Ford Motor Company

Automotive Safety Office
Environmental and Safety Engineering

July 30, 2008

Ms. Kathleen C. DeMeter, Director
Office of Defects Investigation Safety Assurance
National Highway Traffic Safety Administration
1200 New Jersey Avenue, S.E. W45-302
Washington, D.C. 20590

Dear Ms. DeMeter:

Subject: PE08-035:NVS—214bby

The Ford Motor Company (Ford) response to the agency's June 19, 2008, letter concerning reports alleging underhood fires in 1995 - 2003 model year Windstars is attached.

Ford Motor Company shares the concerns of the agency and our customers regarding the potential risk for Speed Control Deactivation Switch (SCDS) fires. Together with the agency, we have conducted wide-ranging investigations and have identified large populations of vehicles that have circumstances that could reasonably result in a vehicle fire in an unattended vehicle due to the SCDS. Some of the vehicle lines that Ford has recalled have had no identified SCDS fires, but Ford recalled those vehicles along with others that had a significant number of identified SCDS fires because of our shared technical understanding of the mechanisms that can lead to such fire.

Ford had identified a number of field reports related to the Windstar population and had been investigating those reports prior to the agency opening this Preliminary Evaluation. Ford's investigation to date has confirmed that the SCDS fire concern present in the recalled populations does not exist in the Windstar.

As the agency is aware, a SCDS similar to that used in the Windstar has been the subject of prior investigations by both Ford and the agency. However, in Windstar vehicles the SCDS is powered only with the ignition in the "run" position. While a review of reports identified in response to this information request found allegations of leaking speed control deactivation switches, the reports that involve some type of heat related condition such as melting, smoking or burning typically note little to no resulting damage to the vehicle. In fact, one third of such reports concern a smoking or melted SCDS, often not noticed by the owner, and only discovered when the vehicle was driven to the dealer for another concern, such as lack of speed control function. Even reports that refer to a "burned" switch resulted in very minor repairs, sometimes only involving replacement of the switch.

The SCDS in the Windstar differs from those that have been recalled in other vehicle lines. The switch is not powered when the ignition is "off," eliminating the risk of continuous electrical power at the switch that could initiate a heat related condition such as smoking, melting or fire in a parked vehicle. Physical data from report vehicles shows a pattern of localized damage at the switch from overheating, not a vehicle fire risk. In the recalled

populations, a SDCS fire showed a clear fire pattern based on the location of the switch in the engine compartment. This pattern is not evident in the Windstar reports.

The scope of the agency's request includes all engine compartment components and materials; in addition the agency also specifically has identified the SCDS and the Anti-lock Brake System (ABS) module as "subject components."

The information request contains several references to the "ABS Module". Ford notes that the ABS module is comprised of two primary components, the Hydraulic Control Unit (HCU), and the Electronic Control Unit (ECU). The ECU controls electrical power to operate the HCU and is powered at all times, while the HCU is essentially a metal valve block that controls brake fluid flow to the wheel cylinders. Our investigation has found that allegations of smoking or melting of the "ABS Module" relate specifically to the ECU. Therefore, Ford's response to requests concerning allegations and part information for the "ABS Module" will specifically focus on the ABS ECU module.

With respect to the ABS ECU module, a review of reports identified in response to this information request found an even lower number of allegations of melting, smoking or fire associated with the ABS ECU module than that of the SCDS. The agency provided information pertaining to one complainant that indicated brake fluid had migrated from a leaking SCDS through the wiring harness into the ABS ECU module, resulting in a fire at the module. While Ford is aware that this condition can occur, and has received a few similar reports on other vehicles, the rate is exceedingly small. In fact, in Ford's random review of subject vehicles in customer service, 10 that had leaking switches were inspected for evidence of brake fluid at the ABS ECU module. None of these vehicles were found to have any fluid migration from the SCDS into the ABS ECU module, much less to have experienced any type of melt condition at the module. Further, while Ford is aware of reports of melted or "burned" ABS ECU modules due to brake fluid leakage from the SCDS, these reports again have consistently been found to result in little to no damage outside of the ABS ECU module and connector.

Thorough review of the reports and test data gathered to date find no evidence to support a conclusion that a leaking SCDS presents any unreasonable risk to motor vehicle safety in these vehicles. To confirm this assessment, Ford plans to continue its analysis of the subject components and vehicles including review of parts returned from vehicle service, customer vehicle evaluations, underhood packaging comparisons by model year, component testing, brake system vacuum and pressure level testing, and flame propagation analysis from the SCDS and ABS ECU module. Significant differences exist in the mechanism and consequence of a leaking switch in these vehicles compared with recalled vehicles that were found to exhibit a notably higher fire allegation rate and potential to experience an unattended vehicle fire. Ford believes vehicle system and package differences between Windstar vehicles and those vehicles previously recalled are the reason there is no unreasonable safety risk associated with this investigation. This conclusion is supported by inspections of vehicles and the reports reviewed during the preparation of this response.

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

Sincerely,

James P. Vondale

Attachment

ATTACHMENT
July 30, 2008

FORD MOTOR COMPANY (FORD) RESPONSE TO PE08-035

Ford's response to this Preliminary Evaluation information request was prepared pursuant to a diligent search for the information requested. While we have employed our best efforts to provide responsive information, the breadth of the agency's request and the requirement that information be provided 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 Preliminary Evaluation.

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

Ford 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).

In a June 24, 2008 telephone conversation with Mr. Bruce York of the agency, the alleged defect was revised to be "*Any smoke, fire, or ignition of engine compartment materials or components including any melting of the Speed Control Deactivation Switch, the Anti-lock Braking System module, or their respective wiring harnesses.*" In addition, several requests in the inquiry were revised: Request 1h was clarified to request information as to whether the vehicle is equipped with a four-wheel Anti-lock Brake System (ABS), Traction Control (TC), or Interactive Vehicle Dynamics (IVD) braking system. Request 1i was clarified to seek identification of the manufacturer of the Speed Control Deactivation Switch (SCDS) mounted on the master cylinder. Request 2 was clarified to include only vehicles that are alleged to have experienced the alleged defect, exclude reports involving an accident prior to an alleged fire, and does not seek consumer cases (Lemon Law) as a source of reports of the alleged defect in the subject vehicles. Request 3 was clarified to remove subpart o, because Ford consumer complaints do not typically contain the requested component and system codes, and to request that Ford use categories similar to those used in Ford's response to PE04-078 as the manner to respond to subparts p and u. Request 5 was clarified to seek identification of all associated parts involved in the repair claim for a subject component and to exclude subpart j, because Ford warranty claims do not include a specific data field recording allegations of smoke, melting, or fire. These allegations were located using a text searching process described in Appendix B. Request 10 was clarified to include only recent documents related to the alleged defect in the

subject components installed in the subject vehicles. Ford has followed these clarifications in the preparation of our response.

The information request contains several references to the "ABS module." Ford notes that the ABS module is comprised of two primary components, the Hydraulic Control Unit (HCU), and the Electronic Control Unit (ECU). The ECU controls electrical power to operate the HCU and is powered at all times, while the HCU is essentially a metal valve block that controls brake fluid flow to the wheel cylinders. Our investigation has found that allegations of smoking or melting of the "ABS module" relate specifically to the ECU. Therefore, Ford's response to requests concerning allegations and part information for the "ABS module" will specifically focus on the ABS ECU module.

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 19, 2008, the date of your inquiry. Ford has searched within the following offices for responsive documents: Ford Customer Service Division, Quality, Global Core Engineering, Office of the General Counsel, Automotive Safety Office, and North American Truck Product Development.

Request 1

State, by model and model year, the number of subject 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, list the type of ABS installed;
i. If Cruise Control installed as original equipment, list the SCDS manufacturer; and,
j. 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 I, Data Collection Disc, for a pre-formatted table which provides further details regarding this submission.

Answer

Ford records indicate that the approximate total number of subject 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 1,840,038.

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

Model	1995 MY	1996 MY	1997 MY	1998 MY	1999 MY	2000 MY	2001 MY	2002 MY	2003 MY
Windstar	321,649	231,625	37,014	334,961	205,561	233,969	181,199	146,149	147,911

The exact vehicle production transition date for the SCDS manufacturer has not been specifically identified at this time for the subject vehicles. However, vehicle reviews have determined the transition date at the vehicle assembly plant was between October 8, 2002 and October 24, 2002. Therefore, vehicles produced with speed control on or after October 24, 2002 will have switches produced by the new SCDS manufacturer noted in our response to this request. Information regarding the type of brake system installed on each vehicle for request 1h is estimated using the best information available at this time.

The requested data for each subject vehicle is provided electronically in Appendix A (filename: 2008-07-30_Appendix_A) on the enclosed CD.

Request 2

State the number of each of the following, received by Ford, or of which Ford is otherwise aware, where the subject vehicle was alleged to have experienced the alleged defect:

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 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). The agency will note that we are not referencing searches of the Intensified Customer Concern Definition (ICCD) files as the ICCD records are now maintained in the Ford owner report files. Therefore, our searches of the owner report files include ICCD records.

Descriptions of the FCSD owner and field report systems, and the criteria used to search each of these are provided electronically in Appendix B (filename: 2008-07-30_Appendix_B) on the enclosed CD.

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

Category	Allegation
A1	Alleged underhood fire, non-crash, key-off, alleged ABS ECU module failure.
A2	Alleged underhood fire, non-crash, key-on, alleged ABS ECU module failure.
A3	Alleged underhood fire, non-crash, unknown key position, alleged ABS ECU module failure.
A4	Alleged smoke/melt – alleged ABS ECU module failure.
S1	Alleged underhood fire, non-crash, key-off, alleged SCDS failure.
S2	Alleged underhood fire, non-crash, key-on, alleged SCDS failure.
S3	Alleged underhood fire, non-crash, unknown key position, alleged SCDS failure.
S4	Alleged smoke/melt - alleged SCDS failure.
F1	Alleged underhood smoke/fire, non-crash, key-off, no alleged SCDS or ABS ECU module failure.
F2	Alleged underhood smoke/fire, non-crash, key-on, no alleged SCDS or ABS ECU module failure.
F3	Alleged underhood smoke/fire, non-crash, unknown key position, no alleged SCDS or ABS ECU module failure.
FB1	Alleged underhood smoke/fire, non-crash, key-off, ambiguous as to alleged SCDS or ABS ECU module failure.
FB2	Alleged underhood smoke/fire, non-crash, key-on, ambiguous as to alleged SCDS or ABS ECU module failure.
FB3	Alleged underhood smoke/fire, non-crash, ambiguous key position, ambiguous as to alleged SCDS or ABS ECU module failure.
FB4	Ambiguous alleged smoke/fire source, ambiguous as to alleged fire source, ambiguous as to alleged crash. *

* We are providing electronic copies of these 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: Records identified in a search of the Master Owner Relations System (MORS) database, as described in Appendix B, were reviewed for relevance and categorized 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 electronic database contained in Appendix C (filename: 2008-07-30_Appendix_C) on the enclosed CD. 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 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, Ford has gathered the related files from the Litigation Prevention section. Non-privileged documents for files that were located that are related to the responsive owner reports are provided electronically in Appendix D (filename: 2008-07-30_Appendix_D).

Field Reports: Records identified in a search of the Common Quality Indicator System (CQIS) database, as described in Appendix B, were reviewed for relevance and categorized 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 electronic database contained in Appendix C on the enclosed CD. 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 C but are not included in the field report count.

VOQ Data: This information request had an attachment that included 130 Vehicle Owner's Questionnaires (VOQs). Ford made inquiries of its MORS database for customer contacts, and its CQIS database for field reports concerning the vehicles identified on the VOQs. Ford notes that in some instances where the VOQ does not contain the VIN or the owner's last name and zip code, it is not possible to query the databases for owner and field reports specifically corresponding to the VOQs. Any reports located on a vehicle identified in the VOQs related to the alleged defect are included in the MORS and CQIS portions of the electronic database provided in Appendix C and have been identified by a "Y" in the "VOQ Dup" field.

Injury Incident Claims: For purposes of identifying allegations of injuries that may have resulted from the alleged defect, Ford has reviewed responsive owner and field reports, and lawsuits and claims. A chart identifying potentially relevant allegations is being provided electronically as Appendix E (filename: 2008-07-30_Appendix_E) on the enclosed CD. Copies of reports corresponding to these alleged incidents are provided in the MORS, CQIS, and Analytical Warranty System (AWS) portions of the electronic database provided in Appendix C and in Appendix F for Lawsuits.

Ford identified two reports containing allegations of minor injury related to a SCDS fire while the vehicle was parked. Ford had requested additional information regarding both allegations and has not received any response for over one year. Ford identified another report containing an allegation of minor injury from a SCDS fire after the vehicle was parked for five hours and 45 minutes. Photos of the vehicle show the damage was located near the center and passenger side of the engine compartment, inconsistent with the location of the SCDS. Further, the

circumstances in each of these three reports that allege fire in a parked vehicle are not likely to relate to the SCDS that is powered only in the "run" position in these vehicles.

Ford identified two reports containing allegations of minor injuries resulting from underhood fires that initiated while the vehicles were being driven. One report alleged that a fuel leak was the cause, the other report alleged a transmission leak was the cause. No supporting information was provided with either report.

Ford identified one report containing allegations of minor injury related to an underhood fire of unknown origin. Though there are no details to identify the potential or alleged origin, Ford records indicate this vehicle had a wiper motor that was the subject of a subsequent Ford recall relating to risk of fire.

Ford has identified another report containing allegation of minor injury from a fire of unknown origin. This vehicle had two open repairs for recalled components that may have contributed to the incident, but the report did not provide any supporting details. Ford identified three other reports that allege minor injury due to a vehicle fire of unknown cause, though these reports provide no supporting details or further information.

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 categorized in accordance with the categories described above.

We are providing the requested detailed information, where available, on the responsive and ambiguous lawsuits and claims in Appendix C in the Legal Claim/Lawsuits tab on the enclosed CD. The number of relevant lawsuits and claims identified is also provided in this log. To the extent available, electronic copies of complaints, first notices, or copies of MORS reports relating to matters shown on the log are provided in Appendix F (filename: 2008-07-30_Appendix_F) on the enclosed CD. With regard to these lawsuits and claims, Ford has not undertaken to contact outside law firms to obtain additional documentation.

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. Component that is alleged to have failed;
q. If a fire is alleged 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. 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 2000, 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 electronic database contained in Appendix C on the enclosed CD in response to Request 2. To the extent information sought in Request 3 is available for owner and field reports, it is provided in the database. To the extent information sought in Request 3 is available for lawsuits and claims, it is provided in Appendix C in the Legal Claim/Lawsuits tab on the enclosed CD. Ford notes that it is unable to locate three claim or lawsuit files and, therefore, in those instances is unable to determine if the cases involve non-crash related underhood fires.

Request 4

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 electronic database contained in Appendix C on the enclosed CD in response to Request 2. Copies of complaints, first notices, or MORS reports relating to matters shown in Appendix C in the Legal Claim/Lawsuits tab on the enclosed CD are provided in Appendix F. To the extent information sought in Request 4 is available, it is provided in the referenced appendices.

Request 5

State, by model and model year, a total count for all of the following categories of claims, collectively, that have been paid by Ford to date where either the subject component was replaced in the subject vehicles or a subject vehicle was

repaired for the alleged defect: 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:

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 which provides further details regarding this submission.

Answer

Records identified in a search of the AWS database, as described in Appendix B, were reviewed for relevance and categorized in accordance with the categories described in the response to Request 2. The number and copies of relevant warranty claims identified in this search that may relate to the agency's investigation are provided in the AWS portion of the electronic database contained in Appendix C on the enclosed CD. 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 C 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 2. Such claims that were honored are included in the warranty data provided. Ford assumes that providing the warranty claims in the electronic database format meets the requirements of this request because the agency can review or order the claims as desired.

Request 5 was revised to also request all associated parts involved in each repair claim for a subject component. This information is provided in an electronic database contained in Appendix G (filename: 2008-07-30_Appendix G) on the enclosed CD.

Request 6

> 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 code descriptions applicable to the alleged defect in the subject vehicles. State, by make and model year, the terms of the new vehicle warranty coverage offered by Ford on the subject vehicles (i.e., the number of months and mileage for which coverage is provided and the vehicle systems that are covered). Describe any extended warranty coverage option(s) related to the alleged defect 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

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

For 1995-2003 model year Windstar vehicles, the New Vehicle Limited Warranty, Bumper-to-Bumper Coverage begins at the warranty start date and lasts for three years or 36,000 miles, whichever occurs first. Optional Extended Service Plans (ESPs) were available to cover various vehicle systems, time in service and mileage increments. The details of the various plans are provided electronically in Appendix H (filename: 2008-07-30_Appendix_H) on the enclosed CD.

Request 7

> Produce electronic copies of all service, warranty, and other documents that relate to, or may relate to, the alleged defect in the subject vehicles, that Ford has issued to any dealers, regional or zone offices, field offices, fleet purchasers, or other entities. This includes, but is not limited to, 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 manufacturer's short name 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 components, Ford has reviewed the following FCSD databases and files: The On-Line Automotive Service Information System (OASIS) containing Technical Service Bulletins (TSBs) and Special Service Messages (SSMs); Internal Service Messages (ISMs) contained in CQIS; and Field Review Committee (FRC) files. We assume this request does not seek information related to electronic communications between Ford and its dealers regarding the order, delivery, or payment for replacement parts, so we have not included these kinds of information in our answer.

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

OASIS Messages: Ford has identified no SSMs and no TSBs that may relate to the alleged defect in the subject components on Windstar vehicles.

Internal Service Messages: Ford has identified no ISMs that may relate to the alleged defect in the subject components on Windstar vehicles.

Field Review Committee: Ford has identified no field service action communications that may relate to the alleged defect in the subject components on Windstar vehicles.

Request 8

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

Answer

Information describing the circuits that contain the subject components in the subject vehicles is provided in Appendix I (filename: 2008-07-30_Appendix_I) on the enclosed CD.

Request 9

Identify all of the components in the engine compartment that are powered when the key is in the off position on the subject vehicles. Identify the quadrant in the engine compartment where the component is located (front left, front right, rear left, or rear right).

Answer

Information identifying all of the components in the engine compartment of the subject vehicles that are powered when the key is in the "off" position is provided in Appendix J (filename: 2008-07-30_Appendix_J) 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 or any of the subject components installed 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 electronic copies of all documents related to the action, regardless of whether the documents are in interim, draft, or final form. Organize the documents chronologically by action.

Answer

Ford is construing this request broadly and is providing not only studies, surveys, and investigations related to the alleged defect in the subject vehicles, but also notes, correspondence, and other communications that were located pursuant to a diligent search for the requested information. Ford is providing the responsive non-confidential Ford documentation in Appendix K (filename: 2008-07-30_Appendix_K). Future testing and analysis plans are discussed in our response to Request 13.

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

Ford is submitting additional responsive documentation as Appendix L (filename: 2008-07-30_Appendix_L) with a request for confidentiality under separate cover to the agency's Office of the Chief Counsel pursuant to 49 CFR, Part 512.

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 desire additional materials, Ford will cooperate with the request.

Request 11

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

a. Subject components; and
b. Any kits that have been released, or developed, by Ford for use in service repairs to the subject components/assemblies.

For each component part number, provide the supplier's name, address, and appropriate point of contact (name, title, and telephone number) Also identify by make, model and model year, any other vehicles of which Ford is aware that contain the 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 FOURTEEN DATA." 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 notes that some replacement switches used for Windstar vehicles were also used as replacement switches relating to other field service actions and as service parts for other vehicles. Ford has no means by which to determine how many of the parts were actually installed on vehicles, the vehicle model or model year on which a particular part was installed, the reason for any given installation, or the purchaser's intended use of the components sold.

Ford is providing the total number of Ford service replacement speed control deactivation switches and ABS Electronic Control Modules by part number (both service and engineering) and year of sale in electronic form in Appendix M (filename: 2008-07-30_Appendix_M) on the enclosed CD. Information pertaining to production and service usage for each part number, and supplier point of contact information, is also included in Appendix M.

Request 12

State whether Ford has ever conducted, or is aware of, any returned part analyses in subject vehicles related to the alleged defect or failure of the subject components. 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

A summary of the tests performed on subject components as well as references to copies of the test reports are provided electronically in Appendix N (filename: 2008-07-30_Appendix_N) on the enclosed CD.

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 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 the subject models as a function of time in comparison to other passenger vehicles at similar ages; and,
i. The relative contribution of the subject components 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.

Answer

Ford Motor Company shares the concerns of the agency and our customers regarding the potential risk for SCDS fires. Together with the agency, we have conducted wide-ranging investigations and have identified large populations of vehicles that have circumstances that could reasonably result in a vehicle fire in an unattended vehicle due to the SCDS. Some of the vehicle lines that Ford has recalled have had no identified SCDS fires, but Ford recalled those vehicles along with others that had a significant number of identified SCDS fires because of our shared technical understanding of the mechanisms that can lead to such fire.

Ford had identified a number of field reports related to the Windstar population and had been investigating those reports prior to the agency opening this Preliminary Evaluation. Ford's investigation to date has confirmed that the SCDS fire concern present in the recalled populations does not exist in the Windstar. We welcome the opportunity to provide our assessment of the reports that prompted the agency to open this Preliminary Evaluation.

The scope of the agency's request includes all engine compartment components and materials; in addition the agency also specifically has identified the SCDS and the ABS ECU module as "subject components." Ford's analysis of the reports pertaining to the SCDS, ABS ECU module and other engine compartment components provided in this response to the agency's request follows.

Speed Control Deactivation Switch (SCDS)

As the agency is aware, a SCDS similar to that used in the Windstar has been the subject of prior investigations by both Ford and the agency. However, in Windstar vehicles the SCDS is powered only with the ignition in the "run" position. While a review of reports identified in response to this information request found allegations of leaking speed control deactivation switches, the reports that involve some type of heat-related condition such as melting, smoking or burning typically note little to no resulting damage to the vehicle. In fact, one third of such reports concern a smoking or melted SCDS, often not noticed by the owner, and only discovered when the vehicle was driven to the dealer for another concern, such as lack of speed control function. Even reports that refer to a "burned" switch resulted in very minor repairs, sometimes only involving replacement of the switch. A few reports were found to have resulted in repairs to other components, such as the air cleaner housing; however, even in these cases the event appears to have self-extinguished with minimal localized damage to these other components.

The SCDS system in the subject vehicles differs in several important characteristics from the SCDS in other vehicles that Ford has recalled. As previously noted, the switch is not powered when the ignition is "off," eliminating the risk of continuous electrical power at the switch that could initiate a heat related condition such as smoking, melting or fire in a parked vehicle. Further, the SCDS orientation in the subject vehicles is downward from the master cylinder, as opposed to switch orientation in other vehicles that have been found to experience more extensive vehicle damage resulting from a switch fire with a different switch orientation. Observations have found that thermal events in a downward pointing switch in the subject vehicles typically causes the plastic portion of the SCDS to separate from the body of the switch, disconnecting the resistive path to ground, thus removing electrical power, which is the source of heat generation. Physical data from report vehicles shows a pattern of localized damage at the switch from overheating, not a vehicle fire risk. A review of photographs and vehicles from alleged incidents supports this observation, providing explanation as to the limited amount of damage resulting from a melted or even "burned" switch. In the recalled populations,

a SDCS fire showed a clear fire pattern based on the location of the switch in the engine compartment. This pattern is not evident in the Windstar reports.

The actual rate of SCDS switch allegations involving a "burned switch," "burned connector" or "switch fire" is extremely small (15.1R/100K), and it is unclear in the vast majority of these allegations whether there was even any actual flame. Rates of alleged SCDS smoking or melting without even reference to a "switch fire" or "burned component" are even lower (7.2R/100K). The rate of SCDS fire allegations while the vehicle is parked is 1.3R/100K; however, since the SCDS is not powered when the key is in the "off" position, allegations of a SCDS fire while parked are difficult to rationalize. Yet even these vehicles were found to have sustained little damage.

Ford conducted a random review of 108 customer vehicles and found brake fluid leaks in some of the switches, but no evidence of any type of thermal activity.

The SCDS allegation information contained in the VOQ's submitted with this information request along with related owner reports located in our searches are mainly comprised of reports that indicate little or no damage beyond the SCDS. Though Ford is aware of some allegations that a fire due to the SCDS resulted in extensive damage either to the vehicle or other property, Ford is not aware of any evidence to substantiate any of these allegations. Reports of a SCDS fire while the vehicle's ignition is turned off for any length of time are difficult to rationalize because the SCDS does not receive power when the vehicle's ignition is turned off.

Our random review of 108 customer vehicles did not identify an emerging trend of overheated switches. In fact, though these reviews found some leaking switches, none exhibited any type of heat related condition. In other populations of recalled vehicles, Ford and the agency were able to identify an increasing trend of vehicle fires matching a consistent pattern indicating a SCDS fire. No such pattern or trend exists in these Windstar vehicles. We are both familiar with the signs pointing to a potential SCDS fire problem. Those signs are not present in the Windstar.

ABS ECU module

A review of reports identified in response to this information request found an even lower number of allegations of melting, smoking or fire associated with the ABS ECU module than for those alleging SCDS similar events. The agency provided information pertaining to one complainant that indicated brake fluid had migrated from a leaking SCDS through the wiring harness into the ABS ECU module, resulting in a fire at the module. While Ford is aware that this condition can occur, and has received a few similar reports on other vehicles, the rate is exceedingly small. In fact, in Ford's random review of subject vehicles in customer service, 10 that had leaking switches were inspected for evidence of brake fluid at the ABS ECU module. None of these vehicles were found to have any fluid migration from the SCDS into the ABS ECU module, much less to have experienced any type of melt condition at the module. Further, while Ford is aware of reports of melted or "burned" ABS modules due to brake fluid leakage from the SCDS, these reports again have consistently been found to result in little to no damage outside of the ABS ECU module and connector.

The reports of ABS ECU module smoking or melting are very limited (3.6R/100K) and rates of alleged ABS ECU module "fires" are even lower (1.4R/100K) and again result in minor damage to the vehicle. As stated previously, it is unclear in the vast majority of these allegations whether there was even any actual flame. Review of components and materials in the vicinity of a "burned" ABS ECU module typically has found little sign of heat damage, limited only to blackening due to contact with smoke. Damage is generally confined to the ABS ECU module

connector. Our review of five vehicles in service that had some type of complaint relating to this subject shows no damage to the vehicle beyond the ABS ECU module. There have been no reported injuries related to any ABS ECU module smoke, melt, or fire allegation. Consistently, the ABS ECU module allegation information contained in the VOQs submitted with this information request, along with related owner reports located in our searches, indicate little damage beyond the ABS ECU module.

Ford notes that the number of replacement ABS ECU module sales has been higher than expected and has undertaken a review of modules recently replaced by service technicians to evaluate the cause for replacement. A review of 22 modules that were replaced on the subject vehicles found in each case that the module was replaced to address an error code within the ECU circuitry. None of the 22 modules that were inspected were replaced for conditions relating to the subject of this investigation.

Other Underhood Components

During the 1995 through 2003 model years, Ford produced over 1.8 million Windstar vehicles. These vehicles are now up to 14 years old. As the agency is aware there are many potential causes of underhood fires in all makes and models of vehicles, including poor maintenance practices, modifications, improper servicing at independent repair facilities, externally caused fires, arson, etc., and the root cause of alleged underhood fires is very difficult to determine. Unfortunately, many of the lawsuits, claims, and other reports alleging a vehicle fire due to the subject components do not include any substantiating documentation. Frequently, the only documents provided to Ford, particularly in subrogation claims, are the stated allegations and financial estimates of property damage losses due to the fire. Typically, there is little, if any, credible information to support the allegations.

A review of the reports responsive to this information request identified as a result of Ford's searches found that 85% of the reported incidents relating to the SCDS or ABS ECU module occurred with five or more years of vehicle service at the time of the incident, while over 80% of the reports relating to other components occurred within the first five years in vehicle service and are decreasing at a rapid rate. Similarly, 74% of the ambiguous reports occurred within the first six years in vehicle service and the rate is also decreasing. This data suggests the ambiguous reports are not related to the SCDS or ABS ECU module.

Ongoing Analysis

As the agency is aware, Ford is continuing its analysis into smoke, melt or fire allegations associated with the SCDS and ABS ECU module in the subject vehicles. These evaluations include the effect of a leaking switch and the consequence of some type of smoking, melting or burning of the switch. Investigation to date has found the related consequence to be minor. As previously stated, a small number of reports allege that brake fluid from a leaking SCDS migrates to the ABS ECU connector, resulting in localized smoking and/or damage to the connector. While the number of these allegations is very small, Ford is also investigating the mechanism and potential consequences of this allegation. Again, Ford's review of vehicles that were reported as having experienced some type of melting, smoking or "fire" associated with the ABS ECU module were found to have sustained little damage to the vehicle beyond the ABS ECU module.

Thorough review of the reports and test data gathered to date find no evidence to support a conclusion that a leaking SCDS presents any unreasonable risk to motor vehicle safety in these vehicles. To confirm this assessment, Ford plans to continue its analysis of the subject components and vehicles including review of parts returned from vehicle service, customer vehicle evaluations, underhood packaging comparisons by model year, component testing,

brake system vacuum and pressure level testing, and flame propagation analysis from the SCDS and ABS ECU module. Significant differences exist in the mechanism and consequence of a leaking switch in these vehicles compared with recalled vehicles that were found to exhibit a notably higher fire allegation rate and potential to experience an unattended vehicle fire. Ford believes vehicle system and package differences between Windstar vehicles and those vehicles previously recalled are the reason there is no unreasonable safety risk associated with the subject of this investigation. This conclusion is supported by inspections of vehicles and the reports reviewed during the preparation of this response. We will keep the agency informed of our continuing analysis.