



FIAT CHRYSLER AUTOMOBILES

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

March 18, 2015

Mr. Jeff Quandt, Chief  
Office of Defects Investigation, NVS-213  
U.S. Department of Transportation

National Highway Traffic Safety Administration (NHTSA)  
Office of Defects Investigation (ODI)  
Room W48-312  
1200 New Jersey Avenue SE  
Washington, D.C. 20590

Reference: [REDACTED]

Dear Mr. Quandt:

Attached is FCA US LLC's ("FCA US") response of the referenced information request. A separate package has been mailed to your attention containing physical samples requested in the referenced information request. The attached, in combination with the aforementioned package, this constitutes a full submission to PE15-003.

FCA US is submitting to the Chief Counsel's Office, via courier for next day delivery with a request for confidentiality, and additional detailed information responsive to PE15-003.

By providing the information contained herein, FCA US is not waiving its claim to attorney work product and attorney-client privileged communications.

Sincerely,

Philip S. Hartnagel  
Sr. Manager – Product Investigations and Campaigns

Attachment and Enclosures

Mr. Jeffrey L. Quandt

Reference: [REDACTED]

March 18, 2015

ATTACHMENT

Page 1 of 15

**Preliminary Statement**

On April 30, 2009 Chrysler LLC, the entity that manufactured and sold the certain vehicles that may be discussed in this Information Request, filed a voluntary petition for relief under Chapter 11 of Title 11 of the United States Bankruptcy Code.

On June 10, 2009, Chrysler LLC sold substantially all of its assets to a newly formed company later known as Chrysler Group LLC. Pursuant to the sales transaction, Chrysler Group LLC assumed responsibility for safety recalls pursuant to the 49 U.S.C. Chapter 301 for vehicles that were manufactured and sold by Chrysler LLC prior to the June 10, 2009 asset sale.

On June 11, 2009, Chrysler LLC changed its name to Old Carco LLC. The assets of Old Carco LLC that were not purchased by Chrysler Group LLC, as well as the liabilities of Old Carco that were not assumed, remain under the jurisdiction of the United States Bankruptcy Court – Southern District of New York (In re Old Carco LLC, et al., Case No. 09-50002).

Effective December 15, 2014, Chrysler Group LLC changed its name to FCA US LLC.

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**Note: Unless indicated otherwise in the response to a question, this document contains information up to January 28, 2015 the date the information request was received.**

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**Subject Component Definition**

Within the Information Request of PE15-003, the agency requested FCA US LLC ("FCA US") to determine and define subject components responsive to the alleged defects stated by the agency. For the purpose of this response, FCA US is defining subject components as shown in Table 1. These components were selected based on information currently known to FCA US, including information that was learned from vehicle inspections as well as warranty and engineering data for the engine and transmissions system fluid leaks.

#	Component
1	Engine Oil cooler & adapter
2	Engine Oil filter
3	Transmission Lube Tube
4	Transmission Case and Bell housing
5	Transmission End Cover gasket

Table 1: PE15-003 subject components

1. **State the number of subject vehicles Chrysler has manufactured for sale or lease in the United States and federalized territories. Separately, for each subject vehicle manufactured to date by Chrysler, state the following:**
  - a. **Vehicle identification number (VIN);**
  - b. **Model;**
  - c. **Model Year;**
  - d. **Engine (displacement and engine code);**
  - e. **Auxiliary engine oil cooler usage;**
  - f. **Transmission oil cooler usage;**
  - g. **Date of manufacture;**
  - h. **Date warranty coverage commenced; and**
  - i. **The State in the United States, or the federalized territory, where the vehicle was originally sold or leased (or delivered for sale or lease).**

**Provide the table in Microsoft Access 2003, 2007, or a compatible format, entitled "PE15 003 PRODUCTION DATA."**

A1. The subpart (a) through (i) is located in ENCLOSURE 1 and titled PE15 003 PRODUCTION DATA.accdb.

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

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

**In addition, for items "c" through "g," provide a summary description of the alleged problem and causal and contributing factors and Chrysler'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.**

A2. FCA US received the ODI opening resume on January 13, 2015. Since that time FCA US has reviewed and analyzed the subject vehicle population. Not including the three vehicles identified by the agency, FCA US is only aware of one other engine compartment fire in the subject vehicles. This vehicle was unsold and there were no injuries or property damage. FCA US continues to review and analyze all field data as part of its normal business process, with additional focus placed on any malfunctions which relate to, or may relate to the alleged defects in the subject vehicle population.

The following summarizes the number of reports identified by FCA US that relate to, or may relate to the alleged defects in the subject complaint vehicles. FCA US has conducted a reasonable and diligent search of the normal repositories of such information.

FCA US has identified a total of 49 reports which relate to, or may relate to the alleged defects in the subject complaint vehicles, which represent 38 unique VINs. These counts represent 6 reports (4 unique VINs) which relate to, or may relate to alleged defect #1 (fire) and 37 reports (30 unique VINs) which relate to, or may relate to only alleged defect #2 (oil leaks without fire).

- a. FCA US identified 32 consumer complaints (Customer Assistance Inquiry Request or CAIR and Customer Promoter Score or CPS) which relates, or may relate to the subject component in the subject complaint vehicles, which represent 27 unique VINs.
  - b. FCA US identified 15 Field Reports which relates, or may relate to the subject component in the subject complaint vehicles, which represent 14 unique VINs.
  - c. FCA US identified one report involving a crash, one report involving an injury (a claim for emotional distress), and no reports of 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, which represents two unique VINs.
  - d. FCA US identified six reports involving a fire, 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, which represent four unique VINs.
  - e. FCA US identified no reports of property damage claims which relate, or may relate to the subject component in the subject complaint vehicles.
  - f. FCA US identified no reports of third-party arbitration proceedings where Chrysler is or was a party to the arbitration which relates, or may relate to the subject component in the subject complaint vehicles
  - g. FCA US identified two legal claims, both pending and closed, in which Chrysler is or was a defendant or codefendant which relates, or may relate to the subject component in the subject complaint vehicles, which represent two unique VINs.
- 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. **Chrysler'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.);**

Mr. Jeffrey L. Quandt

Reference: [REDACTED]

March 18, 2015

ATTACHMENT

Page 5 of 15

- c. **Vehicle owner or fleet name (and fleet contact person), address, and telephone number;**
- d. **Vehicle's VIN;**
- e. **Vehicle's model and model year;**
- f. **Vehicle's mileage at time of incident;**
- g. **Incident date;**
- h. **Report or claim date;**
- i. **Whether a crash is alleged;**
- j. **Whether a fire is alleged;**
- k. **Whether smoke is alleged;**
- l. **Whether an engine fluid leak is alleged;**
- m. **Whether property damage is alleged;**
- n. **Number of alleged injuries, if any; and**
- o. **Number of alleged fatalities, if any.**

**Provide this information in Microsoft Access 2003 or 2007, or a compatible format, entitled "PE15 003 REQUEST NUMBER THREE DATA."**

A3. The subpart (a) through (o) is located in ENCLOSURE 3 and titled PE15\_003\_REQUEST NUMBER THREE DATA.accdb.

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 Chrysler used for organizing the documents.**

A4. The copies of all documents related to each item within scope of Question 2 can be found in ENCLOSURE 4.

5. **State total counts for all of the following categories of claims, collectively, that have been paid by Chrysler to date on each of the subject components 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. **Chrysler's claim number;**
- b. **Vehicle owner or fleet name (and fleet contact person) and telephone number;**
- c. **VIN;**
- d. **Repair date;**

Mr. Jeffrey L. Quandt

Reference: [REDACTED]

March 18, 2015

ATTACHMENT

Page 6 of 15

- e. **Whether a claim for towing was made within five days of the claim date;**
- f. **Vehicle mileage at time of repair;**
- g. **Repairing dealer's or facility's name, telephone number, city and state or ZIP code;**
- h. **Labor operation number and description;**
- i. **Problem code and description;**
- j. **Replacement part number(s);**
- k. **Replacement part supplier and description;**
- l. **Concern stated by customer;**
- m. **Cause and Correction stated by dealer/technician; and**
- n. **Additional comments, if any, by dealer/technician relating to claim and/or repair.**

**Provide this information in Microsoft Access 2003 or 2007, or a compatible format, entitled "PE15 003 WARRANTY DATA."**

A5. FCA US identified 73 warranty claims which relate to, or may relate to the alleged defects in the subject complaint vehicles, which represent 71 unique VINs.

FCA US identified one warranty claim which relates to, or may relate to alleged defect #1 (fire), which represents one unique VIN, and was reported as under hood smoke.

FCA US identified 72 warranty claims which relate to, or may relate to alleged defect #2 (oil leaks), which represents 70 unique VINs.

The detailed response that lists the warranty claim information as requested in items (a) through (n) is provided in ENCLOSURE 5, and titled PE15\_003\_WARRANTY\_DATA.accdb.

- 6. Describe in detail the search criteria used by Chrysler to identify the claims identified in response to Request No. 5, including the labor operations, problem codes, part numbers and any other pertinent parameters used. 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 Chrysler on the subject vehicles (i.e., the number of months and mileage for which coverage is provided and the vehicle systems that are covered).**

A6. FCA US used labor operation codes ("LOPs") to determine the claims that relate to, or may relate to, the alleged defects in the subject vehicles. The LOPs and associated repair descriptions used are shown in Table 2.

Repair Description	Labor Operation Code
Filter, oil	095501
O-ring/Gasket, Oil Filter Adaptor	095503
Cooler, engine oil	095532
Hose, engine oil cooler	095534
Plug, drain or fill	210601
Seal, Front Axle Half Shaft	212026
Vent, Transmission	211701
Tube, Oil Feed	212516
Hose/tub, transmission oil cooler	212517
Oil Cooler, external auxiliary	212520

Table 2: Labor operation description and labor operation.

Not all of the warranty claims may be related to the alleged condition as there are other reasons to replace certain components, such as the drain plug. For example, if the drain plug were cross-threaded and needed to be replaced, the LOPs would be used to record the repair work. The number of warranty claims that are being reported may be artificially high with regard to the alleged condition. Thus, FCA US has not drawn conclusions regarding trends from the warranty data alone.

The majority of warranty claims were leaks from the transmission oil cooler and transmission oil cooler lines. The transmission oil cooler is located forward of the radiator with transmission oil cooler lines connecting on the driver's side of the front end. Leaks from these components occur in an area which is shielded and some distance from hot surfaces under hood. At this time, it is not understood how significant amounts of transmission fluid may migrate to an area under hood with exposure to hot surfaces. Furthermore, a fire requires a competent ignition source, combustible material, and oxygen to burn. While the vehicle is in motion it is difficult to initiate a fire due to the lower concentration of fuel and the cooling effect caused by the air flow through the vehicle.

There were 73 warranty claims out of 112,127 vehicles that relate to, or may relate to, the alleged defects identified by a search using LOPs. The resulting data was then reviewed for available dealer write-ups associated with the warranty claims. FCA US identified 72 warranty claims with sufficient information related to only alleged defect #2 (oil leaks without fire). These have been included in the total count of unique VINs responsive to the alleged defect.

There was one warranty claim made to FCA US that relates to, or may relate to, alleged defect #1 (fire). In this vehicle, only under hood smoke (no flames) was observed. The vehicle was diagnosed by a dealer technician as having a leaking transmission oil cooler line at the transmission oil cooler. Reports of alleged fire events are generally otherwise received by the FCA US Office of the General Counsel, the FCA US Customer Assistance Center (as a Customer Assistance Inquiry Request or "CAIR") or from other FCA US field organizations. If an alleged fire event comes to the attention of a dealer technician during a warranty repair, FCA



US requires the dealership to notify the company and a CAIR is created. The CAIRs, legal claims and field reports, to the extent that they are responsive to this investigation, are being submitted in response to Requests 2, 3, and 4.

**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 Chrysler 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 Chrysler is planning to issue within the next 120 days.**

A7. FCA US's response to Question 7 is located in ENCLOSURE 7 and contains the results of the search for all documents that FCA US has issued externally that relate to, or may relate to, the alleged defects in the subject vehicles. FCA US has conducted a reasonable and diligent search of the normal repositories of such information. FCA US has identified one Technical Service Bulletin ("TSB") that, broadly construed, could appear to relate to the alleged defects. TSB #09-006-14 was released on November 1, 2014 to address the condition of "Blue smoke at start up". The blue smoke is emitted from the tail pipe and is not a fire; it is the result of abnormal engine oil consumption during the process of engine combustion (i.e., engine is burning oil). This bulletin instructs the technician to replace a cylinder head and head gasket for vehicles with this condition. This condition and bulletin are, therefore, not responsive to the alleged defects in the subject vehicles. The smoke being emitted is could be mistaken for a fire.

FCA US is not currently planning any additional documentation or communication with our dealer or external service organizations within the next 120 days that relates to, or may relate to the alleged defects.

**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 that have been conducted, are being conducted, are planned, or are being planned by, or for, Chrysler. 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.

Mr. Jeffrey L. Quandt

Reference: [REDACTED]

March 18, 2015

ATTACHMENT

Page 9 of 15

**The response to this request should include a detailed description of all past, present and future actions by any and all engineering working groups (e.g., engine compartment fire task force) of which Chrysler is an active member or is otherwise aware. This includes, at a minimum, all of the information requested in items "a" through "f."**

**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.**

A8. The response information is located in ENCLOSURE 8 and titled Q8 Testing Summary 3-13-2015 CONF BUS INFO.pdf. In addition, where applicable, testing and analysis documentation is provided within the same enclosure. The testing documented within ENCLOSURE 8 was conducted in an attempt to identify and understand potential root causes of oil leaks that may lead to a fire event. FCA US has not identified any conditions or malfunctions which relate to, or may relate to the alleged defects in the subject vehicles.

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

- a. **The date or approximate date on which the modification or change was incorporated into vehicle production;**
- b. **A detailed description of the modification or change;**
- c. **The reason(s) for the modification or change;**
- d. **The part 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**

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

A9. The responsive change history for the subject components are located ENCLOSURE 9.

**10. Provide the following information for each subject component associated with the alleged defect:**

- a. A description and an exploded parts diagram of the associated system;
- b. Top, front and side view diagrams of the engine compartment showing orientation/ location of the subject component(s);
- c. A description of the assembly process associated with the subject component on the vehicle assembly line, including the assembly procedures, the quality control process for verifying proper assembly, a description of all manual and computer aided processes for documenting proper assembly and pictures showing each step of the process; and
- d. Two samples of all fittings and other components relevant to the root cause.

A10. The response information is located in ENCLOSURE 10. Two samples of each part listed in Table 3 have been sent separately per the agencies request on or about the date of this submission.

#	Component
1	Engine Oil cooler & adapter
2	Engine Oil filter
3	Transmission Lube Tube and O-rings
4	Transmission End Cover gasket

Table 3: Exemplar parts sent to agency

**11. Furnish Chrysler's assessment of the alleged defect in the subject vehicles. Provide separate responses for each condition that may result in engine compartment fire or smoke. Include the following information for each condition:**

- a. The causal or contributory factor(s);
- b. The failure mechanism(s);
- c. The failure mode(s), including the origin and cause of each fire investigated by Chrysler and the most likely ignition sources/surfaces for each fire related to combustible fluid leakage; and
- d. What warnings, if any, the operator and the other persons both inside and outside the vehicle would have that the system may be about to malfunction before the vehicle is engulfed in fire or smoke.

A11. FCA US has conducted an in-depth analysis of the complaints received and sent by the agency. FCA US has recently determined that an additional vehicle

Mr. Jeffrey L. Quandt

ATTACHMENT

Reference: [REDACTED]

March 18, 2015

Page 11 of 15

(VIN: FW [REDACTED] may have experienced an under hood fire related to the investigation, but the details of cause and origin of this fire are still unknown. The initial understanding of field reports of this fire provided unclear information and appeared to indicate the vehicle was stationary and not running at the time of the fire. FCA US only recently learned that this narrative was not accurate and complete. Where appropriate, FCA US will provide additional information to the agency as it is obtained. Table 4, below, is a list of the four subject vehicles reported to have experienced an under hood fire. Following Table 4 is a discussion of each of these events.

#	ODI #	CAIR#	VIN	Engine (sales code)	Location	Date	Mileage
1	10670034	[REDACTED]	FW [REDACTED]	2.4L PZEV (ED8)	Anaheim, CA	1/5/2015	45
2	10672201	[REDACTED]	FW [REDACTED]	2.4L PZEV (ED8)	La Jolla, CA	1/13/2015	100
3	10678215	[REDACTED]	FW [REDACTED]	2.4L (ED6)	Warren, MI	12/24/2014	1,300
4	n/a	[REDACTED]	FW [REDACTED]	3.2L (EHB)	Taylor, Tx	9/4/2014	10

Table 4: 2015 Jeep Cherokee vehicles received from the agency and internal sources alleging a fire event

FCA US has investigated the alleged incident of Vehicle 1 (VIN: FW [REDACTED], using all available sources of information. After examining the vehicle repair history and service records, it was determined that this vehicle was consuming engine oil inside the engine due to a stuck oil supply solenoid valve. This condition resulted in multiple cylinder misfires which, in combination with the stuck solenoid valve, resulted in blue smoke being emitted from the engine. Vehicle 1 has since been fully repaired including new solenoid valves and a new head gasket. It is the assessment of FCA US that this vehicle did not experience a fire event and is unrelated to the alleged defect.

### **Causal Factors**

FCA US conducted complete reviews of Vehicle 2 (VIN: FW [REDACTED] and Vehicle 3 (VIN: FW [REDACTED]). Both vehicles were inspected by FCA US. In each case, the vehicles were found to be extensively damaged due to the fire event. As a result, much of the evidence that would assist in determining cause and origin were consumed in the fire. In both vehicle inspections, analysis of the engine compartment fire pattern and damage appears to indicate that the fire was the result of burning fluid, originating in the area of the exhaust manifold and catalytic converter. It is believed the fluid in question in both Vehicle 2 and Vehicle 3 was likely engine or transmission oil. The fire in Vehicle 4 was identified as an engine compartment fire, however, no other causal factors are known.

### **Failure Mechanisms & Failure Mode**

Fluid based engine compartment fires are a rare event. The cause and origins of these events are not easily determined. In the event of an oil leak within the engine compartment, contact with a hot surface or exposed electrical component is required to ignite the fluid. Surface temperatures ranging between 500°F and 800°F are sufficient to ignite engine and transmission oil. For engine or transmission oil to ignite and create a vehicle fire, sufficient amounts of a combustible material must be present in addition to appropriate air flow. When there is not enough combustible material, any fuel that may be ignited would be consumed instantly, and would not support the propagation of fire throughout the vehicle. This is known as fuel limited combustion.

Potential hot surfaces within the vehicle engine compartment include the exhaust manifold, catalytic converter and the forward portion (hot end) of the exhaust system as shown in Figure 1. Hot end exhaust surface temperatures can be 600°F at idle, and can reach as high as 1200°F under normal operating conditions. There are several components that may leak engine or transmission oil within the engine compartment. Oil leaks may vary in volume and rate. The components that may leak include the engine oil filter and cooler assembly, the transmission lube tube, transmission bell housing and case, as well as the transmission end cover. Potential leaks from the subject components have been examined to determine if leaked oil is able to reach one of the aforementioned hot surfaces.

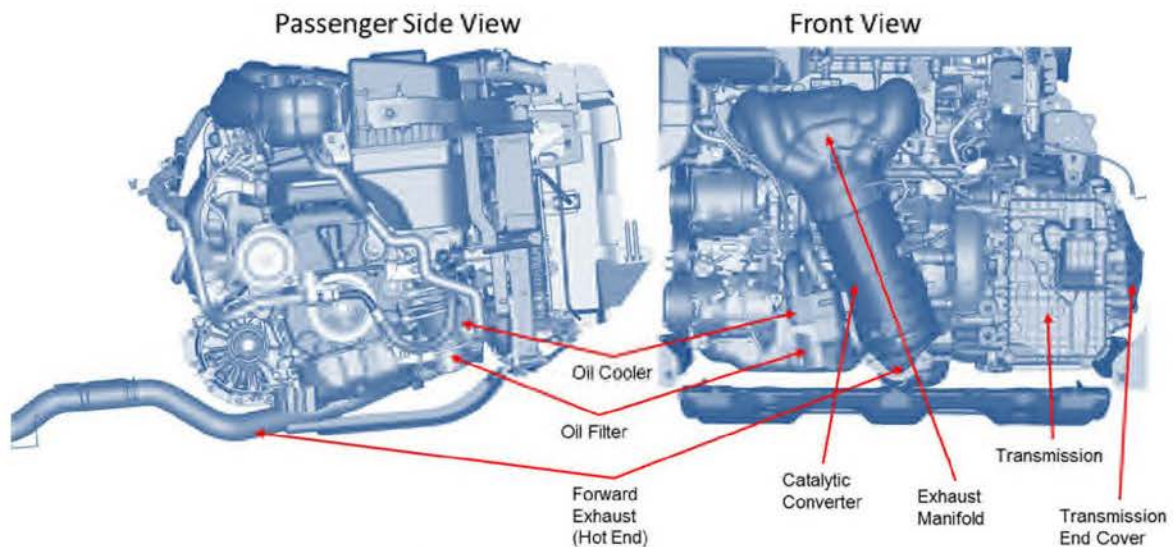


Figure 1: Passenger side and front view of 2.4L engine and 9 speed transmission powertrain combination

When examining these components and the field data associated with them, a small number of oil leaks can be found for each. The transmission bell housing and case did have some issues with oil weeping in the past due to casting porosity. Small design and process modifications were made to reduce the porosity and have been

documented in the response to Question 9. Weeping leaks are very low volume and can be characterized as a “damp” transmission housing or as “staining” on the housing. The weeping leaks are highly unlikely to be a fuel source which could start a fire.

The transmission end cover and lube tube were found to have a small number of issues associated with processing during manufacturing which could potentially result in a leak. These issues were resolved with processing changes during the assembly of these parts to the transmission. The response to Question 9 includes descriptions and details of the changes made to these components. In the event of an oil leak at the end cover, oil would most likely be directed away from the engine and the hot exhaust components towards the outside of the vehicle due to the position and orientation of this part (see Figure 1, above).

Finally, the oil filter and oil cooler assembly was included due to information found in field narratives in addition to the proximity to the hot end of the exhaust and the catalytic converter. Any oil leaks from this component would be under pressure. There is, however, a heat shield between the oil cooler assembly and the catalytic converter. This heat shield protects the cooler from the heat of the exhaust components. If oil were to leak, the heat shield would direct it downward toward the belly pan below the engine.

### **Warnings**

Prior to a substantial and sudden oil leak (which is assumed to be what occurred in Vehicle 2 and 3) the operator would not have any indication that a leak is imminent. During a leak, some diagnostic trouble codes (“DTCs”) may be set in the cluster which would indicate powertrain issues due to an oil leak. There are over 33 DTC codes that will set a Malfunction Indicator Lamp (“MIL”) within the vehicle cluster. In addition, an oil leak from the powertrain could be visible to the operator on the ground beneath the vehicle or by casual inspection of the engine during routine maintenance.

Prior to the vehicle being engulfed in flames, the operator would most likely have warning. In Vehicle 3 numerous DTCs and MILs were set, and the engine turned off. The operator then coasted the vehicle to a stop prior to seeing flames. In Vehicle 4, the operator smelled a burning odor and pulled the vehicle over. In these situations the operator and other passengers would have time to exit the vehicle and move to a safer position. In Vehicles 2, 3, and 4, no physical injuries were reported and the operators were able to get out and away from the vehicle. A fire requires a competent ignition source, combustible material, and oxygen to burn. While the vehicle is in motion it is difficult to initiate a fire due to the lower concentration of fuel and the cooling effect caused by the air flow through the vehicle.

**Summary**

Vehicle 2 and Vehicle 3 both have the same 2.4 L I-4 engines and 9 speed transmissions. The transmissions were manufactured at the Indiana Transmission Plant, approximately 10 days apart. The engines in these vehicles were manufactured at two different engine assembly plants and were manufactured approximately 200 days apart. FCA US has identified one additional vehicle (Vehicle 4) in the subject population which had a fire event. Vehicle 4 had a larger, 3.2L V-6 engine and had the same 9 speed transmission found in Vehicles 2 and 3. There is nothing about the build dates or locations that are noteworthy or would suggest a 'quality spill' (see Table 5).

	Trans build plant	Trans build M/D/Y	Engine build plant	Engine Build M/D/Y	Vehicle Build Plant	Vehicle Build Date
FW [REDACTED]	Indiana Trans	10/17/2014	Saltillo	10/11/2014	Toledo	10/22/2014
FW [REDACTED]	Indiana Trans	10/27/2014	Trenton	3/29/2014	Toledo	11/3/2014
FW [REDACTED]	Tipton	6/18/2014	Mack	7/06/2014	Toledo	7/29/2014

Table 5: Vehicle engine and transmission build data

No other vehicles within the subject population, exhibit an engine compartment fire, despite a number of vehicles with reported oil leaks. There was one other incident in the subject population where flames were reported. This incident (CAIR: 26196343) was assessed and determined to have had a fire as a result of an accident and is not relevant to this investigation.

In response to Question 9, FCA US has detailed change history relating to the subject components. As was documented in the change history, process and design changes to the subject components were implemented to eliminate identified oil leaks. The majority of these changes were in place prior to the build dates of Vehicle 2, 3, and 4, and none appear to be potentially related to the cause of an under hood fire. FCA US continues to analyze and test vehicle powertrains to identify and correct any issues, including fluid leaks.

As part of normal production, the engine assembly plant routinely conducts functional audits of fully assembled engines. These engines are randomly selected and fully tested on a dynamometer, and then disassembled to inspect for any irregularities. To date, after approximately 90 functional audits, FCA US has identified one type of oil leak condition in these 2.4L engines. This leak was found at the joint between the engine block and the ladder frame assembly, shown in Figure 2. This leak is a very low volume leak and is characterized as staining on the surface of the ladder frame. The root cause is known and given the low volume is unlikely to be the cause of, or to contribute in any way to, a fire.

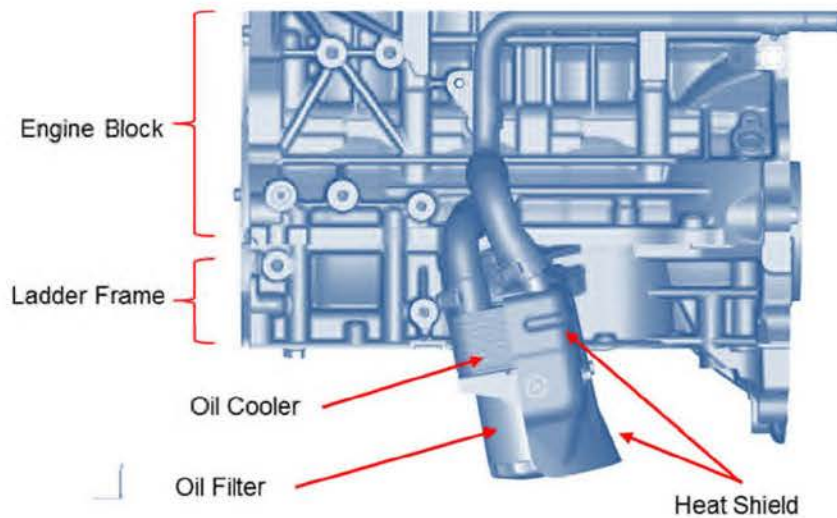


Figure 2: Engine block, ladder frame, oil cooler and filter.

As was identified in the response to Question 3, FCA US has identified incidents where customers reported smoke. It is the assessment of FCA US that the reports of smoke were likely the result of internal oil consumption within the engine and not a fire. The incidents described in field narratives indicate blue smoke emanating from the exhaust pipe and not from the engine compartment.

Although there are only three inputs and little remaining evidence, FCA US continues to conduct root cause analysis. All available information regarding leaks of engine or transmission oil have been examined in depth. Each source of a potential engine compartment oil leak was identified and reviewed to determine if it relates to, or may relate to the alleged defects. As was noted in the response to Question 5 and 6, there are only a few warranty claims associated with engine fluid leaks. The warranty data for fluid leaks show a rate of approximately 1 c/1000. FCA US has found three engine compartment fires in 112,127 vehicles without any physical injuries or property damage beyond the vehicles in question.

After significant analysis of Vehicle 2 and Vehicle 3 as well as the field data for the subject population, root cause(s) cannot be determined at this time. Root cause is also not known for Vehicle 4. All of the reported incidents appear to be random and isolated occurrences of under hood fires. What is known about these incidents does not lead FCA US to a conclusion that the subject vehicles contain a design or manufacturing defect that causes under hood fires. Furthermore, FCA US has made a number of design and process improvements to eliminate oil leaks within the engine compartment, further minimizing the likelihood that engine or transmission oils leaks provide a combustible source in the engine compartment. Therefore, FCA US has not determined that a defect exists which poses an unreasonable risk to motor vehicle safety among the subject vehicle population.