

Operation report at HSAP.

>>> "Angel Salazar" <[angelsaa@prodigy.net.mx](mailto:angelsaa@prodigy.net.mx)> 12/1/2010 8:01 AM >>>

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a).- production : 1,038 units

b).- The total quantity of vehicles built with EPAS from Job # 1 to date is : 459, 673 units ( aprox / to be updated ).

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a).- The S&R VRT analyst reported a PP HEV Vehicle ( Pre Production / Hybrid / 2011.5 J2 ) due to a squeak ( like an old door hinges ) that seems coming from the steering Gear when the steering wheel is turned. The analysis is on going to confirm if the Gear is really generating the squeak. Due to this vehicle is a pre-production, the Launch Team is following up this issue.

Vehicle rotation # 9315 ; VIN : BR174331.

Gear part # AE5C-3200-CG

Continuing with the analysis, it was found that the cause is a pin of the Gear's housing which is touching the suspension frame. I joined Pedrazzini at the PDI area to confirm this condition. The given explanation was that when the steering Gear is turned there is a slight movement of the Gear's housing due to the torque forces ( specially when the car is not in movement ). The Gear is mounted on the suspension frame with metal bushings surrounded by rubber, then the rubber allows some compression and movement.

I am attaching a picture taken by Ford Hermosillo of the pin touching the frame. This pin is longer than the pins on the current Gears level CD. The PP Gear is level CG. We think this pin is used as a locator for the Gear's housing manufacturing.

The Ford Hermosillo Launch Team issued the SRI Notification # 3160416 to TRW. As containment action, the Launch Team requested that those pins be removed in all the PP 2011.5 MY vehicles. This task is being performed by Ford

## 3.- Comments of the day

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d ).- We have no sorts at Benteler plant.

Thanks & Best regards. Have a nice day.

A. Salazar  
TRW Rep.

VIN : BR174331

Gear's pin touching the frame



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**From:** Martha Abundis <Martha.A bundis@TRW.COM>  
**Sent:** Friday, December 04, 2009 4:40 PM  
**To:** Mrozek, Robert (R.M.)  
**Cc:** Bahena, Miguel (Mike.); Snider, Tim (T.O.)  
**Subject:** RE: Ford Hermosillo Daily report for 12 / 03 / 09

1. First containment [10/31]: At Benteler noise check (stopped on 11/6). At QAO noise check at the end of the line.
2. Second containment [11/12]: At QAO, change noise check from the end of the line to before Bully Test
3. Third containment [11/14]: At QAO, noise check before Bully Test and hysteresis parameter modified from 1.8 to 1.2
4. Break containment at HSAP [11/21]. During changeover the last revision of the EOLT program was not uploaded
5. Forth containment [11/21]: At Benteler noise check until receive 200% certified material from QAO. At QAO, noise check before Bully Test, hysteresis check and noise check at the end of the line.

Martha

>>> "Mrozek, Robert (R.M.)" <rmrozek@ford.com> 12/4/2009 9:05 AM >>>

What was explained to me was you had it before and after bully AND you has the hysteresis check and all 3 failed.

Rob Mrozek  
Electric Power Steering Supervisor  
C346N/CD3/D3/D4/U502/Police/Limo Programs Ford Motor Company  
Phone: (313) 805-5947  
e-mail: rmrozek@ford.com

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

From: Martha Abundis [mailto:Martha.A bundis@TRW.COM]  
Sent: Friday, December 04, 2009 10:03 AM  
To: Mrozek, Robert (R.M.)  
Cc: Bahena, Miguel (Mike.); Snider, Tim (T.O.)  
Subject: RE: Ford Hermosillo Daily report for 12 / 03 / 09

Rob,

We break containment because we change the noise inspection at QAO from the end of the line to before Bully Test, and we had just one point of inspection.

Since Nov 21, we started (at QAO) with 200% noise inspection. That is why we decide to stop the Benteler containment

Martha

>>> "Mrozek, Robert (R.M.)" <rmrozek@ford.com> 12/4/2009 8:59 AM >>>

That would be great if you did not break containment last week. That is why we added the Benteler check. Turn it back on please cause we never got a good reason why containment was broken and why is will never happen again.

Rob Mrozek  
Electric Power Steering Supervisor  
C346N/CD3/D3/D4/U502/Police/Limo Programs Ford Motor Company  
Phone: (313) 805-5947  
e-mail: rmrozek@ford.com

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

From: Martha Abundis [mailto:Martha.Abundis@TRW.COM]  
Sent: Friday, December 04, 2009 9:55 AM  
To: Mrozek, Robert (R.M.)  
Cc: Bahena, Miguel (Mike.); Snider, Tim (T.O.)  
Subject: RE: Ford Hermosillo Daily report for 12 / 03 / 09

Rob,

We stopped the containment at Benteler on 11/30 because we are sorting 200% at QAO. First noise inspection is before Bully Test and second inspection is at the end of the line.

Martha

>>> "Mrozek, Robert (R.M.)" <rmrozek@ford.com> 12/4/2009 8:49 AM >>>  
No one told me we stopped at Benteler. You need Benteler inspection until you find root cause for the cricket. Looks like we just found a cricket in the field....not funny and very concerning and very upsetting.

Please turn Benteler back on until you find root cause.

Rob Mrozek  
Electric Power Steering Supervisor  
C346N/CD3/D3/D4/U502/Police/Limo Programs Ford Motor Company  
Phone: (313) 805-5947  
e-mail: rmrozek@ford.com

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

From: Martha Abundis [mailto:Martha.Abundis@TRW.COM]  
Sent: Friday, December 04, 2009 9:41 AM  
To: Mrozek, Robert (R.M.)  
Cc: Bahena, Miguel (Mike.); Snider, Tim (T.O.)  
Subject: RE: Ford Hermosillo Daily report for 12 / 03 / 09

No, we are doing the containment at QAO

Martha

>>> "Mrozek, Robert (R.M.)" <rmrozek@ford.com> 12/4/2009 8:33 AM >>>

Aren't you still doing cricket containment at HSAP?

Rob Mrozek  
Electric Power Steering Supervisor

C346N/CD3/D3/U502/Police/Limo Programs Ford Motor Company  
Phone: (313) 805-5947  
e-mail: rmrozek@ford.com

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

From: Martha Abundis [mailto:Martha.A bundis@TRW.COM]  
Sent: Friday, December 04, 2009 9:28 AM  
To: Bahena, Miguel (Mike.); Mrozek, Robert (R.M.); Snider, Tim (T.O.)  
Subject: Ford Hermosillo Daily report for 12 / 03 / 09

1.- Here is the information for the production of vehicles with EPAS  
for 12/ 03 / 09 :

a).- production : 957 units.

b).- The total quantity of vehicles built with EPAS from Job # 1 to date  
is : 181, 934 units ( to be updated due to plant shut down Thursday 19  
& Friday 20th ).

2.- Critical Issues :

a).- No critical issues to report today ( meaning, no CRs and no  
rejects neither from Final Assy nor from the quality audits ).

3.- Comments of the day :

a).- The Gear of the CR # I241663 ( EPP # 092901177J30491 / Build  
Julian date : 324 ) was finally removed from the vehicle at the evening  
and sent to the quarantine crib. Again, I will look to ship the Gear to  
TRW QOA by today. There is an issue with the paperwork that had been  
ready since two days ago. I will check for it today.

b).- Walk around the quality audits and the Final assy repair bay. No  
issues to report were found. A quiet day. At the quarantine crib the  
rest of the Gears segregated by cricket noise at Benteler by SICAI ( 6  
pcs ) have arrived.

c).- Met with Victor Beltran ( Incoming Quality Supervisor ) in his office . I have handled to him a copy of the VQR presentation and other information requested during the last visit of Martha Abundis and Pavel Vetz.

d).- Open QR/CRs to date : I241469, I241496 I241503., I241589, I241645 & I241663.

e).- Currently, We have no containment actions at Benteler plant.

---

**From:** Ulloa, Fernando (F.F.)  
**Sent:** Monday, August 03, 2009 7:50 PM  
**To:** Bouse, William (Bill.); Bahena, Miguel (Mike.); Chacon, Jose (A.); Diez, Timothy (T.P.); Mrozek, Robert (R.M.); Napoli, Laura (L.); Porter, Wesley (W.); Puleri, Michael (M.J.); Quijada, Jorge (J.); Rossi, Roberto (R.A.)  
**Subject:** RE: FR0019 8D Part 1

Just for your information, we just detected another car here in the plant with no assist with the DTC U3000:49, TRW representative has been informed via text message, I am waiting for his response.

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

From: Bouse, William (Bill.)  
Sent: Monday, August 03, 2009 12:40 PM  
To: Bahena, Miguel (Mike.); Chacon, Jose (A.); Diez, Timothy (T.P.); Mrozek, Robert (R.M.); Napoli, Laura (L.); Porter, Wesley (W.); Puleri, Michael (M.J.); Quijada, Jorge (J.); Rossi, Roberto (R.A.); Ulloa, Fernando (F.F.)  
Subject: FW: FR0019 8D Part 1

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

From: Robert Kostadina [<mailto:Robert.Kostadina@TRW.COM>]  
Sent: Wednesday, July 29, 2009 1:30 PM  
To: Bouse, William (Bill.)  
Subject: FR0019 8D Part 1

Bill,

I took out the presentation of engineering analysis tab Steering Evaluation. I am going to send it to you on a separate e-mail. This should work.

Rob

---

**From:** Geoff Jacks <Geoff.Jacks@TRW.COM>  
**Sent:** Monday, November 30, 2009 12:13 PM  
**To:** Martha Abundis; Mrozek, Robert (R.M.)  
**Cc:** Anthony Fleenor; Estes, Eric (E.E.); Bahena, Miguel (Mike.); Snider, Tim (T.O.); Diez, Timothy (T.P.)  
**Subject:** RE: FR0027 - 8D for closure  
**Attachments:** Geoff Jacks.vcf

Rob,

Based on the evidence to date, I would have to favour Murata's view - that this was a single occurrence. I do appreciate your point, but unless we get another return with the same failure mode, then we have no evidence to support otherwise.

We have used Murata resonators on EPS products over 5 years now as well as on other TRW products. This is the first resonator failure of this type I have seen/am aware of in that time. I therefore believe it is a 'one off'.

Regarding x-ray, this would not be an effective screen. Even when Murata x-rayed the component they were no able to detect the issue.

Changing the period between blade changes will not help. The blades are what is described as 'self sharpening'. This means that as the blade cuts, the outer surface is rubbed away. This then exposes fresh diamond particles and effectively a 'new' blade. The optimisation process spoken of within the 8D was chiefly in an effort to improve this self-sharpening.

I hope this makes the situation a little clearer?

Regards

Geoff

**Geoff Jacks**  
Quality and Product Support  
European Steering Team Leader  
TRW Electronic Engineering (TEE)  
Technical Centre  
Stratford Road  
Shirley  
Solihull  
B90 4GW

Tel: +44 (0)121 627 4602  
Fax: +44 (0)121 627 3773  
Mob: +44 (0)7740 915 904  
email: [geoff.jacks@trw.com](mailto:geoff.jacks@trw.com)

>>> "Mrozek, Robert (R.M.)" <[rmrozek@ford.com](mailto:rmrozek@ford.com)> 29/11/2009 19:49 >>>  
This seems pretty weak to say that they send 390million of them and  
Ford/TRW were the only lucky ones to get a bad resonator so...don't  
worry about it. There is another argument that goes like this....you've  
built 390 milion of them, something changed in your process and now you

are sending many bad parts? Which is true? Where is the statistical proof? Can we x-ray 100% of the parts for the next month or reduce the period between blade changes to avoid the chipping?

Rob Mrozek  
Electric Power Steering Supervisor  
C346N/CD3/D3/D4/U502/Police/Limo Programs  
Ford Motor Company  
Phone: (313) 805-5947  
e-mail: [rmrozek@ford.com](mailto:rmrozek@ford.com)

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

From: Martha Abundis [mailto:[Martha.A bundis@TRW.COM](mailto:Martha.A bundis@TRW.COM)]  
Sent: Wednesday, November 25, 2009 3:15 PM  
To: Bahena, Miguel (Mike.); Mrozek, Robert (R.M.); Diez, Timothy (T.P.);  
Snider, Tim (T.O.)  
Cc: Estes, Eric (E.E.); Anthony Fleenor; Geoff Jacks  
Subject: FR0027 - 8D for closure

Mike,

Per your review and closure, see attached 8D for Warranty FR0027.

Regards,  
Martha

TRW Limited

Registered in England, No. 872948

Registered Office Address: Stratford Road, Solihull B90 4AX

---

**From:** Geoff Jacks <Geoff.Jacks@TRW.COM>  
**Sent:** Monday, December 14, 2009 10:13 AM  
**To:** Estes, Eric (E.E.); Mike Davies; Mrozek, Robert (R.M.)  
**Cc:** Bahena, Miguel (Mike.); Snider, Tim (T.O.)  
**Subject:** RE: FR0027( No Com)  
**Attachments:** Geoff Jacks.vcf

Rob,

The corrective action was due 30th November. I have gone back to Murata and asked them to confirm that this action was completed. Once we have this confirmation, then I believe we are in a good position to close this.

Regards

Geoff

***Geoff Jacks***

*Quality and Product Support  
European Steering Team Leader  
TRW Electronic Engineering (TEE)  
Technical Centre  
Stratford Road  
Shirley  
Solihull  
B90 4GW*

■ Tel: +44 (0)121 627 4602  
■ Fax: +44 (0)121 627 3773  
■ Mob: +44 (0)7740 915 904  
■ email: [geoff.jacks@trw.com](mailto:geoff.jacks@trw.com)

>>> "Mrozek, Robert (R.M.)" <[rmrozek@ford.com](mailto:rmrozek@ford.com)> 11/12/2009 16:10 >>>

I am checking with my team. I notice there is no action and there is one open item on the 8D. Is that item closed and are you guys comfortable with there being no action to prevent reoccur?

*Rob Mrozek*

Electric Power Steering Supervisor  
C346N/CD3/D3/D4/U502/Police/Limo Programs  
Ford Motor Company  
Phone: (313) 805-5947  
e-mail: [rmrozek@ford.com](mailto:rmrozek@ford.com)

---

**From:** Estes, Eric (E.E.)  
**Sent:** Thursday, December 10, 2009 10:27 AM  
**To:** Mrozek, Robert (R.M.)

**Cc:** Bahena, Miguel (Mike.); Snider, Tim (T.O.); Geoff Jacks; 'Mike Davies'  
**Subject:** FR0027( No Com)

Rob the 8D was sent out 11/25 checking to see if I can close this out.

Let me know thanks

*Eric J Estes*

TRW EPAS Steering Systems  
Quality Specialist  
Hotline ph# 313-317-9358  
Cell ph# 734-560-3493

TRW Limited

Registered in England, No. 872948

Registered Office Address: Stratford Road, Solihull B90 4AX

---

**From:** Mrozek, Robert (R.M.)  
**Sent:** Friday, December 11, 2009 4:11 PM  
**To:** Estes, Eric (E.E.); 'Geoff Jacks'; 'Mike Davies'  
**Cc:** Bahena, Miguel (Mike.); Snider, Tim (T.O.)  
**Subject:** RE: FR0027( No Com)

I am checking with my team. I notice there is no action and there is one open item on the 8D. Is that item closed and are you guys comfortable with there being no action to prevent reoccur?

*Rob Mrozek*

Electric Power Steering Supervisor  
C346N/CD3/D3/D4/U502/Police/Limo Programs  
Ford Motor Company  
Phone: (313) 805-5947  
e-mail: [rmrozek@ford.com](mailto:rmrozek@ford.com)

---

**From:** Estes, Eric (E.E.)  
**Sent:** Thursday, December 10, 2009 10:27 AM  
**To:** Mrozek, Robert (R.M.)  
**Cc:** Bahena, Miguel (Mike.); Snider, Tim (T.O.); Geoff Jacks; 'Mike Davies'  
**Subject:** FR0027( No Com)

Rob the 8D was sent out 11/25 checking to see if I can close this out.

Let me know thanks

*Eric J Estes*

TRW EPAS Steering Systems  
Quality Specialist  
Hotline ph# 313-317-9358  
Cell ph# 734-560-3493

---

**From:** Simon Malsbury <Simon.Malsbury@TRW.COM>  
**Sent:** Monday, October 05, 2009 12:06 PM  
**To:** Estes, Eric (E.E.); Snider, Tim (T.O.); Bouse, William (Bill.)  
**Cc:** Robert Kostadina  
**Subject:** Re: FR0051(No Com)

All,

I will send pictures later today - but it is the regulator that is damaged.

Simon

>>> "Estes, Eric (E.E.)" <eestes@ford.com> 10/2/2009 2:17 PM >>>

Bill/Tim FR0051 (No Com) returned and analyzed at 26-mile for an over-voltage to the main micro(badly burned). We have pics but nobody sent them to me yet but I feel this is a external voltage spike issue because the vehicle came in for a no start & abs lamp on for the same no communication issue and the tech replaced the PCM & ABS module to fix vehicle(see attached AWS history report) the abs module was denied by the RTDA group so that module does not show up in AWS.

Simon/Rob could you send the pictures of the micro to Tim & Bill thanks

We can call the dealer to see if they can remember what happened.

*Eric J Estes*

TRW EPAS Steering Systems  
Quality Specialist  
Hotline ph# 313-317-9358  
Cell ph# 734-560-3493

FAHP0HA1AR [REDACTED] DE C/DE F C/FA \* C/A A3 C/W6 C/SB 09-05-09 121153 USA -1 5001 AE5Z 3504 B F02 S10 V87 H50  
42 AWS Claim Key: 22803 Doc #: 03133904 Trx Code: 2 Labor Hrs: 3.3 Labor Cost: 245.5 Material Cost: 1315.72 Total Cost: 1561.22 Dlr Cd-Sub Cd: 00475-\* Name: BURNS FORD-MERCURY, INC. Ph: 803-2864414 St: SC Ctry Cd: USA Reg Cd: NA Repr Date: 25-JUN-2009 DIST(Mile):386 Cust Comments: CUSTOMER STATE VEHICLE IS HARD TO TURN Tech Comments: NO POWER STG WENT TO SELF TEST PSCM NO COMMUNICATION CK POWER SUPPLY AND GROUNDS FINE REMOVED WHEELS REMOVED OUTER TIE ROD ENDS REMOVED SUB FRAME REPLACED RACK AND PINION REINSTALLED PERFORMED ALIGNMENT SET TOE ON REAR SET TOE ON FRONT TEST DROVE FINE

3FAHP0HA1AR [REDACTED] DE C/DE F C/FA \* C/A A3 C/W6 C/SB 09-05-09 121153 USA -1 3A04 9L8Z 7Z490 A F04 S11 V48 P66  
42 AWS Claim Key: 22802 Doc #: 03133901 Trx Code: 2 Labor Hrs: 12.5 Labor Cost: 929.88 Material Cost: 216.06 Total Cost: 1145.94 Dlr Cd-Sub Cd: 00475-\* Name: BURNS FORD-MERCURY, INC. Ph: 803-2864414 St: SC Ctry Cd: USA Reg Cd: NA Repr Date: 25-JUN-2009 DIST(Mile):386 Cust Comments: CUSTOMER STATES DURING UP SHIFT TRANSMISSION FLARES OUT AND BACK IN GEAR Tech Comments: CHK FLUID LEVEL SELF TEST NO DTCS TEST DRIVE 3 4 SHIFT FLARE CHK LINE PRESSURES CONTACT HOTLINE CONFIRM SOLENOID BODY ID & STRATEGY MATCHED CHK FLUID FOR DEBRIS REMOVED SIDE COVER CHK VALVE BODY FOR BOLT TORQUE TEST DROVE STILL HAS PROBLEM RE CONTACT HOTLINE REMOVE MAIN CONTROL VALVE BODY DISSASSEMBLE & INSPECT RECONDITION INSTALL VALVE BODY FILL WITH FLUID CLEAR KAM PERFORM SOLENOID

3FAHP0HA1AR [REDACTED] DE C/DE F C/FA \* C/A A3 C/W6 C/SB 09-05-09 121153 USA -1 2G01 AE5Z 12A650 GE F04 S11 V52  
D02 42 AWS Claim Key: 24488 Doc #: 03133902 Trx Code: S07 Labor Hrs: 3 Labor Cost: 223.17 Material Cost: 537.92  
Total Cost: 761.09 Dlr Cd-Sub Cd: 00475-\* Name: BURNS FORD-MERCURY, INC. Ph: 803-2864414 St: SC Ctry Cd: USA  
Reg Cd: NA Repr Date: 25-JUN-2009 DIST(Mile):386 Cust Comments: CUSTOMER STATES THEFT LIGHT IS FLASHING  
AND VEHICLE WILL NOT CRANK Tech Comments: PERFORM SELF TEST UNABLE TO COMMUNICATE WITH PCM  
CHECK FOR BLANK PCM CK FOR POWER AND GROUND FOLLOW PIN POINT TEST QA PERFORM NETWORK TEST  
NETWORK FAILS ALL MODULES PINPOINT TEST A NO MODULES COMMUNICATE PINPOINT TEST AD CK HSCAN  
NETWORK RESISTANCE 2.9 OHMS HSCAN NETWORK SHORTED WIRING IN MODULE

Report#: 9IVA6002 RTDAHL Received: 09/22/2009  
CCRG/EPRC: Reviewed Status: Date:  
Vehicle: 2010,FUSION,SE ,SEDAN,3FAHP0HA1AR [REDACTED] Build Date: 05/09/2009  
Odometer : 386 M Engine: 2.5L DOHC Calibration: ADE1F40A  
Transmission: 6SP 6F MID Axle: A/C: YES  
Dealer: USA 00475 Burns Ford-Mercury, Inc. Phone#: (803) 286-4414  
City: Lancaster State: South Caroli Country : USA  
Originator: CHARLES ERDY  
Symptom: 3 01 A 04 CHASS.,SERVICE BRAKE ,INDICATOR,T/C LIGHT  
Status:  
VFG: V21 BRAKING  
Additional Symptom: DENIED  
Fix: Causal Component : MODULE-BRK ANTI/LK -- RPL  
Condition Code:

Region Code: S2 Region Name: Charlotte

KOEO:

KOEC:

KOER:

REPAIR 09/22/2009 08:57AM DOUG KREMER MSS - TSO - DIGITAL IMAGE RTDA  
COMPLAINT OF LIGHTS ON ALL THE TIME TECHNICIAN FOUND NO COMMUNICATION  
WITH ABS MODULE WIRING INSPECTED FOR CHAFFING TERMINAL FIT GOOD RESET  
STILL NO COMM WITH ABS CALLING FOR APPROVAL  
RECOMM 09/22/2009 08:57AM DOUG KREMER MSS - TSO - DIGITAL IMAGE RTDA  
ADVISED CLAIM ALREADY SUBMITTED INTO ACESIIG THEREFORE RTDA IS UNABLE  
TO GET CODE FOR THIS REPAIR

---

**From:** Martha Abundis <Martha.A bundis@TRW.COM>  
**Sent:** Wednesday, September 30, 2009 1:33 PM  
**To:** Bouse, William (Bill.); Robert Kostadina  
**Cc:** Mrozek, Robert (R.M.); Snider, Tim (T.O.)  
**Subject:** Re: FR-0056a

Bill,

We have (at QAO) the FR0060 (B31) but is not the same root cause that the HSAP rejects, until now we can not reproduce the fault and the EPP EPP still has not been teardown, means that we can not see the relay date I guess that the FR0056 is in 26Mile.

Martha

>>> "Bouse, William (Bill.)" <[wbouse@ford.com](mailto:wbouse@ford.com)> 9/30/2009 7:48 AM >>>

Martha, I know that you are chasing the B31s but we should look at the warranty return with B31 to make sure it lines up with the gears we found in HSAP. FR-0056a was a gear that failed when initially put into the vehicle as a replacement gear to a warranty issue. Can we confirm when the relay was manufactured and if the root cause lines up to the B31s from HSAP.

FR-0056a                U3000-96        B31        EPP        In Eval 9/24-  
this is the service gear the tech installed from fr0056 and had a  
U3000-96 and had to replace again. analysis done at 26-mile. 9/24-  
this is the service gear the tech installed from fr0056 and had a  
U3000-96 and had to replace again. analysis done at 26-mile

Bill Bouse  
CD Platform EPS System Engineer  
(cell) (313) 805-2289  
(email) [wbouse@ford.com](mailto:wbouse@ford.com)  
(text) [3138052289@vtex.com](mailto:3138052289@vtex.com)

---

**From:** Estes, Eric (E.E.)  
**Sent:** Thursday, October 29, 2009 2:52 PM  
**To:** Mrozek, Robert (R.M.)  
**Cc:** Bahena, Miguel (Mike.); Snider, Tim (T.O.); Costas Chrysochoidis  
**Subject:** RE: FR0070- Friction code P07AE-09 ( NTF on return gear)

I'm thinking the vehicle would have passed if he cleared the codes at that point of PPT "F4".

We could not find anything wrong with the gear: passed leak test, visual inspection with boots removed and EDF stand testing.

That's what Costas was thinking it was a false detect, I'm not sure if he was going to investigate the friction detection algorithm, he was talking with Arnie Spieker about this warranty return.

I will see what can be done with the shop manual to make sure the tech clears the code before replacement and get back with you.

*Eric J Estes*

TRW EPAS Steering Systems  
Quality Specialist  
Hotline ph# 313-317-9358  
Cell ph# 734-560-3493

---

**From:** Mrozek, Robert (R.M.)  
**Sent:** Wednesday, October 28, 2009 9:27 PM  
**To:** Estes, Eric (E.E.)  
**Cc:** Beattie, Mike (M.A.); Dorony, Kenneth (K.R.); Mrozek, Robert (R.M.); Bahena, Miguel (Mike.); 'Costas Chrysochoidis'; Snider, Tim (T.O.)  
**Subject:** RE: FR0070- Friction code P07AE-09 ( NTF on return gear)

Thanks Eric,

What would have happened if he cleared the codes?  
Did we confirm there is nothing wrong with the gear?  
Is this therefore a friction detection false detect?  
Yes, we should clarify the service procedure if clearing codes is not mandatory.

*Rob Mrozek*

Electric Power Steering Supervisor  
CD3/D3/D4/U502/Police/Limo Programs  
Ford Motor Company  
Phone: (313) 805-5947  
e-mail: [rmrozek@ford.com](mailto:rmrozek@ford.com)

---

**From:** Estes, Eric (E.E.)  
**Sent:** Wednesday, October 28, 2009 5:50 PM  
**To:** Bahena, Miguel (Mike.); Snider, Tim (T.O.); Mrozek, Robert (R.M.); Costas Chrysochoidis  
**Cc:** Beattie, Mike (M.A.); Dorony, Kenneth (K.R.)

**Subject:** FR0070- Friction code P07AE-09 ( NTF on return gear)

I found out through the Interactive diagnosis that this tech did not hit the clear button at the beginning of step "F4", before the road test. I talked to the tech at the dealer and he told me he everytime he started and drove the vehicle had no assist, but not 100% sure he cleared the codes, he told me he did but this was worked on over one month ago. The clear code button is not on the diagnostic page that we can see, but should state "complete" when done on the technician's online diagnosis page.

So I asked Mike Beattie if there is a way to make the tech clear the codes before going forward on the road test in the diagnostics that way there is no confusion with the status of the code for current or historic and there is no confusion on the last step before EPAS rack replacement.

<< File: #70 gear warranty return data.pdf >>

*Eric J Estes*

TRW EPAS Steering Systems  
Quality Specialist  
Hotline ph# 313-317-9358  
Cell ph# 734-560-3493

---

**From:** Bahena, Miguel (Mike.)  
**Sent:** Thursday, July 15, 2010 12:12 PM  
**To:** Snider, Tim (T.O.); Estes, Eric (E.E.); Mrozek, Robert (R.M.)  
**Cc:** Diez, Timothy (T.P.)  
**Subject:** RE: FR0073 Update

Tim,

I agree. We should use this as an example to HSAP why DTCs should not be cleared without a good understanding of root cause and a resolution. Lets talk more offline.

Sincerely,

**Mike Bahena**  
**D3 Electric Power Steering Systems**  
**Ford Motor Co.**  
Ph: (313) 805-3680  
mbahena1@ford.com

---

**From:** Snider, Tim (T.O.)  
**Sent:** Wednesday, July 14, 2010 3:47 PM  
**To:** Estes, Eric (E.E.); Bahena, Miguel (Mike.); Mrozek, Robert (R.M.)  
**Cc:** Diez, Timothy (T.P.)  
**Subject:** RE: FR0073 Update

Okay. I don't think the plant should ship vehicles with C200D-49.

Mike / Rob,

Do you agree?

Regards,  
Tim Snider (tsnider1@ford.com)  
**CD3 Steering Engineering**  
**Ford Motor Company**  
Cell 313-805-3201  
2B-L18 Product Development Center  
Dearborn, MI 48124 USA

---

**From:** Estes, Eric (E.E.)  
**Sent:** Wednesday, July 14, 2010 3:41 PM  
**To:** Snider, Tim (T.O.)  
**Cc:** Bahena, Miguel (Mike.); Diez, Timothy (T.P.); Mrozek, Robert (R.M.)  
**Subject:** RE: FR0073 Update

The plant will only see C200D-49 they don't know that is a B9A that Ford code has 4 TRW codes tied to it B38,B39,B4E & B9A.

Eric

---

**From:** Snider, Tim (T.O.)  
**Sent:** Wednesday, July 14, 2010 3:36 PM  
**To:** Estes, Eric (E.E.)  
**Cc:** Bahena, Miguel (Mike.); Diez, Timothy (T.P.); Mrozek, Robert (R.M.)  
**Subject:** RE: FR0073 Update

Okay. I don't think the plant should clear any B9A codes. If a vehicle has a B9A, I think they should remove the gear and ship it back to TRW. Do you know if they have many B9A's they have cleared?

Regards,  
Tim Snider (tsnider1@ford.com)

**CD3 Steering Engineering**  
**Ford Motor Company**

Cell 313-805-3201  
2B-L18 Product Development Center  
Dearborn, MI 48124 USA

---

**From:** Estes, Eric (E.E.)  
**Sent:** Wednesday, July 14, 2010 3:27 PM  
**To:** Snider, Tim (T.O.)  
**Cc:** Bahena, Miguel (Mike.); Diez, Timothy (T.P.); Mrozek, Robert (R.M.)  
**Subject:** RE: FR0073 Update

No they cleared the code at gate check and code did not reset through-out the plant testing, but most likely the dealer received the vehicle off the car hauler with this B9A code because only had one mile on it the dealer cleared the code and the customer returned with 94 miles on it with same B9A code.

Eric

---

**From:** Snider, Tim (T.O.)  
**Sent:** Wednesday, July 14, 2010 3:21 PM  
**To:** Estes, Eric (E.E.)  
**Cc:** Bahena, Miguel (Mike.); Diez, Timothy (T.P.); Mrozek, Robert (R.M.)  
**Subject:** RE: FR0073 Update

Eric,

Are you saying the plant shipped this vehicle with a B9A present?

Regards,  
Tim Snider (tsnider1@ford.com)

**CD3 Steering Engineering**  
**Ford Motor Company**  
Cell 313-805-3201

---

**From:** Estes, Eric (E.E.)  
**Sent:** Wednesday, July 14, 2010 12:26 PM  
**To:** Bahena, Miguel (Mike.); Diez, Timothy (T.P.); Snider, Tim (T.O.); Mrozek, Robert (R.M.)  
**Subject:** FW: FR0073 Update

B9A code for FR0073 HSAP plant clear code at gate check code cleared then dealer had same code with one mile cleared and returned with 94 miles when EPAS gear was replaced. (see details below)

Eric

---

**From:** Estes, Eric (E.E.)  
**Sent:** Friday, July 02, 2010 11:27 AM  
**To:** 'Mike Davies'; Geoff Jacks; Guillermo Aguilar  
**Cc:** Andrew Ellison; Andrew Williams; Anthony Fleenor; Costas Chrysochoidis; Engelbert Lu; Greg Bendzinski; Jason Johnson; Jim Loria; JoseJ Lopez; Mark Karwowski; Mathew Alder; Michael Fontana; Pavel Vetz; Salim Semssar; Samuel Arreola; Sanjay Singh; Sergio Alvarez; Simon Malsbury  
**Subject:** RE: FR0073 Update

Looking at the plant records on this vehicle set B9A during gate check cleared code did not reset until dealer had vehicle with one mile on it, dealer cleared code and vehicle returned with 94 miles. We might need to check QAO records to see if this failed on their EOL.

So this ESD damage did not cause total failure of the circuit.(see plant & warranty info below).

Details View											
VIN Search:	3FADP0L33AR [REDACTED]										
Page Number:	1										
VIN	Station						Cell ID	Runs			
3FADP0L33AR [REDACTED]	CODECHECK DYNAMIC GATE CODECHECK PREROLLS STATIC						503	2009.08.13 22:28:18			
							503	2009.08.13 08:40:00			
							503	2009.08.13 08:39:03			
<hr/>											
Test Info		Vehicle Options Info		Test Status		Faults	Parameters	Module Info	Part ID Info	String Engine Data	Test Run Files
Module	Code	Mode		Attribute		Fault		Test	Rev. ID	Phase	
ABS	C1B00-86	H		F		STNG_ANG_SNS		DGABSCC20	1/BOB.NIEFERT-...	COLL	
IPC	U0161-00	H		M		LST_COM_W_CO...		DGIPCCC20	1/BOB.NIEFERT-...	COLL	
PCM	P1000-00	C		M		OBD_SYS_READI...		DGPCMCC20	1/DLEITHEAD-830	COLL	
PSCM	U0415-00	H		M		INVLD_DAT_ABS...		DGPSCMCC20	1/BOB.NIEFERT-...	COLL	
<hr/>											
Test Run Count: 8			VIN Count: 1			Min Date: 2009-08-12 13:05:01			Max Date: 2009-08-13 22:28:18		

3FADP0L33AR [REDACTED] DH C/DE F C/FA \* C/A A3 C/AI C/S3 12-08-09 28-09-09 111545 USA 0 7S02 \* 14401 \* F02 S10 V21 H39 X2

AWS Claim Key: 27117 Doc #: 495657A Trx Code: 1 Labor Hrs: 1.7 Labor Cost: 149.47 Material Cost: 0 Total Cost: 149.47

Dlr Cd-Sub Cd: 08862- Name: PORTSMOUTH FORD Ph: 603-4331221 St: NH Ctry: USA Cd: Reg Cd: NA Repr Date: 25-AUG-2009 DIST(Mile): 1

Cust Comments: VEHICLE HAS NO STEERING ADV TRAC LIGHT IS ON DASH

Tech Comments: 23 ROAD TEST VERIFY CONCERN EEC TEST KOEO KOER CODES C1B00 C200D PINPOINT THOUGH IDS CHECK CONNECTIONS AT AT PCSM GAIN ACSES PARTIAL REMOVEL OF DASH PANELS AND CHECK CONNECTORS C1467B AND C1467A CURCITS CBP42 AND GD104 FOUND CONNECTOR C1467B LOOSE REMOVE CONNECTOR AND CHECK TERMINALS ALL OK REINSTALL CONNECTOR AND SUCURE REASSEMBLE CLEAR CODES AND ROAD TEST CONCERN

3FADP0L33AR [REDACTED] DH C/DE F C/FA \* C/A A3 C/AI C/S3 12-08-09 28-09-09 111545 USA 1 5001 AE5Z 3504 B F05 S10 V89 C50 42

AWS Claim Key: 42528 Doc #: 497424A Trx Code: 1 Labor Hrs: 2.8 Labor Cost: 246.18 Material Cost: 1315.72 Total Cost: 1561.9

Dlr Cd-Sub Cd: 08862- Name: PORTSMOUTH FORD Ph: 603-4331221 St: NH Ctry: USA Cd: Reg Cd: NA Repr Date: 30-SEP-2009 DIST(Mile): 94

Cust Comments: CUST STATES LOST POWER STEERING MESSAGE ON DISPLAY READ POWER STEERING SYSTEM FAULT THEN SERVICE ADVANCE TRAC

Tech Comments: ROAD TEST VERIFY CONCERN EEC TEST KOEO KOER C1B00 B2008 PINPOINT FOLLOW INTERACTIVE PINPOINT TEST

REMOVE CONNECTORS AND CHECK FOR DAMAGE NONE FOUND CLEAR CODES AND ROAD TEST VERIFY OCNCNERN RETURNS RETEST MONITOR PIDS PINPOINT REMOVE SUB FRAME TO ACSES RACK AND PINION DISASSEMBLE AND REPLACE RACK REASSEMBLE HOOK TO FRONT END RACK AND ADJUST REAR TOE FRONT CAMBER AND CASTER AND TOE CENTER

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## *Eric J Estes*

TRW EPAS Steering Systems  
Quality Specialist  
Hotline ph# 313-317-9358  
Cell ph# 734-560-3493

**From:** Mike Davies [mailto:[Mike.Davies@TRW.COM](mailto:Mike.Davies@TRW.COM)]

**Sent:** Friday, July 02, 2010 7:56 AM

**To:** Estes, Eric (E.E.); Geoff Jacks; Guillermo Aguilar

**Cc:** Andrew Ellison; Andrew Williams; Anthony Fleenor; Costas Chrysochoidis; Engelbert Lu; Greg Bendzinski; Jason Johnson; Jim Loria; JoseJ Lopez; Mark Karwowski; Mathew Alder; Michael Fontana; Pavel Vetz; Salim Semssar; Samuel Arreola; Sanjay Singh; Sergio Alvarez; Simon Malsbury

**Subject:** Re: FR0073 Update

Hi Geoff

Before we send out the ESD audit army, is there any measurement taken along the PCB > Motor > EPP > Gear > Vehicle test route, that might have been affected by the ESD damage? Just wondering if we can narrow down or eliminate any process stages by looking at the test data in a different way (such as a small shift in a value or reading, but still in spec).

Cheers  
Mike

>>> Geoff Jacks 7/2/2010 12:45 pm >>>  
Eric,

By way of update, Allegro have come back with root cause for the encoder failure on FR0073. They have defined it as ESD damage - see attached. An extract from page 2 reads:

It thinks that the surge or ESD destroys because the punchthrough occurs on output Tr of OUT-B.  
It is possible to reject the problem mode of the this issue in allegro final test.  
Therefore, it thinks that ESD was added after shipment from the allegro.

Essentially, Allegro are saying that the part was ESD damaged somewhere in the supply chain. Could be Nidec (or their suppliers), Anting, QAO. I'm not sure how we can progress this. I guess we need to ESD audit all the plants in the supply chain :(

**Mike** - may be this is something to look at when you are at Nidec?

Regards

Geoff

TRW Limited

Registered in England, No. 872948

Registered Office Address: Stratford Road, Solihull B90 4AX

---

**From:** Bejarano, Sergio (SBF.)  
**Sent:** Tuesday, July 20, 2010 9:00 PM  
**To:** Snider, Tim (T.O.)  
**Cc:** Rogero, Antonio (A.); Durand, Gerardo (G.D.)  
**Subject:** RE: FR0073 Update

Fernando is on vacations.

Meanwhile, Antonio Rogero and my self are going to handle this.

First Gerardo Durand's recommendation was to verify how many units (volume) are having each DTC's.

**Sergio Bejarano**, Ford Motor Co., PD Mexico, Chassis Modules Engineer, Tel 52-662-259-8386, FordNet 456-8386, Mobile 52-1-6621831427

---

**From:** Snider, Tim (T.O.)  
**Sent:** Martes, 20 de Julio de 2010 01:25 p.m.  
**To:** Bejarano, Sergio (SBF.)  
**Cc:** Rogero, Antonio (A.); Durand, Gerardo (G.D.)  
**Subject:** RE: FR0073 Update

Sergio,

Please give this to Fernando. His e-mail inbox is full.

Regards,

Tim Snider (tsnider1@ford.com)

***CD3 Steering Engineering***

***Ford Motor Company***

Cell 313-805-3201  
2B-L18 Product Development Center  
Dearborn, MI 48124 USA

---

**From:** Snider, Tim (T.O.)  
**Sent:** Tuesday, July 20, 2010 4:24 PM  
**To:** Ulloa, Fernando (F.F.)  
**Cc:** Bahena, Miguel (Mike.); Diez, Timothy (T.P.); Mrozek, Robert (R.M.); Estes, Eric (E.E.); Rogero, Antonio (A.); Durand, Gerardo (G.D.); 'Guillermo Aguilar'; Bejarano, Sergio (SBF.)  
**Subject:** RE: FR0073 Update

Fernando,

If Hermosillo sees any of these CD3 EPAS DTC's at EOL or after, please remove the steering gear and give it to TRW for diagnosis:

1. C1B00
2. C200B
3. C200C
4. C200D --> Could be B9A
5. U2011
6. U2100
7. U3000.

Looks like a C200D-49 code was cleared at the gate check, and the vehicle showed up later in warranty.

Regards,  
Tim Snider (tsnider1@ford.com)

**CD3 Steering Engineering**

**Ford Motor Company**

Cell 313-805-3201

2B-L18 Product Development Center

Dearborn, MI 48124 USA

---

**From:** Estes, Eric (E.E.)

**Sent:** Wednesday, July 14, 2010 3:41 PM

**To:** Snider, Tim (T.O.)

**Cc:** Bahena, Miguel (Mike.); Diez, Timothy (T.P.); Mrozek, Robert (R.M.)

**Subject:** RE: FR0073 Update

The plant will only see C200D-49 they don't know that is a B9A that Ford code has 4 TRW codes tied to it B38,B39,B4E & B9A.

Eric

---

**From:** Snider, Tim (T.O.)

**Sent:** Wednesday, July 14, 2010 3:36 PM

**To:** Estes, Eric (E.E.)

**Cc:** Bahena, Miguel (Mike.); Diez, Timothy (T.P.); Mrozek, Robert (R.M.)

**Subject:** RE: FR0073 Update

Okay. I don't think the plant should clear any B9A codes. If a vehicle has a B9A, I think they should remove the gear and ship it back to TRW. Do you know if they have many B9A's they have cleared?

Regards,

Tim Snider (tsnider1@ford.com)

**CD3 Steering Engineering**

**Ford Motor Company**

Cell 313-805-3201

2B-L18 Product Development Center

Dearborn, MI 48124 USA

---

**From:** Estes, Eric (E.E.)

**Sent:** Wednesday, July 14, 2010 3:27 PM

**To:** Snider, Tim (T.O.)

**Cc:** Bahena, Miguel (Mike.); Diez, Timothy (T.P.); Mrozek, Robert (R.M.)

**Subject:** RE: FR0073 Update

No they cleared the code at gate check and code did not reset through-out the plant testing, but most likely the dealer received the vehicle off the car hauler with this B9A code because only had one mile on it the dealer cleared the code and the customer returned with 94 miles on it with same B9A code.

Eric

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**From:** Snider, Tim (T.O.)

**Sent:** Wednesday, July 14, 2010 3:21 PM

**To:** Estes, Eric (E.E.)  
**Cc:** Bahena, Miguel (Mike.); Diez, Timothy (T.P.); Mrozek, Robert (R.M.)  
**Subject:** RE: FR0073 Update

Eric,

Are you saying the plant shipped this vehicle with a B9A present?

Regards,  
Tim Snider (tsnider1@ford.com)

**CD3 Steering Engineering  
Ford Motor Company**

Cell 313-805-3201  
2B-L18 Product Development Center  
Dearborn, MI 48124 USA

---

**From:** Estes, Eric (E.E.)  
**Sent:** Wednesday, July 14, 2010 12:26 PM  
**To:** Bahena, Miguel (Mike.); Diez, Timothy (T.P.); Snider, Tim (T.O.); Mrozek, Robert (R.M.)  
**Subject:** FW: FR0073 Update

B9A code for FR0073 HSAP plant clear code at gate check code cleared then dealer had same code with one mile cleared and returned with 94 miles when EPAS gear was replaced. (see details below)

Eric

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**From:** Estes, Eric (E.E.)  
**Sent:** Friday, July 02, 2010 11:27 AM  
**To:** 'Mike Davies'; Geoff Jacks; Guillermo Aguilar  
**Cc:** Andrew Ellison; Andrew Williams; Anthony Fleenor; Costas Chrysochoidis; Engelbert Lu; Greg Bendzinski; Jason Johnson; Jim Loria; JoseJ Lopez; Mark Karwowski; Mathew Alder; Michael Fontana; Pavel Vetz; Salim Semssar; Samuel Arreola; Sanjay Singh; Sergio Alvarez; Simon Malsbury  
**Subject:** RE: FR0073 Update

Looking at the plant records on this vehicle set B9A during gate check cleared code did not reset until dealer had vehicle with one mile on it, dealer cleared code and vehicle returned with 94 miles. We might need to check QAO records to see if this failed on their EOL.

So this ESD damage did not cause total failure of the circuit.(see plant & warranty info below).

Details View											
VIN Search:	3FADP0L33AR [REDACTED]										
Page Number:	1										
VIN	Station						Cell ID	Runs			
3FADP0L33AR [REDACTED]	CODECHECK DYNAMIC GATE CODECHECK PREROLLS STATIC						503	2009.08.13 22:28:18			
							503	2009.08.13 08:40:00			
							503	2009.08.13 08:39:03			
<a href="#">Test Info</a>   <a href="#">Vehicle Options Info</a>   <a href="#">Test Status</a>   <a href="#">Faults</a>   <a href="#">Parameters</a>   <a href="#">Module Info</a>   <a href="#">Part ID Info</a>   <a href="#">String Engine Data</a>   <a href="#">Test Run Files</a>   <a href="#">Broadcast</a>											
Module	Code	Mode		Attribute		Fault	Test	Rev. ID	Ph:		
ABS	C1B00-86	H		F		STNG_ANG_SNS	DGAB5CC20	1/BOB.NIEFERT-...	COLL		
IPC	U0161-00	H		M		LST_COM_W_CO...	DGIPCCC20	1/BOB.NIEFERT-...	COLL		
PCM	P1000-00	C		M		OBD_SYS_READI...	DGPCMCC20	1/DLEITHEAD-830	COLL		
PSCM	U0415-00	H		M		INVLD_DAT_ABS...	DGPSCMCC20	1/BOB.NIEFERT-...	COLL		
Test Run Count: 8			VIN Count: 1			Min Date: 2009-08-12 13:05:01			Max Date: 2009-08-13 22:28:18		

3FADP0L33AR [REDACTED] DH C/DE F C/FA \* C/A A3 C/AI C/S3 12-08-09 28-09-09 111545 USA 0 7S02 \* 14401 \* F02 S10 V21 H39 X2

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AWS Claim Key: 42528 Doc #: 497424A Trx Code: 1 Labor Hrs: 2.8 Labor Cost: 246.18 Material Cost: 1315.72 Total Cost: 1561.9

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---

## *Eric J Estes*

TRW EPAS Steering Systems  
Quality Specialist  
Hotline ph# 313-317-9358  
Cell ph# 734-560-3493

**From:** Mike Davies [mailto:[Mike.Davies@TRW.COM](mailto:Mike.Davies@TRW.COM)]  
**Sent:** Friday, July 02, 2010 7:56 AM  
**To:** Estes, Eric (E.E.); Geoff Jacks; Guillermo Aguilar  
**Cc:** Andrew Ellison; Andrew Williams; Anthony Fleenor; Costas Chrysochoidis; Engelbert Lu; Greg Bendzinski; Jason Johnson; Jim Loria; JoseJ Lopez; Mark Karwowski; Mathew Alder; Michael Fontana; Pavel Vetz; Salim Semssar; Samuel Arreola; Sanjay Singh; Sergio Alvarez; Simon Malsbury  
**Subject:** Re: FR0073 Update

Hi Geoff

Before we send out the ESD audit army, is there any measurement taken along the PCB > Motor > EPP > Gear > Vehicle test route, that might have been affected by the ESD damage? Just wondering if we can narrow down or eliminate any process stages by looking at the test data in a different way (such as a small shift in a value or reading, but still in spec).

Cheers  
Mike

>>> Geoff Jacks 7/2/2010 12:45 pm >>>  
Eric,

By way of update, Allegro have come back with root cause for the encoder failure on FR0073. They have defined it as ESD damage - see attached. An extract from page 2 reads:

It thinks that the surge or ESD destroys because the punchthrough occurs on output Tr of OUT-B.  
It is possible to reject the problem mode of the this issue in allegro final test.  
Therefore, it thinks that ESD was added after shipment from the allegro.

Essentially, Allegro are saying that the part was ESD damaged somewhere in the supply chain. Could be Nidec (or their suppliers), Anting, QAO. I'm not sure how we can progress this. I guess we need to ESD audit all the plants in the supply chain :(

**Mike** - may be this is something to look at when you are at Nidec?

Regards

Geoff

TRW Limited

Registered in England, No. 872948

Registered Office Address: Stratford Road, Solihull B90 4AX

---

**From:** Mike Davies <Mike.Davies@TRW.COM>  
**Sent:** Monday, January 25, 2010 3:23 PM  
**To:** Mrozek, Robert (R.M.); Diez, Timothy (T.P.)  
**Cc:** Napoli, Laura (L.); Bahena, Miguel (Mike.); Pasquarella, Michael (M.S.); Puleri, Michael (M.J.); Snider, Tim (T.O.); Phil Browne; Rajinder SINGH; Simon Malsbury  
**Subject:** RE: FR0074

Hello Rob

We have concentrated on the Cd3/ R : as this was response to specific concern, and are in serial production.  
We will not initiate any change to the supplied component into Nidec until we have received formal approval from Ford.  
Hence the date for introduction is estimate only at this stage.  
A similar change would be applied to C1. The PCB change has already been designed.  
We will initiate discussions with Ford Eu PD ( Rudi Quis).

Regards  
Mike

>>> "Mrozek, Robert (R.M.)" <rmrozek@ford.com> 25/01/2010 13:05 >>>  
Mike -

Thank you. I agree with the plan. Please do not launch the change until we have the global Ford concerns authorized.

Will this change affect C1?

Rob Mrozek  
Electric Power Steering Supervisor  
C346N/CD3/D3/U502/Police/Limo Programs Ford Motor Company  
Phone: (313) 805-5947  
e-mail: rmrozek@ford.com

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

From: Mike Davies [mailto:Mike.Davies@TRW.COM]  
Sent: Monday, January 25, 2010 4:36 AM  
To: Mrozek, Robert (R.M.); Diez, Timothy (T.P.)  
Cc: Napoli, Laura (L.); Bahena, Miguel (Mike.); Pasquarella, Michael (M.S.); Puleri, Michael (M.J.); Snider, Tim (T.O.); Phil Browne; Rajinder SINGH; Simon Malsbury  
Subject: RE: FR0074

Hello Rob

I can confirm that an outline plan was provided on 8th January, as requested. Copy is attached.  
I have been discussing the details with Tim regarding Ford approval requirements.  
Actions are on track to this plan.

The status so far is:

1. The sample motors fitted with new pcb were supplied to TACS last Friday (22nd Jan).  
These will be built into EPPs and sent to UK this week for Tri-temp/Tri-volt testing at Shirley.

2. Nidec testing is underway in Japan, and on schedule.
3. The 6 sectioned solder samples have been prepared during my visit to Nidec China last week. I have the pictures in my email today, and will forward to Tim and others for their comments.
4. I still owe Tim the detailed tolerance stack. This was delayed because we are still chasing some pin tolerance details from Tyco Germany. Will progress this now I am back in UK.

I trust this helps answer your question.

TRW also views this as a low risk/quality improvement action, so we are progressing as swiftly as possible.  
Please contact me if you need anything further on this.

Best regards  
Mike

>>> "Mrozek, Robert (R.M.)" <rmrozek@ford.com> 25/01/2010 02:40 >>>  
Do we yet have a plan for this change? It helps quality and thus I can support it.

Rob Mrozek  
Electric Power Steering Supervisor  
C346N/CD3/D3/D4/U502/Police/Limo Programs Ford Motor Company  
Phone: (313) 805-5947  
e-mail: rmrozek@ford.com

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

From: Bahena, Miguel (Mike.)  
Sent: Wednesday, November 25, 2009 4:02 PM  
To: Snider, Tim (T.O.); Mrozek, Robert (R.M.); Diez, Timothy (T.P.)  
Cc: 'Mike Davies'; Phil Browne; Simon Malsbury; Puleri, Michael (M.J.); Napoli, Laura (L.); Pasquarella, Michael (M.S.)  
Subject: FW: FR0074

Ford Team,

We collectively need to agree on the required validation and implementation plan for this relatively minor motor PCB design change to address a warranty issue that occurred on FR0074 (see attached presentation for detail). Tim Diez this really falls in your shop.

Please see Mike Davies's and TRW's recommendation below and in the attached presentation.

TRW would like to make the design change as fast as possible(to protect quality) and would like approval from our team. My position is that it is the right thing to do but we all need to be on the same page.

I asked Mike Davies to work with Phil Browne to detail the change, the proposed DV/PV at the motor PCB level, and finally an implementation plan for approval from our team. TRW is not recommending any EPP or System DV/PV testing.

Tim Diez - Can you take lead on evaluating Mike & Phil's proposal from a design & validation perspective and then we can all work together on how best to manage the alerts/concerns to implement? From a System perspective EOL Functional testing at QAO would be all I recommend for PV which is completed on 100 % of gears anyway.

If anyone thinks we need a meeting to discuss please set one up to discuss further. Thanks all for your help.

Sincerely,

Mike Bahena  
D3 Electric Power Steering Systems  
Ford Motor Co.  
Ph: (313) 805-3680  
mbahena1@ford.com  
Pager: Click Here <<<<mailto:3138053680@vtext.com>>>>

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

From: Mike Davies [mailto:Mike.Davies@TRW.COM]

Sent: Tuesday, November 24, 2009 12:14 PM

To: Bahena, Miguel (Mike.)

Cc: Eric Estes; Geoff Jacks; Phil Browne

Subject: FR0074

Hello Mike

I hope that you are well.

I understand that in the call yesterday, Geoff explained to you the potential overlap in the motor pcb, and that Nidec wants to cut back the inner layer copper to remove this possibility.

In the call today, the comment was made that we are awaiting approval, but when I asked approval from whom, and for what, there appeared no real consensus.

So, just to make sure we are all in agreement on the actions, I have spoken with Phil Browne and his team, and they believe that this change will not need validation, as we are not changing the connectivity or routing of any tracking, only cutting back the OV plane adjacent to the connector pin holes.

The timing advised in the presentation was based upon this , and as such, I intend to advise Nidec to go ahead and get the change done as swiftly as possible.

Please advise if you have any problem with this, or want to discuss further with Phil or anyone else.

If you feel it is necessary, we can arrange a call on this.

I appreciate your views.

Thanks  
Mike

TRW Limited  
Registered in England, No. 872948  
Registered Office Address: Stratford Road, Solihull B90 4AX

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TRW Limited

Registered in England, No. 872948

Registered Office Address: Stratford Road, Solihull B90 4AX

---

**From:** Mrozek, Robert (R.M.)  
**Sent:** Wednesday, November 04, 2009 4:02 PM  
**To:** 'Geoff Jacks'; Estes, Eric (E.E.); Diez, Timothy (T.P.)  
**Cc:** Bahena, Miguel (Mike.); Snider, Tim (T.O.)  
**Subject:** RE: FR-0074

We need events scheduled for the No Coms and B31's. Similar to the fine event for B9A.

*Rob Mrozek*

Electric Power Steering Supervisor  
CD3/D3/D4/U502/Police/Limo Programs  
Ford Motor Company  
Phone: (313) 805-5947  
e-mail: [rmrozek@ford.com](mailto:rmrozek@ford.com)

---

**From:** Geoff Jacks [mailto:[Geoff.Jacks@TRW.COM](mailto:Geoff.Jacks@TRW.COM)]  
**Sent:** Wednesday, November 04, 2009 10:23 AM  
**To:** Estes, Eric (E.E.); Mrozek, Robert (R.M.)  
**Cc:** Bahena, Miguel (Mike.); Snider, Tim (T.O.)  
**Subject:** RE: FR-0074

Gents,

FR0074(B25)

We've managed to do some x-ray work, but it has not shown any anomalies. We were delayed by 24 hours while we sought Nidec's permission to remove the motor PCB.

We have now gone back to Nidec to ask them for permission to cut away some of the connector plastic to allow inspection of the solder joints.

FR0060(B31)

We are still planning to compile the Fault Tree for this code. However, the key figures for this work are currently occupied on issues including B9A.

Regards

Geoff

>>> "Estes, Eric (E.E.)" <[eestes@ford.com](mailto:eestes@ford.com)> 03/11/2009 15:45 >>>

I sent him an email yesterday but I think he was busy with the B9A workshop, Geoff when you get a chance check my email from yesterday and respond to FR0074(B25) with timing & FR0060(B31) thanks.

*Eric J Estes*

TRW EPAS Steering Systems

Quality Specialist  
Hotline ph# 313-317-9358  
Cell ph# 734-560-3493

---

**From:** Mrozek, Robert (R.M.)  
**Sent:** Tuesday, November 03, 2009 10:39 AM  
**To:** Estes, Eric (E.E.)  
**Cc:** Geoff Jacks; Snider, Tim (T.O.); Bahena, Miguel (Mike.); Mrozek, Robert (R.M.)  
**Subject:** FR-0074

Eric -

Ever hear from Geoff on next steps for the B25 he has in the UK? I need some next steps with dates.

*Rob Mrozek*

Electric Power Steering Supervisor  
CD3/D3/D4/U502/Police/Limo Programs  
Ford Motor Company  
Phone: (313) 805-5947  
e-mail: [rmrozek@ford.com](mailto:rmrozek@ford.com)

TRW Limited

Registered in England, No. 872948

Registered Office Address: Stratford Road, Solihull B90 4AX

---

**From:** Estes, Eric (E.E.)  
**Sent:** Thursday, January 14, 2010 3:36 PM  
**To:** Mrozek, Robert (R.M.)  
**Cc:** Diez, Timothy (T.P.); Bahena, Miguel (Mike.); Snider, Tim (T.O.); Rossi, Roberto (R.A.)  
**Subject:** RE: FR0085 (No Com)

You have a good memory Rob there was one that had similiar results with the epoxy splash(FR0016) but that was a different component and from IR.

Eric

---

**From:** Mrozek, Robert (R.M.)  
**Sent:** Thursday, January 14, 2010 10:29 AM  
**To:** Estes, Eric (E.E.)  
**Cc:** Diez, Timothy (T.P.); Bahena, Miguel (Mike.); Snider, Tim (T.O.); Rossi, Roberto (R.A.)  
**Subject:** RE: FR0085 (No Com)

Is this the second one of these that we have seen?

*Rob Mrozek*

Electric Power Steering Supervisor  
C346N/CD3/D3/D4/U502/Police/Limo Programs  
Ford Motor Company  
Phone: (313) 805-5947  
e-mail: [rmrozek@ford.com](mailto:rmrozek@ford.com)

---

**From:** Estes, Eric (E.E.)  
**Sent:** Thursday, January 14, 2010 10:11 AM  
**To:** Diez, Timothy (T.P.); Bahena, Miguel (Mike.); Snider, Tim (T.O.); Mrozek, Robert (R.M.); Rossi, Roberto (R.A.)  
**Subject:** FW: FR0085 (No Com)

Here is the attached summary report for FR0085 with no communication

Eric

---

**From:** Geoff Jacks [<mailto:Geoff.Jacks@TRW.COM>]  
**Sent:** Thursday, January 14, 2010 6:03 AM  
**To:** Estes, Eric (E.E.)  
**Subject:** Re: FR0085 (No Com)

Eric,

Attached is the report on FR0085. Please distribute within Ford.

Regards

Geoff

>>> "Estes, Eric (E.E.)" <[eestes@ford.com](mailto:eestes@ford.com)> 13/01/2010 21:40 >>>

Geoff did you send the presentation to Ford on FR0085 from Infineon? If you did not then send to me and I can send out to the Ford group. Thanks

Eric

---

**From:** Geoff Jacks [<mailto:Geoff.Jacks@TRW.COM>]

**Sent:** Wednesday, January 13, 2010 10:39 AM

**To:** Estes, Eric (E.E.)

**Subject:** Relay date codes

Eric,

Date codes decoded - all are pre-containment.

FR0098 2009/27 Sun 28-Jun-09

FR0100 ?

FR0104 2008/45 Fri 07-Nov-08

FR0106 2009/24 Mon 08-Jun-09

FR0111 is a week 36 2009 part. This is after containment for the rivet and offset spring. But we have no evidence to point at the relay at this stage.

Regards

Geoff

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Registered Office Address: Stratford Road, Solihull B90 4AX

TRW Limited

Registered in England, No. 872948

Registered Office Address: Stratford Road, Solihull B90 4AX

---

**From:** Estes, Eric (E.E.)  
**Sent:** Thursday, January 28, 2010 9:52 PM  
**To:** Snider, Tim (T.O.)  
**Subject:** RE: FR0123 TS damage

No because I have no idea where the damage was I talked to service manager and he did not know exactly where the damage was done. They noticed the damage removing the gear then tried to repair the TS harness by cutting out the section and that did not work.

Eric

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

**From:** Snider, Tim (T.O.)  
**Sent:** Thursday, January 28, 2010 4:45 PM  
**To:** Estes, Eric (E.E.)  
**Cc:** Bahena, Miguel (Mike.); Diez, Timothy (T.P.); Mrozek, Robert (R.M.)  
**Subject:** RE: FR0123 TS damage

Eric,

Have you discussed this with FCSD?

Regards,  
Tim Snider ([tsnider1@ford.com](mailto:tsnider1@ford.com))  
CD3 Steering Engineering  
Ford Motor Company  
Cell 313-805-3201  
2B-L18 Product Development Center  
Dearborn, MI 48124 USA

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

**From:** Estes, Eric (E.E.)  
**Sent:** Thursday, January 28, 2010 2:45 PM  
**To:** Bahena, Miguel (Mike.); Snider, Tim (T.O.); Diez, Timothy (T.P.); Mrozek, Robert (R.M.)  
**Subject:** FR0123 TS damage

This is one we did not have time for in yesterday's TS meeting but not sure if we can close this out since the dealer cut-out the evidence of a damaged TS harness. See attachments for pics & the interactive diagnosis. Vehicle was not in a wreck or had other repairs only came in for this complaint and the vehicle has 22k miles so unsure how this TS harness was damaged.

Eric

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

**From:** Kerr, Jody (J.)  
**Sent:** Tuesday, January 26, 2010 3:50 PM  
**To:** Estes, Eric (E.E.)

Subject: Emailing: EPAS Gear 001.jpg, EPAS Gear 002.jpg, EPAS Gear 003.jpg, EPAS Gear 004.jpg, EPAS Gear 005.jpg,  
EPAS Gear 006.jpg

The message is ready to be sent with the following file or link attachments:

EPAS Gear 001.jpg  
EPAS Gear 002.jpg  
EPAS Gear 003.jpg  
EPAS Gear 004.jpg  
EPAS Gear 005.jpg  
EPAS Gear 006.jpg

Note: To protect against computer viruses, e-mail programs may prevent sending or receiving certain types of file attachments. Check your e-mail security settings to determine how attachments are handled.

---

**From:** Estes, Eric (E.E.)  
**Sent:** Wednesday, February 10, 2010 4:30 PM  
**To:** Bahena, Miguel (Mike.); Mrozek, Robert (R.M.); Snider, Tim (T.O.); Diez, Timothy (T.P.)  
**Subject:** RE: FR0123 TS harness damage

Mike/Tim I can see why dealers would repair the harness if you look at PPT"B" in the interactive diagnosis actually tells them to repair the harness if damaged. See below.

#### PPT"B1" INSPECT EPAS GEAR WIRING HARNESS

- With the vehicle in NEUTRAL, position it on a hoist. Refer to Section 100-02.
- Thoroughly inspect the wire harness along the top of the EPAS gear for cuts, breaks and pinched wires.
- Disconnect all 3 EPAC gear electrical connectors and inspect them for corrosion, pushed out pins, bent pins and spread terminals.
- **Is the wire harness undamaged and are all 3 connectors in good condition**

**YES- CONNECT all 3 EPAS gear electrical connectors. GO to B2**

**NO- If the connector(s) are not okay then repair them.**

**Otherwise, REPAIR the wire harness and whatever caused the damage to the wire harness. Go to B2**

"B2" is the clear code and test drive to see if the code resets.

There is room for improvement in this PPT with a NOTE: do not repair TS harness. I would not even have them remove the TS connector, I would be specific with the Batt. 2-pin and the ign. & CAN bus 3-pin connector only. This would also help with the false TS codes set at the dealer while testing.

Eric

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

From: Bahena, Miguel (Mike.)  
Sent: Wednesday, February 10, 2010 9:34 AM  
To: Mrozek, Robert (R.M.); Estes, Eric (E.E.); Snider, Tim (T.O.); Diez, Timothy (T.P.)  
Subject: RE: FR0123 TS harness damage

I am fine with updating the workshop manual or issuing some sort of SSM. I actually have an opportunity to update the 2011 My D-car manuals and I believe Tim Snider does for CD3 as well.

Sincerely,

Mike Bahena  
D3 Electric Power Steering Systems  
Ford Motor Co.  
Ph: (313) 805-3680  
mbahena1@ford.com  
Pager: Click Here <<<<[<mailto:3138053680@vtext.com>>>>](mailto:3138053680@vtext.com)

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

From: Mrozek, Robert (R.M.)  
Sent: Wednesday, February 10, 2010 9:28 AM  
To: Estes, Eric (E.E.); Bahena, Miguel (Mike.); Snider, Tim (T.O.); Diez, Timothy (T.P.)  
Cc: Mrozek, Robert (R.M.)  
Subject: RE: FR0123 TS harness damage

What did you guys decide? I think it cannot hurt to make all changes available to avoid ts wire repairs. What more do we need to discuss?

Rob Mrozek  
Electric Power Steering Supervisor  
C346N/CD3/D3/D4/U502/Police/Limo Programs Ford Motor Company  
Phone: (313) 805-5947  
e-mail: rmrozek@ford.com

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

From: Estes, Eric (E.E.)  
Sent: Monday, February 08, 2010 5:26 PM  
To: Bahena, Miguel (Mike.); Mrozek, Robert (R.M.); Snider, Tim (T.O.); Diez, Timothy (T.P.)  
Subject: RE: FR0123 TS harness damage

We started to talk about FR0123 where the dealer cutout the TS harness and tried to repair, I sent the TS pictures. What should be done with this gear? Should I make a SPECS case and insert a NOTE: in the shop manual(interactive diagnosis) not to make any repairs to the TS harness?

Let me know I would like to get this off our TS chart.

Eric J Estes  
TRW EPAS Steering Systems  
Quality Specialist  
Hotline ph# 313-317-9358  
Cell ph# 734-560-3493

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

From: Bahena, Miguel (Mike.)  
Sent: Friday, January 29, 2010 7:23 AM  
To: Mrozek, Robert (R.M.); Estes, Eric (E.E.); Snider, Tim (T.O.); Diez, Timothy (T.P.)  
Subject: RE: FR0123 TS damage

There are no service manual procedures in the EPAS section to repair the TS wire. It does not say not to repair it.

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

From: Mrozek, Robert (R.M.)  
Sent: Thursday, January 28, 2010 10:01 PM  
To: Estes, Eric (E.E.); Bahena, Miguel (Mike.); Snider, Tim (T.O.); Diez, Timothy (T.P.)  
Cc: Mrozek, Robert (R.M.)  
Subject: RE: FR0123 TS damage

You received the gear with this wire repair? Can we call the dealer to find out who did that? Does the service manual state NEVER to repair the wire?

Rob Mrozek  
Electric Power Steering Supervisor  
C346N/CD3/D3/D4/U502/Police/Limo Programs Ford Motor Company

Phone: (313) 805-5947  
e-mail: rmrozek@ford.com

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

From: Estes, Eric (E.E.)  
Sent: Thursday, January 28, 2010 2:45 PM  
To: Bahena, Miguel (Mike.); Snider, Tim (T.O.); Diez, Timothy (T.P.); Mrozek, Robert (R.M.)  
Subject: FR0123 TS damage

This is one we did not have time for in yesterday's TS meeting but not sure if we can close this out since the dealer cut out the evidence of a damaged TS harness. See attachments for pics & the interactive diagnosis. Vehicle was not in a wreck or had other repairs only came in for this complaint and the vehicle has 22k miles so unsure how this TS harness was damaged.

Eric

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

From: Kerr, Jody (J.)  
Sent: Tuesday, January 26, 2010 3:50 PM  
To: Estes, Eric (E.E.)  
Subject: Emailing: EPAS Gear 001.jpg, EPAS Gear 002.jpg, EPAS Gear 003.jpg, EPAS Gear 004.jpg, EPAS Gear 005.jpg, EPAS Gear 006.jpg

The message is ready to be sent with the following file or link attachments:

EPAS Gear 001.jpg  
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EPAS Gear 005.jpg  
EPAS Gear 006.jpg

Note: To protect against computer viruses, e-mail programs may prevent sending or receiving certain types of file attachments. Check your e-mail security settings to determine how attachments are handled.

---

**From:** Mathew Alder <Mathew.Alder@TRW.COM>  
**Sent:** Friday, March 12, 2010 5:00 PM  
**To:** Estes, Eric (E.E.); Snider, Tim (T.O.)  
**Cc:** Bahena, Miguel (Mike.); Mrozek, Robert (R.M.); Diez, Timothy (T.P.); Engelbert Lu; Joel Rabideau; Robert Kostadina; Sergio Alvarez  
**Subject:** RE: FR0156

The harness is on Engelbert's / Joel's desk in Washington.

Mat Alder  
Principal Product Engineer  
**TRW**  
(586) 232-8521

>>> "Estes, Eric (E.E.)" <[eestes@ford.com](mailto:eestes@ford.com)> 3/10/2010 4:41 PM >>>

Mat Alder is in QAO and will carry the harness back to 26mile should be there this Monday, when you visit 26mile on Tuesday you can inspect the TS harness.

Eric

---

**From:** Snider, Tim (T.O.)  
**Sent:** Wednesday, March 10, 2010 4:35 PM  
**To:** Estes, Eric (E.E.)  
**Cc:** Bahena, Miguel (Mike.); Mrozek, Robert (R.M.); Diez, Timothy (T.P.); 'Sergio Alvarez'; Joel Rabideau; 'Robert Kostadina'  
**Subject:** RE: FR0156

Eric,

Please send the harness to Joel and we will take a look. Good chance this could be closed to damage. Although, I would like to better understand how a harness can "overheat".

Regards,  
Tim Snider ([tsnider1@ford.com](mailto:tsnider1@ford.com))  
**CD3 Steering Engineering**  
**Ford Motor Company**  
Cell 313-805-3201  
2B-L18 Product Development Center  
Dearborn, MI 48124 USA

---

**From:** Estes, Eric (E.E.)  
**Sent:** Wednesday, March 10, 2010 4:25 PM  
**To:** Snider, Tim (T.O.)  
**Cc:** Bahena, Miguel (Mike.); Mrozek, Robert (R.M.); Diez, Timothy (T.P.); 'Sergio Alvarez'  
**Subject:** FW: FR0156

Tim, Sergio found nick in TS conduit so it looks like there was an impact to the harness, see the new pics in the PFR for FR0156.

Let me know what you want done with harness or gear assembly. Hard to say if this is a plant issue with close to 6K miles.

Eric

---

**From:** Sergio Alvarez [<mailto:Sergio.Alvarez@TRW.COM>]

**Sent:** Wednesday, March 10, 2010 3:31 PM

**To:** Estes, Eric (E.E.)

**Subject:** FR0156

Eric,

attached updated PFR with high quality photos. I recheck the harness condition and found a damaged on the harness protection, so a quality issue on the harness can be discarded. Now, is needed to understand what caused this damaged and why harness was over heated.

regards,  
Sergio

---

**From:** Estes, Eric (E.E.)  
**Sent:** Wednesday, March 17, 2010 3:21 PM  
**To:** Snider, Tim (T.O.)  
**Cc:** Mrozek, Robert (R.M.); 'Joel Rabideau'; 'Mathew Alder'; Ulloa, Fernando (F.F.); Diez, Timothy (T.P.)  
**Subject:** RE: FR0156- Torque sensor harness from QAO

I have a total of 8 TS harness damage claims on CD3- FR0156 claim was a 3L gas engine, so that would be 6 claims 2.5L hybrid's, one 2.5L gas & one 3L gas claims.

Eric

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

**From:** Snider, Tim (T.O.)  
**Sent:** Wednesday, March 17, 2010 10:56 AM  
**To:** Estes, Eric (E.E.)  
**Cc:** Mrozek, Robert (R.M.); Joel Rabideau; 'Mathew Alder'; Ulloa, Fernando (F.F.); Diez, Timothy (T.P.)  
**Subject:** FW: FR0156- Torque sensor harness from QAO

Eric,

I forgot to look at this yesterday. Based off the pictures and Joel's comments, it doesn't look like a TRW issue. Either misuse or handling.

What's the current total of all CD3 torque sensor harness damage, for any cause?

Regards,  
Tim Snider ([tsnider1@ford.com](mailto:tsnider1@ford.com))  
CD3 Steering Engineering  
Ford Motor Company  
Cell 313-805-3201  
2B-L18 Product Development Center  
Dearborn, MI 48124 USA

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

**From:** Estes, Eric (E.E.)  
**Sent:** Wednesday, March 17, 2010 10:22 AM  
**To:** Snider, Tim (T.O.)  
**Cc:** Mrozek, Robert (R.M.); 'Guillermo Aguilar'  
**Subject:** FW: FR0156- Torque sensor harness from QAO

Tim, Joel inspected the harness and looks like a sharp object penetrated the convolute & wires(see attachment). This vehicle did not have any other warranty claims and no failures at the plant. Hard to say when & where this could have happened with almost 6k miles on it.

Eric J Estes  
TRW EPAS Steering Systems

Quality Specialist  
Hotline ph# 313-317-9358  
Cell ph# 734-560-3493

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

From: Joel Rabideau [<mailto:Joel.Rabideau@TRW.COM>]

Sent: Wednesday, March 17, 2010 9:27 AM

To: Estes, Eric (E.E.); Engelbert Lu

Cc: Jason Johnson-contr; Sergio Alvarez

Subject: Re: FR0156- Torque sensor harness from QAO

The returned harness appeared to have a sharp object impact the conv/wire 25 mm from bulkhead overmold. Please see attached for more info.

Regards,

Joel

>>> "Estes, Eric (E.E.)" <[eestes@ford.com](mailto:eestes@ford.com)> 3/16/2010 10:15 AM >>>

Joel/ Englebert on closer look at the harness that Mat Alder dropped off from QAO does it look like an impact only?

Let me know what you think Ford will want an update in the TS workshop tomorrow at 12pm. Thanks

Eric

---

**From:** Mrozek, Robert (R.M.)  
**Sent:** Thursday, March 11, 2010 1:07 PM  
**To:** Estes, Eric (E.E.); Snider, Tim (T.O.)  
**Cc:** Bahena, Miguel (Mike.); Diez, Timothy (T.P.); 'Sergio Alvarez'  
**Subject:** RE: FR0156

Is there anything in the service history that would indicate a related service action that could damage the wire. We have seen in the past on vehicle durability where a welding repair shot spatter on a plastic component and burned it. I wonder if there is anything like that in the vehicle history. But I must say that I do not see the evidence of high temp melting in the picture. There is nothing naturally in the vehicle in that area that is hot.

*Rob Mrozek*

Electric Power Steering Supervisor  
C346N/CD3/D3/D4/U502/Police/Limo Programs  
Ford Motor Company  
Phone: (313) 805-5947  
e-mail: [rmrozek@ford.com](mailto:rmrozek@ford.com)

---

**From:** Estes, Eric (E.E.)  
**Sent:** Wednesday, March 10, 2010 4:25 PM  
**To:** Snider, Tim (T.O.)  
**Cc:** Bahena, Miguel (Mike.); Mrozek, Robert (R.M.); Diez, Timothy (T.P.); 'Sergio Alvarez'  
**Subject:** FW: FR0156

Tim, Sergio found nick in TS conduit so it looks like there was an impact to the harness, see the new pics in the PFR for FR0156.

Let me know what you want done with harness or gear assembly. Hard to say if this is a plant issue with close to 6K miles.

Eric

---

**From:** Sergio Alvarez [<mailto:Sergio.Alvarez@TRW.COM>]  
**Sent:** Wednesday, March 10, 2010 3:31 PM  
**To:** Estes, Eric (E.E.)  
**Subject:** FR0156

Eric,

attached updated PFR with high quality photos. I recheck the harness condition and found a damaged on the harness protection, so a quality issue on the harness can be discarded. Now, is needed to understand what caused this damaged and why harness was over heated.

regards,  
Sergio

---

**From:** Estes, Eric (E.E.)  
**Sent:** Monday, March 15, 2010 6:01 PM  
**To:** Mrozek, Robert (R.M.); Snider, Tim (T.O.)  
**Cc:** Bahena, Miguel (Mike.); 'Angel Salazar'; 'Joel Rabideau'; 'Guillermo Aguilar'; Quijada, Jorge (J.); 'Greg Bendzinski'  
**Subject:** RE: FR0160(BD0-BD3) TS Harness Damage

Gear build date is 11/20/2009, don't see any relation on gear build dates, 2-Mar., 2-June, 1-Apr., 1-Aug., 1-Nov.

What I see consistant is out of the seven TS harness damage warranty claims 6 are 2.5L hybrid vehicles.

*Eric J Estes*

TRW EPAS Steering Systems  
Quality Specialist  
Hotline ph# 313-317-9358  
Cell ph# 734-560-3493

---

**From:** Mrozek, Robert (R.M.)  
**Sent:** Monday, March 15, 2010 1:33 PM  
**To:** Estes, Eric (E.E.); Snider, Tim (T.O.)  
**Cc:** Bahena, Miguel (Mike.); 'Angel Salazar'; 'Joel Rabideau'; 'Guillermo Aguilar'; Quijada, Jorge (J.); 'Greg Bendzinski'  
**Subject:** RE: FR0160(BD0-BD3) TS Harness Damage

When was this gear built? Are there any patterns in build time, etc when compared to other claims with similar issues?

*Rob Mrozek*

Electric Power Steering Supervisor  
C346N/CD3/D3/D4/U502/Police/Limo Programs  
Ford Motor Company  
Phone: (313) 805-5947  
e-mail: [rmrozek@ford.com](mailto:rmrozek@ford.com)

---

**From:** Estes, Eric (E.E.)  
**Sent:** Monday, March 15, 2010 1:18 PM  
**To:** Snider, Tim (T.O.)  
**Cc:** Bahena, Miguel (Mike.); Mrozek, Robert (R.M.); 'Angel Salazar'; 'Joel Rabideau'; Guillermo Aguilar; Quijada, Jorge (J.); Greg Bendzinski  
**Subject:** RE: FR0160(BD0-BD3) TS Harness Damage

FYI- Tim this is another damaged/cut TS harness damaged by the first retainer coming off the EPP, see attachments

Went into Report Log IQ and did not find any faults at the plants on this vehicle.

VIN# 3FADP0L30AR [REDACTED] (Fusion Hybrid) miles: 1029 Build date: 11/26/2009  
customer had vehicle over 3weeks before returning to the dealer for TS codes & gear replacement.

<< File: FR0160.doc >> << File: FR0160.rtf >> << File: 000\_0011.jpg >> << File: 000\_0012.jpg >> << File:  
FR0160 700 tag.pdf >>

*Eric J Estes*

TRW EPAS Steering Systems  
Quality Specialist  
Hotline ph# 313-317-9358  
Cell ph# 734-560-3493

---

**From:** Snider, Tim (T.O.)  
**Sent:** Thursday, March 25, 2010 3:53 PM  
**To:** Estes, Eric (E.E.)  
**Cc:** 'Anthony Fleenor'; 'Costas Chrysochoidis'; Mrozek, Robert (R.M.); Bahena, Miguel (Mike.); Diez, Timothy (T.P.); 'Mathew Alder'; Hernandez, Victor (V.M.); 'pavel.vetz@trw.com'; 'Guillermo Aguilar'  
**Subject:** RE: FR0168 cracked housing update

Eric,

Yes, we can talk about this at 10:30. Please send an updated meeting notice or a separate notice.

Regards,  
Tim Snider ([tsnider1@ford.com](mailto:tsnider1@ford.com))

**CD3 Steering Engineering**  
**Ford Motor Company**  
Cell 313-805-3201  
2B-L18 Product Development Center  
Dearborn, MI 48124 USA

---

**From:** Estes, Eric (E.E.)  
**Sent:** Thursday, March 25, 2010 11:35 AM  
**To:** Snider, Tim (T.O.); 'Guillermo Aguilar'  
**Cc:** 'Anthony Fleenor'; 'Costas Chrysochoidis'; Mrozek, Robert (R.M.); Bahena, Miguel (Mike.); Diez, Timothy (T.P.); 'Mathew Alder'; Hernandez, Victor (V.M.); 'pavel.vetz@trw.com'  
**Subject:** RE: FR0168 cracked housing update

Tim/Rob/Mike the information has been gathered towards the 8D so we should have most of the important information by tomorrow.

I was wondering if we could talk about this issue at 10:30am tomorrow morning half hour earlier than the normal B9A workshop meeting, because Costas and others will not be available at 11am.

Let me know so I can change the meeting time, thanks

*Eric J Estes*  
TRW EPAS Steering Systems  
Quality Specialist  
Hotline ph# 313-317-9358  
Cell ph# 734-560-3493

---

**From:** Snider, Tim (T.O.)  
**Sent:** Thursday, March 25, 2010 11:07 AM  
**To:** Estes, Eric (E.E.); 'Guillermo Aguilar'  
**Cc:** 'Anthony Fleenor'; 'Costas Chrysochoidis'; Mrozek, Robert (R.M.); Bahena, Miguel (Mike.); Diez, Timothy (T.P.); Mathew Alder; Hernandez, Victor (V.M.)  
**Subject:** RE: FR0168 cracked housing update

Eric,

Thanks.

Memo,

Has an 8D been started? How did the balls get loose? When do you think they became loose? What ICA do you have?

Regards,

Tim Snider ([tsnider1@ford.com](mailto:tsnider1@ford.com))

**CD3 Steering Engineering**

**Ford Motor Company**

Cell 313-805-3201

2B-L18 Product Development Center

Dearborn, MI 48124 USA

---

**From:** Estes, Eric (E.E.)  
**Sent:** Thursday, March 25, 2010 10:36 AM  
**To:** Mrozek, Robert (R.M.); Bahena, Miguel (Mike.); Snider, Tim (T.O.); Diez, Timothy (T.P.)  
**Cc:** 'Anthony Fleenor'; Costas Chrysochoidis; 'Guillermo Aguilar'  
**Subject:** FR0168 cracked housing update

Rob, Mike & Tim's

Yesterday evening we found out the crack in the housing was caused by loose balls from the ballnut that were forced through the housing.

At this time QAO is working on a timeline of the gear build information & 26mile is putting the gear on the EDF stand this morning then will proceed with a teardown analysis. We can go over the results and talk about this gear in tomorrow morning's B9A warranty meeting.

We do have some of the preliminary information from the ballnut build and will share will you in greater detail as we finish our analysis today. Thanks

*Eric J Estes*

TRW EPAS Steering Systems

Quality Specialist

Hotline ph# 313-317-9358

Cell ph# 734-560-3493

---

**From:** Mrozek, Robert (R.M.)  
**Sent:** Thursday, April 01, 2010 5:34 PM  
**To:** 'Guillermo Aguilar'; Estes, Eric (E.E.); Snider, Tim (T.O.); Jason Johnson  
**Cc:** Bahena, Miguel (Mike.); Diez, Timothy (T.P.); Hernandez, Victor (V.M.); Aaron Blancas; Anthony Fleenor; Costas Chrysochoidis; Mathew Alder  
**Subject:** RE: FR0168 cracked housing update

Thanks. Let's review tese next Wed.

Rob Mrozek  
Electric Power Steering Supervisor  
C346N/CD3/D3/D4/U502/Police/Limo Programs Ford Motor Company  
Phone: (313) 805-5947  
e-mail: [rmrozek@ford.com](mailto:rmrozek@ford.com)

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

From: Guillermo Aguilar [<mailto:Guillermo.Aguilar@TRW.COM>]  
Sent: Thursday, April 01, 2010 12:49 PM  
To: Estes, Eric (E.E.); Mrozek, Robert (R.M.); Snider, Tim (T.O.); Jason Johnson  
Cc: Bahena, Miguel (Mike.); Diez, Timothy (T.P.); Hernandez, Victor (V.M.); Aaron Blancas; Anthony Fleenor; Costas Chrysochoidis; Mathew Alder  
Subject: RE: FR0168 cracked housing update

Rob, team,

Attached please find the update of the 8D reports for the issues related to warranty claims FR0133, DR0011/15 and FR0168.

Please let me know about any comments. We'll update on further activity this coming Wednesday.

Have a Happy Easter and talk to you next week.

Regards,

Guillermo (Memo) Aguilar,

>>> "Mrozek, Robert (R.M.)" <[rmrozek@ford.com](mailto:rmrozek@ford.com)> 03/31/10 2:02 PM >>>  
Can we get the latest 8D? We should follow up on this next Wed.

Rob Mrozek  
Electric Power Steering Supervisor  
C346N/CD3/D3/D4/U502/Police/Limo Programs Ford Motor Company  
Phone: (313) 805-5947  
e-mail: [rmrozek@ford.com](mailto:rmrozek@ford.com)

> \_\_\_\_\_

> From: Snider, Tim (T.O.)  
> Sent: Thursday, March 25, 2010 11:07 AM  
> To: Estes, Eric (E.E.); 'Guillermo Aguilar'  
> Cc: 'Anthony Fleenor'; 'Costas Chrysochoidis'; Mrozek, Robert  
> (R.M.); Bahena, Miguel (Mike.); Diez, Timothy (T.P.); Mathew Alder;  
> Hernandez, Victor (V.M.)  
> Subject: RE: FR0168 cracked housing update  
>  
> Eric,  
>  
> Thanks.  
>  
> Memo,  
>  
> Has an 8D been started? How did the balls get loose? When do you  
> think they became loose? What ICA do you have?  
>  
>  
> Regards,  
> Tim Snider ([tsnider1@ford.com](mailto:tsnider1@ford.com))  
> CD3 Steering Engineering  
> Ford Motor Company  
> Cell 313-805-3201  
> 2B-L18 Product Development Center  
> Dearborn, MI 48124 USA  
>  
>  
> \_\_\_\_\_  
> From: Estes, Eric (E.E.)  
> Sent: Thursday, March 25, 2010 10:36 AM  
> To: Mrozek, Robert (R.M.); Bahena, Miguel (Mike.); Snider, Tim  
> (T.O.); Diez, Timothy (T.P.)  
> Cc: 'Anthony Fleenor'; 'Costas Chrysochoidis'; 'Guillermo Aguilar'  
> Subject: FR0168 cracked housing update  
>  
>  
> Rob, Mike & Tim's  
> Yesterday evening we found out the crack in the housing was caused by  
> loose balls from the ballnut that were forced through the housing.  
>  
> At this time QAO is working on a timeline of the gear build  
> information & 26mile is putting the gear on the EDF stand this morning  
> then will proceed with a teardown analysis. We can go over the results  
> and talk about this gear in tomorrow morning's B9A warranty meeting.  
>  
> We do have some of the preliminary information from the ballnut build  
> and will share will you in greater detail as we finish our analysis  
> today. Thanks  
>  
>  
> Eric J Estes  
> TRW EPAS Steering Systems

> Quality Specialist  
> Hotline ph# 313-317-9358  
> Cell ph# 734-560-3493  
>  
>  
>  
>  
>

---

**From:** JuanCarlos cano <JuanCarlos.cano@TRW.COM>  
**Sent:** Monday, July 26, 2010 4:10 PM  
**To:** Bahena, Miguel (Mike.); Robert Kostadina  
**Cc:** Snider, Tim (T.O.)  
**Subject:** RE: FW: B9A SW fix Timing for CD3/D3/U502 Current Production

OK....Got it!...

>>> "Bahena, Miguel (Mike.)" <[mbahena1@ford.com](mailto:mbahena1@ford.com)> 7/26/2010 9:52 AM >>>  
JC,

We really can't wait as this is hitting our warranty pretty hard ( we have over 20 gears replaced due to this issue).

Lets discuss this in the APQP meeting Thursday. Thanks.

Sincerely,

Mike Bahena  
D3 Electric Power Steering Systems  
Ford Motor Co.  
Ph: (313) 805-3680  
[mbahena1@ford.com](mailto:mbahena1@ford.com)

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

From: JuanCarlos cano [<mailto:JuanCarlos.cano@TRW.COM>]  
Sent: Monday, July 26, 2010 10:36 AM  
To: Bahena, Miguel (Mike.); Robert Kostadina  
Subject: Re: FW: B9A SW fix Timing for CD3/D3/U502 Current Production

Not sure if I expressed my concern in another note. But, my main concern will be, on a scenario were we will incur on a massive re-flash at QAO.....

D3 will be manageable. D3 + CD3 not that manageable....

I would be more focused on releasing the new SW at the source than at QAO....

JC

>>> "Bahena, Miguel (Mike.)" <[mbahena1@ford.com](mailto:mbahena1@ford.com)> 7/26/2010 9:24 AM >>>  
JC,

What do you think?

Sincerely,

Mike Bahena  
D3 Electric Power Steering Systems

Ford Motor Co.  
Ph: (313) 805-3680  
[mbahena1@ford.com](mailto:mbahena1@ford.com)

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

From: Bahena, Miguel (Mike.)  
Sent: Thursday, July 22, 2010 5:32 PM  
To: 'Robert Kostadina'; Douglas Sherman; Hemang Mehta; Mohammed Yasin  
Cc: Napoli, Laura (L.); Mrozek, Robert (R.M.); Snider, Tim (T.O.); Angel Andres; JuanCarlos cano; Pasquarella, Michael (M.S.); MathewAlder; Puleri, Michael (M.J.); 'Guillermo Aguilar'  
Subject: RE: B9A SW fix Timing for CD3/D3/U502 Current Production

JC, Rob,

For D3 is there anything holding us back from releasing this B9a SW update on the Leoni Harness Gear (CC/DC) gear? Re-flashing gears in QAO to line up the Leoni harness change should not hold us back.

If so we will begin processing the concern.

Sincerely,

Mike Bahena  
D3 Electric Power Steering Systems  
Ford Motor Co.  
Ph: (313) 805-3680  
[mbahena1@ford.com](mailto:mbahena1@ford.com)

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

From: Robert Kostadina [mailto:[Robert.Kostadina@TRW.COM](mailto:Robert.Kostadina@TRW.COM)]  
Sent: Thursday, July 22, 2010 4:39 PM  
To: Bahena, Miguel (Mike.); Douglas Sherman; Hemang Mehta; Mohammed Yasin  
Cc: Napoli, Laura (L.); Mrozek, Robert (R.M.); Snider, Tim (T.O.); Angel Andres; JuanCarlos cano  
Subject: Re: B9A SW fix Timing for CD3/D3/U502 Current Production

Attached is the timing.

>>> "Bahena, Miguel (Mike.)" <[mbahena1@ford.com](mailto:mbahena1@ford.com)> 7/21/2010 1:00 PM >>>  
Mohammed, Rob, Doug, Hemang,

Can you please send us the timing for PURL3 SW available with the B9a fix for current production:

CD3  
**R**  
U502(I'm not sure when Laura is working this in)

We need to start the WERS concern process and get QAO prepared to start re-flashing. Thanks.

Sincerely,

Mike Bahena  
D3 Electric Power Steering Systems  
Ford Motor Co.  
Ph: (313) 805-3680  
[mbahena1@ford.com](mailto:mbahena1@ford.com)

---

**From:** JuanCarlos cano <JuanCarlos.cano@TRW.COM>  
**Sent:** Friday, July 23, 2010 4:42 PM  
**To:** Snider, Tim (T.O.)  
**Cc:** Bahena, Miguel (Mike.); Diez, Timothy (T.P.); Mathew Alder; Norb Giczewski; Robert Kostadina  
**Subject:** Re: FW: B9A SW fix Timing for CD3/D3/U502 Current Production

Tim,

Rob K and I have been talking about this. At first glance looks doable, but I need to deep dive on the resources (Manpower, SW and Hardware) needed to SOP this "massive" re-flash activity at QAO or implement until parts arrives to QAO flashed from the source....

More to come...

Regards!

JC

>>> "Snider, Tim (T.O.)" <[tsnider1@ford.com](mailto:tsnider1@ford.com)> 7/23/2010 10:21 AM >>>  
JC,

Based off Rob's timing, when would PPAP parts arrive at Hermosillo? Are you putting a timing plan together? And, could TRW support Job 2 TT on Sept 27. Looks like it. I'm thinking we do this change for 2011 Job 2, support TT build, and then, since this is a quality fix, implement for production after TT build. Which also means Hermosillo EOL would have to accommodate the pulled ahead Job 2 software part numbers.

Regards,  
Tim Snider ([tsnider1@ford.com](mailto:tsnider1@ford.com))  
CD3 Steering Engineering  
Ford Motor Company  
Cell 313-805-3201  
2B-L18 Product Development Center  
Dearborn, MI 48124 USA

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

From: Robert Kostadina [mailto:[Robert.Kostadina@TRW.COM](mailto:Robert.Kostadina@TRW.COM)]  
Sent: Thursday, July 22, 2010 4:39 PM  
To: Bahena, Miguel (Mike.); Douglas Sherman; Hemang Mehta; Mohammed Yasin  
Cc: Napoli, Laura (L.); Mrozek, Robert (R.M.); Snider, Tim (T.O.); Angel Andres; JuanCarlos cano  
Subject: Re: B9A SW fix Timing for CD3/D3/U502 Current Production

Attached is the timing.

>>> "Bahena, Miguel (Mike.)" <[mbahena1@ford.com](mailto:mbahena1@ford.com)> 7/21/2010 1:00 PM >>>  
Mohammed, Rob, Doug, Hemang,

Can you please send us the timing for PURL3 SW available with the B9a fix for current production:

CD3

R

U502(I'm not sure when Laura is working this in)

We need to start the WERS concern process and get QAO prepared to start re-flashing. Thanks.

Sincerely,

Mike Bahena  
D3 Electric Power Steering Systems  
Ford Motor Co.  
Ph: (313) 805-3680  
[mbahena1@ford.com](mailto:mbahena1@ford.com)

---

**From:** JuanCarlos cano <JuanCarlos.cano@TRW.COM>  
**Sent:** Wednesday, November 04, 2009 3:09 PM  
**To:** Gaspar, Albert (R.); Snider, Tim (T.O.); Ken Eaton  
**Subject:** RE: FW: Containment for crushed TS harness at Benteler

Thanks Ken...

I think that put us back to the material handling as a potential cause....

JC

>>> Ken Eaton 11/4/2009 8:59 AM >>>

Tim and Albert,

Here is a dynamic study with the PTU relative to the gear from November 2007. At the time there were bosses for a heat shield in the middle of the pinion housing, which were removed as a result of this study. However it does not look like it is near the point of impact of the crushed harness.

Ken Eaton  
EAS Principal Product Engineer  
TRW Automotive | Tel: 586.232.7778 | Fax: 586.232.8356

>>> "Snider, Tim (T.O.)" <tsnider1@ford.com> 11/4/2009 9:11 AM >>>

JC,

Good question. I'll check.

Albert,

What are the dynamic clearances between the CD3 EPAS steering gear, specifically the torque sensor harness area, and the powertrains? I'll stop by your desk.

Regards,  
Tim Snider (tsnider1@ford.com)  
CD3 Steering Engineering  
Ford Motor Company  
Cell 313-805-3201  
2B-L18 Product Development Center  
Dearborn, MI 48124 USA

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

From: JuanCarlos cano [mailto:[JuanCarlos.cano@TRW.COM](mailto:JuanCarlos.cano@TRW.COM)]  
Sent: Tuesday, November 03, 2009 5:36 PM  
To: Snider, Tim (T.O.)  
Subject: RE: FW: Containment for crushed TS harness at Benteler

Tim,

Can an engine roll event could cause that?, looks like the part got crunched between something and the pinion housing.....

Just my two cents....

JC

>>> "Snider, Tim (T.O.)" <tsnider1@ford.com> 11/3/2009 4:21 PM >>>

Javier / Ken / Angel,

Yes, sorry for the confusion. I was confusing the two sides of the torque sensor harness. Since this damage is on the motor / control module side, the containment on the pinion side will have no affect.

Rob spoke with Antonio in the PVT today and the PVT is checking if an in-plant process can cause this damage to the torque sensor harness on the motor / control module side.

Regards,

Tim Snider (tsnider1@ford.com)

CD3 Steering Engineering

Ford Motor Company

Cell 313-805-3201

2B-L18 Product Development Center

Dearborn, MI 48124 USA

---

From: Ramirez santamaria, Javier (J.)

Sent: Tuesday, November 03, 2009 10:47 AM

To: Estes, Eric (E.E.); 'Ken Eaton'; Snider, Tim (T.O.); 'Angel Salazar'

Cc: Rogero, Antonio (A.); Quijada, Jorge (J.); Mrozek, Robert (R.M.); 'JuanCarlos cano'

Subject: RE: FW: Containment for crushed TS harness at Benteler

Tim:

Benteler mark the cable just as an evidence that the harness was not crushed by the bolt, that is used to attach the gear to the frame, but this is doing just in the pinion side only.

From the other side of the EPAS, Benteler just check that the connector has been properly connected in the EPP and that's it.

---

From: Estes, Eric (E.E.)

Sent: Tuesday, November 03, 2009 7:48 AM

To: 'Ken Eaton'; Ramirez santamaria, Javier (J.); Snider, Tim (T.O.);

Angel Salazar

Cc: Rogero, Antonio (A.); Quijada, Jorge (J.); Mrozek, Robert (R.M.);

JuanCarlos cano

Subject: RE: FW: Containment for crushed TS harness at Benteler

There is a paint mark on the TS harness over the pinion side mount grommet.

Eric J Estes  
TRW EPAS Steering Systems  
Quality Specialist  
Hotline ph# 313-317-9358  
Cell ph# 734-560-3493

---

From: Ken Eaton [mailto:Ken.Eaton@TRW.COM]  
Sent: Tuesday, November 03, 2009 9:42 AM  
To: Estes, Eric (E.E.); Ramirez santamaria, Javier (J.); Snider, Tim (T.O.); Angel Salazar  
Cc: Rogero, Antonio (A.); Quijada, Jorge (J.); Mrozek, Robert (R.M.); JuanCarlos cano  
Subject: Re: FW: Containment for crushed TS harness at Benteler

I am guessing the paint mark is to indicated the gear was mounted to the subframe without damage to the harness only at the pinion side foot mount and does not necessarily mean the EPP end of the harness was okay.

Ken Eaton  
EAS Principal Product Engineer  
TRW Automotive | Tel: 586.232.7778 | Fax: 586.232.8356

>>> "Snider, Tim (T.O.)" <tsnider1@ford.com> 11/3/2009 9:18 AM >>>

Ken / Eric,  
Is there a paint mark on the torque sensor harness? I can't tell from the pictures. Paintmarks were begun by Benteler mid June to verify the harness was not damaged during gear installation to subframe. The Powerpoint attachment from Javier shows where the mark is applied.

<<RE: Containment for crushed TS harness at Benteler>>

Javier / Angel,

For confirmation, can Benteler or Hermosillo reproduce the damage to the EPAS gear torque sensor harness? Do we know for sure it happens during gear installation to subframe?

Regards,  
Tim Snider (tsnider1@ford.com)

CD3 Steering Engineering  
Ford Motor Company  
Cell 313-805-3201  
2B-L18 Product Development Center  
Dearborn, MI 48124 USA

---

From: Estes, Eric (E.E.)  
Sent: Monday, November 02, 2009 1:19 PM  
To: Snider, Tim (T.O.); Bahena, Miguel (Mike.); Bouse, William (Bill.); Mrozek, Robert (R.M.)  
Cc: Ramirez santamaria, Javier (J.); Carlos Gomes; Jeff Justice; Ken Eaton; Valerie Williams; JuanCarlos cano; Angel Andres; Engelbert Lu; Joel Rabideau; Mark Burrough; Martha Abundis; Nick turovich  
Subject: RE: Containment for crushed TS harness at Benteler

Here are the crushed harness pictures for FR0076. This vehicle had 2749 miles on it and 2 MIS before it was returned to the dealer 10/1/2009. Warranty start date 8/5/2009, Gear build date 7/14/2009, & vehicle build date 7/17/2009. I don't have the 8D for this issue, see the only AWS warranty claim below.

<<QAO pictures- FR0076 crushed harness 018.jpg>> <<QAO pictures- FR0076 crushed harness 017.jpg>> <<QAO pictures- FR0076 crushed harness 016.jpg>> <<QAO pictures- FR0076 crushed harness 015.jpg>> <<QAO pictures- FR0076 crushed harness 013.jpg>> <<QAO pictures- FR0076 crushed harness 012.jpg>>

Model Year: 2010 Document Number: 06739851  
Market Derived: F - FORD Repair Date: 01-OCT-2009  
Body/Cab Type: C/FA - 4 DOOR SEDAN-4 LITE Distance: 2749  
Version/Series: \*-[N/A] TIS: 2  
Drive Type: C/A-2 WHL L/H FRONT DRIVE  
Vehicle Line: C/DE-FUSION/MILAN/MKZ (ZEPHYR) [06-10]  
Warranty Start Date: 05-AUG-2009  
Production Date: 17-JUL-2009  
VIN: 3FADPOL3XAR [REDACTED]

Expense Information

Dealer Information:  
Customer Paid Amount: .00  
Dealer Name BOZEMAN FORD Deductible Amount: .00  
Dealer Code: 08316 - \* Dealer Paid Amount: .00  
Address: 2900 NORTH 19TH STREET Labor Cost: 250.90  
City: BOZEMAN Misc. Expense Amount: .00

State: MT Zip Code: 59718 Part Markup Amount: 375.92  
Country: USA Region Code: NA Material Cost: 1315.72  
Phone: (406)587-1221 Total Cost Gross: 1566.62

Cust. Concern Code: H22 - STEERING REQUIRES EXTRA OR UNEVEN EFFORT

Condition Code: 42 - DOES NOT OPERATE PROPERLY

Technician Comment: EPAS GEAR STEERING GEAR ASSEMBLY EPAS DIAGNOSIS

Customer Comment: POWER STEERING NOT WORKING, LIGHT ON

Labor Op Code	Labor Op Description	Labor Op Cost
3504E	15.21	
3504E45	22.81	
3504E47	22.81	
3504A	STEERING GEAR ASSEMBLY REMOVE AND INSTALL OR REPLACE	152.06
3001A	CASTER, CAMBER, TOE-IN CHECK	30.41
3001A6F	TOE-IN CORRECT	7.60

Causal	Full Part Number	Part	Part			
Extended						
Flag	PREF	BASE	SUFF	Description	CPSC	Quantity
Amount						
Y	AE5Z 3504 B	GEAR ASY-STEERING		110201	1	
	1315.72					

Eric J Estes  
TRW EPAS Steering Systems  
Quality Specialist  
Hotline ph# 313-317-9358  
Cell ph# 734-560-3493

---

From: Snider, Tim (T.O.)  
Sent: Thursday, October 29, 2009 2:16 PM  
To: Estes, Eric (E.E.)  
Cc: Ramirez santamaria, Javier (J.)  
Subject: RE: Containment for crushed TS harness at Benteler

Eric,

Do you have a picture of the crushed torque sensor harness? Please also send the latest 8D or issue summary.

Regards,  
Tim Snider (tsnider1@ford.com)  
CD3 Steering Engineering

Ford Motor Company  
Cell 313-805-3201  
2B-L18 Product Development Center  
Dearborn, MI 48124 USA

---

From: Ramirez santamaria, Javier (J.)  
Sent: Thursday, October 29, 2009 12:00 PM  
To: Snider, Tim (T.O.)  
Subject: RE: Containment for crushed TS harness at Benteler

Hello Tim:

Yes, I'm responsible for the CD3 Suspension Modules for Benteler. Can you please send me a pic to understand better the issue???

Thanks

---

From: Snider, Tim (T.O.)  
Sent: Thursday, October 29, 2009 8:38 AM  
To: Ramirez santamaria, Javier (J.)  
Subject: FW: Containment for crushed TS harness at Benteler

Hello Javier,

I am the new CD3 steering gear engineer, taking over from Wes Porter. Are you responsible for CD3 Bentler Chassis issues? I would like to find out what Bentler has done to contain and resolve the electric power steering gear crushed torque sensor harness, and what the clean date is. Let me know if you are the right contact. Thanks.

Regards,  
Tim Snider (tsnider1@ford.com)  
CD3 Steering Engineering  
Ford Motor Company  
Cell 313-805-3201  
2B-L18 Product Development Center  
Dearborn, MI 48124 USA

---

From: Bouse, William (Bill.)  
Sent: Thursday, October 29, 2009 11:30 AM  
To: Snider, Tim (T.O.)  
Subject: RE: Containment for crushed TS harness at Benteler

Ford Engineer Responsible for Benteler is:

Ramirez santamaria, Javier (J.)

---

From: Snider, Tim (T.O.)  
Sent: Thursday, October 29, 2009 10:57 AM  
To: Rogero, Antonio (A.); Quijada, Jorge (J.); 'Martha Abundis'  
Cc: Estes, Eric (E.E.); Bouse, William (Bill.); Mrozek, Robert  
(R.M.); 'cano, JuanCarlos'  
Subject: FW: Containment for crushed TS harness at Benteler

Antonio, Jorge, Martha,

What has Benteler done to contain the crushed torque sensor harness issue? Looks like another issue just popped up in warranty. What's the clean date for containment? Who is the Benteler Chassis contact? Please send his or her e-mail address. Thanks.

Regards,  
Tim Snider (tsnider1@ford.com)  
CD3 Steering Engineering  
Ford Motor Company  
Cell 313-805-3201  
2B-L18 Product Development Center  
Dearborn, MI 48124 USA

---

From: Estes, Eric (E.E.)  
Sent: Wednesday, October 28, 2009 6:17 PM  
To: Snider, Tim (T.O.)  
Cc: Bouse, William (Bill.)  
Subject: Containment for crushed TS harness at Benteler

Tim could you see what kind of containment actions were done at Benteler to prevent the crushed TS harnesses, not sure if they just moved the harness before picking up with the machine. I don't think there was any permanent containment actions but I can't remember exactly what was done to prevent this and the clean date. We closed FR0042 for this issue and now have another FR0076 here in my car for inspection. Bill might be able to fill you in on this issue.

<< OLE Object: Picture (Metafile) >>

Eric J Estes  
TRW EPAS Steering Systems  
Quality Specialist  
Hotline ph# 313-317-9358  
Cell ph# 734-560-3493

---

**From:** Geoff Jacks <Geoff.Jacks@TRW.COM>  
**Sent:** Wednesday, November 04, 2009 10:02 AM  
**To:** Snider, Tim (T.O.)  
**Cc:** Estes, Eric (E.E.); Bahena, Miguel (Mike.); Mrozek, Robert (R.M.); Diez, Timothy (T.P.)  
**Subject:** Re: FW: FW: B9a Warranty Meeting for TRW EPAS  
**Attachments:** Geoff Jacks.vcf

Tim,

We haven't overlooked FR0073 as such. We have chosen the best testing we can with the parts we have in the locations they are. If we are able to identify a test that is successful in replicating the fault, then we can apply this test to FR0073 as well.

Regards

Geoff

***Geoff Jacks***

*Quality and Product Support  
European Steering Team Leader  
TRW Electronic Engineering (TEE)  
Technical Centre  
Stratford Road  
Shirley  
Solihull  
B90 4GW*

■ Tel: +44 (0)121 627 4602  
■ Fax: +44 (0)121 627 3773  
■ Mob: +44 (0)7740 915 904  
■ email: [geoff.jacks@trw.com](mailto:geoff.jacks@trw.com)

>>> "Snider, Tim (T.O.)" <tsnider1@ford.com> 03/11/2009 22:16 >>>  
Eric / Geoff,

What are the next steps for FR-0073? I don't see FR-0073 next steps mentioned in the Workshop Notes. Is this just an oversight??

Regards,  
Tim Snider (tsnider1@ford.com)

***CD3 Steering Engineering***  
***Ford Motor Company***

Cell 313-805-3201  
2B-L18 Product Development Center  
Dearborn, MI 48124 USA

**From:** Mrozek, Robert (R.M.)  
**Sent:** Tuesday, November 03, 2009 2:23 PM  
**To:** Snider, Tim (T.O.)  
**Subject:** FW: FW: B9a Warranty Meeting for TRW EPAS

B9A offsite results....

*Rob Mrozek*

Electric Power Steering Supervisor  
CD3/D3/D4/U502/Police/Limo Programs  
Ford Motor Company  
Phone: (313) 805-5947  
e-mail: rmrozek@ford.com

---

**From:** Geoff Jacks [mailto:[Geoff.Jacks@TRW.COM](mailto:Geoff.Jacks@TRW.COM)]  
**Sent:** Tuesday, November 03, 2009 12:05 PM  
**To:** Adrian Szabo; Craig Zeki; John Bolton; Bahena, Miguel (Mike.); Richard Sampson-contr; Mrozek, Robert (R.M.); Rossi, Roberto (R.A.); Simon Malsbury; Simon Wright; Diez, Timothy (T.P.)  
**Subject:** Re: FW: B9a Warranty Meeting for TRW EPAS

Gents,

Please find attached a copy of the slides from today's B9A workshop. Note that I have added a slide with actions on. Also attached is the EFF comparison spreadsheet.

Regards

Geoff

**Geoff Jacks**  
Quality and Product Support  
European Steering Team Leader  
TRW Electronic Engineering (TEE)  
Technical Centre  
Stratford Road  
Shirley  
Solihull  
B90 4GW

■ Tel: +44 (0)121 627 4602  
■ Fax: +44 (0)121 627 3773  
■ Mob: +44 (0)7740 915 904  
■ email: [geoff.jacks@trw.com](mailto:geoff.jacks@trw.com)

>>> "Diez, Timothy (T.P.)" <[tdiez@ford.com](mailto:tdiez@ford.com)> 29/10/2009 14:15 >>>

When: Tuesday, November 03, 2009 9:00 AM-11:00 AM (GMT-05:00) Eastern Time (US & Canada).  
Where: teleconference/ webex/ Sheran's desk

\*~\*~\*~\*~\*~\*~\*~\*

FYI

---

**From:** Diez, Timothy (T.P.)  
**Sent:** Thursday, October 29, 2009 10:16 AM  
**To:** Diez, Timothy (T.P.); Rossi, Roberto (R.A.); Mrozek, Robert (R.M.); Bahena, Miguel (Mike.); 'Simon Malsbury'; Alles, Sheran (S.A.)  
  
**Subject:** B9a Warranty Meeting for TRW EPAS  
**When:** Tuesday, November 03, 2009 9:00 AM-11:00 AM (GMT-05:00) Eastern Time (US & Canada).  
**Where:** teleconference/ webex/ Sheran's desk

Simon: Please invite all appropriate TRW people.

Teleconference: 313.621.3673  
Meeting id: 17084589

Agenda:

1. Review software behind B9a diagnostic
2. Review B9a warranty returns
3. Schematic Review

Timothy Diez invites you to a meeting. This meeting is an audio and web conference.

Meeting Number: 716 534 058  
Meeting Password: This meeting does not require a password.

---

To join this meeting

---

1. At the meeting's starting time, either click the following link or copy and paste it into your Web browser:

Participants with a Ford CDS ID: [https://webexssso.ford.com/webex\\_join.aspx?MK=716534058](https://webexssso.ford.com/webex_join.aspx?MK=716534058)

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To join the teleconference

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None

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<http://www.webex.com>

We've got to start meeting like this(TM)

TRW Limited

Registered in England, No. 872948

Registered Office Address: Stratford Road, Solihull B90 4AX

TRW Limited

Registered in England, No. 872948

Registered Office Address: Stratford Road, Solihull B90 4AX

---

**From:** Quijada, Jorge (J.)  
**Sent:** Tuesday, February 16, 2010 5:32 PM  
**To:** Mrozek, Robert (R.M.); Estes, Eric (E.E.); Snider, Tim (T.O.); 'Joel Rabideau'  
**Cc:** Rogero, Antonio (A.); Ulloa, Fernando (F.F.); 'Engelbert Lu'; 'Guillermo Aguilar'; 'JuanCarlos cano'; 'Mathew Alder'; 'Robert Kostadina'; 'Angel Salazar'  
**Subject:** RE: FW: Pictures of the steering Gear broken wire 02/10/10...

QLS History is clean for this vehicle, this means no repairs or special process was performed at the Plant If damage was caused here, it was during normal process which we need to work harder in order to be efectively contain this.

Jorge Quijada  
CD3 PVT Supervisor VE/Chassis  
Office.- (662) 259 8314  
Fax.- (662) 259 8310  
Mobile.- 011 52 1 (662) 142-0198

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

**From:** Mrozek, Robert (R.M.)  
**Sent:** Lunes, 15 de Febrero de 2010 12:18 p.m.  
**To:** Estes, Eric (E.E.); Snider, Tim (T.O.); 'Joel Rabideau'  
**Cc:** Rogero, Antonio (A.); Ulloa, Fernando (F.F.); Quijada, Jorge (J.); 'Engelbert Lu'; 'Guillermo Aguilar'; 'JuanCarlos cano'; 'Mathew Alder'; 'Robert Kostadina'; 'Angel Salazar'  
**Subject:** RE: FW: Pictures of the steering Gear broken wire 02/10/10...

Does the vehicle history and diagnostics align with a damaged wire from the plant or is it damaged from being serviced for some other reason.

Rob Mrozek  
Electric Power Steering Supervisor  
C346N/CD3/D3/D4/U502/Police/Limo Programs Ford Motor Company  
Phone: (313) 805-5947  
e-mail: [rmrozek@ford.com](mailto:rmrozek@ford.com)

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

**From:** Estes, Eric (E.E.)  
**Sent:** Monday, February 15, 2010 1:19 PM  
**To:** Snider, Tim (T.O.); 'Joel Rabideau'  
**Cc:** Rogero, Antonio (A.); Ulloa, Fernando (F.F.); Quijada, Jorge (J.); Mrozek, Robert (R.M.); 'Engelbert Lu'; 'Guillermo Aguilar'; 'JuanCarlos cano'; 'Mathew Alder'; 'Robert Kostadina'; 'Angel Salazar'  
**Subject:** RE: FW: Pictures of the steering Gear broken wire 02/10/10...

Here is another damaged TS harness 2010 Fusion Hybrid on FR0148 warranty return-see pics. Vehicle build date 8/12/2009 gear build date: 8/9/2009.

Eric J Estes

TRW EPAS Steering Systems  
Quality Specialist  
Hotline ph# 313-317-9358  
Cell ph# 734-560-3493

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

From: Snider, Tim (T.O.)  
Sent: Monday, February 15, 2010 11:12 AM  
To: 'Joel Rabideau'  
Cc: Rogero, Antonio (A.); Estes, Eric (E.E.); Ulloa, Fernando (F.F.); Quijada, Jorge (J.); Mrozek, Robert (R.M.); Engelbert Lu; Guillermo Aguilar; JuanCarlos cano; Mathew Alder; Robert Kostadina; Angel Salazar  
Subject: RE: FW: Pictures of the steering Gear broken wire 02/10/10...

Joel,

Please let me know the grades and how they are rated. We can discuss this more Tuesday at 26 Mile.

Regards,  
Tim Snider ([tsnider1@ford.com](mailto:tsnider1@ford.com))  
CD3 Steering Engineering  
Ford Motor Company  
Cell 313-805-3201  
2B-L18 Product Development Center  
Dearborn, MI 48124 USA

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

From: Joel Rabideau [<mailto:Joel.Rabideau@TRW.COM>]  
Sent: Monday, February 15, 2010 10:30 AM  
To: Snider, Tim (T.O.); Angel Salazar  
Cc: Rogero, Antonio (A.); Estes, Eric (E.E.); Ulloa, Fernando (F.F.); Quijada, Jorge (J.); Mrozek, Robert (R.M.); Engelbert Lu; Guillermo Aguilar; JuanCarlos cano; Mathew Alder; Robert Kostadina  
Subject: Re: FW: Pictures of the steering Gear broken wire 02/10/10...

Tim,

There are thicker grades and different materials available, but the new sleeve still may not be robust to dropping a gear on it.

The typical occurrence for wire damage for this type of application should be less than 1 in 50,000. What is the occurrence ratio? If it is excessive, then we need to understand where it could happen and where it does happen. Perhaps putting a camera in for a while to see what is actually going on in those areas. I am sure the problem would never occur when someone is watching.

Regards,

Joel

>>> "Snider, Tim (T.O.)" <[tsnider1@ford.com](mailto:tsnider1@ford.com)> 2/15/2010 9:21 AM >>>  
Angel,

Thanks for the pictures. This is exactly what I was wondering. It looks like the damage lines up with a corner on the gear housing, probably caused by picking the gear up in such a way that the harness is being pressed against the gear housing.

Joel,

Are there thicker grades of convolute available?

Regards,  
Tim Snider ([tsnider1@ford.com](mailto:tsnider1@ford.com))  
CD3 Steering Engineering  
Ford Motor Company  
Cell 313-805-3201  
2B-L18 Product Development Center  
Dearborn, MI 48124 USA

---

From: Angel Salazar [<mailto:angelsaa@prodigy.net.mx>]  
Sent: Saturday, February 13, 2010 10:00 AM  
To: Snider, Tim (T.O.)  
Cc: Guillermo Aguilar  
Subject: Pictures of the steering Gear broken wire 02/10/10...

Good morning Tim,

I got a pair of pictures of the broken wire issue We got last Wednesday 10. ( vehicle rotation # 7761 / VIN : 316843 / EPP # 093511177J30071 ).  
The damage is about 3 inches from the harness connector.

Best Regards. Have a nice day.  
A. Salazar

---

**From:** Frey, Martin (M.F.)  
**Sent:** Monday, August 16, 2010 9:00 PM  
**To:** Mrozek, Robert (R.M.); Bahena, Miguel (Mike.); Snider, Tim (T.O.)  
**Subject:** RE: Latest CD3 TRW EPAS Warranty Paynter Chart - 7/19/2010

Thx ....

3 of top 5 (4 of top 7) issues show no containment. Is that really as bad as it looks or is their partial containment on some?

Seems a rather urgent issue on the surface.

Martin Frey  
Manager Electric Steering/Advanced Features/R&P Gear  
Chassis Engineering  
Cell # 313 805 6301

---

**From:** Mrozek, Robert (R.M.)  
**Sent:** Monday, August 16, 2010 4:46 PM  
**To:** Frey, Martin (M.F.)  
**Subject:** FW: Latest CD3 TRW EPAS Warranty Paynter Chart - 7/19/2010

fyi

*Rob Mrozek*

Electric Power Steering Supervisor  
C346N/CD3/D3/D4/U502/Police/Limo Programs  
Ford Motor Company  
Phone: (313) 805-5947  
e-mail: [rmrozek@ford.com](mailto:rmrozek@ford.com)

---

**From:** Snider, Tim (T.O.)  
**Sent:** Monday, August 16, 2010 9:13 AM  
**To:** Annadi, Hari (H.)  
**Cc:** Mrozek, Robert (R.M.)  
**Subject:** Latest CD3 TRW EPAS Warranty Paynter Chart - 7/19/2010

Hari,

Per your request, here's the latest Paynter.

<< File: CD3 EPAS Warranty July 19, 2010 Paynter.xls >>

Regards,  
Tim Snider ([tsnider1@ford.com](mailto:tsnider1@ford.com))

***CD3 Steering Engineering***

***Ford Motor Company***

Cell 313-805-3201

2B-L18 Product Development Center

Dearborn, MI 48124 USA

---

**From:** Napoli, Laura (L.)  
**Sent:** Wednesday, August 18, 2010 7:01 PM  
**To:** Snider, Tim (T.O.)  
**Cc:** Diez, Timothy (T.P.); Mrozek, Robert (R.M.); Bahena, Miguel (Mike.)  
**Subject:** RE: New Agenda TRW/Ford Belt drive Torque sensor & B6B Warranty Gear Review

Sorry I missed the meeting. I was stuck in a heat management meeting. I'll follow up with Mike to get up to speed on what was discussed today.

---

**From:** Snider, Tim (T.O.)  
**Sent:** Wednesday, August 18, 2010 1:57 PM  
**To:** Napoli, Laura (L.)  
**Cc:** Diez, Timothy (T.P.); Mrozek, Robert (R.M.); Bahena, Miguel (Mike.)  
**Subject:** RE: New Agenda TRW/Ford Belt drive Torque sensor & B6B Warranty Gear Review

Laura,

I think we had a good initial B6B meeting today, and next week the entire hour can be B6B.

Regards,  
Tim Snider ([tsnider1@ford.com](mailto:tsnider1@ford.com))

**CD3 Steering Engineering**  
**Ford Motor Company**

Cell 313-805-3201  
2B-L18 Product Development Center  
Dearborn, MI 48124 USA

---

**From:** Napoli, Laura (L.)  
**Sent:** Tuesday, August 17, 2010 11:38 AM  
**To:** Diez, Timothy (T.P.); Snider, Tim (T.O.); Mrozek, Robert (R.M.); Bahena, Miguel (Mike.)  
**Subject:** RE: New Agenda TRW/Ford Belt drive Torque sensor & B6B Warranty Gear Review

Looks like TS is first which helps me. I have to call into an HPUT meeting at 10, so I'll be calling into this meeting at 10:30 for the B6B portion only.

---

**From:** Estes, Eric (E.E.)  
**Sent:** Monday, August 16, 2010 1:32 PM  
**To:** Estes, Eric (E.E.); '[anthony.fleenor@trw.com](mailto:anthony.fleenor@trw.com)'; '[JoseJ Lopez](mailto:JoseJ.Lopez)'; '[Jim Loria](mailto:Jim.Loria)'; Bahena, Miguel (Mike.); Mrozek, Robert (R.M.); Snider, Tim (T.O.); Diez, Timothy (T.P.); '[Costas Chrysochoidis](mailto:Costas.Chrysochoidis)'; '[Markus.Nowak@hella.com](mailto:Markus.Nowak@hella.com)'; '[jason.johnson@trw.com](mailto:jason.johnson@trw.com)'; '[Engelbert Lu](mailto:Engelbert.Lu)'; '[Angie Caudill](mailto:Angie.Caudill)'; '[Thomas.Surmann@hella.com](mailto:Thomas.Surmann@hella.com)'; '[Guillermo Aguilar](mailto:Guillermo.Aguilar)'; '[Geoff Jacks](mailto:Geoff.Jacks)'; '[Samuel Arreola](mailto:Samuel.Arreola)'; '[Michael Fontana](mailto:Michael.Fontana)'; '[pavel.vetz@trw.com](mailto:pavel.vetz@trw.com)'; Mattern, Don (D.); Surella, Matthew (M.M.)  
**Cc:** '[Sergio Alvarez](mailto:Sergio.Alvarez)'; '[Greg Bendzinski](mailto:Greg.Bendzinski)'; '[andrew.ellison@trw.com](mailto:andrew.ellison@trw.com)'; '[Mark Karwowski](mailto:Mark.Karwowski)'; Puleri, Michael (M.J.); '[Salim Semssar](mailto:Salim.Semssar)'; '[Sanjay.Singh@TRW.COM](mailto:Sanjay.Singh@TRW.COM)'; '[Andrew Williams](mailto:Andrew.Williams)'; '[Robert Kostadina](mailto:Robert.Kostadina)'; '[joel.rabideau@trw.com](mailto:joel.rabideau@trw.com)'; '[Mathew Alder](mailto:Mathew.Alder)'; Frey, Martin (M.F.); '[Costas Chrysochoidis](mailto:Costas.Chrysochoidis)'; '[<Kerska Dave>](mailto:<Kerska.Dave>)'; '[Ian Ingram](mailto:Ian.Ingram)'; '[Simon Malsbury](mailto:Simon.Malsbury)'; Napoli, Laura (L.); Rossi, Roberto (R.A.); '[Bruno Demiceli](mailto:Bruno.Demiceli)'; '[John Burnett](mailto:John.Burnett)'; '[Alastair.McQueen@TRW.COM](mailto:Alastair.McQueen@TRW.COM)'  
**Subject:** Updated: New Agenda TRW/Ford Belt drive Torque sensor & B6B Warranty Gear Review  
**When:** Wednesday, August 18, 2010 10:00 AM-11:00 AM (GMT-05:00) Eastern Time (US & Canada).  
**Where:** Teleconference 1-866-251-9196 Conf. Code# 1842273552

See new agenda below to be covered in our Wednesday's Ford/TRW Warranty Meetings at 10am(EST)

Depending on Hella's schedule they will need to cover their warranty information first.

FR0113- OnSemi's ASIC results

FR0210- Tyco's clockspring analysis results.

FR0257- Hella's test results for no channel 1.

**First 30mins-** Cover torque sensor warranty repairs.

**Last 30mins-** Cover B6B's- chart EFF data & any other relevant testing data.

See below to join the webmeeting.

Host's name: Eric Estes

Host's Email: [eestes@ford.com](mailto:eestes@ford.com)

Starting date: Wednesday, June 2, 2010

Recurrence: Occurs every Wednesday effective 6/2/2010 until 8/26/2010

Starting time: 10:00 am,Eastern Daylight Time (New York, GMT-04:00)

Duration: 1 hour

Meeting number: 590 493 288

Meeting password: (This meeting does not require a password.)

Teleconference: Call-in toll-free number 1-866-2519196 (US)

Call-in number 1-248-2265571 (US)

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#### To start the online webmeeting

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1. Go to <https://www.meetingcenter.net>

2. Join a meeting

3. click on "Attend a Meeting"

4. Enter meeting# **590493288**

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#### Teleconference information

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Call-in toll-free number: 1-866-2519196 (US)

Call-in number: 1-248-2265571 (US)

Show global numbers:

<https://www2.audiocontrols.net/WebExAdaptor/globalnumber?participantcode=1842273552&tollfreecc=1&tollfree=866-2519196&tollnumbercc=1&tollnumber=248-2265571>

Leader PIN:

Conference Code: 184 227 3552

To check whether you have the appropriate players installed for UCF (Universal Communications Format) rich media files, go to <https://intercall.webex.com/intercall/systemdiagnosis.php>

Host's name: Eric Estes

Host's Email: [eestes@ford.com](mailto:eestes@ford.com)

---

**From:** Mrozek, Robert (R.M.)  
**Sent:** Monday, November 08, 2010 7:18 PM  
**To:** Snider, Tim (T.O.)  
**Cc:** Bahena, Miguel (Mike.); Estes, Eric (E.E.); Diez, Timothy (T.P.)  
**Subject:** RE: NEW FUSION EPAS

I told them to replace it. Thanks!

*Rob Mrozek*

Electric Power Steering Supervisor  
C346N/CD3/D3/D4/U502/Police/Limo Programs  
Ford Motor Company  
Phone: (313) 805-5947  
e-mail: rmrozek@ford.com

---

**From:** Snider, Tim (T.O.)  
**Sent:** Monday, November 08, 2010 2:07 PM  
**To:** Mrozek, Robert (R.M.)  
**Cc:** Bahena, Miguel (Mike.); Estes, Eric (E.E.); Diez, Timothy (T.P.)  
**Subject:** RE: NEW FUSION EPAS

Since there is a B fault, C200D-49, they should replace the gear. C200D-49 could be a B9A, motor PCB clearance, problem with motor position sensor, or some other root cause.

Regards,  
Tim Snider (tsnider1@ford.com)  
***CD3/C489 Steering Engineering***  
***Ford Motor Company***  
Cell 313-805-3201  
2B-L18 Product Development Center  
Dearborn, MI 48124 USA

---

**From:** Mrozek, Robert (R.M.)  
**Sent:** Monday, November 08, 2010 6:47 AM  
**To:** Snider, Tim (T.O.); Diez, Timothy (T.P.)  
**Cc:** Bahena, Miguel (Mike.); Mrozek, Robert (R.M.); Estes, Eric (E.E.)  
**Subject:** FW: NEW FUSION EPAS

Based on what we know today, what do you recommend?

*Rob Mrozek*

Electric Power Steering Supervisor  
C346N/CD3/D3/D4/U502/Police/Limo Programs  
Ford Motor Company  
Phone: (313) 805-5947  
e-mail: rmrozek@ford.com

---

**From:** Maruta, Marcio (M.H.)  
**Sent:** Monday, November 08, 2010 6:09 AM  
**To:** Mrozek, Robert (R.M.)  
**Subject:** RE: NEW FUSION EPAS

Hi Rob,  
sorry for bothering you again... do you remember the EPAS failure we had talked some months ago? Enio told me that he faced the failures again, two more times.  
These are the DTC codes: C1277, PO297, C200.  
Do you recommend changing the gear?  
Thanks a lot  
M.Maruta

---

**From:** Maruta, Marcio (M.H.)  
**Sent:** quinta-feira, 3 de junho de 2010 08:54  
**To:** Mrozek, Robert (R.M.)  
**Subject:** RE: NEW FUSION EPAS

Hi Rob,  
as mentioned by Enio, we asked dealer to do not change the gear. Do you recommend any special action on it?  
Thank you very much for all your help.

**Marcio H. Maruta**  
**Ford Motor Company Brasil Ltda**  
FSAO Chassis - Steering Supervisor  
phone 55-71-3649-2329 - fax 55-71-3649-3493  
e-mail: mmaruta@ford.com  
**6SIGMA - PD Black Belt**

---

**From:** Gomes, Enio (D.)  
**Sent:** quarta-feira, 2 de junho de 2010 18:04  
**To:** Mrozek, Robert (R.M.); Maruta, Marcio (M.H.)  
**Cc:** Geri, Gilberto (G.); Stumpf, Erik (E.J.)  
**Subject:** RE: NEW FUSION EPAS

Thanks for the follow up Rob.

The gear was not replaced. Everything has been working fine since I restarted the car the first time after the failure a couple of weeks ago. It's been like nothing ever happened.

I will follow your recommendation and keep using the vehicle normally and only have the gear replaced if the failure mode returns.

Thanks again for the help!

**Enio Gomes**  
Manager, FSAO PTO & FNA ESI  
Office: +55 (71) 3649-2700  
Cellular: +55 (71) 9612-8791  
Assist.: +55 (71) 3649-2703  
FordNet: x 544-2700 / 2703

---

**From:** Mrozek, Robert (R.M.)  
**Sent:** quarta-feira, 2 de junho de 2010 17:48

**To:** Maruta, Marcio (M.H.)  
**Cc:** Geri, Gilberto (G.); Gomes, Enio (D.); Stumpf, Erik (E.J.); Mrozek, Robert (R.M.)  
**Subject:** RE: NEW FUSION EPAS

Here are the codes:

**DTC- C1277-20** = Steering Wheel Angle 1 and 2 Circuit Failure, Source ABS module, REFER to Section 206-09.

**DTC- C1963-20** = Stability Control Inhibit Warning, Source ABS module, REFER to Section 206-09.

**DTC -C200D:49-08** = Motor Rotation Angle Sensor: Internal Electronic Failure, Source PSCM, REFER to Section 211-00A. This could be a B9A, B38, B39 or B4E.

The first two are ABS codes likely caused by the EPAS issue. The EPAS code generically indicates a electric motor position sensing error. We have seen these in the field and have found various root causes related to the quality of different electrical devices.

Did you have the gear replaced?

*Rob Mrozek*

Electric Power Steering Supervisor  
C346N/CD3/D3/D4/U502/Police/Limo Programs  
Ford Motor Company  
Phone: (313) 805-5947  
e-mail: rmrozek@ford.com

---

**From:** Maruta, Marcio (M.H.)  
**Sent:** Wednesday, June 02, 2010 3:34 PM  
**To:** Mrozek, Robert (R.M.)  
**Cc:** Geri, Gilberto (G.); Gomes, Enio (D.); Stumpf, Erik (E.J.)  
**Subject:** RE: NEW FUSION EPAS

Rob,  
we've just received the feedback from dealer about the failure codes...

**DTC- C1277-20**

**DTC- C1963-20**

**DTC -C200D:49-08**

Please, let us know if it is the codes we expected to have.

Thanks

M.Maruta

---

**From:** Mrozek, Robert (R.M.)  
**Sent:** terça-feira, 25 de maio de 2010 23:25  
**To:** Maruta, Marcio (M.H.); Gomes, Enio (D.); Stumpf, Erik (E.J.)  
**Cc:** Geri, Gilberto (G.)  
**Subject:** RE: NEW FUSION EPAS

The fact that the message center displayed "Power Steering Assist Fault" indicates that a B-level fault occurred resulting in a loss of assist. A loose connector in itself will not cause this message or any other EPAS message to be displayed in the message center.

If it happens again I would recommend replacing the gear. If not I would continue driving. That's basically what the dealer will do anyways based on the workshop manual.

Let me know if you need any more help.

# *Rob Mrozek*

Electric Power Steering Supervisor  
C346N/CD3/D3/D4/U502/Police/Limo Programs  
Ford Motor Company  
Phone: (313) 805-5947  
e-mail: rmrozek@ford.com

---

**From:** Maruta, Marcio (M.H.)  
**Sent:** Tuesday, May 25, 2010 10:08 AM  
**To:** Gomes, Enio (D.); Stumpf, Erik (E.J.); Mrozek, Robert (R.M.)  
**Cc:** Geri, Gilberto (G.)  
**Subject:** RE: NEW FUSION EPAS

Enio, thanks for the detailed information.

Eric and Robert,  
please find some more information about this incidence.

Thank you  
M.Maruta

---

**From:** Gomes, Enio (D.)  
**Sent:** terça-feira, 25 de maio de 2010 09:51  
**To:** Maruta, Marcio (M.H.)  
**Cc:** Geri, Gilberto (G.)  
**Subject:** RE: NEW FUSION EPAS

Maruta,  
(in English to help communications with Core)

My Fusion is a 2010MY built in 2009 with about 3,000 miles of normal use (~50/50% city / h/w)  
VIN# 3FAHP0CG4AR [REDACTED]

I drove home from work last Friday evening and didn't notice anything different. Note: That same afternoon was the first time anyone other than myself drove that vehicle as one of my engineers borrowed the car to visit our warranty parts center.

Arriving at my house I parked the car for about 1 hour until I went out again. I drove slowly (under 15 mph) for about 1/4 mile towards the gate of my subdivision and let it idle in D for some 10 seconds while the gate swung open. There is a small speed bump at the gate and as I was driving over it I noticed a different "feel" of the steering wheel. I confirmed something was wrong immediately afterwards, on the next right-hand turn, when the steering wheel was extremely heavy. I moved the vehicle to the side of the road and stepped out with the engine running in P.

I didn't notice any problem with the tires nor any fluids leaking under the car. I climbed back on the driver seat and noticed the message "POWER STEERING SYSTEM FAULT" on the IP message center. Then, I made a U-turn (with great difficulty to turn the wheel at creep speeds) and drove the 1/4 mile back home to park the car. I didn't turn off the car until I parked it and didn't try turning it back on over the weekend.

Last night I turned the car on for the first time after the incident and everything was normal again. The steering wheel was turning with the normal effort and the message center displayed the usual information.

I'll bring the car to work tomorrow.

**Enio Gomes**

Manager, FSAO PTO & FNA ESI  
Office: +55 (71) 3649-2700  
Cellular: +55 (71) 9612-8791  
Assist.: +55 (71) 3649-2703  
FordNet: x 544-2700 / 2703

---

**From:** Maruta, Marcio (M.H.)  
**Sent:** terça-feira, 25 de maio de 2010 07:50  
**To:** Gomes, Enio (D.)  
**Cc:** Geri, Gilberto (G.)  
**Subject:** FW: NEW FUSION EPAS

Enio,  
você comentou que o carro estaria indo para o dealer, correto? Sabe em qual dealer? Seria importante coletarmos mais algumas informações para ter um diagnóstico mais preciso, conforme nota do Eric abaixo.  
Você poderia descrever em detalhes em que condições houve o modo de falha?  
Muito obrigado  
M.Maruta

---

**From:** Maruta, Marcio (M.H.)  
**Sent:** terça-feira, 25 de maio de 2010 07:44  
**To:** Stumpf, Erik (E.J.)  
**Cc:** Mrozek, Robert (R.M.)  
**Subject:** RE: NEW FUSION EPAS

Hi Erik,  
thanks for your promptly reply. Yes, I'm talking about the US Fusion, produced in Mexico.  
I'm going to look for the information you requested and I'll back to you and Robert.  
Thank you!!  
M.Maruta

---

**From:** Stumpf, Erik (E.J.)  
**Sent:** terça-feira, 25 de maio de 2010 02:55  
**To:** Maruta, Marcio (M.H.)  
**Cc:** Mrozek, Robert (R.M.)  
**Subject:** AW: NEW FUSION EPAS

Marcio,

I guess you talk about the US Fusion.  
In this vehicle a TRW Rack EPAS system is installed.  
I can't answer your question w/o more information as there can be many issues to reduce or stop assist. Is it possible to get a read out of the DTC failure codes of the EPAS and other systems. One root cause could be missing CAN singal(s). During which driving situation happened this event?  
Rob Mrozek from Dearborn is the responsible SV for this EPAS system.

So please provide us this additional information to become more precise in answering your question.

Kind regards

**Erik Stumpf**  
Supervisor - Chassis Steering  
Global Core EPAS Development  
 +49(0)221-90-36689, int.: 870-36689  
 +49(0)221-90-33183, int.: 870-33183  
 D-ME5/G5, <mailto:estumpf1@ford.com>

Ford-Werke GmbH - Henry-Ford-Straße 1- 50735 Köln  
Sitz der Gesellschaft: Köln

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**Von:** Maruta, Marcio (M.H.)  
**Gesendet:** Montag, 24. Mai 2010 22:31  
**An:** Stumpf, Erik (E.J.)  
**Betreff:** NEW FUSION EPAS

Hi Erik, how are you doing? Some minutes ago, our Engine Chief Engineer asked me about an issue he had with his Fusion during the weekend. He mentioned that when he was driving near his house, suddenly steering became very heavy. He noticed a message in the cluster informing some trouble to steering system. He drove the car back to home.

Do you have any history about this kind of issue on Fusion? I think that we're talking about the R-EPAS, right? He told me that he didn't try to stop and start the engine again in order to check if steering assistance return or not to normal condition... would you recommend any special procedure for this case?  
Thanks a lot.

**Marcio H. Maruta**  
**Ford Motor Company Brasil Ltda**  
FSAO Chassis - Steering Supervisor  
phone 55-71-3649-2329 - fax 55-71-3649-3493  
e-mail: [mmaruta@ford.com](mailto:mmaruta@ford.com)  
**6SIGMA - PD Black Belt**

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**From:** Napoli, Laura (L.)  
**Sent:** Wednesday, September 28, 2011 5:02 PM  
**To:** Pienta, Alan (A.); Diez, Timothy (T.P.)  
**Subject:** RE: Nidec Motor

I will be talking to Salim Semssar on who the team members are so we don't get push back from people who don't want to participate. Mike Davies is supposed to answer the questions on Nidec since he is STE and we'll get the answers through Geoff.

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**From:** Pienta, Alan (A.)  
**Sent:** Wednesday, September 28, 2011 11:32 AM  
**To:** Napoli, Laura (L.)  
**Subject:** FW: Nidec Motor

Laura, Now I see why no response from Ron.

---

**From:** Ron Caldwell [mailto:[Ron.Caldwell@TRW.COM](mailto:Ron.Caldwell@TRW.COM)]  
**Sent:** Wednesday, September 28, 2011 11:30 AM  
**To:** Pienta, Alan (A.)  
**Cc:** Estes, Eric (E.E.); Napoli, Laura (L.); Rossi, Roberto (R.A.); Diez, Timothy (T.P.); Geoff Jacks  
**Subject:** RE: Nidec Motor

Alan, I have been instructed that Geoff Jacks is the point of contact responsible for the investigation of B9A issue so have not discussed issue with Nidec; to avoid confusion and mis communication.

Thank you  
Regards, ron

[ron.caldwell@trw.com](mailto:ron.caldwell@trw.com)  
Office: 586 232 8305  
Mobile: 586 337 3681  
FAX 586 232 8356

**Inter Call Dial-in numbers:**

**USA - 866 251 9196**  
**P'code : 234 038 9936**

Address:  
TRW Automotive  
East Building  
4505 West 26 Mile Road  
Washington, Michigan, 48094  
>>> "Pienta, Alan (A.)" <[apienta@ford.com](mailto:apienta@ford.com)> 9/28/2011 11:08 AM >>>  
Ron,  
Any update on Nidec motor?  
Al

**From:** Pienta, Alan (A.)  
**Sent:** Friday, September 23, 2011 10:09 AM  
**To:** Ron Caldwell  
**Cc:** Estes, Eric (E.E.); Napoli, Laura (L.); Geoff Jacks; Diez, Timothy (T.P.); Rossi, Roberto (R.A.); Pienta, Alan (A.)  
**Subject:** RE: Nidec Motor  
**Importance:** High

Ron,  
In a B9A warranty return meeting with Eric and Geoff this morning, it was found that a common motor build date of December 25, 2010 was found to be associated with several B9A field returns. Can you please contact Nidec and determine if there had been any issues on or about that date which could help explain the escalating B9A warranty returns? We have a follow up meeting on Monday morning and hopefully you can get feedback by then. This issue is getting more attention every day and we have had a 2013 PV EPP under test set the B9A code now also. If you know of any SREA actions which may explain this or any other sub-supplier changes please let me know asap.  
Thanks,  
Alan Pienta  
EPAS Electronics Engineer

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**From:** Pienta, Alan (A.)  
**Sent:** Thursday, September 01, 2011 4:13 PM  
**To:** 'Ron Caldwell'  
**Cc:** 'Mathew Alder'  
**Subject:** RE: Nidec Motor

Ron,  
The SREA I indicated earlier was to allow Nidec to increase motor capacity to 75K, 150K and next 200K per month. Matt Alder is SREA coordinator at this time and the 75K was already approved in June. The 150K is needed approved asap per Matt.

Alan Pienta

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**From:** Ron Caldwell [mailto:[Ron.Caldwell@TRW.COM](mailto:Ron.Caldwell@TRW.COM)]  
**Sent:** Wednesday, August 31, 2011 3:12 PM  
**To:** Pienta, Alan (A.)  
**Cc:** Diez, Timothy (T.P.); Eric Estes; Geoff Jacks; Mathew Alder; Rajinder SINGH  
**Subject:** Re: Nidec Motor

Alan, Glad to meet you. Sorry to hear there is an increase in B9A waranty issues.

#### **B9A issue resolution**

- **Nidec 100% check motor performance associated with MPS error and magnetization.**

I believe there is a TRW warranty team working B9A issue resolution, so your questions should be directed to the warranty and issues resolution team members who are actively root causing the specific B9A cases associated with EPP and motor numbers.

- Geoff Jacks and or Eric Estes, should be able to help you on root cause of the reported B9A's.

#### **SREA**

Does the SREA have a number or description. I am not familiar with the SREA that you are referencing.

Thank you  
Regards,ron

[ron.caldwell@trw.com](mailto:ron.caldwell@trw.com)

Office: 586 232 8305

Mobile: 586 337 3681

FAX 586 232 8356

**Inter Call Dial-in numbers:**

**USA - 866 251 9196**

**P'code : 234 038 9936**

Address:

TRW Automotive

East Building

4505 West 26 Mile Road

Washington, Michigan, 48094

>>> "Pienta, Alan (A.)" <[apienta@ford.com](mailto:apienta@ford.com)> 8/31/2011 2:24 PM >>>

Ron,

My name is Alan Pienta. I am with Ford Motor Company and work with Tim Diez in Chassis Electronics on TRW EPAS programs.

Tim and I were discussing the Nidec 150K capacity increase and recent issues arising with the B9A fault code. We would like to know how Nidec validates their magnetization process and ultimately the flux density of the magnets used. Is the process a significant characteristic? Do you know if anything has changed in the process with the capacity increase such as change in sub suppliers, etc.?

Regarding the SREA, do you know what validation was completed and when? Can you forward the results to me or let me know who has the data?

Thanks,  
Alan Pienta  
EPAS Electronics Engineer

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**From:** Mrozek, Robert (R.M.)  
**Sent:** Thursday, April 29, 2010 5:57 PM  
**To:** Snider, Tim (T.O.)  
**Subject:** RE: Plastic Harness Clip - added harness size

nice job Tim!

*Rob Mrozek*

Electric Power Steering Supervisor  
C346N/CD3/D3/D4/U502/Police/Limo Programs  
Ford Motor Company  
Phone: (313) 805-5947  
e-mail: [rmrozek@ford.com](mailto:rmrozek@ford.com)

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**From:** Snider, Tim (T.O.)  
**Sent:** Thursday, April 29, 2010 11:40 AM  
**To:** Porter, Wesley (W.); Mrozek, Robert (R.M.); Bahena, Miguel (Mike.)  
**Subject:** RE: Plastic Harness Clip - added harness size

Wes,

Thanks.

Rob / Mike,

I just noticed I had a note in the comments section of the Paynter chart for TS harness damage by pinion to check area of damage for FR-0160, which has the most recent occurrence in Nov 2009 MOP. The harness is actually damaged by the EPP, so I made a new category. The follow up action was for Angel to walk the line again and look for something unique in the hybrid vehicle process since most torque sensor harness damage (including 0km) occurs on hybrid vehicles.

Regards,  
Tim Snider ([tsnider1@ford.com](mailto:tsnider1@ford.com))  
**CD3 Steering Engineering**  
**Ford Motor Company**  
Cell 313-805-3201  
2B-L18 Product Development Center  
Dearborn, MI 48124 USA

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**From:** Porter, Wesley (W.)  
**Sent:** Thursday, April 29, 2010 11:13 AM

**To:** Snider, Tim (T.O.)  
**Cc:** Bahena, Miguel (Mike.); Mrozek, Robert (R.M.)  
**Subject:** FW: Plastic Harness Clip - added harness size

Tim,  
We've been concerned about the CD3 harness being damaged during installation of the mounting bolt for quite some time. We've created clip proposals that would effectively fix the issue by forcing the routing at the pinion side tab away from the mount. Based on the warranty info in today's design review, you may want to re-investigate these options.

Give me a call if you have any questions or need more background.

Thanks!

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**From:** Ken Eaton [<mailto:Ken.Eaton@TRW.COM>]  
**Sent:** Tuesday, March 11, 2008 1:20 PM  
**To:** Porter, Wesley (W.); Tim Crowther  
**Cc:** Joel Rabideau  
**Subject:** Re: Plastic Harness Clip - added harness size

Hi Tim,

I'm the lead mechanical engineer for the belt drive program. Joel is our harness engineer. I attached some pictures of Wes' part (blue piece) and of another clip using tape to secure the harness. We saw this on an airbag harness.

We are trying to avoid having our harness drift into the mount area of the steering gear as in slide 8. The hole in the casting is 8 mm thru and 5 mm deep. The protective convolute OD is 7.1 mm.

Any help is appreciated. Thank you.

Ken Eaton  
EAS Principal Product Engineer  
TRW Automotive | Tel: 586.232.7778 | Fax: 586.232.8356

>>> "Crowther, Tim" <[tcrowther@itwautomotive.com](mailto:tcrowther@itwautomotive.com)> 3/10/2008 12:56 PM >>>

Hello Wes & Ken,

If you want to e-mail me a picture of the clip you found that is close, I can see if we have anything similar. Also any details you may have will help. I'll run a search through our data base and see what we can come up with.

Thanks and have a good afternoon!!

Tim Crowther  
ITW Deltar Tekfast  
Ph - 248-589-3655  
Fax - 248-589-2595  
E-mail - [tcrowther@itwautomotive.com](mailto:tcrowther@itwautomotive.com)

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**From:** Estes, Eric (E.E.)  
**Sent:** Wednesday, May 13, 2009 8:50 PM  
**To:** Chacon, Jose (A.)  
**Cc:** Gudino Mendoza, Martin (J.M.); Hillaker, Glen Earl (G.E.); Bahena, Miguel (Mike.); Bouse, William (W.J.); Christiansen, Jens (J.F.); 'Greg.Bendzinski@TRW.COM'; Mark Karwowski; 'Costas.Chrysochoidis@TRW.COM'; 'Robert.Kinnear@TRW.COM'; 'Abe Ghaphery'  
**Subject:** RE: Report Summary for the CQIS Report#9EKAQ011

Jose if the dealer calls back find out the other PSCM code that set with the U3000-96 the first time he pulled codes from all the modules. It would be interesting to know if he had a U2011-49 code like the other vehicle you called on. The vehicle has to have another PSCM code to set the U3000-96 with no assist.

From what I can see these EPAS gears are still on backorder. I already put in the hot process request to overnight these gears for Pacifico Ford(#2 warranty return) & Bill Talley Ford(#3 warranty return), it's very urgent we get these gears back ASAP to find out the cause of these codes.

Thanks Eric

**From:** [JCHACON3@ford.com](mailto:JCHACON3@ford.com) [mailto:[JCHACON3@ford.com](mailto:JCHACON3@ford.com)]  
**Sent:** Wednesday, May 13, 2009 10:50 AM  
**To:** Estes, Eric (E.E.)  
**Cc:** Chacon, Jose (A.); Gudino Mendoza, Martin (J.M.)  
**Subject:** Report Summary for the CQIS Report#9EKAQ011

Eric, Information in report updated for parts request analysis. This is the third one we see with no assist.....

Attachments : 0

<b>Report# :</b>	9EKAQ011 NHL	<b>Received:</b>	05/11/2009
<b>CCRG/EPRC:</b>		<b>Reviewed Status:</b>	
<b>Vehicle:</b>	2010,FUSION,SE ,SEDAN ,3FAHP0HG9AR [REDACTED]	<b>Date:</b>	
<b>Odometer :</b>	1,245 M	<b>Engine:</b>	3.0L 4V
<b>Transmission:</b>	6SP 6F MID	<b>Axle:</b>	
<b>Dealer:</b>	USA 06724 Bill Talley Ford, Inc.	<b>Calibration:</b>	YES
<b>City:</b>	Richmond	<b>A/C:</b>	(804) 226-2000
<b>Originator:</b>	TRACEY BAILEY	<b>State:</b>	Virginia
<b>Symptom:</b>	3 03 1 50 CHASS.,STRG/HANDLING ,FUNCTION,HIGH EFFORT	<b>Country :</b>	USA
<b>Status:</b>			
<b>VFG:</b>	V87 STEERING		
<b>Additional Symptom:</b>	NO ASSISTS U3000 C1277		
<b>Fix:</b>	<b>Causal Component :</b>		

**Condition Code:****Hotliner:** GHILLAKE**Phone:** 313 317-9122**Regn Cd:** N4 Washington**Engineering:****Phone:****TAR:****Dlr Contact:** TRACEY BAILEY**Phone:** 000 000-0000**Title Cde:** T**DTCs:**

KOE0:U3000 C1277

KOEC:

KOER:

**Comments**

:

- REPAIR** 05/11/2009 02:56PM GLEN HILLAKER MSS - FCSD - TECH SVC HOTLINE  
WEB FORM DATA - CONCERN: NO POWER ASSIST FOR STEERING DIAGNOSTICS:  
RAN INTERACTIVE DIAG. WITH IDS. POWER STEERING CONTROL MODULE HAS  
CODE  
U300:96 IN MEMORY AND WILL NOT CLEAR. ALSO LOOKS LIKE STEERING GEAR  
HAS  
FLUID LEAKING OUT OF SENSOR JUST BELOW WHERE THE STEERING SHAFT  
HOOKS  
UP TO STEERING GEAR. TECH QUESTION: I THINK I HAD 1 OTHER ELECTRIC  
STEERING GEAR BAD ON AN ESCAPE(08-?). ARE WE HAVE A PROBLEM WITH EPSG  
SYSTEM? WERE YOU ABLE TO VERIFY THE CONCERN? YES IS THERE AN  
APPROPRIATE PINPOINT TEST IN THE WSM FOR THIS CONCERN? YES WAS THE  
PINPOINT TEST FOLLOWED? YES
- RECOMM** 05/11/2009 02:56PM GLEN HILLAKER MSS - FCSD - TECH SVC HOTLINE  
TRACEY, PAST REPORTS INDICATE THAT THE RACK MAYBE AT FAULT IF THERE  
ARE NO GENERAL COMMUNICATION FAULTS AND IF THE WIRING BETWEEN THE  
EPAS  
MODULE AND THE SWA IS NOT OPEN.
- ADD-ON** 05/12/2009 05:25PM JOSE CHACON(PCE) MSS - FCSD - VSP C/P SVC ENG  
THE SW LISA INDICATES THE VEHICLE IS STILL UNDER REPAIR. THE  
TECHNICIAN IS GONE FOR THE DAY. NO PARTS HAD BEEN ORDERED FOR THE  
REPAIR. REPAIR ORDER # 211539 LINE 1.
- ADD-ON** 05/12/2009 05:30PM JOSE CHACON(PCE) MSS - FCSD - VSP C/P SVC ENG  
MMP PART # AE5Z-3504-B PLACED ORDER. WILL CALL BACK TOMORROW FOR  
ANALYSIS.
- ADD-ON** 05/13/2009 10:48AM JOSE CHACON(PCE) MSS - FCSD - VSP C/P SVC ENG  
CALLED BACK AND SPOKE WITH PARTS MANAGER RICK McDANIEL. THE PART IS  
ON  
BACK ORDER. RICKS'S E-MAIL ADDRESS IS: [RMCDANIEL@BILLTALLEYFORD.COM](mailto:RMCDANIEL@BILLTALLEYFORD.COM)

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**From:** Estes, Eric (E.E.)  
**Sent:** Monday, November 23, 2009 1:58 PM  
**To:** Mrozek, Robert (R.M.)  
**Cc:** Bahena, Miguel (Mike.); Snider, Tim (T.O.)  
**Subject:** RE: STEERING V87 ALL 09-10 - Report Summary(s) from a GCQIS Query Disposition

They don't get on the chart until they order a part and neither one has been sent a part at this time.

---

**From:** Mrozek, Robert (R.M.)  
**Sent:** Sunday, November 22, 2009 10:09 PM  
**To:** Estes, Eric (E.E.)  
**Cc:** Bahena, Miguel (Mike.); Snider, Tim (T.O.); Mrozek, Robert (R.M.)  
**Subject:** FW: STEERING V87 ALL 09-10 - Report Summary(s) from a GCQIS Query Disposition

Eric -

Do we have FRs on this CQIS items yet?

*Rob Mrozek*

Electric Power Steering Supervisor  
C346N/CD3/D3/D4/U502/Police/Limo Programs  
Ford Motor Company  
Phone: (313) 805-5947  
e-mail: rmrozek@ford.com

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**From:** Annadi, Hari (H.)  
**Sent:** Thursday, November 19, 2009 9:59 AM  
**To:** Snider, Tim (T.O.); Mrozek, Robert (R.M.)  
**Subject:** FW: STEERING V87 ALL 09-10 - Report Summary(s) from a GCQIS Query Disposition

FYI

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**From:** MKING6 [mailto:MKING6]  
**Sent:** Thursday, November 19, 2009 3:51 AM  
**To:** HANNADI  
**Subject:** STEERING V87 ALL 09-10 - Report Summary(s) from a GCQIS Query Disposition

This email contains 2 report summary(s).

**Attachments :** 0

**Report# :** 9KRAI013 NHL

**Received:** 11/18/2009

<b>CCRG/EPRC:</b>	<b>Reviewed Status:</b>			<b>Date:</b>
<b>Vehicle:</b>	2010,FUSION,SE ,SEDAN ,3FAHP0HA7AR [REDACTED]			<b>Build Date:</b> 07/23/2009
<b>Odometer :</b>	2,267 M	<b>Engine:</b>	2.5L DOHC	<b>Calibration:</b> ADE1F40A
<b>Transmission:</b>	6SP 6F MID	<b>Axle:</b>		<b>A/C:</b> YES
<b>Dealer:</b>	USA 02694 Dean Sellers Inc			<b>Phone#:</b> (248) 643-7500
<b>City:</b>	Troy	<b>State:</b>	Michigan	<b>Country :</b> USA
<b>Originator:</b>	JASON TODD			
<b>Symptom:</b>	3 03 1 50 CHASS.,STRG/HANDLING ,FUNCTION,HIGH EFFORT			
<b>Status:</b>				
<b>VFG:</b>	V87 STEERING			
<b>Additional Symptom:</b>	INT HIGH EFFORT			
<b>Fix:</b>	<b>Causal Component :</b>		--	
<b>Condition Code:</b>				
<b>Hotliner:</b> BMIYA1	<b>Phone:</b> 000 317-9357	<b>Regn Cd:</b> G2 Detroit		
<b>Engineering:</b>	<b>Phone:</b>	<b>TAR:</b>		
<b>Dlr Contact:</b> JASON TODD	<b>Phone:</b> 000 000-0000	<b>Title Cde:</b> AS		

**DTCs:**

KOEO:

KOEC:

KOER:

**Comments**

:

**REPAIR** 11/18/2009 10:28AM BETH MIYA MSS - FCSD - TECH SVC HOTLINE  
 WEB FORM DATA - CONCERN: WHEN BRAKING HARD VEHICLE IS HARD TO TURN AS  
 IF POWER STEERING INOP. HAPPENED TWICE DIAGNOSTICS: COULD NOT  
 VERIFY ISSUE NO DTCS. PARTS REPLACED:: NONE TECH QUESTION:  
 SEEN ANY RELATED ISSUES WITH INTERMITTEN POWER ASSIST. WERE YOU  
 ABLE TO VERIFY THE CONCERN? NO IS THERE AN APPROPRIATE PINPOINT  
 TEST IN THE WSM FOR THIS CONCERN? NO WAS THE PINPOINT TEST  
 FOLLOWED? NO

**RECOMM** 11/18/2009 10:28AM BETH MIYA MSS - FCSD - TECH SVC HOTLINE

JASON, WE DO NOT HAVE ANY COMMON TRENDS OR REPORTS OF A LACK OF  
 ASSIST WITH NO DTCS. RECOMMEND THAT YOU CONTINUE TO MONITOR FOR  
 DTCS

AND ATTEMPT TO DUPLICATE THE CONCERN. I WAS ABLE TO FIND TWO  
 REPORTS OF LACK OF ASSIST CONCERNS THAT REQUIRED A RACK  
 REPLACEMENT,

BUT BOTH REPORTS HAD DTCS SETTING (U3000, C1B00, OR U2011). REPORT #: 9JEBC009 REPLACE GEAR ASY-STEERING REPORT #: 9FBAK121 REPLACE GEAR ASY-STEERING TECH COMMENTS: REPLACED THE STEERING GEAR ASSEMBLY REPORT #: 9EKAQ011 REPLACE GEAR ASY-STEERING

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**Attachments : 0**

<b>Report# :</b>	9KRAL008 NHL	<b>Received:</b>	11/18/2009		
<b>CCRG/EPRC:</b>		<b>Date:</b>			
<b>Vehicle:</b>	2010,FUSION,SE ,SEDAN ,3FAHP0HA6AR [REDACTED]	<b>Build Date:</b>	09/17/2009		
<b>Odometer :</b>	986 M	<b>Engine:</b>	2.5L DOHC	<b>Calibration:</b>	ADE1F40A
<b>Transmission:</b>	6SP 6F MID	<b>Axle:</b>		<b>A/C:</b>	YES
<b>Dealer:</b>	USA 04664 Jordan Ford			<b>Phone#:</b>	(574) 259-1981
<b>City:</b>	Mishawaka	<b>State:</b>	Indiana	<b>Country :</b>	USA
<b>Originator:</b>	STEVE KEHR				
<b>Symptom:</b>	3 03 1 50 CHASS.,STRG/HANDLING ,FUNCTION,HIGH EFFORT				
<b>Status:</b>					
<b>VFG:</b>	V87 STEERING				
<b>Additional Symptom:</b>	C1277				
<b>Fix:</b>	<b>Causal Component :</b>	--			
<b>Condition Code:</b>					
<b>Hotliner:</b> FVENEZI1	<b>Phone:</b> 000 317-6310	<b>Regn Cd:</b>	G2 Detroit		
<b>Engineering:</b>	<b>Phone:</b>	<b>TAR:</b>			
<b>Dlr Contact:</b> STEVE KEHR	<b>Phone:</b> 000 000-0000	<b>Title Cde:</b>	T		

**DTCs:**

KOEO:C1277

KOEC:

KOER:

**Comments**

:

REPAIR 11/18/2009 10:13AM FRANK VENEZIANO MSS - FCSD - TECH SVC HOTLINE  
WEB FORM DATA - CONCERN: CUSTOMER STATES THAT DASH WILL READ POWER  
STEERING ASSIST DEFAULT ON STARTUP INTERMITTENTLY AND THERE WILL BE  
NO  
ASSIST. SHUT OFF VEHICLE AND RESTART AND SYMPTOM WILL BE

GONE. DIAGNOSTICS: BCE SELF TEST ON PSCM AND ATTEMPTED TO USE THE INTERACTIVE TESTING ON PTS. HOWEVER SINCE CONDITION IS NOT A HARD FAULT THE TEST IS NOT HELPFUL. USED DATALOGGER TO SEE INTERACTION OF INPUTS AND OUTPUTS. NOTICED THAT SW ANG DIR SHOWS LEFT AND DOES NOT CHANGE NO MATTER WHICH WAY THE STEERING IS TURNED. SW ANG READING IS

49150.50 AND DOES NOT CHANGE. SW ANG RATE 0.0 AND DOES NOT CHANGE. THESE READINGS DO NOT SEEM TO BE CORRECT. ALSO THE C1277 WAS IN CONTINUOUS MEMORY ON SATURDAY HOWEVER TODAY THERE ARE NO DTCS AT

ALL PARTS REPLACED:: NONE TECH QUESTION: THIS IS MY VERY FIRST REPAIR ON AN EPAS SYSTEM AND I AM NOT FAMILIAR WITH EXACTLY HOW IT WORKS OTHER THAN THE WEB COURSE I TOOK SOME TIME AGO BUT IT SEEMS THAT

I AM NOT GETTING CORRECT INFORMATION FROM THE STEERING TORQUE SENSOR

AS TO ANGLE AND DIRECTION OF THE RACK. ANY KNOWN CONCERNS OR DIRECTION

THAT I SHOULD BE GOING? WERE YOU ABLE TO VERIFY THE CONCERN? NO IS THERE AN APPROPRIATE PINPOINT TEST IN THE WSM FOR THIS CONCERN? NO WAS THE PINPOINT TEST FOLLOWED? NO

**RECOMM 11/18/2009 10:13AM FRANK VENEZIANO MSS - FCSD - TECH SVC HOTLINE**

STEVE, IT IS IMPORTANT THAT WHEN PERFORMING THE INTERACTIVE VEHICLE DYNAMICS THAT ALL SAVED CODES ARE STILL PRESENT AS THE SYSTEM WILL LOAD THE FREEZE FRAME DATA FROM THE VEHICLE, WHICH WILL HELP US WITH DIAG. BECAUSE THIS HAS BEEN AN ONGOING CONCERN, I WOULD INSPECT THE CONNECTIONS TO INSURE THEY ARE ALL GOOD AND THERE ARE NO PUSHED OUT

PINS. IF EVERYTHING PROVES GOOD THEN REPLACE THE EPAS AND TAG THE OLD ONE WITH THE VIN NUMBER, MILEAGE AND CODES.

---

**From:** McCormick, John (J.P.)  
**Sent:** Monday, October 11, 2010 6:07 PM  
**To:** Snider, Tim (T.O.)  
**Cc:** Worrel, Peter (P.F.); Kremer, Doug (D.); Schafran, Sonja (S.)  
**Subject:** RE: TC lamp on Hybrid C1B00-2F(A29)

Tim,

As we discussed Friday, if the PSCM can trigger C1B00-2F based on CAN Data from the ABS, then you should have a step in your pin point that indicates to check ABS for a related DTC.  
Our new C1B00-64 ISM tells the tech to replace the ABS Module.

Have a Great Day!,

*John McCormick*

Regen Brakes - Senior Engineer  
Sustainable Mobility Technologies - Ford Motor Company  
Cell Phone: (313) 805-7510  
E-mail: [jmcorm1@ford.com](mailto:jmcorm1@ford.com)

---

**From:** Estes, Eric (E.E.)  
**Sent:** Monday, October 11, 2010 1:30 PM  
**To:** McCormick, John (J.P.); Snider, Tim (T.O.); Kremer, Doug (D.); Schafran, Sonja (S.)  
**Cc:** 'Robert Kostadina'; Bahena, Miguel (Mike.); Biyashev, Russ ( ); Mrozek, Robert (R.M.); Worrel, Peter (P.F.)  
**Subject:** RE: TC lamp on Hybrid C1B00-2F(A29)

This 2011 vehicle was built 8/12/2010, below is the interactive diagnosis of the intermittent C1B00-2F, this gear was diagnosed last week so gear has not been returned yet. I have two other 2010 hybrids at WPAC now listed below with A29's listed in the fault store, FR0325 I have the interactive diagnosis list with the fault store. All claims listed before the SW update at 8/20/2010 & they did have ABS code C1B00-64 listed.

<< File: 2011 CD3 TC lamp on C1B00-2F.pdf >>  
TC lamp on C1B00-2F.pdf >>    << File: FR0325.doc >>

<< File: FR0323.doc >>

<< File: FR0325-

*Eric J Estes*  
TRW EPAS Steering Systems  
Quality Specialist  
Hotline ph# 313-317-9358  
Cell ph# 734-560-3493

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**From:** McCormick, John (J.P.)  
**Sent:** Friday, October 08, 2010 4:46 PM  
**To:** Snider, Tim (T.O.); Estes, Eric (E.E.); Kremer, Doug (D.); Schafran, Sonja (S.)  
**Cc:** 'Robert Kostadina'; Bahena, Miguel (Mike.); Biyashev, Russ ( ); Mrozek, Robert (R.M.); Worrel, Peter (P.F.)  
**Subject:** RE: TC lamp on Hybrid C1B00-2F(A29)

The new sw launch was complete on 8/20/2010.  
When were these vehicle built?

Did the reports include the C1B00-64?

I would have TRW test the gears.  
If there is NTF, I would consider putting them in vehicles with a data logger.

Sonja/Doug,

Have we seen in any reports of C1B00-64 after the launch?

Have a Great Day!,

*John McCormick*

Regen Brakes - Senior Engineer  
Sustainable Mobility Technologies - Ford Motor Company  
Cell Phone: (313) 805-7510  
E-mail: [jmccorm1@ford.com](mailto:jmccorm1@ford.com)

---

**From:** Snider, Tim (T.O.)  
**Sent:** Friday, October 08, 2010 4:20 PM  
**To:** McCormick, John (J.P.); Estes, Eric (E.E.)  
**Cc:** Robert Kostadina; Bahena, Miguel (Mike.); Biyashev, Russ ( ); Mrozek, Robert (R.M.); Worrel, Peter (P.F.)  
**Subject:** FW: TC lamp on Hybrid C1B00-2F(A29)

John,

TRW has just received three warranty CD3 hybrid EPAS gears with the C1B00-2F DTC, which is A29 Absolute Steering Angle Sensor fault. This is the same fault code seen in June 2010 from the DEMS fleet vehicle. Eric at TRW checked with the Conti Tevis warranty engineer and these vehicles were built after the Brake software change. A29 can be caused by an incorrect \$74 steering wheel offset.

1. Have you seen Brake warranty for C1B00-64 and traction control light since the software fix?
2. I'm not sure right now the best next step. I could have TRW confirm there are no issues with these gears, and then we could try to reproduce a traction control event in a hybrid with the Brake software update.

What do you think?

Eric,

Please send VINs and any snapshot or module data you have.

Regards,  
Tim Snider ([tsnider1@ford.com](mailto:tsnider1@ford.com))  
**CD3 Steering Engineering**  
**Ford Motor Company**  
Cell 313-805-3201  
2B-L18 Product Development Center  
Dearborn, MI 48124 USA

**From:** Estes, Eric (E.E.)  
**Sent:** Friday, October 08, 2010 11:15 AM  
**To:** Snider, Tim (T.O.)  
**Cc:** Bahena, Miguel (Mike.)  
**Subject:** TC lamp on Hybrid C1B00-2F(A29)

Tim is Mike coming over to WPAC today, I have some new information on three recent CD3 vehicles all setting TC lamp on and all hybrids that have A29 stored.

I found a 2011 CD3 hybrid in interactive today that had a A29 snapshot that cleared and did not reset.

Like to show you this information when you come over to look at the 2-pin corrosion at WPAC.

Let me know

Eric

---

**From:** Bahena, Miguel (Mike.)  
**Sent:** Monday, June 20, 2011 8:11 PM  
**To:** Estes, Eric (E.E.); Mrozek, Robert (R.M.); Napoli, Laura (L.); 'Robert Kostadina'  
**Cc:** Snider, Tim (T.O.)  
**Subject:** RE: Torque Sensor Related ASIC Warranty Claims

All,

I called and clarified with Eric that all of the returns below had at least one torque sensor fault. He originally thought we were asking for Torque Sensor ASIC issues with BD0, BD1, BD2, BD3, and BD4 faults.

Mike

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

From: Estes, Eric (E.E.)  
Sent: Monday, June 20, 2011 4:03 PM  
To: Mrozek, Robert (R.M.); Napoli, Laura (L.); 'Robert Kostadina'  
Cc: Bahena, Miguel (Mike.); Snider, Tim (T.O.)  
Subject: RE: Torque Sensor Related ASIC Warranty Claims

We have CD3 ASIC warranty not with those series of codes BD0-BD4 See list of ASIC returns below

FR-0008	ASIC	Aux Asic Isense Pin	PCA- 1/15/2009
FR-0036	ASIC	TS ASIC jitter-	11/2/2009-revised EOL testing OnSemi
FR-0069	ASIC	TS ASIC jitter-	11/2/2009-revised EOL testing OnSemi
FR-0113	ASIC	master ASIC-	failing gates in digital "5/22/2010 OnSemi Vstress- 10/26/2010-Hella Vstress ICT"
FR-0138	ASIC	TS ASIC jitter	11/2/2009-revised EOL testing OnSemi
FR-0152	ASIC	TS ASIC short	NTF-lessons learned ASIC removal
FR-0257	ASIC	TS ASIC- latent defect	1/17/2009- Chamber "A" removed
FR-0055	ASIC	TS ASIC Via short	Onsemi refer to continuous defect reduction program- refer to continuous defect reduction program-

Eric

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

From: Mrozek, Robert (R.M.)  
Sent: Monday, June 20, 2011 3:40 PM  
To: Estes, Eric (E.E.); Napoli, Laura (L.); 'Robert Kostadina'  
Cc: Bahena, Miguel (Mike.); Snider, Tim (T.O.)  
Subject: RE: Torque Sensor Related ASIC Warranty Claims

Still a little confusing for my simple mind. So is the answer, "no asic warranty in the torque sensor"?

Rob Mrozek  
Electric Power Steering Supervisor  
CD3/D3/D4/U502/Police/Limo EPAS Programs + Active Front Steering Applications Engineering Ford Motor Company  
Phone: (313) 805-5947  
e-mail: [rmrozek@ford.com](mailto:rmrozek@ford.com)

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

From: Estes, Eric (E.E.)  
Sent: Monday, June 20, 2011 1:30 PM  
To: Napoli, Laura (L.); 'Robert Kostadina'; Mrozek, Robert (R.M.)  
Cc: Bahena, Miguel (Mike.); Snider, Tim (T.O.)  
Subject: RE: Torque Sensor Related ASIC Warranty Claims

The ones listed below are just submitted claims to Hella and we have not heard the results from the analysis.  
The List has nothing to do with the durability ASIC issue.

I already replied to Rob's email with past ASIC results from CD3

Eric

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

From: Napoli, Laura (L.)  
Sent: Monday, June 20, 2011 1:23 PM  
To: Robert Kostadina; Estes, Eric (E.E.); Mrozek, Robert (R.M.)  
Cc: Bahena, Miguel (Mike.); Snider, Tim (T.O.)  
Subject: RE: Torque Sensor Related ASIC Warranty Claims

Rob K,

Are you saying the ones listed below are known ASIC issues or NPF? As opposed to other known TS issues like bent finger? Eric's email stated there was only 1 return that was potential ASIC.

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

From: Robert Kostadina [<mailto:Robert.Kostadina@TRW.COM>]  
Sent: Monday, June 20, 2011 12:25 PM  
To: Estes, Eric (E.E.); Mrozek, Robert (R.M.)  
Cc: Napoli, Laura (L.); Bahena, Miguel (Mike.); Snider, Tim (T.O.)  
Subject: Re: Torque Sensor Related ASIC Warranty Claims

Rob,

This is what I got from Eric. I will place this inside the 8D. Is there something further you would like to see?

> FR0390(BD0,BD2,BD4)- channel 1 issue  
>  
> FR0457(BD0,BD2)- channel 2 issue  
>  
> DR0047(BD1,BD3)- losing channel 2  
>  
> OKM BR332227(BD4)- Channel 1 issue

Thank you

Rob

>>> "Mrozek, Robert (R.M.)" <[rmrozek@ford.com](mailto:rmrozek@ford.com)> 6/20/2011 12:09 PM >>>

Eric -

I have a hot request that I need answered this afternoon. We had a durability failure that is related to water ingress at the torque sensor and/or an ASIC failure on the Hella torque sensor PCB.

I need to know the warranty history for the Hella ASIC. They likely resulted in BD0 - BD4 faults. Not looking for a report on ALL the BD0-4 faults, just ones confirmed to do with ASIC. ANY ASIC faults.

Need to know today please.

Rob Mrozek

Electric Power Steering Supervisor

CD3/D3/D4/U502/Police/Limo EPAS Programs + Active Front Steering Applications Engineering Ford Motor Company

Phone: (313) 805-5947

e-mail: [rmrozek@ford.com](mailto:rmrozek@ford.com)

---

**From:** Estes, Eric (E.E.)  
**Sent:** Thursday, March 04, 2010 4:00 PM  
**To:** Diez, Timothy (T.P.); Bahena, Miguel (Mike.); Mrozek, Robert (R.M.); Snider, Tim (T.O.); Sergio Alvarez; Guillermo Aguilar; 'JoseJ Lopez'; 'Simon Malsbury'; Jason Johnson-contr; 'Sanjay.Singh@TRW.COM'; Andrew Williams; 'anthony.fleenor@trw.com'; andrew.ellison@trw.com; Salim Semssar; Geoff Jacks; 'Greg Bendzinski'; Mark Karwowski; Puleri, Michael (M.J.); Frey, Martin (M.F.)  
**Subject:** RE: TRW B9A Warranty Workshop

There will be no B9A workshop for this Friday.

Sorry guy's I screwed up somewhere canceling the Friday 10am B9A workshop meetings for the rest of March. You will need to manually go into your calendar's and delete.

Yesterday I sent out the new B9A workshop meetings set for March 12th and the new time of 11am and will continue till the end of April. Thanks

*Eric J Estes*

TRW EPAS Steering Systems  
Quality Specialist  
Hotline ph# 313-317-9358  
Cell ph# 734-560-3493

---

**From:** Diez, Timothy (T.P.)  
**Sent:** Thursday, March 04, 2010 10:24 AM  
**To:** Estes, Eric (E.E.)  
**Subject:** RE: TRW B9A Warranty Workshop

Please confirm that this meeting has been cancelled.

Sincerely,  
Tim Diez  
Ford Electric Power Steering, EESE  
313-805-1060; Fax: 313-317-4387  
e-mail: [tdiez@ford.com](mailto:tdiez@ford.com)  
cube 3C071, Building 5

---

**From:** Estes, Eric (E.E.)  
**Sent:** Wednesday, February 10, 2010 3:22 PM  
**Subject:** TRW B9A Warranty Workshop  
**When:** Friday, March 05, 2010 10:00 AM-11:00 AM (GMT-05:00) Eastern Time (US & Canada).  
**Where:** Teleconference/ Webmeeting 866-251-9196 Conf code: 1842273552

The plan is to setup a B9A workshop for Friday 2/19 at 10am- we will now start to plan weekly Friday B9A workshops with Ford until we find root cause.

#### Action Items from last B9A Workshop

**Simon-** check that the canopy configuration is set-up properly on FR0108 to capture all the data if the gear does set B9A while testing. Ambient test gear at this time until tri-temp chamber is open next week.

**Geoff-** PCB adjustment process around July timeframe see if there were any deviations, line failures the same time the B9A's warranty failures occurred at Nidec & IM.

**Geoff-** Understand hall effects sensor failure at what state.

**Geoff/ Simon/ Sergio/ Eric-** Matrix test run of all the gears with B9A's what has been done to each gear in 26mile, QAO & UK.

**Guillermo-** send out recent summary of "B" code line failures at QAO.

**Eric** - Email Anting for the EPP "B" code line failures the past 3-4 months.

Let me know if I'm missing any actions for the next B9A meeting

---

Hello Eric Estes,

You have successfully scheduled the following meeting:

Topic: TRW B9A Warranty Workshop

Date: Every Friday, from Friday, February 19, 2010 to Friday, March 26, 2010

Time: 10:00 am, Eastern Standard Time (New York, GMT-05:00)

Meeting number: 594 676 317

Meeting password: (This meeting does not require a password.)

Please click the following link to view or edit your meeting information, or to start your meeting.

To start the online webmeeting

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1. Go to <https://www.meetingcenter.net>
2. Join a meeting
3. click on "Attend a Meeting"
3. Enter meeting# 594676317

Audio conference information: Call-in toll-free number: 1-866-2519196 (US)

Call-in number: 1-248-2265571 (US)

Show global numbers:

<https://www2.audiocontrols.net/WebExAdaptor/globalnumber?participantcode=1842273552&tollfreecc=1&tollfree=866-2519196&tollnumbercc=1&tollnumber=248-2265571>

Leader PIN: 5716

Conference Code: 184 227 3552

To add this meeting to your calendar program (for example, Microsoft Outlook or Lotus Notes), do the following:

\* For all calendar programs (except Lotus Notes), click the following link, or copy the link and paste it into your Web browser:

<https://intercall.webex.com/intercall/i.php?ED=134661037&UID=490638792&ICS=MS&LD=1&RD=2&ST=1&SHA2=oeEGYySfyGQ-7hFe9F3nPWl4m8me12jz1lxJTeQRI=>

\*For Lotus Notes, follow these steps:

1. Right-click the attached iCalendar format (\*.ics) file, then choose View.
2. Click Import All. A new broadcast email message is added to your Inbox.
3. Open the new message.
4. Click Respond button. A menu appears.
5. Click Accept.

To check whether you have the appropriate players installed for UCF (Universal Communications Format) rich media files, go to <https://intercall.webex.com/intercall/systemdiagnosis.php>

If you need MeetingCenter technical support, please call 1-800-508-8758 or 1-706-634-4551 or email  
[mcsupport@intercall.com](mailto:mcsupport@intercall.com).

*Eric J Estes*

TRW EPAS Steering Systems

Quality Specialist

Hotline ph# 313-317-9358

Cell ph# 734-560-3493

---

**From:** Estes, Eric (E.E.)  
**Sent:** Friday, August 13, 2010 2:44 PM  
**To:** Mrozek, Robert (R.M.)  
**Cc:** Jim Loria; Engelbert Lu; Snider, Tim (T.O.)  
**Subject:** RE: TRW Torque Sensor 0KM & Warranty Gear Review

Rob normally Jim or Engelbert will join our discussion when they have torque sensor responsibility but all the torque sensor claims this week were being handled in Hella & QAO. So I did not feel the urgency to call them into this meeting. We did have some questions that were brought up by Hella that Tim & I could not respond to but that could have easily been emailed or called after the meeting. Talking to Tim in the meeting I felt we have most of the corrective actions & root causes are done for all the past torque sensor returns and that we could move onto other more pending warranty issues.

Rob if you look at my warranty matrix you will notice Jim Loria is attached to most of the TS warranty return history and was instrumental in helping to find many of the root causes and responded to most of the corrective actions sent out by Hella. Also a few weeks back while I was on vacation the torque sensor team Jim and Engelbert made the accommodations for Hella's visit to 26mile for 2-days to explain our TS testing procedures, TS codes & understand how to change their procedures to capture faults sent to them so we do not have any NTF.

At this point we only have one early NTF torque sensor fault FR0018 out of 37 TS warranty returns.

So as far as I'm concerned to the most part the engineering team has supported if they have any open or urgent TS warranty responsibility.

Rob I know you have a half day off today but call me if you have any questions, Thanks

Eric

---

**From:** Mrozek, Robert (R.M.)  
**Sent:** Thursday, August 12, 2010 4:04 PM  
**To:** Snider, Tim (T.O.); 'Jim Loria'; 'Engelbert Lu'  
**Cc:** Estes, Eric (E.E.)  
**Subject:** RE: TRW Torque Sensor 0KM & Warranty Gear Review

I am not sure why Ford bothers to support ANY discussions on torque sensor changes if the TRW core engineering team does not support our warranty activities. Ford does not have the engineering resources to support arbitrary design changes. We can just limit focus on warranty improvements and cost reductions.

*Rob Mrozek*

Electric Power Steering Supervisor  
C346N/CD3/D3/D4/U502/Police/Limo Programs  
Ford Motor Company  
Phone: (313) 805-5947  
e-mail: rmrozek@ford.com

---

**From:** Snider, Tim (T.O.)  
**Sent:** Wednesday, August 11, 2010 10:11 AM  
**To:** Jim Loria; Engelbert Lu  
**Cc:** Estes, Eric (E.E.); Mrozek, Robert (R.M.)  
**Subject:** RE: TRW Torque Sensor 0KM & Warranty Gear Review

Jim / Engelbert,

Are either of you calling in today?

Regards,  
Tim Snider (tsnider1@ford.com)  
**CD3 Steering Engineering**  
**Ford Motor Company**  
Cell 313-805-3201  
2B-L18 Product Development Center  
Dearborn, MI 48124 USA

---

**From:** Estes, Eric (E.E.)  
**Sent:** Friday, May 28, 2010 1:03 PM  
**To:** Estes, Eric (E.E.); 'anthony.fleenor@trw.com'; 'Jose Lopez'; 'Jim Loria'; Bahena, Miguel (Mike.); Mrozek, Robert (R.M.); Snider, Tim (T.O.); Diez, Timothy (T.P.); 'Costas Chrysochoidis'; 'Markus.Nowak@hella.com'; 'jason.johnson@trw.com'; 'Engelbert Lu'; 'Angie Caudill'; 'Thomas.Surmann@hella.com'; 'Guillermo Aguilar'; 'Geoff Jacks'; 'Samuel Arreola'; 'Michael Fontana'; 'pavel.vetz@trw.com' 'Sergio Alvarez'; 'Greg Bendzinski'; 'andrew.ellison@trw.com'; 'Mark Karwowski'; Puleri, Michael (M.J.); 'Salim Semssar'; 'Sanjay.Singh@TRW.COM'; 'Andrew Williams'; 'Robert Kostadina'; 'Michael Fontana'; 'joel.rabideau@trw.com'; 'Mathew Alder'; Frey, Martin (M.F.); 'Costas Chrysochoidis'; '<Kerska Dave'; 'Ian Ingram'; 'Simon Malsbury'  
**Cc:**  
**Subject:** TRW Torque Sensor 0KM & Warranty Gear Review  
**When:** Wednesday, August 11, 2010 10:00 AM-11:00 AM (GMT-05:00) Eastern Time (US & Canada).  
**Where:** Teleconference 1-866-251-9196 Conf. Code# 1842273552

See below to join the webmeeting.

New starting time for Torque Sensor 0KM & Warranty Gear Returns.

Going over all the open torque sensor returns to find root cause & close out with Ford.

Host's name: Eric Estes  
Host's Email: eestes@ford.com  
Starting date: Wednesday, June 2, 2010  
Recurrence: Occurs every Wednesday effective 6/2/2010 until 8/26/2010  
Starting time: 10:00 am,Eastern Daylight Time (New York, GMT-04:00)  
Duration: 1 hour  
Meeting number: 590 493 288  
Meeting password: (This meeting does not require a password.)  
Teleconference: Call-in toll-free number 1-866-2519196 (US)  
Call-in number 1-248-2265571 (US)

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To start the online webmeeting

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1. Go to <https://www.meetingcenter.net>
  2. Join a meeting
  3. click on "Attend a Meeting"
  4. Enter meeting# **590493288**
- 

Teleconference information

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Call-in toll-free number: 1-866-2519196 (US)

Call-in number: 1-248-2265571 (US)

Show global numbers:

<https://www2.audiocontrols.net/WebExAdaptor/globalnumber?participantcode=1842273552&tollfreecc=1&tollfree=866-2519196&tollnumbercc=1&tollnumber=248-2265571>

Leader PIN:

Conference Code: 184 227 3552

To check whether you have the appropriate players installed for UCF (Universal Communications Format) rich media files, go to <https://intercall.webex.com/intercall/systemdiagnosis.php>

Host's name: Eric Estes  
Host's Email: eestes@ford.com

---

**From:** Engelbert Lu <Engelbert.Lu@TRW.COM>  
**Sent:** Friday, August 13, 2010 8:48 PM  
**To:** Estes, Eric (E.E.); Mrozek, Robert (R.M.); Snider, Tim (T.O.); Jim Loria  
**Subject:** RE: TRW Torque Sensor 0KM & Warranty Gear Review

Hi Tim,

It is my understanding the current warranty issues are repeated issues, which Eric has the ability to handle. Please correct me if I am wrong.

From Quality process, Eric is our lead and point guy. We are supporting him when he needs it. If there is any new type of issues that requires TRW sensor team's input, we would be happy to join. Please keep in mind, we are always in the loop with Eric. However, if something requires immediate attention, please don't hesitate to call either Jim or myself.

Thanks  
Engelbert

>>> "Snider, Tim (T.O.)" <tsnider1@ford.com> 8/13/2010 2:26 PM >>>

I think we are making good progress on torque sensor warranty issues, and having Hella come over for a visit was productive and gives me more confidence in Hella. However, I also think TRW Core: Jim, Engelbert, or someone else with TS knowledge, should call into the 10:00 Wednesday meeting in case technical questions come up or to check if what Hella proposes is reasonable.

Regards,  
Tim Snider (tsnider1@ford.com)  
CD3 Steering Engineering  
Ford Motor Company  
Cell 313-805-3201  
2B-L18 Product Development Center  
Dearborn, MI 48124 USA

> \_\_\_\_\_  
> From: Estes, Eric (E.E.)  
> Sent: Friday, August 13, 2010 10:44 AM  
> To: Mrozek, Robert (R.M.)  
> Cc: Jim Loria; Engelbert Lu; Snider, Tim (T.O.)  
> Subject: RE: TRW Torque Sensor 0KM & Warranty Gear Review  
>  
> Rob normally Jim or Engelbert will join our discussion when they have  
> torque sensor responsibility but all the torque sensor claims this  
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> their procedures to capture faults sent to them so we do not have any  
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> So as far as I'm concerned to the most part the engineering team has  
> supported if they have any open or urgent TS warranty responsibility.  
>  
> Rob I know you have a half day off today but call me if you you have  
> any questions, Thanks

>  
> Eric

>  
>

>  
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> From: Mrozek, Robert (R.M.)  
> Sent: Thursday, August 12, 2010 4:04 PM  
> To: Snider, Tim (T.O.); 'Jim Loria'; 'Engelbert Lu'  
> Cc: Estes, Eric (E.E.)  
> Subject: RE: TRW Torque Sensor OKM & Warranty Gear Review

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> I am not sure why Ford bothers to support ANY discussions on torque  
> sensor changes if the TRW core engineering team does not support our  
> warranty activities. Ford does not have the engineering resources to  
> support arbitrary design changes. We can just limit focus on warranty  
> improvements and cost reductions.

>  
> Rob Mrozek  
> Electric Power Steering Supervisor  
> C346N/CD3/D3/D4/U502/Police/Limo Programs Ford Motor Company  
> Phone: (313) 805-5947  
> e-mail: rmrozek@ford.com

>  
>  
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> From: Snider, Tim (T.O.)  
> Sent: Wednesday, August 11, 2010 10:11 AM  
> To: Jim Loria; Engelbert Lu  
> Cc: Estes, Eric (E.E.); Mrozek, Robert (R.M.)  
> Subject: RE: TRW Torque Sensor OKM & Warranty Gear Review  
>

> Jim / Engelbert,  
>  
> Are either of you calling in today?  
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>  
> Regards,  
> Tim Snider (tsnider1@ford.com)  
> CD3 Steering Engineering  
> Ford Motor Company  
> Cell 313-805-3201  
> 2B-L18 Product Development Center  
> Dearborn, MI 48124 USA  
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> \_\_\_\_\_  
> From: Estes, Eric (E.E.)  
> Sent: Friday, May 28, 2010 1:03 PM  
> To: Estes, Eric (E.E.); 'anthony.fleenor@trw.com'; 'JoseJ Lopez';  
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> Tim (T.O.); Diez, Timothy (T.P.); 'Costas Chrysochoidis';  
> 'Markus.Nowak@hella.com'; 'jason.johnson@trw.com'; 'Engelbert Lu';  
> 'Angie Caudill'; 'Thomas.Surmann@hella.com'; 'Guillermo Aguilar';  
> 'Geoff Jacks'; 'Samuel Arreola'; 'Michael Fontana';  
> 'pavel.vetz@trw.com'  
> Cc: 'Sergio Alvarez'; 'Greg Bendzinski'; 'andrew.ellison@trw.com';  
> 'Mark Karwowski'; Puleri, Michael (M.J.); 'Salim Semssar';  
> 'Sanjay.Singh@TRW.COM'; 'Andrew Williams'; 'Robert Kostadina';  
> 'Michael Fontana'; 'joel.rabideau@trw.com'; 'Mathew Alder'; Frey,  
> Martin (M.F.); 'Costas Chrysochoidis'; '<Kerska Dave'; 'Ian Ingram';  
> 'Simon Malsbury'  
> Subject: TRW Torque Sensor OKM & Warranty Gear Review  
> When: Wednesday, August 11, 2010 10:00 AM-11:00 AM (GMT-05:00) Eastern  
> Time (US & Canada).  
> Where: Teleconference 1-866-251-9196 Conf. Code#  
> 1842273552  
>  
> See below to join the webmeeting.  
> New starting time for Torque Sensor OKM & Warranty Gear Returns.  
> Going over all the open torque sensor returns to find root cause &  
> close out with Ford.  
>  
>  
> Host's name: Eric Estes  
> Host's Email: eestes@ford.com  
> Starting date: Wednesday, June 2, 2010  
> Recurrence: Occurs every Wednesday effective 6/2/2010 until  
> 8/26/2010  
> Starting time: 10:00 am,Eastern Daylight Time (New York, GMT-04:00)  
> Duration: 1 hour  
> Meeting number: 590 493 288  
> Meeting password: (This meeting does not require a password.)  
> Teleconference: Call-in toll-free number 1-866-2519196 (US)

> Call-in number 1-248-2265571 (US)  
>  
> -----  
> To start the online webmeeting  
> -----  
> 1. Go to <https://www.meetingcenter.net> 2. Join a meeting 3. click on  
> "Attend a Meeting"  
> 4. Enter meeting# 590493288  
>  
> -----  
> Teleconference information  
> -----  
> Call-in toll-free number: 1-866-2519196 (US) Call-in number:  
> 1-248-2265571 (US) Show global numbers:  
> <https://www2.audiocontrols.net/WebExAdaptor/globalnumber?participantco>  
> de=1842273552&tollfreecc=1&tollfree=866-2519196&tollnumbercc=1&tollnum  
> ber=248-2265571  
> Leader PIN:  
> Conference Code: 184 227 3552  
>  
> To check whether you have the appropriate players installed for UCF  
> (Universal Communications Format) rich media files, go to  
> <https://intercall.webex.com/intercall/systemdiagnosis.php>  
>  
>  
> Host's name: Eric Estes  
> Host's Email: eestes@ford.com

---

**From:** Napoli, Laura (L.)  
**Sent:** Thursday, November 03, 2011 5:28 PM  
**To:** Zhao, Ming (Q.M.)  
**Subject:** RE: TRW Trip to Nidec

Ming,

Mostly general. I'd like to know how they control Cleanliness and avoidance of ESD events. Also, pay attention to how they control part handling of Halls and Encoders. I haven't seen the yield data from EOL test, so please ask them about that. Look at their EOL test as far as detection of a faulty component. And if you have time, make sure they're following the process control plan for each area.

I know that's a lot, so do what you can. We have duplicated the failure once and it was due to a failed signal out of the encoder. VERY intermittent, so could be contamination.

Thanks Ming!

---

**From:** Zhao, Ming (Q. M.)  
**Sent:** Wednesday, November 02, 2011 10:48 PM  
**To:** Napoli, Laura (L.)  
**Subject:** RE: TRW Trip to Nidec

Laura:

Do you have any specific item which need I to focus on while I visit IM PCBA plant tomorrow morning with TRW&Nidec?

If no, I will run just general visit on IM mfg process.

Best Regards!  
Ming Zhao

---

**From:** Zhao, Ming (Q. M.)  
**Sent:** 2011年10月31日 1:01  
**To:** Napoli, Laura (L.)  
**Cc:** Surella, Matthew (M. M.); Perri, Ron (R. J.); Kowalski, Donald (D. G.); Wu, Wei (W.)  
**Subject:** RE: TRW Trip to Nidec

Laura:

I will join in co-visit IM together with TRW&Nidec's on Nov 4th. (Henry is not available to this trip due to other conflicts).

1. Would you pls forward me a copy of "**past 12 months EOL data of Nidec**" if you have received from TRW on Oct 26th for reference?

2. If you have at hand, also please forward the tracibility data information of warranty part (sub) suppliers manufacturing date & lot information. Such as information of When warranty field reported> When the vehicle manufactured at Ford plant>When the EPS assy manufactured at TRW NA plant>When the sub part assy manufactured at TRW Anting plant>When its motor assy produced at Nidec plant> When its motor's PCBA made in IM plant;

Above information if available, it will give me some clues to focus on at IM plant visit by looking at any difference /change on process before/during/after suspected part lot and its time slot.

Best Regards!  
Ming Zhao

---

**From:** Napoli, Laura (L.)  
**Sent:** 2011年10月26日 6:35  
**To:** Zhao, Ming (Q. M.); He, Henry (Z. Q.)  
**Cc:** Surella, Matthew (M. M.); Perri, Ron (R. J.); Kowalski, Donald (D. G.); Wu, Wei (W.)  
**Subject:** RE: TRW Trip to Nidec

Ming and Henry,

Thank you very much for your visit. I've added your notes to my open issues list I've been carrying with TRW. I've also added you guys to the distribution list. If you'd like to be removed, please let me know :)

We have an 8D from Micronas on one part which had a permanent failure. Root cause was found that the Hall Sensors had metal non-foreign contamination. Please see attached 8D. We have TRW visiting Micronas in Germany tomorrow. We are also scheduling a visit for the team to go to IM and inspect their PCBA process. They are located at Baijiao Science & Technology Industry Park in Dou Men Town Zhuhui Guangdong, China. Would your team be able to support this visit? I have requested them to do this visit soon. I'm not sure what your availability would be. We wouldn't make them wait for you, but if you have time to attend the date that TRW sets up with IM, that would be very helpful.

<< File: FCR\_20281.pdf >> << File: 8D3193-I.pdf >>

Thanks again for all your information below. Your visit was very valuable to us in moving closer to finding root cause of the B9A.

Regards,

*Laura Napoli*

D3 and U502 EPAS  
Ford Motor Company  
Cube: 2B-G66 PDC  
Phone: 313.323.0634  
Mobile: 313.805.0482

---

**From:** Zhao, Ming (Q. M.)  
**Sent:** Monday, October 24, 2011 2:06 AM  
**To:** Napoli, Laura (L.)  
**Cc:** Surella, Matthew (M. M.); Perri, Ron (R. J.); He, Henry (Z. Q.); Collins, Ron (R. J.); Kowalski, Donald (D. G.); Wu, Wei (W.)  
**Subject:** Re: TRW Trip to Nidec

Laura:

Last Friday (Oct.21th), I ,Henry, Adam Wang (Quality manager of TRW Anting mfg plant) and Cedar Zhu (SQE of TRW Anting plant) together visited Nidec plant at Pinghu mfg site of China.

Basic information as below:

1. TRW Anting plant do not aware of this B9A error code issue at Anting plant, also do not involve in B9A issue investigation. (Adam Wang);

All Information for U502 B9A issue got from us, not from TRW (NA) internal.

TRW (NA) as contact window has Nidec direct contact window at Japan, and Nidec plant at Pinghu (mfg site) provides information to Nidec (Japan) as requested.

TRW(Anting plant) is just a mfg plant, do not know the mechanism about how to come out B9A error code (the principle).

2. The difference part list of EPS motor for U502 and CD3 at Nidec plant are below--(Due to motor size difference) :

Stator core  
Insulator  
Bracket

Output shaft  
Rotor core  
Main magnet

**Common main part list** of EPS motor for U502 and CD3 at Nidec plant are below:

Busbar  
Relay  
PCB  
Sensor Magnet  
Zener Diode  
Hall IC  
Encoder  
Cable with Connector  
Washer  
Ball Bearing  
Pully  
Coating  
Cover

3. Nidec (Anting plant) does not know the B9A code mechanism. Not involve in its control software development.  
(TRW owns the software, and the power of Hall sensor & encode is supplied/controlled by TRW power module through cable&connector on normal part.)

4. Below EOL Test items at Nidec plant, which could detect Hall IC, sensor magnet, Encode part-self issue and placement positioning issue if they exist:

Hall timing error;  
Encode timing error;

Nidec will provide over passed 12 months EOL test items tracking data to TRW by Oct 25th.

5. Ford could get below informations through TRW NA contact window, (All Nidec information will provide through Nidec Japan contact window to TRW NA) :

Such as:

Over 12 months EOL test tracking data at Nidec plant to TRW by Oct 25th;  
Over 12 months EOL test tracking data at sub suppliers (IM, Santis, Micronas, Allegro) to TRW by Nov.4th;

6. Onsite visit questions' list on Oct 21th, 2011, Adam (from TRW) has requested Nidec to provide:

- 1). EOL NG part history data list will provide to TRW by NEXT Tuesday from Nidec plant; pls refer [6# of Questions for Nidec STE Mike Davies](#) on below Laura original email
- 2). EOL test setup/SPEC difference between CD3 and U502. Provid some production data.
- 3). Cogging torque/friction torque/torque ripple test setup/SPEC differnce between CD3 and U502. Provide data
- 4). Pin check gage( Nidec to discuss late with TRW ADAM)
- 5). Pin rework concerns(Nidec to discuss late with TRW ADAM)
- 6). magnzing force check setup/SPEC difference between U502 and CD3

7. For Laura's questions, pls refer each answers in below orginal email marked with blue color.

8. Suggest Laura to get and review:

- 1). Warranty part tracking data matrix with mfg date/ lot/ process from Ford vehicle,TRW NA , TRW Anting , Nidec, to Nidec sub supplier if necessary;
- 2). EOL Test tracking data for over passes 12 months at TRW NA, TRW Anting, Nidec, and Nidec sub-supplier;
- 3). Worst case circuit analysis for B9A error mechanism on related parts/ value setup, especially on different part/ process list by compasion of U502 and CD3.  
such as Hall timing, Encode timing, etc

Any quesitons, Please feel free to let us know  
Best Regards!  
Ming Zhao

**From:** Napoli, Laura (L.)  
**Sent:** 2011年10月14日 4:47  
**To:** Collins, Ron (R.J.); Kowalski, Donald (D.G.); Wu, Wei (W.); Zhao, Ming (Q.M.); He, Henry (Z.Q.)  
**Cc:** Surella, Matthew (M.M.); Perri, Ron (R.J.)  
**Subject:** RE: TRW Trip to Nidec

Henry, Ming,

Thank you for your assistance on this TRW EPAS warranty issue. Bottom line is that we have 71 gears that have this same B9A fault code as of Oct 13. We have been testing gears on different test benches for 2 months in many different ways and have not been able to duplicate the issue. Because it has not been duplicated, we don't know root cause. Therefore, we can't pinpoint which piece of hardware we should focus on. We only know that root cause is from the motor. The 3 main components within the motor to focus on are Encoder, 3 Hall Effect Sensors, and Motor PCB. Below is a list of open questions I have for Nidec that have not been answered by TRW. I've also attached our latest presentation from TRW which shows some x-ray pictures of the motor components. Please let me know if you have further questions.

Warranty Fixes put in place in 2010CY for CD3 warranty:

1. Regulator SW fix for double start up --> SW change implemented on all U502 and C1 programs.  
--> CD3 implemented SW change at Anting 10/27/2010 and at QAO 12/14/2010
2. Flux Density --> Root Cause is thought to be that target magnets are being magnetized twice. (Magnetizing only once every time up to date, not twice)

TRW USA Simon discussed with

Nidec before

--> **What is being done to prevent this process issue at Nidec?**

--> 100% check at EOL (Done at production line with added Flux Density inspection station)

--> In place at Nidec on 4/19/2010—(3/17/2010)

No failed part found so far at this flux density inspection station

3. Motor PCB Clearance      fix at IM--> U502 always had this design in production. (Before connector pins too close to circuit, then modified, clean date as below)

--> CD3 clean date at Anting 9/4/2010

--> **Need clean date at Nidec**

Anting)

4. Cable insertion fixture issue at Anting --> Fix implemented in Anting on 12/3/2010 (TRW to check and confirm)

5. Encoder IC --> Failure due to ESD at Nidec (2008/08 B9A at BULLY TEST/ test report# 090091 of TRW)

--> Failure is permanent.

--> Contained through line audits to check for potential ESD causes.

--> Line walks done daily

--> **Need containment date at Nidec** (Chang PCBA Handling process+IRONizer(离子FAN), implemented on 2009/08/3)

6. Motor PCB Connector Solder --> Intermittent failure found during temp cycling or x-ray of PCB

--> Change in cleaning process of PCB at Santis (PCB manufacturer): better cleaning material, added roller, part cannot sit after cleaned.

--> **Need clean date at Nidec** (2010/6/1)

Questions for Nidec STE Mike Davies (Mike Davies is TRW person):

1. **Need confirmation that Motor PCB Connector Solder fix is in place at Santis**-(in place at Nidec Pinghu site on 2010/6/1)

2. How many lines are running at Nidec and it's sub suppliers?

--Anting: 1 ECU line; 2 EPP lines (TRW)

--Nidec: 1st line for CD3/D3/U502/ C1;      Second line only produce for C1, As of Nov 10, 2010--Add'l line for C1  
**(Does this include C1NA?)**

TRW only approve Nidec 2nd line for C1.

--IM (PCBA) 1 Production line and Santis (PCB) difficult to say how many production lines that runs all PCB's

--Micronas (**Hall Sensor**), Any change on this sensor since SOP? Final inspection process changed since 2011 /2/24 for CD3 and for U502 2011/3/2 , Purpose of change: to increase production volume.

--**Allegro (Encoder)?** No change since SOP

3. Trace all failures to line numbers at Anting, Nidec, Micronas, and Allegro.

--Expected to be done by TRW on 10/14 (Nidec has provided to TRW already on 2011/10/14)

4. What SREA's have been put in place at Nidec in the past 12 months?

Process change list has submitted to TRW (Geoff)

5. Does Nidec have any motor issues that are sold to other customers?

--We were told by TRW that no other motors have our PCB, Hall sensors, or encoders on other products

**6. Need all Paynter/Run charts for Anting, Nidec(To be provided to TRW by Next Tuesday Oct 25th) , and sub suppliers (IM, Santis, Micronas, Allegro)** (Two weeks need for ready to submit to TRW (by Nov.4th)) **to see if there are any EOL failure spikes over the last 12 months.**

Regards,

*Laura Napoli*

D3 and U502 EPAS

Ford Motor Company

Cube: 2B-G66 PDC

Phone: 313.323.0634

Mobile: 313.805.0482

---

**From:** Collins, Ron (R.J.)  
**Sent:** Thursday, October 13, 2011 1:03 PM  
**To:** Kowalski, Donald (D.G.); Wu, Wei (W.)  
**Cc:** Napoli, Laura (L.); Surella, Matthew (M.M.); Perri, Ron (R.J.)  
**Subject:** FW: TRW Trip to Nidec

Don; Wei:

Need to request your help as outlined below. Henry and Ming have been very helpful in the past, and would appreciate if thy could help here as well.

Issue is summarized as follows:

- Steering assist is provided by a motor
- For failsafe operation, there are two redundant motor position signals from the motor that are compared
- If the comparison exceeds a certain mismatch, assist is removed to prevent unintended assist
- We've had ~40 claims on Explorer where assist has been removed with code logged for tor motor position sensor mismatch, however we have been unable to duplicate on any of the returned parts in the lab.

We are going down all paths of the fishbone to find the root cause, including EMC, software, hardware, etc. Would appreciate if Ming and Henry could help per Laura's detailed request.

Thanks

Ron Collins  
Chief Engineer, North American Chassis Engineering  
Ford Motor Company  
email: rcollin4@ford.com

---

**From:** Surella, Matthew (M.M.)  
**Sent:** Thursday, October 13, 2011 12:34 PM  
**To:** He, Henry (Z.Q.)  
**Cc:** Zhao, Ming (Q.M.); Napoli, Laura (L.); Perri, Ron (R.J.); Collins, Ron (R.J.)  
**Subject:** TRW Trip to Nidec

Hi Henry,

Thank you for your previous efforts on your trip to Anting to look at the TRW EPP line for CD3 (Fusion). If possible, we have another urgent request for you or one of your colleagues to visit TRW's EPAS motor supplier, Nidec. This time we have EPAS steering warranty issues on U502 (Explorer) and they are increasing daily. The issue is a TRW diagnostic code, B9A, which triggers during a journey and then removes steering power assist for the remainder of the journey. This diagnostic code goes back to the motor and thus the reason for focusing on Nidec. Laura Napoli, the EPAS engineer on U502, will get you a list of items we would like checked at Nidec. Ford STA would like to attend with you. Can you or someone in your area support?

Matthew (Matt) Surella  
Steering EPAS Supervisor / MBB  
313-805-3997

---

**From:** Estes, Eric (E.E.)  
**Sent:** Thursday, June 03, 2010 1:48 PM  
**To:** Snider, Tim (T.O.)  
**Cc:** Bahena, Miguel (Mike.); Diez, Timothy (T.P.); Mrozek, Robert (R.M.); 'Jim Loria'; 'Engelbert Lu'; 'Guillermo Aguilar'; 'Aaron Blancas'; 'JuanCarlos cano'  
**Subject:** RE: Update FR0172(BD0-BD3) molex red wire terminal damage, Delphi Presentation

The wire is not damaged or cut it's the red wire terminal that is broken and Wuppertal's report states it was damaged from mechanical impact to the connector but in the SEM analysis they state a sharp object caused the terminal damage, so Wuppertal's results & recommendation is a little confusing.

Eric

---

**From:** Snider, Tim (T.O.)  
**Sent:** Thursday, June 03, 2010 9:34 AM  
**To:** Estes, Eric (E.E.)  
**Cc:** Bahena, Miguel (Mike.); Diez, Timothy (T.P.); Mrozek, Robert (R.M.); 'Jim Loria'; 'Engelbert Lu'; 'Guillermo Aguilar'; 'Aaron Blancas'; 'JuanCarlos cano'  
**Subject:** FW: Update FR0172(BD0-BD3) molex red wire terminal damage, Delphi Presentation

Eric,

Is Delphi saying the wire looks to be cut? Where in Delphi's or TRW's process could there be an opportunity for cutting the wire?

Regards,  
Tim Snider ([tsnider1@ford.com](mailto:tsnider1@ford.com))  
**CD3 Steering Engineering**  
**Ford Motor Company**  
Cell 313-805-3201  
2B-L18 Product Development Center  
Dearborn, MI 48124 USA

---

**From:** Estes, Eric (E.E.)  
**Sent:** Thursday, June 03, 2010 9:24 AM  
**To:** Snider, Tim (T.O.); Bahena, Miguel (Mike.); Diez, Timothy (T.P.); Mrozek, Robert (R.M.)  
**Subject:** Update FR0172(BD0-BD3) molex red wire terminal damage, Delphi Presentation

Trying to get information from Dave Kerska our STA to check with Delphi and find out where this terminal damage could have occurred and what caused the impact or the tooling that caused this damage to the torque sensor connector & terminal.

Also trying to get Englebert & Joel involved to follow-up with their thoughts.

<< File: QCCAR # 378973 (Warranty) red wire broken\_CTCW\_0206 (2).ppt >>

*Eric J Estes*  
TRW EPAS Steering Systems

Quality Specialist  
Hotline ph# 313-317-9358  
Cell ph# 734-560-3493

---

**From:** Aaron Blancas <Aaron.Blanclas@TRW.COM>  
**Sent:** Thursday, June 03, 2010 9:26 PM  
**To:** Estes, Eric (E.E.); Mrozek, Robert (R.M.); Snider, Tim (T.O.)  
**Cc:** Bahena, Miguel (Mike.); Diez, Timothy (T.P.); Engelbert Lu; Guillermo Aguilar; Jim Loria; JuanCarlos cano  
**Subject:** RE: Update FR0172(BD0-BD3) molex red wire terminal damage,Delphi Presentation

Harness is 100% scrapped after gear teardown. NO rework is approved.

Aaron.

>>> "Mrozek, Robert (R.M.)" <[rmrozek@ford.com](mailto:rmrozek@ford.com)> 6/3/2010 3:00 PM >>>  
Makes sense. Please check the material handling and packaging of the connector to make sure it cannot hang out of a box and get trapped on something.....some failure along those lines.  
The harness are not reworked are they?

*Rob Mrozek*

Electric Power Steering Supervisor  
C346N/CD3/D3/D4/U502/Police/Limo Programs  
Ford Motor Company  
Phone: (313) 805-5947  
e-mail: [rmrozek@ford.com](mailto:rmrozek@ford.com)

---

**From:** Aaron Blancas [<mailto:Aaron.Blanclas@TRW.COM>]  
**Sent:** Thursday, June 03, 2010 11:35 AM  
**To:** Estes, Eric (E.E.); Snider, Tim (T.O.)  
**Cc:** Bahena, Miguel (Mike.); Mrozek, Robert (R.M.); Diez, Timothy (T.P.); Engelbert Lu; Guillermo Aguilar; Jim Loria; JuanCarlos cano  
**Subject:** RE: Update FR0172(BD0-BD3) molex red wire terminal damage,Delphi Presentation

At Queretaro we have been looking this part of the process and for those that do not remember this connection is 100% manual, there is no tool used to connect. Therefore the comment on the cut definitely is a condition that can't be reproduce.

>>> "Estes, Eric (E.E.)" <[eestes@ford.com](mailto:eestes@ford.com)> 6/3/2010 8:47 AM >>>

The wire is not damaged or cut it's the red wire terminal that is broken and Wuppertal's report states it was damaged from mechanical impact to the connector but in the SEM analysis they state a sharp object caused the terminal damage, so Wuppertal's results & recommendation is a little confusing.

Eric

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Regards,

Tim Snider ([tsnider1@ford.com](mailto:tsnider1@ford.com))

**CD3 Steering Engineering**

**Ford Motor Company**

Cell 313-805-3201

2B-L18 Product Development Center

Dearborn, MI 48124 USA

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*Eric J Estes*

TRW EPAS Steering Systems

Quality Specialist

Hotline ph# 313-317-9358

Cell ph# 734-560-3493

---

**From:** JuanCarlos cano <JuanCarlos.cano@TRW.COM>  
**Sent:** Thursday, June 03, 2010 8:50 PM  
**To:** Estes, Eric (E.E.); Mrozek, Robert (R.M.); Snider, Tim (T.O.); Aaron Blancas  
**Cc:** Bahena, Miguel (Mike.); Diez, Timothy (T.P.); Engelbert Lu; Guillermo Aguilar; Jim Loria  
**Subject:** RE: Update FR0172(BD0-BD3) molex red wire terminal damage,Delphi Presentation

Harnesses are not reworked at QAO.

JC

>>> "Estes, Eric (E.E.)" <[eestes@ford.com](mailto:eestes@ford.com)> 6/3/2010 3:46 PM >>>

No rework that I know of but we have seen this issue before I will try to get this information from Delphi.

Eric

---

**From:** Mrozek, Robert (R.M.)  
**Sent:** Thursday, June 03, 2010 4:01 PM  
**To:** 'Aaron Blancas'; Estes, Eric (E.E.); Snider, Tim (T.O.)  
**Cc:** Bahena, Miguel (Mike.); Diez, Timothy (T.P.); Engelbert Lu; Guillermo Aguilar; Jim Loria; JuanCarlos cano  
**Subject:** RE: Update FR0172(BD0-BD3) molex red wire terminal damage,Delphi Presentation

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Rob Mrozek  
Electric Power Steering Supervisor  
C346N/CD3/D3/D4/U502/Police/Limo Programs  
Ford Motor Company  
Phone: (313) 805-5947  
e-mail: [rmrozek@ford.com](mailto:rmrozek@ford.com)

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**To:** Estes, Eric (E.E.); Snider, Tim (T.O.)  
**Cc:** Bahena, Miguel (Mike.); Mrozek, Robert (R.M.); Diez, Timothy (T.P.); Engelbert Lu; Guillermo Aguilar; Jim Loria; JuanCarlos cano  
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To: Estes, Eric (E.E.)  
Cc: Bahena, Miguel (Mike.); Diez, Timothy (T.P.); Mrozek, Robert (R.M.); 'Jim Loria'; 'Engelbert Lu'; 'Guillermo Aguilar'; 'Aaron Blancas'; 'JuanCarlos cano'  
  
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Regards,  
Tim Snider ([tsnider1@ford.com](mailto:tsnider1@ford.com))  
CD3 Steering Engineering  
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>>

Eric J Estes  
TRW EPAS Steering Systems  
Quality Specialist  
Hotline ph# 313-317-9358  
Cell ph# 734-560-3493

---

**From:** Bahena, Miguel (Mike.)  
**Sent:** Monday, April 26, 2010 3:17 PM  
**To:** Snider, Tim (T.O.); Mrozek, Robert (R.M.)  
**Subject:** RE: Updated CD3 EPAS Paynter Chart

I was suggesting re-ordering the small chart to group the sub failure modes, but I guess that would break the sorting criteria.

---

**From:** Snider, Tim (T.O.)  
**Sent:** Monday, April 26, 2010 10:54 AM  
**To:** Bahena, Miguel (Mike.); Mrozek, Robert (R.M.)  
**Subject:** RE: Updated CD3 EPAS Paynter Chart

Mike / Rob,

I added categories to group the issues better for PSCM, motor, torque sensor, NVH, and others, and changed B9A Ongoing to B9A Motor Position Faults. The small chart does not change much since it is grouped by total rank. Let me know what you think.

<< File: CD3 EPAS Warranty April 26, 2010 Paynter.xls >>

Regards,  
Tim Snider ([tsnider1@ford.com](mailto:tsnider1@ford.com))  
**CD3 Steering Engineering**  
**Ford Motor Company**  
Cell 313-805-3201  
2B-L18 Product Development Center  
Dearborn, MI 48124 USA

---

**From:** Mrozek, Robert (R.M.)  
**Sent:** Monday, April 26, 2010 9:39 AM  
**To:** Bahena, Miguel (Mike.); Snider, Tim (T.O.); Diez, Timothy (T.P.); Rossi, Roberto (R.A.)  
**Cc:** Estes, Eric (E.E.); 'Guillermo Aguilar'  
**Subject:** RE: Updated CD3 EPAS Paynter Chart

Good idea

*Rob Mrozek*

Electric Power Steering Supervisor  
C346N/CD3/D3/D4/U502/Police/Limo Programs  
Ford Motor Company  
Phone: (313) 805-5947  
e-mail: [rmrozek@ford.com](mailto:rmrozek@ford.com)

---

**From:** Bahena, Miguel (Mike.)  
**Sent:** Monday, April 26, 2010 7:43 AM  
**To:** Snider, Tim (T.O.); Mrozek, Robert (R.M.); Diez, Timothy (T.P.); Rossi, Roberto (R.A.)  
**Cc:** Estes, Eric (E.E.); 'Guillermo Aguilar'  
**Subject:** RE: Updated CD3 EPAS Paynter Chart

Tim,

Can we list all of the B9a root causes right underneath the "B9a Ongoing" Category? May be it would be appropriate to call the category B9A/ Motor Position Sensor Faults. If we take this approach it shows the root causes we have identified and what containments are in place. For example can we move up the following failures right under "B9A Ongoing" to help show the progress that has been made:

B25, B9A - PCB Trim Ground Plane

B9A - Poor Solder Joint - FR141

B4E - Halls Flux Density - FR126 - Even this is a B4e and not a B9a we know that low flux density can cause a B9a based on QAO EOL failure B9a's.

Can we also do the same for the TS faults we have resolved moving the following up under "BD0, 1, 2, 3 - TS Signal Compare Failure":

BD2 - ASIC On Semi Via Short

BD0, 3 - TS Harness Damage by PSCM

BD2 - ASIC On Semi Via Short

B95 - TS Jitter Signal Noise

BD3, B90 - TS Stamping Burrs

BD1, BD3 - Strand of Wire Short

BD0, 1, 2, 3, 4 - Extra V-clip

Let me know what you think.

Sincerely,

**Mike Bahena  
D3 Electric Power Steering Systems**

Ford Motor Co.

Ph: (313) 805-3680

[mbahena1@ford.com](mailto:mbahena1@ford.com)

Pager: [Click Here](#) <<<<mailto:3138053680@vtext.com>>>>

---

**From:** Snider, Tim (T.O.)  
**Sent:** Friday, April 23, 2010 4:41 PM  
**To:** Mrozek, Robert (R.M.); Bahena, Miguel (Mike.); Diez, Timothy (T.P.); Rossi, Roberto (R.A.)  
**Cc:** Estes, Eric (E.E.); 'Guillermo Aguilar'  
**Subject:** Updated CD3 EPAS Paynter Chart

Here is the latest CD3 EPAS Paynter chart. Latest ICA and PCA dates have been added.

<< File: CD3 EPAS Warranty April 14, 2010 Paynter.xls >>

Regards,

Tim Snider ([tsnider1@ford.com](mailto:tsnider1@ford.com))

**CD3 Steering Engineering**

**Ford Motor Company**

Cell 313-805-3201

2B-L18 Product Development Center

Dearborn, MI 48124 USA

---

**From:** Ulloa, Fernando (F.F.)  
**Sent:** Thursday, November 18, 2010 8:00 PM  
**To:** Mrozek, Robert (R.M.); Snider, Tim (T.O.); Rogero, Antonio (A.)  
**Cc:** Durand, Gerardo (G.D.); Galindo, Sergio (S.N.); Bejarano, Sergio (SBF.); 'angelsaa@prodigy.net.mx'; Annadi, Hari (H.); Bahena, Miguel (Mike.); Mattern, Don (D.); Estes, Eric (E.E.); 'Guillermo Aguilar'; Diez, Timothy (T.P.); Hanna, Bashar (B.A.)  
**Subject:** RE: Updated TRW Warranty Tracker

Once I detect where the Harness it is been damaged, absolutely we can say it will go away.

---

**From:** Mrozek, Robert (R.M.)  
**Sent:** Thursday, November 18, 2010 9:57 AM  
**To:** Ulloa, Fernando (F.F.); Snider, Tim (T.O.); Rogero, Antonio (A.)  
**Cc:** Durand, Gerardo (G.D.); Galindo, Sergio (S.N.); Bejarano, Sergio (SBF.); 'angelsaa@prodigy.net.mx'; Annadi, Hari (H.); Bahena, Miguel (Mike.); Mattern, Don (D.); Estes, Eric (E.E.); 'Guillermo Aguilar'; Diez, Timothy (T.P.); Hanna, Bashar (B.A.)  
**Subject:** RE: Updated TRW Warranty Tracker

Should this warranty item go on the Form 4?

*Rob Mrozek*

Electric Power Steering Supervisor  
C346N/CD3/D3/D4/U502/Police/Limo Programs  
Ford Motor Company  
Phone: (313) 805-5947  
e-mail: [rmrozek@ford.com](mailto:rmrozek@ford.com)

---

**From:** Ulloa, Fernando (F.F.)  
**Sent:** Thursday, November 18, 2010 11:03 AM  
**To:** Snider, Tim (T.O.); Rogero, Antonio (A.)  
**Cc:** Durand, Gerardo (G.D.); Galindo, Sergio (S.N.); Bejarano, Sergio (SBF.); 'angelsaa@prodigy.net.mx'; Mrozek, Robert (R.M.); Annadi, Hari (H.); Bahena, Miguel (Mike.); Mattern, Don (D.); Estes, Eric (E.E.); 'Guillermo Aguilar'; Diez, Timothy (T.P.); Hanna, Bashar (B.A.)  
**Subject:** RE: Updated TRW Warranty Tracker

I will take a tour in the decking process today, will spend some time watching and asking the operators. We already did that but seem like something still to be found in order to stop this damage.

---

**From:** Snider, Tim (T.O.)  
**Sent:** Wednesday, November 17, 2010 8:03 AM  
**To:** Ulloa, Fernando (F.F.); Rogero, Antonio (A.)  
**Cc:** Durand, Gerardo (G.D.); Galindo, Sergio (S.N.); Bejarano, Sergio (SBF.); 'angelsaa@prodigy.net.mx'; Mrozek, Robert (R.M.); Annadi, Hari (H.); Bahena, Miguel (Mike.); Mattern, Don (D.); Estes, Eric (E.E.); 'Guillermo Aguilar'; Diez, Timothy (T.P.); Hanna, Bashar (B.A.)  
**Subject:** FW: Updated TRW Warranty Tracker

Fernando / Antonio,

Damage to the EPAS torque sensor harness continues to be a problem. Per TRW's latest warranty tracking sheet, there have been 8 warranty claims in 2010 that have been caused by torque sensor harness damage, and 3 since Aug 2010. Any further thoughts how damage might be occurring during engine decking, especially for hybrid? See attachment for list of damaged torque sensor harness VIN's and vehicle production date.

<< File: 2010 CD3-D3 EPAS Warranty Nov 16\_2010.xls >>

Regards,

Tim Snider ([tsnider1@ford.com](mailto:tsnider1@ford.com))

**CD3/C489 Steering Engineering  
Ford Motor Company**

Cell 313-805-3201

2B-L18 Product Development Center

Dearborn, MI 48124 USA

---

**From:** Estes, Eric (E.E.)  
**Sent:** Wednesday, November 17, 2010 9:51 AM  
**To:** Snider, Tim (T.O.); Diez, Timothy (T.P.); Bahena, Miguel (Mike.); Mrozek, Robert (R.M.); Michael Fontana; 'Simon Malsbury'; 'Jason Johnson'; John Burnett; Greg Bendzinski; 'Jeri Rossiter'; 'Jim Loria'; Anthony Fleenor; [andrew.ellison@trw.com](mailto:andrew.ellison@trw.com); 'JoseJ Lopez'; Samuel Arreola; 'Guillermo Aguilar'; 'pavel.vetz@trw.com'; Salim Semssar; Sergio Alvarez; 'Don Blandino-contr'; 'Andy Partridge'; Geoff Jacks; Abe Ghaphery; Mattern, Don (D.); Surella, Matthew (M.M.); Dean Flower; Rossi, Roberto (R.A.); Rogero, Antonio (A.); Robert Kinnear; Pasquarella, Michael (M.S.); 'Sanjay.Singh@TRW.COM'; Andrew Williams  
**Subject:** Updated TRW Warranty Tracker

New claims have seen many damaged torque sensor harnesses on recent builds 2010 & 2011 and most of the damaged harness are on the 2.5L hybrids.

Let me know if you have any questions

*Eric J Estes*

TRW EPAS Steering Systems

Quality Specialist

Hotline ph# 313-317-9358

Cell ph# 734-560-3493

---

**From:** Mrozek, Robert (R.M.)  
**Sent:** Thursday, November 18, 2010 3:27 AM  
**To:** Snider, Tim (T.O.); Ulloa, Fernando (F.F.); Rogero, Antonio (A.)  
**Cc:** Durand, Gerardo (G.D.); Galindo, Sergio (S.N.); Bejarano, Sergio (SBF.); 'angelsaa@prodigy.net.mx'; Annadi, Hari (H.); Bahena, Miguel (Mike.); Mattern, Don (D.); Estes, Eric (E.E.); 'Guillermo Aguilar'; Diez, Timothy (T.P.); Hanna, Bashar (B.A.); Mrozek, Robert (R.M.); Frey, Martin (M.F.)  
**Subject:** RE: Updated TRW Warranty Tracker

We should consider a design change (stronger material or rerouting) if we cannot find the cause of the damage.

*Rob Mrozek*

Electric Power Steering Supervisor  
C346N/CD3/D3/D4/U502/Police/Limo Programs  
Ford Motor Company  
Phone: (313) 805-5947  
e-mail: [rmrozek@ford.com](mailto:rmrozek@ford.com)

---

**From:** Snider, Tim (T.O.)  
**Sent:** Wednesday, November 17, 2010 10:03 AM  
**To:** Ulloa, Fernando (F.F.); Rogero, Antonio (A.)  
**Cc:** Durand, Gerardo (G.D.); Galindo, Sergio (S.N.); Bejarano, Sergio (SBF.); 'angelsaa@prodigy.net.mx'; Mrozek, Robert (R.M.); Annadi, Hari (H.); Bahena, Miguel (Mike.); Mattern, Don (D.); Estes, Eric (E.E.); 'Guillermo Aguilar'; Diez, Timothy (T.P.); Hanna, Bashar (B.A.)  
**Subject:** FW: Updated TRW Warranty Tracker

Fernando / Antonio,

Damage to the EPAS torque sensor harness continues to be a problem. Per TRW's latest warranty tracking sheet, there have been 8 warranty claims in 2010 that have been caused by torque sensor harness damage, and 3 since Aug 2010. Any further thoughts how damage might be occurring during engine decking, especially for hybrid? See attachment for list of damaged torque sensor harness VIN's and vehicle production date.

<< File: 2010 CD3- R EPAS Warranty Nov 16\_2010.xls >>

Regards,  
Tim Snider ([tsnider1@ford.com](mailto:tsnider1@ford.com))  
**CD3/C489 Steering Engineering**  
**Ford Motor Company**  
Cell 313-805-3201  
2B-L18 Product Development Center  
Dearborn, MI 48124 USA

---

**From:** Estes, Eric (E.E.)  
**Sent:** Wednesday, November 17, 2010 9:51 AM  
**To:** Snider, Tim (T.O.); Diez, Timothy (T.P.); Bahena, Miguel (Mike.); Mrozek, Robert (R.M.); Michael Fontana; 'Simon Malsbury'; 'Jason Johnson'; John Burnett; Greg Bendzinski; 'Jeri Rossiter'; 'Jim Loria'; Anthony Fleenor; [andrew.ellison@trw.com](mailto:andrew.ellison@trw.com); 'JoseJ Lopez'; Samuel Arreola; 'Guillermo Aguilar'; 'pavel.vetz@trw.com'; Salim Semssar; Sergio Alvarez; 'Don Blandino-contr'; 'Andy Partridge'; Geoff Jacks; Abe Ghaphery; Mattern, Don (D.); Surella, Matthew (M.M.); Dean Flower; Rossi, Roberto (R.A.); Rogero, Antonio (A.); Robert Kinnear; Pasquarella, Michael (M.S.); 'Sanjay.Singh@TRW.COM'; Andrew Williams

**Subject:** Updated TRW Warranty Tracker

New claims have seen many damaged torque sensor harnesses on recent builds 2010 & 2011 and most of the damaged harness are on the 2.5L hybrids.

Let me know if you have any questions

*Eric J Estes*

TRW EPAS Steering Systems  
Quality Specialist  
Hotline ph# 313-317-9358  
Cell ph# 734-560-3493

---

**From:** Galindo, Sergio (S.N.)  
**Sent:** Wednesday, September 28, 2011 10:11 PM  
**To:** Roger, Antonio (A.); Ulloa, Fernando (F.F.); Medina, Inna (I.M.)  
**Cc:** Durand, Gerardo (G.D.)  
**Subject:** Resultados 2011 TGWs

**Importance:** High

Fernando/Antonio y ahora Inna,

Les escribo la presente a manera de reconocerles y felicitarles por su esfuerzo y dedicacion en el subsistema de Ride & Handling,  
Se que el tema de Pulls / Balanceo es bastante sensible ultimamente, pero es importante que esten orgullosos de los logros que han obtenido

En los resultados recientes de GQRS 2011MY, Ride & Handling llego de la siguiente forma:

Fusion 39 TGWs, sobre un objetivo de 63; realmente un gran numero, sobre todo por tanta caracteristica a controlar  
MKZ 46 TGWs, sobre un objetivo de 58 ( y sin EPAS, jajajajaja).

De verdad que muchas felicidades por este gran logro.

Continuen empujando por conseguir la mejora continua y sobre todo, estar para el CD4 en una situacion muy diferente a la actual, la diferencia NO solo sera el producto nuevo que recibimos, sino nuestra proactividad en adelantarnos a los hechos.

Gracias.....

Ps: " The middle of every successful project looks like a disaster " David Allen - Book Getting Things Done

Sergio Galindo  
HSAP PVT Manager  
[sgalind1@ford.com](mailto:sgalind1@ford.com)  
011 521 6621420197  
011 52 6622598308

---

**From:** Wei, Zhengbo (Z.)  
**Sent:** Thursday, December 22, 2011 1:09 AM  
**To:** Quis, Rudolf (R.); Napoli, Laura (L.); Surella, Matthew (M.M.); Stefan, Lubomir (L.); Danesan, Daniel (D.); Streetin, Tony (T.); Harris, Jonathan (J.E.)  
**Cc:** Neupert, Tobias (T.); Han, Michael (XJ.); Zhang, Yazhou (Aaron.)  
**Subject:** ??: TRW B9A failure

Hello, Rudi ,

TRW Anting site STA : Han, Michael (XJ.) , I put him on CC , thanks !

Regards, James Wei  
Tel: +86-23-67458727

---

发件人: Quis, Rudolf (R.)  
发送时间: Thursday, December 22, 2011 12:41 AM  
收件人: Napoli, Laura (L.); Surella, Matthew (M.M.); Stefan, Lubomir (L.); Danesan, Daniel (D.); Streetin, Tony (T.); Harris, Jonathan (J.E.); Wei, Zhengbo (Z.)  
抄送: Neupert, Tobias (T.)  
主题: AW: TRW B9A failure

I know,

But Anting is also a Tier one for Ford e.g. the C307 steering gear for China and later C346 for China and Thailand.

James, do you know who is the site STA for TRW Anting plant.

Best regards / Mit freundlichen Grüßen

## **Rudolf Quis**

Lead System Engineer C1MCA EPAS  
Chassis Steering  
Ford Werke GmbH  
D-MC/1-C2  
Spessartstrasse  
50725 Cologne-Merkenich  
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Registergericht Köln, HRB 54183  
Vorsitzender des Aufsichtsrats: Stephen Odell  
Geschäftsleitung: Bernhard Matthes (Vorsitzender), Wolfgang Booms, Dirk Heller, Caspar Hohage, Dr. Hermann H. Hollmann, Rainer Ludwig, Rüdiger Minrath, Dr. Wolfgang Schneider

---

**Von:** Napoli, Laura (L.)  
**Gesendet:** Mittwoch, 21. Dezember 2011 17:24  
**An:** Quis, Rudolf (R.); Surella, Matthew (M.M.); Stefan, Lubomir (L.); Danesan, Daniel (D.); Streetin, Tony (T.); Harris, Jonathan (J.E.)  
**Cc:** Neupert, Tobias (T.)  
**Betreff:** RE: TRW B9A failure

As far as I know, TRW STE Mike Davies is responsible for the TRW Anting plant. I don't know of any Ford STA's that go to Anting since it is considered a Tier 2 facility.

I spoke with Geoff Jacks today about this issue. They have only confirmed this issue on 4 CD3 parts. All 4 parts came out of QAO EOL and failed on the Bully test. There have not been any warranty parts with this confirmed failure.

I will definitely be looking at this with Andy Partridge in January when I am at Anting.

Regards,

*Laura Napoli*

D3 and U502 EPAS  
Ford Motor Company  
Cube: 2B-G66 PDC  
Phone: 313.323.0634  
Mobile: 313.805.0482

---

**From:** Quis, Rudolf (R.)  
**Sent:** Wednesday, December 21, 2011 11:08 AM  
**To:** Surella, Matthew (M.M.); Stefan, Lubomir (L.); Danesan, Daniel (D.); Streetin, Tony (T.); Harris, Jonathan (J.E.)  
**Cc:** Neupert, Tobias (T.); Napoli, Laura (L.)  
**Subject:** AW: TRW B9A failure

Fine with that.

But STA must be part of this as well. We need to consider ICA's and PCA's for the handling and the coating issue @ Nidec.

Who is responsible for TRW Anting plant?

This handling issue must have an impact to their Q1 status.

Best regards / Mit freundlichen Grüßen

*Rudolf Quis*

Lead System Engineer C1MCA EPAS  
Chassis Steering  
Ford Werke GmbH  
D-MC/1-C2  
Spessartstrasse  
50725 Cologne-Merkenich  
Germany

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e-Mail: [rquis@ford.com](mailto:rquis@ford.com)

Ford-Werke GmbH

Henry-Ford-Straße 1, 50735 Köln  
Sitz der Gesellschaft: Köln  
Registergericht Köln, HRB 54183  
Vorsitzender des Aufsichtsrats: Stephen Odell  
Geschäftsleitung: Bernhard Matthes (Vorsitzender), Wolfgang Booms, Dirk Heller, Caspar Hohage, Dr. Hermann H. Hollmann, Rainer Ludwig, Rüdiger Minrath, Dr. Wolfgang Schneider

---

**Von:** Surella, Matthew (M.M.)

**Gesendet:** Mittwoch, 21. Dezember 2011 15:54

**An:** Quis, Rudolf (R.); Stefan, Lubomir (L.); Danesan, Daniel (D.); Streetin, Tony (T.); Harris, Jonathan (J.E.)

**Cc:** Neupert, Tobias (T.); Napoli, Laura (L.)

**Betreff:** RE: TRW B9A failure

Rudi,

I had not heard that this was happening, but Laura Napoli will be at the TRW Anting plant in the second week of January. She is planning on reviewing all process controls at this plant related to anything B9A.

Matthew (Matt) Surella  
Steering EPAS Supervisor / MBB  
313-805-3997

---

**From:** Quis, Rudolf (R.)  
**Sent:** Wednesday, December 21, 2011 5:40 AM  
**To:** Stefan, Lubomir (L.); Danesan, Daniel (D.); Streetin, Tony (T.); Harris, Jonathan (J.E.)  
**Cc:** Neupert, Tobias (T.); Surella, Matthew (M.M.)  
**Subject:** TRW B9A failure

Jonathan, Lubomir,

we had a warranty meeting yesterday with TRW.

One information was that a mishandling@ TRW Anting plant was one of the root causes for the B9A warranty spike in FNA (CD3, R\_U502 and C1MCA).

During unloading of the EPAS motors, out of the transportation box from Nidec, the motors have been carried on the ribbon cable, which damaged the connector and caused now the warranty spike.

I think this should be considered in the Q1 status for the TRW Anting plant. Who could review the process controls @ TRW Anting.

Who from STA is responsible for the Anting plant?

Best regards / Mit freundlichen Grüßen

### ***Rudolf Quis***

Lead System Engineer C1MCA EPAS

Chassis Steering

Ford Werke GmbH

D-MC/1-C2

Spessartstrasse

50725 Cologne-Merkenich

Germany

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e-Mail: [rquis@ford.com](mailto:rquis@ford.com)

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Sitz der Gesellschaft: Köln  
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Geschäftsführung: Bernhard Matthes (Vorsitzender), Wolfgang Booms, Dirk Heller, Caspar Hohage, Dr. Hermann H. Hollmann, Rainer Ludwig, Rüdiger Minrath, Dr. Wolfgang Schneider

Signatures only on demand

---

**From:** Mrozek, Robert (R.M.)  
**Sent:** Thursday, March 03, 2011 3:48 PM  
**To:** Napoli, Laura (L.); Estes, Eric (E.E.); 'Andy Partridge'; 'Geoff Jacks'; 'Simon Malsbury'; 'Michael Fontana'; 'Robert Kostadina'; 'Salim Semssar'; Mark Kutcher; Bal Panaser  
**Cc:** 'Greg Austin'; Snider, Tim (T.O.); Diez, Timothy (T.P.); Bahena, Miguel (Mike.); Kingstrom, Mark (M.D.); Frey, Martin (M.F.); Quis, Rudolf (R.); Bahena, Miguel (Mike.); Surella, Matthew (M.M.); 'Chris Conto'  
**Subject:** TRW EPAS Warranty - B3A Spike

**Importance:** High

This are 3 B3As on U502 in the last two months and 5 on CD3 in the last 4 months. Of these, at least two are related to contamination.

TRW needs to put a task force on this issue. If we find contamination, I want all relay inventory scrapped (outside the minimum required to maintain production). I expect to see daily or every other day meetings in place until this is under control. Eric Estes can schedule these.  
Also, we need immediate containment at QAO and Marion. You need a revised PUMA script and to double to PUMA testing as a suggestion. Tyco needs to increase their in process test controls.

*Rob Mrozek*

Electric Power Steering Supervisor  
CD3/D3/D4/U502/Police/Limo EPAS Programs +  
Active Front Steering Applications Engineering  
Ford Motor Company  
Phone: (313) 805-5947  
e-mail: [rmrozek@ford.com](mailto:rmrozek@ford.com)

---

**From:** Napoli, Laura (L.)  
**Sent:** Thursday, March 03, 2011 10:36 AM  
**To:** Estes, Eric (E.E.); Andy Partridge; Geoff Jacks; 'Simon Malsbury'; Michael Fontana; Robert Kostadina  
**Cc:** 'Greg Austin'; Mrozek, Robert (R.M.); Snider, Tim (T.O.); Diez, Timothy (T.P.); Bahena, Miguel (Mike.); Kingstrom, Mark (M.D.)  
**Subject:** FW: BGA02366 Snapshot Data

TRW Team,

Another B3A in U502 warranty. The gear was pulled out of a management lease car at CAP. Will be shipped to 26mi. Snapshot data attached...

---

**From:** Logli, Michael (M.A.)  
**Sent:** Thursday, March 03, 2011 9:52 AM  
**To:** Napoli, Laura (L.); Mrozek, Robert (R.M.)  
**Cc:** Anderson, Eric (H.)  
**Subject:** BGA02366 Snapshot Data

See attached for PSCM snapshot for subject line VIN#:

<< File: BGA02366\_Snapshot.doc >>  
Thanks,

**Michael Logli**  
Chicago Assembly Plant  
D3 Electrical Team  
Cell Phone: 313-347-6310

---

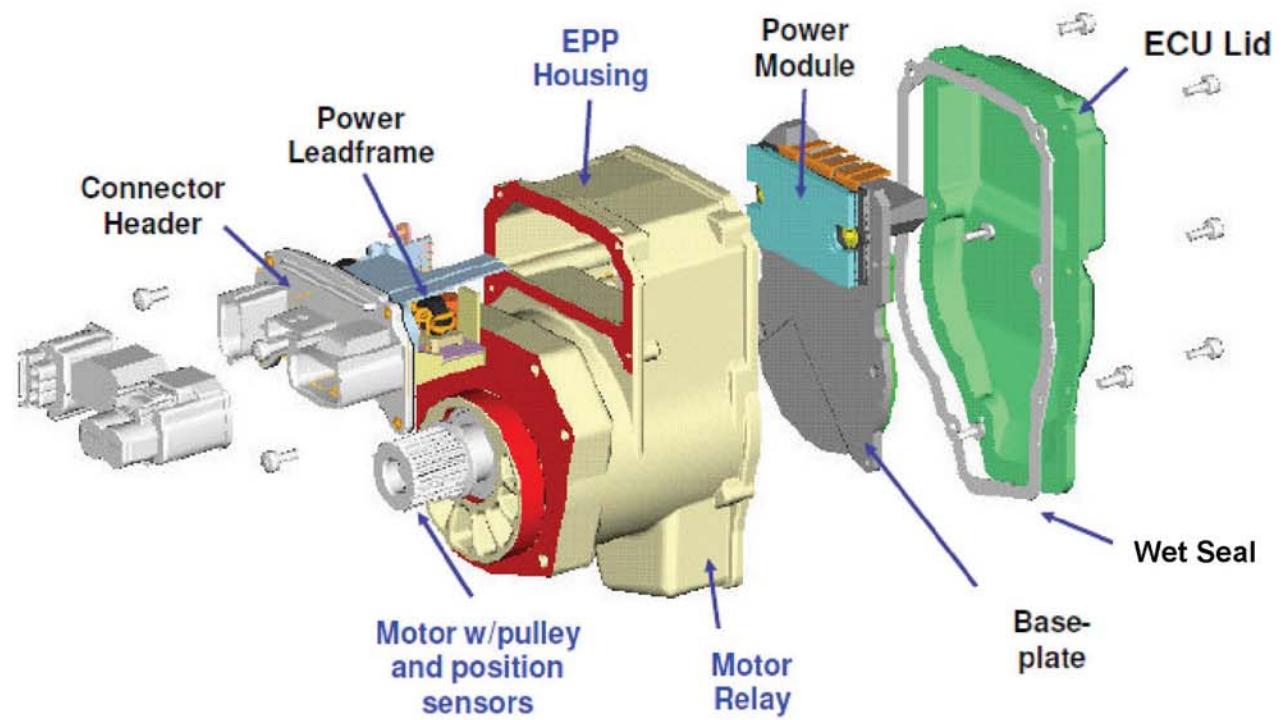
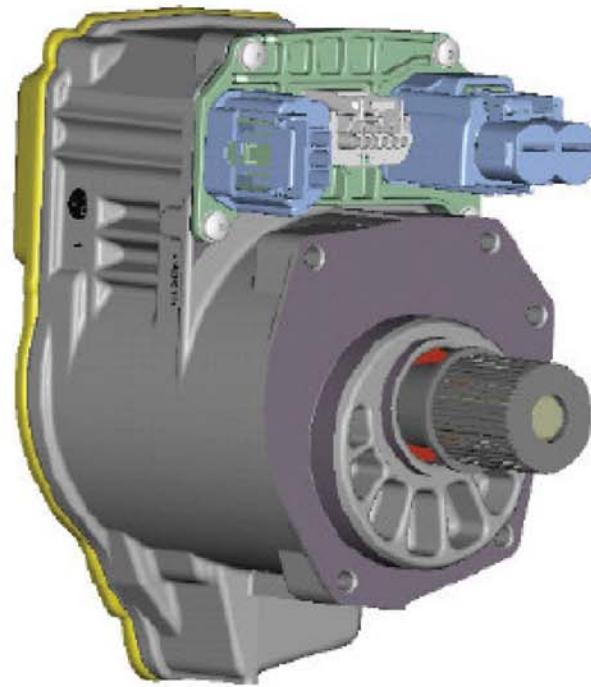
**From:** Bahena, Miguel (Mike.)  
**Sent:** Monday, October 06, 2014 3:58 PM  
**To:** Setili, Frank (F.E.)  
**Cc:** Smith, Stephen (S.G.); Surella, Matthew (M.M.); Bouse, William (Bill.)  
**Subject:** TRW EPAS

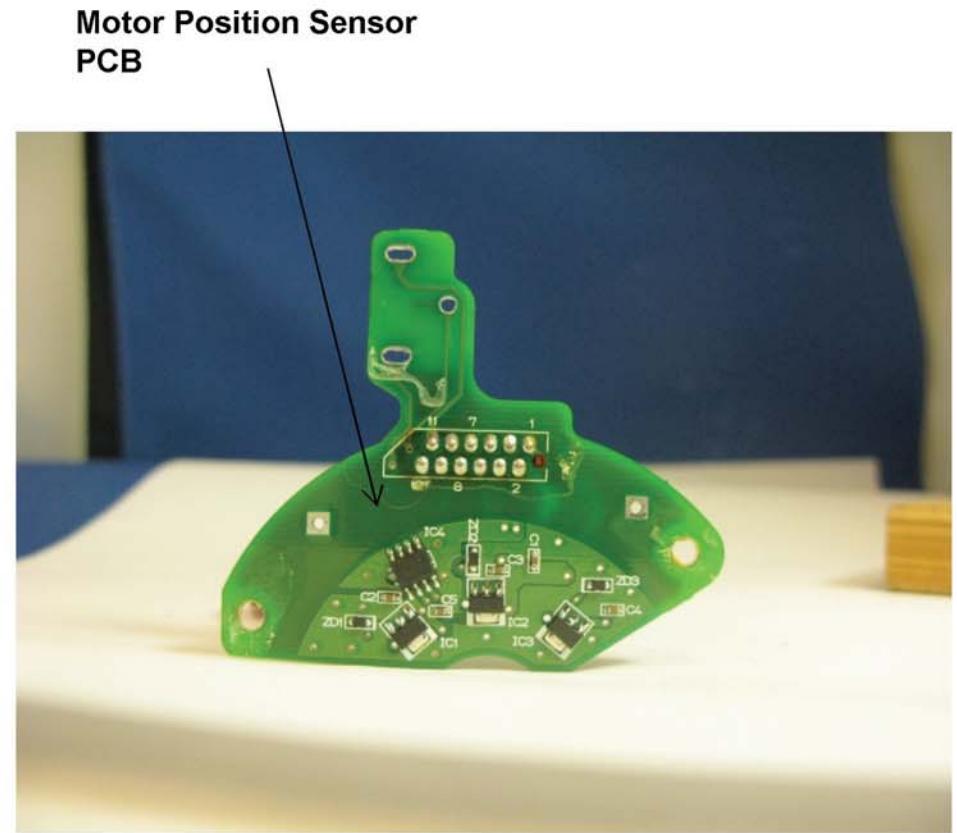
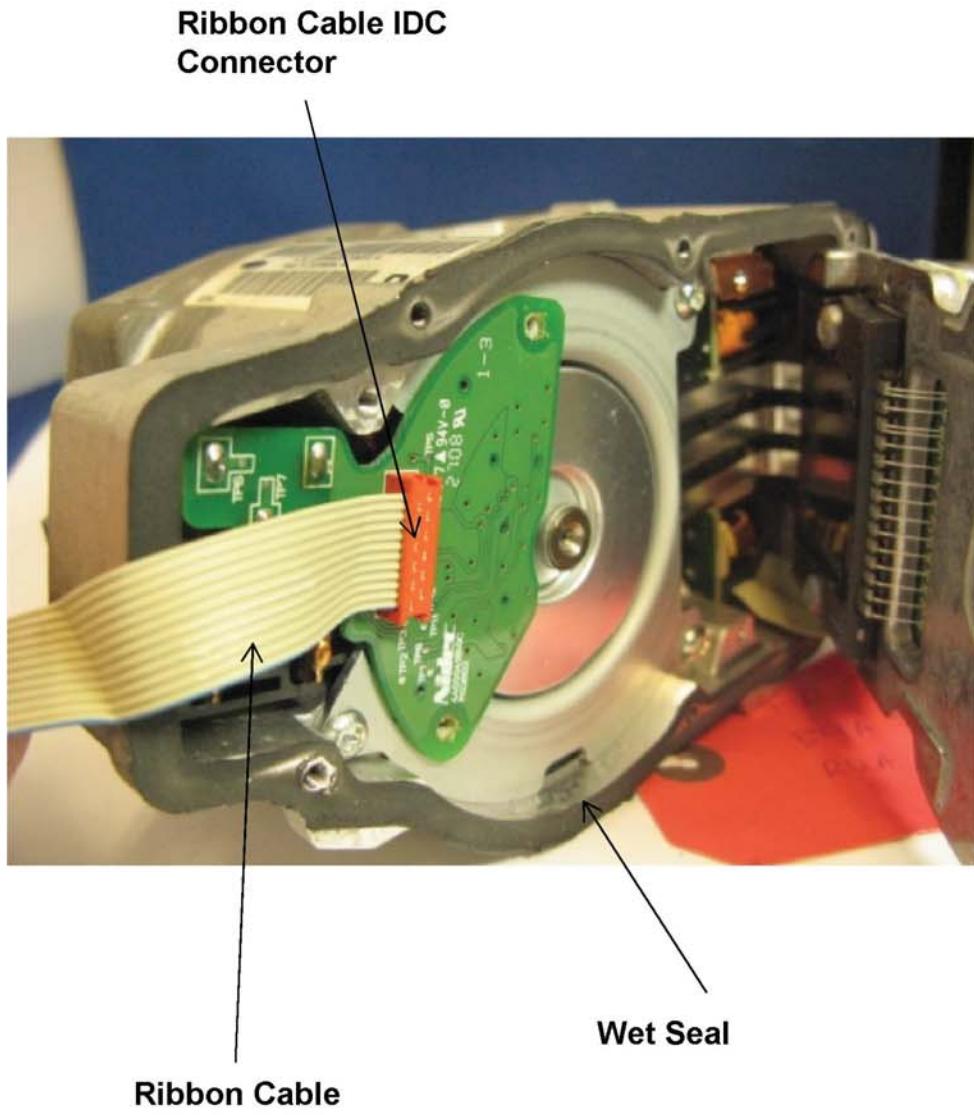


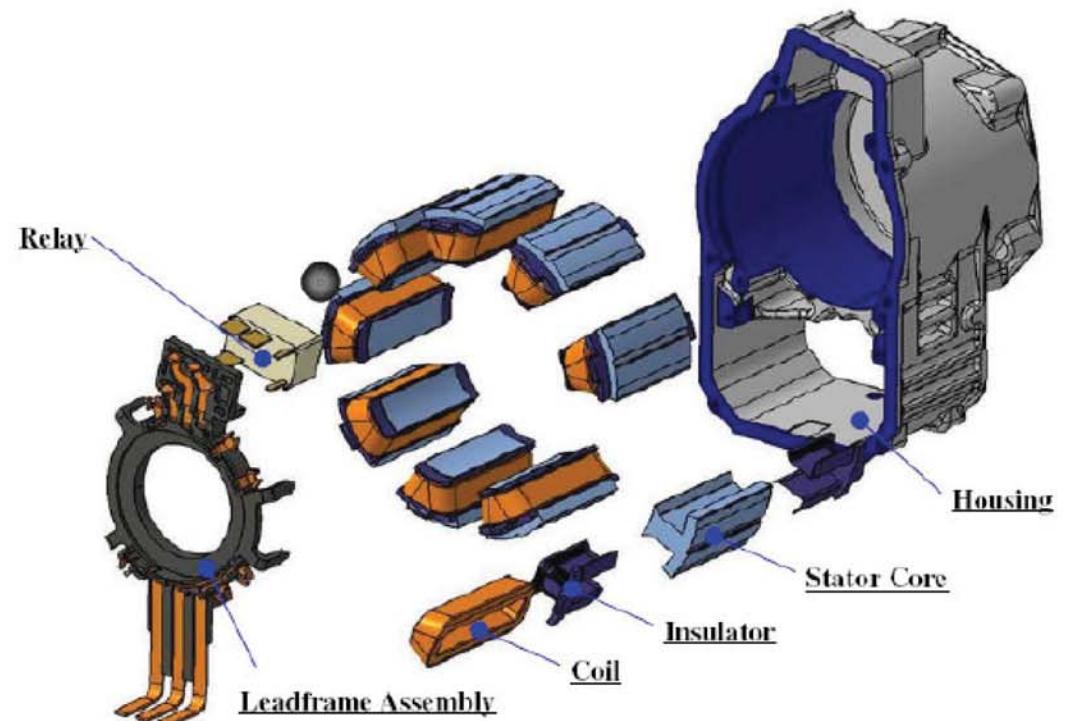
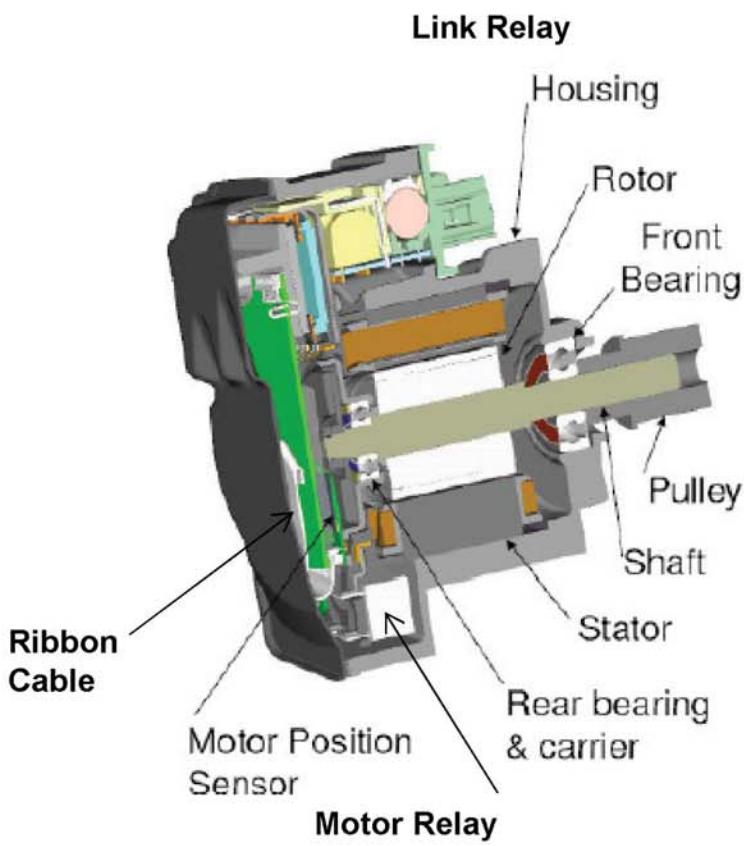
TRW EPAS  
Pictures.pptx

Sincerely,

Mike Bahena  
Electric Power Steering Systems/Feature Supervisor  
Ford Motor Co.  
313 805-3680  
[Mbahena1@ford.com](mailto:Mbahena1@ford.com)







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---

**From:** Estes, Eric (E.E.)  
**Sent:** Tuesday, June 09, 2009 3:39 PM  
**To:** Chacon, Jose (A.)  
**Cc:** Hillaker, Glen Earl (G.E.); Bouse, William (W.J.); Bahena, Miguel (Mike.); Beattie, Mike (M.A.); Auger, Eric (E.)

Jose here is a claim from hotline that they are suggesting to replace the epas gear for a CAN BUS code, I don't know if they checked logviewer in the Interactive online diagnosis to determine that the lone PSCM code was a can bus error fault but section 418-00 for code U0001-88 is a little vague on what to do, here is the action "**The module could not communicate on the network at a point in time. The fault is currently not present. CLEAR the DTC. REPEAT the network test with the scan tool**" leaves you in a dead end but this code is intermittent and only sets while driving. There are other vehicle codes that have set with the PSCM but the ABS codes C1277 & C1963 set due to the lack of communication with the PSCM and P260F from the PCM also set from a communication error. So I'm sure this is a CAN BUS wiring/connection issue.

We need to make sure all the hotliners know not to replace the EPAS gear for any CAN BUS faults.

I know after my EPAS training class last year I had Teresa Hill emailed EPAS information and a DTC description chart that gave possible causes for each code.

Let me know if it would be a good idea to send out another email or hard copies for EPAS diagnostic information with PPT A thru K and specific code definitions to all hotliners.

Thanks

CCRG/EPRC:	[O V]	Reviewed Status:	Date:
Vehicle:	2010,FUSION,SEL ,SEDAN ,3FAHP0JG3AR [REDACTED]		Build Date: 05/23/2009
Odometer :	51 M	Engine: 3.0L 4V	Calibration:
Transmission:	6SP 6F MID	Axle:	A/C: YES
Dealer:	USA 02707 Brighton Ford-Mercury, Inc.		Phone#: (810) 227-1171
City:	Brighton	State: Michigan	Country : USA
Originator:	WALLY GAWEL		
Symptom:	3 01 A 04 CHASS.,SERVICE BRAKE ,INDICATOR,T/C LIGHT		
Status:			
VFG:	V21 BRAKING		
Additional Symptom:	C1277		
Fix:	Causal Component :		
Condition Code:			

Hotliner: BKUMMLER	Phone: 313 317-7076	Regn Cd: G2 Detroit
Engineering:	Phone:	TAR:

Dlr Contact: WALLY GAWEL

Phone: 810 227-1171

Title Cde: T

**KOEO:** C1277 C1963 U0100 U0001 U0415

**KOEC:**

**KOER:**

Comments:

REPAIR 06/08/2009 04:39PM BRADLEY KUMMLER MSS - FCSD - TECH SVC HOTLINE  
WEB FORM DATA - CONCERN: TRACTION CONTROL AND SERVICE BRAKE SYSTEM  
LIGHT ON. DIAGNOSTICS: PERFORM IDS ALL MODULES TEST CODES. ABS  
C1277 C1963 U0001 IPC U010 PCMP260F PSCM U0001 U0415. CODES FOR ABS  
WILL COME ON. PCM CODE SOMETIMES. PARTS REPLACED:: NONE TECH  
QUESTION: PID MONITOR STEERING WHEEL ANGLE SENSOR AND AT TIMES READS  
AND STOPS. NOTICED IT WILL NOT CENTER ITS SELF AT TIMES. CAN CLEAR  
CODES BUT THE TRAC LIGHT WILL STAY ON SOMETIMES. NOT SURE IF I HAVE A  
CAN NETWORK ISSUE, HAVE PERFORM NETWORK TEST WITH IDS AND PASSES. I  
READ THAT THE PSCM SENDS IN SIGNAL THROUGH THE CAN NETWORK. NOT 100%  
SURE IF IM LOSING SIGNAL FROM THE PSCM OR I HAVE A PROBLEM WITH THE  
PSCM. SHOP MANUAL IS A LITTLE CONFUSING AS TO WHICH WAY TO GO WITH  
THIS. WERE YOU ABLE TO VERIFY THE CONCERN? YES IS THERE AN  
APPROPRIATE PINPOINT TEST IN THE WSM FOR THIS CONCERN? YES WAS THE  
PINPOINT TEST FOLLOWED? NO

RECOMM 06/08/2009 04:39PM BRADLEY KUMMLER MSS - FCSD - TECH SVC HOTLINE  
WALTER, UNLESS THERE ARE COMMUNICATION FAULTS IN ALL HS-CAN MODULE  
SUSPECT THE CONCERN IS DUE TO INTERNAL CONCERN IN THE EPAS. ISOLATE  
THE PSCM AND LOAD TEST POWER AND GROUNDS IF GOOD THEN TEST THE NETWORK  
CIRCUITS AND IF GOOD REPLACE THE EPAS AND RETEST

*Eric J. Estes*

Warranty Analyst - TRW Automotive  
6-Sigma Center 15010 S. Commerce Dr.  
Dearborn, Michigan 48120  
Ph. #(313) 390-3843 Fax#(888) 502-9600

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**From:** Estes, Eric (E.E.)  
**Sent:** Thursday, September 30, 2010 2:05 PM  
**To:** 'Markus.Nowak@hella.com'; 'Thomas.Surmann@hella.com'  
**Cc:** Snider, Tim (T.O.)  
**Subject:** Updates FR0210 & FR0257

I didn't know why you didn't call-into the Ford/TRW warranty torque sensor meeting yesterday.

Thomas/Markus still some questions on the warranty returns from Hella.

X-ray clockspring PCB to check for any opens on FR0210

Also some questions from Ford on FR0257.

By removing chamber:"A" what happens if chamber"B" goes down is production stopped?

How is the chamber "verified" to be clean from latent materials?

Let me know Thanks

*Eric J Estes*

TRW EPAS Steering Systems

Quality Specialist

Hotline ph# 313-317-9358

Cell ph# 734-560-3493

	A	B
1		
2	<b>EOL Station</b>	
3	Prerolls	
4	Dynamic	
5	Static	
6	Code Check	
7	Code Check Gate	
8		
9	<b>HSAP Detection Point:</b>	
10	The vehicle was flagged with an in operative steering system on Feb 18th in Pre-delivery Inspection (PDI). 100 % of vehicles	
11	pass through pre-delivery. The vehicle was then sent to Incoming Quality where the gear was inspected and diagnostics were pulled.	
12	PDI is the last set of quality inspections before the vehicle goes out into the yard.	
13		
14	Vehicle Content	
15	Decode Options	
16		
17	4X4ID	
18		
19	ABSID	
20		
21	ACCMID	
22		
23	ACMID	
24		
25	ACM_TYPE	
26		
27	APIMID	
28		
29	AUTO_LAMP	
30		
31	AXLE_RATIO	
32		
33	BECMID	
34		
35	CALIBRATION	
36		
37	COLOR	
38		
39	DCDCID	
40		
41	DCSMID	
42		
43	DDMID	
44		
45	DESTINATION	
46		
47	DSMID	
48		

	C	D
1		
2	Date	Comments
3	Feb 18th, 10:37 AM	Passed Configuration, No DTCs
4	Feb 18th, 10:57 AM	
5	Feb 18th, 11:00 AM	Logged Serial Number
6	Feb 18th, 12:11:57	Failed DTC U2011-49 MTR
7	Did not test	NA
8		
9		
10		
11		
12		
13		
14		
15		
16		
17	NO AWD	
18		
19	ABS-HYBRID	
20		
21	ACCM PRESENT	
22		
23	CD6_BRANDED_SAT	
24		
25	GDS ACM	
26		
27	SYNC PRESENT	
28		
29	AUTO_LAMP	
30		
31		2.57
32		
33	BECM PRESENT	
34		
35	CD3XX_HASP_2010/01.32	
36		
37	BRILLIANT SILVER	
38		
39	DCDC PRESENT	
40		
41	LESS HEATED/COOLED	
42		
43	NOT PRESENT	
44		
45	US	
46		
47	NOT PRESENT	
48		

	A	B
49	DSPID	
50		
51	ENGINE	
52		
53	ENGINE_TYPE	
54		
55	FCIMID	
56		
57	FCIM_TYPE	
58		
59	FDIMID	
60		
61	GEMID	
62		
63	GPSMID	
64		
65	HCMID	
66		
67	HVACID	
68		
69	ILCMID	
70		
71	IPCID	
72		
73	JOB	
74		
75	KEYPAD	
76		
77	MESSAGE CENTER	
78		
79	MODEL	
80		
81	MOONROOF	
82		
83	OCSID	
84		
85	PAMID	
86		
87	PCM_TEAR_TAG	
88		
89	PLANT	
90		
91	PSCMID	
92		
93	PZEV	
94		
95	RADIO TYPE	
96		

	C	D
49	SONY DSP	
50		
51	2.5L Hybrid	
52		
53	HYBRID	
54		
55	SANYO FCIM A GDS	
56		
57	GDS FCM	
58		
59	FORD/MERCURY FDIM	
60		
61	GEM PRESENT	
62		
63	GPSM PRESENT	
64		
65	HCM NOT PRESENT	
66		
67	BASE_DATC_HEV	
68		
69	NOT PRESENT	
70		
71	HEV MPH A	
72		
73	JOB1	
74		
75	KEYPAD EQUIPPED	
76		
77	HEV MESSAGE CENTER	
78		
79	CD338	
80		
81	MOONROOF PRESENT	
82		
83	OCS PRESENT	
84		
85	PAM PRESENT	
86		
87	XKY6	
88		
89	HERMOSILLO	
90		
91	PSCM PRESENT	
92		
93	PZEV_NO	
94		
95	SANYO WITH SDARS	
96		

	A	B
97	RCMID	
98		
99	ROTATION	
100		
101	SDARSID	
102		
103	SERIAL	
104		
105	SODLID	
106		
107	SODRID	
108		
109	STATION	
110		
111	STRATEGY	
112		
113	TCMID	
114		
115	TIRE SIZE	
116		
117	TRANSMISSION	
118		
119	VIN1	
120		
121	VIN2	
122		
123	VIN3	
124		
125	VIN4	
126		
127	VIN5	
128		
129	YEAR	

	C	D
97	SIDE AIRBAGS AND CURTAINS HYBRID	
98		
99		7900
100		
101	SDARS NON CANADA	
102		
103		101831
104		
105	SODL PRESENT	
106		
107	SODR PRESENT	
108		
109	PREROLLS	
110		
111	HGAFM	
112		
113	AISIN POWERSPLIT HYBRID	
114		
115	P225/50R17	
116		
117	AISIN POWERSPLIT HYBRID	
118		
119	3FAD	
120		
121	POL	
122		
123		36
124		
125	AR	
126		
127		101831
128		
129		10

A	B	C
1		
2	<b>EOL Station</b>	<b>Date</b>
3	Prerolls	Feb 5th, 8:16 AM
4	Prerolls	Feb 5th, 13:24 PM
5	Dynamic	Feb 5th, 13:47 AM
6	Static	Feb 5th, 13:49 AM
7	Code Check	Feb 5th, 15:09 AM
8	<b>Code Check Gate</b>	<b>Did not test</b>
9		
10	<b>HSAP Detection Point:</b>	
11	The vehicle was flagged with an in operative steering system on Feb 22nd during a powertrain issue audit.	
12		
13	<b>Vehicle Content:</b>	
14	4X4ID	AWD PRESENT
15		
16	ABSID	ABS/IVD 3.0L AWD
17		
18	ACCMID	ACCM NOT PRESENT
19		
20	ACMED	CD6_PREMIUM_SAT
21		
22	ACM_TYPE	GDS ACM
23		
24	APTMID	SYNC PRESENT
25		
26	AUTO_LAMP	AUTO_LAMP
27		
28	AXLE_RATIO	3.208
29		
30	BECMID	BECM NOT PRESENT
31		
32	CALIBRATION	CD3XX_HASP_2010/01.28
33		
34	COLOR	BRILLIANT SILVER
35		
36	DCDCID	DCDC NOT PRESENT
37		
38	DCSMID	LESS HEATED/COOLED
39		
40	DDMID	NOT PRESENT
41		
42	DESTINATION	US
43		
44	DSMID	NOT PRESENT
45		
46	DSPID	NO DSP

	D
1	
2	Comments
3	Cable Connect Failure Did not test
4	Passed Configuration, No DTCs
5	
6	Logged Serial Number
	U3003 - 68 Low Battery Voltage DTC, Known Issue with resolution in CD3 J2 release
7	U0415 - 00 Invalid ABS Data, Known Issue with resolution in CD3 J2 release
8	NA
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A	B	C
47		
48	ENGINE	3.0L
49		
50	ENGINE_TYPE	GAS
51		
52	FCIMID	SANYO FCIM A GDS
53		
54	FCIM_TYPE	GDS FCM
55		
56	FDIMID	FORD/MERCURY FDIM
57		
58	GEMID	GEM PRESENT
59		
60	GPSMID	GPSM PRESENT
61		
62	HCMID	HCM NOT PRESENT
63		
64	HVACID	DATC_HTD_ST_GAS
65		
66	ILCMID	NOT PRESENT
67		
68	IPCID	FORD MPH G
69		
70	JOB	JOB1
71		
72	KEYPAD	KEYPAD EQUIPPED
73		
74	MESSAGE CENTER	MESSAGE CENTER
75		
76	MODEL	CD338
77		
78	DCSID	OCS PRESENT
79		
80	PAMED	PAM NOT PRESENT
81		
82	PCM_TEAR_TAG	YNZ4
83		
84	PLANT	HERMOSILLO
85		
86	PSCMID	PSCM PRESENT
87		
88	PZEV	PZEV_NO
89		
90	RADIO TYPE	SANYO WITH SDARS
91		
92	RCMID	SIDE AIRBAGS AND CURTAINS GAS
93		
94	ROTATION	2648

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A	B	C
95		
96	SDARSID	SDARS NON CANADA
97		
98	SERIAL	100740
99		
100	SODLID	SODL NOT PRESENT
101		
102	SODRID	SODR NOT PRESENT
103		
104	STATION	PREROLLS
105		
106	STRATEGY	JSBL5
107		
108	TCMID	NO TCM PRESENT
109		
110	TIRE SIZE	P225/50R17
111		
112	TRANSMISSION	AUTOMATIC 6F MID
113		
114	VIN1	3FAH
115		
116	VIN2	P0C
117		
118	VIN3	G3
119		
120	VIN4	AR
121		
122	VIN5	100740
123		
124	YEAR	10
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**From:** Chacon, Jose (A.)  
**To:** Bouse, William (Bill.); Quijada, Jorge (J.); Ulloa, Fernando (F.F.)  
**Cc:** Bahena, Miguel (Mike.); Diez, Timothy (T.P.); Frey, Martin (M.F.); Mrozek, Robert (R.M.); Napoli, Laura (L.); Porter, Wesley (W.); Puleri, Michael (M.J.); Rossi, Roberto (R.A.); Gudino Mendoza, Martin (J.M.)  
**Subject:** EMERGING/QSF - 2010 CD3XX - V87/H50 NO STEERING ASSIST - PERMAMENT DTC CODE U3000:96-49  
**Date:** Wednesday, July 15, 2009 2:05:58 PM  
**Attachments:** Report Summary for the COIS Report#9FOAO156 (8.55 KB).msg  
Report Summary for the COIS Report#9FHAB297 (10.8 KB).msg  
Report Summary for the COIS Report#9EKAQ011 (8.46 KB).msg  
Report Summary for the COIS Report#9GNA3001 (5.15 KB).msg  
Report Summary for the COIS Report#9GAAG097 (5.22 KB).msg  
Report Summary for the COIS Report#9GNA3005 (4.98 KB).msg  
Report Summary for the COIS Report#9GNA3003 (4.17 KB).msg  
Report Summary for the COIS Report#9GAAG097 (9.52 KB).msg  
Report Summary for the COIS Report#9FVAN041 (9.98 KB).msg  
Report Summary for the COIS Report#9GNA3004 (4.99 KB).msg  
Report Summary for the COIS Report#9GNA3006 (4.15 KB).msg  
Report Summary for the COIS Report#9EKAQ011 (8.46 KB).msg  
Report Summary for the COIS Report#9GGAM003 (9.25 KB).msg  
Report Summary for the COIS Report#9EUAG112 (8.40 KB).msg  
Report Summary for the COIS Report#9FKAV151 (8.75 KB).msg  
Report Summary for the COIS Report#9DIAI062 (14.2 KB).msg  
Report Summary for the COIS Report#9FXAP075 (7.00 KB).msg  
Report Summary for the COIS Report#9GBAL178 (9.14 KB).msg  
Report Summary for the COIS Report#9E1AY065 (8.75 KB).msg  
Report Summary for the COIS Report#9FOBA005 (11.0 KB).msg  
Report Summary for the COIS Report#9FJAG436 (7.23 KB).msg  
EPAS 2010 CD3 10 V87-H50 - NO STEERING ASSIST - PERMAMENT DTC U3000-96-49.xls

Team,

We are under Emerging/QSF initial review steps. Right now the GCQIS indicators keep populating with the following. Please provide containments actions, 8D's in order to no open this concern for CD3XX program. Please use the Excel file and documentation. This concern was under CCRG/ASO review.

**SYMPTOM:**

ALL REPORTED UNITS ARE IN FOR NO STEERING ASSIST, LOSS STEERING,  
STEERING IS HARD.

Common conditions:

- + Steering stopped working while driving.
- + Instrument panel - Multiple warning system's:  
  ''POWER STEERING ASSIST FAULT''  
  ''SERVICE POWER STEERING''  
  ''SERVICE POWER STEERING NOW''
- + PERMAMENT DTC U3000:96, U3000:49 With secondary codes  
  U2011-49, C1B00-62, C200D-49.

**CURRENT FIX:**

REPLACE EPAS ASSEMBLY AE5Z-3504-B.  
ALL REPORTED UNITS HAD THE EPAS ASSEMBLY REPLACED.

Please provide feedback COB 07/16/09.

Regards,

José Chacón  
Product Concern Engineer  
Fusion/Milan/Zephyr/MKZ  
Ford Customer Service Division  
(313) 317-7047

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

From: Bouse, William (Bill.)  
Sent: Wednesday, July 15, 2009 12:28 PM  
To: Bahena, Miguel (Mike.); Chacon, Jose (A.); Diez, Timothy (T.P.); Frey, Martin (M.F.); Mrozek, Robert (R.M.); Napoli, Laura (L.); Porter, Wesley (W.); Puleri, Michael (M.J.); Quijada, Jorge (J.); Rossi, Roberto (R.A.); Ulloa, Fernando (F.F.)  
Subject: FW: 8D's FR0003 update

Following up on some PCAs but here is the current 8d for the capacitor being installed backwards.

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

From: Estes, Eric (E.E.)  
Sent: Wednesday, July 15, 2009 9:50 AM  
To: Bouse, William (Bill.)  
Subject: 8D's FR0003 update

Attached is the last rev of the 8D's for FR0003, there are some corrective actions that need to be updated.

Bill make sure you forward to your team thanks

Eric J Estes  
TRW EPAS Steering Systems  
Quality Specialist  
Hotline ph# 313-317-9358  
Cell ph# 734-560-3493