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

OFFICE OF DEFECTS INVESTIGATION

ODI RESUME

Investigation: RQ24005
Prompted By: VOQ Review
Date Opened: 03/27/2024 **Date Closed:** 07/29/2024
Investigator: Joseph Geissler **Reviewer:** Peter Kivett
Approver: Tanya Topka
Subject: Unintended Transmission Downshift

MANUFACTURER & PRODUCT INFORMATION

Manufacturer: Ford Motor Company
Products: MY 2014 Ford F-150
Population: 552,188

Problem Description: Vehicles experiencing an unintended, unexpected vehicle transmission downshifting to a lower gear without warning or driver input, often accompanied by temporary rear wheel lock-up, increasing the risk of a crash and/or injury.

FAILURE REPORT SUMMARY

	ODI	Manufacturer	EWR D&I	Other	Total	EWR Field Reports
All Incidents:	101	743	0	1,441	2,285	0
Crashes/Fires:	1	1	0	0	2	0
Injury Incidents:	2	2	0	0	4	0
Number of Injuries:	3	3	0	0	6	0
Fatality Incidents:	0	0	0	0	0	0
Number of Fatalities:	0	0	0	0	0	0

Description of Other:

ACTION/SUMMARY INFORMATION

Action: This (RQ) Recall Query is closed with 24V444.

Summary:

In September 2016, Ford Motor Company (Ford) issued safety recall 16V-248 which included certain model year (MY) 2011-2012 Ford F-150 vehicles equipped with 6-speed (6R80) automatic transmissions. This recall was in response to allegations of unintended, unexpected vehicle transmission downshifting to a lower gear without warning, often accompanied by temporary rear wheel lock-up, increasing the risk of a crash and/or injury, and included approximately 153,581 vehicles. Ford identified the root cause of the unintended, unexpected vehicle transmission downshifting to a lower gear to be intermittent signal loss from the transmission's Output Shaft Speed (OSS) sensor due to solder joint cracks on the OSS circuit board as a result of manufacturing process issues. The OSS sensor is mounted onto the molded lead frame and transmits changes in transmission shaft speed to the Powertrain Control Module (PCM). The remedy program described in safety recall 16V-248 involved reprogramming of the PCM to prevent unintended vehicle transmission downshifting from occurring.

In December 2017, the Office of Defects Investigation (ODI) opened a Recall Query (RQ17-010) to assess the scope and remedy effectiveness of safety recall 16V-248. As a result of this ODI investigation, Ford issued safety recall 19V-075 to expand the scope of 16V-248 to include MY 2011-2013 Ford F-150 vehicles equipped with 6-speed (6R80) automatic transmissions and included approximately 1,263,051 vehicles. The remedy program described in safety recall 19V-075 involved reprogramming of the PCM to prevent unintended vehicle transmission downshifting from occurring. In June 2019, Ford issued safety recall 19V-433 as the remedy program used to service MY 2013 Ford F-150 5.0L and 6.2L vehicles in accordance with safety recall 19V-075 did not contain the necessary updates to prevent unintended vehicle transmission downshifting from occurring and included approximately 107,857 vehicles.

On March 27, 2024, ODI opened this Recall Query (RQ24-005) to investigate the scope of the above-described safety recalls. At the time that this investigation was opened, ODI had received 86 Vehicle Owner Questionnaires (VOQs) reporting allegations of unintended, unexpected vehicle transmission downshifting to a lower gear without warning, often accompanied by temporary rear wheel lock-up, in MY 2014 Ford F-150 vehicles. As a result of this Recall Query, Ford filled safety recall 24V-444 on June 14, 2024, to include MY 2014 Ford F-150 vehicles and expand the scope of safety recalls 16V-248, 19V-075 and 19V-433. The remedy program described in safety recall 24V-444 involved reprogramming of the PCM to prevent unintended vehicle transmission downshifting from occurring and included approximately 552,188 vehicles.

In its May 2024 response to ODI's information request, Ford concluded that a predominant root cause for the intermittent OSS signal loss has not been identified outside of the original safety recall (16V-248). Ford's investigation also concluded that the primary causes of the defect in MY 2014 F-150 vehicles were related to the molded lead frame and the control assembly transmission main. In the May 2024 response, Ford identified 2,184 total reports that described unintended vehicle transmission downshifting and rear wheel lock-up events; 1,441 warranty claims and 743 reports from consumer complaints, field reports, consumer surveys, and lawsuits/legal claims. Note that the values presented here and in the table above represent the total number of reports which can include a single consumer with multiple reports of the same event as well as a consumer with reports of multiple distinct events. Of the 1,441 warranty claims, 551 warranty claims involved repair of the molded lead frame (38%) and 509 warranty claims involved repair of the control assembly transmission main (35%).

Ford has also stated that the PCM programming used to prevent unintended vehicle transmission downshifting was implemented starting with MY 2015 vehicle #1 production and onward.

In view of the safety recall action being taken by Ford, ODI is closing this Recall Query (RQ24-005). The agency reserves the right to take additional action if warranted by future

circumstances. To review the reports cited in the Closing Resume ODI Report Identification Number document, go to NHTSA.gov.