



Desi Ujkashevic, Global Director
Automotive Safety Office
Sustainability, Environment & Safety Engineering

Fairlane Plaza South, Suite 400
330 Town Center Drive
Dearborn, MI 48126-2738

December 15, 2017

Stephen A. Ridella, Director
Office of Defects Investigation
Office of Enforcement
National Highway Traffic Safety Administration
1200 New Jersey Avenue SE, Room W45-302
Washington, DC 20590

Dear Mr. Ridella:

Subject: PE17-007:NEF-108no

The Ford Motor Company (Ford) response to the Agency's November 3, 2017 letter concerning reports of allegations of steering wheel fastening bolt loosening in 2013 through 2016 model year Ford Fusion vehicles is attached.

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

Sincerely,

A handwritten signature in blue ink, appearing to read "Desi Ujkashevic".

for

Desi Ujkashevic

Attachment

FORD MOTOR COMPANY (FORD) RESPONSE TO PE17-007

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

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

Ford 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 November 3, 2017, the date of your inquiry. Ford has searched within the following offices for responsive documents: Sustainability, Environment and Safety Engineering, Ford Customer Service Division, Global Core Engineering, Office of the General Counsel 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. Separately, for each subject vehicle manufactured to date by Ford, state the following:

- a. Vehicle identification number (VIN);
- b. Model Year;
- c. Subject component part number and design version installed as original equipment;
- d. Date of manufacture;
- e. Date warranty coverage commenced; and

- f. 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 2010, or a compatible format, entitled "PRODUCTION DATA."

Answer

Ford records indicate that the approximate total number of 2013 through 2016 model year Ford Fusion 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 1,098,251.

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

Model	2013 MY	2014 MY	2015 MY	2016 MY
Fusion	255,704	312,799	215,202	311,014

The requested data is provided in **Appendix A**.

Request 2

State the number of each of the following, received by Ford, or of which Ford is otherwise aware, which relate to, 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;
- d. Reports involving a fire;
- e. Property damage claims;
- f. Third-party arbitration proceedings where Ford is or was a party to the arbitration; and
- g. Lawsuits, both pending and closed, in which Ford is or was a defendant or codefendant.

For subparts "a" through "f, / g," 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, / g," 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/f" and "f, / g," 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	Steering Wheel Detached – Bolt Loose
A2	Steering Wheel Loose – Bolt Loose
A3	Steering Wheel Gap or Noise – Bolt Loose
B1	Steering Wheel Loose – Unknown Cause
B2	Steering Wheel Gap or Noise – Unknown Cause

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

Owner Reports: Records identified in a search of the FMC360 Owner Relations System, 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 steering wheel bolt loose in a subject vehicle are provided in the FMC360 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 have been counted separately.

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 steering wheel bolt loose 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 have been counted separately. In addition, field reports that are duplicative of owner reports are provided in **Appendix C** but are not included in the field report count.

VOQ Data: This information request had an attachment that included 27 Vehicle Owner Questionnaires (VOQs), four of which were duplicative. Ford made inquiries of its FMC360 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.

Crash/Injury Incident Claims: Ford identified three accident reports including two injuries. The first accident report is a legal claim in which the customer reported losing control of the vehicle resulting in minor damage on the driver's side with a popped tire but did not report an injury. The second accident is a legal claim in which the driver reported the steering wheel twisted freely on the steering shaft which caused the driver to lose control of the vehicle. An injury was alleged but no additional details were provided. The third accident is an owner report in which the customer reported the vehicle was totaled after turning the steering wheel which lead the vehicle into a manhole. An injury was alleged but no details were provided by the customer. Ford has received no medical records, additional information or claims.

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 and ambiguous lawsuits and claims in **Appendix C in the OGC Log 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 FMC360 reports relating to matters shown on the log are provided in **Appendix D**.

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), street address, email address and telephone number;
- d. Vehicle's VIN;
- e. 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 2010, or a compatible format, entitled "REQUEST NUMBER TWO DATA."

Answer

Ford is providing owner and field reports in the database contained in **Appendix C** in response to **Request 2**. To the extent information sought in **Request 3** is available for owner and field reports, it is provided in the database. To the extent information sought in **Request 3** is available for lawsuits and claims, it is provided in **Appendix C in the OGC Log tab**.

Request 4

Produce copies of all documents related to each item within the scope of Request No. 2. Organize the documents separately by category (i.e., consumer complaints, field reports, etc.) and describe the method Ford used for organizing the documents. Describe in detail the search methods and search criteria used by Ford to identify the items in response to Request No. 2.

Answer

Ford is providing owner and field reports in the database contained in **Appendix C** in response to Request 2. 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, it is provided in **Appendix C** in the OGC Log tab. The criteria used to search each of these are provided in **Appendix B**.

Request 5

State, by model year, a total count for all of the following categories of claims, collectively, that have been paid by Ford to date that relate to, or may relate to, the alleged defect in the subject vehicles: warranty claims; extended warranty claims; claims for good will services that were provided; field, zone, or similar adjustments and reimbursements; and warranty claims or repairs made in accordance with a procedure specified in a technical service bulletin or customer satisfaction campaign.

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

- a. Ford's claim number;
- b. Vehicle owner or fleet name (and fleet contact person), street address, email address 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(s);
- h. Problem code(s);
- i. Diagnostic trouble code(s);
- j. Replacement part number(s) and description(s);
- k. Concern stated by customer;
- l. Cause as stated on the repair order;
- m. Correction as stated on the repair order; and
- n. Additional comments, if any, by dealer/technician relating to claim and/or repair.

Provide this information in Microsoft Access 2010, or a compatible format, entitled "WARRANTY DATA".

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 2**. The number and copies of relevant warranty claims identified in this search that allege steering wheel bolt loose in a subject vehicle 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 have been counted separately. Warranty claims that are duplicative of owner and field reports are provided in **Appendix C** but are not included in the warranty report count.

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 FMC360 reports identified above in response to **Request 2**. Such claims that were honored are included in the warranty data provided.

Request 6

Describe in detail the search methods and search criteria used by Ford to identify the claims in response to Request No. 5, including the labor operations, problem codes, diagnostic trouble 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, diagnostic trouble codes and diagnostic trouble code descriptions applicable to the alleged defect in the subject vehicles. State whether the diagnostic trouble codes are automatically reported to the warranty database electronically or manually entered into the warranty database by a claims administrator.

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 5** are described in **Appendix B**. For 2013 through 2016 model year Ford Fusion 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 E**. As of the date of the information request, **208,074** new vehicle ESP policies had been purchased on 2013 through 2016 model year Ford Fusion vehicles that cover the subject steering wheel and steering column.

Request 7

Produce copies of all service, warranty, and other documents that relate to, or may relate to, the alleged defect in the subject vehicles, that Ford has issued to 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 steering wheel bolt loose, Ford has reviewed the following FCSD databases and files: The On-Line Automotive Service Information System (OASIS) containing Technical Service Bulletins (TSBs) and Special Service Messages (SSMs); Internal Service Messages (ISMs) contained in CQIS; and Field Review Committee (FRC) files. We assume this request does not seek information related to electronic communications between Ford and its dealers regarding the order, delivery, or payment for replacement parts, so we have not included these kinds of information in our answer.

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

OASIS Messages: Ford has identified no SSMs and no TSBs that may relate to the Agency's request.

Internal Service Messages: Ford has identified no ISMs that may relate to the Agency's request.

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

Ford currently has no plans to issue any new communications related to the subject of NHTSA's investigation.

Request 8

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

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

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

Answer

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 F**.

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 G** 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, on separate media, to the Agency's Office of Chief Counsel as **Appendix G – Redacted**.

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. If the Agency would like additional materials, please advise.

Request 9

Provide a list of all vehicles (models and model years) that use the same steering fastening system as the subject vehicles.

Answer

The same steering fastening system as the subject vehicles is shared with the 2017 through 2018 model year Ford Fusion vehicles and the 2013 through 2018 model year Lincoln MKZ vehicles.

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 the subject component, 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) of the original component;
- e. The part number(s) (service and engineering) of the modified component;
- f. Whether the original unmodified component was withdrawn from production and/or sale, and if so, when;
- g. When the modified component was made available as a service component; and
- h. Whether the modified component can be interchanged with earlier production components.

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

Answer

Ford has made no modifications or design changes to the subject components in the subject vehicles that relate to the alleged defect. The requested part numbers for the subject components are provided for your reference in **Appendix H**.

Ford currently has no plans for modifications to the subject components in the subject vehicles; however, Ford is continuing its analysis and will keep the Agency apprised of any future decisions.

Request 11

Produce one of each of the following:

- a. Exemplar samples of each design version of the subject component;
- b. Field return samples of the subject component exhibiting the subject failure mode; and
- c. Any kits that have been released, or developed, by Ford for use in service repairs to the subject component/assembly which relate, or may relate, to the alleged defect in the subject vehicles.

Answer

An exemplar steering column assembly including the steering wheel and fastening bolt have been sent to Nathan Ong. Prior to shipping the fastening bolt has been hand tightened for the purpose of your analysis.

No kits have been released or developed for use in service repairs to the subject components that relate, or may relate, to the alleged defect in the subject vehicles.

Request 12

12. 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 component;
- 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 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-Mercury 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 steering wheels, steering columns, and fastening bolts by part number (both service and engineering) and year of sale, where available, in **Appendix I**. Information pertaining to production and service usage for each part number, and supplier point of contact information, is included in **Appendix I**. Ford is aware that the primary reason for steering wheel warranty replacement is for cosmetic reasons; therefore, to assist the agency with its investigation Ford is also providing the number of each subject component that were installed in connection with the warranty claims provided in response to this investigation, in **Appendix I**.

Request 13

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

- a. The causal or contributory factor(s);
- b. The failure mechanism(s);
- c. The failure mode(s);
- d. The risk to motor vehicle safety that it poses;
- 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.

Answer

The steering wheel on the subject vehicles is retained with one fastening bolt that is torqued during vehicle assembly to a nominal 48 Nm. The joint contains a steering column shaft with a hexagonal mounting surface, and a steering wheel hub with a corresponding hexagonal mating surface. The assembly plant has quality control to ensure the DC nut runner achieves proper torque. If the fastening bolt is not tight the steering wheel will feel very loose to the driver; however, the steering wheel will still be engaged with the steering column shaft and the vehicle can still be controlled. A nylon patch applied to the bolt has the purpose of torque retention.

With respect to the reports that form the basis for this Preliminary Evaluation, investigation has found that in vast majority of the reports the fastening bolt is loose but the steering wheel is still engaged with the steering column shaft allowing the driver to maintain control of the vehicle. This condition is very noticeable to the driver. If the vehicle is not repaired and is

driven in this condition, the steering wheel will progressively become more loose, and over time, it is possible for the steering wheel to detach from the steering column.

Background

In June 2015 Ford first became aware of a report of a steering wheel coming loose through a legal claim involving a 2014 model year Fusion rental car that was involved in a minor accident. Investigation of the vehicle revealed that the steering wheel to the steering column joint was loose.

Ford conducted a series of engineering evaluations on a surrogate vehicle and the subject rental vehicle, with the original bolt loosened and then hand tightened, and then with the bolt loosened in 90 degree increments. Additionally, with the bolt only hand tight and with the vehicle running, the vehicle was steered 20 cycles of approximately plus and minus 30 degrees. After which it was observed that the bolt had "backed out" about 30 degrees. At 90 degrees "backed out" the steering wheel feels very loose both for and aft and rotationally (approximately 15 degrees deadband). With the vehicle running (power steering assist) when wheel is steered the road wheels still rotate. At 720 degrees "backed out" (two full turns) the steering wheel has extreme for/aft movement and now the steering wheel rotates on the column shaft with no transfer of movement to the road wheels. These evaluations are clear in that the condition of a loose steering wheel should be very obvious to any driver including the subject rental vehicle prior to it progressing to a point where the movement of the steering wheel will have minimal transfer of motion to the road wheels.

This issue was opened in Ford's Critical Concern Review Group (CCRG) for further review on July 14, 2015. A comprehensive search for related reports on 2013 through 2014 model year Fusion identified 137 reports of loose steering wheels based on a loose fastening bolt and one report of a steering wheel detachment. Based on the vehicle evaluations and the review of reports, a loose steering wheel is very obvious to the driver, as indicated by the number of reports where the condition was identified and serviced.

Engineering reviewed the torque versus angle test results for this joint and confirmed that the torque specification was appropriate.

Analysis of field data and test data did not identify any trend and confirmed that the low number and rate of reports were overt and progressive. Accordingly, this issue was closed by Ford's CCRG on August 4, 2015.

Current Investigation

Data Analysis

Ford conducted a search of warranty reports, field reports, owner reports, lawsuits, and legal claims for reports related to this Preliminary Evaluation.

The warranty claim rate, including extended warranties and goodwill adjustments, specifically relating to the alleged defect on these vehicles is low (0.70 R/1000). Analysis of the reports continued to indicate the condition is progressive and overt. The complaint rate is also low (0.11 R/1000). Overall, over 97% of the customers recognized the early symptoms of a loose steering wheel fastening bolt and made arrangements to get their vehicle serviced.

Ford identified three accident reports including two injuries. The first accident report is a legal claim in which the customer reported losing control of the vehicle resulting in minor damage on the driver's side with a popped tire but did not report an injury. The second accident is a legal claim in which the driver reported the steering wheel twisted freely on the steering shaft which caused the driver to lose control of the vehicle. An injury was alleged but no additional details were provided. The third accident is an owner report in which the customer reported the vehicle was totaled after turning the steering wheel which lead the vehicle into a manhole. An injury was alleged but no details were provided by the customer. Ford has received no medical records, additional information or claims.

Included with this PE, the agency provided a VOQ for a 2007 model year Fusion involving a report of a steering wheel that "came off" while turning. A search of Ford databases did not identify any related Ford reports for this vehicle VIN. Additionally, our search for reports related to this PE did not include 2007 model year. Reference answer to question 9.

Field Returns

Ford received two assembly field returns related to steering wheel bolt loose. Engineering observed that the nylon patch on the bolts are close to the head of the bolt. Engineering is continuing analysis on the nylon patch.

Customer Interviews

Ford reached out to customer's in an effort to better understand the customer's experience. Ten customers that recently reported a loose steering wheel on their 2013-2016 model year Fusions were interviewed on the phone. A summary of customer comments follows:

- Six customers first noticed the looseness when entering the vehicle and getting positioned on the seat. One customer first noticed it while turning. Three customers first noticed it while driving.
- All of the customers recognized that the condition was overt and should be repaired as soon as possible. Eight customers drove directly to their dealer, or promptly made an appointment with their dealer for repairs within the next three days. After first noting the condition, two customers reported driving their vehicles longer and progressively experienced more looseness in the steering wheel before getting the vehicle serviced.
- Four customers mentioned it was progressive, five did not say or drove only a very short distance with the condition. One customer did not feel it was progressive.
- All ten customers said they were able to control the vehicle.
- All ten customers drove to the dealer.

These customer interviews indicate that a steering wheel fastening bolt that has become loose is very noticeable to the driver, is a clear indication that repair is required soon, is progressive, and allows the driver to maintain control of the vehicle.

Conclusion

Ford's analysis of the alleged defect on the subject vehicles included analysis of field data, field return parts, test data, vehicle evaluations and customer interviews. The warranty claim rate on these vehicles is low (0.70 R/1000). Analysis of the reports indicates the condition is progressive and overt. The complaint rate is also low (0.11 R/1000). Overall, over 97% of the customers recognized the initial symptoms of a loose steering wheel fastening bolt and made arrangements to get their vehicle repaired while still being able to control the vehicle. The

customer interviews indicate that a steering wheel fastening bolt that has become loose is very noticeable to the driver, a clear indication that repair is required soon, allowed the driver to maintain control of the vehicle, and provides progressively more overt indication that service is required. The conditions that lead to a loose steering wheel bolt are still under investigation. Additionally, analysis of field return parts, supplier and manufacturing records have not identified any quality issues or assembly issues at this time.

Ford is continuing its analysis of data and of steering wheels, steering wheel bolts and steering columns obtained from the field. Ford is continuing to monitor reports related to this investigation and will keep the Agency apprised of our findings.

###

**2013-2016MY Fusion
Steering Wheel Fastening Bolt Loosens**

OWNER REPORTS

As the agency is aware, within FCSD's North American Customer Service Operations, there is a Customer Relationship Center (CRC) that is responsible for facilitating communication between customers, dealerships and Ford Motor Company. Among other things, the CRC handles telephonic, electronic, and written inquiries, suggestions, informational requests, and concerns ("contacts") from Ford and Lincoln-Mercury vehicle owners about their vehicles or sales and service experience. The contacts are handled by CRC customer service representatives who enter a summary of the customer contact into a database known as FMC360.

The CRC assigns to each vehicle-related contact report a "symptom code" or category that generally characterizes the nature of the customer contact or vehicle concern, as described by the owner. The CRC does not undertake to confirm the accuracy of the description provided by the owner; they simply record what is reported. Therefore, given the complexity of the modern motor vehicle, it is Ford's experience that a significant percentage of owner contacts do not contain sufficient information to make a technical assessment of the condition of the vehicle or the cause of the event reported. Accordingly, although owner contact reports may be useful in identifying potential problems and trends, the records are not the empirical equivalent of confirmed incidents and/or dealership's diagnosis. In the interest of responding promptly to this inquiry, Ford has not undertaken to gather the electronic images related to these contacts because of the largely duplicative nature of the information contained in the images, as well as the time and the burden associated with locating and producing those documents. The pertinent information related to those contacts generally would be included in the contact reports obtained from the FMC360 system. To the extent that those documents exist, they are characterized in the comments of FMC360 contact reports. Upon request, Ford will attempt to locate any specific items that are of interest to the agency.

In responding to this information request, Ford electronically searched the FMC360 database using the following criteria:

Model Year: 2013-2016

Subject Vehicle: Ford Fusion manufactured for sale or lease in the United States, District of Columbia, Puerto Rico, Northern Mariana Islands, Guam, American Samoa and the Virgin Islands.

Date Parameters: Jan 1, 2012 – November 3, 2017 (the date of this inquiry)

Types of Contacts: All, including suspended data, canceled contacts and inquiries

FMC360 Case Classifications:

Level 1	Level 2	Level 3	Level 4
Dealer – Vehicle Concern	Legal		
Vehicle Concern	Legal		
Feedback	Product	Negative	Vehicle Safety/Quality

FMC360 Symptom Code(s):

Symptom Category	Symptom Code	Symptom Description
Stop/Steer/Ride	662XXX	Steering/Steering Wheel
Stop/Steer/Ride	668XXX	Noise, Steering

LEGAL CONTACTS

Beginning in early 2008, most consumer complaints and all legal claim processing has been centralized in OGC within the Consumer Litigation team. A transition has occurred such that all legal contacts (including those formerly handled by "Litigation Prevention") are coordinated through this team.

Prior to the transition, there was a Consumer Affairs Department within FCSD that managed customer concerns, which could not be resolved by the Customer Relationship Center (CRC). Among other things, the Consumer Affairs Department had a section, known as "Litigation Prevention," that handled a variety of informal (i.e., non-litigation) claims, such as property damage claims or attorney demand claims.

The Litigation Prevention section had been centralized in the Consumer Affairs Department since 1995, in Dearborn, Michigan. Prior to that time, Litigation Prevention personnel operated on a regional basis. For matters that the Litigation Prevention section handled, there were typically paper files that reflected the handling, investigation and resolution of property damage claims.

The claims, known as "Legal Contacts" are entered into the FMC360 database that the CRC uses to enter other customer communications. When a customer contact is designated as a Legal Contact, it is so indicated near the top of the contact report.

FIELD REPORTS

Within FCSD, there is a Vehicle Service & Programs Office that has overall responsibility for vehicle service and technical support activities, including the administration of field actions. That Office is the primary source within Ford of vehicle concern information originating from Ford and Lincoln-Mercury dealerships, field personnel, and other sources. The information is maintained in a database known as the Common Quality Indicator System (CQIS). The CQIS database includes reports compiled from more than 40 Company sources (e.g., Company-owned vehicle surveys, service technicians, field service and quality engineers, and technical hot line reports, etc.) providing what is intended to be a comprehensive concern identification resource. As with FMC360 contact reports, CQIS reports are assigned a "symptom code" or category that generally reflects the nature of the concern.

In responding to this information request, Ford electronically searched CQIS using the following criteria:

In July 2011, FCSD launched a new coding system for the CQIS database. All reports maintained in the CQIS database prior to the coding change have been re-coded using the new CQIS coding system.

Model Year: 2013-2016

Subject Vehicle: Ford Fusion manufactured for sale or lease in the United States, District of Columbia, Puerto Rico, Northern Mariana Islands, Guam, American Samoa and the Virgin Islands.

Date Parameters: January 1, 2012 – November 3, 2017 (the date of this inquiry)

Symptom Code(s):

Symptom Category	Symptom Code	Symptom Description
Stop/Steer/Ride	662XXX	Steering/Steering Wheel
Stop/Steer/Ride	668XXX	Noise, Steering

OASIS MESSAGES

FCSD is responsible for communicating a variety of vehicle and service information, such as warranty information for up to the past 360 days, Extended Service Plan part coverage information, and technical repair information, to North American Ford and Lincoln dealers. This information is communicated primarily through OASIS, which serves as an electronic link between Ford Motor Company and the dealers. OASIS covers all North American Ford and Lincoln-Mercury cars and light trucks, and medium and heavy-duty Ford trucks, for the ten most current model years. Technical diagnostic and repair information on OASIS is contained in Special Service Messages (SSMs) and Technical Service Bulletin (TSBs) titles and brief summaries. It should be noted that dealers cannot access brief summaries.

SSMs and TSB titles are coded in OASIS by model year and vehicle line, and may be coded to other specific vehicle attributes (body style, engine code, or vehicle identification number) and one or more OASIS Service Code(s). The dealers with access to OASIS usually search for information on the database by entering a VIN and the applicable Service Codes. SSMs and TSB titles that become inactive or superseded continue to be accessible by Ford employees, but no longer are accessible by the dealers. Dealers also are able to determine the recalls applicable to a particular vehicle by searching a particular VIN in OASIS. Recall information available on OASIS cannot be searched by Service Codes.

In July 2011, FCSD launched a new coding system for OASIS. All active SSMs and TSB titles have been re-coded using the new OASIS coding system. All inactive and superceded SSMs and TSB titles are still maintained under the old coding system.

In responding to this information request, Ford searched Global OASIS using both the new and old OASIS service codes for active, inactive, and superceded TSB titles and SSMs using the following search criteria:

Model Year: 2013-2016

Subject Vehicle: Ford Fusion manufactured for sale or lease in the United States, District of Columbia, Puerto Rico, Northern Mariana Islands, Guam, American Samoa and the Virgin Islands.

Date Parameters: January 1, 2012 – November 3, 2017 (the date of this inquiry)

OASIS Service Code(s):

Symptom Category	Symptom Code	Symptom Description
Stop/Steer/Ride	662XXX	Steering/Steering Wheel
Stop/Steer/Ride	668XXX	Noise, Steering

OASIS 2 and Global OASIS are not capable of performing electronic word searches, so the search results are reviewed manually to determine their applicability to the alleged defect in the subject vehicles.

The OASIS database also contains Broadcast Messages. Typically, these messages are directed to all dealerships and either are notifications of new SSMs/TSBs, or announcements with non-technical information (for example, "the Dealer Hotline will be closed today"). Broadcast Messages cannot be searched by OASIS service codes, and can be retrieved only while active (approximately 2 to 4 days). Ford has not undertaken to search for Broadcast Messages because Ford expects that any responsive information obtained with such a search generally would be non-substantive in nature or duplicative of the information obtained with the TSB title and SSM search described above.

INTERNAL SERVICE MESSAGES

FCSD, as part of its technical support activities, maintains fleet and technical telephone "hotlines." During the early stages of Ford's efforts to identify and resolve potential vehicle concerns, hotline personnel may draft Internal Service Messages (ISMs) on CQIS for their internal use. The ISMs are assigned a CQIS "symptom code" or category that generally reflects the nature of the concern. An ISM can form the basis for an oral response over the technical hotline to an inquiry from an individual dealer or fleet technician. The ISMs, however, are not made available electronically to fleets and dealers. Therefore, although ISMs are not "issued" to dealers like OASIS messages, Ford is construing this request broadly to include ISMs that may be related to the alleged defect in the subject vehicles.

In responding to this information request, Ford searched CQIS for active ISMs using the following search criteria:

Model Year: 2013 – 2016

Subject Vehicle: Ford Fusion manufactured for sale or lease in the United States, District of Columbia, Puerto Rico, Northern Mariana Islands, Guam, American Samoa and the Virgin Islands.

Date Parameters: January 1, 2012 – November 3, 2017 (the date of this inquiry)

CQIS Symptom Code(s):

Symptom Category	Symptom Code	Symptom Description
Stop/Steer/Ride	662XXX	Steering/Steering Wheel
Stop/Steer/Ride	668XXX	Noise, Steering

The CQIS database in which the ISMs reside is not capable of performing word searches, so the search results were reviewed manually to determine their applicability to the alleged defect in the subject vehicles.

FIELD REVIEW COMMITTEE

Ford's Field Review Committee reviews all potential field service actions, including safety recalls and customer satisfaction programs, and recommends appropriate actions to corporate management. A Vehicle Service & Programs representative serves as Secretary to the Field Review Committee. Following approval of a field service action, the Vehicle Service & Programs Office prepares and launches the action. A representative copy of the communication to Ford's dealers, fleets, and Regional offices announcing the field service action is maintained in the Field Review Committee files.

WARRANTY

Ford's Analytical Warranty System (AWS) contains warranty claims and vehicle information for model years 1991 and forward for North America, and model years 1992 and forward for Europe.

Ford performed a search of AWS for potentially responsive reports using the following search criteria:

Model Year: 2013 - 2016

Subject Vehicle: Ford Fusion manufactured for sale or lease in the United States, District of Columbia, Puerto Rico, Northern Mariana Islands, Guam, American Samoa and the Virgin Islands.

Base Part Number(s):

3600 Steering Wheel
3C529 Steering Column
W705985 Bolt

Customer Concern Code(s):

CCC	Description
B93	STEERING WHEEL/COLUMN GAPS POOR FIT
B98	STEERING WHEEL/COLUMN DAMAGED
C50	OTHER STEERING/HANDLING AND RIDE TROUBLES
H21	STEERING HAS EXCESSIVE FREE PLAY/WANDER
H22	STEERING REQUIRES EXTRA OR UNEVEN EFFORT
N23	STEERING WHEEL VIBRATION/SHIMMY BELOW 45 MPH
N24	STEERING WHEEL VIBRATION/SHIMMY ABOVE 45 MPH
N57	STEERING COLUMN/WHEEL SQUEAK/RATTLE
N58	STEERING NOISY
S27	STEERING WHEEL - COMFORT/SHAPE/FEEL/APPEARANCE
XX4	QLS - OTHER CHASSIS

Labor Operations Code(s):

3600A Steering Wheel Replace

3514A Steering Column Assy Removal and Install

14056D5 Air Bag Assy – Driver or Passenger - Replace