

PE13-003

FORD

APPENDIS B

2010 – 2011 Ford Fusion Engine Stall/Loss of Power/Throttle Body Malfunction

OWNER REPORTS

As the agency is aware, within FCSD's North American Customer Service Operations, there is a Customer Relationship Center (CRC) that is responsible for facilitating communication between customers, dealerships and Ford Motor Company. Among other things, the CRC handles telephonic, electronic, and written inquiries, suggestions, informational requests, and concerns ("contacts") from Ford and Lincoln-Mercury vehicle owners about their vehicles or sales and service experience. The contacts are handled by CRC customer service representatives who enter a summary of the customer contact into a database known as FMC360. Certain contacts, such as letters from customers, are entered into the FMC360 database.

The CRC assigns to each vehicle-related contact report a "symptom code" or category that generally characterizes the nature of the customer contact or vehicle concern, as described by the owner. The CRC does not undertake to confirm the accuracy of the description provided by the owner; they simply record what is reported. Therefore, given the complexity of the modern motor vehicle, it is Ford's experience that a significant percentage of owner contacts do not contain sufficient information to make a technical assessment of the condition of the vehicle or the cause of the event reported. Accordingly, although FMC360 contact reports may be useful in identifying potential problems and trends, the records are not the empirical equivalent of confirmed incidents and/or dealership's diagnosis. In the interest of responding promptly to this inquiry, Ford has not undertaken to gather the electronic images related to these contacts because of the largely duplicative nature of the information contained in the images, as well as the time and the burden associated with locating and producing those documents. The pertinent information related to those contacts generally would be included in the contact reports obtained from the FMC360 system. To the extent that those documents exist, they are characterized in the comments of FMC360 contact reports. Upon request, Ford will attempt to locate any specific items that are of interest to the agency.

In responding to this information request, Ford electronically searched FMC360 using the following criteria:

<u>Model Year</u>	<u>Vehicle</u>	<u>Designation</u>
2010 - 2011	Ford Fusion / Fusion Hybrid	Subject
2010 - 2011	Ford Focus	Peer
2010 - 2011	Ford Taurus	Peer
2010 - 2011	Ford Flex	Peer
2010 - 2011	Lincoln MKS	Peer
2010 - 2011	Lincoln MKT	Peer
2010	Ford E-150 / E-250	Peer
2010	Ford Edge	Peer
2010	Ford F-150	Peer
2010	Lincoln MKX	Peer

Vehicles: Subject & Peer vehicles manufactured for sale or lease in the United States, District of Columbia, Puerto Rico, Northern Mariana Islands, Guam, American Samoa and the Virgin Islands.

Date Parameters: January 1, 2008 through March 25, 2013 (the date of this inquiry)

Types of Contacts: All, including suspended data, canceled contacts and inquiries

FMC360 Symptom Code(s):

Symptom Category	Symptom Code	Symptom Description
Driving Performance	5 52	Stall
	5 54	Loss of Power
	5 57	Hesitation/Stumble
Driver Aides	2 27 Q	Check Engine Light
	2 27 5	Wrench Light

FMC360 Reason Code(s):

FMC360 Legal Search Criteria			
Level 1	Level 2	Level 3	Level 4
Dealer-Vehicle Concern	Legal		
Feedback	Product	Negative	Vehicle Safety/Quality
Vehicle Concern	Legal		

LEGAL CONTACTS

Beginning in early 2008, most consumer complaints and all legal claim processing has been centralized in OGC within the Consumer Litigation team. A transition has occurred such that all legal contacts (including those formerly handled by "Litigation Prevention") are coordinated through this team.

Prior to the transition, there was a Consumer Affairs Department within FCSD that managed customer concerns, which could not be resolved by the Customer Relationship Center (CRC). Among other things, the Consumer Affairs Department had a section, known as "Litigation Prevention," that handled a variety of informal (i.e., non-litigation) claims, such as property damage claims or attorney demand claims.

The Litigation Prevention section had been centralized in the Consumer Affairs Department since 1995, in Dearborn, Michigan. Prior to that time, Litigation Prevention personnel operated on a regional basis. For matters that the Litigation Prevention section handled, there were typically paper files that reflected the handling, investigation and resolution of property damage claims.

The claims, known as "Legal Contacts" are entered into the FMC360 database that the CRC uses to enter other customer communications. When a customer contact is designated as a Legal Contact, it is so indicated near the top of the contact report.

FIELD REPORTS

Within FCSD, there is a Vehicle Service & Programs Office that has overall responsibility for vehicle service and technical support activities, including the administration of field actions. That Office is the primary source within Ford of vehicle concern information originating from Ford and Lincoln-Mercury dealerships, field personnel, and other sources. The information is maintained in a database known as the Common Quality Indicator System (CQIS). The CQIS database includes reports compiled from more than 40 Company sources (e.g., Company-owned vehicle surveys, service technicians, field service and quality engineers, and technical hot line reports, etc.) providing what is intended to be a comprehensive concern identification resource. As with MORS contact reports, CQIS reports are assigned a "symptom code" or category that generally reflects the nature of the concern.

In responding to this information request, Ford electronically searched CQIS using the following criteria:

In July 2011, FCSD launched a new coding system for the CQIS database. All reports maintained in the CQIS database prior to the coding change have been re-coded using the new CQIS coding system.

<u>Model Year</u>	<u>Vehicle</u>	<u>Designation</u>
2010 - 2011	Ford Fusion / Fusion Hybrid	Subject
2010 - 2011	Ford Focus	Peer
2010 - 2011	Ford Taurus	Peer
2010 - 2011	Ford Flex	Peer
2010 - 2011	Lincoln MKS	Peer
2010 - 2011	Lincoln MKT	Peer
2010	Ford E-150 / E-250	Peer
2010	Ford Edge	Peer
2010	Ford F-150	Peer
2010	Lincoln MKX	Peer

Vehicles: Subject & Peer vehicles manufactured for sale or lease in the United States, District of Columbia, Puerto Rico, Northern Mariana Islands, Guam, American Samoa and the Virgin Islands.

Date Parameters: January 1, 2008 through March 25, 2013 (the date of this inquiry)

Types of Contacts: All, including suspended data, canceled contacts and inquiries

FMC360 Symptom Code(s):

Symptom Category	Symptom Code	Symptom Description
Driving Performance	5 52	Stall
	5 54	Loss of Power
	5 57	Hesitation/Stumble
Driver Aides	2 27 Q	Check Engine Light
	2 27 5	Wrench Light

OASIS MESSAGES

FCSD is responsible for communicating a variety of vehicle and service information, such as warranty information for up to the past 360 days, Extended Service Plan part coverage information, and technical repair information, to North American Ford and Lincoln-Mercury dealers. This information is communicated primarily through OASIS, which serves as an electronic link between Ford Motor Company and the dealers. OASIS covers all North American Ford and Lincoln-Mercury cars and light trucks, and medium and heavy-duty Ford trucks, for the ten most current model years. Technical diagnostic and repair information on OASIS is contained in Special Service Messages (SSMs) and Technical Service Bulletin (TSBs) titles and brief summaries. It should be noted that dealers cannot access brief summaries.

SSMs and TSB titles are coded in OASIS by model year and vehicle line, and may be coded to other specific vehicle attributes (body style, engine code, or vehicle identification number) and one or more OASIS Service Code(s). The dealers with access to OASIS usually search for information on the database by entering a VIN and the applicable Service Codes. SSMs and TSB titles that become inactive or superseded continue to be accessible by Ford employees, but no longer are accessible by the dealers. Dealers also are able to determine the recalls applicable to a particular vehicle by searching a particular VIN in OASIS. Recall information available on OASIS cannot be searched by Service Codes.

In July 2011, FCSD launched a new coding system for OASIS. All active SSMs and TSB titles have been re-coded using the new OASIS coding system. All inactive and superceded SSMs and TSB titles are still maintained under the old coding system.

In responding to this information request, Ford searched Global OASIS using both the new and old OASIS service codes for active, inactive, and superceded TSB titles and SSMs using the following search criteria:

<u>Model Year</u>	<u>Vehicle</u>	<u>Designation</u>
2010 - 2011	Ford Fusion / Fusion Hybrid	Subject

Vehicles: Subject & Peer vehicles manufactured for sale or lease in the United States, District of Columbia, Puerto Rico, Northern Mariana Islands, Guam, American Samoa and the Virgin Islands.

Date Parameters: January 1, 2008 through March 25, 2013 (the date of this inquiry)

Types of Contacts: All, including suspended data, canceled contacts and inquiries

FMC360 Symptom Code(s):

Symptom Category	Symptom Code	Symptom Description
Driving Performance	5 52	Stall
	5 54	Loss of Power
	5 57	Hesitation/Stumble
Driver Aides	2 27 Q	Check Engine Light
	2 27 5	Wrench Light

OASIS 2 and Global OASIS are not capable of performing electronic word searches, so the search results are reviewed manually to determine their applicability to the alleged defect in the subject vehicles.

The OASIS database also contains Broadcast Messages. Typically, these messages are directed to all dealerships and either are notifications of new SSMs/TSBs, or announcements with non-technical information (for example, "the Dealer Hotline will be closed today"). Broadcast Messages cannot be searched by OASIS service codes, and can be retrieved only while active (approximately 2 to 4 days). Ford has not undertaken to search for Broadcast Messages because Ford expects that any responsive information obtained with such a search generally would be non-substantive in nature or duplicative of the information obtained with the TSB title and SSM search described above.

INTERNAL SERVICE MESSAGES

FCSD, as part of its technical support activities, maintains fleet and technical telephone "hotlines." During the early stages of Ford's efforts to identify and resolve potential vehicle concerns, hotline personnel may draft Internal Service Messages (ISMs) on CQIS for their internal use. The ISMs are assigned a CQIS "symptom code" or category that generally reflects the nature of the concern. An ISM can form the basis for an oral response over the technical hotline to an inquiry from an individual dealer or fleet technician. The ISMs, however, are not made available electronically to fleets and dealers. Therefore, although ISMs are not "issued" to dealers like OASIS messages, Ford is construing this request broadly to include ISMs that may be related to the alleged defect in the subject vehicles.

In responding to this information request, Ford searched CQIS for active ISMs using the following search criteria:

<u>Model Year</u>	<u>Vehicle</u>	<u>Designation</u>
2010 – 2011	Ford Fusion / Fusion Hybrid	Subject

Vehicles: Subject vehicles manufactured for sale or lease in the United States, District of Columbia, Puerto Rico, Northern Mariana Islands, Guam, American Samoa and the Virgin Islands.

Date Parameters: January 1, 2008 through March 25, 2013 (the date of this inquiry)

FMC360 Symptom Code(s):

Symptom Category	Symptom Code	Symptom Description
Driving Performance	5 52	Stall
	5 54	Loss of Power
	5 57	Hesitation/Stumble
Driver Aides	2 27 Q	Check Engine Light
	2 27 5	Wrench Light

FIELD REVIEW COMMITTEE

Ford's Field Review Committee reviews all potential field service actions, including safety recalls and customer satisfaction programs, and recommends appropriate actions to corporate management. A Vehicle Service & Programs representative serves as Secretary to the Field Review Committee. Following approval of a field service action, the Vehicle Service & Programs Office prepares and launches the action. A representative copy of the communication to Ford's dealers, fleets, and Regional offices announcing the field service action is maintained in the Field Review Committee files.

WARRANTY

Ford's Analytical Warranty System (AWS) contains warranty claims and vehicle information for model years 1991 and forward for North America, and model years 1992 and forward for Europe.

Ford performed a search of AWS for potentially responsive reports using the following search criteria:

<u>Model Year</u>	<u>Vehicle</u>	<u>Designation</u>
2010 - 2011	Ford Fusion / Fusion Hybrid	Subject
2010 - 2011	Ford Focus	Peer
2010 - 2011	Ford Taurus	Peer
2010 - 2011	Ford Flex	Peer
2010 - 2011	Lincoln MKS	Peer
2010 - 2011	Lincoln MKT	Peer
2010	Ford E-150 / E-250	Peer
2010	Ford Edge	Peer
2010	Ford F-150	Peer
2010	Lincoln MKX	Peer

Vehicles: Subject & Peer vehicles manufactured for sale or lease in the United States, District of Columbia, Puerto Rico, Northern Mariana Islands, Guam, American Samoa and the Virgin Islands.

Date Parameters: January 1, 2008 through March 25, 2013 (the date of this inquiry)

Base Part Number(s): 9F991, 9E926, 9E927, 9E928, 9B989, 9E989

Labor Op Code(s): 092305A (TSB 09-23-5) and 102106A (TSB 10-21-6)

PE13-003

FORD

APPENDIS D

Case Print Report

Case Number CAS-1986916-D9N6C3

Case Opened Date 12/24/2012 1:26 PM

Case Closed Date 12/24/2012

Case Status Resolved

Case Last Modified 12/24/2012 1:30 PM

Responsible Team Tier 1 Inbound

Case Classification Vehicle Concern > Legal > Alleged Accident > Not Portal

Customer Name [REDACTED]
[REDACTED]
[REDACTED]

KANSAS CITY

MO [REDACTED]

Email U [REDACTED]

Dealer Thoroughbred Ford

VIN 3FAHP0JA1AR [REDACTED]

Year 2010

Make FORD

Model FUSION

Body Style P0J - SEL FWD 4-DR SEDAN

Symptom

Level 1

Level 2

Level 3

Level 4

FORD MOTOR COMPANY
RECEIVED
CLAIMS UNIT

DEC 27 2012

OFFICE OF THE
GENERAL COUNSEL

Case Print Report

Case Number CAS-1986916-D9N6C3

Agent Name	Note Last Modified
------------	--------------------

Ariel Bunce

12/24/2012 1:30 PM

1. Date of the accident
 - 6 months ago, cust not sure the exact date
 2. What the customer is alleging the product defect is that caused Accident
 - the throttle body
 3. If there were any injuries sustained
 - no
 4. Location of the vehicle when the accident occurred
 - 79th terrace in Kansas City MO
 5. Whether or not there was a police report filed.
 - no
 6. If a police report was filed, what the findings were.
 - n/a
 7. The police report number and the city or county in which the report was filed.
 - n/a
 8. Whether or not the customer has filed a claim with their Insurance Company.
 - no
 9. If a claim has been filed with the insurance company, what is the status of the claim.
 - n/a
 10. Whether or not the vehicle is repairable.
 - yes, scratches to the rear door handle, and door is scratched
 11. Name and address of customer's attorney (only if the customer mentions they have sought one).
 - n/a
 12. What the customer is seeking
 - wanted to know if the throttle body is a covered part under warranty
-
- cust wants to know if the throttle body is covered under remaining power train warranty
 - crc adv cust to have veh dia by fmc dealer in order to determine the cause of the symptoms

PE13-003

FORD

APPENDIS E

PE13-003 Accident Injury Summary

MY	MODEL	VIN	Report Date	Mileage	Cat	Source	Inquiry	Alleged Accident	Alleged Fire	Alleged Injury	Alleged Fatality
2011	Fusion	3FAHP0JGXBR	27-Mar-12		A3	OGC	PE13-003	Y	N	0	0
2010	Fusion	3FAHP0JA1AR	24-Dec-12	47,000	A6	FMC360	PE13-003	Y			

PE13-003 Accident Injury Summary

MY	MODEL	VIN	Report Date	Mileage	Cat	Source	Inquiry	Alleged Accident	Alleged Fire	Alleged Injury	Alleged Fatality
2010	Edge	2FMDK3JC3AB	1/31/11		A1	OGC	PE13-003	Y	N		

Peer Vehicles

PE13-003

FORD

APPENDIS G

SSMs

Article Number: 21126
Article Type: S
Author: CPIERMA2
Global Concern Number:

Market(s):

Area Code	Geo Sales Area	Date of Activation	Date of Deactivation
NA	***	12/03/2009	12/02/2013
WD	***	12/03/2009	12/02/2013

Title:

MULTIPLE VEHICLE LINE MAF SENSOR SERVICE TIP.

Text:

SOME 1997-2010MY GAS ENGINE EQUIPPED VEHICLES MAY EXHIBIT DIAGNOSTIC TROUBLE CODES P0171-P0175 WITH LACKS POWER, HESITATION, RUNS ROUGH OR SURGE DRIVABILITY CONCERNS DUE TO CONTAMINATED MASS AIRFLOW SENSORS(MAF). IF NORMAL PCED DIAGNOSTICS LEAD TO THE MAF SENSOR, CAREFULLY INSPECT SENSOR HOTWIRE FOR CONTAMINATION. IF HOTWIRE IS CONTAMINATED WITH OIL, DIRT OR DEBRIS CLEAN THE SENSOR WITH CRC MASS AIR FLOW SENSOR CLEANER #05110. DO NOT USE SHOP AIR OR HARSH CHEMICALS SUCH AS BRAKE PARTS CLEANER OR CARBURETOR CLEANER ON MAF SENSORS. THIS CAN CAUSE SERIOUS DAMAGE TO SENSITIVE ELECTRONIC PARTS. CRC MAF SENSOR CLEANER WILL SAFELY AND EASILY CLEAN THE MAF HOTWIRE AND ELECTRICAL COMPONENTS WITHOUT DAMAGE TO THE WIRES OR PLASTIC HOUSING. MONITOR LONGFT1 AND LONGFT2(DUAL BANK ENGINES) PIDS AFTER MAF SENSOR CLEANING TO CONFIRM REPAIR.

Vehicles:

2005-2006 2006 ZEPHER (00172)
 2003-2005 AVIATOR (00152)
 2002-2003 BLACKWOOD (00145)
 1998-2002 CONTINENTAL (00010)
 1998-2010 CROWN VICTORIA (00015)
 1997-2010 E-SERIES (00016)
 2007-2010 EDGE (00176)
 2001-2010 ESCAPE (00130)
 2005-2007 ESCAPE HYBRID (00162)
 2000-2005 EXCURSION (00126)
 1997-2010 EXPEDITION (00026)
 2002-2010 EXPLORER 4DR (00134)
 1997-2010 F-SERIES LD (00029)
 2000-2010 F-SERIES MOTORHOME/COMMERCIAL (00175)
 1999-2010 F-SERIES SUPER DUTY (00028)
 2005-2006 FIVE HUNDRED (00165)
 2003-2010 FOCUS (00122)
 2003-2010 FOCUS (AK)
 2005-2006 FREESTYLE (00166)
 2007-2010 FUSION (00170)
 1998-2010 GRAND MARQUIS (00044)
 2000-2006 LS (00124)
 2005-2010 MARINER (00163)
 2006-2007 MARINER HYBRID (00174)
 2007-2008 MARK LT (00173)
 1997-1998 MARK VIII (00064)
 2006-2010 MILAN (00171)
 2010 MKS (00190)
 2007-2010 MKX (00177)
 2007-2010 MKZ (00179)
 2005-2006 MONTEGO (00167)
 2002-2005 MOUNTAINEER (00070)
 1998-2010 MUSTANG (00071)
 1998-2010 NAVIGATOR (00106)
 2007-2010 RANGER (00081)
 2007-2010 RANGER (R8)

2000-2004 SABLE (00082)
 2000-2010 TAURUS (00117)
 2008-2009 TAURUS X (00185)
 2002-2005 THUNDERBIRD (00092)
 1998-2010 TOWN CAR (00094)

Symptom Code:

600000 DRIVEABILITY
 606000 DRIVE-PERFORMANCE
 607000 DRIVEABILITY STALLS/QUITS
 608000 DRIVEABILITY RUNS ROUGH
 611000 DRIVEABILITY HESITATION/STUMBLE
 614000 DRIVEABILITY LACK/LOSS OF POWER
 698298 DRIVEABILITY MALFUNCTION INDICATOR LAMP - MIL
 P0171
 P0175

Global Customer Symptom Codes:

Category	Q1	Q2	Q3	Full Code
Driving Performance				5*****
Driving Performance	Lack/Loss of Power			554***
Driving Performance	Lack/Loss of Power	Acceleration		5542**
Driving Performance	Lack/Loss of Power	Acceleration	Always	554202

Article Number: 22503
Article Type: S
Author: WOSEPCHO
Global Concern Number: 104-2012-0006

Market(s):

Area Code	Geo Sales Area	Date of Activation	Date of Deactivation
NA	***	09/05/2012	12/05/2012

Title:

THROTTLE POSITION SENSOR KIT - NOW AVAILABLE

Text:

IF PC/ED DIAGNOSTICS LEADS TO THROTTLE POSITION SENSOR (TPS) REPLACEMENT A NEW KIT HAS BEEN RELEASED (9T4Z-9B989-A). THE PC/ED AND WORKSHOP MANUAL IS BEING UPDATED. VEHICLE/ENGINE APPLICATIONS AFFECTED: 2005 - 2008 F-150 4.2L; 2008 - 2011 FOCUS 2.0L; 2010 - 2012 TRANSIT CONNECT 2.0L; 2008 - 2012 MKZ 3.5L; 2010 - 2012 FUSION 3.5L; 2008 - 2012 TAURUS 3.5L PFI; 2008 - 2009 TAURUS X/SABLE 3.5L; 2009 - 2012 FLEX 3.5L PFI; 2007 - 2010 EDGE/MKX 3.5L; 2009 -2012 MKS 3.7L; 2010 - 2012 MKT 3.7L; 2007 - 2010 F-150 4.6L; 2007 - 2012 E-150/250 4.6L 2V

Vehicles:

2007-2012 E-SERIES (00016)
 2007-2010 EDGE (00176)
 2005-2010 F-SERIES LD (00029)
 2009-2012 FLEX (00189)
 2008-2011 FOCUS (00122)
 2008-2011 FOCUS (AK)
 2010-2012 FUSION (00170)
 2009-2012 MKS (00190)
 2010-2012 MKT (00194)
 2007-2010 MKX (00177)
 2008-2012 MKZ (00179)
 2008-2009 SABLE (00082)
 2008-2012 TAURUS (00117)
 2008-2009 TAURUS X (00185)
 2010-2012 TRANSIT CONNECT (00153)

Symptom Code:

600000 DRIVEABILITY
 601000 DRIVE-STARTING
 602300 DRIVEABILITY HARD START/LONG START
 606000 DRIVE-PERFORMANCE
 607000 DRIVEABILITY STALLS/QUITS
 608000 DRIVEABILITY RUNS ROUGH
 610000 DRIVEABILITY BUCK/JERK
 611000 DRIVEABILITY HESITATION/STUMBLE
 612000 DRIVEABILITY SURGE
 617000 DRIVE-IDLE
 698298 DRIVEABILITY MALFUNCTION INDICATOR LAMP - MIL
 P0121
 P0122
 P0123
 P0221
 P0222
 P0223
 P1124
 P2135

Global Customer Symptom Codes:

Category	Q1	Q2	Q3	Full Code
Driving Performance				5*****
Driving Performance	Idle Quality			551***

Driving Performance	Idle Quality	Fast		5515**
Driving Performance	Idle Quality	Fast	Intermittent	551539
Driving Performance	Idle Quality	Rolling		5516**
Driving Performance	Idle Quality	Rolling	Intermittent	551639
Driving Performance	Idle Quality	Slow		5517**
Driving Performance	Idle Quality	Slow	Intermittent	551739
Driving Performance	Stalls/Quits			552***
Driving Performance	Stalls/Quits	At Idle		5521**
Driving Performance	Stalls/Quits	At Idle	Intermittent	552139
Driving Performance	Hesitates/Stumble			557***
Driving Performance	Hesitates/Stumble	Acceleration		5572**
Driving Performance	Hesitates/Stumble	Acceleration	Intermittent	557239
Driving Performance	Hesitates/Stumble	Cruise/ Steady Speed		5573**
Driving Performance	Hesitates/Stumble	Cruise/ Steady Speed	Intermittent	557339

Article Number: 32016
Article Type: S
Author: WOSEPCHO
Global Concern Number: 104-2012-0006

Market(s):

Area Code	Geo Sales Area	Date of Activation	Date of Deactivation
NA	***	12/20/2012	01/03/2013

Title:

Throttle Position Sensor Kit - Now Available

Text:

If PC/ED diagnostics leads to throttle position sensor (TPS) replacement a new kit has been released (9T4Z-9B989-A). The PC/ED and workshop manual is being updated.

Vehicles:

2007-2012 E-SERIES (00016)
 2007-2010 EDGE (00176)
 2005-2010 F-SERIES LD (00029)
 2009-2012 FLEX (00189)
 2008-2011 FOCUS (00122)
 2008-2011 FOCUS (AK)
 2010-2012 FUSION (00170)
 2009-2012 MKS (00190)
 2010-2012 MKT (00194)
 2007-2010 MKX (00177)
 2008-2012 MKZ (00179)
 2008-2009 SABLE (00082)
 2008-2012 TAURUS (00117)
 2008-2009 TAURUS X (00185)
 2010-2012 TRANSIT CONNECT (00153)

Symptom Code:

600000 DRIVEABILITY
 601000 DRIVE-STARTING
 602300 DRIVEABILITY HARD START/LONG START
 606000 DRIVE-PERFORMANCE
 607000 DRIVEABILITY STALLS/QUITS
 608000 DRIVEABILITY RUNS ROUGH
 610000 DRIVEABILITY BUCK/JERK
 611000 DRIVEABILITY HESITATION/STUMBLE
 612000 DRIVEABILITY SURGE
 617000 DRIVE-IDLE
 698298 DRIVEABILITY MALFUNCTION INDICATOR LAMP - MIL
 P0121
 P0122
 P0123
 P0221
 P0222
 P0223
 P1124
 P2135

Global Customer Symptom Codes:

Category	Q1	Q2	Q3	Full Code
Driving Performance				5*****
Driving Performance	Idle Quality			551***
Driving Performance	Idle Quality	Fast		5515**
Driving Performance	Idle Quality	Fast	Intermittent	551539
Driving Performance	Idle Quality	Rolling		5516**

Driving Performance	Idle Quality	Rolling	Intermittent	551639
Driving Performance	Idle Quality	Slow		5517**
Driving Performance	Idle Quality	Slow	Intermittent	551739
Driving Performance	Stalls/Quits			552***
Driving Performance	Stalls/Quits	At Idle		5521**
Driving Performance	Stalls/Quits	At Idle	Intermittent	552139
Driving Performance	Hesitates/Stumble			557***
Driving Performance	Hesitates/Stumble	Acceleration		5572**
Driving Performance	Hesitates/Stumble	Acceleration	Intermittent	557239
Driving Performance	Hesitates/Stumble	Cruise/ Steady Speed		5573**
Driving Performance	Hesitates/Stumble	Cruise/ Steady Speed	Intermittent	557339

Audit Comments:

Area Code	Geo Sales Area	Comment	Old Date of Deactivation	New Date of Deactivation	CDSID
NA	***	GSMITH EDITED THIS MESSAGE ON: 19-DEC-2012::ADD	01/01/1900	12/20/2013	GSMITH
NA	***	THIS MESSAGE WAS SUPERCEDED BY 32024	12/20/2013	01/03/2013	GSMITH53

Article Number: 32024
Article Type: S
Author: WOSEPCHO
Global Concern Number: 104-2012-0006

Market(s):

Area Code	Geo Sales Area	Date of Activation	Date of Deactivation
NA	***	01/04/2013	01/04/2014

Title:

Throttle Position Sensor Kit - Now Available

Text:

IF PC/ED DIAGNOSTICS LEADS TO THROTTLE POSITION SENSOR (TPS) REPLACEMENT A NEW KIT HAS BEEN RELEASED (9T4Z-9B989-A). THE PC/ED AND WORKSHOP MANUAL IS BEING UPDATED. VEHICLE/ENGINE APPLICATIONS AFFECTED: 2005 - 2008 F-150 4.2L; 2008 - 2011 FOCUS 2.0L; 2010 - 2012 TRANSIT CONNECT 2.0L; 2008 - 2012 MKZ 3.5L; 2010 - 2012 FUSION 3.5L; 2008 - 2012 TAURUS 3.5L PFI; 2008 - 2009 TAURUS X/SABLE 3.5L; 2009 - 2012 FLEX 3.5L PFI; 2007 - 2010 EDGE/MKX 3.5L; 2009 -2012 MKS 3.7L; 2010 - 2012 MKT 3.7L; 2007 - 2010 F-150 4.6L; 2007 - 2012 E-150/250 4.6L 2V

Vehicles:

2007-2012 E-SERIES (00016)
 2007-2010 EDGE (00176)
 2005-2010 F-SERIES LD (00029)
 2009-2012 FLEX (00189)
 2008-2011 FOCUS (00122)
 2008-2011 FOCUS (AK)
 2010-2012 FUSION (00170)
 2009-2012 MKS (00190)
 2010-2012 MKT (00194)
 2007-2010 MKX (00177)
 2008-2012 MKZ (00179)
 2008-2009 SABLE (00082)
 2008-2012 TAURUS (00117)
 2008-2009 TAURUS X (00185)
 2010-2012 TRANSIT CONNECT (00153)

Symptom Code:

600000 DRIVEABILITY
 601000 DRIVE-STARTING
 602300 DRIVEABILITY HARD START/LONG START
 606000 DRIVE-PERFORMANCE
 607000 DRIVEABILITY STALLS/QUITS
 608000 DRIVEABILITY RUNS ROUGH
 610000 DRIVEABILITY BUCK/JERK
 611000 DRIVEABILITY HESITATION/STUMBLE
 612000 DRIVEABILITY SURGE
 617000 DRIVE-IDLE
 698298 DRIVEABILITY MALFUNCTION INDICATOR LAMP - MIL
 P0121
 P0122
 P0123
 P0221
 P0222
 P0223
 P1124
 P2135

Global Customer Symptom Codes:

Category	Q1	Q2	Q3	Full Code
Driving Performance				5****
Driving Performance	Idle Quality			551***

Driving Performance	Idle Quality	Fast		5515**
Driving Performance	Idle Quality	Fast	Intermittent	551539
Driving Performance	Idle Quality	Rolling		5516**
Driving Performance	Idle Quality	Rolling	Intermittent	551639
Driving Performance	Idle Quality	Slow		5517**
Driving Performance	Idle Quality	Slow	Intermittent	551739
Driving Performance	Stalls/Quits			552***
Driving Performance	Stalls/Quits	At Idle		5521**
Driving Performance	Stalls/Quits	At Idle	Intermittent	552139
Driving Performance	Hesitates/Stumble			557***
Driving Performance	Hesitates/Stumble	Acceleration		5572**
Driving Performance	Hesitates/Stumble	Acceleration	Intermittent	557239
Driving Performance	Hesitates/Stumble	Cruise/ Steady Speed		5573**
Driving Performance	Hesitates/Stumble	Cruise/ Steady Speed	Intermittent	557339

Audit Comments:

Area Code	Geo Sales Area	Comment	Old Date of Deactivation	New Date of Deactivation	CDSID
NA	***	TWAS EXPORT TO OASIS::ADD	01/01/1900	01/04/2014	GS12GO

Article Number: 32170
Article Type: S
Author: DHARMON3
Global Concern Number: 104-2012-0025

Market(s):

Area Code	Geo Sales Area	Date of Activation	Date of Deactivation
NA	***	04/04/2013	04/04/2017
WD	***	04/04/2013	04/04/2017

Title:

Some 2009-2012 Vehicles - Loss Of Engine RPMs - Lack Of Acceleration - Wrench Light Illuminated With Or Without DTCs P2111 And/or P2112

Text:

Some 2009-2012 Escape, 2009-2011 Mariner, 2010-2012 Fusion and 2010-2011 Milan vehicles equipped with the 2.5L DOHC or 3.0L engine may exhibit an intermittent loss of engine RPMs or lack of acceleration with illuminated Wrench Light. DTCs P2111 and/or P2112 may or may not be stored in the powertrain control module (PCM). To aid in diagnosing these concerns, the Integrated Diagnostic Scan (IDS) tool has been updated to include an Electronic Throttle Body diagnostic tool. This can be found using IDS version 84 or higher, selecting Powertrain, Service Functions, and ETB Check.

Vehicles:

2009-2012 ESCAPE (00130)
 2010-2012 FUSION (00170)
 2009-2011 MARINER (00163)
 2010-2011 MILAN (00171)

Symptom Code:

600000 DRIVEABILITY
 606000 DRIVE-PERFORMANCE
 607000 DRIVEABILITY STALLS/QUITS
 608000 DRIVEABILITY RUNS ROUGH
 614000 DRIVEABILITY LACK/LOSS OF POWER
 698298 DRIVEABILITY MALFUNCTION INDICATOR LAMP - MIL
 P2111
 P2112

Global Customer Symptom Codes:

Category	Q1	Q2	Q3	Full Code
Driver Aides & Information				2*****
Driver Aides & Information	Warning Indicators/Messages/Chimes			227***
Driver Aides & Information	Warning Indicators/Messages/Chimes	Electronic Throttle Control (Wrench Image)		2275**
Driver Aides & Information	Warning Indicators/Messages/Chimes	Electronic Throttle Control (Wrench Image)	Flashes	227530
Driving Performance				5*****
Driving Performance	Stalls/Quits			552***
Driving Performance	Stalls/Quits	At Idle		5521**
Driving Performance	Stalls/Quits	At Idle	Intermittent	552139
Driving Performance	Lack/Loss of Power			554***
Driving Performance	Lack/Loss of Power	Cruise/ Steady Speed		5543**
Driving Performance	Lack/Loss of Power	Cruise/ Steady Speed	Intermittent	554339

Audit Comments:

Area Code	Geo Sales Area	Comment	Old Date of Deactivation	New Date of Deactivation	CDSID
NA	***	TWAS EXPORT TO OASIS::ADD	01/01/1900	04/04/2017	GS12GO
WD	***	TWAS EXPORT TO OASIS::ADD	01/01/1900	04/04/2017	GS12GO

PE13-003

FORD

APPENDIS G

TSB 09-11-13

3.5L—ROUGH / ROLLING IDLE / IDLE SPEED DROPS BELOW SPECIFICATION

TSB 09-11-13

FORD:
2010 Fusion

LINCOLN:
2007-2010 MKZ

ISSUE

Some 2007-2010 MKZ and 2010 Fusion Sport vehicles equipped with a 3.5L engine may exhibit a rough, rolling idle, or idle speed dropping below specification. This condition typically occurs most often in hot ambient temperatures with the A/C on when idling for extended periods.

ACTION

Follow the Service Procedure steps to correct the condition.

SERVICE PROCEDURE

1. Reprogram the powertrain control module (PCM) to the latest calibration using IDS release 61.04 and higher. This new calibration is not included in the VCM 2009.5 DVD. Calibration files may also be obtained at www.motorcraft.com.
2. Perform transmission control module (TCM) initial learning procedure. Refer to Workshop Manual Section 307-01A.

NOTE

VEHICLES EQUIPPED WITH A PCM AND TCM, REQUIRE A COORDINATED REPROGRAMMING. THIS COORDINATED REPROGRAMMING PROCEDURE MUST BE FOLLOWED EXACTLY AS OUTLINED BY THE IDS/PDS SCAN TOOL(S). FAILURE TO FOLLOW THE KEY CYCLE PROCEDURE WITHOUT WAITING FOR THE IDS PROMPTS, WILL CAUSE THE COORDINATED REPROGRAMMING TO FAIL. THE PCM WILL BE UPDATED BUT THE TCM WILL NOT BE UPDATED AND THE NEW FILES WILL NOT BE INSTALLED. IT IS CRITICAL TO FOLLOW THE IDS/PDS PROMPTS.

NOTE

AUTHORIZATION DECAL NOT REQUIRED.

WARRANTY STATUS: Eligible Under Provisions of New Vehicle Limited Warranty Coverage
IMPORTANT: Warranty coverage limits/policies are not altered by a TSB. Warranty coverage limits are determined by the identified causal part.

OPERATION	DESCRIPTION	TIME
091113A	2007-2010 MKZ, 2010 Fusion 3.5L: Reprogram The PCM And TCM Includes Time To Perform The TCM Initial Learning Procedure (Do Not Use With 12650D)	0.8 Hr.

DEALER CODING

BASIC PART NO.
RECAL

CONDITION
CODE
04

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

PE13-003

FORD

APPENDIS G

TSB 11-04-23

3.5L—DTCS P2111 OR P2112 AND P2104 DURING WINDSHIELD WIPER USAGE—BUILT ON OR BEFORE 03/11/2011

TSB 11-4-23

FORD:
2010-2011 Fusion

LINCOLN:
2010-2011 MKZ

ISSUE

Some 2010-2011 Fusion Sport and MKZ vehicles equipped with a 3.5L engine and built on or before 03/11/2011 may exhibit a service engine soon lamp on and possible DTCs P2111 or P2112 and P2104 during windshield wiper usage.

ACTION

Follow Service Procedure steps to correct the condition.

SERVICE PROCEDURE

1. Inspect the throttle body to determine type of throttle position sensor (TPS). (Figure 1)

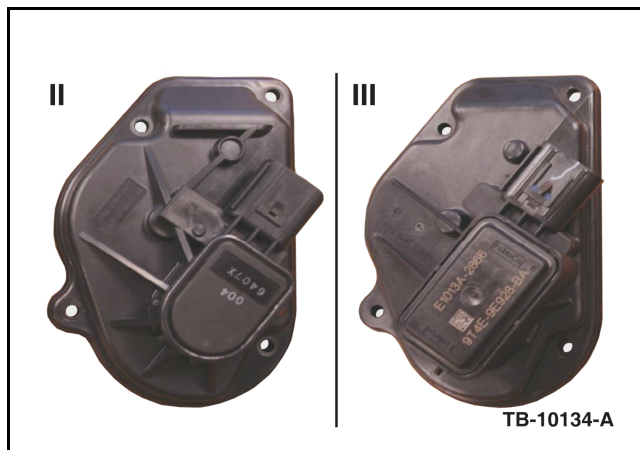


Figure 1 - Article 11-4-23

- a. Type II TPS, do not continue this article. Refer to Powertrain Control/Emissions Diagnosis (PC/ED) manual for normal diagnostics.
 - b. Type III TPS, proceed to Step 2.
2. Remove air cleaner outlet pipe. Refer to Workshop Manual (WSM), Section 303-12.
 3. Remove battery and battery tray. Refer to WSM, Section 414-01.

4. Disconnect C175E (top connector) from the powertrain control module (PCM). (Figure 2)

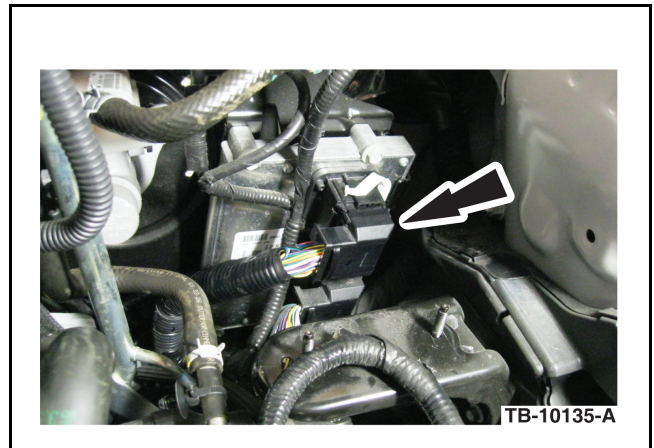


Figure 2 - Article 11-4-23

5. Remove the two (2) harness bundle retainers. (Figure 3)

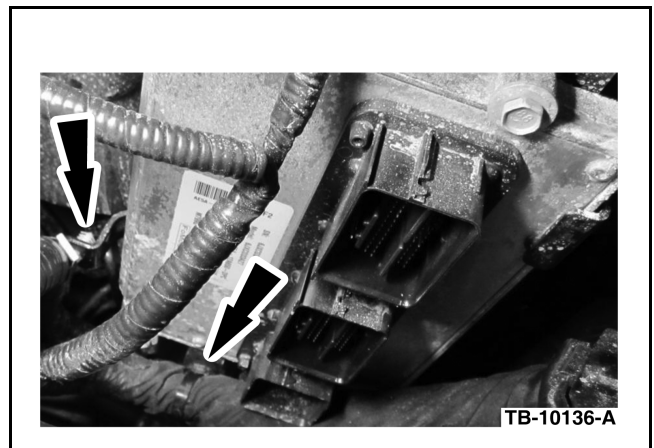


Figure 3 - Article 11-4-23

6. Cut tie strap on back of connector.
7. Release the four (4) tabs and remove the black strain relief from rear of connector.
8. Remove the white terminal locking insert.

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

TSB 11-4-23 (Continued)

- a. Remove one (1) vehicle harness terminal and replace with one (1) service harness terminal at a time.
- 9. Using a wire terminal release tool (OTC 7740 or similar), remove female terminal pin numbers 34, 51, 59, 60, 61 and 66 from C175E. (Figures 4 and 5)

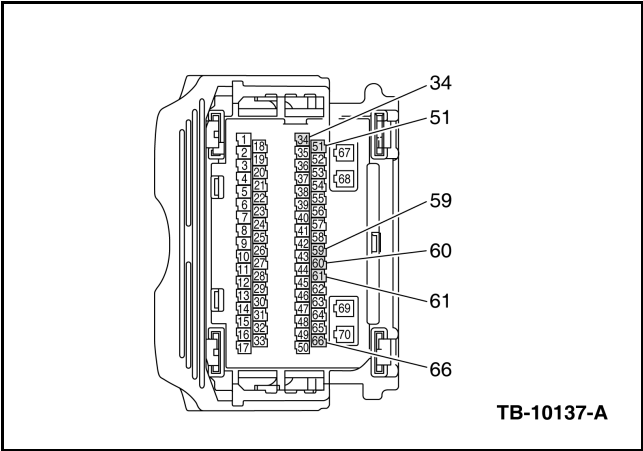


Figure 4 - Article 11-4-23

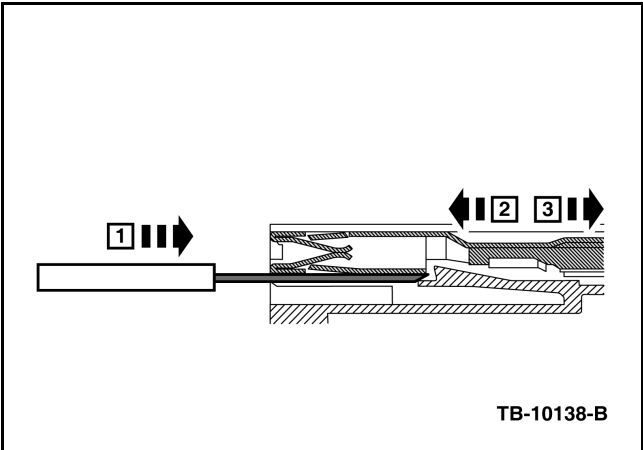


Figure 5 - Article 11-4-23

- 10. Install wire terminals from service harness into the connector matching pin number and color. (Figure 4)
- 11. Cut terminals from removed wires and install one (1) piece of heat shrink to cover all six (6) wires. Fold wire bundle back and tape to vehicle wire harness.
- 12. Install white terminal locking insert.
- 13. Install black strain relief.
- 14. Install tie strap to service harness on back of connector.

- 15. Connect C175E to PCM.
- 16. Install harness bundle retainers.
- 17. Disconnect throttle body (TB) connector C1568.
- 18. Cut connector from vehicle wire harness and discard.
- 19. Install one (1) piece of heat shrink to cover all six (6) wires. Fold wire bundle back and tape to vehicle wire harness.
- 20. Route service harness under TB and secure with tie straps. (Figure 6)

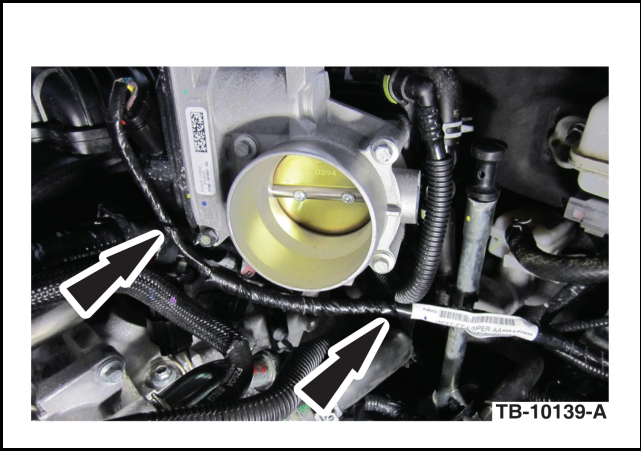


Figure 6 - Article 11-4-23

- 21. Connect service harness connector to TB.
- 22. Install battery and battery tray. Refer to WSM, Section 414-01.
- 23. Install air cleaner outlet pipe. Refer to WSM, Section 303-12.

PART NUMBER	PART NAME
BE5Z-14A411-T	Jumper Wire Assembly

WARRANTY STATUS: Eligible Under Provisions Of New Vehicle Limited Warranty Coverage
IMPORTANT: Warranty coverage limits/policies are not altered by a TSB. Warranty coverage limits are determined by the identified causal part.

TSB 11-4-23 (Continued)

OPERATION	DESCRIPTION	TIME
110423A	2010-2011 Fusion And MKZ 3.5L DOHC Engine: Install Jumper Wire Assembly (Do Not Use With Any Other Labor Operations)	0.9 Hr.
DEALER CODING		
BASIC PART NO.		CONDITION CODE
14A464		42

PE13-003

FORD

APPENDIS K

PE13-003 Throttle Body Part Change Log
2010 - 2011 MY Ford Fusion (2.5L 4V I-4 3.0L 4V V-6 Engines)

	A	B	C	D	E	F		G	H				
Part	Incorporated Into Vehicle Production	Description of Change	Reasons for Change	Original	Modified	Disposition of Original Parts		New Component Availability Date	New Component Interchangeable With Old (Y/N - Intended versus Possible)	ETB Supplier	PCB Supplier	TPS Gasket Supplier	Hall Sensor ASIC Supplier
				Ford Engineering Part Number	Ford Engineering Part Number	Withdrawn from Ford Production Inventory (Scrap/ Consume/ Rework)	Effective Date						
Electronic Throttle Body	Not Shipped	Original Release	File Set up		9L8E-9F991-BA	N/A	N/A	N/A	N/A				
	Not Shipped	Commonize motor cover and geartrain with historical Ford design	MCR action	9L8E-9F991-BA	9L8E-9F991-BB	N/A	N/A	N/A	N/A	Delphi Juarez MX	Avalon, Chennai India	Igarashi Supplier	Melexis 90316
	Aug 12,2008 *3 Month Estimate for Logistics	Casting revision to replace the - DD- hole with a straight through hole	Fastener change MCR action	9L8E-9F991-BB	9L8E-9F991-BC	N/A	N/A	May 12, 2008	N/A	Delphi Juarez MX	Avalon, Chennai India	Igarashi Supplier	Melexis 90316
	Aug 24, 2009 (ChEP) (CEP) (HSAP) (KCAP)	<u>Interim Corrective Action</u> - Thermal Cycle TPS at suppliers - 3 X 45 minute Idle Test at engine/assembly plants	To identify TPS containing non-functioning circuit boards			Sort		Aug 24, 2009		Delphi Juarez MX	Avalon, Chennai India	Igarashi Supplier	Melexis 90316
	(HSAP) 14-Sep 21, 2009 V6-Sep 29, 2009 (KCAP) 14-Oct 1, 2009 V6-Sep 28, 2009	<u>Permanent Corrective Action</u> - Drill bit replacement machine - No resharpened bits - De-smearing process instituted - Revised plating monitoring	Incorporate process improvements into production			Consume		Sep 16, 2009 (ChEP) Sep 18, 2009 (CEP)		Delphi Juarez MX	Avalon, Chennai India	Igarashi Supplier	Melexis 90316
	Jan 5, 2011 *3 Month Estimate for Logistics	Revise idle screw & internal casting revisions to maintain compatibility	Idle screw threadlock	9L8E-9F991-BC	9L8E-9F991-BD	Consume	Oct 5, 2010	Oct 5, 2010	Y	Delphi Juarez MX	Avalon, Chennai India	Igarashi Supplier	Melexis 90316
	Jan 7, 2011 *3 Month Estimate for Logistics	Design change from dual die to single die TPS ASIC	MCR action	9L8E-9F991-BE	9L8E-9F991-BF	N/A	N/A	7-Oct-10	Y	Delphi Juarez MX	KSR, Kitchner Canada	KSR Accurate	Melexis 90316
	January 31 2012 *3 Month Estimate for Logistics	Casting MCR and add a boss to casting	MCR action	9L8E-9F991-BF	DS7E9F991-AC	Consume	N/A	10/31/11	Y	Delphi Juarez MX	KSR, Kitchner Canada	KSR Accurate	Melexis 90316
	May 10, 2012 *3 Month Estimate for Logistics	Resource TPS	Increase TPS Capacity	DS7E9F991-AC	DS7E9F991-AD	Consume	N/A	2/10/12	Y	Delphi Juarez MX	IG CMAC	IG Accurate	Melexis 90316
	March 25, 2013 Chep *3 Month Estimate for Logistics	New motor brush material	Improved robustness to deposits	DS7E9F991-AD	DS7E9F991-AF	Consume	N/A	2/28/13	Y	Delphi Juarez MX	IG CMAC	IG Accurate	Melexis 90316

PE13-003 Throttle Body Part Change Log
2010 - 2011 MY Ford Fusion (3.5L 4V V-6 Engine)

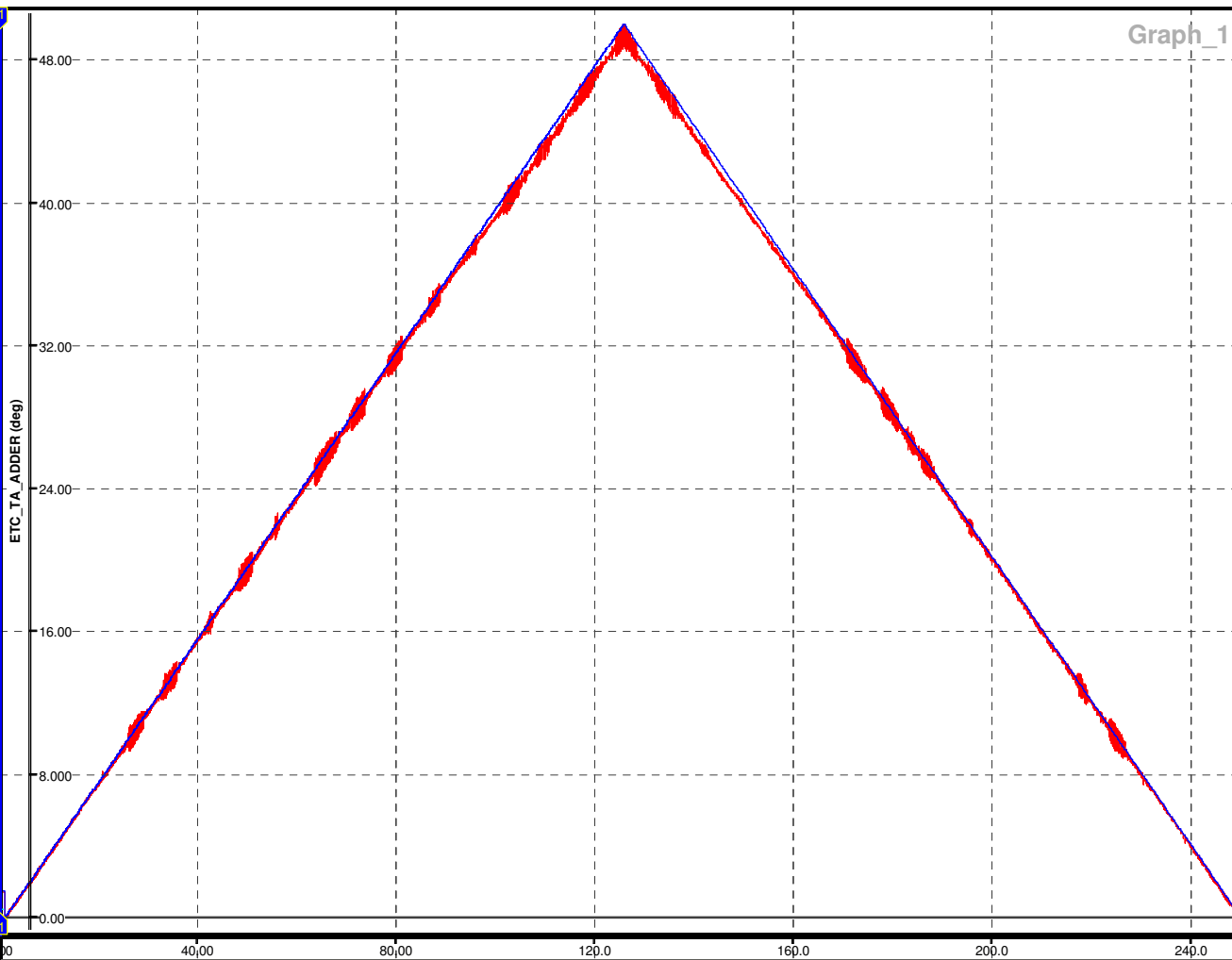
	A	B	C	D	E	F		G	H				
Part	Incorporated Into Vehicle Production	Description of Change	Reasons for Change	Original	Modified	Disposition of Original Parts		New Component Availability Date	New Component Interchangeable With Old (Y/N - Intended versus Possible)	ETB Supplier	PCB Supplier	TPS Gasket Supplier	Hall Sensor ASIC Supplier
				Ford Engineering Part Number	Ford Engineering Part Number	Withdrawn from Ford Production Inventory (Scrap/ Consume/ Rework)	Effective Date						
Electronic Throttle Body	Feb 2009- Feb 28, 2010 and Mar 13 2010- May 5, 2010 (veh prod dates)	Initial Production Part #	NA	7T4E-9F991-FB		Consume	5-May-10	NA	Y	Continental Juarez, MX	ALPS		NA
	Mar 1, 2010- Mar 12, 2010 and May 6, 2010 to EOP (veh prod dates)	Change to non-contacting TPS. TPS lead frame motor pins.	Quality improvement	7T4E-9F991-FB	7T4E-9F991-GA 7T4E-9F991-FB	Rework		1-Mar-10	Y	Continental Juarez, MX	KSR, Kitchner Canada	United Rubber & Plastic, Ningbo China	Melexis- BCI
	Mar 1, 2010- Mar 12, 2010 and May 6, 2010 to Aug 3, 2010 (veh prod dates)	TPS Gasket curing process issue	Quality Concern	7T4E-9F991-GA	NA	Rework			Y	Continental Juarez, MX	KSR, Kitchner Canada	United Rubber & Plastic, Ningbo China/ Curing process	Melexis- BCI
	Aug 3, 2010 to June 2011	TPS Gasket curing process	TPS Gasket curing process	7T4E-9F991-GA	NA	Rework- Additional curing process at Ford Motor Co.	Aug 3, 2010 (veh prod date)	Aug 3, 2010 (veh prod date)	Y	Continental Juarez, MX	KSR, Kitchner Canada	United Rubber & Plastic, Ningbo China/ Curing process- 2nd Curing Process Ford Motor Dearborn MI.	Melexis- BCI
	June 2011- EOP	TPS Gasket curing process	TPS Gasket curing process	7T4E-9F991-GA	NA	Rework- Additional curing process at IEL			Y	Continental Juarez, MX	KSR, Kitchner Canada	United Rubber & Plastic, Ningbo China/ Curing process- 2nd Curing Process IEL, Jackson MI	Melexis- BCI

PE13-003

FORD

APPENDIS L

2010 Ford Edge Bench Test
Correlation (453-R001)



	Name	Y@AC	U
☒	ETC_CMD	1.500000	
☐	ETC_DC	0.115000	
☐	ETC_DES_TA	1.500000	
☐	ETC_FLT_FLGS	0	
☒	ETC_MESRD_TA	1.458334	
☐	ETC_RATCH_A[0]	131.119...	Un
☐	ETC_RATCH_A[1]	129.779...	Un
☐	ETC_TA_ADDER	1.500000	deg
☐	ETC_TA_MULT	0.000000	Un
☐	ETC_TA_SRC_A	1	
☐	ETC_TP_REL_A[0]	11.999222	Un
☐	ETC_TP_REL_A[1]	11.666672	Un
☐	PUTMR	13.246511	
☐	T1T2_CNT	0	
☐	T1T2FMFLG	0	
☐	TP_VOLTAGE[0]	4.296875	V
☐	TP_VOLTAGE[1]	0.802409	V

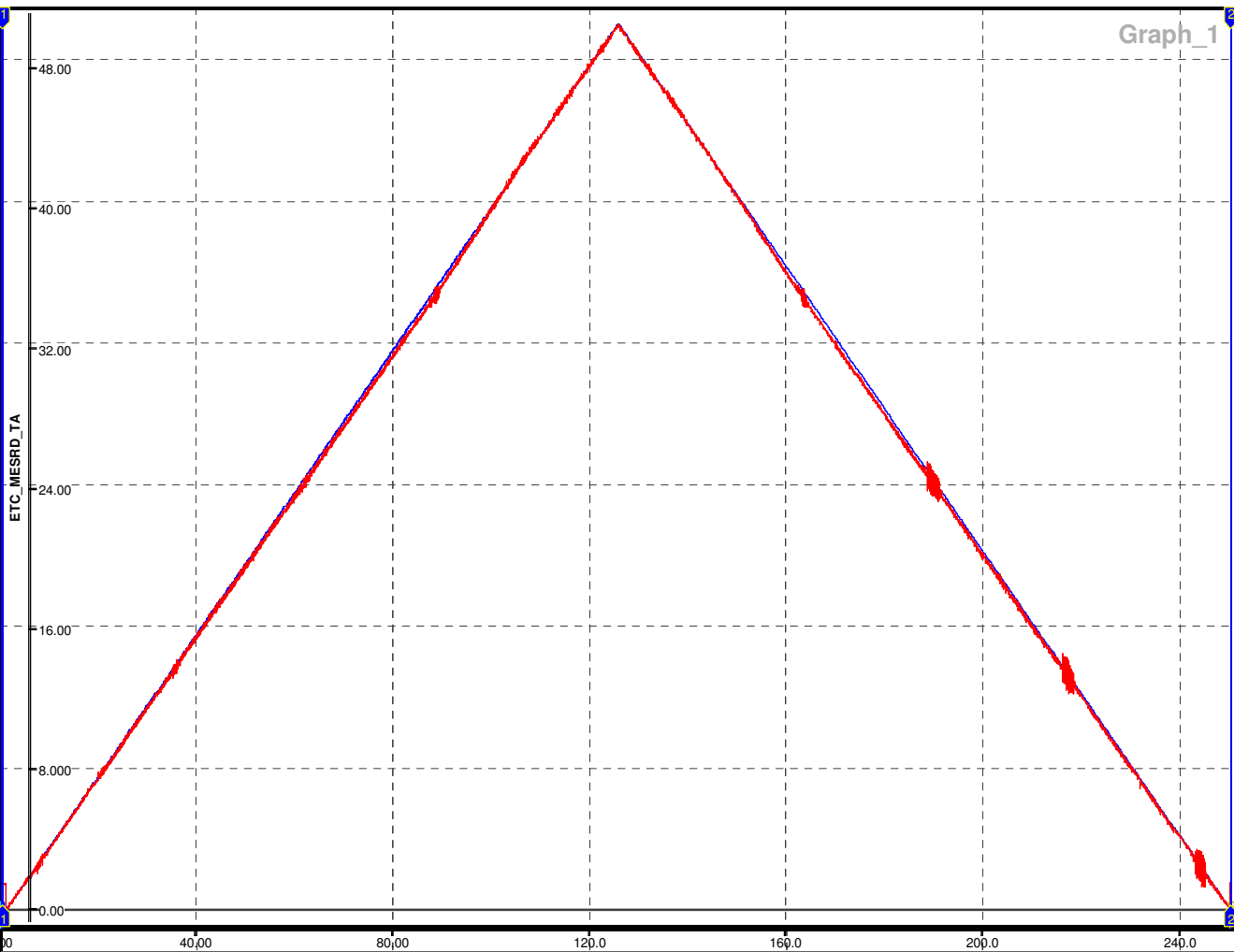
T1: 0.0000 T2: 250.2263 T2 - T1: 250.2263 Itc

PE13-003

FORD

APPENDIS L

2010 Ford Focus Bench Test
Correlation (480-R001)



	Name	Y@AC	U
☒	ETC_CMD	1.500000	
☐	ETC_DC	0.115000	
☐	ETC_DES_TA	1.500000	
☐	ETC_FLT_FLGS	0	
☒	ETC_MESRD_TA	1.500000	
☐	ETC_RATCH_A[0]	128.119...	Un
☐	ETC_RATCH_A[1]	126.279...	Un
☐	ETC_TA_ADDER	1.500000	deg
☐	ETC_TA_MULT	0.000000	Un
☐	ETC_TA_SRC_A	1	
☐	ETC_TP_REL_A[0]	12.076309	Un
☐	ETC_TP_REL_A[1]	12.000000	Un
☐	PUTMR	16.649439	
☐	T1T2_CNT	0	
☐	T1T2FMFLG	0	
☐	TP_VOLTAGE[0]	4.311147	V
☐	TP_VOLTAGE[1]	0.771484	V

T1: 0.6024 T2: 250.5278 T2 - T1: 249.9254 Itc

PE13-003

FORD

APPENDIS M



PE13-003

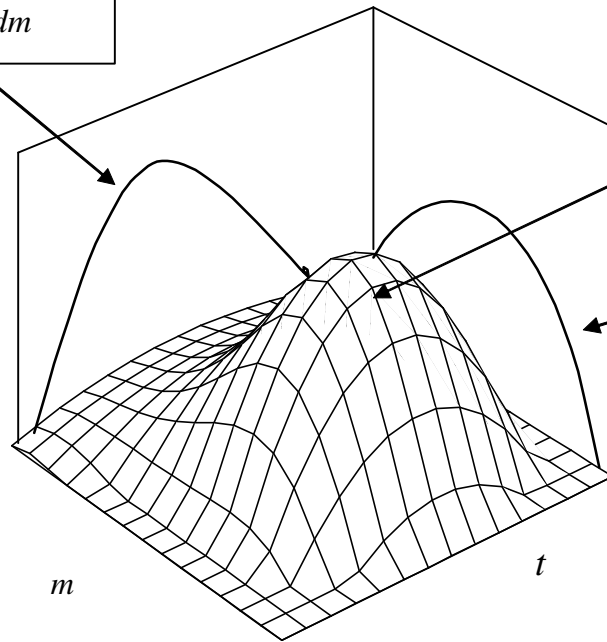
Electronic Throttle Body Malfunction

Reliability Analysis of Field Data
For Vehicles Involved in TSB 10-21-6

Bivariate Parametric Extrapolation Model

Marginal in time failure density:

$$f(t) = \int f(m, t) dm$$



Joint failure density:

$$f(m, t)$$

Marginal in mileage failure density:

$$f(m) = \int f(m, t) dt$$

Model:

$$f(m, t) = \phi(m|t)\varphi(t)$$

$$\varphi(t) = \frac{\beta_t}{\alpha_t} t^{\beta_t-1} e^{-(t/\alpha_t)^{\beta_t}}$$

$$\phi(m|t) = \frac{\beta_m}{\alpha_m t} m^{\beta_m-1} e^{-(m/(\alpha_m t))^{\beta_m}}$$

Reference:

V.V. Krivtsov, 2011: "Field Data Analysis & Statistical Warranty Forecasting" (Alan O. Plait Best Paper Award) IEEE Catalog No CFP11RAM-CDR, ISBN: 978-1-4244-8855-1.

Log-Likelihood:

$$Ln(L) = \sum_{i,j} r_{ij} \ln(f(m_i, t_j)) + \sum_j n_j \ln(1 - F(m_w, t_j))$$

Probabilistic Risk Assessment Summary

Strata by Engine	Affected Population	Customer Symptom	Event Prob @ 1YIS Unlm	Event Prob @ 3YIS Unlm	Event Prob @ 6YIS Unlm	Event Prob @ 10YIS Unlm
3.5L-3.7L (Flex, Fusion, Taurus, MKS, MKT, Edge)	103,950	A7 Only	1.33%	2.87%	5.22%	7.65%
4.6L 2V (E-150, E- 250, F-150)	19,473	A7 Only	1.24%	3.07%	5.80%	8.50%
2.0L (Focus)	85,490	A7 Only	0.85%	3.70%	8.61%	12.95%