

Part 573 Safety Recall Report

21E-085

Manufacturer Name : ZF North America, Inc.

Submission Date : DEC 15, 2021

NHTSA Recall No. : 21E-085

Manufacturer Recall No. : NR



Manufacturer Information :

Population :

Manufacturer Name : ZF North America, Inc.

Number of potentially involved : 1,018

Address : 12001 Tech Center Drive

Estimated percentage with defect : 9 %

Livonia MI 48150

Company phone : 7348552600

Equipment Information :

Brand / Trade 1 : ZF Power Steering Pump

Model : PS ED Pump

Part No. : See Descriptive Info

Size : NR

Function : NR

Descriptive Information : ZF makes this submission at NHTSA's request based on the recall of vehicles by Spartan Fire, LLC (21V252), Autocar, LLC (21V677), Shyft Group (21V752), Sutphen (21V891), Mack Trucks, Inc. (21V856) Volvo Trucks North America (21V858), and Oshkosh (21V851) that incorporate certain ZF power steering pumps that may have been subject to an issue in the rotor grinding process during manufacturing. ZF has not determined that the manufacturing issue presents an unreasonable safety risk for all potentially affected power steering pumps in each vehicle application. ZF's understanding is that the purchasers identified herein other than Spartan Fire, Autocar, Shyft Group, Sutphen, Mack Trucks, Volvo Trucks North America, and Oshkosh have concluded investigating or continue to investigate any effect presented by the potentially affected power steering pumps in their vehicles.

The total number of potentially affected parts specified herein is the number of parts ZF supplied to the recalling vehicle manufacturers that were manufactured within the identified suspect production dates. The relevant ZF part numbers are PS362815R10311, PS362815R10511, PS362816R10511 (supplied to Spartan Fire); PS322416L10300, PS322816L10200, PS362816L10300, PS362816R10500 (supplied to Autocar); and PS322418R10511 (supplied to Shyft Group).

The information provided herein is based on information available to ZF at the time of submission and may not include all information available to the vehicle manufacturers.

Production Dates : MAY 01, 2020 - SEP 18, 2020

Description of Defect :

Description of the Defect : As reported by Spartan Fire, Autocar, Shyft Group, Sutphen, Mack Trucks, Volvo Trucks North America, and Oshkosh, certain power steering pumps supplied by ZF may cause pressure to build and the shaft seal to leak into the engine, resulting in a loss of power steering assist in the identified recalled vehicles. ZF's understanding is that its power steering pumps operate under conditions specific to each vehicle application. ZF is not aware of any accidents or injuries related to the recalls announced by Spartan Fire, Autocar, Shyft Group, Sutphen, Mack Trucks, Volvo Trucks North America, or Oshkosh related to the subject power steering pumps in other manufacturers' vehicles.

FMVSS 1 : NR

FMVSS 2 : NR

Description of the Safety Risk : As reported by Spartan Fire, Autocar, Shyft Group, Sutphen, Mack Trucks, Volvo Trucks North America, and Oshkosh, a loss of power steering assist in the recalled vehicles could increase the risk of a crash.

Description of the Cause : The rotor grinding process may have created an area of localized flatness in the end face of the steering pump motor during manufacturing of the power steering pumps. Depending upon the vehicle application (due to application-specific operating conditions), the localized flatness may cause pressure to build and the shaft seal to leak into the engine.

Identification of Any Warning that can Occur : NR

Involved Components :

Component Name : NR

Component Description : NR

Component Part Number : NR

Supplier Identification :**Component Manufacturer**

Name : NR

Address : NR

NR

Country : NR

Chronology :

In July 2020, Spartan Fire notified ZF about a zero mileage issue identified in Spartan Fire's assembly plant involving power steering pumps supplied by ZF. ZF thereafter conducted a technical analysis of affected parts, verified production parameters, performed calibrations, and verified potential corrective measures through lab measurements and testing, resulting in an identified manufacturing issue. In September 2020, ZF implemented containment measures with inspections put in place. ZF continued to monitor warranty data but did not detect an issue with other vehicle manufacturers similar to what was experienced by Spartan Fire. In October 2020, ZF implemented a grinding change in its manufacturing process to address the issue. In April 2021, Spartan Fire informed ZF of a warranty claim involving loss of power steering assist. On April 10, 2021, Spartan Fire initiated a recall of 243 vehicles containing power steering pumps supplied by ZF (21V252). In July 2021, ZF responded to an informal inquiry by NHTSA's Recall Management Division related to the Spartan Fire recall. On August 4, 2021, at the agency's request, and although ZF had not made a safety defect determination with respect to the subject power steering pumps, ZF submitted a list of purchasers to NHTSA with a Part 512 request for confidential treatment. On August 31, 2021, Autocar initiated a recall related to vehicles containing power steering pumps supplied by ZF (21V677). On September 3, 2021, NHTSA requested that ZF file a part 573 report based on the Spartan Fire and Autocar recalls. Although ZF has not determined that a safety-related defect exists in the subject power steering pumps, ZF agreed to submit a Part 573 report as requested. To date, ZF has not received any reports of accidents or injuries related to the recalled vehicles or the vehicles of other manufacturers in which the subject power steering pumps are installed.

Description of Remedy :

Description of Remedy Program :	ZF refers to the vehicle manufacturers' filings for details about their respective remedy programs.
How Remedy Component Differs from Recalled Component :	ZF improved the flatness profile of the rotor through adjustments in the parameters for the rotor grinding process.
Identify How/When Recall Condition was Corrected in Production :	Following detection of the potential issue, ZF adjusted the parameters for the rotor grinding process in manufacturing to improve the flatness profile of the rotor.

Recall Schedule :

Description of Recall Schedule :	As noted above, ZF supplied the subject parts as original equipment to Spartan Fire, Autocar, Shyft Group, Sutphen, Mack Trucks, Volvo Trucks North America, and Oshkosh, who are conducting their own recalls (see NHTSA Recall Nos. 21V252, 21V677, 21V725, 21V891, 21V856, 21V858, and 21V851, respectively). ZF refers to the vehicle manufacturers' respective Part 573 Defect Information Reports for recall notification schedules, which include the estimated dates of their respective owner, distributor and dealer notifications. ZF is not aware of any other dealers or distributors affected by these recalls.
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 : Spartan Fire Chassis
Address : 1541 Reynolds Road
Charlotte MI 48813
Country : US
Company Phone : 5175884700

Name : Oshkosh Defense, LLC
Address : 370 W. Waukau Avenue
Oshkosh WI 54902
Country : US
Company Phone : 9202359151

Name : Kenworth Truck
Address : 5746 State Route 159
Chillicothe OH 45601
Country : US
Company Phone : 4258285201

Name : Mack Trucks, Inc.
Address : 3041 Schoeneck Road
Macungie PA 18062
Country : US
Company Phone : 3362915311

Name : Peterbilt - Elite Manufacturing
Address : 3650 Shelby Road
Denton TX 76207
Country : US
Company Phone : 9402202760

Name : Daimler Trucks North America
Address : 11550 Statesville Blvd
Cleveland NC 27013
Country : US
Company Phone : 5037457385

Name : PACCAR Parts Division
Address : 777 106th Avenue NE
Bellevue WA 98004
Country : US
Company Phone : 9402202760

Name : McNeilus
Address : 524 East Highway St.
Dodge Center MN 55927
Country : US
Company Phone : 5073748246

Name : Sutphen Corp.
Address : 1701 W. County Line Rd.
Springfield OH 45502
Country : US
Company Phone : 9379698851

Name : Kovatch Mobile Equip
Address : 44 Mountain Road
Nesquehoning PA 18240
Country : US
Company Phone : 5702732859

Name : Ferrara Fire Apparatus
Address : 27855 James Chapel Rd.
Holden LA 70744
Country : US
Company Phone : 2255677100

Name : Pierce Manufacturing
Address : 1515 County Rd. O
Neenah WI 54956
Country : US
Company Phone : 9202130015

Name : Emergency One, Inc.
Address : 3895 SW 13th St.
Ocala FL 34474
Country : US
Company Phone : 3528615044

Name : Autocar, LLC

Address : 4680 Pinson Valley Pkwy
Birmingham AL 35215

Country : US

Company Phone : 7654896062

Name : The Shyft Group, USA

Address : 1111 Mikesell St.
Charlotte MI 48813

Country : US

Company Phone : 5177595793

Name : Kenworth Truck Company

Address : 19655 78th Ave. S.
Kent WA 98032

Country : US

Company Phone : 4258285201

Name : Volvo Parts North America

Address : 4881 Cougar Trail Road
Dublin VA 24084

Country : US

Company Phone : 3362915311

* NR - Not Reported