

## Ford Motor Company (Ford) Recall No. 24S05 Chronology

### CERTAIN 2023-2024 MODEL YEAR FORD TRANSIT VEHICLES EQUIPPED WITH 9.75" REAR AXLES – REAR AXLE TAIL BEARING SEIZURE

**Date of Submission:** February 9, 2024

#### **Chronology of Defect / Noncompliance Determination**

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

#### November 2023

On November 30, 2023, Ford's Critical Concern Review Group (CCRG) opened an investigation into reports of rear axle bearing failure at low time in service on 2023-2024 model year Transit vehicles equipped with 9.75" rear axles. In May 2023, a new lightweight carrier design had been introduced into production at the vehicle assembly plant for the Transit 9.75" axles. The axle lubrication fill volume for the new carrier design was reduced by 1.5 US pints compared to the axle fill volume of the prior design.

The warranty and field reports described issues related to low rear axle lubricant, including noise and vibration while driving. One of the reports indicated that the rear driveshaft separated from the rear axle at the pinion stem. The axle companion flange remained fastened to the driveshaft coupler. Initial analysis indicated failure attributed to excess heat due to inadequate rear axle lubrication.

#### December 2023 – January 2024

Ford Engineering performed teardown and analysis of rear axles returned through warranty. The investigation determined that an insufficient static level of lubricant in the rear axle assembly to properly coat the tail bearing may lead to overheating and subsequent bearing seizure at low time in service.

Further investigation found that computational flow analysis and physical design verification testing was not performed for the change to the new lightweight carrier with reduced axle lubrication fill volume, which would have highlighted exposure of the tail bearing to insufficient lubrication. A low lubricant level allows for a dry start-up of the rear axle tail bearing, which can result in bearing damage.

As of January 23, 2024, Ford is aware of 269 warranty reports and 30 field reports, corresponding to 285 vehicles in North America received from June 10, 2023 to January 22, 2024, related to inadequate rear axle lubrication. Of these reports, 19 vehicles had alleged rear wheel lock-up and/or loss of motive power, with one (1) vehicle also experiencing driveshaft separation. Ford is aware of one (1) National Highway Traffic Safety Administration Vehicle Owner's Questionnaire (VOQ) report that may be related to this concern.

On February 2, 2024, Ford's Field Review Committee reviewed the concern and approved a field action.

The VOQ report alleges an accident that may be attributable to this condition. Ford is not aware of any reports of injury related to this condition.