



U.S. Department  
of Transportation

**National Highway  
Traffic Safety  
Administration**

# ODI RESUME

**Investigation:** PE 11-026  
**Date Opened:** 08/09/2011  
**Investigator:** Chris Lash  
**Approver:** Frank Borris  
**Subject:** Brake master cylinder leak

**Date Closed:** 04/09/2012  
**Reviewer:** Steve Mchenry

## MANUFACTURER & PRODUCT INFORMATION

**Manufacturer:** MAZDA MOTOR CORP, MAZDA NORTH AMERICAN OPERATIONS  
**Products:** 2008 Mazda CX-9  
**Population:** 36,984

**Problem Description:** Brake fluid can leak from the master cylinder into the vacuum booster, which results in brake warning lamp illumination and, if warning is ignored, may eventually result in a partial system failure with extended stopping distances.

## FAILURE REPORT SUMMARY

	ODI	Manufacturer	Total
<b>Complaints:</b>	3	245	248
<b>Crashes/Fires:</b>	0	0	0
<b>Injury Incidents:</b>	0	0	0
<b>Fatality Incidents:</b>	0	0	0
<b>Other*:</b>	0	0	0

\*Description of Other:

## ACTION / SUMMARY INFORMATION

**Action:** This Preliminary Evaluation is closed.

### Summary:

The Office of Defects Investigation (ODI) opened PE11-026 to investigate possible brake performance loss due to brake fluid leaking from the master cylinder into the brake booster in model year (MY) 2008 Mazda CX-9 vehicles. In response to ODI's information request letter, Mazda identified a problem with the manufacturing process for the master cylinder primary plunger that could result in inappropriate surface finish. ODI's analysis of complaints and field reports determined that the problem was isolated to several months late in the production of the MY 2008 CX-9 vehicles. Mazda indicated that changes to the plunger machining and inspection processes were incorporated late in MY 2008 vehicle production (June 25, 2008). There are no confirmed failures related to the condition in subsequent production. The subject master cylinder was used by Mazda in MY 2007 through MY 2011 CX-9 vehicles (approximately 132,000 vehicles) with no other significant problems related to master cylinder leakage.

ODI's analysis identified a total of 248 complaints and field reports potentially related to the subject condition in MY 2008 CX-9 vehicles. The majority of the records reported that brake malfunction indicator lamp (MIL) illumination was the only symptom of a problem, with only 4% (9 reports) alleging any symptoms related to brake pedal feel or effectiveness. ODI identified no crash claims related to the alleged defect. In addition, analysis of this data showed a declining trend with 90 percent of the incidents reported before January 2011.

Based on the extremely slow leak rate associated with the alleged defect, the declining failure trend and the low probability that the condition would affect brake performance, this investigation is closed.

The ODI reports cited above can be viewed at [www-odi.nhtsa.dot.gov/complaints](http://www-odi.nhtsa.dot.gov/complaints) under the following identification numbers (ODI Nos.): 10442322, 10419837, 10449109