



U.S. Department of Transportation  
**National Highway Traffic Safety Administration**

# ODI RESUME

**Investigation:** PE22012  
**Prompted By:** VOQ Review  
**Date Opened:** 11/28/2022      **Date:** 03/03/2025  
**Closed:**  
**Investigator:** Iulian Gugiu      **Reviewer:** Bruce York  
**Approver:** Tanya Topka  
**Subject:** Loss of Brake Performance

## MANUFACTURER & PRODUCT INFORMATION

**Manufacturer:** Chrysler (FCA US, LLC)  
**Products:** 2017-2018 RAM 2500, 2017-2018 RAM 3500  
**Population:** 390,013

**Problem Description:** Intermittent or permanent loss of braking performance.

## FAILURE REPORT SUMMARY

	ODI	Manufacturer	EWR D&I	Other	Total	EWR Field Reports
<b>All Incidents:</b>	2,581	3,797	0	26,739	32,183*	0
<b>Crashes/Fires:</b>	11	6	0	0	16*	0
<b>Injury Incidents:</b>	1	0	0	0	1	0
<b>Number of Injuries:</b>	1	0	0	0	1	0
<b>Fatality Incidents:</b>	0	0	0	0	0	0
<b>Number of Fatalities:</b>	0	0	0	0	0	0

**Description of Other:**

\*Total eliminates duplicates received by the manufacturer

## ACTION/SUMMARY INFORMATION

**Action:** This Preliminary Evaluation (PE) is closed with a manufacturer recall action.

**Summary:**

The Office of Defects Investigation (ODI) opened this investigation on November 28, 2022, after receiving 134 reports from consumers alleging an intermittent or permanent loss of braking performance in certain 2017-2018 Ram 2500-3500 pickup trucks manufactured by Fiat Chrysler Automobiles (FCA). The alleged failures continued to occur at a steady rate across both models, at all speeds, with limited detectability. Consumers complained that the Anti-lock Braking System (ABS) warning light illuminated on their vehicles. The ABS module works in conjunction with the Hydraulic Control Unit (HCU), an electromechanical device that controls hydraulic pressure to the individual wheel brake assemblies, to manage braking forces during emergency stops.

During this investigation, ODI received over 2,500 consumer complaints concerning ABS or HCU warning lights that illuminated on the dashboards of their vehicles. Many consumers described also having trouble with cruise control, traction control, or electronic stability control. Of the complaints received, over 50% mentioned that the ABS or HCU warning light was intermittent in nature.

ODI learned that in January 2021, FCA was aware of a problem with the ABS pump motors on the subject vehicles. FCA had been working with the supplier, ZF, on an issue concerning swelling of the brushes inside the motor. According to a briefing given by ZF to FCA on January 15, 2021, the ABS, electronic stability control (ESC), traction control system (TSC) and other functions utilizing the motor would be disabled in the event of a problem with an ABS pump motor. ZF also informed FCA that Slip Control would be inhibited with the driver warning lamp illuminated, base braking would not be affected, and FMVSS stopping distance requirements would still be met.

In order to better understand the potential consequences of the brushes swelling and the disablement of the ABS, ESC, TSC and other functions, ODI requested that NHTSA's Vehicle Research and Test Center (VRTC) conduct testing on a subject vehicle with a faulty pump motor installed.

During the testing, VRTC found that as the brushes started to swell in the motor, the warning lamp could illuminate intermittently, causing confusion to drivers. Although the warning light illuminated intermittently, VRTC discovered that the pump was not working properly regardless of the warning light status. In this condition drivers might think that their vehicle is operating normally when the warning light is off, but instead, the ABS, ESC, TSC and other functions supported by the pump will not work.

Following a series of meetings with FCA to demonstrate the findings of VRTC's testing, FCA conducted an internal review and on November 27, 2024, FCA submitted safety recalls 24V-896 and 24E-100.

In view of the recalls being conducted by FCA, ODI has closed this Preliminary Evaluation. The Agency reserves the right to take additional action if warranted by future circumstances. To

review the ODI reports cited in the Closing Resume ODI Report Identification Number document,  
go to [NHTSA.gov](http://NHTSA.gov).