



U.S. Department
of Transportation

**National Highway
Traffic Safety
Administration**

ODI RESUME

Investigation: PE 16-016

Date Opened: 12/16/2016

Investigator: Matthew Martens

Approver: Stephen Ridella

Subject: Engine Compartment Fire

Date Closed: 11/20/2017

Reviewer: Jeff Quandt

MANUFACTURER & PRODUCT INFORMATION

Manufacturer: SMART USA DISTRIBUTOR LLC

Products: MY 2008-2009 Smart Fortwo

Population: 42,992

Problem Description: Non-crash fires originating in the engine compartment while driving or shortly after engine shutdown.

FAILURE REPORT SUMMARY

	ODI	Manufacturer	Total
Complaints:	14	18	27**
Crashes/Fires:	14	18	27**
Injury Incidents:	0	1	1
Number of Injuries:	0	1	1
Fatality Incidents:	0	0	0

** Total eliminates duplicates received by ODI and manufacturer.

ACTION / SUMMARY INFORMATION

Action: This Preliminary Evaluation has been upgraded to an Engineering Analysis (EA17-003).

Summary:

On December 16, 2016, the Office of Defects Investigation (ODI) opened Preliminary Evaluation PE16-016 to investigate eight complaints alleging incidents of engine compartment fire while driving or shortly after engine shutdown in model year (MY) 2008 through 2009 Smart Fortwo vehicles. The complaints appeared to indicate an increasing trend, with all eight fires occurring since January 2015. As part of PE16-016, ODI analyzed information related to incidents reported to the Office by consumers, analyzed field data and technical information submitted by Mercedes-Benz USA (Mercedes) in response to the PE16-016 information request letter, and analyzed non-crash vehicle fire claim data provided by the Highway Loss Data Institute (HLDI).

To date, ODI's analysis of incidents reported by consumers and provided by Mercedes has identified 27 incidents of open flame fires originating in the engine compartments of the subject vehicles, 14 of which were reported to ODI by Vehicle Owner Questionnaires (VOQs) and 18 involving complaints or field reports to Mercedes (5 of the incidents were reported to both ODI and Mercedes). One incident reported to Mercedes includes an allegation of an injury from smoke inhalation. Nineteen (19) of the incidents occurred since January 2015. Mercedes has only investigated 2 of the 27 fire incidents, and the company was unable to identify a vehicle-based cause for either incident.

To further assess incident rates and trends, ODI requested fire claim data for the subject vehicles and eight peer vehicles from the Highway Loss Data Institute (HLDI). HLDI collects insurance claim data from companies representing over 80 percent of the market for private passenger vehicle insurance in the United States. ODI's analysis of the HLDI data, which covered the period from 2010 through late-2016, found that the MY 2008 Fortwo vehicles had a significantly higher claim frequency than its peers and, similar to ODI's complaint trend, experienced a sharp increase in claims in 2015.

This investigation has been upgraded to an Engineering Analysis (EA17-003) to continue to investigate the high frequency and increasing trend of non-crash engine compartment fire incidents in the subject vehicles.

The VOQs associated with the opening of this investigation were: 10676359, 10780222, 10790017, 10820891, 10872656, 10944676, 10916505, 10924311, 10924637, 10939504, 10945296, 10993895, 11011100, 11011565.