



U.S. Department
of Transportation

**National Highway
Traffic Safety
Administration**

ODI RESUME

Investigation: PE 18-012
Date Opened: 11/20/2018
Investigator: Chris Lash
Approver: Stephen Ridella
Subject: Brake Vacuum Pump Failure
Reviewer: Gregory Magno

MANUFACTURER & PRODUCT INFORMATION

Manufacturer: General Motors LLC
Products: 2014-2016 GM Pickups / SUVs (K2XX Platform, 1500 Series)
Population: 2,732,000 (Estimated)
Problem Description: The power brake vacuum pump can degrade causing the brake pedal to become hard resulting in extended stopping distance.

FAILURE REPORT SUMMARY

| | ODI | Manufacturer | Total |
|------------------------------|-----|--------------|-------|
| Complaints: | 111 | TBD | TBD |
| Crashes/Fires: | 9 | TBD | TBD |
| Injury Incidents: | 2 | TBD | TBD |
| Number of Injuries: | 2 | TBD | TBD |
| Fatality Incidents: | 0 | TBD | TBD |
| Number of Fatalities: | 0 | TBD | TBD |

ACTION / SUMMARY INFORMATION

Action: Open a preliminary evaluation (PE)

Summary:

The Office of Defects Investigation (ODI) has received 111 reports of hard brake pedal effort accompanied by extended stopping distance in model years (MY) 2014 to 2016 General Motors (GM) light trucks based on the K2XX platform, 1500 series Pickup Trucks and Sport Utility Vehicles (Silverado, Sierra, Suburban, Yukon, Tahoe, Escalade). These conditions are attributed to deterioration of the engine-driven brake assist vacuum pump. Nine of these incidents included vehicles incurring damage as a result colliding with another vehicle or fixed object at low speeds.

The brake assist vacuum pump is driven by an accessory belt on the engine and serves as the source of power brake vacuum in the subject vehicles. Over time, the pump's capacity to generate vacuum may deteriorate. The subject vehicles receive supplemental hydraulic brake assist from the ABS system, albeit at lower levels than the vacuum-powered primary system. If the brake assist vacuum pump fails to operate as intended, the amount of brake power assist supplied to the driver can be significantly reduced, extending the subject vehicle stopping distance.

A Preliminary Evaluation has been opened to assess the scope, frequency, circumstances, and safety consequences of the alleged defect.

The ODI complaints cited above can be viewed at www.nhtsa.gov under the following ODI identification numbers:
 11143759, 11143710, 11143349, 11142826, 11142685, 11142544, 11142374, 11140624, 11140321, 11139980,
 11139614, 11139210, 11132847, 11132455, 11131903, 11131066, 11128191, 11124506, 11124227, 11123463,
 11121979, 11121611, 11102448, 11101165, 11099906, 11121172, 11119847, 11118984, 11118870, 11111834,
 11115151, 11114340, 11113548, 11112722, 11110640, 11110393, 11110264, 11105051, 11104203, 11103906,
 11104097, 11101822, 11102108, 11100297, 11099907, 11098785, 11097335, 11094026, 11011875, 11090358,
 11089691, 11089278, 11089173, 11088926, 11084934, 11084610, 11082247, 11078820, 11072654, 11065323,

11056319, 11081406, 11072905, 11075730, 11067395, 11056635, 11055292, 11021419, 11065274, 11064605,
11064080, 11063087, 11056908, 11054734, 11054123, 11053444, 11067234, 11048544, 11048333, 11046974,
11045731, 11044677, 11031984, 11030722, 11030016, 11025403, 11022709, 11020372, 11003691, 10995134,
11047239, 11043192, 11034792, 11034518, 11033883, 11032103, 11030685, 11021601, 11006271, 11002554,
11001423, 10991595, 11013706, 10984684, 10967071, 11119907, 11083289, 11062858, 11047981, 11041607,
11021253