U.S. Department of Transportation

National Highway Traffic Safety Administration

ODI RESUME

OFFICE OF DEFECTS INVESTIGATION

NHTSA

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Investigation: RQ 17-001
Date Opened: 04/03/2017
Investigator: Nate Seymour **Reviewer:** Bruce York-B
Approver: Stephen Ridella
Subject: DTNA Steering Arm Capscrew Failures

MANUFACTURER & PRODUCT INFORMATION

Manufacturer: Daimler Trucks North America LLC
Products: 2016 - 2017 Cascadia
Population: 50,000 (Estimated)

Problem Description: The capscrews which secure the lower steering arm to the steering knuckle on the tie rod may fail without warning.

FAILURE REPORT SUMMARY

	ODI	Manufacturer	Total
Complaints:	1	TBD	TBD
Crashes/Fires:	1	TBD	TBD
Injury Incidents:	0	TBD	TBD
Number of Injuries:	0	TBD	TBD
Fatality Incidents:	1	TBD	TBD
Number of Fatalities:	2	TBD	TBD

ACTION / SUMMARY INFORMATION

Action: An RQ has been opened to evaluate the scope and remedy identified in DTNA safety recall 15V-613.

Summary:

DTNA filed recall 15V-613 in November 2015. The voluntary recall corrected an insufficient torque issue on 10,843 DTNA vehicles built with certain Detroit front axles. The affected axles were built in Mexico between June 17 and October 1, 2015 and had insufficient torque applied to the two upper steering arm capscrews during assembly. This condition could result in the capscrews failing and a total loss of steering. At the time of the recall DTNA reported one instance of loose cap screws and did not report any steering failure incidents as a result of the defect. To date, the reported remedy completion rate on the recall 15V-613 subject vehicles is 61.8%.

On November 16, 2016, the Office of Defect Investigations (ODI) received Vehicle Owner's Questionnaire (VOQ) number 10926527. This VOQ reported the crash of a 2017 Freightliner Cascadia truck on October 23, 2016. The combination vehicle crashed along a stretch of Interstate 57 in IL. Both the driver and co-driver were killed as a result of the crash. ODI gathered crash scene photos, the police accident report, and interviewed those present at the time of the crash. Pictures showed a separated steering linkage, but the exact failed component could not be determined.

The owners of the vehicle involved in the fatal crash were contacted and ODI inspected the vehicle at their facility on February 17, 2017. It was found that the steering linkage separation occurred at the lower steering arm capscrews on the driver side and that the axle was manufactured in April 2016. This axle was manufactured approximately 7 months after the axles identified in recall 15V-613 which also did not identify the lower cap screws as having not been torqued to specification. A failure of the lower cap screws results in the loss of steering on the passenger side wheel.

On February 27, 2017, ODI discussed recall 15V-613 with a fleet which had vehicles involved in the recall. The fleet had experienced capscrew failures prior to the recall during backing maneuvers. A cursory comparison of the failed components showed similarities between the two upper failed capscrews on the recalled vehicles and the two lower

failed capscrews on the vehicle involved in the fatal crash The similarities in the cap screw failures on the two vehicles prompted ODI to investigate further.

ODI has opened this investigation to gather information and assess the root cause of capscrew failures on the vehicle involved in the fatal crash and if the remedial actions taken by DTNA in recall 15V-613 should have included a larger population of vehicles and also included inspecting the capscrews on the lower steering arm.