



INFORMATION Redacted PURSUANT TO THE FREEDOM OF INFORMATION ACT (FOIA), 5 U.S.C. 552(B)(6)

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July 28, 2010

Mr. Richard P. Boyd, Acting Director
Office of Defects Investigation
National Highway Traffic Safety Administration
1200 New Jersey Avenue SE, Room W45-302
Washington, DC 20590

Dear Mr. Boyd:

Subject: EA10-003:NVS-214bby

The Ford Motor Company (Ford) response to the agency's June 17, 2010, letter concerning reports of alleged blower motor control switches, dash materials, or related wiring harness fires in 1997 through 2008 model year E350 and E450 vehicles is attached.

Ford's comprehensive review and analysis conducted in the preparation of our responses to both the PE information request (IR) related to this subject and to this EA IR have not identified any trend or pattern related to heater blower switch fires in any of the subject vehicles. Many of the 1.1 million subject vehicles have well over a decade of service and report several hundred thousand odometer miles, including vehicles with over 500,000 odometer miles. We reasonably estimate that the subject vehicles, as a group, have now accumulated over 128 billion miles. Further, many of the subject vehicles are used in severe-duty applications such as airport shuttle service or public transit where the vehicles are operated nearly constantly in all weather conditions. Despite the typical usage, age, mileage, and/or hours of operation of the subject vehicles, the report data continue to indicate they have performed extremely well. To be clear, Ford has not been able to establish there has been one incident in which an open flame resulted from a malfunction of this switch. In total, Ford has identified only ten total incidents of alleged "burnt" components related to the front blower motor switch. Further, all of the plastic materials used in construction of the subject switches have a flammability rating of "HB" using UL94 test methodologies and as such are expected to be "self extinguishing."

A review of the reports located to prepare this response confirmed, as described in Ford's response to PE09-055, that the vast majority of responsive reports pertain simply to replacement of a switch after observation of some blower motor or switch function issue. The symptoms are typically reported as a loss of a particular blower motor operating speed, loss of tactile feel in the switch detent positions, a switch knob warm to the touch, or loss of retention of the switch knob. Of the responsive reports provided in response to both this IR and the PE IR, approximately 67% indicate that a switch was replaced without any additional detail. Approximately 30% of the responsive reports indicate that melting was observed at the time of switch replacement. For example, many of the responsive reports indicate that a customer noted a loss of some switch functionality and the service technician observed that the switch was melted only after it was removed. Approximately two percent of the responsive reports

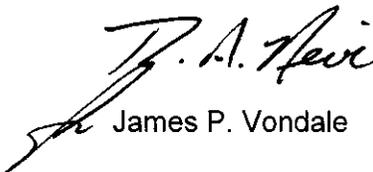


indicate smoke was observed at or near the switch; none of these reports describe any additional damage to the vehicle or surrounding components.

Consistent with Ford's response to PE09-055, the preponderance of real world data continues to support that there is no trend or pattern of front blower switch failure leading to actual fires in the subject vehicles. Despite the severe usage profile of these vehicles and the fact that switches are occasionally replaced and found to be melted or charred, there is no evidence indicating these switch failures result in actual fire or flames, much less any fire that propagates throughout the entire vehicle. Even using the agency's broadest definition of "fire", the report rate is still remarkably low. The benign nature of the reports relating to this subject continue to support a conclusion that front blower motor switch failure does not pose an unreasonable risk to motor vehicle safety in these vehicles.

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

Sincerely,



James P. Vondale

Attachment

FORD MOTOR COMPANY (FORD) RESPONSE TO EA10-003

Ford's response to this Engineering Analysis information request (IR) 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 Engineering Analysis.

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.

In a January 5, 2010, telephone conversation, Bruce York of the agency informed Ford personnel that the scope of this investigation was the front blower motor control switch and components that service the instrument panel and windshield areas of the vehicle.

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 June 17, 2010, the date of your inquiry. Ford has searched within the following offices for responsive documents: Sustainability, Environment and Safety Engineering, Marketing and Sales Operations, Global Core Engineering, Office of the General Counsel, Vehicle Operations, and North American Product Development.

Request 1

State the number of each of the following, received by Ford, or of which Ford are otherwise aware, which relate to, or may relate to, the alleged defect in the subject 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. Third-party arbitration proceedings where Ford is or was a party to the arbitration; and
- e. Lawsuits, both pending and closed, in which Ford is or was a defendant or codefendant.

For subparts "a" through "e," 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 "e," 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 A.

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

Category	Allegation
A1	Alleged fire due to front blower motor control switch
A2	Alleged smoke due to front blower motor control switch
A3	Alleged melting due to front blower motor control switch
A4	Alleged smoke/melt in other components due to front blower motor control switch
B1	Alleged dash fire, source ambiguous
B2	Alleged fire, source and location ambiguous
B3	Alleged switch issue, unable to determine which switch
R	Report of front blower motor control switch replacement without additional description

We are providing electronic copies of reports categorized as "B" 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 A, 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 may relate to the agency's investigation are provided in the MORS III portion of the database contained in Appendix B. The categorization of each report is identified in the "Category" field.

When we were able to identify that responsive (i.e., not ambiguous) duplicate owner reports for an alleged incident were received, each of these duplicate reports was marked accordingly, and the group counted as one report. In other cases, certain vehicles may have experienced more than one incident and have more than one report associated with their VINs. These reports have been counted separately.

Legal Contacts: Ford is providing, in Appendix A, a description of Legal Contacts and the activity that is responsible for this information. No reports of this type were identified for this inquiry.

Field Reports: Records identified in a search of the Common Quality Indicator System (CQIS) database, as described in Appendix A, 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 may relate to the agency's investigation are provided in the CQIS portion of the database contained in Appendix B. The categorization of each report is identified in the "Category" field.

When we were able to identify that responsive duplicate field reports for an alleged incident were received, each of these duplicate reports was marked accordingly, and the group counted as one report. In other cases, certain vehicles may have experienced more than one incident and have more than one report associated with their VINs. These reports have been counted separately. In addition, field reports that are duplicative of owner reports are provided in Appendix B but are not included in the field report count.

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. No reports alleging accidents or injuries were located.

Claims, Lawsuits, and Arbitrations: For purposes of identifying incidents that may relate to the alleged defect, 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, as Appendix C1. The number of relevant lawsuits and claims identified is also provided in this log. To the extent available, copies of complaints, first notices, or MORS reports relating to matters shown on the log are in Appendix C2. With regard to these lawsuits and claims, Ford has not undertaken to contact outside law firms to obtain additional documentation.

Request 2

Separately, for each item (complaint, report, claim, notice, or matter) within the scope of your response to Request No. 1, state the following information:

- a. Ford's file number or other identifier used;
- b. The category of the item, as identified in Request No. 1 (i.e., consumer complaint, field report, etc.);
- c. Vehicle owner or fleet name (and fleet contact person), 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. Incident state;
- i. Report or claim date;
- j. Whether a crash is alleged;
- k. Whether a fire is alleged;
- l. Whether property damage is alleged;
- m. Number of alleged injuries, if any;
- n. Number of alleged fatalities, if any;
- o. Ford component and system codes;
- p. Component that is alleged to have failed;
- q. If a fire is alleged, indicate the alleged area of the dashboard where the fire started; (left, right, center, or unknown)
- r. Whether the incident occurred with the engine "OFF" or the engine "ON;"
- s. Whether or not Ford received a subrogation claim regarding the incident (Y/N);
- t. If a fire is alleged, whether a fire investigation was performed by any party, that Ford is aware of, to determine the origin and cause (if so, please provide a copy of the report);
- u. If a fire is alleged, the alleged cause of the fire;
- v. Complaint summary;
- w. Consumer comments; and,
- x. Ford's assessment of the allegation.

Provide this information in Microsoft Access 2003, or a compatible format, entitled "REQUEST NUMBER TWO DATA," See Enclosure 1, Data Collection Disc, for a preformatted table which provides further details regarding this submission.

Answer

Ford is providing owner and field reports in the database contained in Appendix B in response to Request 1. To the extent information sought in Request 2 is available for owner and field reports, it is provided in the database. To the extent information sought in Request 2 is

available for lawsuits and claims, it is provided in the Log of Lawsuits and Claims as Appendix C1.

Request 3

Produce electronic 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.

Answer

Ford is providing owner and field reports in the database contained in Appendix B in response to Request 1. Copies of complaints, first notices, or MORS reports relating to matters shown on the Log of Lawsuits and Claims in Appendix C1 are provided in Appendix C2. To the extent information sought in Request 3 is available, it is provided in the referenced appendices.

Request 4

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 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. 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;
- h. Problem code;
- i. Causal part (if identified);
- j. Whether smoke, melting, or fire is identified (if fields exist in warranty data);
- k. Replacement part number(s) and description(s);
- l. Concern stated by customer; and
- m. Comments, by dealer/technician relating to claim and/or repair.

Provide this information in Microsoft Access 2003, or a compatible format, entitled "WARRANTY DATA." See Enclosure 1, Data Collection Disc, for a pre-formatted table which provides further details regarding this submission.

Answer

Records identified in a search of the AWS database, as described in Appendix A, were reviewed for relevance and sorted in accordance with the categories described in the

response to Request 1. The number and copies of relevant warranty claims identified in this search that may relate to the agency's investigation are provided in the AWS portion of the database contained in Appendix B. The categorization of each report is identified in the "Category" field.

When we were able to identify that duplicate claims for an alleged incident were received, each of these duplicate claims was marked accordingly and the group counted as one report. In other cases, certain vehicles may have experienced more than one incident and have more than one claim associated with their VINs. These claims have been counted separately. Warranty claims that are duplicative of owner and field reports are provided in Appendix B but are not included in the report count above.

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 1. 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.

Request 5

Describe in detail the search criteria used by Ford to identify the claims identified in response to Request No. 4, 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.

Answer

Detailed descriptions of the search criteria, including all pertinent parameters, used to identify the claims provided in response to Request 4 are described in Appendix A.

Request 6

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 in the subject vehicles 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.

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 searched for 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 did not locate any information responsive to this request that was not previously provided in its February 12, 2010, response to PE09-055.

In the interest of ensuring a timely and meaningful submission, Ford is not producing non-responsive materials or items containing little 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. Should the agency request additional materials, Ford will cooperate with the request.

Request 7

State the following regarding the original design of the subject component(s): when it was designed, the specifications that it was designed to, the date the design was approved or otherwise validated by Ford, and the date or approximate date on which the design was incorporated into production.

Answer

As the agency is aware, components such as the subject switch undergo a lengthy process of design, testing, and verification prior to being placed into production. This process has many steps and can take weeks to even years depending on the component. When the component is incorporated into multiple vehicle platforms specific incorporation dates may be difficult to determine, but may be better defined by an event such as beginning of production for a given model year of vehicle.

The design of the subject switch was validated in approximately 1984 to an Engineering Specification ES-E6DH-19A642-AA. A copy of the specification was previously provided on March 30, 2010, to the Office of Chief Counsel with a request for confidential treatment. Material and dimensional changes were implemented over time with the subject switch subsequently being released for production on June 6, 1993. Ford records indicate that the subject switch was implemented during production for the 1997 model year for the subject vehicles and there have not been any notable changes since that time.

Request 8

Describe in detail Ford's role and interactions in the design, material selection, specifications, and validation of subject component(s).

Answer

As a vehicle manufacturer Ford is involved at varying levels with the design of vehicle components, sub-systems, and systems. Depending on the component, Ford may rely

heavily on the expertise of suppliers for designs that meet Ford performance criteria, and ultimately rely on the supplier to complete design and production validation testing. Ford personnel may be closely involved with the selection of materials and designs ensuring specifications related to performance are met, but may make decisions based on recommendations from supplier personnel who may be more knowledgeable of industry and technological trends for their components.

The subject component was initially designed over two decades ago. While it is difficult to provide the detail of roles and responsibilities at that time, it is not unreasonable to expect that Ford engineering collaborated with supplier engineers to develop the components. Ford engineers would have developed the Ford engineering specifications that the components would have to meet as well as the test methodologies used to validate both the designs and the high volume process to produce the parts. Ford engineering would typically continue to approve final part designs, including material and performance, as well as any changes to parts already being used in vehicle production, before the component would be used in vehicle production.

Request 9

Identify and 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, the corresponding electrical connector and wiring harness it is attached to from the start of production to date. For each such modification or change, provide the following information:

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

Answer

Ford is not aware of any such modifications or changes beyond those provided in Ford's February 12, 2010, response to PE09-055.

Request 10

State whether Ford has ever conducted, arranged for the conduct of or is aware of, any returned part analyses, including but not limited to any failure analysis related to the alleged defect or failure of the subject components. If so, describe any and all returned part analyses of subject components. Include in your description the total number of such parts returned, the number analyzed, a description of how they were analyzed. Include any and all material showing the frequencies of failed components as a function of service life or mileage. Produce in electronic form all documents relating to each

returned part analysis.

Answer

Ford is not aware of any returned parts analysis conducted by Ford on the subject parts through the date of this inquiry. As the agency is aware, three parts were provided to Ford by the agency subsequent to this inquiry for analysis and analysis of those parts is in-process.

Request 11

Describe in detail, including the date, identities, titles and organizational affiliations of all participants and substance of each meeting (including in-person meetings, video conferences and teleconferences) in which Ford participated or is aware of that the alleged defect was discussed. Produce copies of all documents relating to said meetings.

Answer

Information identified that is responsive to this request can be located in Ford's February 12, 2010, response to PE09-055, Appendix G, in the folder named "Engineering Review." Ford is not aware of any "in-person" meetings that have occurred relating to the alleged defect but is aware of several email communications between various parties, records of which are provided as described above. If the agency requests clarification of information contained in the email communications, in particular the roles of any Ford personnel, we will be glad to assist. No additional information has been identified.

Request 12

Produce all documents (including e-mails) (internal or external) sent to or from Ford, within Ford, or that Ford is aware of relating to the alleged defect. Organize the documents in chronological order.

Answer

Please see the answer to Request 11.

Request 13

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

- a. All causal or contributory factors;
- b. Any warning symptoms;
- c. The failure mode;
- d. The root cause of the failures;
- e. Its potential effect on occupant safety;
- f. The potential for future occurrences of the alleged defect in the subject vehicles;
- g. The risk of dashboard fires in the subject models as a function of time in comparison to other passenger vehicles at similar ages; and,
- h. The relative contribution of the subject components to the incidence of dashboard fires in the subject models over the service life of the vehicle and state the bases for the assessment.

Answer

Ford's comprehensive review and analysis conducted in the preparation of our responses to both the PE IR related to this subject and to this EA IR have not identified any trend or pattern related to heater blower switch fires in any of the subject vehicles. Many of the 1.1 million subject vehicles have well over a decade of service and report several hundred thousand odometer miles, including vehicles with over 500,000 odometer miles. We reasonably estimate that the subject vehicles, as a group, have now accumulated over 128 billion miles. Further, many of the subject vehicles are used in severe-duty applications such as airport shuttle service or public transit where the vehicles are operated nearly constantly in all weather conditions. Despite the typical usage, age, mileage, and/or hours of operation of the subject vehicles, the report data continue to indicate they have performed extremely well. To be clear, Ford has not been able to establish that there has been one incident in which an open flame resulted from a malfunction of this switch. In total, Ford has identified only ten total incidents of alleged "burnt" components related to the front blower motor switch. Further, all of the plastic materials used in construction of the subject switches have a flammability rating of "HB" using UL94 test methodologies and as such are expected to be "self extinguishing." Ford has identified, and is providing in response to this IR, other reports that mention observation of smoke or a melted switch or connector. While these reports contain information that meets the Early Warning Reporting (EWR) definition of a fire, a good faith review of each reported incident, as suggested by the EWR regulation, does not lead to a conclusion that any of these events included open flame or fire. As the agency is aware, the EWR regulation provides that reports of "melt" and "smoke" are "illustrative examples of 'thermal events' and fire-related phenomena . . . and continues to require a good faith review of fire-related reports to determine if the incident is within the scope of the fire definition." We continue to believe that none of the reports provided meet the definition of fire, meaning "... combustion or burning of material in or from a vehicle as evidenced by flame." Insofar as we can determine, each of the vehicles was repaired and returned to service.

A review of the reports located to prepare this response confirmed, as described in Ford's response to PE09-055, that the vast majority of responsive reports pertain simply to replacement of a switch after observation of some blower motor or switch function issue. The symptoms are typically reported as a loss of a particular blower motor operating speed, loss of tactile feel in the switch detent positions, a switch knob warm to the touch, or loss of retention of the switch knob. Of the responsive reports provided in response to both this IR and the PE IR, approximately 67% indicate that a switch was replaced without any additional detail. Approximately 30% of the responsive reports indicate that melting was observed at the time of switch replacement. For example, many of the responsive reports indicate that a customer noted a loss of some switch functionality and the service technician observed that the switch was melted only after it was removed. Approximately two percent of the responsive reports indicate smoke was observed at or near the switch; none of these reports describe any additional damage to the vehicle or surrounding components.

In this information request, the agency has chosen to define "fire" in the extremely broad terms used in 49 CFR Part 579 which extends well beyond any common definition of the term. Under the agency definition, seven reports of "fire" (i.e., reports containing the words "burnt" or "burned") have been received since Ford's response to PE09-055. Six of the seven are warranty claims; none of the claims report damage to components beyond the heater fan control circuit. The seventh allegation is a product liability claim; although it apparently involves an actual fire, the evidence indicates that fire was not related to a subject component. Comments concerning each of the seven reports follow:

- VIN 1FDWE30F4WH [REDACTED]: customer comments state "check blower switch" and the technician comments state "check blower switch, replaced blower switch and burnt wiring."
- VIN 1FBSS31S41H [REDACTED]: customer comments state "seems to have low volume the the {sic} vents and defrost" and the technician comments state "check blower motor, switch and wiring burnt... replace the switch and connector pig tail. Fan work{s} on all speeds now."
- VIN 1FDXE45F83H [REDACTED]: customer comments state "cust states fan switch burnt and wiring burnt..." and the technician comments state "c{hec}ked fan circuit and fan motor, replaced ... fan switch furnished by cust{omer}..."
- VIN 1FBNE31L96D [REDACTED]: customer comments state "customer states the A C only blows on low and high" and the technician comments state "... found wiring burnt and switch damaged. Replaced fan speed control switch, repaired wiring and connector..."
- VIN 1FDWE35L27D [REDACTED]: customer comments state "Blower fan only works on one speed advise if not {under} warranty" and the technician comments state "Test found switch bad, pig tail burnt{f}, ..., replace pig tail and switch ... retest works all speed{s}."
- VIN 1FBNE31L18D [REDACTED]: customer comments, when translated into English, state that the front blower motor switch does not operate in the low or high position and the fan does not sufficiently blow air in the cabin. The technician comments state "confirm concern AC control switch with burned circuit on low speed ... was replaced."

These six reports do not include any reported observation of flame, but instead indicate repair of a "burnt" wire or connector, which we believe means only that there was some heat caused deterioration to the wire. The reports clearly do not suggest damage beyond the switch and immediate electrical components.

Ford has received one product liability claim (VIN 1FBNE31L88D [REDACTED]). The initial allegation in that claim related to an unattended vehicle fire that was reportedly located under hood. Subsequent information from the claimant suggested that the fire department suspected the source of the fire was related to the blower motor system and possibly the switch. The owner reported parking the vehicle at approximately 4:30 PM the day of the incident and leaving the vehicle unattended until he returned the next morning to find the fire damage. The fire report provided indicates the fire was reported at shortly after midnight. Because the heater blower switch is not powered when the key is off, and the key had not been on for several hours, the blower motor switch and system cannot be a source for this fire. It is noteworthy that the fire report information provided to Ford does not indicate any potential source or origin. It is also noteworthy that the photographs of the vehicle provided by the owner do not support a conclusion that the blower motor switch was a source or origin of the event.

In the interest of keeping the agency fully informed, our response will mention one additional ongoing investigation. Ford is continuing to investigate a vehicle fire claim that is ambiguous whether it relates to this subject (VIN 1FBSS31L28D [REDACTED]). The circumstances associated with this incident are inconsistent with a front blower switch failure. Information related to this event is provided in response to Request 2 in Appendix C2. This vehicle had reportedly just undergone some minor repairs in the dealer's body shop (reportedly repairs to door paint) and had been driven from the body shop to a location at the dealership (presumably a very short distance) to be picked up by the customer. The owner reportedly observed smoke in the passenger compartment when exiting the dealership facility. Dealer personnel reported observing smoke from the instrument panel area in the vicinity of the HVAC control head. Photographs provided by the dealer and telephone conversations with dealership personnel

confirm that the area displaying the most heat damage is not at the subject switch, although the switch appears to have been damaged by the fire. This vehicle had relatively low time-in-service and odometer mileage (less than 20,000) at the time of the event which is not typical of the higher time-in-service and mileages for a front blower motor switch failure.

Blower motor switch failure appears to occur over a longer period of time, generating heat sufficient to deform the switch housing and possibly the electrical connector. These symptoms provide an operator indication of the need for service, via diminished function, odor, smoke, or even a switch that is warm to the touch. In contrast, there was no report of abnormal blower fan operation in the days or minutes preceding this event, which appears to have generated sufficient heat, in a very short period of time, to damage IP components, ventilation ducting, and electrical components several inches from the control head. All of these observations are inconsistent with other front blower motor switch failure reports provided in response to this inquiry.

The agency indicated in its information request that it received "92 fleet reports alleging 182 blower motor switches burning or melting on subject vehicles." Ford previously received a list of fleet vehicles from the agency related to these reports. At the time, the information received by Ford contained 88 separate VINs with a total of 171 switch replacements. One vehicle on the list reported no switch replacement while several vehicles reported multiple switch replacements. The 87 vehicles that reported a "first" switch replacement had accumulated nearly 14 million miles at the time of the reported replacements, or an average of nearly 161,000 miles per vehicle. This includes one vehicle (VIN 1FD4E45P78D [REDACTED]) that reported a switch replacement at approximately 7,000 miles and was likely not related to the alleged defect. A search of Ford's records related to the VINs provided on this list located zero contacts to Ford either by a dealer (field report) or the owners (owner report). It is not unreasonable to expect that at least one of the customers would have made contact to Ford if the nature of this concern was significant to them. It is equally reasonable to expect that if any of the vehicles required extensive repair that either the owner or an insurer would have contacted Ford.

Ford believes that multiple switch repairs on a vehicle are more likely related to unaddressed connector damage rather than additional switch failures. If a switch failure is accompanied by heating, the harness electrical connector terminals likely also experience heat exposure. Consequently, the terminal clamp load may be reduced even if no visible damage is identified, potentially resulting in resistive heating at the terminal/terminal blade interface with the new switch. Heat generated from the terminal/terminal blade interface can be transferred directly to the internal portions of the switch and lead to switch failure. This phenomenon is a possible explanation for the apparent reduction in accumulated miles between the first switch replacement and subsequent switch replacement on the same vehicle, as observed in the data provided by the agency.

The agency provided one VOQ with the Opening Resume for PE09-055 and no additional VOQs for this Engineering Analysis inquiry. Ford assumes that the single VOQ is the basis of the vehicle fire reported by the agency as a "consumer complaint" in this information request. That VOQ contained no VIN. Ford located supporting material on the agency's website related to the VOQ provided. Within this supporting information we found two letters to Ford, from a single fleet, neither of which provided a VIN or contained an allegation that a fire had occurred. The letters only mentioned switches overheating. We conducted an exhaustive search of our systems and found a single owner report from this fleet. That contact with Ford, dated November 10, 2008, also does not mention any fires. It is noteworthy that we have not been able to locate any fire allegations to Ford from this fleet, nor have we been able to

identify any complete information on the vehicle alleged to have had a fire or any details surrounding the alleged fire.

The agency previously indicated that they had been contacted by a fleet owner in Iowa. Ford provided information in response to Request 11 related to a fleet in Iowa. Ford noted in the response to PE09-055 that we had requested further information from that fleet. To date, no information has been received from them. Ford would like the opportunity to inspect any of the vehicles that are alleged to have experienced blower motor switch failures jointly with the agency. We strongly desire to work with any of the customers and the agency to resolve their concerns.

Consistent with Ford's response to PE09-055, the preponderance of real world data continues to support that there is no trend or pattern of front blower switch failure leading to actual fires in the subject vehicles. Despite the severe usage profile of these vehicles and the fact that switches are occasionally replaced and found to be melted, there is no evidence indicating these switch failures result in actual fire or flames, much less any fire that propagates throughout the entire vehicle. Even using the agency's broadest definition of "fire", the report rate is still remarkably low. The benign nature of the reports relating to this subject continue to support a conclusion that front blower motor switch failure does not pose an unreasonable risk to motor vehicle safety in these vehicles.

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