

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

Ford Motor Company

Automotive Safety Office
Environmental & Safety Engineering

August 12, 2011

Mr. Frank S. Borris, Director
Office of Defects Investigation
National Highway Traffic Safety Administration
1200 New Jersey Avenue SE, Room W45-302
Washington, DC 20590

Dear Mr. Borris:

Subject: PE11-018 NVS-213swm

The Ford Motor Company (Ford) response to the agency's June 16, 2011 letter concerning reports of alleged unexpected engine speed increase when idling in 2005 through 2007 model year Ford Freestyle and Five Hundred vehicles is attached.

Because of the breadth of the "alleged defect," our response includes not only allegations of unexpected vehicle movement or increased engine idle speed allegedly due to the throttle body assembly or idle speed control software, but also due to a variety of other causes, including pedal misapplications, internal transmission damage, or loose air filter housings. The reports can be ambiguous as to whether unintended vehicle movement actually occurred or whether there was only an engine speed increase. Also, it is difficult to distinguish if the reports relate to the throttle body, engine, or transmission.

Of the reports potentially associated with the subject component of this investigation, Ford's review found the majority of allegations of unstable idle speed control were reported to have occurred at low vehicle speeds while braking, stopping, placing the vehicle in drive or reverse, other low speed maneuvers, or while idling at a stop. Ford's analysis of warranty return parts associated with these complaints has found that most relate to deposit build-up on the throttle body that is a progressive condition, which over time, may cause the vehicle's idle speed control system to compensate for potential engine idle speed dips. An operator of a vehicle with the condition will observe progressively rougher idles (idle speed dips and flares) as an indication that the vehicle needs service.

The idle control system is only active at vehicle speeds under 3.5 mph and only when the accelerator pedal is not depressed. The idle speed control system is designed to minimize idle speed flares and their affect on the vehicle in terms of both acceleration and duration. In addition to the speed and pedal position system limitations, drivers are likely to have their foot on the brake pedal during the low speed vehicle maneuvers associated with a sludged throttle body; therefore, unexpected vehicle movement during an engine idle speed correction (which in testing lasted for approximately one second in duration), would be expected to be minimal. Vehicle evaluations also indicate that the potential unexpected movement during these events is well within Fords maximum sustained idle creep speed



specification. The creep speed specification maximum is primarily for engine idle customer satisfaction (idles too fast complaints).

Our review of the responsive reports provided herein found twenty-nine accident allegations, and three injury allegations. Many of these incidents involve circumstances or conditions that are not consistent with the effect of a sludged throttle body in vehicle response. For example, VIN *G [REDACTED] alleges:

"...while attempting to turn around to re-enter the security gates...the vehicle began to accelerate in speed without...touching the gas pedal. When...attempted to slow the vehicle down by pressing the brakes, the vehicle didn't slow down or stop...ran into the gate/wall of the apartment entrance. On impact the airbag on the driver's side deployed partially..."

The apparent vehicle speed necessary to result in an air bag deployment, the allegation that brake application was unable to slow the vehicle, and the apparent duration of this event are all inconsistent with vehicle symptoms associated with throttle body deposit build-up.

Many customer complaints received by Ford associated with this subject are related to inconvenience with the backorder of service throttle bodies, or cost of replacing the throttle body. Ford is addressing this customer satisfaction issue with the release of revised engine calibration software that is available for vehicles with a CVT transmission (TSB 11-8-5). A similar TSB pertaining to a calibration update for vehicles with a 6-speed transmission is also planned.

Ford believes consideration of all of the factors relating to this subject supports a conclusion that throttle body sludging, and the resulting low speed vehicle effects, is a customer satisfaction issue, and that it does not present an unreasonable risk to safety in these vehicles.

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

Sincerely,


Steven M. Kenner
Attachment

FORD MOTOR COMPANY (FORD) RESPONSE TO PE11-018

Ford's response to this Preliminary Evaluation information request was prepared pursuant to a diligent search for the requested information. The breadth of the agency's request and the requirement that information be provided on an expedited basis made this a difficult task. We nevertheless have made a substantial effort to provide thorough and accurate information, and we would be pleased to meet with agency personnel to discuss any aspect of this Preliminary Evaluation.

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

Ford has construed this request as pertaining to vehicles manufactured for sale in the United States, its protectorates, and territories.

Ford notes that some of the information being produced pursuant to this inquiry may contain personal information such as customer names, addresses, telephone numbers, and complete Vehicle Identification Numbers (VINs). Ford is producing such personal information in an unredacted form to facilitate the agency's investigation with the understanding that the agency will not make such personal information available to the public under FOIA Exemption 6, 5 U.S.C. 552(b)(6).

Answers to your specific questions are set forth below. As requested, after each numeric designation, we have set forth verbatim the request for information, followed by our response. Unless otherwise stated, Ford has undertaken to provide responsive documents dated up to and including June 16, 2011, the date of your inquiry. Ford has searched within the following offices for responsive documents: Sustainability, Environment and Safety Engineering, Ford Customer Service Division, Quality, Global Core Engineering, Office of the General Counsel, Vehicle Operations, and North American 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 and federalized territories. 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. Transmission;

- f. Drivetrain (e.g., all-wheel drive);
- g. Air-conditioning (Y/N);
- h. Date of manufacture;
- i. Date warranty coverage commenced; and
- j. The State in the United States where the vehicle was originally sold or leased (or delivered for sale or lease).

Provide the table in Microsoft Access 2007, or a compatible format, entitled "PRODUCTION DATA." See Enclosure 1, Data Collection Disc, for a pre-formatted table which provides further details regarding this submission.

Answer

Ford records indicate that the approximate total number of 2005 through 2007 model year Freestyle and Five Hundred vehicles sold in the United States, (the 50 states and the District of Columbia) protectorates, and territories (American Samoa, Guam, Northern Mariana Islands, Puerto Rico, and Virgin Islands) is 410,728.

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

Model	2005 MY	2006 MY	2007 MY
Freestyle	75,758	54,937	38,025
Five Hundred	97,778	82,983	61,247

The requested data for each subject vehicle is provided in Appendix A.

Request 2

State, by model and model year, the number of subject vehicles Ford has manufactured for sale or lease in the United States and federalized territories for which Ford sold an extended service plan. For vehicles with more than one extended service plan list the vehicle separately for each plan. Separately, for each vehicle, state the following:

- a. Vehicle Identification number (VIN);
- b. Make;
- c. Model;
- d. Model Year;
- e. Name of extended service plan;
- f. Mileage at which the extended service plan expires; and
- g. Number of months from the warranty start date at which the extended service plan expires.

Provide this information in Microsoft Access 2007, or a compatible format, entitled "REQUEST NUMBER TWO DATA." See Enclosure 1, Data Collection Disc, for a preformatted table which provides further details regarding this submission.

Answer

Ford records indicate that the approximate total number of 2005 through 2007 model year Ford Freestyle and Five Hundred vehicles manufactured for sale or lease 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) for which Ford has sold either an extended service plan for a new subject vehicle or for a used subject vehicle is 89,825.

The number of subject vehicles manufactured for sale or lease in the United States and its protectorates and territories for which Ford sold an extended service plan by model and model year is shown below:

Model	2005 MY	2006 MY	2007 MY
Freestyle	20,153	10,340	8,787
Five Hundred	25,095	14,100	11,350

The requested data for each subject vehicle is provided in Appendix A.

Request 3

State the 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:

- 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;
- 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), and claim and lawsuit information maintained by Ford's Office of the General Counsel (OGC).

Descriptions of the FCSD owner and field report systems and the criteria used to search each of these are provided in Appendix B.

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

Category	Allegation
A1	Alleged unexpected <u>vehicle movement</u> when idling in gear or shifting into gear (at stop/low speed) when accelerator pedal is not applied
A2	Alleged increase in <u>engine speed</u> when idling in gear or shifting into gear (at stop/low speed) when accelerator pedal is not applied
A3	Alleged increase in <u>engine speed</u> when not in gear when accelerator pedal is not applied
B1	Alleged unexpected <u>vehicle movement</u> when accelerator pedal is not applied; ambiguous as to vehicle speed
B2	Alleged increase in <u>engine speed</u> when accelerator pedal is not applied; ambiguous as to vehicle speed
B3	Alleged increase in <u>engine speed</u> or unexpected <u>vehicle movement</u> ; ambiguous if accelerator pedal is applied

Category A1, intended to capture reports with alleged vehicle movement, includes reports that allege "vehicle surged" without any other pertinent word qualifiers. These reports can be ambiguous as to whether vehicle unintended movement actually occurred or if the surge characterization simply refers to elevated engine rpm, e.g., "vehicle surged while at a stop," but are nevertheless included within this category. Reports with allegations of vehicle "bucking" or "jerking" are included within category A2 because it can be difficult to distinguish if the reports relate to the throttle body, engine or to the transmission.

Copies of reports categorized as "B1" through "B3" as "non-specific allegations" are provided 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 sorted in accordance with the categories described above. The number and copies of relevant owner reports identified in this search that allege unstable idle speed control in a subject vehicle are provided in the MORS III portion of the 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 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 were counted separately.

Legal Contacts: Ford is providing, in Appendix B, a description of Legal Contacts and the activity that is responsible for this information. 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 Office of General Counsel (OGC). Non-privileged documents for files

that were located that are related to the responsive owner reports are provided in Appendix D. Ford notes that it was unable to locate 3 files.

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 sorted in accordance with the categories described above. The number and copies of relevant field reports identified in this search that allege unstable idle speed control in a subject vehicle are provided in the CQIS portion of the database 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 were counted separately. In addition, field reports that are duplicative of owner reports are provided in Appendix C but are not included in the field report count.

VOQ Data: This information request had an attachment that included 368 Vehicle Owner Questionnaires (VOQs). 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. One hundred twenty-two of the 368 VOQs were duplicative of reports identified in a search of Ford's data systems. Copies of these reports to Ford that were located on a vehicle identified in the VOQs and related to the alleged defect are included in the database provided in Appendix C.

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. Copies of reports corresponding to these alleged incidents are provided in the MORS, CQIS, and Analytical Warranty System (AWS) portions of the database provided in Appendix C.

Claims, Lawsuits, and Arbitrations: For purposes of identifying incidents that may relate to the alleged defect in a subject vehicle, Ford has gathered claim and lawsuit information maintained by Ford's OGC. Ford's OGC is responsible for handling product liability lawsuits, claims, and consumer breach of warranty lawsuits and arbitrations against the Company.

Lawsuits and claims gathered in this manner were reviewed for relevance and sorted in accordance with the categories described above.

We are providing the requested detailed information, where available, on the responsive lawsuits and claims in our Log of Lawsuits and Claims, provided in Appendix C in the Legal Claim/Lawsuits tab. 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 E. With regard to these lawsuits and claims, Ford has not undertaken to contact outside law firms to obtain additional documentation.

Request 4

Separately, for each item (complaint, report, claim, notice, or matter) within the scope of your response to Request No. 3, state the following information:

- a. Ford's file number or other identifier used;
- b. The category of the item, as identified in Request No. 3 (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 property damage is alleged;
- k. Number of alleged injuries, if any; and
- l. Number of alleged fatalities, if any.

Provide this information in Microsoft Access 2007, or a compatible format, entitled "REQUEST NUMBER THREE DATA." See Enclosure 1, Data Collection Disc, for a preformatted table which provides further details regarding this submission.

Answer

Ford is providing owner and field reports in the database contained in Appendix C in response to Request 3. To the extent information sought in Request 4 is available for owner and field reports, it is provided in the database. To the extent information sought in Request 4 is available for lawsuits and claims, they are provided in the Log of Lawsuits and Claims and provided in Appendix C in the Legal Claim/Lawsuits tab.

Request 5

Produce copies of all documents related to each item within the scope of Request No. 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 database contained in Appendix C in response to Request 3. Copies of complaints, first notices, or MORS reports relating to matters shown on the Log of Lawsuits and Claims provided in Appendix C in the Legal Claim/Lawsuits tab are provided in Appendix E. To the extent information sought in Request 4 is available, it is provided in the referenced appendices.

Request 6

State, by model and model year, a total count for all of the following categories of claims, collectively, that have been paid by Ford to date that relate to the subject component: 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. Vehicle's make;
- e. Vehicle model;
- f. Vehicle model year
- g. Repair date;
- h. Vehicle mileage at time of repair;
- i. Repairing dealer's or facility's name, telephone number, city and state or ZIP code;
- j. Labor operation number;
- k. Problem code;
- l. Replacement part number(s) and description(s);
- m. Diagnostic trouble codes associated with the repair;
- n. Concern stated by customer;
- o. Cause identified by dealer/technician;
- p. Correction/repair identified by dealer/technician;
- q. Additional comments, if any, by dealer/technician relating to claim and/or repair; and
- r. Indicate the type of coverage under which Ford paid the claim (e.g., base warranty, goodwill, extended warranty, etc.).

Provide this information in Microsoft Access 2007, or a compatible format, entitled "WARRANTY DATA." See Enclosure 1, Data Collection Disc, for a pre-formatted table which provides further details regarding this submission.

Answer

Records identified in a search of the AWS database, as described in Appendix B, were reviewed for relevance and sorted in accordance with the categories described in the response to Request 3. The number and copies of warranty claims identified in this search are provided in the AWS portion of the database 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 was marked accordingly and the group counted as one report. In other cases, certain vehicles may have experienced more than one incident and have more than one claim associated with their VINs. These claims were 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 3. Such claims that were honored are included in the warranty data provided.

Ford assumes that providing the warranty claims in the electronic database format meets the requirements of this request because the agency can review or order the claims as desired. Labor operation numbers (and descriptions) as well as diagnostic trouble codes associated with the warranty repairs are included in separate tables in Appendix C.

A list of transaction codes is provided in Appendix B to assist the agency in identifying under which type of warranty coverage each claim was paid.

Request 7

Describe in detail the search criteria used by Ford to identify the claims identified in response to Request No. 6, including the labor operations, problem codes, computer fault 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) 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 6 are described in Appendix B.

For 2005 through 2007 model year Freestyle and Five Hundred vehicles, the New Vehicle Limited Warranty, Bumper-to-Bumper Coverage begins at the warranty start date and lasts for three years or 36,000 miles, whichever occurs first. Optional Extended Service Plans (ESPs) are available to cover various vehicle systems, time in service, and mileage increments. The details of the various plans are provided in Appendix F. Ford records indicate that 76,434 new vehicle ESP policies had been purchased at the time of new vehicle delivery on 2005 through 2007 model year Freestyle and Five Hundred vehicles. Additional ESP policies for used vehicles were also sold and are included in the number provided in response to Request 2 pertaining to all ESP policies sold.

Request 8

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 Ford is planning to issue within the next 120 days.

Answer

For purposes of identifying communications to dealers, zone offices, or field offices pertaining, at least in part, to unstable idle speed control, Ford has reviewed the following FCSD databases and files: The On-Line Automotive Service Information System (OASIS) containing Technical Service Bulletins (TSBs) and Special Service Messages (SSMs); Internal Service

Messages (ISMs) contained in CQIS; and Field Review Committee (FRC) files. We assume this request does not seek information related to electronic communications between Ford and its dealers regarding the order, delivery, or payment for replacement parts, so we have not included these kinds of information in our answer.

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

OASIS Messages: Ford has identified nine SSMS and one TSB that may relate to the agency's request and is providing copies of them in Appendix G. Ford is also providing in Appendix N, a copy of a TSB recently released informing dealer technicians of the availability of an updated powertrain control calibration for vehicles with a CVT transmission, as further discussed in Ford's response to Request 16. A similar TSB pertaining to a calibration update for vehicles with a 6-speed transmission is also planned.

Internal Service Messages: Ford has identified one ISM that may relate to the agency's request and is providing a copy of it in Appendix G.

Field Review Committee: Ford has identified no field service action communications that may relate to the agency's request.

Request 9

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

In a June 23, 2011, telephone conversation, Mr. Jeff Quandt of the agency informed Ford that this request specifically pertains to the throttle body assemblies and idle control software as pertaining to the subject of this investigation.

Ford is construing this request broadly and is providing not only studies, surveys, and investigations related to the alleged defect, but also notes, correspondence, and other communications that were located pursuant to a diligent search for the requested information. Ford is providing the responsive non-confidential Ford documentation in Appendix H.

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

Ford is submitting additional responsive documentation in Appendix I with a request for confidentiality under separate cover to the agency's Office of the Chief Counsel pursuant to 49 CFR, Part 512. Redacted copies of the confidential documents will be provided under separate cover to the agency's Office of Chief Counsel as Appendix I – Redacted.

Ford is not producing documents responsive to this request that are protected from disclosure by attorney-client privilege, work-product doctrine, or other applicable immunity. Documents protected from disclosure on these bases are described in a privilege log contained in Appendix J.

In the interest of ensuring a timely and meaningful submission, Ford is not producing materials or items containing little or no substantive information. Examples of the types of materials not being produced are meeting notices, raw data lists (such as part numbers or VINs) without any analytical content, duplicate copies, non-responsive elements of responsive materials, and draft electronic files for which later versions of the materials are being submitted. Through this method, Ford is seeking to provide the agency with substantive responsive materials in our possession in the timing set forth for our response. We believe our response meets this goal. Should the agency request additional materials, Ford will cooperate with the request.

Request 10

Describe all modifications or changes made by, or on behalf of, Ford in the design, material composition, manufacture, quality control, supply, or installation of (1) the subject component, or (2) the idle speed control software; 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 number(s) (service and engineering) or software level of the original component;
- e. The part number(s) (service and engineering) or software level 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 or software was made available as a service component/software upgrade; 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

A table of the requested changes for the subject component that may be related to the alleged defect is provided in Appendix K.

Request 11

Produce two of each of the following:

- a. Exemplar samples of each design version of the throttle body assembly;
- b. Exemplar samples of each design version of throttle position sensor;
- c. Field return samples of the throttle body assembly representative of the worst-case condition of throttle dirt/sludge build-up measured by Ford;
- d. Field return samples of throttle position sensors displaying worst-case condition (e.g., change in resistance); and
- e. A throttle body assembly specially modified by Ford for testing to simulate the worst case throttle dirt/sludge build-up condition.

Include the following information about the parts provided: (1) information identifying the associated vehicle and repair for all field return parts, including customer information; (2) copies of all complaints, repair records and return part analysis reports associated with field return parts; (3) identify the metric used to rank parts for the throttle sensor condition (e.g., change in resistance); (4) identify the metric used to rank parts for the throttle dirt/sludge accumulation condition (e.g., change in idle air flow); (5) descriptions of the methods and test procedures used to assess "worst case" for each condition; (6) the specific values for the ranking metric for each part provided; and (7) a description of the procedure used to produce the part requested in 11.e

Answer

Ford shipped the following parts to Mr. Bill Collins' attention at VRTC:

- a. Ford is providing the following samples:
 - o 5F9E-9F991-AC throttle body assembly¹, CTS 2S6U AA throttle position sensor, VIN *GA07639
 - o 5F9E-9F991-AD throttle body assembly¹, CTS 2S6U CB throttle position sensor, VIN *G123431
 - o 6F9E-9F991-AA throttle body assembly¹, CTS 2S6U CB throttle position sensor, VIN *GA00872
 - o 6F9E-9F991-AA throttle body assembly¹, CTS 2S6U CB throttle position sensor, VIN *GA11975
 - o 6F9E-9F991-AB throttle body assembly (new part), ALPS throttle position sensor, Serial Number 11095014572B
 - o 6F9E-9F991-AB throttle body assembly (new part), ALPS throttle position sensor, Serial Number 11097005792B

¹Note: NEW exemplar parts are no longer available, part replaced with warranty return samples

- b. Same as above

- c. Ford is providing the following samples that represent the most significant amount of deposit build-up in throttle assemblies Ford has obtained from the field:
- o Flow shift 2.15 degrees, VIN *G [REDACTED] 9
 - o Flow shift 1.92 degrees, VIN *GA [REDACTED] (noted above)
- d. Ford is providing the following samples:
- o CTS 2S6U AA throttle position sensor, VIN *G [REDACTED] 9 (noted above)
 - o CTS 2S6U CB throttle position sensor, VIN *G [REDACTED] 1 (noted above)
 - o CTS 2S6U CB throttle position sensor, VIN *G [REDACTED] 5 (noted above)
 - o ALPS throttle position sensor, VIN *G [REDACTED] (noted above)
 - o ALPS throttle position sensor, VIN *G [REDACTED] 9
- e. Ford is providing the following samples:
- o Sample #1301B: ~ 1.75 degrees airflow shift = In Vehicle measurement ~ 2.5 degrees
 - o Sample #031B: ~ 2.65 degrees airflow shift = In Vehicle measurement ~ 3.5 degrees

Note: ~2.65 degrees of airflow shift on the bench flow stand is equal to ~3.5 degree of airflow shift in the vehicle

- (1)/(2): Ford is providing associated vehicle repair details for all sample field return parts, including customer information, and copies of all complaints, repair records and return part analysis reports associated with field return parts, to the extent information sought is available, in the database contained in Appendix C in response to Requests 4 and 6. An additional field report associated with *G [REDACTED], which is not considered responsive under the definition of the alleged defect, is included in Appendix L.

Ford is providing the requested information with a request for confidentiality under separate cover to the agency's Office of the Chief Counsel pursuant to 49 CFR, Part 512. Certain documents related to this request are located in folders within Confidential Appendix O and the location of these documents will be provided below:

- (3) Ford used TP1 to TP2 correlation and TPS Hysteresis methods to rank parts for the throttle sensor condition. Additional information of the methods used is provided in the following documents within Confidential Appendix O:

Folder: Engineering Design Specifications, Bates Nos. PE11-018 000315-000316

- (4) Airflow shift (in degrees) to reach the average airflow from a sample of new parts at 1 degree.
- (5) Airflow test measurement at 14.1 in of Hg pressure drop as the throttle is swept from 0 to 25 degrees.
- (6) Specific values for the ranking metric used are located in the following folder within Confidential Appendix O:

Test Reports / Results / Analysis / Summary / Data, Bates Nos. PE11-018 000416-000417

- (7) The description of the procedure used to produce the part requested in 11.e is provided within the following folder within Confidential Appendix O:

Folder: Test Procedures and Test Specifications, Bates Nos. PE11-018 000339-000363

Request 12

State the number of subject components 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 cutoff date for sales, if applicable).

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 identical 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 dealers. Ford has no means to determine how many of the parts were actually installed on vehicles, the vehicle model or model year on which a particular part was installed, the reason for any given installation, or the purchaser's intended use of the components sold.

Ford is providing the total number of Ford service replacement throttle body assemblies by part number (both service and engineering), by year and by month/year (last three years only) of sale, where available, in Appendix M. Information pertaining to production and service usage for each part number, and supplier point of contact information, is included in Appendix M.

Vehicles which Ford is aware contain the identical component, whether installed in production or in service, are the 2005 through 2007 model year Mercury Montego.

Request 13

Provide the following information regarding the throttle position sensors (TPS) used in the subject vehicles:

- a. Voltage curves for TPS1 and TPS2 showing voltages vs throttle angle;
- b. A plot of TPS1 voltage vs TPS2 voltage showing ranges where the system operates with no DTC and ranges associated with each TPS DTC;
- c. Copies of all warranty return analysis reports generated by, or for, Ford related to the throttle position sensors used in the subject vehicles, organized by supplier, model and model year;
- d. A detailed description of all failure mechanisms associated with throttle position sensors used in the subject vehicles that have been identified in warranty return analyses;
- e. A detailed description of the failure modes associated with each failure mechanism, including their effect on vehicle operation; and

- f. Ford's assessment of the effects of each TPS condition on the alleged defect in the subject vehicles, including a summary of all tests and analyses upon which the assessment is based.

Answer

Ford is providing the requested information with a request for confidentiality under separate cover to the agency's Office of the Chief Counsel pursuant to 49 CFR, Part 512. Certain documents related to this request are located in folders within Confidential Appendix O and the location of these documents is provided below:

<u>Request</u>	<u>Location</u>
a.	Folder: Engineering Design Specifications, Bates Nos. PE11-018 000317
b.	Folder: Engineering Design Specifications, Bates Nos. PE11-018 000318
c.	Folder: Test Reports / Results / Analysis / Summary / Data, Bates Nos. PE11-018 000364-000413
d.	Folder: Engineering Design Specifications, Bates Nos. PE11-018 000319-000322
e.	Folder: Engineering Design Specifications, Bates Nos. PE11-018 000323-000325
f.	Folder: Engineering Design Specifications, Bates Nos. PE11-018 000326-000327

Request 14

Provide the following information regarding the idle speed control system used in the subject vehicles:

- a. A description of system operation, including how the system recognizes when to implement idle speed control;
- b. A block diagram showing all input signals and controlled signals/devices;
- c. The nominal values for desired engine rpm, throttle angle and air flow (assuming warm engine, in gear, no accessory torque requests);
- d. Identify all systems/accessories that can request engine torque (airflow) in idle speed control mode and provide the following information for each such system;
 - i) A description of how the idle speed control system receives the torque request signal;
 - ii) A description of how the amount of torque/rpm requested is calculated;
 - iii) The maximum amount of torque/rpm that can be requested;
 - iv) The maximum throttle angle increase that can be requested;
 - v) The time delay between the torque request signal and the application of load on the engine (e.g., time between air conditioning compressor signal and compressor clutch engagement);
- e. A description of how throttle angle is controlled in idle speed control mode, including the maximum throttle angle possible;
- f. Identify all DTC's associated with idle speed control and/or the alleged defect; and
- g. The effects of throttle dirt/sludge accumulation on idle speed control.

Answer

Ford is providing the requested information with a request for confidentiality under separate cover to the agency's Office of the Chief Counsel pursuant to 49 CFR, Part 512. Certain documents related to this request are located in folders within Confidential Appendix O and the location of these documents is provided below:

- a. Folder: Engineering Design Specifications, Bates Nos. PE11-018 000328
- b. Folder: Engineering Design Specifications, Bates Nos. PE11-018 000329
- c. Folder: Engineering Design Specifications, Bates Nos. PE11-018 000330
- d. Folder: Engineering Design Specifications, Bates Nos. PE11-018 000331-000334
- e. Folder: Engineering Design Specifications, Bates Nos. PE11-018 000335

- f. All DTC's associated with idle speed control and/or the alleged defect are:
 - P0505 – Idle air control system
 - P0506 – Idle air control system rpm lower than expected
 - P0507 – Idle air control system rpm higher than expected

- g. Over the life of an engine, sludge can build up in the electronic throttle bore. The sludge may result in a reduction of airflow, particularly at low throttle angles. This reduced airflow can result in engine idle below specification.

Request 15

Provide Ford's assessment of the effects the alleged defect on vehicle dynamics, including:

- a. The worst case engine speed increase (magnitude and duration, with a brief discussion of factors limiting each);
- b. The effects of 15.a on vehicle dynamics (i.e., vehicle acceleration with no braking) for various conditions that have been reported by consumers (e.g., standing start, rolling starts at parking lot speeds in drive or reverse, low-speed driving (~15 mph), or coast down from cruising speed);
- c. The effect on brake pedal efforts required to (1) keep a stationary vehicle from moving; or (2) stop a moving vehicle;
- d. Describe the effects of the following on vehicle accelerations and braking efforts described above:
 - i) Torque converter design/operation, including stall speed, lockup speed and torque multiplication ratio;
 - ii) Transmission design/operation (i.e., differences between CVT and standard transmission);
 - iii) Drivetrain (e.g., differential design/operation for all-wheel drive and two-wheel drive);
- e. State whether Ford has an engineering standard/target for maximum acceleration in idle mode and, if so, provide the specification (magnitude and duration), the basis (for both the magnitude and duration) and how the standard is verified/controlled in vehicle design and testing; and
- f. Describe all human factors testing or evaluations performed by, or for, Ford regarding the effects of driver performance/reaction variability on vehicle dynamic effects that may result from the alleged defect in the subject vehicles (for example, patterns of pedal usage in low-speed maneuvers, ranges of brake

pedal effort used in parking lot maneuvers or when stopped and idling, brake reaction times, driver startle response).

Answer

Ford is providing the requested information with a request for confidentiality under separate cover to the agency's Office of the Chief Counsel pursuant to 49 CFR, Part 512. Certain documents related to this request are located in folders within Confidential Appendix O and the location of these documents will be provided below:

- a. As described in the response to 15.e, Ford has system design and performance specifications that limit vehicle acceleration and duration under these and other conditions. The vehicle's idle speed control system, which can induce momentary idle speed flares in vehicles with a sludged throttle body, is only active at vehicle speeds below 3.5 mph and is not active at higher vehicle speeds.

To confirm this system performance, Ford evaluated the potential effect of a sludged throttle body on engine speed by installing a field returned sludged throttle body (VIN *G [REDACTED], 2.15 degree sludge) in a Freestyle with CVT transmission. The maximum engine speed observed in this vehicle evaluation was 1360 RPM. This idle flare above the desired idle speed lasted approximately 1 sec, consistent with system design as previously described in the document provided in response to 15.e. The vehicle was held in place with normal brake pedal effort. Vehicle speed remained under 4 mph without the brake pedal applied, which is well under Ford's vehicle creep speed specification. This idle flare occurred during a power steering application shortly after engine start. A sludged throttle body installed in a Ford Five Hundred with a six speed transmission has not yet been evaluated.

- b. See Ford's response to 15.a.
- c. See Ford's response to 15.a.
- d. Folder: Engineering Design Specifications, Bates Nos. PE11-018 000336-000337
- e. Folder: Engineering Design Specifications, Bates Nos. PE11-018 000338
- f. See Ford's response to 15.a.

Request 16

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

- a. The causal or contributory factor(s);
- b. The failure mechanism(s);
- c. The failure mode(s);
- d. The risk to motor vehicle safety that it poses, including Ford's assessment of each of the crash and injury allegations reported either NHTSA or Ford;
- e. 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; and
- f. The reports included with this inquiry.

AnswerFord Investigation

In mid-2010, as part of Ford's ongoing monitoring of vehicles in service, reports of "surging" on 2005 through 2007 model year Freestyle vehicles were observed and investigated. Analysis of warranty return parts found deposit build-up (sludge) on the back of the throttle plates and within the throttle bore assemblies as a result. Throttle body sludge deposit build-up is not uncommon and can be caused by a variety of factors such as vehicle drive cycles, oil age and degradation, fuel quality, dust/debris/road salt ingestion, engine speed, engine load, crankcase oil temperature, throttle body temperature, EGR flow or PCV flow and placement. As the build-up progressively accumulates over time during engine and vehicle operation, the vehicle's idle speed may eventually be affected by a reduction in the air flow needed for quality idle control, resulting in adjustments by the engine's idle speed control system to prevent engine stall. At some point an operator of a vehicle may begin to notice rough idle, hesitations or loss of power during low speed or idle conditions, or idle speed fluctuations. Over time, these effects may increase and become more noticeable, but always within the idle speed control system limits described in our response to 14.e and 15.e.

Idle Speed Control System Functional Overview

The objective of the engine idle speed control system is to maintain smooth engine rpm at vehicle speeds below 3.5 miles per hour, regardless of system disturbances. Typically disturbances are caused by engine accessories (e.g., air conditioning compressor, power steering pump, transmission, or alternator) that increase load on the engine, causing engine rpm dips and flares. To compensate for such disturbances, the engine's idle speed control system will adjust the throttle angle, within specified limits, to obtain a desired air flow, as well as increase or decrease engine torque through spark advance adjustments to maintain the desired idle speed or rpm. This idle speed control logic is active only under closed accelerator pedal conditions (i.e., the customer does not have the accelerator pedal applied). Throttle angle adjustments are utilized for engine idle under-speed conditions, while spark advance adjustment logic is primarily used to compensate for sudden engine load increases or decreases during idle; spark advance adjustments are a function of actual engine speed, desired engine speed, and a proportional gain term.

While the objective of the engine idle speed control system is to maintain smooth engine speed at idle, measures are incorporated into this control logic to ensure the system does not exceed a higher than specified engine speed or vehicle speed. During engine idle speed or rpm compensation, there are upper limits to the maximum throttle angle, and the system incorporates stringent vehicle acceleration limits when actual vehicle acceleration exceeds driver requested acceleration (g-force restriction).

If throttle body sludging occurs, deposits may progressively build-up within the throttle bore assembly over an extended period of time. As throttle body sludging gets progressively more substantial, the operator of the vehicle will observe progressively rougher idles (idle speed dips and flares). To compensate for a resulting decrease in air flow at vehicle speeds below 3.5 miles per hour, the idle speed control system will attempt to request more air flow through an adjustment of the throttle plate position, in order to achieve the desired engine idle rpm. If deposit build-up increases, corrections for engine under-speed at idle may be maximized by throttle position adjustments. At this point, spark advance adjustments are more likely to be incorporated, especially if accompanied by rpm disturbances.

In the process of evaluating the build-up within the throttle bore assembly and the effect on the idle control system and the vehicle, and as previously described, Ford placed field return parts into a test vehicle and was able replicate a momentary engine rpm flare to 1360 rpm that lasted for approximately one second. The observed flare in this vehicle was during a power steering application, shortly after engine start, and the vehicle was readily held in place with normal brake effort.

In addition to the vehicle evaluation with an actual sludged throttle body, Ford also conducted vehicle evaluations using a control system designed to simulate a sludged throttle body. Consistent with an actual sludged throttle body, this evaluation found a momentary maximum engine surge at idle to be 1365 rpm during a power steering application and lasted approximately one second. During this test, the brake pedal was purposely not applied and the maximum vehicle speed achieved was four miles per hour, well under Ford's maximum sustained creep specification. Both tests evaluated the vehicle response at the maximum throttle angle allowed by the engine idle control system during engine idle speed or rpm compensation for engine under-speed corrections.

As a result of these evaluations, Ford has developed an engine idle speed control software calibration that will reduce engine idle flare resulting from a severely sludged throttle body to improve customer satisfaction. The updated calibrations will adjust the offset of the idle throttle angle based on a measurement of delivered air flow, versus requested air flow. This calibration will compensate for throttle bore deposit build-up, which will reduce the likelihood of the engine idle speed requiring idle stall recovery and spark advance adjustments. As mentioned in our response to Request 8, Ford recently released an updated powertrain control calibration for vehicles with a CVT transmission per TSB 11-8-5. A similar TSB pertaining to a calibration update for vehicles with a 6-speed transmission is also planned.

Analysis of Reports

Because of the breadth of the "alleged defect," our response includes not only allegations of unexpected vehicle movement or increased engine idle speed allegedly due to the throttle body assembly or idle speed control software, but also due to a variety of other causes, such as pedal misapplications, internal transmission damage, or loose air filter housings. It also includes perceived increased idle speed due to broken engine anti-roll mounts. The reports can be ambiguous as to whether unintended vehicle movement actually occurred. Also, it is difficult to distinguish if the reports relate to throttle body, engine, or transmission issues.

Most of the reports in this response are events that reportedly have occurred while the vehicle was stopped, placing the vehicle in drive or reverse, other low speed maneuvers, or while idling at a stop. Under these conditions, drivers are likely to have their foot on the brake pedal during these types of driving events.

Most of the reports received by Ford do not contain allegations of accidents or injuries; rather, they involve customers seeking financial assistance because throttle body repairs, which can cost over \$500, are not normally covered beyond the Bumper-to-Bumper Warranty (three years or 36,000 miles, whichever occurs first). Ford anticipates that the availability of a lower cost repair, consisting of a revised engine idle speed control calibration to compensate for throttle deposits, will significantly reduce customer concerns related to this condition.

In addition, many of the owner reports are related to throttle body assembly backorders that occurred during mid to late 2009 calendar year causing delays in vehicle repairs. As we have previously informed the agency, backorders occurred during the transfer of service part sales

from Visteon to Continental Automotive Systems in the mid to late 2009 calendar year. This part shortage issue has since been resolved.

NHTSA VOQs

This information request had an attachment that included 368 VOQs of which twenty-nine alleged accidents, and one alleged minor injury (a minor bruise).

Accident or Injury Reports

Reports received by Ford that allege an accident or injury, and even those reports alleging unintended vehicle movement, require a thorough investigation to discern the complete facts and circumstances involved in such reports. Without vehicle inspections or other specific details, it is difficult to determine if these reports meet the definition of the alleged defect, associated with the subject component, or are credible.

Upon review of the responsive (Category A) reports provided in this request, Ford found twenty-nine that alleged an accident; three of these alleged injuries. Many of these incidents involve circumstances or conditions that are not consistent with the effect of a sludged throttle body in vehicle response.

Report 1

Vehicle:	2007 model year Five Hundred, VIN *G [REDACTED] 3
Alleged Injuries:	2 – hurt (swelling) knee, bruise on arm
Incident Description:	"...while attempting to turn around to re-enter the security gates...the vehicle began to accelerate in speed without...touching the gas pedal. When...attempted to slow the vehicle down by pressing the brakes, the vehicle didn't slow down or stop and proceeded to jump the curb and at that time ran into the gate/wall of the apartment entrance. On impact the airbag on the driver's side deployed partially..."
Comments:	The apparent vehicle speed necessary to result in an air bag deployment, the allegation that brake application was unable to slow the vehicle, and the apparent duration of this event are all inconsistent with vehicle symptoms associated with throttle body deposit build-up. A non-Ford technician who inspected the vehicle was unable to duplicate the symptom; there are no associated Ford warranty claims.

Report 2

Vehicle:	2006 model year Freestyle, VIN *G [REDACTED] 8
Alleged Injuries:	Lower back muscle spasms and pain
Incident Description:	"...while pulling into the parking space,...applied the brakes to stop but the car accelerated at a high rate of speed and rammed into the yell [sic] pole this smashed the whole front end in and caused over \$5000.00 in damages.."
Comments:	At the time of the alleged accident, the vehicle mileage was ~6700 miles. The reported vehicle speed, the allegation that the vehicle accelerated following brake application, and the low vehicle mileage are all inconsistent with vehicle symptoms associated with throttle body deposit build-up.

Report 3

Vehicle: 2007 model year Five Hundred, VIN *G [REDACTED] 5
Alleged Injuries: "...sustained injury, nothing serious..."
Incident Description: "...cust put veh in drive and the just took off and when upside a moutain..."

Comments: The apparent vehicle speed and duration necessary to result in this incident, resulting in \$12,000 damage, is not typical of vehicle symptoms associated with throttle body deposit build-up, and the customer did not go to a Ford dealer for diagnosis or repair. No police report filed.

In addition to the reports discussed above, Ford also identified eighteen accident allegations associated with reports that are ambiguous whether they relate to the agency's request (Category B); three of the reports also alleged injuries. Similar to those discussed above, review of the incidents involving injury finds the description of the alleged incident to be inconsistent with the effects of a sludged throttle body in vehicle response.

Report 1

Vehicle: 2006 model year Freestyle, VIN *G [REDACTED] 9
Alleged Injuries: whiplash
Incident Description: "...vehicle accelerated when driver press brake. Driver attempted to avoid other traffic by swerving, etc. When hit the tracks it flipped over..."

Comments: The apparent vehicle speed and duration following brake application, sufficient to result in vehicle rollover is not typical of vehicle symptoms associated with throttle body with deposit build-up.

Report 2

Vehicle: 2007 model year Five Hundred, VIN *G [REDACTED] 7
Alleged Injuries: hurt back, no medical attention
Incident Description: "...traveling on Interstate... an accident had taken place. The traffic was backed up about 1.5 miles...steered...car into the far right lane of the Interstate, on into the emergency lane...slowly begin to back up as the other cars were doing, while watch for the on coming traffic.. While steering the car in reverse slowly, suddenly the car begin to pick up speed...looked at the dashboard quickly, noticed the RPM hand was going up and down, the accelerator went to the floor, and the shifter was moving from reverse to low...a small SUV...slowed down and than stopped in the emergency lane, right in the path of my car...striking the SUV on the right side and...went into the ditch.

Comments: The apparent vehicle speed and duration is not consistent with vehicle symptoms associated with throttle body deposit build up. Diagnosis by a Ford technician found no root cause (no problem found).

Report 3

Vehicle: 2005 model year Freestyle, VIN *G[REDACTED]2
Alleged Injuries: Injured (unspecified)
Incident Description: "...sudden acceleration as if went into cruise acceleration or passing gear and hlding [sic] brakes would not stop the vehicle accident..."

Comments: The apparent vehicle speed ("passing gear") and duration is not consistent with vehicle symptoms associated with throttle body with deposit build-up.

Conclusion

Ford's review of reports provided in this response found the majority of allegations of unstable idle speed control were reported to have occurred at low vehicle speeds while braking, stopping, placing the vehicle in drive or reverse, other low speed maneuvers, or while idling at a stop. Ford's analysis of warranty return parts associated with these complaints has found that most relate to deposit build-up on the throttle body that is a progressive condition, which over time, may cause the vehicle's idle speed control system to compensate. An operator of a vehicle will observe progressively rougher idles (idle speed dips and flares) as an indication that the vehicle needs service.

The idle control system is only active at vehicle speeds under 3.5 mph and only when the accelerator pedal is not depressed. The idle speed control system is designed to minimize idle speed flares and their affect on the vehicle in terms of both acceleration and duration. In addition to speed and pedal position system limitations, drivers are likely to have their foot on the brake pedal during the low speed vehicle maneuvers associated with a sludged throttle body; therefore unexpected vehicle movement during an engine idle speed correction (which in testing lasted for approximately one second in duration) would be expected to be minimal. Vehicle evaluations also indicate that the potential unexpected movement during these events is well within Fords maximum sustained idle creep speed specification.

Our review of the responsive reports provided herein found twenty-nine accident allegations, and three injury allegations. Review of these three injury allegation reports has found the conditions described are inconsistent with a sludged throttle body.

Many customer complaints received by Ford associated with this subject are related to inconvenience with the backorder of service throttle bodies, or cost of replacing the throttle body. Ford is addressing this customer satisfaction issue with the release of revised engine calibration software that will be available soon for vehicles with a CVT transmission. A similar TSB pertaining to a calibration update for vehicles with a 6-speed transmission is also planned.

Ford believes consideration of all of the factors relating to this subject supports a conclusion that throttle body sludging, and the resulting low speed vehicle effects, is a customer satisfaction issue, and that it does not present an unreasonable risk to safety in these vehicles.

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