

Part 573 Safety Recall Report

21E-098

Manufacturer Name : Meritor, Inc.

Submission Date : NOV 30, 2021

NHTSA Recall No. : 21E-098

Manufacturer Recall No. : NR



Manufacturer Information :

Manufacturer Name : Meritor, Inc.

Address : 2135 West Maple Road
Troy MI 48084

Company phone : 248-435-1725

Population :

Number of potentially involved : 98

Estimated percentage with defect : NR

Equipment Information :

Brand / Trade 1 : Meritor

Model : 180 Series Drive Pinion

Part No. : 180 Series Drive Pin

Size : NR

Function : Pinion in axle

Descriptive Information : REV Group, Inc. reported to Meritor that four of its OEMs (Ferrara Fire Apparatus, Inc., Kovatch Mobile Equipment Corp, E-One Incorporated, Spartan Fire, LLC) had filed 573 Safety Defect Reports for fractured 180 series pinions in rear drive axles. The REV Group Safety Defect Reports state that "Pinion broke off and damaged the spring brake air supply line." The REV Group indicated to Meritor that in two occurrences the fractured pinion hit a drop hose and resulted in unintentional application of the parking brake. Meritor is investigating the root cause as well as the impact to other customers, including those customers impacted by product sold in the replacement market. Although Meritor is still investigating the root cause, Meritor believes that if the defect is present the failure would manifest early in the service life of the pinion. Based on this assumption Meritor worked with REV Group to identify the recalled population as those pinions manufactured between January 1, 2021 and April 20, 2021. The recalled population does not differ from products built prior to January 1, 2021, however Meritor believes that products built prior to that date would have already failed if they had the defect. Pinions manufactured after April 20, 2021 are subject to 100% Ultrasonic Testing and Meritor is unaware of any field failures on pinions manufactured after that date.

Production Dates : JAN 01, 2021 - APR 20, 2021

Description of Defect :

Description of the Defect : 180 Series Drive Pinion fractured in the spline

FMVSS 1 : NR

FMVSS 2 : NR

Description of the Safety Risk : The four defect reports filed by the REV Group companies describe the safety risk as follows: "a fracture of the pinion may hit the brake drop hose which may unintentionally apply parking brake without detection or brake lights coming on, possibly resulting in a crash."

Description of the Cause : Meritor is still investigating the root cause. At this time Meritor believes the 180 series pinion and yoke spline interaction during the assembly process may result in a overstress condition that could lead to fracture.

Identification of Any Warning that can Occur : If the pinion fractures, in some cases the driver may hear an audible noise and feel the vehicle slowing down due to loss of propulsion from the drive axle.

Involved Components :

Component Name : Rear Axle Carrier

Component Description : Pinion

Component Part Number : 180 Series

Supplier Identification :

Component Manufacturer

Name : NR

Address : NR

NR

Country : NR

Chronology :

June 2020 - Spartan reported pinion crack to Meritor

August - September 2020 Meritor completed testing to attempt to replicate the fracture and could not do so. Meritor implemented 100% mag particle inspection in 180 series pinions.

March 25, 2021 Meritor received a report of a pinion fracture from a different customer. The defect did not result in unintended braking. At that point Meritor began an investigation into the root cause of the fracture.

April 1, 2021 Meritor evaluated pinion material and heat treat verifying material. Meritor confirmed that the heat treat material complied with required specifications.

April 9, 2021 Meritor began running capability studies on the production spline rolling rack

April 20, 2021 Meritor implemented 100% ultrasonic testing / detection

June 12, 2021 Meritor completed capability studies on production spline rolling rack

July 2021 – Spartan reported pinion failure during delivery to the dealer from the plant. Meritor provided a new gear set under warranty.

July 29, 2021 Meritor implemented spline protector sleeves during manufacturing process.

August 16, 2021 Meritor implemented new spline rolling racks and capability studies on new spline rolling racks.

September 20, 2021 - Spartan notified Meritor of pinion crack failure while in service (24 hours in service and under 3,000 miles), Pinion broke off and damaged the spring brake air supply line. This is the first report of uncommanded spring brake application related to this issue known to Meritor.

September - October 2021 - Meritor continues its investigation including performance of on-site ultrasonic test for the rest of the REV Group fleets.

November 22, 2021 - REV Groups notified Meritor that its OEMs filed 573 defect reports with NHTSA.

November 30, 2021 - Meritor files 573 Defect Report in accordance with 573.6 (f) compliance obligation.

Description of Remedy :

Description of Remedy Program : Meritor will support recalls submitted by Rev Group (21V910, 21V905, 21V904, 21V899) and conduct onsite ultrasonic test inspection and/ or carrier replacement for the affected population. Defective units will be replaced at no cost to customer.

How Remedy Component Differs from Recalled Component : The remedied component will pass ultrasonic test inspection.

Identify How/When Recall Condition was Corrected in Production : 100% Ultrasonic Testing was put in place April 20, 2021 at the Meritor production facility. 2301 parts have been inspected using ultrasonic testing. Two parts with defects have been found in-house since the ultrasonic testing has been implemented.

Recall Schedule :

Description of Recall Schedule : See OEM recall schedule

Planned Dealer Notification Date : NR - NR

Planned Owner Notification Date : NR - NR

Purchaser Information :

The following manufacturers purchased this defective/noncompliant equipment for possible use or installation in new motor vehicles or new items of motor vehicle equipment:

Name : NR

Address : NR

NR

Country : NR

Company Phone : NR

* NR - Not Reported