



U.S. Department  
of Transportation

**National Highway  
Traffic Safety  
Administration**

# ODI RESUME

**Investigation:** PE 17-003  
**Date Opened:** 06/01/2017  
**Investigator:** Robert Caple  
**Approver:** Stephen Ridella  
**Subject:** Occupant Restraint Controller Failure  
**Date Closed:** 12/25/2017  
**Reviewer:** Scott Yon

## MANUFACTURER & PRODUCT INFORMATION

**Manufacturer:** Chrysler (FCA US LLC)  
**Products:** MY 2012 Jeep Liberty  
**Population:** 104,267

**Problem Description:** Consumers report that the air bag warning light remains illuminated allegedly due to the failure of the ORC module. A failed ORC may prevent the air bag system from operating properly in a crash.

## FAILURE REPORT SUMMARY

	ODI	Manufacturer	Total
<b>Complaints:</b>	64	586	638**
<b>Crashes/Fires:</b>	0	0	15
<b>Injury Incidents:</b>	0	2	2
<b>Number of Injuries:</b>	0	2	2
<b>Fatality Incidents:</b>	0	0	0
<b>Other*:</b>	0	2,464	2,464

\***Description of Other:** 2,453 potentially related warranty claims (through 09/29/17) and 11 rear-impact crash incidents that resulted in the two injuries noted above that potentially related to non-deployment of the active head rests.

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

## ACTION / SUMMARY INFORMATION

**Action:** This investigation is closed, see NHTSA Safety Recall 17V640 for further details.

### Summary:

The Office of Defects Investigation opened this Preliminary Evaluation to investigate VOQ complaints alleging a failure of the Occupant Restraint Controller (ORC) module in model year (MY) 2012 Jeep Liberty. The purpose of the investigation was to understand Vehicle Owner Questionnaire (VOQ) complaints stating that the air bag warning light remained illuminated while the vehicle was in operation. In many cases the warning light issue was reportedly corrected by a replacement of the ORC module.

In 2013 FCA issued NHTSA safety recall 13V282 to address ORC module failures caused by an electrical over stress (EOS) condition that damaged an internal resistor. The failure lead to non-deployment of the active head restraints in rear impact crashes of sufficient severity to require deployment. This condition would also result in illumination of the air bag warning light and set a B2208 diagnostic trouble code (DTC). Recall 13V282 involved two different remedies based on the model year and model of the recalled vehicle. Some models were repaired by replacing the ORC with an updated unit. However the subject vehicles of this investigation, which made up the largest population in the recall, received a software update to the Totally Integrated Power Module (TIPM), another electronic device that is involved in powering of the ORC.

After the investigation was opened, FCA began collecting failed subject vehicle ORC modules so they could be

analyzed for failure causation. From June 2017 to August 2017 FCA obtained 13 ORC modules and analyzed 10 of them. FCA determined 9 contained evidence of the resistor over stress condition. Of that group, 7 had experienced resistor failures prior to the TIPM being re-flashed under the recall action. In these cases, replacement of the ORC module would have been the only effective repair to extinguish the air bag warning lamp. This observation correlates well with VOQ complaints ODI received from consumers who experienced an airbag warning light illuminated when they presented their vehicle in for the original 13V282 repair. Many of these consumers were told the TIPM re-flash did not fix the warning light issue, and that their ORC module needed to be replaced (at the consumer's expense).

ODI notes that 8 of the 10 analyzed ORCs displaying the resistor EOS condition also had DTC B1BCF stored. This code is related to the detection of a possible internal fault with a rollover sensor. FCA conducted additional testing and concluded that the presence of the resistor failure caused the subsequent setting of the this DTC.

On October 4, 2017 FCA decided to conduct a safety recall to replace the subject vehicle ORC modules with a redesigned device. FCA submitted the defect information report to the agency on October 10, 2017. See NHTSA 17V640 for further details. Accordingly the investigation is closed.

The ODI reports cited above can be reviewed at [NHTSA.gov](http://NHTSA.gov) under the following ID numbers:

10994134, 10994095, 10993838, 10993675, 10993482, 10991764, 10985011, 10984531, 10980350, 10970003, 10969021, 10957076, 10948802, 10945162, 10938664, 10928226, 10917300, 10904332, 10896571, 10893915, 10888324, 10887727, 10865180, 10862586, 10860359, 10853737, 10850921, 10850366, 10837723, 10837086, 10816784, 10816174, 10810454, 10787829, 10778572, 10766688, 10761468, 10761189, 10747749, 10746608, 10744774, 10736037, 10730658, 10717657, 10706097, 10684125, 10681813, 10652841, 10648367, 10641248, 10622487, 10619379, 10618765, 10617657, 10614874, 10608301, 10605955, 11041327, 11047850, 11030130, 11012891, 11024995, 11051267, 11012170