Part 573 Safety Recall Report 24E-010

Manufacturer Name : R.H. Sheppard Co., Inc.
Submission Date : FEB 20, 2024
NHTSA Recall No. : 24E-010
Manufacturer Recall No. : NR

Manufacturer Information :

Manufacturer Name : R.H. Sheppard Co., Inc.
Address : 101 Philadelphia Street
P.O. Box 877 Hanover PA 17331-0877
Company phone : 717-637-3751

Population :

Number of potentially involved : 456
Estimated percentage with defect : 5 %

Equipment Information :

Brand / Trade 1 : Sheppard
Model : HD94P
Part No. : various
Size : n/a
Function : steering
Descriptive Information : A heat treatment lot-code is associated for each component entering the heat treatment process. The recall population was determined to contain a component from a heat treatment lot that may not have been properly heat treated. The population that was not recalled was determined to contain a component from a heat treatment lot that was verified to have been properly heat treated.
Production Dates : DEC 18, 2023 - JAN 16, 2024

Brand / Trade 2 : Sheppard
Model : HD94S
Part No. : various
Size : NR
Function : steering
Descriptive Information : A heat treatment lot-code is associated for each component entering the heat treatment process. The recall population was determined to contain a component from a heat treatment lot that may not have been properly heat treated. The population that was not recalled was determined to contain a component from a heat treatment lot that was verified to have been properly heat treated.
Production Dates : DEC 18, 2023 - JAN 16, 2024

Brand / Trade 3 :	Sheppard
Model :	M100P
Part No. :	various
Size :	NR
Function :	steering
Descriptive Information :	A heat treatment lot-code is associated for each component entering the heat treatment process. The recall population was determined to contain a component from a heat treatment lot that may not have been properly heat treated. The population that was not recalled was determined to contain a component from a heat treatment lot that was verified to have been properly heat treated.
Production Dates :	DEC 18, 2023 - JAN 16, 2024

Brand / Trade 4 :	Sheppard
Model :	M83P
Part No. :	various
Size :	NR
Function :	steering
Descriptive Information :	A heat treatment lot-code is associated for each component entering the heat treatment process. The recall population was determined to contain a component from a heat treatment lot that may not have been properly heat treated. The population that was not recalled was determined to contain a component from a heat treatment lot that was verified to have been properly heat treated.
Production Dates :	DEC 18, 2023 - JAN 16, 2024

Description of Defect :

Description of the Defect :	The steering gear sector shaft does not meet hardness requirements for the gear teeth.
FMVSS 1 :	NR
FMVSS 2 :	NR
Description of the Safety Risk :	Sector shafts gear teeth with lower than required hardness may prematurely wear, crack or fracture. A fractured gear tooth may interfere with the gear mechanism leading to non-smooth steering effort or binding. A steering gear that binds increases the likelihood of a crash.
Description of the Cause :	Heat treating may not have been properly performed on some lots of sector shaft resulting in lower than required hardness for the gear teeth. Sector shafts gear teeth with lower than required hardness are not as durable as properly hardened sector shaft gear teeth.

Identification of Any Warning that can Occur :	The driver may hear a popping sound when a tooth fractures. The driver may notice lumpy, or non smooth steering effort when the gear moves through the cracked or fractured location.

Involved Components :

Component Name :	Steering Gear Sector Shaft
Component Description :	Component internal to steering gear that connects to steering gear output
Component Part Number :	n/a

Supplier Identification :

Component Manufacturer

Name :	R. H. Sheppard Co. Inc.
Address :	101 Philidelphia St Hanover Pennsylvania 17331-0877
Country :	United States

Chronology :

1/10/2024: A sector shaft with less than the required hardness identified during shot-peening operation.
1/11/2024: The heat treating batch code identified for defective component.
1/12/2024: Heat treatment operations shut down. Quality Alert posted. Sector shafts in-process inspected for hardness.
1/16/2024 All suspect sector shaft component parts removed from production.
1/18/2024-1/31/2024: Product integrity team formed to evaluate product safety risks. Testing begins on suspect parts to determine failure modes, vehicle level effects and detectability. Heat treatment issue is isolated to a specific heat treatment furnace and process parameters. Specific lots are identified from that furnace that produced potentially parts that are less than the required hardness.
1/20/2024-1/22/2024 Fully assembled gears that had already shipped to vehicle manufactures identified by gear serial number and manufacturing records of heat treatment lots. A quality alert is issued to all customers that received shipments of suspect gears. Quality containment activity begins at vehicle manufactures.
1/31/2023: Data from warranty, field returns, engineering tests were collected. None of the suspect steering gears had demonstrated any steering complaints from a customer. No disabled vehicles, no accidents, no injuries were reported by any customer.
2/1/2023: Sheppard Product Integrity Committee meets and agrees with the team's recommendation that an safety related equipment defect exists.

Description of Remedy :

Description of Remedy Program :	Sheppard will work with vehicle manufacturers to remove and replace the steering gears that potentially have a sector shaft with less than the required hardness. Sheppard will work with the vehicle manufactures to reimburse them for removal and replacement of the parts. The vehicle OEMs are handling all of the completion reporting.
How Remedy Component Differs from Recalled Component :	The replacement parts have steering gear sector shafts that have the heat treatment properly performed and the required hardness has been demonstrated.
Identify How/When Recall Condition was Corrected in Production :	The heat treating furnace that produced the suspect steering gear sector shafts was taken off-line. Components that were processed through the problematic furnace were identified and contained. Fully assembled gears that were built with the suspect steering gear sector shafts were identified and contained. Shipments to vehicle manufacturers were called back. Other similar furnaces in use at Sheppard for sector shafts were inspected. Surface hardness was measured and demonstrated to be as expected from the non-problematic furnaces. The problematic furnace was repaired and will be re-commissioned once the heat treating process is demonstrated to be effective.

Recall Schedule :

Description of Recall Schedule :	Sheppard will notify vehicle manufactures via email as early as Feb 9. Formal written notification will be sent via USPS, UPS, FedEx or similar means to vehicle manufacturers following the email notification. No owners received a suspect gear directly from Sheppard and no owner notification is expected. All notification is planned to be completed before April 1, 2024
Planned Dealer Notification Date :	FEB 09, 2024 - APR 01, 2024
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 :	Paccar
Address :	10620 NE 38th Place Kirkland WA
Country :	US
Company Phone :	425 828 5201

Name :	Navistar
Address :	2701 Navistar Dr Lisle IL 60532
Country :	US
Company Phone :	331 332 1590

Name :	AM General
Address :	105 N. Niles South Bend IN 46617
Country :	US
Company Phone :	5742376222

Name :	Volvo Trucks North America
Address :	7900 National Service rd Greensboro NC 27409-9416
Country :	US
Company Phone :	717 573 5972

Name :	Autocar
Address :	551 South Washington St Hagerstown IN 47346
Country :	US
Company Phone :	765 489 6062

* NR - Not Reported