



July 14, 2014

Mr. D. Scott Yon, Chief
Vehicle Integrity Division (VID), NVS-212
U.S. Department of Transportation

National Highway Traffic Safety Administration (NHTSA)
Office of Defects Investigation (ODI)
Room W48-314
1200 New Jersey Avenue SE
Washington, D.C. 20590

Reference: NVS-212mjl; PE14-017

Dear Mr. Yon:

Attached is Chrysler Group LLC's partial response to the referenced inquiry PE14-017 (Question 10-17). In performing the analysis and reaching conclusions, and by providing the information contained herein, Chrysler Group LLC is not waiving its claim to attorney work product and attorney-client privileged communications.

Sincerely,

A handwritten signature in blue ink, appearing to read "Philip Hartnagel".

Philip Hartnagel

Attachment and Enclosures

Preliminary Statement

On April 30, 2009 Chrysler LLC, the entity that manufactured and sold the vehicles that are the subject of 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 now known as Chrysler Group LLC. Pursuant to the sales transaction, Chrysler Group LLC assumed responsibility for safety recalls pursuant to 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 LLC 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).

Note: As instructed in the June 30, 2014 Information Request (“IR”), Chrysler is responding to requests 10 through 17. The responses to the remaining requests will be submitted on July 30, 2014. Unless indicated otherwise in the response to a question, this document contains information through June 24, 2014, the date the IR was received.

Subject Vehicle Definition

Chrysler has defined the subject vehicles as 2005 – 2007 Jeep Grand Cherokee vehicles and 2006 – 2007 Jeep Commander vehicles. Chrysler included the 2007 MY Jeep Grand Cherokee as it is equipped with the identical ignition switch location, as noted in response to Question 11, Assessment 2.

Subject Component Definition

Chrysler has identified several parts that make up the subject components, which include the ignition switch assembly (ignition switch and housing), the key cylinder and key.

Alleged Defect Definition

Chrysler does not agree with ODI's characterization of certain reported events involving a frontal airbag non-deployment as an "alleged defect" in its IR definitions and questions. Frontal airbags are not designed to deploy in all crashes and deployment thresholds are dependent on a number of factors, including impact orientation and severity (rate of deceleration). Moreover, non-deployment of frontal airbags does not constitute evidence of a safety-related defect simply because -- as the "alleged defect" definition implies -- the crash event involved "Stalling", "Off-road crashes," "Multiple impact crash events," a "Fatality in the subject vehicle," or an "Injury in the subject vehicle."

Accordingly, what ODI has defined in this IR as "alleged defect number 2" will be referred to by Chrysler in this and other responses as "Reported Non-deployment Events."

10. 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.

A10. Chrysler issued two Star Cases, two technical line communications and a Zone Technical Advisor Report that relate to, or may relate to, Alleged Defect 1 in the subject vehicles. Chrysler did not issue any bulletins that relate to, or may relate to, the Reported Non-deployment Events. No other communications are planned over the next 120 days.

These documents are provided in Enclosure 10 Dealer Communications.

11. 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, Chrysler. This includes, but is not limited to, any and all actions by the subject component manufacturer relating to the alleged defect. 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. If an action is not complete, provide a detailed schedule for the work to be done, tentative findings and/or conclusions, and provide an update within 10 days of completion of the action.

A11.

Assessment 1: Alleged Defect and Reported Non-deployment Events-
Complaint Analysis by Report Open, Build Dates, Mileage, Months in Service,
Model Year, Location and Complaint Type

Start Date	End Date	Engineering Group Responsible
06/24/2014	07/30/2014	Regulatory Affairs

Objective: Study reports that relate to, may relate to, Alleged Defect 1 and Reported Non-deployment Events in the subject vehicles.

Analysis Results: Results to be provided by the July 30, 2014 due date.

Assessment 2: Packaging Study – Ignition Switch Location

Start Date	End Date	Engineering Group Responsible
06/25/2014	07/07/2014	Advance Concept Engineering

Objective: Conduct a packaging study to determine if other Jeep Grand Cherokee and/or Jeep Commander vehicles are equipped with an ignition switch location that is identical to the subject vehicles.

Analysis Results: Previous model year Jeep Grand Cherokee vehicles were equipped with steering column mounted ignition switches. The packaging study confirmed that the ignition switch location was identical for the 2007 Jeep Grand Cherokee, but changed from the 2007 MY to the 2008 MY for both the Jeep Commander and the Jeep Grand Cherokee.

This document is provided in Enclosure 11 Assessments CONF BUS INFO, Assessment 2 Switch Location Comparison CONF BUS INFO, which has been submitted under separate cover to the NHTSA Chief Counsel's Office with a request for confidential treatment.

Assessment 3: Packaging Study – Occupant Packaging Study

Start Date	End Date	Engineering Group Responsible
06/25/2014	07/07/2014	Advance Concept Engineering

Objective: Conduct a packaging study to evaluate the distance of the driver's knee in relation to the lower edge of the key in subject vehicles and certain other Chrysler vehicles with an instrument panel mounted ignition switch.

Analysis Results: The packaging study confirmed no contact between the driver's knee and the key at design position. This was verified during occupant packaging of both the 95th and 5th percentile SAE mannequins when placed along the respective SAE seating accommodation curves. Furthermore, an additional packaging study confirmed that when the 95th and 5th SAE mannequins were moved to the top of seat track travel, and then forward until the knee contacted the instrument panel surface, no contact was feasible between the driver's knee and the key.

This document is provided in Enclosure 11 Assessments CONF BUS INFO, Assessment 3 Occupant Packaging CONF BUS INFO, which has been submitted under separate cover to the NHTSA Chief Counsel's Office with a request for confidential treatment.

Assessment 4: Vehicle Torque Study

Start Date	End Date	Engineering Group Responsible
6/26/14	07/10/14	Cabin Electrical Engineering

Objective: Perform subject vehicle ignition switch torque measurements.

Analysis Results: The results are provided in Enclosure 11 Assessments CONF BUS INFO, Assessment 4 Torque Study CONF BUS INFO, which has been submitted under separate cover to the NHTSA Chief Counsel's Office with a request for confidential treatment.

Assessment 5: Follow-up Survey on Customer Complaints

Start Date	End Date	Engineering Group Responsible
06/30/2014	7/3/2014	Regulatory Affairs

Objective: Contact customers with previous complaints of Alleged Defect 1 in the subject vehicles to gather additional information.

Analysis Results: Survey results are provided in Enclosure 11 Assessments PUBLIC, Assessment 5 Customer Survey.

Assessment 6: Customer Advocate Group Draft Transmittal

Start Date	End Date	Engineering Group Responsible
06/13/2006	Unknown	Customer Advocate Group

Objective: Study Jeep Grand Cherokee engine shut off while driving.

Analysis Results: CAG transmittal letter (11797) was prepared in draft form.

This document is provided in Enclosure 11 Assessments CONF BUS INFO, Assessment 6 CAG Draft CONF BUS INFO, which has been submitted under separate cover to the NHTSA Chief Counsel's Office with a request for confidential treatment.

Assessment 7: Engineering Study

Start Date	End Date	Engineering Group Responsible
Approx. 05/2006	05/02/2007	Cabin Electrical Engineering

Objective: Study reports that relate to, or may relate to, unintended change in ignition switch state while driving in certain vehicles, including the subject vehicles.

Analysis Results: CN number, 70105-J09, implemented on 05/02/07 at the plant, which had a corrective action of changing "...the profile of the rotor in the area of the run detent to increase average counterclockwise effort from 0.2NM to 0.4NM".

The documents are provided in Enclosure 11 Assessments Public, Assessment 7 Engineering PUBLIC, and Enclosure 11 Assessments CONF BUS INFO, Assessment 7 Engineering CONF BUS INFO, which has been submitted under separate cover to the NHTSA Chief Counsel's Office with a request for confidential treatment.

Assessment 8: Regulatory Affairs – Product Investigations and Campaigns

Start Date	End Date	Engineering Group Responsible
Approx. 06/2006	03/11/08	Regulatory Affairs

Objective: Study reports that relate to, or may relate to, unintended change in ignition switch state while driving in certain vehicles, including the 2005-2007MY Jeep Grand Cherokee and 2006-2007 MY Jeep Commander vehicles.

Analysis Results: CN number, 70105-J09, implemented on 05/02/07 at the plant, which included a corrective action of changing "...the profile of the rotor in the area of the run detent to increase average counterclockwise effort from 0.2NM to 0.4NM".

The documents are provided in Enclosure 11 Assessments Public, Assessment 8 Regulatory Affairs PUBLIC, and Enclosure 11 CONF BUS INFO, Assessment 8 Regulatory Affairs CONF BUS INFO, which has been submitted under separate cover to the NHTSA Chief Counsel's Office with a request for confidential treatment.

12. Describe in detail all modifications or changes made by or on behalf of Chrysler (e.g., by a supplier) in the design, material composition, manufacture, quality control, supply, or installation of the subject components in, or for use on, the subject vehicles from the start of production to the end of production of the subject vehicles, 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) (engineering and service) of the original component;
- e. The part number(s) (engineering and service) 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 Chrysler is aware of which may be incorporated into vehicle production within the next 120 days.

A12. The change history for the subject components is provided in Enclosure 12 Change History CONF BUS INFO, which has been submitted under separate cover to the NHTSA Chief Counsel's Office with a request for confidential treatment. There is no change history for the housing component that relates to, or may relate to, the Alleged Defect 1. Chrysler is not aware of any modification or changes that may be incorporated into the subject vehicle components within the next 120 days.

13. Separately for each model and model year of the subject vehicles, state the manufacturer and part number of the ignition switch and any other device that provides a detent force intended to keep the ignition key in an intended position (run, accessory, off).

A13. The manufacturer and part numbers of the subject components for each model and model year of the subject vehicles are provided in Enclosure 13 Part Numbers and Manufacturer.

- 14. For each unique design version and/or part number of the ignition switches in the subject vehicles:**
- a. Provide photographs, diagrams, engineering drawings, and turning torque performance requirements for the subject components and all sub-components it consists of, including photographs, diagrams, and engineering drawings for each unique design version of OEM ignition key and/or key fob/remote control device intended to be used in the subject switch; and**
 - b. Discuss and describe any and all factors that may affect the likelihood that the alleged defect condition 1 will occur, such as key chain type or weight, non-OEM ignition key design, the specific vehicle dynamic/crash conditions that are of most concern, and any driver/occupant actions/practices that may be a factor.**

A14a. Photographs for the subject components and all sub-components are provided in Enclosure 14 Drawings Standards and Photos Public. The diagrams, engineering drawings and performance standards are provided in Enclosure 14 Drawings Standards and Photos CONF BUS INFO, which has been submitted under separate cover to the NHTSA Chief Counsel's Office with a request for confidential treatment.

Pursuant to the performance specification PF-10163, Methode, as supplier of the ignition switch, was required to provide force/torque versus travel profile curves for each switch function. Methode was obligated to provide these curves for memorialization on the release VPN/Catia model. Chrysler is investigating whether this specification was provided to Chrysler and has contacted Methode to request relevant documents and information that are responsive to this IR. See the letter to Methode, dated July 11, 2014, in Enclosure 14 Drawings Standards and Photos Public. As of this filing, Chrysler has not received any response from Methode.

A14b. If the ignition key ring is carrying added weight and the vehicle experiences a harsh bump or other jarring event and/or the driver's knee interferes with the ignition key position, the ignition switch may unintentionally move counterclockwise out of the "on" position. If the key unintentionally moves from the "on" to "accessory" position, engine power, power steering, braking assist and other dynamic features will be affected. While the power steering and brake assist may be affected, the driver would still have steering and braking capabilities, with the key in the "accessory" position. Movement of the ignition switch out of the "on" position may disable one or more of the vehicle's passive restraint features, including airbags.

- 15. For each unique design and location of the ignition switches in the subject vehicles, provide photographs, diagrams, and engineering drawings that**

depict the design and location of the ignition switches within the vehicles. Also, discuss and describe the designs and locations of the ignition switches in the subject vehicles and other Chrysler model vehicles (model years 2005-2007). Provide documents related to any and all assessments, analyses, tests, studies, surveys, and/or simulations that compared the ignition switch designs and locations in the subject and other Chrysler or competitor vehicles.

- A15. For each of the subject vehicles, diagrams and engineering drawings are provided in Enclosure 11 CONF BUS INFO, Assessment 2 CONF BUS INFO, and Enclosure 14 Drawings Standards and Photos CONF BUS INFO, which has been submitted under separate cover to the NHTSA Chief Counsel's Office with a request for confidential treatment. The photographs for each of the subject vehicles are provided in Enclosure 14 Drawings Standards and Photos PUBLIC.

The designs and locations of the ignition switches in the subject vehicles and other Chrysler model vehicles (model years 2005-2007) are provided in Enclosure 14 Drawings Standards and Photos CONF BUS INFO and Enclosure 15 Ignition Switch Locations And Benchmarking CONF BUS INFO, which has been submitted under separate cover to the NHTSA Chief Counsel's Office with a request for confidential treatment.

All available assessments, analyses, tests, studies, surveys, and/or simulations that compared the ignition switch designs and locations in the subject and other Chrysler or competitor vehicles are provided in Enclosure 15 CONF BUS INFO, Competitive Analysis CONF BUS INFO, which has been submitted under separate cover to the NHTSA Chief Counsel's Office with a request for confidential treatment.

- 16. Discuss and explain in precise detail how the alleged defect condition involving the subject ignition switch moving from the on or run position to the accessory or off or an interim position results in, or may result in, the disablement of one or both frontal air bags, or can otherwise affect in any way other components or functionality of a passive safety system intended for occupant protection during a vehicle crash. Discuss and explain how the air bag control module or Occupant Restraint Controller (ORC) is affected by the alleged defect condition 1, and how and why the ORC determines or otherwise causes the disablement of the air bags or other active components when the alleged defect condition occurs. State whether or not Chrysler intended for the air bags in the subject vehicles to deploy in a crash when the ignition switch is in the accessory or off or an interim position, and describe any additional conditions or factors that may affect whether or not the ORC disables the air bags when the ignition switch is in the accessory or run position (e.g., time elapsed since key-on, or time elapsed since key-off). State**

whether or not the ORC has any built-in, or onboard energy storage capability intended to provide power for the case where the normal power supply is interrupted, either through the ignition switch/intended power supply or via a crash related consequence (such as mechanical damage to the electrical harnessing, etc.), and if so, discuss the backup system and its capabilities and limitations.

A16. The response is provided in Enclosure 16 Airbag Strategy CONF BUS INFO, which has been submitted under separate cover to the NHTSA Chief Counsel's Office with a request for confidential treatment.

17. State, by model and model year, all part numbers of the subject components that have been installed on the subject vehicles as assembled by Chrysler, and the service part numbers of the subject components Chrysler designates for installation on the subject vehicles. State, by sales month, sales year and part number, the total number of subject components sold as service parts by Chrysler. Identify any kits that Chrysler has released or developed for use in service repairs to the subject components or assembly.

For each subject component part number, provide the supplier's name, address, and point of contact used by Chrysler (name, title and telephone number). Also, identify by model and model year, any other vehicles of which Chrysler is aware that contain the identical component, whether installed in production or in service, and state the applicable dates of production or service usage.

A17. All available part numbers for the ignition switch and housing that have been installed on the subject vehicles as assembled by Chrysler, and the service part numbers of the ignition switch and housing Chrysler designates for installation on the subject vehicles, are provided in Enclosure 17 Part Sales and Service Part Numbers CONF BUS INFO, which has been submitted under separate cover to the NHTSA Chief Counsel's Office with a request for confidential treatment.

The parts usage information for the ignition switch is provided in Enclosure 15 Ignition Switch Locations and Benchmarking CONF BUS INFO in a folder marked, Chrysler Vehicle Ignition Switch Chart CONF BUS INFO, which has been submitted under separate cover to the NHTSA Chief Counsel's Office with a request for confidential treatment. Chrysler part sales information is only available going back five years.

The supplier information for the ignition switch is provided in Enclosure 17 Part Sales and Service Part Numbers PUBLIC.

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ATTACHMENT

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The part sales table in Enclosure 17 Part Sales and Service Part Numbers CONF BUS INFO includes all ignition switch and housing service part sales, whether or not they are related to Alleged Defect 1.