



U.S. Department
of Transportation
**National Highway
Traffic Safety
Administration**

ODI RESUME

Investigation: EA08-009
 Prompted By: PE08-002
 Date Opened: 04/28/2008 Date Closed: 12/16/2009
 Principal Investigator: Chris Lash
 Subject: Brake line chafe

Manufacturer: Mercedes-Benz USA, LLC.
 Products: 1999 – 2002 Mercedes Benz ML 430/500/55 with V-8 engine
 Population: 49,291

Problem Description: The brake line from the master cylinder to the ABS pump may leak due to chafing with the fuel supply line.

FAILURE REPORT SUMMARY

| | ODI | Manufacturer | Total |
|---------------------|-----|--------------|-------|
| Complaints: | 3 | 16 | 18 |
| Crashes/Fires: | 0 | 0 | 0 |
| Injury Incidents: | 0 | 0 | 0 |
| # Injuries: | 0 | 0 | 0 |
| Fatality Incidents: | 0 | 0 | 0 |
| # Fatalities: | 0 | 0 | 0 |
| Other*: | 0 | 125 | 125 |

* Description of Other: Warranty Claims.

Action: This Engineering Analysis has been closed.

Engineer: Chris Lash *CL*
 Div. Chief: Jeffrey L. Quandt
 Office Dir.: Kathleen C. DeMeter

Date: 12/16/2009
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Summary:

Analysis of complaints to ODI and Mercedes and warranty claim data submitted by Mercedes indicates that the alleged defect has occurred at a low rate (36.5 complaints per 100,000 vehicles and 0.29 percent warranty claim rate), with no discernable defect trend indicating that the rate of chafing related brake line failures is increasing. There have been no new complaints since January 2009. When the analysis is limited to incidents of brake line leakage that resulted in allegations of reduced brake effectiveness, the rate drops even further (22.3 complaints per 100,000 vehicles and 0.04 percent warranty claim rate).

Mercedes provided data showing that in the rare instances when chafing did progress to brake line leakage the driver would be immediately alerted to a problem by illumination of the bright yellow "ESP/BAS" warning lamp and changes in brake pedal feel. Continued operation with a leaking brake line would result in illumination of the bright red "brake" warning lamp and an audible chime due to low master cylinder reservoir level. Continued operation with the brake warning lamp illuminated would ultimately drain the reservoir for the affected circuit, resulting in loss of the circuit and an approximately 80% increase in stopping distances.

Surveys conducted by ODI and VRTC indicate that routing anomalies may be more common than the complaint and warranty data suggest for the subject line bundle, with line contact or other routing anomaly noted in 13 of 51 vehicles surveyed by ODI and VRTC (25.5%). While evidence of contact between the fuel line and subject brake in a particular vehicle is not necessarily predictive of eventual line failure/leakage, significant chafing wear was noted in two survey vehicles (3.9%). To address concerns with line routing and ensure that lines with evident chafing do not progress to a leak condition, Mercedes will conduct an Owner Notification Program instructing owners to bring the vehicles to a dealer for a free inspection and repair. Lines that do not have a spacer (rubber Grommet or Omega-clip) between the subject fuel and brake lines will have an Omega-clip spacer installed to ensure adequate clearance between the lines. Brake lines with chafe marks will be replaced.

Accordingly, this investigation has been closed. The closing of this investigation does not constitute a finding by NHTSA that a safety-related defect does not exist. The agency will continue to monitor complaints and other information relating to the alleged defect in the subject vehicles and take further action in the future if warranted.

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