



U.S. Department
of Transportation

**National Highway
Traffic Safety
Administration**

ODI RESUME

Investigation: PE 11-036
Date Opened: 10/11/2011
Investigator: Kareem Habib
Approver: Frank Borris
Subject: Engine compartment fire

Date Closed: 06/11/2012
Reviewer: Jeff Quandt

MANUFACTURER & PRODUCT INFORMATION

Manufacturer: BMW OF NORTH AMERICA, LLC
Products: 2007-2011 Mini Cooper S, JCW
Population: 90,368

Problem Description: Engine compartment fire or smoke resulting from auxiliary water pump malfunction.

FAILURE REPORT SUMMARY

	ODI	Manufacturer	Total
Complaints:	12	25	37
Crashes/Fires:	12	19	31
Injury Incidents:	0	0	0
Fatality Incidents:	0	0	0
Other*:	0	493	493

*Description of Other: Warranty claims related to auxiliary water pump malfunction

ACTION / SUMMARY INFORMATION

Action: This Preliminary Evaluation is closed. Recall 12V-008.

Summary:

In a January 10, 2012 letter to NHTSA, BMW of North America, LLC. (BMW) submitted a Defect Information Report (DIR) identifying a defect in the electric auxiliary water pump in approximately 88,911 model year (MY) 2007-2011 Mini Cooper vehicles manufactured from November 14, 2006 through January 18, 2011 (Recall 12V-008). According to BMW, the auxiliary water pump on vehicles equipped with 4-cylinder turbocharged engines may overheat. Electromigration can cause the pump electronic circuit board to overheat resulting in smoldering of the water pump. If smoldering occurs, it may lead to an engine compartment or vehicle fire. The pump supplier, Pierburg Pump Technology GmbH, redesigned the pump to address factors that may contribute to circuit board overheating. The redesigned pumps were completely implemented in production vehicles by January 2011.

Recall 12V-008 was the third recall initiated by BMW to address electric auxiliary water pump fires in vehicles equipped with Pierburg pumps. In two October 20, 2011 letters to NHTSA, BMW submitted DIRs for similar auxiliary water pump defect conditions in approximately 32,084 MY 2008-2011 BMW 5-Series, 7-Series, X5 and X6 models equipped with 8- and 12-cylinder engines and manufactured from May 2008 through December 2010 (Recall 11V-521); and for approximately 589 MY 2010 Rolls-Royce Ghost vehicles manufactured from September 2009 through September 2010 (Recall 11V-522).

In three separate April 5, 2012 letters to NHTSA, BMW submitted amendments to Recalls 11V-521, 11V-522 and 12V-008. The amendments all described a common defect condition related to a manufacturing process deviation in a certain production range of the redesigned Pierburg water pumps that could result in cracks in the pump housing, which may allow coolant to enter and contact the pump's circuit board. BMW indicated that further analysis identified a specific machine process error at the sub-supplier that manufactures the water pump housing. Pump housing cracks may cause the circuit board to overheat and lead to smoldering of the water pump.

Recall 12V-008 was, thus, amended to include approximately 1,457 MY 2011 Mini Cooper vehicles manufactured from March 31, 2011 through April 22, 2011, when pumps manufactured with the suspect manufacturing process may have been used in vehicle assembly. The amendment to Recall 11V-521 was assigned a new recall number, Recall 12V-161, and covered approximately 2,846 MY 2011-2012 BMW 5-Series, 6-Series, 7-Series, X5, and X6 vehicles manufactured from April 1, 2011 through August 1, 2011. The amendment to Recall 11V-522 was assigned a new recall number, Recall 12V-166, and covered approximately 69 MY 2011 Rolls-Royce Ghost vehicles manufactured from April 7, 2011 through June 2, 2011.

The Office of Defects Investigation (ODI) analyzed complaint data provided by BMW as well as complaints submitted to ODI from consumers. In total, there were 30 unique Mini Cooper reports indicating engine fire. In addition, BMW provided warranty data showing 493 claims for replacement of the subject component on Mini Cooper vehicles. Owners of the recalled vehicles are notified to take their vehicle to a BMW dealer, who will replace the auxiliary water pump to prevent any incidents related to this issue. This preliminary evaluation is closed.

The ODI reports cited above can be viewed at www-odi.nhtsa.dot.gov/complaints under the following identification numbers (ODI Nos.): 10286597, 10286663, 10289793, 10310677, 10314796, 10342365, 10394808, 10394192, 10403982, 10418325, 10422646, 10429003.