

DAIMLERCHRYSLER

September 8, 2005

Ms. Kathleen C. DeMeter
Acting Associate Administrator, Safety Assurance
National Highway Traffic Safety Administration
400 Seventh Street, S.W.
Washington, D.C. 20590

05V-396
(4 pages)

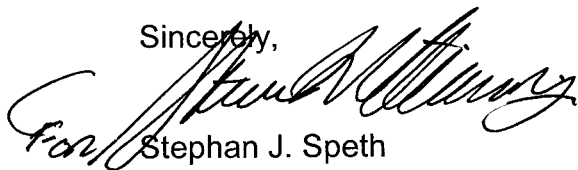
DaimlerChrysler Corporation
Stephan J. Speth
Director
Vehicle Compliance & Safety Affairs

Dear Ms. DeMeter:

Attached is DaimlerChrysler Corporation's (DCC'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 some 2005 model year Jeep Grand Cherokee vehicles equipped with 3.7L engines and automatic transmissions. On a small number of vehicles, condensate water from the air conditioner evaporator drain tube may enter the transmission at the fill tube grommet seal. This can result in shudder during torque converter clutch engagement. If ignored by the operator, this can lead to increased transmission operating temperatures, boiling of the water, and a subsequent purging of transmission fluid into the engine compartment. This could potentially result in an underhood fire. Nearly all of the reported fires related to this condition have come from fleet customers. There have been no reports of vehicle crash or injury associated with this condition.

DCC will conduct a voluntary safety recall to inspect the transmission for leakage at the fill tube grommet seal. If no leak is detected, a new fill tube grommet seal and water deflector shield will be installed, and proper alignment of the fill tube verified. If the presence of a leak is detected, the vehicle will be evaluated for shudder during torque converter clutch engagement. If no shudder is detected, the transmission will be triple flushed, a new fill tube grommet seal and water deflector shield will be installed and proper alignment of the fill tube verified. If shudder is detected, the torque converter will be replaced, a new fill tube grommet seal and water deflector shield will be installed, and proper alignment of the fill tube verified.

Sincerely,



Stephan J. Speth

Enclosures: Defect Information Report for DaimlerChrysler Corporation Recall E13

cc: Division of Occupational Safety & Health
California Department of Industrial Relations

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Submission date: September 8, 2005

Identifying classification of vehicles potentially affected:

Make	Model	Model Year	Inclusive Dates of Manufacture	Vehicle Volume	Other
Jeep	Grand Cherokee	2005	05/01/2004 - 6/02/2005	101,925 (estimated)	With 3.7L Engine and NAG1 Automatic Transmission Only

Estimated percentage containing defect: < 5%

Description of defect:

Air conditioner evaporator condensate water may enter the transmission at the fill tube grommet seal. This can result in shudder during torque converter clutch engagement, which if ignored by the operator can lead to increased transmission operating temperatures, boiling of the water, and a subsequent purging of transmission fluid into the engine compartment, potentially resulting in an underhood fire.

The following chronology of principal events occurred between early May, 2005 and late August, 2005 and led to the determination of a defect:

- In early May, 2005, four reports were received from Dollar Rent a Car of 2005 model year 3.7L Jeep Grand Cherokee vehicle fires (two in HI, one in CA, and one in WA). In late May, the CA and WA vehicles, with relatively small amounts of fire damage at the right rear of the engine compartment, and were returned to DaimlerChrysler Corporation (DCC) for analysis.
- Analysis of the returned vehicles in early June showed the presence of approximately seven ounces (2.5%) of water in the automatic transmission fluid. At the time, neither the path nor the source of the water could be identified from these properties.
- The 2005 model year 3.7L Jeep Grand Cherokee uses the NAG1 automatic transmission equipped with a fill tube and dipstick combination for measuring transmission fluid level. It was determined that the Grand Cherokee is the only corporate vehicle using the NAG1 transmission that utilizes a dipstick in the fill tube, as all other applications are equipped with a threaded cap and seal.
- Testing was conducted during June to assess the potential consequence of water contamination of the NAG1 transmission fluid in the Grand Cherokee. During bench, as well as in-vehicle evaluation, DCC Engineering was able to create a fluid purge condition at the transmission dipstick with high transmission fluid temperatures (>210F) and water contamination levels (>2%).

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- It was established that the presence of water in the NAG1 transmission fluid can lead to torque converter clutch material delamination and increased transmission operating temperatures. Clutch material delamination will cause the vehicle to shudder noticeably. Engineering evaluation showed that the increased temperatures could result in boiling of the water, and a subsequent purging of the transmission fluid. On the Grand Cherokee application equipped with a dipstick, it was further established that if the fluid purges into the engine compartment through the dipstick opening it can contact the exhaust manifold, potentially resulting in a fire.
- Elemental analysis of the water present in the transmission fluid on the returned vehicles indicated minimal sodium content. Comparison to water samples from the high pressure wash cabinet at the Jefferson North Assembly Plant (JNAP) where the Grand Cherokee is assembled ruled this out as the source of the contamination.
- Significant effort occurred during June and July to isolate the path of water intrusion as well as the source. Testing and analysis revealed the path of water intrusion to be at the fill tube grommet seal to the transmission case.
- Investigation showed that changes had occurred to the fill tube early in the 2005 model year Grand Cherokee production to assist with vehicle assembly, and significant time was spent in July thoroughly investigating these changes to determine what effect, if any, they had on sealing. Alignment of the tube to the case, and effectiveness of the grommet seal at preventing water intrusion, was found to be sensitive to assembly process variation. Repositioning of the tube by loosening both attachment fasteners, then tightening in the proper sequence of the upper followed by the lower fastener, was validated by air pressure testing to properly seal the leak path. Other potential leak paths leading to water contamination were ruled out.
- Investigation revealed that the 3.7L Grand Cherokee air conditioning system evaporator condensate drain tube is located above the transmission fill tube seal. Engineering evaluation conducted during June showed that one hour at idle with A/C operation during humid ambient conditions can generate 30 oz of condensate. Elemental analysis on water samples taken from the A/C condensate tube showed the fluid to be a likely match with that found in the returned vehicles. Other sources of water were ruled out.
- On June 2, 2005, the application of additional seal material to the transmission fill tube grommet joint began at the JNAP for 3.7L NAG1 applications as a precautionary measure to eliminate the potential for water intrusion at the seal while the investigation continued.
- During the week of July 18, 2005, DCC Engineering visited the Dollar Rent a Car operations in Hawaii, site of the two original reported fires, to attempt to determine if there was anything specific to the rental vehicle processing that may have contributed to this condition. It was observed that the vehicles were regularly idled with the air conditioning system in operation to cool the vehicles in the humid ambient conditions prior to delivery to the customer, which would have contributed to evaporator condensate. No other specific vehicle processing issues were observed.
- It is suspected that transmission shudder due to water ingestion occurred on the 2005

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model year 3.7L Grand Cherokee rental vehicles, but was not reported to the rental agency by the drivers. This may have led to continued operation, damage to the clutch material, and the accumulation of additional water in the transmission fluid. Increased transmission fluid operating temperatures resulted, eventually culminating in the purging of fluid through the dipstick opening.

- Between August 2 and August 24, 2005, DCC surveyed 24 2005 MY 3.7L Grand Cherokee company lease vehicles built prior to June 2, 2005 for fill tube grommet seal leakage. Two of the vehicles exhibited leakage at the seal, with one of the two containing 0.49% water content in the transmission fluid.
- Since the initial four inputs, DCC has identified an additional ten 3.7L Grand Cherokee reports that may be related to this issue. Following the trend of the original reports, eight of the ten additional reports occurred on rental fleet vehicles.
- There are no known injuries or accidents associated with this issue.
- This data was presented on August 30, 2005 to the Vehicle Regulations Committee who decided to conduct a safety recall to repair the affected vehicles.

Statement of measures to be taken to correct defect:

DCC will inspect the transmission for leakage at the fill tube grommet seal. If no leak is detected, a new fill tube grommet seal and water deflector shield will be installed, and proper alignment of the fill tube verified. If the presence of a leak is detected, the vehicle will be evaluated for shudder during torque converter engagement. If no shudder is detected, the transmission will be triple flushed, a new fill tube grommet seal and water deflector will be installed and proper alignment of the fill tube verified. If shudder is detected, the torque converter will be replaced, a new fill tube grommet seal and water deflector will be installed, and proper alignment of the fill tube verified. Due to the very low existence of this issue in the field, the advanced warning it provides through normal driving of the vehicle and its overrepresentation in fleet applications, DCC has concluded that the three day dealer notification rule does not apply. DCC expects to notify dealers and owners in mid October, 2005.

DCC 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, DCC, 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.