INFORMATION REDACTED PURSUANT TOTHE FREEDOM
OF INFORMATION ACT (FOIA), 5 U.S.C.552(B)(6)



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October 12, 2018

Stephen A. Ridella, Director
Office of Defects Investigation
Office of Enforcement
National Highway Traffic Safety Administration
1200 New Jersey Avenue SE, Room W45-302
Washington, DC 20590

Dear Mr. Ridella:

Subject: PE18-007:NEF-103dlb

Enclosed is Ford Motor Company's partial response to your August 2, 2018 letter, that requested information about the 2013 model year Escape vehicles equipped with 1.6L engines. Answers to requests 3, 4, 5 9, 10 and 11 are attached. A partial response to request number 2 is attached.

As agreed, we are continuing to review and summarize the information required to provide responses to the remaining requests as the information becomes available.

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

Sincerely,

[redacted]

Desi Ujkashevic

Attachment

FORD MOTOR COMPANY (FORD) PARTIAL RESPONSE TO PE18-007

Ford's response to this Preliminary Evaluation 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 within an eight week time frame makes 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 Preliminary Evaluation.

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 August 2, 2018, the date of your inquiry. Ford has searched within the following offices for responsive documents: Sustainability, Environment and Safety Engineering, Ford Customer Service Division, Global Core Engineering, Office of the General Counsel and North American Product Development.

Request 2

State 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;
d. Reports involving a fire;
e. Property damage claims;

f. Third-party arbitration proceedings where Ford is or was a party to the arbitration; and
g. Lawsuits, both pending and closed, in which Ford is or was a defendant or codefendant.

For subparts "a" through "g' 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 "g" 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.

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). Claim and lawsuit information maintained by Ford's Office of the General Counsel (OGC) pertaining to (e), (f) and (g) will be provided in a subsequent submission, per an email to the agency dated 10/05/18.

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	Stalls while driving due to coolant system failure/engine overheat
A2	Limp home mode while driving due to coolant system failure/engine overheat
A3	Stalls while stationary due to coolant system failure/engine overheat

All reports that are unread and uncategorized are also provided with this submission.

Owner Reports: Records identified in a search of the FMC360 Owner Relations System, 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 loss of motive power due to coolant system failure/engine overheat 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.

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 loss of motive power due to coolant system failure/engine overheat in a subject vehicle are provided in the CQIS portion of the database contained in **Appendix C**. The categorization of at least 3,000 reports, selected and read at random, is identified in the "Category" field for the subject vehicles, and the categorization of

at least 250 reports, selected and read at random, is identified in the "Category" field for the peer vehicles.

VOQ Data: This information request had an attachment that included 42 Vehicle Owner Questionnaires (VOQs), one of which is duplicative and one of which describes an issue on a 2012 Ford Focus. Ford made inquiries of its FMC360 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.

Crash/Injury Incident Claims: Of the reports that were read and categorized in the "A" category, Ford identified one alleged accident report, no alleged fire reports and no alleged injury reports. Regarding the alleged accident, Ford has received no medical records, additional information or claims.

Request 3

Separately, for each item (complaint, report, claim, notice, or matter) within the scope of your response to Request No. 2, state the following information:

a. Ford's file number or other identifier used;
b. The category of the item, as identified in Request No. 2 (i.e., consumer complaint, field report, etc.);
c. Vehicle owner or fleet name (and fleet contact person), street address, email address and telephone number;
d. Vehicle's VIN;
e. Vehicle's make, model and model year;
f. Vehicle's mileage at time of incident;
g. Incident date;
h. Report or claim date;
i. Whether a crash is alleged;
j. Whether a fire is alleged;
k. Whether property damage is alleged;
l. Number of alleged injuries, if any; and
m. Number of alleged fatalities, if any.

Provide this information in Microsoft Access 2010, or a compatible format, entitled "REQUEST NUMBER TWO DATA."

Answer

Ford is providing owner and field reports in the database contained in **Appendix C** in response to **Request 2**. To the extent information sought in **Request 3** is available for owner and field reports, it is provided in the database.

Request 4

Produce copies of all documents related to each item within the scope of Request No. 2. Organize the documents separately by category (i.e., consumer complaints, field reports, etc.) and describe the method Ford used for organizing the documents. Describe in detail the search methods and search criteria used by Ford to identify the items in response to Request No. 2.

Answer

Ford is providing owner and field reports in the database contained in **Appendix C** in response to Request 2. To the extent information sought in Request 4 is available for owner and field reports, it is provided in the database. The criteria used to search each of these are provided in **Appendix B.**

Request 5

State, by model and model year, a total count 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), street address, email address and telephone number;
c. VIN;
d. Repair date;
e. Vehicle mileage at time of repair;
f. Repairing dealer's or facility's name, telephone number, city and state or ZIP code;
g. Labor operation number(s);
h. Problem code(s);
i. Diagnostic trouble code(s);
j. Replacement part number(s) and description(s);
k. Concern stated by customer;
l. Cause as stated on the repair order;
m. Correction as stated on the repair order; and
n. Additional comments, if any, by dealer/technician relating to claim and/or repair.

Provide this information in Microsoft Access 2010, or a compatible format, entitled "WARRANTY DATA."

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 steering wheel bolt loose in a subject vehicle are provided in the AWS portion of the database contained in **Appendix C**. The categorization of at least 3,000 reports read at random is identified in the "Category" field for each subject and peer vehicles.

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 FMC360 reports identified above in response to **Request 2**. Such claims that were honored are included in the warranty data provided.

Request 9

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 components, 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.

For each component part number, provide the supplier's name, address, and appropriate point of contact (name, title, and telephone number). Also identify by make, model and model year, any other vehicles of which Ford is aware that contain the identical component, whether installed in production or in service, and state the applicable dates of production or service usage.

Answer

Ford understands this pertains to parts utilized in Ford's vehicle assembly process and not service kits utilized as part of Field Service Actions. Ford is providing a table summarizing the requested information in **Appendix G**.

Request 10

Provide the following information regarding the Subject Recalls and the Subject Service Campaigns, and produce copies of all documents that support your response:

a. Explain how Ford determined the scope of affected vehicles; and
b. Explain how Ford validated the effectiveness of the repair procedures.

Answer

Consistent with an Agency email dated August 21, 2018, Ford is providing information in response to all subject recalls except for 15V005, 14V525 and 13V584.

Supporting documents for 12V336 and 17V209 are provided in **Appendix F**. Ford is submitting responsive documentation in **Appendix F** with a request for confidentiality under separate cover to the Agency's Office of the Chief Counsel pursuant to 49 CFR Part 512.

Request 11

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; and
f. The reports included with this inquiry.

Answer

Background

Ford issued safety recall 13S12 (13V583) for all 2013 model year Escape vehicles equipped with 1.6L engines including those 1.6L vehicles included in 12S41 (12V551) and 12S35 (12V336). The control system in those vehicles does not fully detect and respond to the loss of coolant to prevent the localized overheating. Owners were instructed to take their vehicles to a Ford or Lincoln dealership to have enhancements to the engine shielding, cooling and control systems made.

The 2014 model year Escape vehicles equipped with 1.6L engines incorporated a metal temperature sensor (MTS) that does not require the presence of coolant in order to supply accurate engine temperatures to the engine cooling system. This improved sensing capability allows the control system to prevent the high stress condition that could occur in previous model year vehicles.

Failure Mode Effects Management (FMEM) Strategy

Part of the remedy for 13S12 (13V583) was a recalibration of the powertrain calibration module (PCM) and the instrument panel cluster system. This recalibration implements an FMEM strategy for the engine. FMEM alerts the customer of a low coolant state and limits power to the engine to prevent the vehicle from overheating to the point of cracking the cylinder head. If a vehicle overheats and the cylinder head cracks, oil can leak which can potentially lead to an underhood fire.

The first part of the recall remedy incorporated a "Low Engine Coolant – Service Required" message in the instrument cluster when the coolant level reaches a prescribed low level and the engine continues to perform normally.

A second part of the recall remedy incorporated a coolant level sensor in a coolant stand-pipe. If the coolant level is further reduced, the coolant stand-pipe provides low coolant level information to the PCM and the engine enters reduced power FMEM 1 mode. This mode limits engine operation and vehicle speed to no more than approximately 40 miles per hour and alerts the driver to pull over safely. A customer can exit FMEM 1 mode by adding coolant to the vehicle.

If the vehicle continues to be driven in reduced power FMEM 1 mode and coolant is not added to the vehicle, after time has passed the vehicle enters into reduced power FMEM 2 mode which provides audible and visual alerts to the driver and limits the engine operation to idle speeds. The vehicle is kept in this mode until it is taken to a Ford dealership where this mode is cleared.

VOQ Vehicle History Details

The information request included 42 Vehicle Owner Questionnaires (VOQs), one of which is duplicative and one of which describes an issue on a 2012 Ford Focus. Ford performed an exhaustive warranty and customer-paid repair search of its data on the VINs associated with each VOQ and the details are provided in **Appendix H**. All of the vehicles associated with the VOQs had recall remedy 13S12 (13V583) completed.

In summary, our records indicate that some of the allegations are completely unrelated to an engine overheat condition (i.e. electronic throttle body repair) or that the coolant strategy provides advance and progressive visual and audible low coolant warnings.

Complaints on Subject Vehicles

Ford read all VOQs, all FMC360 reports and at least 3,000 field reports related to the subject vehicles. The average complaint rate for vehicles that received some loss of motive power due to low coolant or engine overheat is 3.59 R/1000 since recall 13S12 (13V583).

Ford read all FMC360 reports and 254 field reports related to the peer vehicles. Because not all records were read, duplicative reports were not identified. The average complaint rate for peer vehicles that received some loss of motive power due to a coolant failure or engine overheat is 0.27 R/1000. The rate of failure is significantly less than the subject vehicles and could be due to the deployment of the MTS in the 2014 model year Escape vehicles.

Despite implementation of the FMEM strategy in recalled vehicles, there are multiple complaints that imply that advanced and progressive warnings and reduced engine power FMEM modes are being ignored. One complaint states, "the coolant indicator kept illuminating and the vehicle stalled several times." This statement suggests that there was a low coolant level on the vehicle that set a warning but the driver did not add coolant to the vehicle. The driver continued driving the vehicle until FMEM 1 mode limited engine power to the point where the driver perceived the reduced engine power as an engine stall. Another similar complaint states, "on several occasions, while driving, the contact heard a beeping noise and the engine warning indicator illuminated, indicating that the engine was overheating. Afterwards the vehicle seized." This complaint suggests that the driver did not add coolant despite being warned and furthermore the vehicle may have reached the FMEM 2 mode because the complaint mentions the vehicle seized and needed to be towed. Another complaint states that "the vehicle will shutdown during operation and lose electrical power. This has occurred 3 times over the last year. The vehicle's ECU will show overheating and engine overheating during operation and shutdown." For the vehicle to shut down during operation multiple times, the vehicle may have entered the reduced power FMEM 1 mode where key cycles clear the vehicle of this mode until the next event.

There are multiple complaints that state a vehicle stalled while driving but subsequent statements either contradict the nature of a stall or imply that the driver perceives an FMEM as stall. In one example, "the car heated and stopped on the freeway. She got to the side of the road" implies that there was enough power for the driver to control the vehicle to pull over safely. Another complaint states "veh stalls where there is not any acceleration at all", while another complaint states "vehicle stalls while driving. This happens intermittently but there is no power to the gas pedal." These complaints imply FMEM 1 mode where acceleration above 40 mph is not possible. A similar complaint states "broke down...Veh lost power, started sputtering. Didn't have power to run." This implies the engine is running but acceleration is limited. Because these complaints and many other similar complaints mention a stall they were

categorized as a stall but subsequent statements imply that a reduced power FMEM mode was triggered by design.

The recall remedy for 13S12 (13V583) included installing a calibration into the vehicles that alerts customers of a low coolant level: this is a strategy that is not adopted by all OEMs. These complaints could be a side effect of alerting customers to add coolant.

Conclusion

Ford believes that the remedy for 13S12 (13V583) mitigates the risk of an engine overheat due to low coolant by providing clear warnings and progressive reduced power FMEM strategies. Furthermore, Ford has not identified a defect in the coolant system and believes that the rate of complaints of reduced motive power due to low coolant is low for the subject vehicles. Ford identified a substantial number of warranty reports and complaints that support that the reduced power FMEM strategy installed in recalled vehicles is performing as designed to prevent overheat conditions – there is sufficient evidence that suggests that low coolant warnings are being properly provided through visual and audible warnings in advanced and progressive steps. There is also evidence that some customers are perceiving reduced power FMEM modes as vehicle stalls. Based on the data analysis, Ford has not identified a defect in the coolant systems or an unreasonable risk to motor vehicle safety due to loss of motive power due to coolant loss or engine overheat. Ford does not believe that the low coolant progressive FMEM strategies installed to mitigate the risk of an engine overheat condition present an unreasonable risk to motor vehicle safety.

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