

FORD MOTOR COMPANY (FORD) RESPONSE TO EA02-025

Ford's response to this Engineering Analysis Information request was prepared pursuant to a diligent search for the information requested. While we have employed our best efforts to provide responsive information, the breadth of the agency's request and the requirement that information be provided on an expedited basis make this a difficult task. We nevertheless have made every effort to provide thorough and accurate information, and we would be pleased to meet with agency personnel to discuss any aspect of this Engineering Analysis.

The scope of Ford's investigation conducted to locate responsive information focused on Ford employees most likely to be knowledgeable about the subject matter of this inquiry and on review of Ford files in which responsive information ordinarily would be expected to be found and to which Ford ordinarily would refer, 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.

In a July 31, 2003 telephone conversation with Messrs. Jeffrey Quandt and Bruce York of the agency, several requests in the inquiry were revised: Requests 1 and 4 now specify which type of cruise control system was installed on the subject vehicle (vacuum, electronic, or none); Request 2 was clarified to exclude "Lemon Law" claims as a source of reports of alleged defects in the subject vehicles; the category "Ford component and system codes" was removed from Request 3m; Request 10 was clarified to include only material incremental to our October 19, 2001 RQ01-002 submission; Universal Database (UDB) data was agreed as an alternate source of information for the Pareto analysis in Request 14; the 1991 model year was removed from the scope of Request 20a; and, the category defined as "shortly after the engine is turned OFF" was removed from Request 20e.

In an August 20, 2003 telephone conversation, Mr. Jeffrey Quandt of the agency informed Ford personnel that the 1996-1997 model year Lincoln Town Car, Mercury Grand Marquis, and Ford Crown Victoria vehicles were removed from the scope of the investigation.

Responses to your specific Requests 1, 7-9, 11-13, 15-19 are set forth below, as well as partial responses for Requests 2-5 and 14. (An extension of time previously was requested for responding to Requests 6, 10, and 20 and portions of Requests 2-5 and 14). 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 July 30, 2003, the date of your inquiry. Ford has searched business units and/or affiliates within the following offices for responsive documents: Environmental and Safety Engineering, Ford Customer Service Division, Global Core Engineering, Lincoln Mercury Product Development, North American Car Product Development, North American Engineering, North American Truck, Office of the General Counsel, Product Development, Purchasing, Quality, Research, and Vehicle Operations.

As requested, after each numeric designation, we have set forth verbatim the request for information, followed by our response to it.

Request 1

State, by model, model year, cruise control usage, and inclusion in the subject recall the number of MY 1992 through 1995 Crown Victoria, Grand Marquis, and Town Car vehicles Ford has manufactured for sale or lease in the United States. Separately, for each subject vehicle manufactured to date Ford, state the following:

- a. Vehicle identification number (VIN);
- b. Model;
- c. Model year;
- d. Date of manufacture;
- e. Date warranty coverage commenced;
- f. Whether the vehicle was included in the subject recall;
- g. Whether the subject recall repairs have been completed on the vehicle;
- h. Whether cruise control was installed as original equipment; and
- i. The State in the United States where the vehicle was originally sold or leased (or delivered for sale or lease).

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

Answer

Ford records indicate that the approximate total number of 1992-1995 model year Crown Victoria, Grand Marquis, and Town Car 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 the Virgin Islands) is 1,299,556. The approximate total number of subject vehicles, i.e. 1993-1995 model year vehicles produced after those included in safety recall 99S15, 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 the Virgin Islands) is 809,363. The totals of all vehicles by model year, model, and type of cruise control system are shown in the table below:

		MY 1992	MY 1993	MY 1994	MY 1995	Total
Crown Victoria Production		137,063	100,895	101,184	98,340	437,502
Recall Population		33,607	25,257	0	0	58,864
Speed Control System	Electronic	29,531	92,953	94,403	94,084	310,971
	Vacuum	82,734	0	0	0	82,734
	None	24,818	7,942	6,781	4,258	43,797

		MY 1992	MY 1993	MY 1994	MY 1995	Total
Grand Marquis Production		146,436	82,966	95,050	94,211	418,663
Recall Population		52,995	31,762	0	0	84,757
Speed Control System	Electronic	46,809	82,545	94,887	94,188	318,429
	Vacuum	98,302	0	0	0	98,302
	None	1,325	421	163	23	1,932

		MY 1992	MY 1993	MY 1994	MY 1995	Total
Town Car Production		109,150	113,492	113,022	107,727	443,391
Recall Population		78,281	40,505	0	0	118,786
Speed Control System	Electronic	78,280	113,492	113,022	107,727	412,521
	Vacuum	30,870	0	0	0	30,870
	None	0	0	0	0	0

Those 1992 model year Town Car, Crown Victoria and Grand Marquis vehicles that were included in safety recall 99S15 were identified based on the production date of the vehicles, which overlapped the transition from a vacuum speed control system to an electronic speed control system. Consequently, the number of vehicles included in the recall was greater than the number that were actually equipped with electronic speed control and the subject component.

The detailed information requested in subparts "a" through "i" is provided electronically in Appendix A (file: 2003-09-26_Appendix_A) on the enclosed CD.

Request 2

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

- Consumer complaints, including those from fleet operators;
- Field reports, including dealer field reports;
- Reports from any source involving allegations of fire, injury, or fatality;
- Third-party arbitration proceedings where Ford is or was a party to the arbitration; and,
- Lawsuits, both pending and closed, in which Ford is or was a defendant or codefendant.

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

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

Answer

For purposes of identifying reports of incidents potentially involving the alleged defect and any related documents, Ford has gathered "owner reports" and "field reports" maintained by Ford Customer Service Division (FCSD), Intensified Customer Concern Definition (ICCD) data maintained by Ford's Quality Office, fleet reports maintained in a Fleet Test Database, and claim and lawsuit information maintained by Ford's Office of the General Counsel (OGC).

Descriptions of the FCSD owner and field report systems, the ICCD and the Fleet Test Database systems, and the criteria used to search each of these are provided electronically in Appendix B (file: 2003-09-26_Appendix_B) on the enclosed CD.

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

<u>Category</u>	<u>Allegation</u>
A1	Alleged underhood fire, non-crash, key-off, alleged speed control deactivation switch failure
A2	Alleged underhood fire, non-crash, key-on, alleged speed control deactivation switch failure
A3	Alleged underhood fire, non-crash, unknown key position, alleged speed control deactivation switch failure
A4	Alleged smoke/melt - no fire, alleged speed control deactivation switch failure
A5	Alleged lost cruise function, alleged speed control deactivation switch failure
B1	Alleged smoke/melt - no fire, ambiguous or unidentified source*
B2	Alleged repair of speed control deactivation switch, unknown reason*
B3	Alleged lost cruise function, unknown reason*

B4 Alleged repair of speed control deactivation switch – stuck in park, brake lamp, leak, dead battery*

"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: The search and review of the Ford Master Owner Relations Systems (MORS) database records, as described in Appendix B, identified the following number of owner reports in accordance with the categories described above:

Category	A1	A2	A3	A4	A5
Reports	2	0	4	0	7

Copies of these owner reports are provided in the MORS II and MORS III portions of the electronic database contained in Appendix C (file: 2003-09-26_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 is marked accordingly, and the group is counted as one report. In other cases, certain vehicles may have experienced more than one incident and have more than one report associated with their VINs. These reports have been counted separately. Ford has also included owner reports that are ambiguous as to whether they fully meet the alleged defect criteria. We have provided an electronic copy of these reports in Appendix C 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.

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 reflect that they are Legal Contacts, Ford has gathered the related files from the Litigation Prevention section. In accordance with Ford's September 18, 2003 letter requesting an extension, our response to this portion of the Request will be provided by October 24, 2003.

ICCD Information: The ICCD database was not created until the 1988 model year and, therefore, was not searched. Details of the ICCD database are described in Appendix B.

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 responsive and no ambiguous fleet reports were identified.

Field Reports: The search and review of the Ford Common Quality Indicator System (CQIS), as described in Appendix B, identified the following number of field reports, excluding duplicates, in accordance with the categories described above:

CQIS					
Category	A1	A2	A3	A4	A5
Reports	1	1	1	2	9

Copies of these field reports are provided in the CQIS portion of the electronic database 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 CQIS reports for an alleged incident were received, each of these duplicate reports is marked accordingly, and the group is counted as one report. In other cases, certain vehicles may have experienced more than one incident and have more than one report associated with their VINs. These reports have been counted separately. In addition, one CQIS report is duplicative of an owner report and is provided in Appendix C but is not reflected in the report count above. Ford has also included field reports that are ambiguous as to whether they fully meet the alleged defect criteria. We have provided an electronic copy of these reports in Appendix C 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.

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 are including these in response to Request 2. A search of UDB, as described in Appendix B, was conducted. Copies of potentially relevant reports and ambiguous reports are provided in the UDB portion of the electronic database contained in Appendix C on the enclosed CD. We note that UDB did not exist at the time of the investigation that led to safety recall 99S15. Accordingly, any reports of after-warranty repair performed by Ford dealerships prior to the 4th quarter of 1998 would not have existed in this form, making any direct comparison of the numbers of repairs invalid.

UDB

Category	A1	A2	A3	A4	A5
Reports	0	0	2	18	208

The categorization of each report is identified in the "Category" field. 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 is marked accordingly, and the group is counted as one report. In other cases, certain vehicles may have experienced more than one incident and have more than one report associated with their VINs. These reports have been counted separately. In addition, one UDB record is duplicative of an owner report and one UDB record is duplicative of a field report. Both records are provided in Appendix C but are not reflected in the report count above. Ford has also included UDB reports that are ambiguous as to whether they fully meet the alleged defect criteria. We have provided an electronic copy of these reports in Appendix C 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.

VOQ Data: This information request had an attachment that included 28 Vehicle Owner's Questionnaires (VOQs) involving 27 different vehicles. Ford made inquiries of its MORS database for customer contacts, and its CQIS database for field reports regarding the vehicles identified in the VOQs. Ford notes that in some instances, where a 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.

Upon review of the 28 VOQ's provided by the agency, one was found to have a duplicate VIN (1LNLM82W1PY065224, ODI numbers 831530 and 701045) and one was found to be outside the subject vehicle definition revised in an August 20, 2003 telephone conversation with Mr. Jeffrey Quandt of the agency (1997 model year Grand Marquis, VIN 2MELM74W6VX857448, ODI number 535493).

Six of the VOQ's were found to be vehicles produced in the scope of the 99S15 recall, thus placing them outside the subject vehicle definition (VINs: 1LNLM83W3PY609722, 1LNLM81W0PY617411, 1LNLM81W3PY652055, 1LNLM81W8PY612117, 1LNLM82W1PY065224, and 1LNLM82W6PY636933. ODI numbers 838215, 832844, 10015691, 837324, 701045, and 10001455 respectively). Five of the six VOQ vehicles in the 99S15 scope have not had the recall performed on the vehicle according to Ford records.

Five of the VOQs did not provide valid, or any, VIN information (ODI numbers 839184, 10024037, 8003748, 974399, and 10017652) or owner's last name and zip code, so we can not query the databases for owner and field reports specifically corresponding to the VOQs.

Crash/Injury Incident Claims: For purposes of identifying alleged accidents or injuries potentially related to the alleged defect, Ford has reviewed responsive (i.e., not ambiguous) owner and field reports, and warranty claims. Based on a reasonable and diligent search, Ford has not located any owner (MORS) reports, field (CQIS) reports, or warranty claims alleging an accident or injury that may be related to the alleged defect. Lawsuits or claims that may relate to crashes or injuries related to the alleged defect are under review. Information responsive to this request will be forwarded to the agency by the October 24, 2003 date requested in Ford's September 18, 2003 extension request letter.

Claims, Lawsuits, and Arbitrations: Our responses to this portion of the Request will be submitted by the October 24, 2003 date requested in our extension request letter.

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 fire is alleged;
- k. Number of alleged injuries, if any;
- l. Number of alleged fatalities, if any;
- m. Ford component and system codes;
- n. Complaint summary;
- o. Consumer comments; and

p. **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 designed for this submission.

Answer

The requested information, to the extent it is available for the owner reports, field reports, and UDB data being provided in this response, is contained in the electronic file submitted in response to Request 2. As previously noted, Ford will provide legal contact information, as well as responsive and ambiguous lawsuit and claim information, by the October 24, 2003 date requested in our extension request letter.

Request 4

State the number of reports from any source (e.g., complaints, field reports, subrogation claims, lawsuits) received by Ford, or of which Ford is otherwise aware, which relate to non-crash related underhood fires in the subject vehicles. Provide this information by model, model year, cruise control usage, and whether the fire initiated when the engine was running or stopped.

Answer

For purposes of identifying reports of incidents potentially involving non-crash related underhood fires in the subject vehicles and any related documents, Ford has gathered "owner reports" and "field reports" maintained by Ford Customer Service Division (FCSD), Intensified Customer Concern Definition (ICCD) data maintained by Ford's Quality Office, fleet reports maintained in a Fleet Test Database, and is gathering claim and lawsuit information maintained by Ford's Office of the General Counsel (OGC).

Descriptions of the FCSD owner and field report systems, the ICCD and the Fleet Test Database systems, and the criteria used to search each of these are provided electronically in Appendix B on the enclosed CD.

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

<u>Category</u>	<u>Allegation</u>
A1	Alleged underhood fire, non-crash, key-off, alleged speed control deactivation switch failure
A2	Alleged underhood fire, non-crash, key-on, alleged speed control deactivation switch failure
A3	Alleged underhood fire, non-crash, ambiguous key position, alleged speed control deactivation switch failure
F1	Alleged underhood fire, non-crash, key-off, no alleged speed control

- deactivation switch failure
- F2 Alleged underhood fire, non-crash, key-on, no alleged speed control deactivation switch failure
- F3 Alleged underhood fire, non-crash, unknown key position, no alleged speed control deactivation switch failure
- FB1 Alleged underhood fire, non-crash, key-off, ambiguous as to alleged speed control deactivation switch failure
- FB2 Alleged underhood fire, non-crash, key-on, ambiguous as to alleged speed control deactivation switch failure
- FB3 Alleged underhood fire, non-crash, ambiguous key position, ambiguous as to alleged speed control deactivation switch failure
- FB4 Ambiguous alleged fire source, non-crash*; ambiguous as to alleged fire source, ambiguous as to alleged crash

"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: The search and review of the Ford Master Owner Relations Systems (MORS) database records, as described in Appendix B, identified the following number of owner reports in accordance with the categories described above:

Category	A1	A2	A3	F1	F2	F3	FB1	FB2	FB3
Reports	2	0	4	1	2	7	11	7	11

Copies of these owner reports are provided in the MORS II and MORS III portions 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 (i.e., not ambiguous) duplicate owner reports for an alleged incident were received, each of these duplicate reports is marked accordingly, and the group is counted as one report. In other cases, certain vehicles may have experienced more than one incident and have more than one report associated with their VINs. These reports have been counted separately. In addition, two owner reports are duplicative of VOQ's and are provided in Appendix C but are not reflected in the report count above. Ford has also included owner reports that are ambiguous as to whether they fully meet the alleged defect criteria. We have provided an electronic copy of these reports in Appendix C 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.

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 reflect that they are Legal Contacts, Ford has gathered the

related files from the Litigation Prevention section. In accordance with Ford's letter requesting an extension, our response to this portion of the Request will be provided by October 24, 2003.

ICCD Information: The ICCD database was not created until the 1996 model year and therefore was not searched. Details of the ICCD database are described in Appendix B.

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 non-crash related underhood fires in the subject vehicles. No responsive and no ambiguous fleet reports were identified.

Field Reports: The search and review of the Ford Common Quality Indicator System (CQIS) records, as described in Appendix B, identified the following number of field reports, excluding duplicates, in accordance with the categories described above:

CQIS

Category	A1	A2	A3	F1	F2	F3	FB1	FB2	FB3
Reports	1	1	1	1	0	1	0	0	0

Copies of these field reports are provided in the CQIS portion of the electronic database 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 CQIS reports for an alleged incident were received, each of these duplicate reports is marked accordingly, and the group is counted as one report. In other cases, certain vehicles may have experienced more than one incident and have more than one report associated with their VINs. These reports have been counted separately. In addition, six CQIS reports are duplicative of owner reports and are provided in Appendix C but are not reflected in the report count above. Ford has also included field reports that are ambiguous as to whether they fully meet the alleged defect criteria. We have provided an electronic copy of these reports in Appendix C 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.

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 are including these in response to Request 2. A search of UDB, as described in Appendix B, was conducted. Copies of potentially relevant reports and ambiguous reports are provided in the UDB portion of the electronic database contained in Appendix C on the enclosed CD. We note that UDB did not exist at the time of the investigation that led to safety recall 99S15. Accordingly, any reports of after-warranty repair performed by Ford dealerships prior to the 4th quarter of 1996 would not have existed in this form, making any direct comparison of the numbers of repairs invalid.

UDB

Category	A1	A2	A3	F1	F2	F3	FB1	FB2	FB3
Reports	0	0	2	0	0	0	2	0	7

The categorization of each report is identified in the "Category" field. 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 is marked accordingly, and the group is counted as one report. In other cases, certain vehicles may have experienced more than one incident and have more than one report associated with their VINs. These reports have been counted separately. In addition, one UDB record is duplicative of an owner report and one UDB record is duplicative of a field report. Both records are provided in Appendix C but are not reflected in the report count above. Ford has also included UDB reports that are ambiguous as to whether they fully meet the alleged defect criteria. We have provided an electronic copy of these reports in Appendix C 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.

Claims, Lawsuits, and Arbitrations: Ford will provide a response to this portion of the Request by the October 24, 2003 date requested in its extension request letter.

Request 5

Provide the following information for each record counted in your response to Request No. 4:

- 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, filed report, subrogation claim, lawsuit, etc.);
- c. Vehicle owner or fleet name (and fleet contact person), address, and telephone number;
- d. Vehicle VIN;
- e. Make, model and model year;
- f. Vehicle incident mileage;
- g. Incident date;
- h. Incident state;
- i. Report or claim date;
- j. The quadrant of the engine compartment where the fire started (left rear, left front, right rear, right front);
- k. Whether the incident occurred with the engine running or stopped;
- l. Whether or not Ford received a subrogation claim regarding the incident (Y/N);
- m. The alleged cause of the fire;
- n. Complaint summary;
- o. Consumer comments; and
- p. Ford's assessment of the allegation and cause of the fire.

Answer

The requested information, to the extent it is available for the owner reports, field reports, and UDB data being provided in this response, is contained in the electronic file submitted in response to Request 4. As previously noted, Ford will provide legal contact information, as well as responsive and ambiguous lawsuit and claim information, by the October 24, 2003 date requested in our extension request letter.

Request 6

Produce copies of all documents related to each item within the scopes of Requests Nos. 2 and 4 that have not previously been submitted by Ford. Organize the documents separately by request number and category (i.e., consumer complaints, field reports, etc.) and describe the method Ford used for organizing the documents.

Answer

In accordance with Ford's letter requesting an extension, our response to this Request will be provided by October 24, 2003.

Request 7

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 the subject component in the subject vehicles: warranty claims; extended warranty claims; claims for good will services that were provided; field, zone, or similar adjustments and reimbursements; and warranty claims or repairs made in accordance with a procedure specified in a technical service bulletin or customer satisfaction campaign.

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

- a. Ford's claim number;
- b. Vehicle owner or fleet name (and fleet contact person) and telephone number;
- c. VIN;
- d. Repair date;
- e. Vehicle mileage at time of repair;
- f. Repairing dealer's or facility's name, telephone number, city and state or ZIP code;
- g. Labor operation number;
- h. Problem code;
- i. Replacement part number(s) and description(s);
- j. Concern stated by customer; and
- k. Comment, by dealer/technician relating to claim and/or repair.

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

Answer

In responding to this information request, Ford electronically searched its Analytical Warranty System (AWS) for all claims meeting the criteria described in Appendix B. This search of the Ford AWS database records identified 690 warranty claims that may relate to the subject component. The claims were reviewed in accordance with the categories described in the response to Request 4. One hundred of these claims may relate to the subject component but not to the alleged defect. These claims are coded "C" (such as switches reported to make a loud clicking noise when the brake pedal is depressed) and are included in this response for your information.

The totals of all claims, including those coded "C", by model and model year is shown in the table below:

Model	Model Year	Total Claims
Crown Victoria	1993	51
	1994	77
	1995	136
Grand Marquis	1993	37
	1994	48
	1995	117
Town Car	1993	55
	1994	64
	1995	105

Electronic copies of these claims are provided in the AWS portion of the electronic database contained in Appendix C. 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.

The requested customer concern codes and the warranty condition codes are provided in Appendix B.

Requests for "goodwill, field, or zone adjustments" received by Ford to date that relate to the alleged defect in the subject vehicles that were not honored, if any, would be indicated in the MORS reports identified above in response to Request 2. Requests for goodwill that were honored, if any, are contained in the warranty data provided.

Request 8

Describe in detail the search criteria used by Ford to identify the claims identified in response to Request No. 7, 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

The criteria used for searching Ford's Analytical Warranty System (AWS) are described in Appendix B. All claims coded under the selected base part numbers were included in this search regardless of labor operations or problem codes.

The standard new vehicle bumper-to-bumper warranty coverage for 1993-1995 model year Ford Crown Victoria and Mercury Grand Marquis vehicles is three years or 36,000 miles, whichever occurs first. The standard new vehicle bumper-to-bumper warranty coverage for 1993-1995 model year Lincoln Town Car vehicles is four years or 50,000 miles, whichever occurs first. A list of Extended Service Plans (ESP) and the number of vehicles covered by each plan is described in Appendix D (file: 2003-09-26_Appendix_D) on the enclosed CD.

Request 9

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 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 office, or field offices pertaining, at least in part, to the alleged defect in the subject vehicles, Ford has reviewed the following FCSD databases and files: The On-Line Automotive Service Information System (OASIS) containing Technical Service Bulletins (TSBs) and Special Service Messages (SSMs); Internal Service Messages (ISMs) contained in 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 response.

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 not issued any SSM's or TSB's that relate to the alleged defect. In the search described above, we have identified four SSMs and one TSB that provide diagnostic information for repair of the speed control system. In our December 5, 2001 response to RQ01-002, Ford identified one SSM (message number 12492) requesting that service technicians, when replacing a speed control deactivation switch or electrical harness on a 1992-1993 Town Car, return the part to Ford for analysis. This February 1999 communication was sent to support Ford's analysis concurrent with PE98-055 concerning underhood fires in 1992 and 1993 model year Lincoln Town Car vehicles. Copies of these five documents are provided for your information in Appendix E. A review of any parts analyzed since the January 31, 2002 submission of the response to RQ01-002 is discussed in the response to Requests 17 and 18.

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

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

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

Answer

In accordance with Ford's letter requesting an extension, our response to this Request will be provided by October 24, 2003, although some of this information is being provided in response to Requests 13 and 18.

Request 11

State the number of each of the following that Ford has sold that may be used in the 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 component/assembly.

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 base part number (8F824) component, whether installed in production or in service, and state the applicable dates of production or service usage.

Answer

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

Ford is providing in electronic form in Appendix F (file: 2003-09-26_Appendix_F), on the enclosed CD, the total number of Ford service replacement switches and switch kits by part number (both service and engineering) and calendar month and year of sale, where available. A list of models and model years for which these parts are released and supplier names and contacts are also provided in this Appendix.

We have made inquiries of FCSD as to the availability of switches and switch kits to independent repair facilities. FCSD indicates that these parts are available only to Ford dealers. In researching the number of switch sales versus the number of repairs performed at Ford dealerships in recent years, Ford believes that due to the age of the vehicle, the majority of the switches are being purchased from dealers for repairs performed at independent repair facilities.

Ford uses the base part number 9F924 for all speed control deactivation switches that are operated by hydraulic brake pressure, as in the case of the subject component, and for mechanical switches that perform the same function but do not utilize hydraulic pressure. Ford understands this request to include only the hydraulic pressure switch information. Appendix F provides a matrix of vehicles and model years that utilized a hydraulic pressure switch for speed control deactivation through the 2002 model year. The switches were used in both production and service for each model year and continue to be used in service for those model year vehicles. During the 2002 calendar year, Ford changed switch suppliers from Texas Instruments, and the new switch supplier utilized a hydraulic pressure switch of a significantly different design.

Request 12

Furnish copies of the design, test, and quality assurance specifications and drawings for the subject components, including Ford engineering specification ES-F2VC-9F924-AA.

Answer

The requested part drawings and specifications will be provided to the NHTSA's Office of the Chief Counsel in Appendix G under separate cover with a request for confidentiality.

Request 13

Provide the peak operating and hot soak temperatures in the area of the subject component on each of the model year subject vehicles. Describe the effects on performance to the Kapton diaphragm of being exposed to 288°F for an extended period of time.

Answer

Ford understands the temperature of 288°F was taken from Attachment 4, Test B, of the June 10, 1998 Field Service Action Evaluation Paper. This paper describes a temperature of 250°F at the left hand engine mount from an unknown vehicle as an approximation of the environment of the subject component and added 36°F due to the heat generated by the maximum 15 amps of current flowing through the switch in a laboratory environment. However, the switch normally conducts less than one amp under normal operating conditions. An anomaly in the switch circuit would be required to cause 15 amps of current to flow through the

switch. Laboratory tests have shown a less than 10°F increase in switch temperature with one amp of current flowing through the switch.

Ford believes that a more appropriate estimate of the maximum operating temperature is 213°F. This is the maximum temperature recorded at the brake pressure switch during a 2,500 lb trailer towing test conducted on a 1998 model year Crown Victoria, in an ambient temperature up to 117°F. Even if an additional 36°F is added to the switch's temperature to represent extraordinary conditions in which heat is generated from electrical current through the switch, the resulting temperature of 249°F is well within the 275°F test specification for the subject component (per ES-F2VC-9F924-AA). Note that during the referenced vehicle test, the maximum temperature recorded at the left hand engine mount was 252°F, illustrating the temperature difference between these two locations, which are approximately 370mm apart.

Details of the performance of Kapton under specific conditions would be best known by the Kapton manufacturer (DuPont) or the subject component manufacturer (Texas Instruments). Information posted on the public DuPont website at the time this response was prepared states: "Kapton® HN is an all-purpose polyimide film that has been used successfully in applications at temperatures as low as -452°F and as high as 752°F." (<http://www.dupont.com/kapton/general/capabilities-broch.html>)

Ford believes the subject components are adequately designed for their intended function in the subject vehicles.

Copies of the thermal testing results will be provided to the NHTSA's Office of the Chief Counsel in Appendix H and under separate cover with a request for confidentiality.

Request 14

Provide copies of all documents relating to Failure Mode and Effects Analyses of the subject components. Provide Pareto analyses of the relative proportions of each causal factor in the total number of subject component failures represented by: (a) warranty claims data; and (b) part sales data.

Answer

Documents relating to a Failure Mode and Effects Analysis of the subject component will be provided to the NHTSA's Office of the Chief Counsel in Appendix I under separate cover with a request for confidentiality. Warranty claims data information is used by Ford to manage the tracking and payment of vehicle repairs performed by authorized repair locations and is not intended to collect detailed causal factor information related to component failures. Further, due to the age of the subject vehicles and the typical warranty coverage, very little recent warranty data exists. Warranty data does not in many cases contain enough descriptive information to construct the requested Pareto analysis of the subject part failures. Additionally, part sales data is not linked to a part's failure mode and, therefore, can not be used in a Pareto analysis of failures. Sales of the subject component support the maintenance of approximately 2 million vehicles across three makes and six model years, which prevents the comparison between component sales rates and a particular vehicle model or model year.

A Pareto analysis of the subject component failure symptoms was constructed using a specialized form of post-warranty repair data (Unified Database: UDB) gathered from September 9, 1998 through July 29, 2003. UDB data is gathered from selected dealers

throughout the United States and provides Ford with a sampling of post-warranty vehicle repair information. The comments input into UDB by the service technicians were grouped into vehicle-level and component-level symptoms similar to those used in the June 10, 1999 Field Service Action Evaluation Paper. The pareto analysis indicates the largest portion (38.0%) of the subject components were replaced without any notable issue from the vehicle service technician. Inoperative Speed Control was the most frequent failure symptom (34.5%). A potential subject component failure mode associated with this symptom is an open circuit, which could be the result of a loose electrical connector, contact corrosion due to internal leakage, or contact corrosion from water intrusion. Thermal events allegedly related to the subject component were 3.5% of the 597 UDB records reviewed, and included 19 smoke/melt claims (3.2%) and two alleged switch fires (0.3%). One of the alleged switch fires (VIN 1LNLM81W5PY770984) appears to be related to an attempted consumer repair, which was later brought to a dealer for final repair.

A copy of the pareto chart is provided in Appendix J.

Request 15

Describe how the manufacturing process difficulties referenced in Ford's December 5, 2001 response to the RQ01-002 Information Request letter relate to the embrittlement of the Kapton diaphragm or contamination of the switch cavity identified as a potential root cause in the June 10, 1999 Field Service Action Evaluation Paper.

Answer

The seal set (Kapton diaphragm) in the subject component is composed of three layers of Kapton Type FN film, each layer of film being made from a layer of Kapton Type HN polyimide film laminated between two layers of Teflon. The Texas Instruments manufacturing process concerns referenced in Ford's December 5, 2001 response to the RQ01-002 information letter were believed to impart stresses into the seals that led to tears, cracking, or premature delamination of the Teflon layers on either side of the Kapton. One of the functions of the Teflon layer is to protect the Kapton from exposure to brake fluid. If the Teflon layer tears, the Kapton is exposed to brake fluid and may become brittle and crack over time. If this failure mode propagates through all three seal layers, it may allow brake fluid to contaminate the switch cavity, as noted in the June 10, 1999 Field Service Action Evaluation Paper.

Request 16

Describe all design, process, and use factors that may contribute to: (a) brittle failure of the Kapton diaphragms; and, (b) contamination of the switch cavity; as mentioned in the June 10, 1999 Field Service Action Evaluation Paper submitted in Ford's response to RQ01-002. Provide Ford's assessment of why the process, referenced in the June 10, 1999 Field Service Action Evaluation Paper (ES-F2VC-9F924-AA), intended to prevent these failure modes may not have been effective.

Answer

Ford has not identified any vehicle or subsystem level design, process, or use factors that would contribute to the brittle failure of the Kapton diaphragms or contamination of the switch cavity.

These failure modes were believed to be related to the switch manufacturing process concerns discussed in the response to Request 15. The specification (ES-F2VC-9F924-AA) referenced in the June 10, 1999 Field Service Action Evaluation Paper is effective in preventing the failure modes in components manufactured to meet Ford's specification. The subject component engineering specification (ES-F2VC-9F924-AA) does not permit fluid leakage of any kind under a wide range of temperature, vibration, pressure, and other environmental conditions to which the subject component may be exposed during vehicle operation. Components that meet this specification will not contribute to the failure modes referenced in the June 10, 1999 Field Service Action Evaluation Paper as demonstrated by the successful operation of the subject vehicles and many other Ford models that use a switch of similar design.

Request 17

Describe, and provide copies of all documents relating to, all returned part analyses of subject components recovered by or for Ford from vehicles covered by the subject recall, both before and after Ford began its campaign. Include in your description the total number of such parts returned, the number analyzed, the criteria for selecting parts for analysis, a description of how they were analyzed, a summary of the results of the analyses, the number of analyzed switches with leaking Kapton diaphragms, and a description of any and all analyses of Kapton seals removed from returned components. Include any and all material showing the frequencies of failed switches or leaking diaphragms as functions of service life or mileage.

Answer

On June 28, 2003, Ford conducted returned parts analysis at its central laboratory on 12 of the subject components. Two were known to be recovered from vehicles produced during the subject recall, and subsequent to the analysis to support the response to RQ01-002, submitted on January 31, 2002. One of the switches had a connector that appeared to be charred and had cracks in all three Kapton seals. The other switch did not appear to have a leak path through the Kapton seals, but the switch contacts were corroded from what was believed to be water intrusion into the switch cavity. This switch had a date code (9146) that indicates the switch was manufactured on May 26, 1999 and was removed from a vehicle that was repaired under the 99S15 recall in October 13, 1999. The test results of the remaining ten switches are discussed in the response to Request 16.

Request 18

State whether Ford has ever conducted, or is aware of, any returned part analyses in subject vehicles produced after the subject recall range. If so, provide the same information requested in Request No. 17 regarding any such analyses.

Answer

Ford understands this request to relate to the subject component. Ford analyzed a total of 14 of the subject components. One of the subject components was analyzed on April 3, 2002. The subject part was removed from a 1994 model year Crown Victoria Police Interceptor (Gainesville Florida Police Department vehicle 1891) built on April 29, 1994. The vehicle had experienced an alleged key-off underhood fire in the area of the subject component. The

vehicle sustained minimal damage and was repaired and returned to the fleet. The subject component was removed from the vehicle and sent to Ford's Central Lab for review. The switch analysis revealed tears in the Teflon overlays and cracks in the Kapton of all three seal layers that allowed brake fluid to contaminate the electrical side of the switch. The electrical contacts inside the switch cavity were missing. Ford reviewed the repaired vehicle approximately 2 months after the incident and found the circuit for the subject part to be over-fused (20 amp fuse in a 15 amp circuit). Ford believes the circuit was over-fused at the time of the incident and the over-fused condition to be the key factor in the alleged underhood fire.

Ford analyzed 12 switches on June 26, 2002. The history or reason for replacement of these switches is unknown. Two of these switches were discussed in the response to Request 17. Of the remaining ten switches, five were found to be from the subject vehicles. Four of these switches had corrosion on the contacts believed to be from water intrusion into the switch cavity. There did not appear to be a leak path through the Kapton seals. The remaining subject vehicle switch had a leak path through all three Kapton seals and most of the switch cavity was missing. The last five switches did not have a VIN associated with them and, therefore, it is not possible to determine the source vehicle. One of the switches had a date code (2048) that indicates the switch was made on February 17, 1992 (during the 99S15 recall period). It had tears in all three layers of Kapton and the switch cavity appears to be melted. Three of the remaining switches had date codes in the range of the subject vehicles and showed signs of contact corrosion believed to be from water intrusion into the switch cavity. The last switch had a date code beyond the subject vehicle range (6187: July 6, 1998) and showed signs of contact corrosion believed to be from water intrusion into the switch cavity.

Ford analyzed one switch on July 17, 2002; the make, model, and model year of the source vehicle is unknown. The date code on the switch (5086A) indicates the switch was manufactured on March 7, 1995. The switch had cracks in all three Kapton seals and the connector appeared to be melted around the terminals.

Ford also analyzed one switch on December 12, 2002. It was removed from a 1998 model year Crown Victoria, which is not part of the subject vehicle population. The switch housing had evidence of heat damage and all three Kapton seals had cracks.

Copies of the four lab reports discussed above will be provided to the NHTSA's Office of the Chief Counsel in Appendix K under separate cover with a request for confidentiality.

Request 19

Coordinate with Mr. Bruce York of my staff to arrange the collection of speed control deactivation switches from subject vehicles that are replaced for any reason over the next 60 days.

Answer

During a telephone conference with Mr. Jeffrey Quandt, of the agency, Ford explained that it had no practical way of providing such switches to Mr. York due to the very low rate of switch replacements actually being performed by Ford dealerships. Ford believes that this is due to the age of the vehicles.

Request 20

Furnish Ford's assessment of the alleged defect in the subject vehicles, including a detailed comparison of the alleged defect in the subject vehicles and the condition addressed by the subject recall. Include in your assessment the following information:

- a. Provide updates of the graphs showing non-crash related underhood fire incidence, for both engine ON and engine OFF, by vehicle production month that were included in Ford's 14-D reports related to the subject recall. In the updated graphs, show the data for one model year of production before the subject recall production range, the recall production range, and the production range of the subject vehicles. Include in the graphs the number of events that include symptoms associated with the alleged defect condition and also vehicle production implementation date information regarding all design or manufacturing process changes that Ford considers relevant to the alleged defect condition.
- b. Identify all differences in design, manufacturing, or use conditions between the subject recall population and subsequent production vehicles that may influence: (1) seal integrity of the Kapton diaphragms; (2) the aging/durability of the Kapton diaphragms; (3) failure frequencies of the Kapton diaphragms; and (4) the risk of fire in a switch with a failed/leaking Kapton diaphragm.
- c. Provide Ford's assessment of the failure rates of the subject components at the following service intervals: (1) 36-months; (2) 60-months; and (3) 96-months. Include in this assessment a review of warranty and complaint data at these intervals, as well as a discussion of how Ford reconciles part sales data with the failure estimates at each interval. Regarding the latter, provide a summary of all information concerning the subject component from the UDB system over the last three years binned by failure mode (include "Burned/Melted," "Internal Leak," "Internal Short," and "Unknown" in the failure mode categories).
- d. Provide Ford's assessment of 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).
- e. Provide Ford's assessment of the risk of non-crash related underhood fire in each of the subject models as a function of time in comparison to other medium to large-sized passenger cars at similar ages. Include separate assessments of key "OFF" fires and fires that occur when the engine is running (or shortly after the engine is turned "OFF").
- f. Provide Ford's assessment of the relative contribution of the subject component in the incidence of non-crash related underhood fires in the subject models over the service life of each subject model and state the bases for those assessments.

Answer

In accordance with Ford's letter requesting an extension, our response to this Request will be provided by October 24, 2003.