

DAIMLER TRUCK

North America

Defect Information Report (Section 573.6)

FL979

Date of Submission: 7/6/2023

Manufacturer: Daimler Truck North America LLC
P.O. BOX 3849
Portland, Oregon 97208

Type of Report: **Safety Defect** **Non-Compliance**

Vehicle Information

Make	Model	Model Yr. Start	Model Yr. End	Prod. Begin Date	Prod. End Date
Freightliner	eCascadia	2023	2024	1/19/2023	4/13/2023

Descriptive Information and Basis for Determination of Recall Population:

The recall population includes MY 2023-2024 Freightliner eCascadia electric vehicles built with an e-axle(s) produced within a specific production period. These e-axles may have insufficiently welded planetary gear sets. Vehicles outside the population do not have planetary gear sets produced during the suspect time period.

Number potentially involved: 82

Estimated percentage of involved with defect: 100% of the vehicles have the potential to have the defect.

Defect / Noncompliance Description

For this Defect/Noncompliance:

Describe the defect or noncompliance:

The affected vehicles may be equipped with one or more e-axles, depending on the configuration of the vehicle. Within each e-axle assembly, a planetary gear set is located between the e-motor and the final drive. Due to a deviation in the supplier's welding process during a specific time frame, certain planetary gear sets may have been insufficiently welded to the base plate and could fracture when exposed to high levels of torque and/or significant road

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surface vibrations. If a fracture occurs at the weld seam, the connection between the e-motor and the final drive can separate without warning to the driver.

Describe the safety risk: If the connection between the e-motor and final drive separates, torque cannot be transferred to the drive wheels which can result in an undetectable and sudden loss of motive power and without the ability to restart the vehicle, thereby increasing the risk of a crash.

Description of the Cause: Insufficient welding of planetary gear set to the baseplate.

Identify any warning which can precede or occur: N/A

If applicable, identify the manufacturer of the defective or noncompliant component.:

Involved Components

Component Name: E-axle Assembly Planetary gear set

Component Description: Electric axle

Component Part Number: D746381

Component Name: E-axle assembly Planetary gear set

Component Description: Electric axle

Component Part Number: D746383

Component Name: E-axle Assembly Planetary gear set

Component Description: Electric axle

Component Part Number: D746384

Supplier Identification: Mercedes-Benz Hedelfingen

Component's country of origin: Germany

Business address: Am Ostkai 53, 70329 Stuttgart, Germany

Business Contact Information: N/A

First / Last Name: N/A

Position: N/A

Email:

Phone: +49 1514 523892

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Chronology of Defect / Noncompliance Determination

Provide the chronology of events leading up to the defect decision or test data for the noncompliance decision:

On February 20, 2023, DTNA conducted routine rough road testing of an e-Cascadia vehicle at its facility which involved driving the vehicle over cement risers and other unpaved and harsh road surfaces. During this testing, the truck experienced a loss of motive power while traveling at low speed. On March 2, 2023, DTNA conducted a tear down of the affected e-axle assembly where a fracture at the weld seam where the planetary gear attaches the baseplate was observed. The parts were sent for additional analysis.

DTNA had opened an investigation to further analyze the issue, but on March 28, 2023, this investigation was closed on the basis that the failure had occurred during vehicle testing and under extreme road conditions that were not representative of real-world driving. Further, there were no reports of actual failures in the field (including after a review of vehicle telematics data) and it was believed that if a failure were to occur, the driver would have sufficient advanced warning to be able to respond. On May 4, 2023, DTNA opened a separate investigation after a report that the electric motor of an e-axle had decoupled, resulting in vehicle loss of forward movement. In this case, the instrument cluster did not display a telltale and did not generate a diagnostic trouble code for loss of forward movement which suggested the issue was electrical in nature. At the time there was no apparent connection between this topic and the fracture of the weld seam in the internal test vehicle.

On June 7, 2023, DTNA was made aware of the first failure in the field potentially related to a fractured weld seam where the driver described the vehicle as struggling to move forward. Additional similar reports were received between June 7 – 28, 2023, where the drivers noted an inability to move forward and noting a gear pop. When the e-axle with the decoupled motor described above was later analyzed, it was discovered that the weld seam had separated in a manner similar to what was observed in the DTNA test truck.

On June 30, 2023, DTNA decided to conduct a recall to address the issue. While the condition is primarily influenced by high torque, low speed maneuvers and severe road conditions, the possibility of a failure cannot be ruled out at higher speeds. DTNA has received 0 warranty claims and 3 field reports potentially related to this issue and is not aware of any accidents or injuries potentially related to this issue.

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Identify the Remedy

Describe the defect/noncompliance remedy program, including the manufacture's plan for reimbursement.

DTNA is preparing the remedy which is currently under development. Once available, the remedy will be performed free of charge by Daimler Truck North America authorized service facilities. Details of the reimbursement plan will be included in the owner's notification letter. Owners are directed to seek reimbursement for pre-recall notification repairs through authorized dealers.

How Remedy Component Differs from Recalled Component:

The remedy component will have planetary gear sets that are sufficiently welded to the baseplate.

Identify How/When Recall Condition was Corrected in Production:

The supplier made adjustments to the welding process so that parts produced after March 3, 2023, were sufficiently welded.

Identify the Recall Schedule

Describe the recall schedule for notifications.:

Customer notification will be made by first class mail using Daimler Trucks North America records to determine the customers affected.

Planned Dealer Notification Begin Date: 9/3/2023

Planned Dealer Notification End Date: 9/3/2023

Planned Owner Notification Begin Date: 9/3/2023

Planned Owner Notification End Date: 9/3/2023

Does DTNA plan to file inconsequentiality petition? Yes No

Manufacturer's identification code for this recall (if applicable): FL979

DTNA Representative;

Sam Geser

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Manager, Compliance and Regulatory Affairs

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