

DAIMLERCHRYSLER

DaimlerChrysler Corporation
Stephan J. Speth
Director
Vehicle Compliance & Safety Affairs

April 8, 2004

Mr. Thomas Z. Cooper, Chief
Vehicle Integrity Division
Office of Defects Investigation
National Highway Traffic Safety Administration
U.S. Department of Transportation
400 Seventh Street, SW
Washington, D.C. 20590

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OFFICE OF
DEFECTS INVESTIGATION

Dear Mr. Cooper:

Reference: NVS-212mba; PE04-017

This document contains DaimlerChrysler Corporation's ("DCC") response to the referenced inquiry regarding 1999-2000 model year DCC minivans. In reaching our analysis and conclusions, and by providing the information contained herein, DCC is not waiving its claim to attorney work product and attorney-client privileged communications.

First of all, please allow us to state that DCC is surprised that this investigation has been opened in light of the findings and closure of the investigation PE00-034. While additional random complaints have been reported since the closing of that investigation, it is DCC's continuing position that the condition does not pose an unreasonable risk to motor vehicle safety. None of the alleged events have resulted in an accident or vehicle fire. Furthermore, all of the seat materials are fire resistant and comply fully with FMVSS 302. DCC also asserts that vehicle operators have multiple indications that a malfunction may be occurring and have the ability to turn the seat heater off with the switch.

Nonetheless, DCC is continuing to investigate this customer satisfaction issue.

Sincerely,



Stephan J. Speth

Attachment and Enclosures

- Q1. State, by model and model year, the number of 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).**

- A1. The MY 1999 through 2000 Chrysler Town & Country LX, Town & Country LXI, Town & Country Limited, Dodge Grand Caravan LE, and Grand Caravan ES are similar vehicles and, for the subject model years, have similar "Subject Components". These vehicles are collectively referred to as the NS-model with the equipment heated seats (sales code CMA).**

Vehicle Volumes	60,197	48,360	108,557
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The detailed response that lists the United States market production data as requested in Items a. through g. is provided in Enclosure 1 as a Microsoft Access 2000 table, titled "PRODUCTION DATA."

- Q2. State the number of each of the following, received by DaimlerChrysler, or of which DaimlerChrysler are 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 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;**

- d. Property damage claims; and
- 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.

A2. The following summarizes the non-privileged reports received by DaimlerChrysler Corporation (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 236 customer complaints, which include 15 NHTSA reports (VOQ's) that may relate to the alleged condition.

There are an additional six NHTSA VOQ's that do not contain VIN information; therefore there is no way to confirm that these vehicles are part of the subject vehicle population. As well, there is no way to confirm if there are any related customer complaints in the DCC system.

Also, there are three NHTSA VOQ's that refer to heated seats becoming uncomfortably hot / overheating that do not mention any alleged damage to the seat trim covers, therefore, it is impossible to tell if these refer to the alleged condition or if they related to a customer perception/comfort issue.

Two of the 24 total NHTSA VOQ's have an additional VOQ that references the same vehicle identification number. Ten of the NHTSA VOQ's have related customer complaints in the DCC system.

The 221 other (non-VOQ) customer complaints contain 193 unique vehicles.

There are no fleet reports related to the alleged condition in the subject vehicles.

- b. There are 17 field reports that contain 17 unique vehicles. Two of these vehicles also have related customer complaints.
- c. Of the 221 customer complaints received by DCC, 26 of those reports allege minor injuries. No reports indicate that any treatment was sought for any of these reported injuries. DCC has taken a very conservative approach in reporting these alleged injury numbers. Any mention or form of the word

"bum" was included in this count. Based upon the follow-up interviews, lack of treatment sought, and the customer narratives, the majority of the reports classified as "alleged injury" for this response are referring to only a burning feeling or sensation.

Of the 221 customer complaints received by DCC, 33 of those reports allege a "fire" or "open flame". Due to the short duration of these alleged events, the self-extinguishing materials used in the construction of the subject components, and the fact that there is no evidence of any vehicle fire, it is impossible to verify if there were actual flames.

- d. Of the 221 customer complaints received by DCC, 31 of those reports allege potential property damage. Property damage for the purpose of this response is defined as any non-vehicle component (clothing, briefcase, etc.) that was allegedly damaged during the reported incident.
- e. There is one third-party arbitration proceeding involving DCC that is responsive to this inquiry.
- f. There are 30 claims against DCC, or notices received by DCC, that are responsive to this inquiry. Each of these claims has a corresponding customer complaint. There are 5 lawsuits, pending or closed, involving DCC that are responsive to this inquiry.

It should be noted here that there is one unique customer complaint (CAIR #11998979) that depicts a larger area of seat cushion damage than is seen in any of the other customer complaints or field reports. This customer complaint also had a corresponding legal claim. This legal claim has been declined by DCC and subsequently closed. The information available would seem to indicate that an external source or some source other than the seat heater created the incident depicted in the complaint photos. However, without the ability to definitively conclude this, DCC is including this customer complaint in this submission and all of the relevant report counts. However, DCC does not believe that this incident is indicative of the alleged condition.

Other than the legal claim cited above, DCC is aware that some customers responded to the indications of overheating. However, DCC is unaware of any report where this additional action was required because the seat materials are certified to comply with the self extinguishing requirements of FMVSS 302. The majority of the complaints also indicate that the vehicle occupants had adequate warning of a potential malfunction either through the feeling of unusual heat or

odor. The heated seat switching mechanism is not affected by the alleged condition; therefore, these remain fully functional which allow the vehicle occupants to turn the seat heater(s) off. Secondary to this ability to disrupt power to the seat heater, the seat heater elements separate should excessive current draw take place. This circuit disruption also, in effect, turns the heater off. In all instances, the heated seat circuit requires that the vehicle ignition be placed in the "ON" position.

- Q3. 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 fire is alleged;**
 - j. Whether property damage is alleged;**
 - k. Number of alleged injuries, if any;**
 - l. Number of alleged fatalities, if any.**
- 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 in Enclosure 2 as a Microsoft Access 2000 table, titled "REQUEST NUMBER TWO DATA."**
- Q4. 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 No. 2.c & 2.d are provided in Enclosure 3 – COMPLAINTS AND FIELD REPORTS, on the enclosed CD-ROM.**

Q5. 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.**

A5. There are eight labor operations applicable to this inquiry that apply to heated seat covers and seat cushions for heated seats. The total numbers of claims for the 1999MY and 2000MY NS vehicles are shown in the chart below:

[REDACTED]			
NS	1604	1127	2731

This total number of warranty claims can then be broken down by failure codes in order to make some estimates about the number of warranty claims potentially related to the alleged overheating incidences. It should be noted that there will be more Failure Code counts than unique claims as there exists the possibility that some of the unique Warranty Claims in the chart above have more than one

Labor Operation assigned to them (e.g., if a seat cushion and seat back were replaced on one Warranty Claim, there would be two LOP counts). The failure code breakdown for the above warranty claims is shown in the chart below:

LOP	Failure Codes														
	6	11	14	18	27	48	51	54	58	69	X2	6X	R8	R9	UC
23-20-31-06	0	0	21	51	8	12	4	0	20	9	18	0	2	1	8
23-20-31-07	0	0	29	82	6	19	0	0	19	6	31	0	5	0	5
23-20-32-06	0	4	11	24	9	6	1	0	22	2	1	1	0	0	4
23-20-32-07	0	18	21	44	15	16	3	0	25	3	1	0	0	0	13
23-20-38-06	0	3	23	148	11	81	0	2	87	12	37	2	9	0	30
23-20-38-07	2	6	42	282	23	122	0	8	144	7	43	6	9	0	41
23-20-40-06	0	0	3	140	25	81	1	0	56	14	51	0	11	0	16
23-20-40-07	0	0	13	253	28	97	0	3	110	24	82	0	11	0	30
Totals	2	31	163	1024	125	414	9	13	483	77	264	9	47	1	147

It should be noted that a multitude of conditions not related to this inquiry (dirt, abuse, trim wear, etc.) often result in replacement of the various subject components. DCC believes that, of the above failure codes, 14-Burned or Burned Out, 27-Damaged, and UC-Uncodeable, are the most likely to contain claims related to the alleged overheating condition. These failure codes are also certain to contain other conditions beside the overheating condition. General seat heater malfunctions that result in a non-operational system will also fall within these categories, as will customer complaints regarding the temperature levels of the heated seats (too hot, too cold, not fast enough heat up, etc.)

DCC has found that the failure codes 18-Circuit Open and 48-Grounded/Shorted, although electrical in nature, most often include seat heaters that are not providing heat or general electrical diagnostic tests that are performed on the seats.

The overall, vast majority of the warranty claims under these labor operations deals with cushion foam and trim cover durability/appearance.

The detailed response that lists the warranty claims, as requested in Items a. through k. is provided in Enclosure 4 as a Microsoft Access 2000 table, titled "WARRANTY DATA".

Q6. 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 to Request No. 5 can be found in the chart below:

Cover, Front Seat Back, Bucket Seat Heated, Left - Replace	23-20-31-07
Cover, Front Seat Back, Bucket Seat Heated, Right - Replace	23-20-31-06
Back, Front Seat, Bucket Seat Heated, Left - Replace	23-20-32-07
Back, Front Seat, Bucket Seat Heated, Right - Replace	23-20-32-06
Cushion Assy, Front Seat, Bucket Seat Heated, Left - Replace	23-20-36-07
Cushion Assy, Front Seat, Bucket Seat Heated, Right - Replace	23-20-36-06
Cover, Front Seat Cushion, Bucket Seat Heated, Left - Replace	23-20-40-07
Cover, Front Seat Cushion, Bucket Seat Heated, Right - Replace	23-20-40-06

Problem codes for the above reference labor operations are provided below.

11	Broken or cracked	
14	Burned or Burned Out	
18	Circuit Open	
27	Damaged	
48	Grounded or Shorted	
51	Improperly Installed	
54	Improperly Assembled	
58	Internal Defect	
69	Discolored	
R8	Wrinkled	
R9	Soiled	
X2	Split, Cut, Torn	
6X	Weak	
UC	Uncodeable	
UR	Containment Repair	
NC	Non-Causal	

The standard warranty offered on all NS-model vehicles for the 1999-2000 MY's was 36 month / 36,000 miles. There were no extended warranty coverage options related specifically to the subject components. 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.

- Q7. 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.**

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- A7. There have been no DCC documents issued to any dealers, regional or zone offices, field offices, fleet purchasers, or other entities that are responsive to this inquiry.
- Q8. 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, DaimlerChrysler. 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.
- A8. a-f. DCC has previously provided copies of documents reflecting studies, surveys, briefings, and investigations pertaining to the alleged overheating of heated seats in the subject vehicles as Enclosure 8 in DCC's response to NHTSA ODI PE00-034. These documents were provided as a confidential submission to the NHTSA Office of Chief Counsel on December 21, 2000.

To date there have been no heated seat assemblies or components returned to DCC, from the subject vehicles, that have exhibited any type of overheating condition. DCC is actively attempting to acquire parts from the field that exhibit the alleged condition for analysis. An internal survey has been conducted of employee-owned vehicles to attempt to locate parts for analysis. There were four respondents that had the applicable components; however, none of these vehicles were exhibiting any abnormal conditions with the heated seats.

The following activities have taken place since the receipt of this query:

- Analysis of the customer complaint data has not indicated any correlation to month-in-service, mileage, vehicle build date, or geographic location. Analysis of the available photographic evidence

provided with the customer complaints has not demonstrated a consistent location or problem area within the seat assembly.

- A non-specified test evaluation was run in order to demonstrate the self-extinguishing characteristics of a seat trim cover assembly from the subject vehicles. An electric soldering iron, heated to over 900 degrees Fahrenheit, was applied to the underside of a heated seat trim cover assembly. It was allowed to burn through to the outer surface of the leather cover to reproduce the condition of the seat components as shown in the photographs submitted with the complaint data. A video of this evaluation is provided as Enclosure 5, and shows that the materials used in the seat construction do not support combustion.

Q9. Describe all modifications or changes made by, or on behalf of, DaimlerChrysler 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 models. 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 numbers (service and engineering) of the original component;
- e. The part number (service and engineering) of the modified component;
- f. Whether the original unmodified component was withdrawn from production and/or sale, and if so, when;
- g. When the modified component was made available as a service component; and
- h. Whether the modified component can be interchanged with earlier production components.

A9. DCC has previously provided a chart detailing all modifications or changes made by or on behalf of DCC in the manufacture, design, or material composition of components of the electric seat heater system as Enclosure 8 in DCC's response to NHTSA ODI PE00-034. Although the previous response addressed 1999MY NS vehicles only, there have been no additional modifications or changes made to the electric seat heater systems in the subject vehicles.

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Q10. List all DaimlerChrysler models that have the same or similar seat heater designs as the subject vehicle.

A10. A summary of the heated seat systems provided in all DCC vehicle lines from the 1996MY until present (2005MY) has been provided as Enclosure 6. This summary provides a basic description of the heated seat design configurations and what model years these systems were provided.

There are five main features of the seat heater systems:

- a. Heat element type/material
- b. Attachment method of heat element to cushion or trim cover
- c. Coverage areas within the seat
- d. Controller type
- e. Switch type

Each of these five design features has two or more industry-standard options. Although the technology for the individual heated seat system components is similar for heated seats industry-wide, different combinations of these features create unique systems. Also, even if the same feature configuration is selected, there are still seat assembly differences that affect the design of the seat heater. Cushion geometries, foam densities, trim cover sew patterns, heater grid geometries, and other design characteristics are unique from one seat design to the next and therefore no two seat heater systems are identical from vehicle to vehicle.

The enclosed matrix summarizes these system similarities and differences for all DCC heated seats that have been produced. DCC believes that the information provided in this matrix sufficiently satisfies this request.

Q11. Furnish DaimlerChrysler's assessment of the alleged defect in the subject vehicle, including:

- a. The causal or contributory factor(s);
- b. The failure mechanism(s);
- c. The failure mode(s);
- d. The differences risk to motor vehicle safety that it poses;
- e. What warnings, if any, the operator and the other persons both inside and outside the vehicle would have that the alleged defect was occurring or subject component was malfunctioning; and
- f. The reports included with this inquiry.

- A11. Based upon the photographic evidence reviewed with the customer complaints and the lack of additional properties for analysis, DCC continues to attribute the alleged overheating of heated seats to the two factors detailed in the response to NHTSA ODI PE00-034, dated December 6, 2000:

The first factor is the stitching of the heated seat backs and cushions potentially damaging the heater grid element. The sewing needle may sever some strands of the multi-wire heating element resulting in localized high resistance points.

The second factor is the potential localized high resistance at a solder joint or wire harness connector due to improper processing or long term overstressing.

In regard to the potential risk to motor vehicle safety, it is DCC's observation that none of these reports have resulted in an accident or vehicle fire because of the heated seat design, construction, or performance. There has not been any indication that these heated seats increase the risk of death or significant injury in an accident, or in a non-operational vehicle state.

- The alleged overheating conditions are very localized, contained in area, and have multiple safeguards insuring the ability to self-extinguish. The materials used for all of the components in the heated seats meet FMVSS 302 requirements. As well, the nature of the heating grid element allows separation which disrupts the circuit and eliminates further current flow or heat build-up.
- DCC heated seat systems do not have direct access to battery current and do require an ignition "ON" condition in order to be able to receive electrical current. This greatly reduces the probability of an unoccupied vehicle exhibiting this condition.
- In every case of an occupied vehicle, the vehicle occupants had warning or indication that an overheating event was taking place. The overheating can be felt by the occupant, as well as in the more severe alleged conditions, there is a visual indicator that the seat cover is discoloring or the smell of overheated materials can be detected.
- The alleged condition does not affect the switch for the heated seat system which allows the vehicle occupant to turn the heater system off once a potential condition has been identified.

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DCC believes that the heated seat overheating events in the subject vehicles are random events that may require the combined conditions of the cushion sewing operation having partially damaged heating element grids coupled with customer usage and stresses placed upon the heating grid elements.

DCC believes the alleged condition poses no unreasonable risk to motor vehicle safety. However, DCC is continuing to investigate this customer satisfaction issue.