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OFFICE OF DEFECTS
INVESTIGATION

DaimlerChrysler Corporation

Stephan J. Speth

Director

Vehicle Compliance & Safety Affairs

May 7, 2004

Mr. Jeffrey L. Quandt, Chief
Vehicle Control Division
Office of Defects Investigation
National Highway Traffic Safety Administration
U.S. Department of Transportation
400 Seventh Street, SW
Washington, D.C. 20590

Dear Mr. Quandt:

Reference: NVS-213cat; PED4-028

This document contains DaimlerChrysler Corporation's ("DCC") response to the referenced inquiry regarding 2002 model year PT Cruiser Vehicles. By providing the information contained herein, DCC is not waiving its claim to attorney work product and attorney-client privileged communications.

Based on preliminary evaluation and investigation, DCC has determined that the most likely source contributing to the reports included with this inquiry is related to routing of the high pressure power steering hose on certain powertrain combinations of the subject vehicles.

DCC will continue to investigate this alleged issue and provide updates as they become available.

Sincerely,



Stephan J. Speth

Attachment and Enclosures

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Q1. State, by model year, the number of MY 2001-2003 PT Cruiser vehicles DaimlerChrysler has manufactured for sale or lease in the United States. Separately, for MY 2001-2003 PT Cruiser vehicles manufactured to date by DaimlerChrysler, state the following:

- a. Vehicle Identification number (VIN);**
- b. Model Year;**
- c. Date of manufacture;**
- d. Date warranty coverage commenced; and**
- e. 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." See Enclosure 1, Data Collection Disc, for a pre-formatted table which provides further details regarding this submission.

A1. The chart below lists the production volumes for 2001-2003 model year PT Cruiser vehicles manufactured for sale or lease in the United States for all powertrain and transmission combinations.

Vehicle Volumes	176,677	189,490	117,663	463,830

The detailed response that lists the United States market production data as requested in Items a. through e. is provided in Enclosure 1 as a Microsoft Access 2000 table, titled "PRODUCTION DATA."

Q2. State the number, by model year, 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 MY 2001-2003 PT Cruiser 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**

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- possible defect in a MY 2001-2003 PT Cruiser 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 MY 2001-2003 PT Cruiser vehicle, property damage claims, consumer complaints, or field reports;
 - e. Property damage claims; and
 - f. Third-party arbitration proceedings where DaimlerChrysler is or was a party to the arbitration; and
 - g. Lawsuits, both pending and closed, in which DaimlerChrysler is or was a defendant or codefendant.

For subparts "a" through "e," state the total number of each item, by model year, (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 DaimlerChrysler's assessment of the problem, with a summary of the significant underlying facts and evidence. For item f and g, 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. 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 records kept in the ordinary course of business for such information.

Based on preliminary evaluation and investigation, DCC has determined that in rare instances, the routing of the high pressure power steering hose on certain powertrain combinations of the subject vehicles (2.4L naturally aspirated gasoline engine with automatic transaxle) may contribute to a possible under hood fire. In order for such an under hood fire to occur, however, the following conditions must be concurrently present:

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- A power steering fluid leak under high pressure in a specific air/fluid proportional mix.
- The path of fluid from a high pressure leak must specifically occur in a location that will allow the fluid to contact the exhaust manifold or catalyst surfaces during a state of elevated temperature.
- Unique air flow characteristics in proximity to the heat source.

In the absence of any of the above factors, a vehicle fire related to the alleged condition will not occur.

DCC's investigation into the cause and origin of the reported engine fires is still ongoing. If other potential sources of fire are discovered, or other vehicle build combinations or components are implicated, the scope of DCC's investigation will be expanded.

- a. There are a total of 218 customer complaints, which include seven NHTSA reports (VOQ's) that may relate to the alleged condition. Of the 218, a total of 118 relate to power steering leaks and 100 suggest a vehicle fire. The 100 customer complaints alleging vehicle fire, which will include all multiple complaints for the same vehicle and incident, are summarized in the chart below.

There is one NHTSA VOQ (ODI No. 10039792) that does not contain VIN information; therefore, DCC cannot confirm that this vehicle is part of the subject vehicle population and is not included in the response. Also, DCC cannot confirm if there are any related customer complaints to this VOQ in the DCC system.

DCC's inspection revealed that a second NHTSA VOQ (ODI No. 10010405) was not responsive to this inquiry based on evidence of prior vehicle damage unrelated to the alleged condition.

Seven of the NHTSA VOQ's have related customer complaints in the DCC system.

The 279 total customer complaints, field reports, claims, lawsuits and VOQ's all stem from 222 unique vehicles/incidents.

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

- b. There are 12 field reports that contain 12 unique vehicles. All 12 of these vehicles exhibited a power steering hose leak condition but no fire.
- c. One claim alleges minor injuries indicating and one lawsuit alleges minor injuries. At this time DCC has no reports that any treatment was sought for any of these

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reported injuries. Of the 40 legal claims and two lawsuits, none involve death or a crash.

- d. See c.
- e. Of the 218 customer complaints received by DCC, three allege potential property damage. Property damage for the purpose of this response is defined as any non-vehicle component that was allegedly damaged during the reported incident.
- f. There are no third-party arbitration proceedings involving DCC responsive to this inquiry.
- g. There are two lawsuits involving DCC that are responsive to this inquiry.

Subject Vehicle Population: 463,830

Fires				
Fire Originated In Engine Compartment-Cause likely to be Power Steering Line related.	12		4/1	
Fire Originated In Engine Compartment-Investigation determined Right Rear Origin.	15		7/0	
Fire Originated In Engine Compartment-Cause unknown.	44		24/0	2
Fire Origination unknown due to extensive damage or lack of information.	13		4/0	5
Fire originated In Engine Compartment-Cause related to poor aftermarket equipment installations.	2			
Fire originated in Engine Compartment-Cause related to Incompletion of Recall B16.	5			
Fire originated In Engine Compartment-Cause likely due to various random and isolated issues.	8		1/1	
Fire originated In Engine Compartment-Cause attributed to improper vehicle service repair.	1			
Leaks				
Hose Leaks	23	2		
Steering Gear Leaks	28	7		
Power Steering Leaks-No Origin	47	1		

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Other	20	2		
Sub-Total	218 ^C	12 ^C	40/2 ^{C,D}	7 ^C
Insufficient information available/not related				2 ^{A,B}

- A) 1 VOQ was identified as not responsive to this inquiry; therefore, DCC has excluded it from the total count (ODI No. 10010405).
- B) 1 VOQ does not reference a VIN and DCC was unable to obtain any further information; therefore, DCC excluded this VOQ (ODI No. 10039792).
- C) Many of the legal claims and customer complaints overlap. This artificially increases the "totals". The total number of unique VINs responsive to this inquiry is 222, of which 129 do not allege vehicle fire.
- D) For the purposes of this question, DCC has have been overly inclusive in labeling certain incidents as "claims." These may not meet the strict definition of a "claim" under Part 579.4. Please note that DCC is only including background information (e.g., claim letter, police reports, etc.) for incidences confirmed to be related to the alleged defect. For each lawsuit or claim, a summary will be provided and, if available, non-privileged photographs. A summary of these lawsuits and claims is provided in Enclosure 3.

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 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 property damage is alleged;
- l. Number of alleged injuries, if any; and
- m. Number of alleged fatalities, if any.

Provide this information in Microsoft Access 2000, or a compatible format, entitled "REQUEST NUMBER TWO DATA." See Enclosure 1, Data Collection

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Disc, for a preformatted table which provides further details regarding this submission.

- A3. The detailed response that lists the customer complaints and field reports, from Question 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 and model year (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 Question No. 2 are provided in Enclosure 3 – CUSTOMER COMPLAINTS, FIELD REPORTS, LEGAL CLAIMS (FIRE) and LAWSUITS. Customer Complaints have been provided on a separate CD entitled Customer Complaints.**
- Q5. State, by 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 MY 2001-2003 PT Cruiser 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);**

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- 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." See Enclosure 1, Data Collection Disc, for a pre-formatted table which provides further details regarding this submission.

- A5. There are three applicable labor operation codes that apply to the power steering hose. The claims by vehicle count for the 2001-2003 model year PT Cruiser vehicles are shown in the chart below:

PT	1038	984	331	2353

This total number of warranty claims can be broken down by failure codes in order to make estimates about the number of warranty claims potentially related to the alleged engine fire incidences. The failure code breakdown for the above warranty claims is shown in the chart below:

19-50-10-00	0	50	24	0	0	454	3	3	1	53	457	6	81	1112
19-50-10-11	6	37	44	361	5	410	0	0	0	2	42	0	106	1013
19-50-10-38	2	17	36	103	0	0	1	1	0	7	45	0	92	304
Totals	8	104	104	464	5	864	4	4	1	62	544	6	259	2429

It should be noted that a multitude of conditions not related to this inquiry often result in replacement of the various subject components. DCC believes that, of the above failure codes, 71 - Oil Leak and 62 - Line or Fitting Leak are the most likely to contain claims related to the power steering pressure line leak condition. These failure codes are also certain to contain other conditions beside the leak condition. General power steering line issues that result in a non-operational system will also fall within these categories.

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. 6, including the labor operations,

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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 MY 2001-2003 PT Cruiser vehicles. State, by model year, the terms of the new vehicle warranty coverage offered by DaimlerChrysler on MY 2001-2003 PT Cruiser 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 MY 2001-2003 PT Cruiser vehicles and state by option 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 Question No. 5 can be found in the chart below:

Hose, Pump Pressure-Repair	19-50-10-00
Hose, Pump Pressure-Replace-All engines	19-50-10-11
Hose, Pump Pressure-Replace-2.4 liter engines	19-50-10-38

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

08	Bent
08	Blocked
11	Broken or Cracked
62	Line or Fitting Leak
68	Noisy
71	Oil Leak
UC	Uncodeable
X2	Split, Cut or Torn
FA, FC, FD, FG, UR	Erroneous (no description available)

The standard warranty offered on all PT Cruiser vehicles for the 2001-2003 model years 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.

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Q7. Produce copies of all service, warranty, and other documents that relate to, or may relate to, the alleged defect in the MY 2001-2003 PT Cruiser 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.

7. Three Technical Service Bulletins that may be responsive to this inquiry are included in Enclosure 5.

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 MY 2001-2003 PT Cruiser 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.**

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. DCC has received a limited number of high pressure power steering hoses from subject vehicles in the field that exhibit some degree of damage thought to be due to variation in routing of this hose. DCC plans to continue acquiring parts from the field that exhibit the alleged condition for analysis.

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

- Analysis of the customer complaint data has not indicated any correlation to month-in-service, mileage and vehicle build date. Photographic evidence provided with customer complaint data has demonstrated a consistent geographic location at the right rear of the engine compartment for the origination of fire. Further report detail and analysis suggest that the cause of some number of the fires was due to the conditions stated above in Question No. 2. The complaint data also established that the vehicle fires were limited to the 2.4L naturally aspirated gasoline engines with automatic transaxes.
- An internal survey has been conducted of employee lease and owned vehicles to attempt to review and locate parts for analysis. There were 50 vehicles reviewed that had the applicable vehicle combination of the 2.4L naturally aspirated gasoline engine with automatic transaxle. The power steering pressure line was found to be in contact with the transaxle differential cover in some instances. A total of 10 out of 50 vehicles exhibited a wear mark in the hose cover. The results from the survey and a sample of photographs are included in Enclosure 6.
- A subject vehicle that exhibited a minimal clearance condition between the power steering hose and the transaxle differential cover was evaluated for relevant movement of the hose. The vehicle was started and the throttle was applied. During this exercise it was observed that the edge of the transaxle differential cover and hose moved closer together and made slight contact. A video of this evaluation is included in Enclosure 7.

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 any component, from the start of production to date, which relate to, or may relate to, the alleged defect in MY 2001-2003 PT Cruiser 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 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

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h. Whether the modified component can be interchanged with earlier production components.

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

A9. 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 power steering line assembly as requested in Items a. through h. is provided in Enclosure 8.

Q10. Provide one sample of each of the following:

- a. Field return components exhibiting any failure mode related to the alleged defect in the subject vehicles;**
- b. An assembled exemplar sample of each design version of the MY 2002 PT Cruiser Power Steering Fluid system (Power Steering Fluid Reservoir, Power Steering Fluid Pump, Supply Hose, Return Hose, Heat Shield, and any retaining tabs or clamps).**
- c. Any kits that have been released, or developed, by DaimlerChrysler for use in service repairs to any component/assembly which relate, or may relate, to the alleged defect in MY 2001-2003 PT Cruiser vehicles.**

A10. a. Two 2002 model year PT Cruiser power steering hose assemblies have been provided. One of the assemblies had 21,286 miles and the other 10,705 miles. While neither hose was leaking, each hose exhibited a witness mark demonstrating contact to the transaxle differential cover.

- b. An exemplar sample of the 2002 model year PT power steering fluid system has been provided. Note that the sample parts provided are currently available service parts for the 2002 model year PT vehicle. The part numbers provided can be found in the chart below:**

Power steering pressure hose-2.4L NA (naturally aspirated)	04658421AF	04658421AF

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Supply Hose	05272867AD	05272867AD
Cooling Module/Return Hose-2.0L & 2.4L NA	05272867AD	05272354AG
Pump-2.0l & 2.4L NA	04656402AD	04656402AE
Reservoir & Bracket	05272351AA	05272351AA

Graphics of the 2002 model year PT power steering fluid system have been provided for reference and are located in Enclosure 9.

- c. There have been no kits released, or developed, by DCC for use in service repairs to any component/assembly which relate, or may relate, to the alleged defect for the power steering line assembly for 2001-2003 model year PT Cruiser vehicles.

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 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 that an engine compartment component related to the alleged defect in the subject vehicle was malfunctioning; and
- f. The reports included with this inquiry.

A11. Based on preliminary evaluation and investigation, DCC has determined that in rare instances, the routing of the high pressure power steering hose on certain powertrain combinations of the subject vehicles (2.4L naturally aspirated gasoline engine with automatic transaxle) may contribute to a possible under hood fire if the simultaneous conditions occur as discussed in Question No. 2.

Because of the unique manner in which an under hood fire develops and gradually progresses in the affected vehicles, it is not likely that the condition would result in death, injury, or vehicle crash.

DCC will continue to investigate this alleged issue and provide updates as they become available.