The information contained in this report was submitted pursuant to 49 CFR §573

Part 573 Safety Recall Report

Manufacturer Name :R.H. SHEPPARD CO., INC.Submission Date :MAY 28, 2022NHTSA Recall No. :22E-047Manufacturer 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

Equipment Information :

| Brand / Trade 1: | Sheppard | |
|---------------------------|--|--|
| Model : | HD94E | |
| Part No. : | various | |
| Size : | NR | |
| Function : | Steering | |
| Descriptive Information : | A small number of steering gears were assembled without the required number of recirculating balls. The recall population was determined by identifying the oldest production lot associated with a gear failure, and including all production from that lot to the date in February 2022 when the improvements in the assembly process were instituted. | |
| Production Dates : | JUN 01, 2021 - FEB 01, 2022 | |
| | | |
| Brand / Trade 2: | Sheppard | |
| Model : | M100P | |
| Part No. : | various | |
| Size : | NR | |
| Function : | Steering | |
| Descriptive Information : | A small number of steering gears were assembled without the required number of recirculating balls. The recall population was determined by identifying the oldest production lot associated with a gear failure, and including all production from that lot to the date in February 2022 when the improvements in the assembly process were instituted. | |
| Production Dates : | JUN 01, 2021 - FEB 01, 2022 | |
| | | |



Number of potentially involved : 105,271 Estimated percentage with defect : 1%

Population :

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| Brand / Trade 3: | •• |
|---|--|
| | M110P |
| Part No. : | |
| Size : | |
| Function : | Steering |
| Descriptive Information : | A small number of steering gears were assembled without the required number of recirculating balls. The recall population was determined by identifying the oldest production lot associated with a gear failure, and including all production from that lot to the date in February 2022 when the improvements in the assembly process were instituted. |
| Production Dates : | JUN 01, 2021 - FEB 10, 2022 |
| Brand / Trade 4: | Shannard |
| | HD94P |
| Part No. : | |
| Size : | |
| Function : | |
| Descriptive Information : | A small number of steering gears were assembled without the required number of recirculating balls. The recall population was determined by identifying the oldest production lot associated with a gear failure, and including all production from that lot to the date in February 2022 when the improvements in the assembly process were instituted. |
| Production Dates : | JUN 01, 2021 - FEB 10, 2022 |
| | |
| Brand / Trade 5: | |
| | XD120P |
| Part No. : Size : | |
| Function : | |
| | |
| Descriptive Information : A small number of steering gears were assembled without the required num of recirculating balls. The recall population was determined by identifying to oldest production lot associated with a gear failure, and including all product from that lot to the date in February 2022 when the improvements in the assembly process were instituted. | |
| Production Dates : | JUN 01, 2021 - FEB 10, 2022 |

| Brand / Trade 6: | Sheppard |
|---------------------------|--|
| Model : | MD83P |
| Part No. : | various |
| Size : | NR |
| Function : | Steering |
| Descriptive Information : | A small number of steering gears were assembled without the required number of recirculating balls. The recall population was determined by identifying the oldest production lot associated with a gear failure, and including all production from that lot to the date in February 2022 when the improvements in the assembly process were instituted. |
| Production Dates : | JUN 01, 2021 - FEB 10, 2022 |
| | |
| Brand / Trade 7 : | •• |
| | SD110P |
| Part No. : | |
| Size : | |
| Function : | 5 |
| Descriptive Information : | A small number of steering gears were assembled without the required number of recirculating balls. The recall population was determined by identifying the oldest production lot associated with a gear failure, and including all production from that lot to the date in February 2022 when the improvements in the assembly process were instituted. |
| Production Dates : | JUN 01, 2021 - FEB 10, 2022 |
| | |
| Brand / Trade 8: | Sheppard |
| Model : | M83P |
| Part No. : | various |
| Size : | NR |
| Function : | Steering |
| Descriptive Information : | A small number of steering gears were assembled without the required number of recirculating balls. The recall population was determined by identifying the oldest production lot associated with a gear failure, and including all production from that lot to the date in February 2022 when the improvements in the assembly process were instituted. |
| Production Dates : | JUN 01, 2021 - FEB 10, 2022 |

| Brand / Trade 9: S | heppard | |
|---|--|--|
| Model: M | /190P | |
| Part No. : v | rarious | |
| Size : N | JR | |
| Function : S | teering | |
| c c fi | A small number of steering gears were assembled without the required number of recirculating balls. The recall population was determined by identifying the oldest production lot associated with a gear failure, and including all production from that lot to the date in February 2022 when the improvements in the assembly process were instituted. | |
| Production Dates : J | UN 01, 2021 - FEB 01, 2022 | |
| Brand / Trade 10: S | hennard | |
| Model : M | •• | |
| Part No. : v | | |
| Size : N | | |
| Function : S | | |
| Descriptive Information : A o o fi | Descriptive Information : A small number of steering gears were assembled without the required number of recirculating balls. The recall population was determined by identifying the oldest production lot associated with a gear failure, and including all production from that lot to the date in February 2022 when the improvements in the assembly process were instituted. | |
| | UN 01, 2021 - FEB 10, 2022 | |
| escription of Defect : | | |
| Description of the Defect : | Steering gear was assembled with fewer than the required number of recirculating balls which can lead to a fracture in the steering gear worm-shaft and loss of vehicle steering. | |
| FMVSS 1 : FMVSS 2 : | | |
| escription of the Safety Risk : | A steering gear with fewer than the required number of recirculating balls may bind when loads are applied. In some cases the balls may align on the same side of the gear's worm-shaft and concentrated loads may cause the | |
| | gear's internal parts to fracture resulting in loss of vehicle steering. Loss of steering increases the likelihood of a crash. | |

Identification of Any Warning Preceding the internal fracture, the steering may be perceived as strained by that can Occur : the driver. No audible or visual warning is available.

Involved Components :

Component Name : NR

Component Description : NR

Component Part Number: NR

Supplier Identification :

Component Manufacturer

Name : NR Address : NR NR Country : NR

Chronology :

2/8/22-Sheppard warranty lab receives a gear built 8/20/2021 with failed worm-shaft. 2/9/22 - warranty lab inspection/disassembly indicates fracture of the worm-shaft and less than the required number of recirculating balls 2/10/22-plant stops production. Additional inspections and process verifications put in place. Clean point is established. Material on hand is inspected and confirmed defect free. Production resumes. (2/10/22 - 5/13/22): review of all warranty from 2015-present indicated no similar failure ever received. engineering tests are performed to understand and to reproduce failure mode. 3/10/2022 - Sheppard contacted vehicle driver for description of event and confirmed no accident or injury, low speed and while backing up. 4/12/22 - Sheppard receives a second gear at incoming shipping facility 5/5/22- Sheppard warranty lab receives/inspects/disassembles the second gear built on 6/26/21 with failed worm-shaft and less than the required number of recirculating balls 5/6/22- The Product Integrity Committee meets for update on the product investigation. 5/13/22 - The Product Integrity Committee meets submission of a defect report 573

Description of Remedy :

Description of Remedy Program : A remedy program is under development. The 573 will be amended once an inspection and remedy plan has been developed.

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| | omponent Differs NR Illed Component : |
|------------------------------|--|
| | A Recall Condition ed in Production : on Feb 10, 2022 the recirculating ball insertion process control was enhanced. Additional process controls and inspectors were added to the process to verify that the correct number of recirculating balls in each steering gear. |
| Recall Schedule : | |
| Description of | Recall Schedule : NR |
| Planned Dealer N | Notification Date : JUL 15, 2022 - JUL 15, 2022 |
| Planned Owner N | Iotification Date : JUL 15, 2022 - JUL 15, 2022 |
| Purchaser Informa | ntion : |
| - | nufacturers purchased this defective/noncompliant equipment for possible use or w motor vehicles or new items of motor vehicle equipment: |
| Name : | Daimler Trucks North America |
| Address : | 4555 N. Channel Ave. |
| | Portland OR 97217 |
| Country : | |
| Company Phone : | 503-745-5508 |
| Name : | HME, Inc. |
| Address : | 1950 Byron Center Ave. |
| | Wyoming MI 49519 |
| Country : | |
| Company Phone : | 616.534.1463 |
| Name : | Kalmar Solutions |
| Address : | 415 E. Dundee |
| a . | Ottawa KS 66067 |
| Country : Company Phone : | US (785) 248-0776 |
| Name · | Kodiak America |
| nume. | PO Box 370 |
| Address : | Paul ID 43347 |
| Address : | |
| Address : Country : | US |

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| Name : | Link-Belt Construction Equip. |
|------------------------|--|
| Address : | 2651 Palumbo Dr |
| | Lexington KY 40509 |
| Country : | US |
| Company Phone : | (859) 264-6439 |
| | |
| | Orange EV LLC |
| Address : | 500 NW Business Park Lane |
| | Riverside MO 64150 |
| Country : | |
| Company Phone : | NR |
| Nama : | Pierce Manufacturing Inc |
| | Pierce Manufacturing Inc. 2600 American Dr. |
| Auuress. | Appleton WI 54913-2017 |
| Country : | |
| Company Phone : | |
| company r none . | 0.0.0.0011 |
| Name : | TICO Mfg/Terminal Services |
| | PO Box 1434 |
| | Savannah GA 31402 |
| Country : | US |
| Company Phone : | 843-536-8139 |
| N | |
| | Crane Carrier Co |
| Address : | 1951 Reiser Avenue S.E. |
| Country | New Philadelphia OH 44663 |
| Country : | |
| Company Phone : | NK |
| Name : | SUPACAT LTD. |
| | THE AIRFIELD DUNKESWELL |
| | England 00 |
| Country : | 8 |
| Company Phone : | |
| I U | |
| Name : | Kenworth Truck Co. |
| Address : | 10630 NE 38th Place |
| | Kirkland WA |
| Country : | US |
| Common Dhan a | 425-828-5201 |

Name : Autocar LLC Address: 551 South Washington St. Hagerstown IN 47346 Country: US Company Phone : NR Name : Capacity of Texas Address: 401 Capacity Drive Longview TX 75604 Country: US Company Phone : NR Name : JCB Manufacturing Inc. Address: 2000 Bamford Blvd. Pooler GA 31322 Country: US Company Phone : NR Name : Peterbilt Motors Inc Address: 3200 Airport Road Denton TX 31322 Country: US Company Phone : 940-220-2760 Name: AM General LLC Address: 105 N. Niles Avenue South Bend IN 46617 Country: US Company Phone : NR Name : Kovatch Mobile Equipment Address : One Industrial Complex Nesquehoning PA 18240 Country: US Company Phone: (570) 669-5581 Name : New Flyer of America Address: 711 Kernaghan Ave Winnipeg Manitoba 00 R2C 2T4 Country: CA Company Phone : NR

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| Name : | Oshkosh Truck Corp. |
|------------------------------|--|
| | 2307 Oregon St. |
| | Oshkosh WI 54903 |
| Country : | US |
| Company Phone : | |
| | |
| | Eldorado National Inc |
| Address : | 9670 Galena St. |
| | Riverside CA |
| Country : | |
| Company Phone : | NR |
| NI | |
| | Emergency One, Inc 1601 SW 37th Ave |
| Address . | Ocala FL 34474 |
| Country : | |
| Company Phone : | |
| company mone. | |
| Name : | Ferrara Fire Apparatus, Inc. |
| Address : | 27855 James Chapel Road North |
| | Holden LA 70744 |
| Country : | US |
| Company Phone : | NR |
| | |
| | Global Environmental Products |
| Address : | 5405 Industrial Parkway |
| Country | San Bernardino CA 92407 |
| Country : Company Phone : | |
| company r none . | |
| Name : | Grove (Manitowoc) Worldwide |
| Address : | |
| | Shady Grove PA 17256-0021 |
| Country : | US |
| Company Phone : | 717-593-5116 |
| | |
| | Meritor, Inc |
| Address : | 2135 West Maple Rd |
| Country | Troy MI 48084 |
| Country : Company Phone : | |
| company r none. | 1000-1&1-0.001 |
| | |

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|-------|-----|
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| | Mil-Stak, Inc. 2201 Hwy. 30 w Fruitland ID 83619 US |
|-----------------|--|
| Company Phone : | |
| N | TT I |
| | Tenco,Inc |
| Address : | 1318 Principale |
| | St-Valerien de Milton 00 JOH 2B0 |
| Country : | СА |
| Company Phone : | |
| | |
| Name : | Navistar Inc |
| Address : | 2701 Navistar Dr |
| | Lisle IL 60532 |
| Country : | US |
| Company Phone : | 331-332-1590 |
| | |
| Name : | Volvo Trucks North America, Inc |
| Address : | 7900 National Service Road |
| | Greensboro NC 27409-9416 |
| Country : | US |
| Company Phone : | |
| | |

* NR - Not Reported