

Ford Motor Company

James P. Vondale, Director
Automotive Safety Office
Environmental & Safety Engineering

August 18, 2005

Ms. Kathleen C. DeMeter, Director
Office of Defects Investigation Safety Assurance
National Highway Traffic Safety Administration
400 Seventh Street, S.W.
Washington, D.C. 20590

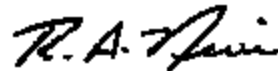
Dear Ms. DeMeter:

Subject: EA05-005:NVS-214bby

The Ford Motor Company (Ford) response to the agency's June 22, 2005 letter concerning reports of alleged underhood fires on 1995-1999 and 2001-2002 model year Ford F-150, Expedition and Lincoln Navigator vehicles is attached.

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 EA05-005

Ford's response to this Engineering Analysis (EA) 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 every effort to provide thorough and accurate information, and we would be pleased to meet with agency personnel to discuss any aspect of this EA.

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, as more fully described in this response. 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.

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 22, 2005, the date of your inquiry. Ford has searched business units and/or affiliates within the following offices for responsive documents: Environmental and Safety Engineering, Ford Customer Service Division, Marketing and Sales Operations, Quality, Global Core Engineering, Office of the General Counsel, Vehicle Operations, North American Car Product Development, North American Truck Product Development.

Request 1

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

- a. Vehicle identification number (VIN);
- b. Make;
- c. Model;
- d. Model Year;
- e. Date of manufacture;
- f. Date warranty coverage commenced;
- g. The plant where the vehicle was produced;
- h. If Antilock Brakes were installed as original equipment;
- i. If Traction Control was installed as original equipment;
- j. If Cruise Control was installed as original equipment; and,
- k. The State in the United States where the vehicle was originally sold or leased (or delivered for sale or lease).

Provide the table in Microsoft Access 2000, or a compatible format, entitled "PRODUCTION DATA." See Enclosure 1, Data Collection Disc, for a pre-formatted table designed for this submission.

Answer

The approximate total number of subject and peer vehicles sold in the United States (the 50 states and the District of Columbia) and its protectorates and territories (American Samoa, Guam, Northern Mariana Islands, Puerto Rico, and Virgin Islands) is provided electronically in Appendix A (folder: 2005-08-16_Appendix_A) on the enclosed CD.

Ford records indicate that traction control was not available on the subject vehicles. Speed control and four-wheel anti-lock brake system (ABS) brakes became standard equipment in the 1998 model year for Navigator vehicles and the 1999 model year for Expedition vehicles. The 1998-2002 model year F-150 vehicles featured two-wheel ABS brakes as standard equipment and offered speed control and four-wheel ABS brakes as optional equipment. Four-wheel ABS brakes became standard equipment on the F-150 in the 2001 model year.

The requested detail data for subparts a-k for each subject vehicle is also provided electronically in Appendix A.

Request 2

State the number of each of the following, received by Ford, or of which Ford is otherwise aware, which relate to engine compartment fires 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. 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 for each model and model year. 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 "d" and "e", 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 potentially involving alleged engine compartment fires and any related documents, Ford has gathered "owner" and "field" reports maintained by Ford Customer Service Division (FCSD), fleet reports maintained in a Fleet Test Database, and claim and lawsuit information maintained by Ford's Office of the General Counsel (OGC).

As in our response to PE04-078, we have not provided reports involving an accident prior to an alleged fire in a subject or peer vehicle, and did not seek consumer cases (Lemon Law) as a source of reports of the alleged defects in the subject vehicles. In addition, reports previously counted in our January 28, 2005 response to PE04-078 have not been counted in this response.

Descriptions of the FCSD owner and field report systems, and the Fleet Test Database system, and the criteria used to search each of these are provided electronically in Appendix B (file: 2005-08-16_Appendix_B) on the enclosed CD.

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

Category Allegation

A1	Alleged underhood fire, non-crash, key-off, alleged speed control deactivation switch failure.
A2	Alleged underhood fire, non-crash, key-on, alleged speed control deactivation switch failure.
A3	Alleged underhood fire, non-crash, unknown key position, alleged speed control deactivation switch failure.
A4	Alleged smoke/melt - alleged speed control deactivation switch failure.
B	Alleged smoke/melt - ambiguous or unidentified source.
F1	Alleged underhood fire, non-crash, key-off, no alleged speed control deactivation switch failure.
F2	Alleged underhood fire, non-crash, key-on, no alleged speed control deactivation switch failure.
F3	Alleged underhood fire, non-crash, unknown key position, no alleged speed control deactivation switch failure.
FB1	Alleged underhood fire, non-crash, key-off, ambiguous as to alleged speed control deactivation switch failure.
FB2	Alleged underhood fire, non-crash, key-on, ambiguous as to alleged speed control deactivation switch failure.
FB3	Alleged underhood fire, non-crash, ambiguous key position, ambiguous as to alleged speed control deactivation switch failure.
FB4	Ambiguous alleged fire source, non-crash; ambiguous as to alleged fire source, ambiguous as to alleged crash.

Ford is voluntarily providing electronic copies of category A4, B, and FB4 reports 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: Ford searched its Master Owner Relations System (MORS) database records, as described in Appendix B. The resulting records were then reviewed and categorized in accordance with the categories described above. The categorized records can be found in Appendix C1 for Expedition and Navigator vehicles, Appendix C2 for F-150 vehicles, and Appendix C3 for peer vehicles (files: 2005-08-16_Appendix_C1, 2005-08-16_Appendix_C2, and 2005-08-16_Appendix_C3) on the enclosed CD. The categorization of each report is identified in the "Category" field. The requested total of each item (e.g., consumer complaints, field reports, etc.) is also provided in Appendices C1, C2, and C3. 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 is marked accordingly, and the group is 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, 32 category A1-A3 MORS reports are duplicative of Expedition/Navigator Vehicle Owner Questionnaires (VOQ) and 77 category A1-A3 MORS reports are duplicative of F-150 Vehicle Owner Questionnaires (VOQ). Copies of the duplicative reports for Expedition/Navigator and F-150 vehicles are provided in Appendix C1 and C2 respectively.

Legal Contacts: Ford is providing in Appendix B a description of Legal Contacts and the activity that is responsible for this information, Litigation Prevention. To the extent that responsive (i.e., not ambiguous) owner reports indicate that they are Legal Contacts for subject and peer vehicles, Ford has gathered the related files from the Litigation Prevention section. To the extent available, copies of these files for subject and peer vehicles are provided in Appendix D.

ICCD Information: A search of the ICCD database as described in Appendix B including subject and peer vehicles located no reports that may relate to the alleged defect, and no reports that are ambiguous as to whether they relate to alleged engine compartment fires.

Fleet Reports: In addition to fleet reports that may be contained in the owner reports or field reports identified in this response, Ford conducted a search of its Fleet Test Database, as described in Appendix B, for reports that may relate to alleged engine compartment fires in subject or peer vehicles. No fleet reports, responsive or ambiguous, were identified.

Field Reports: The number of field reports identified in a search and review of the Ford Common Quality Indicator System (CQIS) records, as described in Appendix B, is provided by category in the CQIS portion of the electronic database contained in Appendices C1-C3 for subject and peer vehicles. Copies of these field reports are also provided in Appendices C1-C3. The categorization of each report is identified in the "Category" field. When we were able to identify that responsive (i.e., not ambiguous) duplicate field reports for an alleged incident were received, each of these duplicate reports is marked accordingly. In other cases, certain vehicles may have more than one incident and have more than one report associated with their VINs. In addition, Ford identified one category A1 and one category A2 CQIS reports that are duplicative of F-150 VOQs. Copies of these reports are provided in Appendix C2.

Unified Database: The Unified Database (UDB) was created to facilitate parts availability by tracking part sales and is not intended as a problem reporting system. Due to changes in Ford's business and Information Technology processes, customer and technician comments are no longer collected for UDB records. Accordingly, UDB records that are now collected no longer contain information that could be used to determine whether they relate to the alleged defect. Ford nonetheless searched UDB as described in Appendix B, and is providing the results in Appendices C1-C3 for subject and peer vehicles in response to Request 2.

VOQ Data: This information request had an attachment that included 214 VOQs. Ford made inquiries of its MORS database for customer contacts, and its CQIS database for field reports regarding the vehicles reported in the VOQs. Any reports located on a vehicle identified in the VOQs related to alleged engine compartment fires are included in the MORS, UDB, AWS, and CQIS portions of the electronic database provided in Appendices C1-C3, as appropriate, and have been identified by a "Y" in the "VOQ Dup" field.

Crash/Injury Incident Claims: For purposes of identifying alleged accidents or injuries potentially related to alleged engine compartment fires, Ford conducted a reasonable and diligent search of responsive (i.e., not ambiguous) owner and field reports, lawsuits and claims, and warranty claims for subject and peer vehicles. The results of that search are described in Appendix C4 (file: 2005-08-16_Appendix_C4) on the enclosed CD.

Claims, Lawsuits, and Arbitrations: For purposes of identifying incidents potentially related to alleged engine compartment fires, Ford 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.

Based on a reasonable and diligent search, Ford located 86 lawsuits and 198 legal claims that appear to relate to alleged underhood fires in the subject vehicles. There are five lawsuits and 32 claims that are duplicates of responsive subject vehicle owner reports and are not included in the count above. Ford located 38 lawsuits and 32 legal claims or consumer breach of warranty lawsuits that appear to relate to alleged underhood fires in the peer vehicles. There are eight lawsuits and 14 claims that are duplicates of responsive peer vehicle owner reports; they are not included in the count 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. Any subject vehicle lawsuit or claim counted in Ford's response to the agency's request for information (PE04-078) on January 28, 2005 are not counted in this response. Ford also searched for new information relating to the lawsuit and claim reports provided in response to PE04-078. Subsequent to our response to PE04-078, we identified additional search criteria that could be used to locate potentially responsive lawsuits and claims, comprised of allegations directed to components (i.e., carburetor, alternator, fuel selector valve, battery, catalytic converter) or conditions (i.e., fluid fires associated with engine coolant, transmission fluid, and lubrication or gas leaks) not associated with the SCDS, or vague and imprecise allegations directed to the vehicle's electrical system. Accordingly, Ford employed these criteria in searches of all files. As a result, Ford is providing additional information not previously identified in our PE response. A summary of the lawsuits and claims is provided in Appendix E (file: 2005_08_16_Appendix_E) on the enclosed CD.

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), 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. Whether the item is related to the alleged defect;
- q. The alleged quadrant of the engine compartment where the fire started. (front left, front right, rear left, rear right, 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. 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. Alleged cause of the fire;
- v. Complaint summary;
- w. Consumer comments; and,
- x. Ford's assessment of the allegation.

Answer

Ford is providing owner and field reports in the electronic database contained in Appendices C1-C3 on the enclosed CD in response to Request 2. To the extent that the information sought in Request 3 is available, it is provided in those databases.

As in our response to PE04-078, we are unable to provide a response to subpart o, because Ford consumer complaints do not typically contain the requested component and system codes. In addition, we have used categories similar to those used in Ford's response to PE04-078 as the manner to respond to subparts p and u. Also, reports previously provided in our January 28, 2005 response to PE04-078 have not been provided in this response.

Request 4

Provide this information in Microsoft Access 2000, or a compatible format, entitled "REQUEST NUMBER TWO DATA." See enclosure 1, Data Collection Disc, for a pre-formatted table designed for this submission.

Answer

Please see Ford's response to Request 3.

Request 5

Produce electronic copies of all documents related to each item within the scope of Request No. 2. Include color copies of any photographs and any fire investigation reports that Ford has in its possession related to each of the response items. 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 electronic copies of responsive, as well as ambiguous, owner and field reports for subject and peer vehicles in the database contained in Appendices C1, C2, and C3 on the enclosed CD in response to Request 2. To the extent available, copies of complaints, first notices, or MORS reports relating to matters shown on the Log of Lawsuits and Claims are provided in Appendix F. With regards to these lawsuits and claims, Ford has not undertaken to contact outside law firms to obtain additional documentation.

Request 6

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 where the subject component was replaced 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. 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 2000, or a compatible format, entitled "WARRANTY DATA." See enclosure 1, Data Collection Disc, for a pre-formatted table designed for this submission.

Answer

In responding to this information request, Ford electronically searched its Analytical Warranty System (AWS) for all claims meeting the criteria described in Appendix B. All claims coded for the selected part number were included in this search regardless of labor operation or problem codes. The number of warranty claims involving replacement of the subject component in the subject vehicles and peer that were identified in a search of the Ford AWS database records is provided in Appendix G (file: 2005-08-16_Appendix_G) on the enclosed CD.

As in our response to PE04-078, we are unable to provide a response to subpart j, because Ford warranty claims do not include a data field recording allegations of smoke, melting, or fire.

In an additional search, Ford electronically searched its Analytical Warranty System (AWS) for all claims meeting the criteria described in Appendix B. All claims coded for the selected part number were included in this search regardless of labor operation or problem codes. The resulting claims were then reviewed individually for allegations that may relate to the alleged defect.

Electronic copies of the claims are provided in the AWS portion of the electronic database contained in Appendices C1-C3. 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 is marked accordingly. In other cases, certain vehicles may have experienced more than one incident and have more than one claim associated with their VINs. The number of AWS claims identified in a search and review of the AWS database records, as described in Appendix B, is provided by model, model year, and category in Appendices C1-C3 for subject and peer vehicles.

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.

Requests for "claims for good will services that were provided; field, zone, or similar adjustments and reimbursements" received by Ford to date that relate to the alleged defect in the subject vehicles that were honored would be provided in the warranty section of Appendices C1-C3. Such requests that were not honored, if any, would be included in the MORS reports identified above in response to Request 2.

Request 7

Describe in detail the search criteria used by Ford to identify the claims identified in response to Request No. 6, 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 codes 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.

Answer

The criteria used for searching Ford's Analytical Warranty System (AWS) are described in Appendix B. All claims coded under the selected part numbers were included in this search regardless of labor operation or problem codes. The resulting claims were then reviewed individually for allegations that may relate to the alleged defect.

The standard new vehicle warranty coverage for 1995-2002 model year Ford vehicles is three years or 36,000 miles, whichever occurs first. The standard new vehicle warranty coverage for 1998-2002 model year Lincoln vehicles is four years or 50,000 miles, whichever occurs first. A list of Extended Service Plans (ESP) that cover the subject components is provided in Appendix H (file: 2005-08-16_Appendix_H) on the enclosed CD along with time-in-service and mileage coverage by plan. This appendix also includes the count of subject vehicles that are covered by each ESP.

Request 2

Produce copies of all service, warranty, and other documents that relate to, or may relate to, the subject component in the subject and peer 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, bulletins, 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 the alleged defect in the subject and peer vehicles, 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 the 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 FRC files and the search criteria used are provided in Appendix B.

OASIS Messages: Ford identified no SSMs and no TSBs that relate to alleged underhood fires in subject or peer vehicles.

Internal Service Messages: Ford identified no ISMs that relate to alleged underhood fires in subject or peer vehicles.

Field Review Committee: Ford identified no field service action communications that relate to alleged underhood fires in subject or peer vehicles.

Request 9

By model and model year describe the circuit that contains the SCDS in the subject and peer vehicles. Include in this description the other components that are powered on this circuit. Also include a description of the power, fusing, relays, or other current limiting devices that are in the circuit with the SCDS.

Answer

Documents that describe the circuit that contains the speed control deactivation switch (SCDS) and other components in its circuit in the subject and peer vehicles are provided in Appendix I (folder: 2005-08-18_Appendix_I) on the enclosed CD.

Request 10

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 on any of the subject components installed in the subject or peer vehicles or vehicles included in the subject recall 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

In telephone conversations on July 13 and 15, 2005, members of my staff discussed the scope of this request with Mr. Dick Boyd of the agency. It was agreed that Ford would focus the scope of its search for responsive material to Ford personnel participating in the task force working to investigate and determine the causes of fire reports potentially related to the speed control deactivation switch. This agreement was based on the understanding that these are the individuals most likely to have documents responsive to this request and it allows Ford to provide the most pertinent documents in a timely fashion. In the interests of ensuring a timely and meaningful submission, Ford is not providing documents identified as containing little substantive information beyond those materials being produced. Examples of the types of documents not being produced are meeting notices, raw data lists (such as part numbers or VINs) without any analytical content, duplicate copies, and draft electronic files for which later versions of the materials are being submitted. In reaching this agreement with the agency, Ford is seeking to provide the agency with all of the substantive 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.

As the agency is aware, Ford initiated Safety Recall 05S28 on January 27, 2005 which included certain Ford F-150, Ford Expedition and Lincoln Navigator vehicles. We did so because we identified an increasing number of fires allegedly related to the speed control deactivation switch on the vehicles. Ford has since continued to investigate vehicles, underhood systems, and switches in the subject and peer group to identify patterns in component performance in order to understand the possible root causes of alleged underhood fires related to the subject component.

Ford has collected and examined speed control deactivation switches from subject and peer vehicles, as well as examined some of the vehicles themselves. In addition, Ford has also researched other aspects of the subject and peer vehicles and subject component such as: electrical system responses to changes in switch performance, changes in vehicle assembly processes in each vehicle assembly plant, the assembly processes of the tier one and tier two suppliers of the subject component, underhood temperature data, behaviors of the subject component under a variety of laboratory conditions, and design changes to the subject component and surrounding components. Engineering comparisons between the subject vehicles and other Ford vehicles have also been conducted. Many examinations of switches and vehicles have been completed as of the date of this response, and more are planned. Details of our examinations of components from the field are discussed in our response to request 27. Due to the complexities of determining the root cause of underhood fires, the expected end date of subject vehicle and switch analysis is not known at this time. However, Ford will keep the agency informed of our progress as the examination and analysis process continues.

Ford is providing the responsive non-confidential Ford documentation in Appendix J (folder: 2005-08-16_Appendix_J) on the enclosed CD.

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

Ford will be submitting additional responsive documentation as Appendix K with a request for confidentiality under separate cover to the agency's Office of the Chief Counsel pursuant to 49 CFR, Part 512.

Ford is not producing documents responsive to this request that are protected from disclosure by attorney-client privilege, work-product doctrine or other applicable immunity. Documents protected from disclosure on these bases are described in a privilege log contained in Appendix L (folder: 2005-08-16_Appendix_L) on the enclosed CD. Non-confidential copies of the redacted copies are provided in Appendix L.

Ford is currently working with a third-party engineering analysis firm that is conducting additional root cause analysis. These studies are currently not available to Ford. Ford will provide copies of the results to the agency when they are available.

Request 11

By model and model year identify and describe all significant modifications or changes made by, or on behalf of, Ford in the manufacture, design, or material

composition of the SCDS, the electrical circuit containing the SCDS, the Electrical Connector to the SCDS, and the seal used between the SCDS and the Electrical Connector used in subject and peer vehicles. The following information must be included for each such modification or change:

- a. The orientation of the SCDS on the master cylinder;
- b. The make and model year of the vehicle that the design applies to;
- c. The date, or approximate date on which the modification or change was incorporated into production;
- d. A description of the modification or change;
- e. The reason for the modification or change;
- f. The part number of the modified part;
- g. Whether the original unmodified component was withdrawn from sale, and if so, when; and;
- h. Whether the modified or changed component can be interchanged with earlier production components.

Answer

Documents that describe changes to the SCDS, the electrical circuit containing the SCDS, the Electrical Connector to the SCDS, and the seal used between the SCDS and the Electrical Connector used in subject and peer vehicles are provided in Appendix M (folder: 2005-08-16_Appendix_M) on the enclosed CD. The speed control deactivation switch changes described in appendix M were identified to Ford by Texas Instruments, the supplier of the switch. Ford is not re-submitting SCDS summary documents previously provided in our responses to PE04-078 and EA02-025.

Request 12

By model and model year, identify and describe all significant modification or changes made by or on behalf of Ford in the manufacture, design, or material composition of the brake fluid used as original equipment in the MY 1988-2002 Ford Ranger and all subject vehicles. The following information must be included for each such modification or change:

- a. The make and model year of the vehicle that the design applies to;
- b. The date, or approximate date on which the modification or change was incorporated into production;
- c. A description of the modification or change;
- d. The manufacturer of the brake fluid;
- e. The reason for the modification or change;
- f. The part number of the modified part;
- g. Whether the original unmodified component was withdrawn from sale, and if so, when; and,
- h. Whether the modified or changed components can be interchanged with earlier production components.

Answer

For the subject years of this inquiry, Ford used a single hydraulic brake fluid for all the subject and peer vehicles. During that time, Ford authorized no changes to the formulation or material

specifications of the brake fluid. The supplier of the brake fluid, Dow Chemical, has informed Ford that no changes were made to the composition of the fluid during the subject years of this inquiry.

Request 13

By model and model year identify the brake master cylinder by part number and manufacture installed as original equipment on the subject and peer vehicles. Provide the name, address, and appropriate point of contact (name, title, and telephone number) for each of the brake master cylinder manufacturers identified.

Request 14

Describe the installation process and any tests that are performed by the tier one master brake cylinder manufacturers identified in request number 13 during or after the mating of the SCDS to the master brake cylinder. Provide any requirements or specifications that define this process or testing.

Request 15

By model and model year identify and describe all significant modifications or changes made by or on behalf of Ford in the manufacture, design, or material composition of the master brake cylinder used in Ford Ranger and subject vehicles. The following information must be included for each such modification or change:

- a. The make and model year of the vehicle that the design applies to;
- b. The manufacturer of the master brake cylinder;
- c. The date, or approximate date on which the modification or change was incorporated into production;
- d. A description of the modification or change;
- e. The reason for the modification or change;
- f. The part number of the modified part;
- g. Whether the original unmodified component was withdrawn from sale, and if so, when; and;
- h. Whether the modified or changed components can be interchanged with earlier production components.

Answer

The information sought in Requests 13, 14, and 15 is provided for the subject and peer vehicles in Appendix N (file: 2005-08-16_Appendix_N) on the enclosed CD.

Request 16

By model and model year identify the brake line tubing by part number and manufacturer installed as original equipment on the subject and peer vehicles. Provide the name, address, and appropriate point of contact (name, title, and telephone number) for each of the brake line tubing manufacturers identified.

Request 17

Provide any requirements or specifications that define the brake line tubing used as original equipment on the subject and peer vehicles.

Request 18

By model and model year identify and describe all significant modifications or changes made by or on behalf of Ford in the manufacture, design, or material composition of the brake line tube used as original equipment in the MY 1998-2002 Ford Ranger and the subject vehicles. The following information must be included for each such modification or change:

- a. The make and model year of the vehicle that the design applies to;
- b. The date, or approximate date on which the modification or change was incorporated into production;
- c. A description of the modification or change;
- d. The manufacturer of the brake tube lining;
- e. The reason for the modification or change;
- f. The part number of the modified part;
- g. Whether the original unmodified component was withdrawn from sale, and if so, when;
- h. Whether the modified or changed components can be interchanged with earlier production components; and;
- i. Any specification or requirements that were affected by the change.

Answer

The information sought in Requests 16, 17, and 18 is provided for the subject and peer vehicles in Appendix O (file: 2005-08-16_Appendix_O) on the enclosed CD.

Request 19

By model and model year describe the process used to fill the brake system on the subject and peer vehicles. Provide all specifications or requirements used to define this process. Also describe all significant modifications or changes made by or on behalf of Ford in this process used to fill the brake system on the subject and peer vehicles. The following information must be included for each such modification or change:

- a. The make and model year of the vehicle that the design applies to;
- b. The date, or approximate date on which the modification or change was incorporated into production;
- c. A description of the modification or change;
- d. The identity of the supplier who fills the brake system;
- e. The reason for the modification or change;
- f. The part number of the modified part;
- g. Whether the original unmodified component was withdrawn from sale, and if so, when;

- h. Whether the modified or changed components can be interchanged with earlier production components; and;
- i. Any specification or requirements that were affected by the change.

Answer

Documents that describe the process and requirements used to fill the brake system and any significant changes on the subject and peer vehicles are provided in Appendix P (file: 2005-08-16_Appendix_P) on the enclosed CD.

Request 20

By model and model year identify the cruise control servo by part number and manufacturer installed as original equipment on the subject and peer vehicles. Provide the name, address, and appropriate point of contact (name, title, and telephone number) for each of the cruise control servo manufacturers identified.

Request 21

By model and model year identify and describe all significant modifications or changes made by or on behalf of Ford in the manufacture, design, or material composition of the cruise control servo used in peer Ford Ranger and subject vehicles. The following information must be included for each such modification or change:

- a. The make and model year of the vehicle that the design applies to;
- b. The date, or approximate date on which the modification or change was incorporated into production;
- c. A description of the modification or change;
- d. Identity of the manufacturer of the cruise control servo;
- e. The reason for the modification or change;
- f. The part number of the modified part;
- g. Whether the original unmodified component was withdrawn from sale, and if so, when; and;
- h. Whether the modified or changed components can be interchanged with earlier production components.

Answer

The information sought in Requests 20 and 21 is provided for the subject and peer vehicles in Appendix Q (file: 2005-08-16_Appendix_Q) on the enclosed CD.

Request 22

By model and model year identify the Anti-Lock Brake Control Module and Hydraulic Control Unit by part number and manufacturer installed as original equipment on the subject and peer vehicles. Provide the name, address, and appropriate point of contact

(name, title, and telephone number) for each of the cruise control servo manufacturers identified.

Request 23

By model and model year identify and describe all significant modification or changes made or on behalf of Ford in the manufacture, design, or material composition of the Anti-Lock Brake Control Module or Hydraulic Control Unit used in peer Ford Ranger and subject vehicles. The following information must be included for each such modification or change:

- a. The make and model year of the vehicle that the design applies to;
- b. The date, or approximate date on which the modification or change was incorporated into production;
- c. A description of the modification or change;
- d. Manufacturer of unit;
- e. The reason for the modification or change;
- f. The part number of the modified part;
- g. Whether the original unmodified component was withdrawn from sale, and if so, when; and;
- h. Whether the modified or changed components can be interchanged with earlier production components.

Answer

The information sought in Requests 22 and 23 is provided for the subject and peer vehicles in Appendix R (file: 2005-08-16_Appendix_R) on the enclosed CD.

Request 24

By model and model year provide the curb weight and gross vehicle weight for the subject and peer vehicles at the time of manufacture.

Answer

Curb weight and gross vehicle weight for the subject and peer vehicles are provided in Appendix S (folder: 2005-08-16_Appendix_S) on the enclosed CD.

Request 25

State the number of each of the following that Ford has sold that may be used in subject and peer vehicles by tier one supplier or location delivered to, component name, part number (both service and engineering/production), model and model year of the vehicle in which it was used; and month/year of sale (including the cut-off date for sales, if applicable):

- a. Speed Control Deactivation Switches; and
- b. Any kits that have been released, or developed, by Ford for use in service repairs to the subject component/assembly.

For each component part number, provide the 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 same part number component, whether installed in production or in service, and state the applicable dates of production or service usage.

Provide this information in Microsoft Access 2000, or a compatible format, entitled "REQUEST NUMBER TWENTY FIVE." See enclosure 1, Data Collection Disc, for a pre-formatted table designed for this submission.

Answer

As the agency is aware, Ford service parts are sold in the U.S. to authorized Ford and Lincoln-Mercury dealers. Ford has no means by which to determine how many of the parts were actually installed on vehicles, the vehicle model on which a particular part was installed, or the reason that the installation was made.

Ford is providing in electronic form in Appendix T (file: 2005-08-16_Appendix_T) on the enclosed CD the total number of Ford service replacement speed control deactivation switches by part number (both service and engineering) and year of sale, where available. The subject component is also included in some master cylinders sold for service. The total number of master cylinder service parts sold that contained the subject component is also included in Appendix T. A list of models and model years for which these parts are released and supplier names and contacts are also provided in this appendix. The subject component and master cylinder service parts are capable of servicing a range of vehicles larger than the subject and peer vehicle group; Ford is unable to identify the specific model or model year of the vehicle in which the service parts are installed.

Request 26

By model and model year provide the peak operating and hot soak temperatures in the area of the subject component on the subject and peer Ford Ranger vehicles.

Answer

A document describing the underhood temperatures is provided in Appendix U (file: 2005-08-16_Appendix_U) on the enclosed CD.

Request 27

State whether Ford has ever conducted, or is aware of, any returned part analyses of subject vehicles or vehicles included in the subject recall related to the alleged defect. If so, describe, and provide electronic copies of all documents relating to, 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.

Answer

As discussed in our response to request 10, Ford's extensive investigation is continuing and includes vehicle inspections and analysis, review of all relevant underhood systems, and analysis and testing of switches in the subject and peer group to identify patterns in component performance in order to understand the possible root causes of alleged underhood fires related to the subject component.

Ford has collected and examined speed control deactivation switches from subject and peer vehicles, as well as examining some of the vehicles themselves. Many examinations of switches and vehicles have been completed as of the date of this response, and more are planned. A summary of the testing performed on parts returned from the field is provided in confidential Appendix K (file: "Returned Parts Testing Summary" in folder: "Test Reports, Results, Analysis, Summary or Data"). Details of our examinations of components, fluids, and vehicles from the field are also provided in confidential Appendix K (folder: Test Reports, Results, Analysis, Summary or Data). Ford will be submitting Appendix K under separate cover with a request for confidentiality to the agency's Office of Chief Counsel.

Ford will keep the agency informed of our progress as the examination and analysis process continues.

Request 28

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

- a. All causal or contributory factors;
- b. All warning symptoms;
- c. The failure mode;
- d. The root cause of the failure;
- e. Its potential effect on occupant safety;
- f. The potential for future occurrences of the alleged defect in the subject vehicles;
- g. The relative contribution of Kapton diaphragm failures to the total number of subject component failures, including how this changes over the service life of the parts (e.g., state whether it is considered a greater contributor later in life than it is early in life);
- h. The risk of under hood fire in each of the subject models as a function of time in comparison to other medium to large-sized passenger cars at similar ages; and,
- i. The relative contribution of the subject component to the incidence of under hood fires in the subject models over the service life of the vehicle and state the bases for the assessment.

August 16, 2005

Answer

As discussed in our response to request 10, Ford has continued an extensive investigation of vehicles, underhood systems, and switches in the subject and peer group to identify patterns in component performance in order to understand the possible root causes of alleged underhood fires related to the subject component.

Ford has collected and examined speed control deactivation switches from subject and peer vehicles, as well as examining some of the vehicles themselves. Many examinations of switches and vehicles have been completed as of the date of this response, and more are planned. Ford will keep the agency informed of our progress as the examination and analysis process continues.

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