



U.S. Department
of Transportation

**National Highway
Traffic Safety
Administration**

ODI RESUME

Investigation: EA07-003

Prompted By: PE06-045

Date Opened: 02/14/2007

Date Closed: 02/08/2008

Principal Investigator: Michael Lee

Subject: Side Curtain Airbag Failure

Manufacturer: DaimlerChrysler Corporation

Products: 2006-2007 Dodge Durango

Population: 52,063

Problem Description: The metal gas-distribution tube (or diffuser tube) in the side curtain airbag assembly may fracture during deployment and result in failure of the airbag to inflate properly.

FAILURE REPORT SUMMARY

	ODI	Manufacturer	Total
Complaints:	0	0	0
Crashes/Fires:	0	0	0
Injury Incidents:	0	0	0
# Injuries:	0	0	0
Fatality Incidents:	0	0	0
# Fatalities:	0	0	0
Other:	3	0	3

Description of Other: Failure of diffuser tubes during NHTSA's ejection mitigation research testing.

Action: This Engineering Analysis has been closed.

Engineer: Michael Lee MJL

Date: 02/08/2008

Div. Chief: Thomas Z. Cooper

Date: 02/08/2008

Office Dir.: Kathleen C. DeMeter

Date: 02/08/2008

Summary:

ODI's investigation identified no issues in the design, manufacturing process, or quality control process of the side curtain airbags used in the Dodge Durango vehicles. There have been no reported field incidents of side curtain airbag failures similar to the failures that occurred during the NHTSA research testing of the Durango airbags. Additional NHTSA testing conducted during this investigation resulted in no diffuser tube failures.

A safety-related defect has not been identified at this time and further use of agency resources does not appear to be warranted. Accordingly, this investigation is closed. The closing of this investigation does not constitute a finding by NHTSA that a safety-related defect does not exist. The agency will monitor this issue and reserves the right to take further action if warranted by the circumstances.

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Background (NHTSA Research Testing): In 2006, NHTSA began conducting an ejection mitigation research test program that included the Model Year (MY) 2006 Dodge Durango, among many other vehicle models equipped with rollover side curtain airbags. As part of the test procedure, the headliner in each test vehicle was removed prior to testing and the side curtain airbag was deployed statically. In three out of 35 Durango airbag tests, the metal diffuser tube fractured during deployment and the airbag failed to inflate properly. All three fractures occurred at one of the middle triangle-shaped vents on the diffuser tube that is mounted along the sides of the headliner from the A-pillar to D-pillar. In addition, the airbag fabric was ruptured by the broken end of the diffuser tube as it dropped downward when the high pressure gas was released. The 35 tested Durango airbags were new dealer service parts for use on MY 2006 Durango vehicles equipped with optional rollover side curtain airbags.

VRTC Defect Testing: In 2007, upon ODI's request, the Vehicle Research and Test Center (VRTC) collected and tested 22 side curtain airbag assemblies built from the same production batches or lots as the units tested by the NHTSA research program. These airbags were installed in the test vehicle exactly per Chrysler installation specifications and deployed statically with the headliner in the test vehicle. No diffuser tube failures occurred during deployment. Diffuser tube wall thicknesses were within Delphi (Chrysler's supplier of the subject airbags) specifications. X-ray examinations of the diffuser tubes revealed no cracks or other abnormalities.

Field Incident Data: ODI reviewed NHTSA's consumer complaints; Early Warning Reporting's death reports and field reports; National Accident Sampling System cases; and Special Crash Investigation cases. ODI found from these data sources no field incidents similar to the failures that occurred during the NHTSA research testing of the Durango side curtain airbags. ODI reviewed Chrysler's data and found no consumer complaints, field reports, lawsuits, legal claims, or any other evidence suggesting that the alleged airbag problem exists in the Durango vehicles in the field.

Delphi's Production Data: The side airbag curtain assemblies in the subject vehicles are supplied to Chrysler by Delphi. ODI's review of Delphi's production records revealed no manufacturing issues with the production lots of the Durango airbag assemblies tested during the NHTSA research program or with several other production lots of Durango airbag assemblies that were built before and after the subject production lots. The production records included hundreds of Lot Acceptance Tests (air bag deployment tests) that were conducted to verify that the production lots of airbag assemblies are good for use on the Durango vehicles. Also, the diffuser tubes were checked to verify that the material, diameter, and wall thickness meet the manufacturer's specifications.