

# DAIMLERCHRYSLER

*Speth*  
7/3/06

July 21, 2006

Kathleen C. DeMeter  
Office of Defects Investigation  
National Highway Traffic Safety Administration  
U.S. Department of Transportation  
400 Seventh Street, S.W.  
Washington, D.C. 20590

DaimlerChrysler Corporation

Stephan J. Speth

Director

Vehicle Compliance & Safety Affairs

Reference: NVS-212mjl; EA06-003

Dear Ms. DeMeter,

This document contains DaimlerChrysler Corporation's ("DCC") response to the referenced inquiry regarding alleged front airbag crash sensor failures on some 2005 and 2006 model year Dodge Caravan, Dodge Grand Caravan, and Chrysler Town & Country ("RS") vehicles. By providing the information contained herein, DCC is not waiving its claim to attorney work product and attorney-client privileged communications.

Per DCC's prior agreement with NHTSA ODI, the attached is the first part of the submission for EA06-003 and includes responses to IR questions 1 through 7, 10, 11 and 14 and their applicable enclosures. The response and applicable enclosures to the balance of the IR questions will be provided on August 7.

Please note that the enclosures referenced in this submission may seem out of sequential order but this is because the questions being addressed are out of order compared to the questions in the IR. When the second submission for this IR is received all of the enclosures will be in sequential order corresponding to the order of the questions in the IR.

Sincerely,

*S. J. Speth*  
Stephan J. Speth

Attachment and Enclosures

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STEPHAN J. SPETH

1. **State, by model and model year, the number of the subject vehicles DaimlerChrysler has manufactured for sale or lease in the United States. Separately, for each subject vehicle manufactured to date by DaimlerChrysler, state the following:**
  - a. **Vehicle identification number (VIN);**
  - b. **Make;**
  - c. **Model;**
  - d. **Model Year;**
  - e. **Date of manufacture;**
  - f. **Date warranty coverage commenced; and**
  - g. **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 2000, or a compatible format, entitled "PRODUCTION DATA."**

- A1. The MY 2005 and 2006 DaimlerChrysler Corporation ("DCC") Dodge Caravan, Dodge Grand Caravan and Chrysler Town & Country are all referred to as the RS model. The total number of subject 2005 and 2006 model year RS vehicles manufactured for the US market is 960,569.

The detailed response that lists the market production data is provided as a Microsoft Access 2000 table in Enclosure 1 - Production Data.

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**NOTE: UNLESS OTHERWISE INDICATED IN THE RESPONSE TO ANY OF THE QUESTIONS, THIS DOCUMENT CONTAINS INFORMATION FROM NOVEMBER 17, 2005 (INFORMATION CUTOFF DATE FOR PE05-061) THROUGH MAY 16, 2006, THE DATE THIS INFORMATION REQUEST WAS RECEIVED.**

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2. **State the number of each of the following, received by DaimlerChrysler, or of which DaimlerChrysler is otherwise aware, which relate to, or may relate to, the alleged defect in the subject vehicles:**
  - a. **Consumer complaints, including those from fleet operators;**
  - b. **Field reports, including dealer field reports;**
  - c. **Reports involving a crash, injury, or fatality, based on claims against the manufacturer involving a death or injury, notices received by the manufacturer alleging or proving that a death or injury was caused by a possible defect in a subject vehicle, property damage claims, consumer complaints, or field reports;**
  - d. **Property damage claims;**

- e. **Third-party arbitration proceedings where DaimlerChrysler is or was a party to the arbitration; and**
- f. **Lawsuits, both pending and closed, in which DaimlerChrysler is or was a defendant or codefendant.**

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

**In addition, for items "c" through "f," provide a summary description of the alleged problem and causal and contributing factors and DaimlerChrysler'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. NHTSA provided DCC with 26 VOQ complaints. DCC analyzed these VOQ reports separately from the DCC internal reports indicated below since only partial VIN information was provided in the VOQ reports (vehicle identification not possible). Categorization of these VOQ reports resulted in 3 reports alleging airbag malfunction indicator lamp (MIL) illumination due to subject component, 14 reports alleging airbag MIL illumination due to an unknown source, 8 reports alleging airbag non-deployment, and 1 report unrelated to the subject component.

The following summarizes the reports received by DCC that relate to, or may relate to, the alleged condition in the subject vehicles. DCC has conducted a reasonable and diligent search of our normal repositories of such information.

- a. There are a total of 328 consumer complaints (CAIR or Legal Matters), which include 310 complaints in the DCC system (CAIRs) and 18 legal matters that may relate to the alleged condition. Due to some complainants providing more than 1 input, there are 296 unique VINs associated with the 328 complaints.
- b. There are 373 field reports that contain 366 unique VINs.

See Table below for breakdown of VIN by report type. Each box within double borders represents the number of unique VINs that had that type of report associated with it. For example, the cell in the table that lies in the

Field Report column and the CAIR row indicates that 10 VINs had both a Field Report and a CAIR report due to the alleged condition. Another example: the CAIR column / CAIR row indicates that 268 VINs had only a CAIR complaint (one or more).

Totaling a single row across the columns yields the total number of that type of report. There are 310 CAIR reports, 373 Field Reports, and 18 legal matters. The total number of reports is  $310 + 373 + 18 = 701$ . The number of unique VINs is established by summing the total cells within the double border cells. The total of unique VINs from all data sources including legal claims/lawsuits is 652.

TABLE: Number of Unique VINs / Number of Total Reports

	CAIR	Field Report	Legal	CAIR + Field Rep	Legal + Field Rep	Add'l Field Rep	Add'l CAIRs	Totals
CAIR	268	10	5	-	0	-	27	310
Field Report	10	356		-	-	7	-	373
Legal	5	0	13	0	-	-	-	18
CAIR + Field Report	-	-	0					Tot rep = 701
Legal + Field Report	0	-	-					

Total number of reports = sum of far right column = 701

Unique VINs = sum of cells in double border area = 652

- c. There are 15 unique VIN's (20 reports) involving alleged crashes, which include reports of 8 injuries and 0 reports of fatality that are responsive to this inquiry. However, DCC does not have any information that suggests the alleged condition was the cause of or contributed to the injuries.
- d. There are 0 reports that allege property damage that are responsive to this inquiry.
- e. There are 0 third-party arbitration proceedings involving DCC that are responsive to this inquiry.
- f. There are 15 legal claims and 3 lawsuits or notices received by DCC that are responsive to the condition alleged in this investigation.

DCC's analysis of reports indicates that 8 of the unique VINs involved an accident with airbag non-deployment allegations, but with no further data.

This occurs for a variety of reasons including that the vehicle was not made available for an inspection by DCC. Customers often have a misconception of the type of accident in which an airbag should deploy or the level of severity of impact required to trigger an airbag deployment. Therefore it is questionable whether these claims are related to the alleged condition.

DCC found 7 other unique VINs where the complaint was airbag non-deployment in an accident, but even after an inspection by DCC, there was not enough data to determine whether the customer's complaint was related to the alleged condition.

Another 107 unique VINs indicate some concern with airbag light illumination, but there is no data to verify whether this was a result of a front crash sensor malfunction. It is important to note that the airbag light and associated circuitry on the subject vehicles monitors a state of the art, sophisticated restraint system for a multitude of potential fault codes not related to front crash sensors, and there is no way to reliably attribute these reports to the alleged condition.

The remaining unique VINs specifically reference airbag MIL illumination and replacement of one or more of the subject components.

- 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. DaimlerChrysler'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), address, and telephone number;**
  - d. Vehicle's VIN;**
  - e. Vehicle's make, model and model year;**
  - f. Vehicle's mileage at time of incident;**
  - g. Incident date;**
  - h. Report or claim date;**
  - i. Whether a crash is alleged;**
  - j. Whether property damage is alleged;**
  - k. Number of alleged injuries, if any; and**
  - l. Number of alleged fatalities, if any.**

**Provide this information in Microsoft Access 2000, or a compatible format, entitled "REQUEST NUMBER TWO DATA."**

- A3. The detailed response that lists the customer complaints and field reports, from Request No. 2, as requested in Items a. through m. is provided as a Microsoft Access 2000 table in Enclosure 2 - Request Number Two Data.
- 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 DaimlerChrysler used for organizing the documents.**
- A4. Copies of all documents within the scope of Request 2 are provided in Enclosure 3 – Field Data.
- 5. State, by model and model year, a total count for all of the following categories of claims, collectively, that have been paid by DaimlerChrysler 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. DaimlerChrysler's claim number;
- b. Vehicle owner or fleet name (and fleet contact person) 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;
- h. Problem code;
- i. Replacement part number(s) and description(s);
- j. Concern stated by customer; and
- k. Comment, if any, by dealer/technician relating to claim and/or repair.

**Provide this information in Microsoft Access 2000, or a compatible format, entitled "WARRANTY DATA."**

A5.

LOP	2005 & 2006 M.Y. Claims
08142500 - Sensor, airbag front impact	734
08142502 - Sensor, airbag impact front right replace	20,576
08142503 - Sensor, airbag impact front left replace	8,603
0893BE - Steering column wire harness, airbag	301
0894BE - Engine wire harness, airbag	972

It is often not possible to determine whether a particular warranty claim is related to the alleged condition. There are other random issues, not related to this alleged condition, that trigger replacement of subject components. DCC has concluded that warranty data cannot be used to determine any trend related to the alleged condition.

In the PE05-061 submission DCC inadvertently omitted warranty narratives from the response. Therefore, DCC is resubmitting all the warranty claims along with associated narratives for the claims submitted for PE05-061. In addition, DCC is submitting all of the claims and narratives from November 17, 2005 (cutoff date for PE05-061 submission) to the EA06-003 cutoff date of May 16, 2006. Therefore to avoid double counting the warranty claims in this submission should not be added to those of PE05-061.

It is also important to note that dealer communication "tech tip 9000773" (submitted in PE05-061) specifically directs dealers to replace both crash sensors even when only one requires replacement. Therefore, it is likely that the number of warranty claims reflects the replacement of a significant number of subject components that had not failed.

The warranty claim detail is provided as a Microsoft Access 2000 table in Enclosure 4 – Warranty Data.

- 6. Describe in detail the search criteria used by DaimlerChrysler 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 DaimlerChrysler 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 DaimlerChrysler 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.**

- A6. The search criteria used by DCC to identify claims for Request No. 5 can be found in the chart below:

Description of Repair	Labor Operation
Sensor, airbag front impact	08142500
Sensor, airbag impact front right replace	08142502
Sensor, airbag impact front left replace	08142503
Steering column wire harness, airbag	0893BE
Engine wire harness, airbag	0894BE

Failure Code	Description
18	Circuit Open
48	Grounded or Shorted
UC	Uncodable
83	Connection Loose
51	Improperly Installed
UR	Containment Repair
11	Broken or Cracked
14	Short or open
23	Contact corroded
3T	Terminals corroded
58	Internal Defect
61	Intermittent Operation
BX	Broken Component
MX	Fault Code Set

The standard warranty offered for the subject vehicles is 36 months / 36,000 miles. An extended warranty coverage option is available in the form of a Mopar Maximum Care service contract which covers all of the subject components. The contract can be purchased at any Chrysler (or Dodge) dealer for any new or pre-owned Chrysler (or Dodge) vehicle. For a pre-owned vehicle, the contract is available only if the vehicle is being purchased at a Chrysler (or Dodge) dealer and the contract is purchased at the point of vehicle sale. The Mopar Maximum Care service contract is available to cover warranty costs for varying mileage limits ranging from 50,000 to 100,000 miles and up to 10 years. A total of 79,687 Mopar Maximum care service contracts were sold for 2005MY RS vehicles and 18,207 contracts were sold for the 2006MY RS vehicles. The warranty claims under these extended warranty contracts are included in the claims submitted for question 5. Owners may have purchased additional warranty coverage through third-party providers not affiliated with DCC. This warranty data is not available to DCC and is not included in this response.



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

A7. There have been no additional communications to any dealers, regional or zone offices, field offices, fleet purchasers, or other entities related to the alleged condition since DCC's response to PE05-061. There are also no additional communications planned in the next 120 days.

**10. List and describe in detail all fault codes or diagnostic codes associated with a failure or malfunction of the subject components in the subject vehicles that could be stored in the air bag control module (i.e., Occupant Restraint Controller). State whether and how each such fault code can illuminate the air bag warning lamp intermittently, and whether and how it can illuminate the air bag warning lamp constantly. Also, describe the operation and functionality of a failed or affected front crash sensor while the air bag warning lamp is illuminating intermittently and while it is illuminating constantly.**

A10. The following is a description of how the ORC module handles the particular fault codes associated with the alleged condition. It is not intended to provide any insight into an analysis of the intermittent operation of the subject component. Furthermore, DCC interprets intermittent illumination to be a "flickering or flashing on/off" of the airbag light during one continuous ignition cycle. Because of the way the ORC handles the faults associated with the alleged condition, that type of intermittency cannot occur. Once an up front sensor is detected as inoperative by the ORC during an ignition cycle, the input from that up front sensor is disregarded and the airbag MIL will illuminate for the remainder of that ignition cycle.

There are two fault codes that can attributed to both the left and right front crash sensors in the subject vehicles. These are shown in Enclosure 7 – Fault Codes. There are two versions of Occupant Restraint Controller (ORC) available in the subject vehicles. The 8.7E ORC module was originally released at 2005 MY launch for all applications of the subject vehicles. A mid-model change introduced the 8.7+ ORC module for all subject vehicles not equipped with side airbags and the 8.7E ORC module continued to be used for vehicles with side airbags.

Both of these modules treat up front sensor fault codes similarly; however, there was a 2005 mid-model year modification to how they handle these faults. In vehicles produced in the first part of the 2005 model year, the input from both up front sensors is disregarded by the ORC when either of the up front sensors is faulted. Since the design change, if one up front sensor is faulted, the other up front sensor will continue to provide input to the ORC.

The "Loss of Communication" fault is the most common UFS fault code associated with the alleged condition in the subject vehicles. Both the 8.7E and 8.7+ ORC modules respond to this fault in a similar manner. When the fault is recognized, the air bag MIL will continuously illuminate until the ignition is cycled again. At the next ignition cycle the ORC will again evaluate for the fault and illuminate the MIL if the fault is present. While the MIL is illuminated, the air bag system will have a modified operation as described above. If the ORC detects that the sensor is operational, the MIL will not illuminate during that ignition cycle and the air bag system will return to normal operation.

There is also a "Sensor Internal" fault that is related to the up front sensor. The 8.7E module will continuously illuminate the air bag MIL when this fault occurs. At the next ignition cycle the ORC will again evaluate for the fault and illuminate the MIL if the fault is present. While the air bag MIL is illuminated, the air bag system will have modified operation as described above. If the ORC detects that the fault is no longer present, the MIL will not illuminate on the next ignition cycle and the air bag system will return to normal operation. However, if the 8.7E ORC module detects the "Sensor Internal" fault on two consecutive ignition cycles, the air bag MIL will be continuously illuminated (and air bag function modified as described above) until the fault is cleared with a diagnostic tool. The 8.7+ ORC module operates in the same manner with the exception that it does not preserve the fault code after two consecutive ignition cycles with the fault present.

**11. List and describe in detail all restraint, crash and occupant data (e.g., air bag deployment status, deployed air bag inflator stages/levels, seat belt usage, vehicle deceleration, delta-V, occupant classification, air bag suppression status, etc.) stored by Occupant Restraint Controllers in the subject vehicles.**

A11. There are two main types of data stored in the ORC – diagnostic data and deployment event data. The diagnostic data is stored as an “active” fault or a “stored” fault. An active fault is one where the system is currently detecting an anomalous condition. A stored fault is one where the system has detected a faulted condition, but the condition that caused the fault has been corrected. For stored faults, additional information is recorded including the number of ignition cycles since the fault was last detected and the total number of minutes the fault was active. A complete listing of the diagnostic faults stored in the ORC in the subject vehicles is listed in Enclosure 8 - ORC Diagnostics.

The deployment event data is a record of information that is triggered by a frontal airbag deployment and cannot be accessed or erased by a standard diagnostic tool. This data includes the deployment level for the driver and passenger airbags (low, mid, or high), any fault codes present at the time of deployment, seat buckle switch status for frontal occupants and other data. There is no vehicle dynamic data captured and stored such as vehicle speed, vehicle braking, or crash acceleration, which would indicate the specifics of the incident.

For more details on diagnostic and deployment event information, see the ORC performance standard PF-10703, section 3.2.9 (“System Diagnostics”) and 3.2.10 (deployment event data entitled “Event Data Recorder”) or pages 60-62 of “ORC-AB8.7E-J2190-ver4.2” file which lists the communications protocol for the electrical system of the alleged vehicles. These documents will be supplied in response to Question 12.

**14. Describe in detail the MY 2005 frontal air bag system and the differences between the MY 2005 system and the MY 2006 system. Also, describe all other frontal restraint system changes that have been made and any vehicle changes that may affect the vehicle performance with respect to compliance with Federal Motor Vehicle Safety Standard (FMVSS) No. 208.**

A14. The front crash sensing system in the subject vehicles consists of the occupant restraint controller (ORC) and two up front crash sensors. The ORC is mounted in the passenger compartment and includes diagnostic capability, the microprocessor, the crash sensing algorithm, and the main crash sensors. The ORC uses a predetermined threshold range to determine when to deploy the front seat belt pretensioners and the frontal

airbags (and at what deployment level). The up front sensors provide input to the ORC that can slightly modify this range for some types impacts but they do not make the decision to deploy in any crash. The ORC also continuously monitors all of the passive restraint components including the front crash sensors and circuits and illuminates an airbag MIL to let the customer know that a fault is present and the vehicle should be serviced.

The frontal restraint system for both the 2005MY and 2006MY subject vehicles have the following common components: seat belts that include an "active" three-point lap and shoulder belt in all outboard seating positions; front row seat belts with a buckle-mounted pretensioner and a retractor with engineered load-sensitive belt payout capacity; a frontal airbag system that includes multiple stage inflation capable airbags for the driver and passenger front seating positions, a driver's knee bolster airbag, multiple point crash sensors, and a diagnostic and warning system that includes a MIL illumination to indicate when faults are present; and a vehicle structure that is designed to crush in a controlled manner to enhance occupant protection.

The following is a description of the airbag system changes and other FMVSS 208 performance-related component changes to the subject vehicles for the 2005 and 2006 model years. However, the changes with regard to the subject components are not included in the response to this question because this information has previously been provided in response to PE05-061, Question 9 and will be updated in response to EA06-003 Question 17 when that response is submitted on August 7, 2006. It is also important to note that none of the following changes affected vehicle performance with respect to compliance with FMVSS 208.

The passenger air bag was modified on September 6, 2004 to increase venting to enhance head restraint during a frontal impact event. The driver's seat belt retractor was changed to enhance the load limiting feature. The torsion bar specifications on the passenger side retractor were changed. These retractor modifications were made to improve performance in flat frontal impacts. These changes occurred for both retractors on November 8, 2004.

The 8.7E ORC module was originally released at 2005 MY launch for all applications of the subject vehicles. A mid-model change introduced the 8.7+ ORC module for all non-side airbag applications and the 8.7E ORC module continued to be used for vehicles equipped with side airbags. Both of these modules are designed to provide equivalent frontal crash performance but each has its own software calibration. Also, there is a difference in how the modules handle up front sensor faults, as described in the answer to question 10, above.

Ms. Kathleen C. DeMeter  
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ATTACHMENT

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The subject vehicles were manufactured during the phase-in timeframe for compliance with the advanced airbag requirements of FMVSS 208. A significant volume of the subject vehicles manufactured in the 2004 calendar year were certified as complying with the previous version of FMVSS 208. All of the vehicles in the subject population were built with up front sensors regardless of the version of FMVSS 208 the vehicle was certified to. See Enclosure 11 – System Differences for a timing analysis of the compliance strategy and the design changes referenced above.