

DAIMLERCHRYSLER

February 4, 2003

DaimlerChrysler Corporation

Stephan J. Speth

Director
Vehicle Compliance & Safety Affairs

Mr. Kenneth N. Weinstein
Associate Administrator, Safety Assurance
National Highway Traffic Safety Administration
400 Seventh Street, S.W.
Washington, D.C. 20590

33V-035①of④

Dear Mr. Weinstein:

Attached is DaimlerChrysler Corporation's Defect Information Report, complying with the requirements of 49 CFR Part 573, Defect and Noncompliance Reports, which contains details of a potential safety related defect in 1998 – 2002 model year Dodge Intrepid, Chrysler Concorde, 300M, and LHS vehicles. The driver's seat recliner bolts may break and result in the seat back reclining unexpectedly. DaimlerChrysler Corporation will conduct a voluntary safety recall to install a new seat recliner bolt and nut assemblies.

Sincerely,


Stephen J. Speth

Enclosures: Defect Information Report for DaimlerChrysler Corporation Recall #

RECEIVED
2003 FEB - 5 11:34 AM
OFFICE OF VEHICLE SAFETY INVESTIGATIONS

cc: K. C. DeMeter, NHTSA
Division of Occupational Safety & Health
California Department of Industrial Relations

DEFECT INFORMATION REPORT FOR DAIMLERCHRYSLER RECALL # C04

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Submission date: February 4, 2003

03V-035 ② or ④

Identifying classification of vehicles potentially affected:

Make	Model	Model Year	Inclusive Dates of Manufacture	Vehicle Volume
Dodge	Intrepid Concorde 300M	1998-2002	9/1/1997- 4/27/2002	1,066,000
Chrysler				

Estimated percentage containing defect: Unknown

Description of defect:

A potential loss of torque combined with unfavorable bending loads may cause the driver seat recliner bolts to experience fatigue and break. Recliner bolt breakage may result in the seat back reclining unexpectedly.

The name, address and telephone number of the supplier who manufactured the subject components:

Johnson Controls, Inc.
49200 Halyard Drive
Plymouth, MI 48170
(734) 254-5101

The following chronology of principal events occurred between July 2001 and January 2003 and led to the determination of a defect:

- An internal field report identified a 2000 model year Chrysler Concorde fleet vehicle where the recliner bolts fractured and the driver's seatback reclined suddenly.
- It was established that two recliner bolts, one on each side of the seat, link the recliner mechanism to the seat back frame.
- It was determined the same driver's seat structure was used on 1998-2002 model year Dodge Intrepid, Chrysler Concorde and 300M, and 1998 - 2001 model year LHS vehicles. Throughout the remaining chronology this vehicle group will be referred to as LH.
- A part return program was implemented to obtain bolt samples. A material analysis was conducted on several fractured recliner bolts. The analysis indicated that the fracture was fatigue related and was not due to any metallurgical inconsistencies in the bolt material.
- A review of product validation test data showed that the seat assemblies had passed all required durability testing without issue.

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- A survey of residual torque on the M6 bolt was conducted on employee owned vehicles with power and manual seats. Of twenty-six driver seats surveyed, ten bolts were identified with no residual torque.
- A torque study was conducted and indicated that an increase in installation torque was feasible. As a precautionary measure, the supplier increased installation torque, implemented a residual torque inspection, began a gauging operation of exposed thread length, and changed the location of flock washer installation. Cycle testing of seat assemblies was conducted to quantify the expected durability improvement related to these changes, but the test results were inconclusive.
- Seat assembly cycle testing was conducted on test samples with no residual torque at the seat recliner bolts. Test results were found to be inconclusive – many of the samples showed no signs of bolt degradation after double the required test cycles. In an effort to confirm test loading conditions, a recliner paddle was instrumented to record load on the bolt under several static and dynamic load conditions. This study confirmed that test loading conditions exceeded the loads measured in this study.
- Analysis of returned bolts continued. Based on wear patterns on the recliner bolt, it was determined that the recliner paddle could migrate (along the bolt's shoulder) from the seat back frame toward the bolt head. It was established that the migration would change the loading of the bolt from shear to bending.
- Employee owned vehicles were surveyed in an effort to better understand the existence of paddle migration. Although some degree of paddle migration was identified on most of the surveyed vehicles, it could not be closely correlated to mileage, build date, usage, or seat track type.
- A free body diagram of the joint was developed and indicated that an M8 shoulder bolt had a significantly greater resistance to bending loads than an M6 shoulder bolt in this application. A bench test was developed to physically validate this fact. As a product improvement, an M8 shoulder bolt was released for production.
- A summary of all known field reports indicated that power driver's seats built prior to January 2000 had a significantly higher incident rate than other LH seats.
- A review of the LH seat design change history identified that in January 2000, changes were made to the power seat structure and recliner drive mechanism to address high recliner warranty. These changes were made to prevent recliner driveshaft disengagement, which could allow the seat tracks to become misaligned. It was also determined that the power passenger seat has a unique geometry from the power driver seat and was therefore less susceptible to misalignment.
- Fifteen vehicles with power seats were inspected for track misalignment. Of the fifteen vehicles reviewed, one driver seat was misaligned.
- A study of misaligned tracks was conducted to determine the amount of loading on the bolt in a seat with and without misaligned tracks. It was determined that misalignment of the tracks significantly increased the bending moment at the recliner bolt.
- Changes implemented on the seat tracks and recliner driveshaft prevented recliner driveshaft disengagement on power seats built after January 2000. Due to the

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relatively low age of the vehicle population and limited field input, it was difficult to establish data trends for manual seats and power seats built after January 2000. However, field reports of fractured recliner bolts on these vehicles have occurred.

- A study comparing incident rate on LH vehicles to incident rate on other Chrysler Group vehicles was conducted and established that 1998-2002 LH vehicles had a higher incident rate than other Chrysler Group vehicles for all driver's seat design levels.
- Additional testing was conducted combining both a condition of no residual torque at the recliner bolt joint and an induced bending condition simulating either paddle migration or misaligned tracks.
- It was established that torque loss, combined with unfavorable bending loads due to either paddle migration or seat track misalignment, is the primary cause of bolt fatigue.
- There have been a total of 421 known reports of broken recliner bolts on 1998-2002 LH vehicles. Two reports allege accidents and there are four alleged injuries. Virtually all reports (99.5%) are for driver-seats.
- This data was presented to the Vehicle Regulations Committee who decided to conduct a safety recall to repair affected vehicles.

Statement of measures to be taken to correct defect:

DaimlerChrysler Corporation will replace the recliner bolts in the affected seats with a new M6 shoulder bolt and nut. For vehicles with the power driver seat built between 1998 MY launch and January 2000, recliner tracks will be realigned and a longer recliner driveshaft will be installed to prevent disengagement. DaimlerChrysler expects to initiate national notification to both dealers and owners when a sufficient quantity of parts becomes available. DaimlerChrysler's scheduling information from implementing this recall is not available at this time.

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