



U.S. Department
of Transportation

**National Highway
Traffic Safety
Administration**

ODI RESUME

Investigation: EA 20-001
Prompted by:
Date Opened: 08/31/2020
Investigator: Frederick Lamance **Reviewer:** Jeff Quandt
Approver: Stephen Ridella
Subject: Loss of Brake Power Assist

MANUFACTURER & PRODUCT INFORMATION

Manufacturer: LAND ROVER, JAGUAR CARS LTD
Products: 2012 - 2013 Range Rover Evoque
Population: 24,179
Problem Description: The brake vacuum pump may fail while driving, resulting in a loss of power assisted braking.

FAILURE REPORT SUMMARY

	ODI	Manufacturer	Total
Complaints:	7	26	33
Crashes/Fires:	0	0	0
Injury Incidents:	0	0	0
Fatality Incidents:	0	0	0
Other*:	0	198	198

*Description of Other: Warranty claims related to the alleged defect.

ACTION / SUMMARY INFORMATION

Action: An Engineering Analysis has been opened.

Summary:

On December 1, 2018, the Office of Defects Investigation (ODI) opened Preliminary Evaluation PE18-014 to investigate allegations of brake vacuum pump failure in model year (MY) 2012 through 2014 Range Rover Evoque vehicles. To date, ODI has received 7 reports which allege vacuum pump failure while driving, resulting in a loss of power assisted braking. Additionally, in response to ODI's Information Request (IR) for PE18-014, Jaguar Land Rover (JLR) provided ODI with 26 complaints and field reports related to the alleged defect. All the complaints and field reports identified by ODI involved MY 2012-2013 Range Rover Evoque vehicles. ODI's analysis of warranty data supplied by JLR identified 198 claims related to the alleged defect in MY 2012-2013 vehicles, resulting in a claim rate of 0.84 percent. ODI identified just 6 claims in the MY 2014 Range Rover Evoque vehicles, resulting in a claim rate of 0.09 percent.

The subject vehicles are equipped with 2.0 liter Gasoline Turbocharged Direct Injection (GTDI) engines that utilize a mechanically driven single vane rotary vacuum pump supplied by Magna International (Magna). The 2.0L GTDI engines and subject Magna vacuum pumps were used by JLR in the following applications: MY 2012-2017 Land Rover Range Rover Evoque (L538), MY 2013-2015 Land Rover LR2 (L359), MY 2015-2017 Land Rover Discovery Sport (L550), MY 2013-2015 Jaguar XF (X250), and MY 2017 Jaguar XE (X760). Field return analyses of failed vacuum pumps from these products has determined that the failures were caused by blockage of the orifice supplying lubricating oil to the pump. Magna and JLR have attributed the blockage to oil "sludge" resulting from failure to perform oil changes at the specified maintenance intervals.

This investigation has been upgraded to an Engineering Analysis (EA) covering the MY 2012-2013 Range Rover Evoque vehicles (subject vehicles). Other JLR products equipped with 2.0L GTDI engines and subject Magna vacuum pumps will be included in the EA as peer vehicles. The EA will further assess the causes of pump failures in the

subject and peer vehicles, the frequency and trends of pump failures in each population, the reasons for differences in experience between subject and peer vehicle applications, and the effects of pump failure on brake system performance in the subject vehicles.

The VOQs associated with the opening of this investigation are: 10986358, 11025409, 11083348, 11131896, 11149724, 11231234, 11343256.