



U.S. Department  
of Transportation

**National Highway  
Traffic Safety  
Administration**

# ODI RESUME

**Investigation:** PE 16-009  
**Date Opened:** 07/06/2016  
**Investigator:** Nate Seymour  
**Approver:** Stephen Ridella  
**Subject:** Sudden Brake Failure - Motorcycle  
**Date Closed:** 04/23/2018  
**Reviewer:** Bruce York-B

## MANUFACTURER & PRODUCT INFORMATION

**Manufacturer:** Harley-Davidson Motor Company  
**Products:** 2008-11 Harley Davidson Motorcycles Equipped with ABS  
**Population:** 174,636  
**Problem Description:** ABS module components corrode and fail as a result of the brake fluid absorbing moisture from the environment. As a result, brake failure may occur without warning.

## FAILURE REPORT SUMMARY

	ODI	Manufacturer	Total
<b>Complaints:</b>	145	420	565**
<b>Crashes/Fires:</b>	11	31	31**
<b>Injury Incidents:</b>	5	6	8**
<b>Number of Injuries:</b>	5	6	8**
<b>Fatality Incidents:</b>	0	0	0
<b>Other*:</b>	0	26	26

\*Description of Other: Warranty and other claims.

\*\* Total eliminates duplicates received by ODI and manufacturer.

## ACTION / SUMMARY INFORMATION

**Action:** This Preliminary Evaluation (PE) is closed with the receipt of recall 18V-076.

### Summary:

The Office of Defects Investigation (ODI) opened this investigation in July 2016 based on forty-three (43) Vehicle Owner Questionnaires (VOQ). During the course of this investigation ODI received a total of 145 VOQs related to the alleged defect on the subject motorcycles. Owners allege they experience a sudden and complete loss of brakes on one or both wheels.

To better understand the cause of the braking issue on the subject motorcycles, ODI requested NHTSA's Vehicle Research and Test Center (VRTC) conduct inspections and testing of affected vehicle braking systems. Through its work, VRTC determined that deposits were forming on the valves in the Hydraulic Control Unit (HCU) of the Antilock Braking System (ABS). These deposits could prevent the proper function of the HCU and render the brakes ineffective.

To understand why deposits were forming in the HCU, Harley Davidson completed an analysis of the Dow 460 brake fluid used as original equipment on the subject motorcycles and determined that it had stability issues if left in the brake system for an extended period of time. Harley Davidson found that if a brake fluid flush was not conducted as outlined in the owner's manual for the motorcycles, and was left in the system for a period of time beyond their recommendation; deposits could form in the HCU. Through further testing, Harley Davidson identified an alternate, commercially available, brake fluid that did not have the same stability issues as the original fluid and could stop the proliferation of any current brake system deposits.

ODI sent Information Request (IR) letters to Harley Davidson and Dow Chemical (the supplier of the brake fluid on the subject motorcycles) to collect information about the subject bikes and the alleged defect. Harley Davidson responded in full on Sept 30, 2016 and Dow responded with a confidential submission on October 25, 2017.

ODI analyzed the information contained in both IR responses and concluded that motorcycles manufactured during Model Years (MY) 2008, 2009, 2010, and 2011 were failing at a rate greater than their peers. Based on this analysis and the brake fluid study conducted by Harley Davidson, a group of motorcycles was identified that were potentially affected by the instability of the original brake fluid. 2008 marked the introduction of ABS on Harley Davidson motorcycles and a change in the Dow 460 brake fluid used in the 2012 MY vehicles provided the bases for the scope of the affected population.

With recall action 18V-076 taken by Harley Davidson this investigation is closed as further use of agency resources does not appear to be warranted.

The ODI reports cited above can be reviewed at:

<https://www.nhtsa.gov/> using the complaint identification numbers attached to this resume.

PE16\_009V0Qs.txt

Investigation PE16-009 referenced complaint  
identification numbers:

10460899, 10461323, 10503346, 10551156, 10551177,  
10564630, 10566734, 10578439, 10584542, 10593383,  
10660452, 10694431, 10701606, 10703439, 10721585,  
10723670, 10779228, 10787797, 10806328, 10808063,  
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10825939, 10836858, 10837007, 10837548, 10837699,  
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11040388, 11042028, 11047371, 11048463, 11051676