



U.S. Department
of Transportation

**National Highway
Traffic Safety
Administration**

ODI RESUME

Investigation: RQ 20-001
Date Opened: 08/31/2020
Investigator: Robert Nguyen
Approver: Stephen Ridella
Subject: SAM Cab Water Intrusion
Reviewer: Bruce York-B

MANUFACTURER & PRODUCT INFORMATION

Manufacturer: Daimler Trucks North America LLC
Products: 2007-2021 Freightliner Trucks Equipped with a SAM Cab Module
Population: 350,000 (Estimated)
Problem Description: Water intrusion into the SAM cab module resulting in the loss of electrical functions and potential fire, increasing the risk of a crash and personal injury.

FAILURE REPORT SUMMARY

	ODI	Manufacturer	Total
Complaints:	4	TBD	TBD
Crashes/Fires:	0	TBD	TBD
Injury Incidents:	0	TBD	TBD
Number of Injuries:	0	TBD	TBD
Fatality Incidents:	0	TBD	TBD
Number of Fatalities:	0	TBD	TBD
Other*:	1	Confidential	Confidential

*Description of Other: TSB 54-312, Field Reports

ACTION / SUMMARY INFORMATION

Action: Open this Recall Query (RQ) Investigation

Summary:

On January 9, 2009, Daimler Trucks North America (DTNA) issued Recall 09V-024 on model Year (MY) 2007-2009 Cascadia Trucks for water intrusion into the Signal-detect and Activation (SAM) Chassis and Cab modules resulting in potential electrical shorts that can affect lamp and lighting (tail, stop, side-marker lamps, trailer lighting) functions and possibly result in a fire hazard inside the truck's cabin. Both modules have direct 12-volt power via the Powernet Distribution Box (PNDB). The recall remedy involves installing a new plastic drip shield between the SAM cab module and the bulkhead, to prevent water intrusion from reaching the module.

During the review of customer complaints (VOQ) and field reports (submitted by DTNA through Early Warning Reporting) related to SAM cab electrical failures, the Office of Defects Investigation (ODI) found multiple reports and four (4) VOQ on model year 2007-present trucks alleging electrical failures and thermal events related to water intrusion affecting the SAM cab module. Some reports described repeated electrical failures, including fires with the ignition on or off. Numerous reports indicate water had entered the cab through the windshield seals. Two complainants alleged multiple repairs of the windshield seal did not prevent water intrusion into the SAM cab module.

In July 2019, DTNA issued a technical service bulletin (TSB) 54-312 instructing technicians to replace the drip shield and the secondary cover on the SAM Cab module with a new one-piece drip shield. DTNA claims the replacement was a product enhancement and would be a good modification when replacing any SAM Cab module. Upon review of the TSB, ODI became concerned the new replacement shield was intended to correct a problem with the shield installed as a remedy for recall 09V-024 and all new production trucks since the recall was announced. During

discussions with DNTA prior to the opening of this investigation, ODI was made aware of additional claims, including some that described SAM Cab module failures on vehicles that had the remedy drip shield installed a part of the recall.

ODI is opening this RQ to understand the failure modes that allow water intrusion into the SAM cab module, the effectiveness of original recall remedy, and the installation of an updated drip-shield as it relates to continual water intrusion.

The ODI reports cited above can be reviewed at:

<http://www-odi.nhtsa.dot.gov/owners/SearchNHTSAID> using the following complaint identification numbers: 10780487, 10903504, 10983117, 11162468