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December 14, 2012

Mr. Frank S. Borris, Director
Office of Defects Investigation
National Highway Traffic Safety Administration
1200 New Jersey Avenue SE, Room W45-302
Washington, DC 20590

Dear Mr. Borris:

Subject: DP12-006:NVS-213

The Ford Motor Company (Ford) response to the agency's October 23, 2012 letter concerning reports of alleged Electronic Throttle Body Malfunction in 2009 through 2010 Ford Escape vehicles is attached.

In its October 23, 2012 letter, the agency stated that its information request was focused on the vehicles and defect condition described in TSB 09-23-5. However, Ford notes that the agency's alleged defect was not limited to the TSB, but included all reports of throttle related engine stall, engine surge, and loss of power on the subject vehicles regardless of whether they may be related to the referenced TSB.

As with numerous other electronic control systems in modern vehicles, Ford notes that the throttle control used in these vehicles is a complex and sophisticated system that is designed to provide optimum operation, accounting for such parameters as fuel economy, emissions, driving performance, etc., while constantly monitoring system parameters to ensure safe system function and vehicle operation. When the system detects a potential fault or error state, system parameters have been incorporated to mitigate those error states and allow the vehicle to function in a safe manner until the error state is corrected or repaired. As part of this system control strategy, Ford has developed Failure Mode Effects Management (FMEM) modes under which the vehicle will continue to operate in the event that some type of system error state within the throttle control system has been detected. In each of these modes, the system is designed such that the engine will continue to run and the vehicle will continue to have motive capability, providing full steering, braking, and electrical function to the vehicle.

Ford released TSB 09-23-5 to assist service technicians in the proper diagnosis and repair of vehicles produced from June 22, 2009, through October 15, 2009, with an illuminated MIL and with DTC code P2135.

Even in the event that a potential malfunction is detected, the system is designed such that the vehicle, even in diminished performance mode, remains safe, maneuverable, and controllable. The electronic throttle body strategy in the subject and peer vehicles employs three FMEM modes to allow vehicle functionality in the event of a malfunctioning throttle body control system. Within each of these modes, the engine will continue to run at varying levels of reduced engine performance and vehicle mobility is maintained, providing opportunity to maneuver a vehicle to a safe location. Ford believes that vehicles are not likely to unexpectedly stall as a result of this condition, but that customers may erroneously characterize the reduced functionality as a stall, even though their vehicle still has motive capability. Likewise, Ford does not believe that allegations of vehicle "surge" are consistent with FMEM mode operation, but that customer characterizations of "surge" are most likely related to engine RPM fluctuations at low vehicle speeds or idle as the control system works to maintain approximately 900 RPM.

Ford does not believe this concern presents an unreasonable risk to motor vehicle safety because vehicle mobility is maintained, allowing drivers to maneuver their vehicle to a safe location, drivers are alerted that a fault has been detected and are aware that their vehicle's engine is operating in a reduced performance mode, and, in each of these FMEM modes, engine operation is maintained providing full power steering assist, brake assist, and electrical functions.

If you have any questions concerning this response, please feel free to contact me.

Sincerely,

for Steven M. Kenner

Attachment

ATTACHMENT
December 14, 2012

FORD MOTOR COMPANY (FORD) RESPONSE TO DP 12-006

Ford's response to this Defect Petition information request was prepared pursuant to a diligent search for the information requested. While we have employed our best efforts to provide responsive information, the breadth of the agency's request and the requirement that information be provided on an expedited basis make this a difficult task. We nevertheless have made substantial effort to provide thorough and accurate information, and we would be pleased to meet with agency personnel to discuss any aspect of this Defect Petition.

The scope of Ford's investigation conducted to locate responsive information focused on Ford employees most likely to be knowledgeable about the subject matter of this inquiry and on review of Ford files in which responsive information ordinarily would be expected to be found and to which Ford ordinarily would refer. Ford notes that although electronic information was included within the scope of its search, Ford has not attempted to retrieve from computer storage electronic files that were overwritten or deleted. As the agency is aware, such files generally are unavailable to the computer user even if they still exist and are retrievable through expert means. To the extent that the agency's definition of Ford includes suppliers, contractors, and affiliated enterprises for which Ford does not exercise day-to-day operational control, we note that information belonging to such entities ordinarily is not in Ford's possession, custody or control.

Ford has construed this request as pertaining to vehicles manufactured for sale in the United States, its protectorates, and territories.

Ford notes that some of the information being produced pursuant to this inquiry may contain personal information such as customer names, addresses, telephone numbers, and complete Vehicle Identification Numbers (VINs). Ford is producing such personal information in an unredacted form to facilitate the agency's investigation with the understanding that the agency will not make such personal information available to the public under FOIA Exemption 6, 5 U.S.C. 552(b)(6).

Answers to your specific questions are set forth below. As requested, after each numeric designation, we have set forth verbatim the request for information, followed by our response. Unless otherwise stated, Ford has undertaken to provide responsive documents dated up to and including October 23, 2012, the date of your inquiry. Ford has searched within the following offices for responsive documents: Environment and Safety Engineering, Ford Customer Service Division, North American Product Development.

Request 1

State, by model, engine and model year, the number of subject and peer vehicles Ford has manufactured for sale or lease in the United States and federalized territories. Separately, for each subject vehicle manufactured to date by Ford, state the following:

a. Vehicle identification number (VIN);
b. Model;
c. Engine (displacement and engine code);
d. Model Year;

e. Date of manufacture; Date warranty coverage commenced; and
f. Date warranty coverage commenced.; and
g. The State in the United States, or the federalized territory, where the vehicle was originally sold or leased (or delivered for sale or lease).

Provide the table in Microsoft Access 2003, 2007, or a compatible format, entitled "DP12_006_PRODUCTION DATA."

Answer

Ford records indicate that the approximate total number of model year 2009 and 2010 Ford Escape and Escape Hybrid vehicles sold in the United States, (the 50 states and the District of Columbia) protectorates, and territories (American Samoa, Guam, Northern Mariana Islands, Puerto Rico, and Virgin Islands) is 349,350.

Ford records indicate that the approximate total number of model year 2010 Ford Fusion and Fusion Hybrid vehicles sold in the United States, (the 50 states and the District of Columbia) protectorates, and territories (American Samoa, Guam, Northern Mariana Islands, Puerto Rico, and Virgin Islands) is 281,000.

Ford records indicate that the approximate total number of model year 2009 and 2010 Mercury Mariner and Mariner Hybrid vehicles sold in the United States, (the 50 states and the District of Columbia) protectorates, and territories (American Samoa, Guam, Northern Mariana Islands, Puerto Rico, and Virgin Islands) is 55,800.

Ford records indicate that the approximate total number of model year 2010 Mercury Milan and Milan Hybrid vehicles sold in the United States, (the 50 states and the District of Columbia) protectorates, and territories (American Samoa, Guam, Northern Mariana Islands, Puerto Rico, and Virgin Islands) is 38,8500.

The number of subject vehicles sold in the United States by model and model year is shown below:

Model	2009 MY	2010 MY
Ford Escape	130,629	189,037
Ford Escape Hybrid	18,062	11,606
Ford Fusion	Not Requested	248,659
Ford Fusion Hybrid		31,325
Mercury Mariner	23,292	29,255
Mercury Mariner Hybrid	2,393	877
Mercury Milan	Not Requested	36,175
Mercury Milan Hybrid		2,672

Engine codes for subject and peer vehicles are provided below:

Model	Engine	Code
Ford Escape Mercury Mariner	2.5L 4V I-4 3.0L 4V V-6	7 G
Ford Escape Hybrid Mercury Mariner Hybrid	2.5L I-4 Atkins w/Synchronous Electric Motor	3
Ford Fusion Mercury Milan	2.5L 4V I-4 3.0L 4V V-6 3.5L 4V V-6	A G C
Ford Fusion Hybrid Mercury Milan Hybrid	2.5L I-4 Atkins w/Synchronous Electric Motor	3

The requested data for each subject vehicle is provided in Appendix A.

Request 2

State, by model, engine and model year, the number of each of the following, received by Ford, or of which Ford is otherwise aware, which relate to, or may relate to, the alleged defect in the subject and peer vehicles:

a. Consumer complaints, including those from fleet operators;
b. Field reports, including dealer field reports;
c. Reports involving a crash, injury, or fatality, based on claims against the manufacturer involving a death or injury, notices received by the manufacturer alleging or proving that a death or injury was caused by a possible defect in a subject vehicle, property damage claims, consumer complaints, or field reports;
d. Property damage claims;
e. Third-party arbitration proceedings where Ford is or was a party to the arbitration; and
f. Lawsuits, both pending and closed, in which Ford is or was a defendant or codefendant.

For subparts "a" through "d," state the total number of each item (e.g., consumer complaints, field reports, etc.) separately. Multiple incidents involving the same vehicle are to be counted separately. Multiple reports of the same incident are also to be counted separately (i.e., a consumer complaint and a field report involving the same incident in which a crash occurred are to be counted as a crash report, a field report and a consumer complaint).

In addition, for items "c" through "f," provide a summary description of the alleged problem and causal and contributing factors and Ford's assessment of the problem, with a summary of the significant underlying facts and evidence. For items "e" and "f," identify the parties to the action, as well as the caption, court, docket number, and date on which the complaint or other document initiating the action was filed.

Answer

For purposes of identifying reports of incidents that may be related to the alleged defect and any related documents, Ford has gathered "owner reports" and "field reports" maintained by

Ford Customer Service Division (FCSD), and claim and lawsuit information maintained by Ford's Office of the General Counsel (OGC).

Descriptions of the FCSD owner and field report systems and the criteria used to search each of these are provided in Appendix B.

The following categorizations were used in the review of reports located in each of these searches:

Category	Allegation
A1	Engine Stall - Throttle Body Replaced
A2	Engine Surge - Throttle Body Replaced
A3	Reduced Power - Throttle Body Replaced
A4	Drivability Issue - Throttle Body Replaced
A5	Check Engine Light - Throttle Body Replaced
A6	Unknown Symptom - Throttle Body Replaced
A7	Throttle Body Replaced Under TSB 09-23-5
B1	Engine Stall - Throttle Body & Another Component Replaced
B2	Engine Surge - Throttle Body & Another Component Replaced
B3	Reduced Power - Throttle Body & Another Component Replaced
B4	Drivability Issue - Throttle Body & Another Component Replaced
B5	Check Engine Light - Throttle Body & Another Component Replaced
C1	Engine Stall - Ambiguous or Unknown Cause
C2	Engine Surge - Ambiguous or Unknown Cause
C3	Reduced Power - Ambiguous or Unknown Cause
C4	Drivability Issue - Ambiguous or Unknown Cause

We are providing electronic copies of reports categorized as "C" as "non-specific allegations" for your review because of the broad scope of the request. Based on our engineering judgment, the information in these reports is insufficient to support a determination that they pertain to the alleged defect.

Owner Reports: Records identified in a search of the Master Owner Relations Systems (MORS) database, as described in Appendix B, were reviewed for relevance and sorted in accordance with the categories described above. The number and copies of relevant owner reports identified in this search that allege engine stall, engine surge, loss of power, or throttle malfunction related to TSB 09-23-5 in a subject vehicle are provided in the MORS III portion of the database contained in Appendix C. The categorization of each report is identified in the "Category" field.

Records identified in a search of the FMC360 database, as described in Appendix B, were reviewed for relevance and sorted in accordance with the categories described above. The number and copies of relevant owner reports identified in this search that allege engine stall, engine surge, loss of power, or throttle malfunction related to TSB 09-23-5 in a subject vehicle are provided in the FMC360 portion of the database contained in Appendix C. The categorization of each report is identified in the "Category" field.

Legal Contacts: Ford is providing, in Appendix B, a description of Legal Contacts and the activity that is responsible for this information. To the extent that responsive (i.e., not ambiguous) owner reports indicate that they are Legal Contacts, Ford has gathered the

related files from the Office of General Counsel (OGC). Non-privileged documents for files that were located that are related to the responsive owner reports are provided in Appendix D.

Field Reports: Records identified in a search of the Common Quality Indicator System (CQIS) database, as described in Appendix B, were reviewed for relevance and sorted in accordance with the categories described above. The number and copies of relevant field reports identified in this search that allege engine stall, engine surge, loss of power, or throttle malfunction related to TSB 09-23-5 in a subject vehicle are provided in the CQIS portion of the database contained in Appendix C. The categorization of each report is identified in the "Category" field.

VOQ Data: This information request had an attachment that included three Vehicle Owner Questionnaires (VOQs). Ford made inquiries of its MORS database for customer contacts, and its CQIS database for field reports regarding the vehicles identified on the VOQs. Ford notes that in some instances where the VOQ does not contain the VIN or the owner's last name and zip code, it is not possible to query the databases for owner and field reports specifically corresponding to the VOQs.

One VOQ (ODI #: 10479355) discusses the customer's experience on both their 2009 and 2010 model year Ford Escapes. One incident describes a loss of power while on the interstate in moderate traffic. The other incident describes reduced engine power and illuminated warning lights. The owner mentions that the throttle bodies were replaced in both vehicles. Ford conducted a search of its databases for the VIN supplied with the VOQ and found no related warranty repairs, field reports, or customer complaints and no allegation of any accident or injury.

The other two VOQs involve vehicles outside the scope of the agency's request.

Crash/Injury Incident Claims: For purposes of identifying allegations of accidents or injuries that may have resulted from the alleged defect, Ford has reviewed responsive owner and field reports, and lawsuits and claims. A chart identifying potentially relevant allegations is being provided in Appendix E. Copies of reports corresponding to these alleged incidents are provided in the MORS, CQIS, and Analytical Warranty System (AWS) portions of the database provided in Appendix C.

Claims, Lawsuits, and Arbitrations: For purposes of identifying incidents that may relate to the alleged defect in a subject vehicle, Ford has gathered claim and lawsuit information maintained by Ford's OGC. Ford's OGC is responsible for handling product liability lawsuits, claims, and consumer breach of warranty lawsuits and arbitrations against the Company.

Lawsuits and claims gathered in this manner were reviewed for relevance and sorted in accordance with the categories described above. Ford has also located other lawsuits, claims, or consumer breach of warranty lawsuits, each of which is ambiguous as to whether it meets the alleged defect criteria. We have included these lawsuits and claims as "non-specific allegations" for your review because of the broad scope of the request. Based on our engineering judgment, the information in these lawsuits and claims is insufficient to support a determination that they pertain to the alleged defect.

We are providing the requested detailed information, where available, on the responsive and ambiguous lawsuits and claims in our Log of Lawsuits and Claims, provided in Appendix C in the Legal Claim/Lawsuits tab. The number of relevant lawsuits and claims identified is also

are provided in Appendix F. To the extent information sought in Request 4 is available, it is provided in the referenced appendices.

Request 5

State, by model, engine and model year, total counts for all of the following categories of claims, collectively, that have been paid by Ford to date that relate to, or may relate to, the alleged defect in the subject and peer vehicles: warranty claims; extended warranty claims; claims for good will services that were provided; field, zone, or similar adjustments and reimbursements; and warranty claims or repairs made in accordance with a procedure specified in a technical service bulletin or customer satisfaction campaign.

Separately, for each such claim, state the following information:

a. Ford's claim number;
b. Vehicle owner or fleet name (and fleet contact person) and telephone number;
c. VIN;
d. Repair date;
e. Whether a claim for towing was made within five days of the claim date;
f. Vehicle mileage at time of repair;
g. Repairing dealer's or facility's name, telephone number, city and state or ZIP code;
h. Labor operation number and description;
i. Problem code and description;
j. Replacement part number(s) and description(s);
k. Concern stated by customer;
l. Cause and Correction stated by dealer/technician; and
m. Additional comments, if any, by dealer/technician relating to claim and/or repair.

Provide this information in Microsoft Access 2003 or 2007, or a compatible format, entitled "DP12_006_WARRANTY DATA."

Describe in detail the search criteria used by Ford to identify the claims identified in response to Request No. 5, including the labor operations, problem codes, part numbers and any other pertinent parameters used. Provide a list of all labor operations, labor operation descriptions, problem codes, and problem code descriptions applicable to the alleged defect in the subject vehicles. State, by make and model year, the terms of the new vehicle warranty coverage offered by Ford on the subject vehicles (i.e., the number of months and mileage for which coverage is provided and the vehicle systems that are covered).

Answer

Records identified in a search of the AWS database, as described in Appendix B, were reviewed for relevance and sorted in accordance with the categories described in the response to Request 2. The number and copies of relevant warranty claims identified in this search that allege engine stall, engine surge, loss of power, or throttle malfunction related to TSB 09-23-5 in a subject or peer vehicle are provided in the AWS portion of the database contained in Appendix C. The categorization of each report is identified in the "Category" field.

Requests for "goodwill, field, or zone adjustments" received by Ford to date that relate to the alleged defect that were not honored, if any, would be included in the MORS reports identified above in response to Request 2. Such claims that were honored are included in the warranty data provided.

Ford assumes that providing the warranty claims in the electronic database format meets the requirements of this request because the agency can review or order the claims as desired.

Additionally, the agency has requested information related to claims for vehicle towing within five days of the subject component repair claim. Ford provides roadside assistance as part of the new vehicle limited warranty and certain optional extended service plans. The roadside assistance program is administered by an outside supplier and Ford does not have access to claims made for vehicle towing through this service. Recently, Ford has begun importing roadside assistance claims into its MORS database. However, the claims do not indicate what type of assistance was required, only that assistance was requested. The customer and technician comments provided with warranty claims provide the best source of information regarding possible incident-related vehicle towing.

For 2009 and 2010 model year Ford Escape and Escape Hybrid vehicles, the New Vehicle Limited Warranty, Bumper-to-Bumper Coverage begins at the warranty start date and lasts for three years or 36,000 miles, whichever occurs first. For owners who live areas that conduct EPA approved inspection and maintenance programs or where owners would be subject to a penalty or sanction under local, state, or federal standards, the Emissions Performance Warranty Coverage begins at warranty start date and lasts for two years or 24,000 miles, whichever occurs first.

For owners who live in those states that have adopted California emission and warranty regulations (Connecticut, Maine, Massachusetts, Oregon, Rhode Island, Vermont, and Washington), the Emissions Defect Warranty Coverage begins at warranty start date and lasts for 15 years or 150,000 miles, whichever comes first. The Emissions Performance Warranty Coverage begins at warranty start date and lasts for three years or 50,000 miles, whichever occurs first.

Request 6

> Produce copies of all service, warranty, and other documents that relate to, or may relate to, the alleged defect in the subject vehicles, that Ford has issued to any dealers, regional or zone offices, field offices, fleet purchasers, or other entities. This includes, but is not limited to, bulletin, advisories, informational documents, training documents, or other documents or communications, with the exception of standard shop manuals. Also include the latest draft copy of any communication that Ford is planning to issue within the next 120 days.

Answer

For purposes of identifying communications to dealers, zone offices, or field offices pertaining, at least in part, to engine stall, engine surge, loss of power, or throttle malfunction related to TSB 09-23-5, Ford has reviewed the following FCSD databases and files: The On-Line Automotive Service Information System (OASIS) containing Technical Service Bulletins

(TSBs) and Special Service Messages (SSMs); Internal Service Messages (ISMs) contained in CQIS; and Field Review Committee (FRC) files. We assume this request does not seek information related to electronic communications between Ford and its dealers regarding the order, delivery, or payment for replacement parts, so we have not included these kinds of information in our answer.

A description of Ford's OASIS messages, ISMs, and the Field Review Committee files and the search criteria used are provided in Appendix B.

OASIS Messages: Ford has identified three SSMs and three TSBs that may relate to the agency's request and is providing copies of them in Appendix G1.

Internal Service Messages: Ford has identified three ISMs that may relate to the agency's request and is providing copies of them in Appendix G2.

Field Review Committee: Ford has identified no field service action communications that may relate to the agency's request and is providing copies.

Ford plans to issue a Technical Service Bulletin concerning vehicle drivability issues on 2009 through 2010 model year Ford Escape and Fusion vehicles with no diagnostic trouble codes that may be related to electronic throttle body performance in February 2013; however, no communication has been drafted as of the date of this response.

Request 7

Describe in detail the search criteria used by Ford to identify the claims identified in response to Request No. 5, including the labor operations, problem codes, part numbers and any other pertinent parameters used. Provide a list of all labor operations, labor operation descriptions, problem codes, and problem code descriptions applicable to the alleged defect in the subject vehicles. State, by make and model year, the terms of the new vehicle warranty coverage offered by Ford on the subject vehicles (i.e., the number of months and mileage for which coverage is provided and the vehicle systems that are covered). Describe any extended warranty coverage option(s) that Ford offered for the subject vehicles and state by option, model, and model year, the number of vehicles that are covered under each such extended warranty. Indicate which extended service plans would cover components listed in the subject system.

Answer

Detailed descriptions of the search criteria, including all pertinent parameters, used to identify the claims provided in response to Request 5 are described in Appendix B.

Ford is providing the labor operation codes and diagnostic troubleshoot codes, where available, in the AWS section of Appendix C.

Ford has provided the terms of new vehicle warranty coverage on the subject vehicles in its response to Request 5.

Optional Extended Service Plans (ESPs) are available to cover various vehicle systems, time in service, and mileage increments. The details of the various plans are provided in

Appendix H. As of the date of the information request, 75,353 new vehicle ESP policies had been purchased on 2009 and 2010 model year Ford Escape and Escape Hybrid.

Request 8

Describe all assessments, analyses, tests, test results, studies, surveys, simulations, investigations, inquiries and/or evaluations (collectively, "actions") that relate to, or may relate to the alleged defect that have been conducted, are being conducted, are planned, or are being planned by, or for, Ford. For each such action, provide the following information:

a. Action title or identifier;
b. The actual or planned start date;
c. The actual or expected end date;
d. Brief summary of the subject and objective of the action;
e. Engineering group(s)/supplier(s) responsible for designing and for conducting the action; and
f. A brief summary of the findings and/or conclusions resulting from the action.

The response to this request should include a detailed description of all past, present and future actions by any and all engineering working groups (e.g., engine surge task force) of which Ford is an active member or is otherwise aware. This includes, at a minimum, all of the information requested in items "a" through "f."

For each action identified, provide copies of all documents related to the action, regardless of whether the documents are in interim, draft, or final form. Organize the documents chronologically by action.

Answer

Ford is construing this request broadly and is providing not only studies, surveys, and investigations related to the alleged defect, but also notes, correspondence, and other communications that were located pursuant to a diligent search for the requested information. Ford is providing the responsive non-confidential Ford documentation on the subject vehicles in Appendix I.

To the extent that the information requested is available, it is included in the documents provided. If the agency should have questions concerning any of the documents, please advise.

Ford is submitting additional responsive documentation in Appendix J with a request for confidentiality under separate cover to the agency's Office of the Chief Counsel pursuant to 49 CFR Part 512. Redacted copies of the confidential documents will be provided under separate cover, on separate media, to the agency's Office of Chief Counsel as Appendix J – Redacted. Ford has identified supplier documents that relate to or may relate to the alleged defect in the subject vehicles. As of the date of this response, Ford is still in the process of obtaining supplier confidentiality certificates and will provide these documents once the certificates have been received.

In the interest of ensuring a timely and meaningful submission, Ford is not producing materials or items containing little or no substantive information. Examples of the types of materials not

being produced are meeting notices, raw data lists (such as part numbers or VINs) without any analytical content, duplicate copies, non-responsive elements of responsive materials, and draft electronic files for which later versions of the materials are being submitted. Through this method, Ford is seeking to provide the agency with substantive responsive materials in our possession in the timing set forth for our response. We believe our response meets this goal. If the agency would like additional materials, please advise.

Request 9

Provide the following information regarding the subject bulletin:

a. A chronology of events related to the issuance of the bulletin, including a detailed description of when and how Ford first recognized the concerns described in the bulletin, what actions were taken to investigate the concern and all meetings conducted to review the concerns and make the decision to issue the bulletins and each revision thereof;
b. All related 8-D reports or any equivalent technical investigations and final reports; and
c. Copies of all documents related to investigation and review of the concerns addressed by the subject bulletin, including all material presented at all meetings conducted to review the investigation and analysis of field data (e.g., complaints, field reports, and warranty data), the development of the correction, predicted failure rates, and the potential safety consequences.

Answer

Chronology of Events

On August 13, 2009, four vehicles produced at Hermosillo Stamping & Assembly Plant (HSAP) had experienced throttle body failures during End of Line (EOL) testing. A Stop Ship was issued August 14, 2009, through August 15, 2009, to allow engineering time to determine the cause of the throttle body issue.

Examination of the throttle body assemblies identified manufacturing issues with the throttle position sensor printed circuit boards produced by CIPSA, a Tier-Four supplier. During the manufacturing process, "Via holes" are drilled in the printed circuit board. These holes are eventually filled with conductive material to allow current flow between the two conductive layers within the printed circuit board. During the drilling process, residual dust particles that remain in the holes during the plating process could lead to variations in plating thickness and after exposure to thermal cycling could lead to electrical discontinuity. To validate their findings on August 17, 2009, the team intentionally placed dust contaminants into sample circuit board holes. After the plating operation, the printed circuit boards were thermally cycled and the electrical discontinuity was reproduced. Over the next 48 hours, the throttle body Tier-One supplier, Delphi, developed a thermal cycling process to identify non-functioning throttle position sensor assemblies. The process involved exposing the throttle position sensors to temperatures between -40 °C to 125 °C, after which the assemblies were tested for proper function.

Ford and its supplier implemented interim and permanent corrective actions to address ongoing component and vehicle production. Concurrently, analysis of reports from the field found that some technicians were having difficulty properly diagnosing complaint vehicles. As

a consequence, Ford published the subject TSB in November 2009 to aid in the proper diagnosis and repair associated with this condition.

Ford is providing the responsive non-confidential 8D reports, technical investigations, and documents related to the investigation addressed by TSB 09-23-5 in Appendix I. Ford is submitting additional responsive documentation in Appendix J with a request for confidentiality under separate cover to the agency's Office of the Chief Counsel pursuant to 49 CFR Part 512.

Request 10

Describe all modifications or changes made by, or on behalf of, Ford in the design, material composition, manufacture, quality control, supply, or installation of the subject component, from the start of production to date, which relate to, or may relate to, the alleged defect in the subject vehicles. For each such modification or change, provide the following information:

a. The date or approximate date on which the modification or change was incorporated into vehicle production;
b. A detailed description of the modification or change;
c. The reason(s) for the modification or change;
d. The part number(s) (service and engineering) of the original component;
e. The part number(s) (service and engineering) of the modified component;
f. Whether the original unmodified component was withdrawn from production and/or sale, and if so, when;
g. When the modified component was made available as a service component; and
h. Whether the modified component can be interchanged with earlier production components.

Also, provide the above information for any modification or change that Ford is aware of which may be incorporated into vehicle production within the next 120 days.

Answer

A table of the requested changes is provided in Appendix K.

Request 11

Produce the following sample parts:

a. One exemplar sample of each design version of electronic throttle body assemblies; and
b. Representative samples of each system component returned from the field for analysis, which may be related to the alleged defect.

Include the following information about the parts provided in response to 11.b: (1) the vehicle identification number; (2) the repair claim number; and (3) copies of all documents related to analysis of the part.

Answer

Ford is providing an exemplar throttle body assembly (P/N: 9L8E-9F991-BC). Ford is also providing a field return part from a 2010 model year Ford Fusion (VIN: 3FAHP0HA2AR[redacted]). The corresponding warranty claim (AWS - Claim Key: 40472), field report (CQIS - Report No: 9H5A2003), and customer complaint (MORS III - Case Number: 1794412439) are located in Appendix C. Documents related to analysis of the part are provided in Appendix M.

Request 12

Provide production counts by model year for all MY 2005 through 2012 Ford Escape vehicles that are not part of the subject vehicle population as defined in this letter and for each model year provide a table showing, by name and identifying codes, each version of the following that were used and the approximate proportion of production for each model year:

a. Engine;
b. Transmission;
c. Engine control module (ECM) or powertrain control module (PCM); and
d. Throttle body assembly.

Answer

Ford is providing engine, transmission, Powertrain Control Module (PCM), and throttle body assembly production counts for 2005 through 2012 model year Ford Escape and Escape Hybrid vehicles that are not part of the subject vehicle population in Appendix M.

Request 13

Describe all failsafe or "limp home" operating modes associated with the electronic throttle control system(s) used in the subject and peer vehicles, including the maximum throttle openings, accelerations and vehicle speeds possible for each condition, the fault conditions (descriptions and codes) associated with each mode, the conditions required to return to normal operating conditions and the relationship to the subject bulletin.

Answer

If an electronic throttle body malfunctions, the vehicle will go into an appropriate Failure Mode Effect Management (FMEM) mode and will set a wrench light and a Malfunction Indicator Light (MIL) dependent on the Diagnostic Troubleshooting Code (DTC) and in some cases an audible chime to provide overt indication that the vehicle is operating in a reduced performance mode. There are three FMEM modes:

For the following DTCs (P0122, P0123, P0222, P0223, and P2135), the electronic throttle control strategy will enable the "RPM Guard with Pedal Follower" FMEM mode. In this mode, torque control is disabled due to the loss of a sensor or a PCM fault. The throttle is controlled in pedal-follower mode as a function of the accelerator pedal position sensor input only and limited to a maximum angle of 45°. A maximum allowed RPM is determined based on

accelerator pedal position (RPM Guard). If the actual RPM exceeds this limit, the PCM will adjust fuel and spark to bring the RPM below the limit. The wrench light and MIL are turned on and an ETC causal code is set.

For the following DTCs (P2107, P2101), the electronic throttle control strategy will enable the "RPM Guard with Default Throttle" FMEM mode and disables throttle plate control due to the loss of throttle position information, the Throttle Plate Position controller (TPPC), or other ETC system fault. Depending on the fault detected, the throttle plate reverts to a default "limp home" position. A maximum allowed RPM is determined based on accelerator pedal position (RPM Guard). If the actual RPM exceeds this limit, spark and fuel are adjusted to bring the RPMs below the limit. The wrench light and MIL are turned on in this mode and an ETC component causal code is set.

For the following DTCs (P2111, P2112), the electronic throttle control strategy will enable the "Limited RPM Guard with Default Throttle" FMEM mode. This occurs when the throttle is not tracking the requested command, indicating that the throttle may be stuck. A default command is either sent to the TPPC or the H-bridge is disabled and the throttle reverts to the default "limp home" position. Engine RPM is controlled to a fixed value. If the actual RPM exceeds this limit, the PCM will adjust spark and fuel to bring RPMs below the limit. The powertrain malfunction indicator (wrench) and MIL are illuminated in this mode and a Pedal Sensor DTC is set.

Additional information, including a summary table of the DTCs and resulting FMEM modes, maximum throttle angles, and the conditions required to return to normal operating conditions are provided in Appendix N.

Request 14

Furnish Ford's assessment of the alleged defect in the subject vehicle, including:

a. The causal or contributory factor(s);
b. The failure mechanism(s);
c. The failure mode(s);
d. The risk to motor vehicle safety that it poses; and
e. What warnings, if any, the operator and the other persons both inside and outside the vehicle would have that the alleged defect was occurring or subject component was malfunctioning.

Answer

In its October 23, 2012 letter, the agency stated that its information request was focused on the vehicles and defect condition described in TSB 09-23-5. However, Ford notes that the agency's alleged defect was not limited to the TSB, but included all reports of throttle related engine stall, engine surge, and loss of power on the subject vehicles regardless of whether they may be related to the referenced TSB.

As with numerous other electronic control systems in modern vehicles, Ford notes that the throttle control used in these vehicles is a complex and sophisticated system that is designed to provide optimum operation, accounting for such parameters as fuel economy, emissions, driving performance, etc., while constantly monitoring system parameters to ensure safe system function and vehicle operation. When the system detects a potential fault or error

state, system parameters have been incorporated to mitigate those error states and allow the vehicle to function in a safe manner until the error state is corrected or repaired. As part of this system control strategy, Ford has developed Failure Mode Effects Management (FMEM) modes under which the vehicle will continue to operate in the event that some type of system error state within the throttle control system has been detected. In each of these modes, the system is designed such that the engine will continue to operate and the vehicle will continue to have motive capability, providing full steering, braking, and electrical function to the vehicle.

TSB 09-23-5

As described in response to Request 9, in November 2009, Ford published TSB 09-23-5 to assist technicians in the proper diagnosis and repair of vehicles produced during June 22, 2009, through October 15, 2009. Vehicles manufactured during this timeframe may contain throttle bodies built with contaminated printed circuit boards (plating variation) as previously described. After being exposed to thermal cycling, the plating variation could lead to a lack of continuity in the throttle position sensor circuit where a (DTC) P2135 – "TP A / TP B Correlation" code, which would then be stored. In some instances, (DTCs) P2111 – "Throttle Actuator System Stuck Open" and/or P0122 – "TP A Circuit Continuity" might be generated and stored. Vehicles produced after October 15, 2009, incorporated throttle body assemblies that were manufactured with a printed circuit board process that resolved this condition.

Electronic Throttle Control FMEM Modes

A driver may experience one of three different FMEM or "limp home" modes depending on the particular control system malfunction. The first FMEM mode, "RPM Guard with Pedal Follower", disables cruise control, limits the maximum throttle angle to 45°, establishes a maximum RPM limit, changes actuation to a pedal follower mode, and will illuminate the wrench light and MIL. As an example, this mode would be enabled when one of the two (redundant) throttle position sensor signals malfunctions, while the other reference signal remains functional. Under normal driving conditions, this mode would be largely imperceptible to a driver. Customers may perceive some minor drivability differences under heavier acceleration or higher engine RPM as the PCM adjusts fuel and spark to bring engine RPMs below the predetermined maximum threshold. In this mode, the customer would be able to maintain posted maximum speed limits on public streets as well as on the highway.

Should the throttle control system detect a loss of a critical sensor, both throttle position signals for example, the FMEM mode, "RPM Guard with Default Throttle" would be enabled. In this mode, the system positions the throttle plate at a default 8° angle and the maximum RPM allowed under these conditions is determined based on the accelerator position. If the allowable RPM limit under these conditions is exceeded, the PCM will adjust fuel and spark to bring the engine RPMs below the maximum allowed for that pedal position, and a wrench light and MIL will be illuminated to clearly notify the operator that the system has detected a fault and the vehicle has entered a reduced performance mode. Ford believes drivers will immediately notice the reduced vehicle performance when this FMEM mode is enabled. The default throttle angle of 8° is intended to maintain the engine RPMs for electronic power steering assist, produce vacuum for power brake assist, and to allow the driver motive capability to safely maneuver their vehicle out of traffic. In this mode the vehicle will continue to coast, with the engine continuing to operate, until it has reached the vehicle speed that is able to be achieved within these parameters. Ford evaluated a heavily loaded vehicle in "RPM Guard with Default Throttle" FMEM mode and was able to achieve and maintain speeds

from 15 mph to over 20 mph in this mode. Ford also confirmed that if the vehicle were brought to a stop, the vehicle would still be able to achieve these reduced speeds and maintain mobility.

The third FMEM mode, "Limited RPM Guard with Default Throttle" would be engaged when the system detects that the throttle plate may be stuck. In this mode, the H-bridge, which controls the throttle plate position, would be disabled and torsional springs return the throttle plate to a default 8° angle, the same as "RPM Guard with Default Throttle." The PCM, however, will adjust fuel and spark to bring the RPMs to a fixed limit, which in this mode, is approximately 900 RPM. As with the other FMEM modes, a wrench light and MIL would be illuminated and vehicle performance would be reduced. The default throttle angle is intended maintain the engine RPMs sufficient for electronic power steering assist function, vacuum for power brake assist, and to still provide sufficient mobility to allow the driver to maneuver their vehicle to a safe location. Ford evaluated a heavily loaded Ford Fusion operating in "Limited RPM Guard with Default Throttle" FMEM mode and was able to maintain motive capability. If this mode were to be entered while the vehicle was at a higher speed, vehicle engine performance would be reduced and the vehicle would continue to coast, with the engine continuing to operate, until it has reached a steady state slower speed. And, because motive power is maintained, the driver would still be able to maneuver their vehicle to a safe location. If the vehicle were brought to a stop, it would still be able to resume mobility with the engine limited to approximately 900 RPM.

Customer Characterizations

Some of the customer reports provided in this response allege an actual vehicle or engine stall. Ford does not believe that engines will stall unexpectedly under these conditions, although customers may describe what they believe is a "stall" when the engine is actually operating either in "RPM Guard with Default Throttle" or "Limited RPM Guard with Default Throttle" FMEM mode.

When a vehicle enters one of these two "Default Throttle" modes, it is already clear to the driver that the engine is operating in some type of reduced performance mode in which the PCM will adjust the supply of fuel and spark to each cylinder in order to bring engine RPMs below a predetermined limit; yet, the engine will still continue to operate, providing full functionality to the steering and braking systems. For either of these "Default Throttle" modes, customers will experience reduced or limited power as the vehicle coasts to a reduced speed and the PCM maintains engine RPM by adjusting fuel and spark. Any potential for stall under these conditions could only occur after the vehicle has reached its reduced mode at which point it is overtly operating in a reduced mode. In addition, in the unlikely event of an engine stall under these circumstances, the engine can immediately be restarted and the vehicle will continue to have motive capability. In the event that the vehicle experiences an intermittent fault, where the fault is no longer present after the driver cycles the key off and on, the vehicle will resume normal operation.

Also provided in this response, as requested by the agency, are reports alleging engine "surge." Ford does not believe that an engine will actually "surge" (a steady increase or sustained engine RPM) when in any of the FMEM modes. Some of the reports provided in this response state "...vehicle surges after coming to a stop." As previously described, if a throttle control system fault is detected, Ford's electronic throttle control strategy is designed to limit engine RPM, which eliminates the conditions for a throttle-induced surge. Ford believes that this type of characterization is actually describing the engine control system's

modulation of engine RPMs, under load, once the vehicle reaches a reduced speed to maintain approximately 900 RPM. However, even though customers may experience this low speed drivability or rough-idle condition, Ford does not believe the vehicle would "surge."

Other customer reports provided in this response allege "...vehicle surged full throttle and hit a wall" or "...vehicle surged when I hit the brakes, brakes did not work, caused an accident", for example. Ford believes that such allegations are unrelated to this subject (in which the vehicle is already clearly in a reduced operating mode). Ford also notes that such allegations are not uncommon for any vehicle model where customers may have improperly operated their vehicle, and may have nothing to do with improper function.

Accidents/Injuries

Ford reviewed the responsive reports provided in this response and found none that may be related to throttle body failure on the subject vehicles, and only two responsive reports that allege an accident on peer vehicles.

One peer vehicle report involves a 2010 model year Ford Fusion (VIN: FAHP0HA0AR[redacted]), where the customer alleges the vehicle stalled while making a turn. The customer provided no details on the cause of the accident other than the vehicle sustained minor damage "...in the bumper area..." There were no injuries. In the corresponding warranty claim, where the ETC was replaced, the customer stated the vehicle "...has a rough idle at times will not go over 10 mph" which could indicate an FMEM "limp home" mode in which it is clear to the driver that the engine is operating in a reduced performance mode.

The second report involves a 2010 model year Ford Fusion (VIN: 3FAHP0HG6AR[redacted]), where the customer alleges the accident occurred as a result of a vehicle stall while driving on the highway. As previously stated, Ford does not believe an engine would unexpectedly stall when operating in any of these FMEM modes unless is already clear to the driver that the vehicle is operating in reduced performance mode and the vehicle speed has reduced significantly. In the unlikely event of an engine stall in these circumstances, the engine can be immediately restarted and the vehicle will continue to have motive capability. In the MORS report, the customer is seeking to have the cost of the throttle body replacement covered.

Conclusion

Ford released TSB 09-23-5 to assist service technicians in the proper diagnosis and repair of vehicles produced from June 22, 2009, through October 15, 2009, with an illuminated MIL and with DTC code P2135.

The throttle control system in these vehicles is a complex and sophisticated system designed to provide the driver with optimum performance in conjunction with safe operation in the event that a potential fault is detected. Even in the event that a potential malfunction is detected, the system is designed such that the vehicle, even in diminished performance mode, remains safe, maneuverable, and controllable. The electronic throttle body strategy in the subject and peer vehicles employs three FMEM modes to allow vehicle functionality in the event of a malfunctioning throttle body control system. Within each of these modes, the engine will continue to run at varying levels of reduced engine performance and vehicle mobility is maintained, providing opportunity to maneuver a vehicle to a safe location. Ford believes that vehicles are not likely to unexpectedly stall as a result of this condition, but that customers

may erroneously characterize the reduced functionality as a stall, even though their vehicle still has motive capability. Likewise, Ford does not believe that allegations of vehicle "surge" are consistent with FMEM mode operation, but that customer characterizations of "surge" are most likely related to engine RPM fluctuations at low vehicle speeds or idle as the control system works to prevent engine stall.

In conclusion, Ford does not believe this concern presents an unreasonable risk to motor vehicle safety because vehicle mobility is maintained, allowing drivers to maneuver their vehicle to a safe location, drivers are alerted that a fault has been detected and are aware that their vehicle's engine is operating in a reduced performance mode, and, in each of these FMEM modes, engine operation is maintained providing full power steering assist, brake assist, and electrical functions.

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2009 – 2010 Ford Escape
Engine Stall/Surge/Loss of Power

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 CuDL (Customer Data Link). Certain contacts, such as letters from customers, are entered into the CuDL database. Those that were entered into the earlier MORS II system were also microfilmed. More recently, the records in MORS III/CuDL are imaged and stored electronically.

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 MORS 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 CuDL system. To the extent that those documents exist, they are characterized in the comments of MORS III 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 CuDL using the following criteria:

Model Year:

Model Year	Vehicle	Designation
2009 – 2010	Ford Escape / Escape Hybrid	Subject
2009 – 2010	Mercury Mariner / Mariner Hybrid	Peer
2010	Ford Fusion / Fusion Hybrid	Peer
2010	Mercury Milan / Milan Hybrid	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 October 23, 2012 (the date of this inquiry)

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

MORS III Symptom Code(s):

Symptom Category	Symptom Code	Symptom Description
Gasoline Engine	607XXX	Stall
	608XXX	Rough
	612XXX	Surge
	614XXX	Loss of Power
	617XXX	Slow Return to Idle
	620XXX	Engine Speed Up
	698XXX	Indicator (Light)
	6243XX	Accel Pedal Power Adjust
	611XXX	Hesitation/Stumble
	6982XX	Check Engine Light
Hybrid	6302XX	Stall
	6305XX	Surge
	6306XX	Loss of Power
	6308XX	Indicator (Light)
General	508153	Transfer Case – Jerk/Surge

MORS III Reason Code(s):

Reason Code	Description
07XX	Legal Contacts
10XX	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 CuDL 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.

Model Year	Vehicle	Designation
2009 – 2010	Ford Escape / Escape Hybrid	Subject
2009 – 2010	Mercury Mariner / Mariner Hybrid	Peer
2010	Ford Fusion / Fusion Hybrid	Peer
2010	Mercury Milan / Milan Hybrid	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 October 23, 2012 (the date of this inquiry)

Symptom Code(s): .

Symptom Category	Symptom Code	Symptom Description
Driver Aides	227QXX	Warning Light
Driving Performance	550XXX	Runs Rough
	551XXX	Idle Quality
	552XXX	Stalls/Quits
	554XXX	Lacks/Loss of Power
	558XXX	Surge
	557XXX	Hesitation

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:

Model Year	Vehicle	Designation
2009 – 2010	Ford Escape / Escape 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 October 23, 2012 (the date of this inquiry)

Symptom Code(s): .

Symptom Category	Symptom Code	Symptom Description
Driver Aides	227QXX	Warning Light
Driving Performance	550XXX	Runs Rough
	551XXX	Idle Quality
	552XXX	Stalls/Quits
	554XXX	Lacks/Loss of Power
	558XXX	Surge
	557XXX	Hesitation

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:

Model Year	Vehicle	Designation
2009 – 2010	Ford Escape / Escape 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 October 23, 2012 (the date of this inquiry)

Symptom Code(s): .

Symptom Category	Symptom Code	Symptom Description
Driver Aides	227QXX	Warning Light
Driving Performance	550XXX	Runs Rough
	551XXX	Idle Quality
	552XXX	Stalls/Quits
	554XXX	Lacks/Loss of Power
	558XXX	Surge
	557XXX	Hesitation

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:

Model Year	Vehicle	Designation
2009 – 2010	Ford Escape / Escape Hybrid	Subject
2009 – 2010	Mercury Mariner / Mariner Hybrid	Peer
2010	Ford Fusion / Fusion Hybrid	Peer
2010	Mercury Milan / Milan Hybrid	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 October 23, 2012 (the date of this inquiry)

Base Part Number(s): 9F991 and 9E926

Labor Op Code(s): 092305A (TSB 09-23-5)

Customer Concern Code(s):

CCC	Description
D36	Engine hesitates/surges when accelerating
D41	Engine hesitates/surges at steady speed
D13	Engine idles rough
D11	Engine idles too fast
D10	Engine idles too slowly