Ford Motor Company

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

August 19, 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: PE05-033:NVS-212cag

The Ford Motor Company (Ford) response to the agency's June 23, 2005 letter concerning reports of alleged windshield leaks in 1999 through 2001 model year Expedition vehicles is attached.

While the alleged defect is a source of dissatisfaction to owners, it does not constitute an unreasonable risk to the safe operation of vehicles. This is supported by the fact that there are no allegations of accidents, or even near accidents in the population of responsive reports related to the alleged defect, in the subject vehicles which have been in service for over five years. Ford performs extensive process control and inspection to ensure that the windshield joint is properly completed prior to leaving the manufacturing facility. The National Glass Association has estimated that 5.1 percent of windshields are damaged and require replacement annually. Some industry experts believe that up to 70 percent of those repairs may be completed improperly. A large number of the subject vehicles, with an average of five years of service, can be expected to have had their factory-installed windshields replaced by now. Because the windshield repairs are not typically covered under warranty and are typically completed by non-Ford facilities it is nearly impossible to determine if a windshield that is alleged to be leaking is original equipment.

Owners typically observe indications of a leaking windshield prior to observing any type of additional electrical anomalies. It is only when the early indications of a windshield leak are ignored that electrical anomalies may occur. The anomalies may increase in frequency of

observation, over time, if the leak is not repaired possibly resulting in escalating repair costs. There is no indication that even when the repairs are not completed in a timely fashion the electrical anomalies that may be observed result in an unreasonable risk to the safe operation of motor vehicles.

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

Sincerely,

James P. Vondale

Attachment

ATTACHMENT
August 19, 2005

FORD MOTOR COMPANY (FORD) RESPONSE TO PE05-033

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, 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.

Additionally, in a July 29, 2005 letter the agency issued a supplement to this information request seeking some additional information. Ford's response to this supplemental request is provided below following our responses to the original requests.

In an August 4, 2005 telephone conversation, Cynthia Glass of the agency informed Ford personnel that the scope of the investigation concerns only front windshield leaks and design information.

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 23, 2005, the date of your inquiry. Ford has searched within the following offices for responsive documents: Environmental and Safety Engineering, Global Core Engineering, Office of the General Counsel, Vehicle Operations, 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 by Ford, state the following:

a. Vehicle identification number (VIN);
b. Make;
c. Model;
d. Model Year;
e. Date of manufacture;
f. Date warranty coverage commenced.; and

g. 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."

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 653,471.

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

Model	1999 MY	2000 MY	2001 MY
Expedition	240,610	237,836	175,025

The requested data for each subject vehicle is provided electronically in Appendix A (filename: 2005-08-19 Appendix A_Production Data) on the enclosed CD.

Request 2

State the number of each of the following, received by Ford, or of which Ford are otherwise aware, which relate to, or may relate to, the alleged defect in the subject vehicles:

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

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

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

Answer

For purposes of identifying reports of incidents that may be related to the alleged defect and any related documents, Ford has gathered "owner reports" and "field reports" maintained by Ford Customer Service Division (FCSD), fleet reports maintained in a Fleet Test Database, 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 in previous responses to other of the agency's information requests. ICCD records are now maintained in 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 Fleet Test Database system, and the criteria used to search each of these are provided electronically in Appendix B (filename: 2005-08-19 Appendix B) on the enclosed CD.

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

Category	Allegation
A	Reports of alleged windshield leak with windshield wiper issues
B	Reports of alleged windshield leak with observed headlamp issues
C	Reports of alleged windshield leak with other electrical issues
D	Reports of alleged windshield leak with no electrical issues
E	Reports of alleged water leaks from unknown or unspecified sources

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

Owner Reports: Records identified in a search of the Master Owner Relations Systems (MORS) database, as described in Appendix B, were reviewed for relevance and categorized in accordance with the categories described above. The number of relevant owner reports identified in this search and review that may relate to the agency's investigation is provided in Appendix C (filename: 2005-08-19 Appendix C) on the enclosed CD. Copies of these categorized owner reports are provided in the MORS III portion of the electronic database also contained in Appendix C. 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 in Appendix D.

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 the alleged defect in the subject vehicles. No fleet reports were identified that may relate to the alleged defect.

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 of field reports identified in this search and review that may be related to the agency's investigation is provided in Appendix C on the enclosed CD. Copies of these categorized field reports are provided in the CQIS portion of the electronic database also contained in Appendix C. 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.

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. However, because a small percentage of the records may contain verbatim comments that could potentially relate to the agency's inquiry, we searched UDB for reports responsive to Request 2 as described in Appendix B. The number of reports identified in this search and review that may relate to the agency's investigation is provided in Appendix C.

When we were able to identify that responsive (i.e., not ambiguous) duplicate UDB 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.

VOQ Data: This information request had an attachment that included 20 Vehicle Owner's Questionnaires (VOQs). A July 23, 2005 supplement to this information request included 16 additional VOQs. Ford notes that the vehicle listed in the VOQ with reference number 10114382 (related to VIN 1FMRU15W92[redacted]) is not a subject vehicle. Ford made inquiries of its MORS database for customer contacts, and its CQIS database for field reports regarding the vehicles identified on the VOQs. Ford notes that in some instances, where the VOQ does not contain the VIN, or the owner's last name and zip code, it is not possible to query the databases for owner and field reports specifically corresponding to the VOQs. 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.

Crash/Injury Incident Claims: For purposes of identifying allegations of accidents or injuries that may have resulted from the alleged defect, Ford has reviewed responsive owner and field reports, and lawsuits and claims. No reports alleging crash or injury resulting from the alleged defect were identified.

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

We are providing the requested detailed information, where available, on the responsive and ambiguous lawsuits and claims in our Log of Lawsuits and Claims, as Appendix E1 (filename: 2005-08-19 Appendix E1) on the enclosed CD. The number of relevant lawsuits and claims identified is also provided in this log. To the extent available, copies of complaints, first notices, or MORS reports relating to matters shown on the log are provided in Appendix E2. 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. Report or claim date;
i. Whether a crash is alleged;
j. Whether a fire is alleged;
k. Whether property damage is alleged;
l. Number of alleged injuries, if any; and
m. Number of alleged fatalities, if any.

Provide this information in Microsoft Access 2000, or a compatible format, entitled "COMPLAINT DATA."

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 the Log of Lawsuits and Claims in Appendix E1.

Request 4

Produce copies of all documents related to each item within the scope of Request No. 2 and 3. 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 on the Log of Lawsuits and Claims (Appendix E1) are provided in Appendix E2. 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 that relate to, or may relate to, the alleged defect in the subject vehicles: warranty claims; extended warranty claims; claims for good will services that were provided; field, zone, or similar adjustments and reimbursements; and warranty claims or repairs made in accordance with a procedure specified in a technical service bulletin or customer satisfaction campaign.

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

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. Replacement part number(s) and description(s);
j. Concern stated by customer; and
k. Comment, if any, by dealer/technician relating to claim and/or repair.

Provide this information in Microsoft Access 2000, or a compatible format, entitled "WARRANTY DATA."

Answer

Records identified in a search and review 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 of relevant warranty claims identified in this search and review is provided in Appendix C on the enclosed CD. Copies of these categorized warranty claims are provided in the AWS portion of the electronic database also contained in Appendix C. 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 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 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. Requests for such adjustments that were honored are included in the warranty claims provided in Appendix C.

Because Ford has provided the warranty claims in an electronic database format the agency can review or order the claims as desired.

Request 6

> Describe in detail the search criteria used by Ford to identify the claims identified in response to Request No. 5, including the labor operations, problem codes, part numbers and any other pertinent parameters used. State by option (e.g., engine, transmission, etc), 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

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.

No special warranty extensions have been issued on the subject components. The electrical components and the windshield are covered under the standard, new vehicle, three year or thirty-six thousand mile "bumper to bumper" warranty. The electrical components could be covered by optional extended warranty plans that typically do not cover windshield water leaks. Ford relies on its dealerships to determine whether a repair is required due to a vehicle issue or due to improper service or abuse. If the dealership determines that a windshield leak is the result of a vehicle issue the repair may be covered under warranty. A description of the optional coverage plans and numbers of vehicles involved is provided electronically in Appendix F (filename: 2005-08-19 Appendix F).

Request 7

> Produce copies of all service, warranty, and other documents that relate to, or may relate to, the alleged defect in the subject vehicles, that Ford has issued to may 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. Include a copy of Oasis message number 15773.

Answer

For purposes of identifying communications to dealers, zone office, or field offices pertaining, at least in part, to leakage of rain water and melting snow around the windshield into the subject vehicle, 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, Internal Service Messages, and the Field Review Committee files and the search criteria used are provided in Appendix B.

OASIS Messages: Ford has identified four SSMs and two TSBs that may relate to the alleged defect in the subject vehicles and is providing copies of them, including SSM 15773, in Appendix G. No other related communications are identified and none are planned in the next 120 days.

Internal Service Messages: Ford identified no ISMs that relate to alleged windshield leaks in subject vehicles.

Field Review Committee: Ford identified no field service action communications that relate to alleged windshield leaks in subject vehicles.

Request 8

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

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

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

Answer

As the agency is aware, Ford has developed processes for identifying, investigating, and assessing potential safety or quality concerns in our products. In responding to this request, Ford has conducted a reasonably diligent search of those organizations that normally would be involved in our safety or quality investigation processes related to the alleged defect. Reports of

Expedition windshield leaks were investigated through Ford's Enhanced Concern Identification process. The documents identified during the search in preparing Ford's response to this information request are provided in Appendix L. No other such actions are being conducted or planned to be conducted at this time.

In the interests of ensuring a timely and meaningful submission, Ford is not providing documents identified as containing little substantive information. 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. Through this method, 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.

Request 9

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

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

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

Answer

No changes or modifications to the subject components in the subject vehicles that relate or may relate to the alleged defect were identified.

Request 10

Provide the installation procedure, control plan and process quality control data from the front and rear windshield, including the windshield molding and sealer.

Answer

The information, where available, in response to this information request is being submitted as Appendix H with a request for confidentiality under separate cover to the agency's Office of the Chief Counsel pursuant to 49 CFR, Part 512.

Request 11

Describe the path of alleged water leakage and those components inside the vehicle that may be subject to wetting from the alleged defect. Provide a detailed description (including photographs and/or diagrams) showing the location of the following components, relative to the windshield and the areas of the windshield allegedly leaking:

a. Fuse Box
b. Generic Electronic Module (GEM)

Answer

The reports of alleged windshield leaks do not provide a specific indication of a single leak location along the periphery of the windshield. However, for the reports alleging Power Distribution Box (PDB) or Generic Electronic Module (GEM) wetting, Ford believes the predominant path to be along the driver's side "A-pillar" in the area of the instrument panel, and then along one of several possible paths through the body structure. After that point the leak path is difficult to track but it may lead to the wiring harness on to the top of the Power PDB/Central Junction Box (CJB)/GEM, then on to the floor of the vehicle. The PDB/CJB/GEM are essentially a single assembly that is located behind the instrument panel, in the area forward of the driver's left knee. Electrical and shop manual drawings are provided in Appendix I to further assist in describing the component locations inside the subject vehicles.

Request 12

Identify by make, model and model year, any other vehicles of which Ford is aware that contain the subject component, whether installed in production or in service, and state the applicable dates of production or service usage.

Answer

Because of the broad nature of "windshield," Ford understands this request to refer to other vehicles containing the specific windshield used on the subject vehicles. Based upon this understanding, the 1999 through 2001 model year Lincoln Navigator is the only vehicle so equipped. Further, the windshield "seal" is a bulk urethane material applied to the windshield during the assembly process and is common between these vehicles as well.

Request 13

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

a. The causal or contributory factor(s);
b. The failure mechanism(s);
c. The failure mode(s);
d. The effect(s) of the failure on the subject components and other components and/or systems in the vehicle, including but not limited to the fuse box and the GEM;
e. The risk to motor vehicle safety that it poses;
f. What warnings, if any, the operator and the other persons both inside and outside the vehicle would have that the alleged defect was occurring or subject component was malfunctioning;
g. A description of the analysis process used to assess "a" through "f," and;
h. The reports generated as a result of this inquiry.

Answer

Ford does not believe there is an unreasonable risk to motor vehicle safety on the subject vehicles as a result of the alleged windshield water leaks. The number of reports that allege headlamp or wiper malfunction while the vehicle is being operated is very low. Our belief that this condition does not present an unreasonable risk is supported by the absence of accident or injury allegations related to the subject defect on the subject vehicles, some of which have been in service for over six years. Further, the low rate of allegations of adverse affect of vehicle operation does not define a defect trend.

Vehicle Owner Questionnaire (VOQ) Review

The agency provided 35 VOQ's related to the subject vehicles and subject defect. It is noteworthy that none of the VOQ's allege an accident or near accident as a result of any of the reported issues. Seventeen of the VOQ's indicate inoperative wipers and seven of those 17 indicate that the wipers are inoperative only when shifting into Drive or Reverse. While three of the VOQ's indicate the wipers became inoperative "while driving," one of the VOQ's (reference number 10126169) indicates that the vehicle had been experiencing "erratic electrical behavior" for "6 – 12 months" prior to the agency contact, and the owner reports that some warranty repairs were completed during that time period. Ford's records do not indicate any warranty repairs to this vehicle related to this issue, and in fact the last warranty repair to this vehicle was 12 months prior to the "incident date" reported in the VOQ and was unrelated. Two VOQ's indicate that the owner had contacted Ford, and one reports information provided by Ford. However Ford's records do not show any contact by one owner, and no contact related to this issue for the other. One VOQ alleges that the vehicle "jumped out of Park and into Reverse" (while running, attended by owner's wife in the passenger seat, the vehicle was driverless while the owner "ran an errand"). The owner further reports in the VOQ that "this can be repeated." Ford was not able to identify any contacts related to this alleged incident, and believes that the reported series of events is highly unlikely. Two of the VOQ's (reference numbers 10126861 and 10125947) appear to be related to other issues that are not related to the subject defect. Finally, 15 of the VOQ's were reported within a one week period immediately following the agency's announcement of the inquiry, yet 10 of those 15 indicate that the alleged incident occurred between two and twenty-six months prior to the VOQ.

Rather than reporting a safety concern, it appears that most owners are reporting a concern regarding the cost of repair for the windshield leak. In fact several (10 of the VOQ's) specifically mention the cost factor. It is noteworthy that slightly more than half of the reports indicate a leaking windshield only, without mention of electrical issues. If a windshield leak is not addressed, over time, erratic electrical behavior may eventually occur, and as many reports indicate, the erratic behavior stops when the vehicle is no longer operated in wet conditions. An example of this can be seen in the owner report related to VIN 1FMRU1669Y[redacted] If a windshield leak continues to be ignored, over time, more permanent damage may be sustained by electrical components and the issue can become chronic and require more costly repair.

Vehicle Analysis

Water intrusion into vehicles may occur from several sources and follow any of a number of many paths after they enter the vehicle. Some of the sources include aftermarket modifications, improper repair of glass, doors, or body panels, body damage and production variation. The information provided in response to request 10 demonstrates the extensive manufacturing efforts that support providing a leak free vehicle from the factory. Windshield joint leaks can be the result of damage from road debris impacts, vehicle impacts, and replacement windshields.

When a windshield joint leaks the operator may observe water droplets on the interior of the windshield, water or moisture on the top of the instrument panel, wet carpet, and in some instances may begin to observe erratic or unexpected electrical component behavior. The electrical component behaviors may become chronic if the signs of water intrusion are not addressed in a timely fashion. In the case of the subject vehicles the GEM, CJB, and interior PDB may suffer water exposure if water follows a path in the area of the driver's side "A-pillar" and then into the interior of the vehicle behind the instrument panel. The windshield leak locations identified in this response appear to occur at various points along the periphery of the windshield, and no specific location appears to predominate.

Ford notes that according to information provided by the National Glass Association approximately 5.1 percent of automotive windshields are damaged and require replacement each year. This information indicates that experts also suggest that up to 70 percent of the approximately 12 million windshields replaced annually are done so improperly. See http://autoscoop.cbs.com/yourcar.php

If the National Glass Association's estimate is applied across the population of subject vehicles, it can be reasonably expected that more than 160,000 of the subject vehicle population could have suffered windshield damage requiring replacement by now. Damage of this type is not covered under the factory warranty, and the repairs, if paid for by an insurance company, or by the owner, even if completed at a Ford dealership would not be reported to Ford by the normal reporting systems. Further, most windshield repairs are completed by third party specialists, and Ford would have no way of knowing if a windshield had been replaced and if so, that it was properly replaced. An example of issues rising after a windshield repair can be seen in the owner report related to VIN 1FMPU16L8Y[redacted] Some aftermarket windshield repair facilities use OEM brand windshield glass, which further complicates identification of factory installed windshields. If the windshield has been replaced and no longer has the factory seal, the failure cannot be attributed to a factory defect. However, it is very difficult to determine if such a replacement occurred. Several reports indicate that the vehicle had been purchased used making it even more difficult to determine if the windshield in those vehicles was factory installed.

Some repair facilities may use non-OEM brand glass and Ford cannot assure proper design or sealing of these windshields. Examples of this can be found in the owner report related to VIN 1FMPU16L3X[redacted] and the field report related to VIN 1FMPU16L1Y[redacted]

Additionally, a declining trend of repairs is noted after approximately 60,000 miles. It is expected, that on average, even the 2001 model year vehicles in the subject vehicles have passed this accumulation of mileage at this point.

Reports Analysis

Slightly more than half of the reports being provided indicate that the operators observed windshield leaks without electrical anomalies. Of those reports that indicate observation of electrical anomalies, those noted by the operators included, for example, defroster blower operating while the engine was off, erratic radio operation, instrument panel indicators sweeping full scale, remote keyless entry not operating, low washer fluid warning illuminated, vehicle not shifting out of park, vehicle would not crank, or vehicle would crank but would not start, headlamps operating while the switch was in the off position, and windshield wipers functioning erratically. It is noted that some reports allege the vehicle actually starting on its own without the ignition key in the ignition. Ford believes that this scenario is very unlikely because the standard equipped Passive Anti-Theft System (PATS) would prevent the vehicle engine from

starting in the absence of the correct ignition key in the ignition, and the key placed in the "start" or "run" positions. The independent system failures that would have to occur simultaneously for this event to take place are extremely unlikely.

Of the 653,471 subject vehicles in service for an average of approximately five years, Ford identified 238 reports (approximately 4% of the total reports alleging a windshield leak) that indicate "inoperative" wipers. Seventy-two of those 238 reports indicate the wipers became inoperative only when shifting out of Park or Neutral. It is noted that "inoperative" in the reports is used to describe wipers that exhibit a variety of issues including not actuating when commanded, as well as intermittent or partial operation. Further, 78 of the reports that indicate electrical observations state that wiper operation became intermittent or erratic and could only be used on certain speed settings, but remained functional. An additional 85 reports indicate that the wipers functioned with "phantom" wiper operation, or operation when uncommanded. Only 14 reports (0.3% of the total reports alleging a windshield leak) suggest that the wipers failed while the vehicle was in operation, and of those reports there are no allegations of accidents or even near accidents.

Similar to the wiper descriptions, reports that note "inoperative" headlamps are used to describe several conditions where typically expected headlamp function was not observed. Twelve reports indicate intermittent or erratic headlamp operation, and 48 reports indicated uncommanded headlamp operation. Ten reports (0.2%) indicate an issue with headlamps inoperative. One of the ten reports indicates that the headlamps became inoperative when shifting into Drive. Only two of the ten reports (0.04% of the total reports alleging a windshield leak) indicate that the headlamps became inoperative while operating the vehicle, and of those reports there are no allegations of accidents or even near accidents.

Four owner reports allege either a fire or observation of smoke potentially related to water intrusion into electrical components; however, these incidents do not appear to actually indicate a fire related to the alleged defect. The owner report related to VIN 1FMRU186XX[redacted] indicates, during the contact with the Customer Relationship Center (CRC), that an electrical fire had occurred. No specific details of the source, origin or location of the alleged fire is evident in the report. Ford contacted the dealership who completed the repairs to this vehicle identified and they reported that there was no fire inside the vehicle. There was a separate issue related to an alternator failure that the dealership indicated resulted in some battery and electrical wiring damage and it was felt that those issues, unrelated to the subject defect, were the source of the owner's comments. The vehicle also had issues with the GEM and PDB, that were potentially pre-existing to the alternator issue. However, these issues were unrelated, and the dealer reported that there was no indication of any fire inside the vehicle. The owner report related to VIN 1FMPU18L6X[redacted] reports that a water leak caused "the fuse box to get on fire." This vehicle was repaired and returned to service. Further review of the details surrounding the repairs to the vehicle with the dealer who completed the repairs identified no fire damage or repairs to any components except the GEM and PDB. Further, it was noted by the dealer that this owner declined to have the windshield repaired. The owner report related to VIN 1FMRU1862X[redacted] indicates that the operator "looked under dashboard and found that the wires were burning." Ford contacted the dealer who performed the repairs associated with this owner report and they reported that there was no damage to the wiring in this vehicle. The service manager at the dealership indicated that he had personal knowledge of this vehicle and the repair and that only the electrical components were replaced, no wiring was replaced or repaired. A fourth owner report related to VIN 1FMPU16L61[redacted] indicates the operator observed "smoking from the fuse box." Further review of the repair history for this vehicle indicated that it had been to a Ford dealer in May 2002, approximately six months prior to the alleged incident reported in the owner contact, and the repairs performed by the dealer at that

time were for issues related to an aftermarket wiring system. No further contacts for repairs of this vehicle were identified in this vehicle's warranty history.

None of the reports that allege a fire or observation of smoke appear to have suffered any type of debilitating damage such that they could not be readily repaired and returned to service.

Summary

While the alleged defect is a source of dissatisfaction to owners, it does not constitute an unreasonable risk to the safe operation of vehicles. This is supported by the fact that there are no allegations of accidents, or even near accidents in the population of responsive reports related to the alleged defect, in the subject vehicles which have been in service for over five years. Ford performs extensive process control and inspection to ensure that the windshield joint is properly completed prior to leaving the manufacturing facility. As provided previously, approximately 5.1 percent of vehicles annually receive windshield replacements due to damage from accidents and road debris. Some industry experts believe that up to 70 percent of those repairs may be improperly completed. A large number of the subject vehicles, with an average of five years in service, can be expected to have had their factory-installed windshields replaced by now. Because windshield repairs are not typically covered under warranty and are typically completed by non-Ford facilities it is nearly impossible to determine if a windshield that is alleged to be leaking is original equipment.

Owners typically observe indications of a leaking windshield prior to observing any type of additional electrical anomalies. It is only when the early indications of a windshield leak are ignored that electrical anomalies may occur. The anomalies may increase in frequency of observation, over time, if the leak is not repaired, possibly resulting in escalating repair costs. There is no indication that even when the repairs are not completed in a timely fashion the electrical anomalies that may be observed result in an unreasonable risk to the safe operation of motor vehicles.

July 29, 2005 Supplement Request Information

Request 1

Describe in detail, using diagrams where applicable, any modifications or changes made to the location of the Generic Electronic Module (GEM) and the Fuse Box in the subject vehicle.

Answer

Ford's records indicate that the location of the GEM and Fuse Box in the subject vehicles has not changed during the model years in question, nor were any changes in the general structure of the components related to water deflection or sealing made.

Request 2

Provide a schematic diagram of the GEM. Identify the location and function of each pin.

Answer

The information provided in response to this information request is provided in Appendix J. Diagrams for all three model years are provided.

Request 3

Provide an Owner's Guide for the 1999-2001 Expedition. If the Owner's Guide for the 1997 Expedition is the same as the Owner's Guide for the 1999-2001 Expedition, disregard this request.

Answer

The information provided in response to this request is provided electronically in Appendix K (filename: 2005-08-19 Appendix K). Owner's Guides for all three model years of subject vehicles are being provided.

Request 4

Provide a sample of the following:

a. GEM
b. Defective GEM that was removed from a consumer's Expedition
c. Fuse box
d. Defective Fuse box that was removed from a consumer's Expedition

Answer

Field return parts requested in (b) and (d) are included with this submission and tagged with labels identifying the part, source, and a copy of the repair order. Ford does not consider these parts "defective." It is noteworthy that this vehicle had accumulated almost 99,000 miles, had a cracked windshield and the dealer indicated that the leak was in the vicinity of the crack. The "new" parts requested in (a) and (c) are being procured and will be provided as soon as they become available.

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