U.S. Department of Transportation

National Highway Traffic Safety Administration

ODI RESUME

OFFICE OF DEFECTS INVESTIGATION

NHTSA

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Investigation: PE 12-009
Date Opened: 03/28/2012 **Date Closed:** 08/07/2012
Investigator: Derek Rinehardt **Reviewer:** Jeff Quandt
Approver: Frank Borris
Subject: Skid plate debris fires

MANUFACTURER & PRODUCT INFORMATION

Manufacturer: CHRYSLER GROUP LLC
Products: MY 2010 Jeep Wrangler 4x4 with automatic transmission
Population: 65,246

Problem Description: Debris may collect in the automatic transmission skid plate during off-road driving. If the debris is not removed, it may contact the exhaust catalyst and cause a fire.

FAILURE REPORT SUMMARY

	ODI	Manufacturer	Total
Complaints:	4	11	12**
Crashes/Fires:	4	11	12**
Injury Incidents:	0	0	0
Fatality Incidents:	0	0	0
Other*:	1	4	4**

***Description of Other:** Skid plate area fires of unconfirmed origin.

** Total eliminates duplicates received by ODI and manufacturer.

ACTION / SUMMARY INFORMATION

Action: This Preliminary Evaluation is closed. Recall 12V-216.

Summary:

In a letter dated May 15, 2012, the Chrysler Group LLC (Chrysler) submitted a Defect Information Report to NHTSA identifying a safety defect regarding fires originating between the transmission skid plate and the exhaust catalyst in approximately 65,246 model year (MY) 2010 Jeep Wrangler 4x4 vehicles with automatic transmissions (NHTSA Recall 12V-216). According to Chrysler, changes to the exhaust system for MY 2010 resulted in reduced clearances between the exhaust catalyst and the skid plate. If debris collects in the area of the skid plate and is not removed, there is an increased potential for underbody debris fires. ODI's analysis of skid plate area fires in the MY 2010 Wrangler vehicles with automatic transmissions found that the rate increased significantly from approximately 1.7 fires per 100,000 vehicle years in the MY 2007 through 2009 vehicles with the prior exhaust design to approximately 14.8 fires per 100,000 vehicle years in MY 2010 vehicles, a nearly 800 percent increase.

In analysis of both Vehicle Owner Questionnaire (VOQ) data submitted to the Office of Defects Investigation (ODI) and Chrysler's consumer complaint data submitted to ODI, 35 unique reports were identified by Chrysler alleging fire in subject vehicles with origins near the engine compartment or in the underbody area directly beneath and to the rear of the engine compartment. Chrysler's assessments of the 35 reports of fire were categorized by likely causes. Eleven of the fires were determined to be caused by skid plate debris accumulation and 4 additional fires were found to have originated in the area of the skid plate, but debris ignition could not be confirmed. An additional skid plate debris fire was reported to ODI after the recall announcement, bringing the total known fire count to 36, including 12 caused by skid plate debris and 4 originating in the skid plate area from unknown causes. Chrysler identified a design change to the exhaust system in MY 2010 that increased the possibility of debris contact with an exhaust catalyst. Beginning in MY 2011, the skid plate was replaced with a skid bar for weight reduction purposes. The skid bar having a much

smaller surface area than the skid plate reduces the potential for debris entrapment. The recall remedy for recall 12V-216 will involve replacement of the skid plate with the skid bar.

As background, the MY 2010 subject vehicles are a part of the JK generation of Jeep Wrangler vehicles that began production in MY 2007. Chrysler conducted a prior recall (09V-436) of MY 2007 and 2008 Jeep Wranglers for a defect involving overheated transmission fluid expulsion that could contact the exhaust and cause an engine compartment fire. The recall remedy was to add audible (chime) and visual warnings ("hot oil" message in the instrument cluster) to alert the driver that the vehicle was being operated with elevated transmission fluid temperatures. Chrysler enhanced the audible warning with a service campaign (J31) for MY 2009 and a portion of the subject MY 2010 vehicles. Transmission fluid expulsion has not been identified as the cause of any of the 36 fire incidents in the subject vehicles.

No indications of a common causal pattern were evident in the remaining 20 fire incidents in the subject vehicles. Six (6) of the incidents appear to be related to improper wiring of various added aftermarket equipment, 2 appear to be related to improper oil change, 1 was related to a damaged transfer case, 1 was related to an electrical short circuit and the remaining 10 were of unknown origin. Accordingly, this Preliminary Evaluation is closed.

The ODI reports cited above can be reviewed at www-odi.nhtsa.dot.gov/complaints under the following identification (ODI) numbers:

Skid plate debris fires: 10460378, 10441570, 10421483, 10406886
Underbody fire, skid plate debris unconfirmed: 104515170