



U.S. Department
of Transportation

**National Highway
Traffic Safety
Administration**

ODI RESUME

Investigation: RQ 23-003
Date Opened: 08/04/2023
Investigator: Iulian Gugiu
Approver: Tanya Topka
Subject: Intermittent/Comp Loss of Power Steering
Reviewer: Bruce York-B

MANUFACTURER & PRODUCT INFORMATION

Manufacturer: Chrysler (FCA US, LLC)
Products: 2013-2016 Ram 1500
Population: 1,106,211 (Estimated)

Problem Description: The subject vehicle may experience a sudden intermittent or complete loss of power steering assistance. A loss of power steering assistance may result in extra steering effort or loss of vehicle directional control, increasing the risk of a crash.

FAILURE REPORT SUMMARY

	ODI	Manufacturer	Total
Complaints:	380	TBD	TBD
Crashes/Fires:	3	TBD	TBD
Injury Incidents:	0	TBD	TBD
Number of Injuries:	0	TBD	TBD
Fatality Incidents:	0	TBD	TBD
Number of Fatalities:	0	TBD	TBD

ACTION / SUMMARY INFORMATION

Action: This Recall Query has been opened.

Summary:

The Office of Defects Investigation (ODI) has received 380 reports from consumers alleging an intermittent or complete loss of power steering assistance in certain 2013-2016 Ram 1500. The failure allegations occur at various speeds with limited detectability to the driver.

On March 23, 2016 Fiat Chrysler Automotive (FCA) conducted recall campaign 16V-167 to address a possible contamination of the electrical power steering unit in certain model year 2015-2016 RAM 1500. The recall involved 440 vehicles and potentially resulted in loss of power steering assist. Consumer complaints indicate a similar failure may be occurring in vehicles that are out of scope of the recall.

A Recall Query has been opened to determine if the scope of the recall mentioned above is correct or if another defect might exist that causes the alleged steering concerns.

The reports cited above are listed in the attached document.

The reports cited below can be reviewed at NHTSA.gov under the following ID numbers:

10671069, 10690365, 10730775, 10763898, 10806289, 10899221, 10926004, 10939939, 10957068, 10959110, 10980084, 10993662, 11022496, 11044858, 11053400, 11058608, 11065244, 11071798, 11075480, 11075778, 11076233, 11081368, 11081805, 11081836, 11083946, 11092885, 11097617, 11097948, 11100695, 11101880, 11103618, 11104055, 11110037, 11112395, 11114101, 11115847, 11119613, 11119770, 11121650, 11123351, 11124461, 11127937, 11128511, 11131507, 11132127, 11132209, 11133133, 11133564, 11141246, 11142141, 11142640, 11144634, 11154046, 11154183, 11162435, 11163526, 11166025, 11171312, 11172800, 11172826, 11173034, 11173038, 11176593, 11179901, 11182509, 11184314, 11185144, 11187008, 11187494, 11191812, 11192296, 11192672, 11192854, 11193899, 11194362, 11196047, 11196620, 11203712, 11205178, 11206034, 11206296, 11217340, 11217343, 11218482, 11218645, 11219214, 11219685, 11221161, 11221471, 11228811, 11229780, 11229813, 11229999, 11230133, 11231547, 11233168, 11240383, 11241722, 11255526, 11255577, 11256354, 11256402, 11257688, 11266634, 11267904, 11269886, 11270224, 11276995, 11279336, 11279713, 11279749, 11281033, 11281368, 11281850, 11282933, 11286814, 11289718, 11289874, 11289920, 11291356, 11291647, 11292088, 11297864, 11298248, 11299091, 11299366, 11300433, 11301614, 11302885, 11306155, 11306270, 11307797, 11307879, 11308389, 11309790, 11310336, 11310752, 11310862, 11310919, 11311166, 11311306, 11312126, 11317479, 11318393, 11319026, 11319133, 11319911, 11320244, 11320383, 11321257, 11321292, 11323326, 11324505, 11324998, 11325281, 11325374, 11325860, 11326177, 11326321, 11327206, 11327365, 11328275, 11329193, 11329454, 11330213, 11330631, 11338276, 11339221, 11339457, 11339881, 11340185, 11340906, 11343699, 11344105, 11348846, 11349093, 11350706, 11351787, 11352725, 11354536, 11355357, 11360195, 11360345, 11360346, 11361501, 11361673, 11363205, 11365765, 11366191, 11366333, 11373756, 11374821, 11377430, 11377770, 11378321, 11378528, 11378536, 11382960, 11383035, 11384186, 11384837, 11385191, 11386231, 11386899, 11386907, 11387529, 11388160, 11388463, 11389399, 11389440, 11389472, 11390967, 11394254, 11395223, 11395467, 11398501, 11399156, 11399432, 11400306, 11402617, 11402645, 11402658, 11404343, 11405067, 11405921, 11406298, 11407247, 11407812, 11407936, 11408064, 11413248, 11413966, 11414394, 11415007, 11415020, 11415355, 11415796, 11416265, 11416371, 11416390, 11417353, 11417910, 11418721, 11419143, 11419537, 11419772, 11420086, 11421012, 11421140, 11422214, 11422625, 11422779, 11423360, 11423659, 11423891, 11424082, 11424388, 11424755, 11424782, 11426269, 11427239, 11427594, 11428103, 11428237, 11428701, 11429218, 11429224, 11429888, 11430160, 11430588, 11430728, 11431163, 11431776, 11432426, 11433183, 11433241, 11435393, 11436628, 11436686, 11437300, 11440496, 11440960, 11441318, 11443202, 11443280, 11443919, 11444456, 11445117, 11445426, 11446326, 11446482, 11447403, 11449302, 11449796, 11449817, 11451426, 11451686, 11454992, 11455035, 11455278, 11455735, 11457387, 11458466, 11460359, 11460827, 11460829, 11460854, 11461030, 11461187, 11461553, 11462202, 11462384, 11464549, 11465033, 11465375, 11465497, 11465696, 11465931, 11466074, 11466223, 11466971, 11467034, 11467610, 11468228, 11468568, 11469084, 11470955, 11471657, 11472021, 11472669, 11475245, 11476219, 11476824, 11477588, 11478356, 11479933, 11480009, 11480077, 11480099, 11480185, 11497455, 11498611, 11498973, 11498991, 11500033, 11500288, 11501122, 11501378, 11501431, 11501432, 11502425, 11503512, 11504797, 11505359, 11505837, 11506111, 11506903, 11507098, 11507410, 11507536, 11508150, 11508277, 11508625, 11508963, 11509005, 11509854, 11509966, 11510086, 11511453, 11511740, 11511761, 11512436, 11513272, 11514406, 11514526, 11515641, 11518328, 11518779, 11520082, 11521581

Part 573 Safety Recall Report**16V-167****Manufacturer Name :** Chrysler (FCA US LLC)**Submission Date :** MAR 22, 2016**NHTSA Recall No. :** 16V-167**Manufacturer Recall No. :** S19**Manufacturer Information :**

Manufacturer Name : Chrysler (FCA US LLC)

Address : 800 Chrysler Drive

CIMS 482-00-91 Auburn Hills MI 48326-2757

Company phone : 1-800-853-1403

Population :

Number of potentially involved : 442

Estimated percentage with defect : 5

Vehicle Information :

Vehicle : 2015-2016 RAM 1500

Vehicle Type :

Body Style : PICKUP TRUCK

Power Train : NR

Descriptive Information : Some 2015-2016 MY RAM 1500 ("DS", "DX") vehicles.

Production Dates : JAN 22, 2015 - SEP 13, 2015

VIN (Vehicle Identification Number) Range

Begin : NR

End : NR

 Not sequential VINs**Description of Defect :**

Description of the Defect : Contamination on the top side of the Electric Power Steering ("EPS") control circuit board may result in intermittent or complete loss of power steering assist while driving. Suspect EPS control circuit boards were all produced during a specific run on a single production day at the sub-tier circuit board supplier. Electric Power Steering ("EPS") control circuit boards built during a single day production run by the sub-tier supplier may have been contaminated on the top side, potentially resulting in shorting of the electrical traces.

FMVSS 1 :NR

FMVSS 2 :NR

Description of the Safety Risk : Contamination on the circuit board traces may cause shorting of the control circuit components potentially resulting in intermittent or permanent loss of power steering assist without warning.

Description of the Cause : NR

Identification of Any Warning that can Occur : The vehicle operator may notice that the steering wheel requires more effort at low speeds and an illuminated Malfunction Indicator Lamp ("MIL").

Supplier Identification :

Component Manufacturer

Name : NEXTEER AUTOMOTIVE CORPORATION

Address : 3900 E Holland Rd Saginaw

Saginaw MICHIGAN 48601-9494

Country : United States

Chronology :

Please see the attached supplemental information titled "FCA US LLC Chronology DS DX - EPS Control Circuit Board - 03222016.pdf."

Description of Remedy :

Description of Remedy Program : FCA US will conduct a Voluntary Safety Recall to replace the EPS unit on all affected vehicles.

FCA US has a longstanding policy and practice of reimbursing owners who have incurred the cost of repairing a problem that subsequently becomes the subject of a field action. To ensure consistency, FCA US, as part of the owner letter, will request that customers send the original receipt and/or other adequate proof of payment to the company for confirmation of the expense.

How Remedy Component Differs from Recalled Component : NR

Identify How/When Recall Condition was Corrected in Production : NR

Recall Schedule :

Description of Recall Schedule : FCA US will provide a dealer notification and owner notification schedule once established.

Planned Dealer Notification Date : NR - NR

Planned Owner Notification Date : NR - NR

* NR - Not Reported

FCA US LLC Chronology
EPS Control Circuit Board
Submitted on March 22, 2016

- On August 25, 2015, FCA US LLC (“FCA US”) supplier quality opened an investigation based on returned EPS units with customer complaints of loss of power steering. Twenty-two failed parts have been returned to date with contamination on the top side of the EPS control circuit board. All these returned parts had circuit boards with a build date of “5006” (January 6, 2015).
- In October 2015, the EPS Tier 1 supplier began a series of Design of Experiment (“DOE”) tests to understand the causal factors of the contamination.
- On November 2, 2015, FCA US LLC (Vehicle Safety and Regulatory Compliance (“VSRC”) organization opened an investigation on this issue.
- On January 11, 2016, the supplier provided traceability of the suspect EPS units which included corrections in ship-to information and total number of suspect parts installed on subject vehicles. Circuit boards from the suspect build date were tracked through steering gear production and to specific production vehicles.
- On February 17, 2016, the final DOE tests were provided by the supplier to FCA US confirming the root cause was low passivated flux contamination reaction to potting material over time. Sub-tier control circuit board supplier records were provided indicating maintenance on the bottom pick-and-place equipment during the manufacture of the suspect lot which resulted in line shutdown/ restart of top side oven.
- The suspect period for Warren Truck Assembly Plant (“WTAP”) was established as January 23, 2015 to September 13, 2015, and the suspect period for Saltillo Truck Assembly Plant (“STAP”) was established as January 22, 2015 to February 17, 2015. The suspect period for both plants was developed using the supplier and FCA US traceability.
- As of March 11, 2016, FCA US identified approximately 1 CAIR, zero VOQs and 3 field reports related to this issue.
- As of March 11, 2016, FCA US is unaware of any accidents or injuries potentially related to this issue.
- Root cause was determined to be poorly passivated flux volatiles on the terminal surface due to low top side reaction oven temperature/nitrogen content which reacted, over time, to circuit board potting material through thin conformal coating application.
- On March 15, 2015, FCA US determined, through the Vehicle Regulations Committee, to conduct a voluntary safety recall of the affected vehicles.