



SERVICE BULLETIN INSTRUCTIONS FOR RECALL 22V-602

To: Crane Carrier Company, LLC Dealer and Service Center Network

Date: August 26, 2022

Units Involved: Chassis produced between the dates of August 2021 and July 2022. A list of suspect vehicles is attached part of this service bulletin.

Topic: Inspection and replacement of suspected defective R.H. Sheppard Steering Gear.

R.H. Sheppard has determined that a steering gear with fewer than the required number of circulating 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 increased the likelihood of a crash. Preceding the internal fracture, the steering may be perceived as strained by the driver. No audible or visual warning is available. To correct this, CCC is authorizing an inspection and replacement of the R.H. Sheppard Steering Gear.

Warranty Status: Reimbursement by warranty claim utilizing one of the following codes:

- 00-RHS-001: Inspection without replacement – 0.30 hours.
- 00-RHS-002: Inspection and Replacement of Steering Gear – 2.80 hours.



Urgent attention to this service bulletin is required. Failure to complete this service in a timely manner may result in equipment damage or personal injury.

Service Instructions:

1. Determine if the chassis is one of the suspected units by referencing the following list. If the unit is on the list, proceed to step two, if it is not, no further action is required.

1CYAADAC0P1000309	4C9AADAC1N1540971	4C9AADAD1N1540851	4C9ABCAC1N1540945
1CYAADAC0P1000312	4C9AADAC1P1000099	4C9AADAD1N1540929	4C9ABCAC1P1000126
1CYAADAC0P1000326	4C9AADAC1P1000104	4C9AADAD1N1540932	4C9ABCAC3P1000158
1CYAADAC0P1000665	4C9AADAC2M1540492	4C9AADAD1P1000371	4C9ABCAC8N1540943
1CYAADAC1P1000125	4C9AADAC2M1540508	4C9AADAD2P1000377	4C9ABCACXN1540944
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1CYAADAC1P1000349	4C9AADAC2N1540543	4C9AADAD3N1540933	4C9ABDAC0N1540182
1CYAADAC1P1000674	4C9AADAC2N1540963	4C9AADAD3P1000369	4C9ABDAC0N1540957
1CYAADAC2P1000232	4C9AADAC2N1540980	4C9AADAD3P1000372	4C9ABDAC0N1540974
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1CYAADAC2P1000330	4C9AADAC3M1540629	4C9AADAD5P1000373	4C9ABDAC1N1540191
1CYAADAC2P1000666	4C9AADAC3N1540079	4C9AADAD6N1540845	4C9ABDAC1N1540949
1CYAADAC3P1000319	4C9AADAC3N1540163	4C9AADAD6P1000379	4C9ABDAC2N1540118



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1CYAADAC4P1000667	4C9AADAC3N1540972	4C9AADAD9N1540936	4C9ABDAC3M1540644
1CYAADAC4P1000670	4C9AADAC3P1000105	4C9AADAD9P1000375	4C9ABDAC3N1540189
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1CYAADAC6P1000315	4C9AADAC4N1540088	4C9AADAD9N1540850	4C9ABDAC3N1540953
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1CYAADAC8P1000669	4C9AADAC4P1000100	4C9AADAF5P1000116	4C9ABDAC5N1540954
1CYAADAC8P1000672	4C9AADAC4P1000226	4C9AADAF9M1540581	4C9ABDAC6M1540637
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1CYATAGA3P1P10027	4C9AADAC6N1540514	4C9AADAJXM1540450	4C9ABDAC8M1540641
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4C9AAAAC5M1540470	4C9AADAC7M1540505	4C9AAGAD4N1540988	4C9ABDAC9N1540939



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4C9AAAAC5N1540924	4C9AADAC7M1540522	4C9AAGAD5M1540836	4C9ABDAC9N1540956
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4C9AAAAC8M1540477	4C9AADAC7N1540540	4C9AAGAD7M1540837	4C9ABDACXM1540642
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4C9AAAAJ3M1540613	4C9AADAC8N1540112	4C9AAGADXM1540833	4C9ABDAD2N1540922
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4C9AAAAJ7M1540615	4C9AADAC8N1540515	4C9AAGAF0N1540083	4C9ABDAJ0M1540857
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4C9AACAC3N1540917	4C9AADAC9M1540506	4C9AAGAF4N1540135	4C9ABGAJ4N1540072
4C9AACAC5N1540904	4C9AADAC9M1540554	4C9AAGAF5N1540127	4C9ACAAC0N1540923
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4C9AACAD5N1540099	4C9AADAC9P1000108	4C9AAGAF8N1540137	4C9ADDAC3M1540444
4C9AACAD5N1540104	4C9AADAC9P1000223	4C9AAGAF8N1540140	4C9ASAAA0M1540484
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4C9AADAC0N1540539	4C9AADACXN1540967	4C9AAGAJ2N1540073	4C9ASAAA7M1540482
4C9AADAC0N1540928	4C9AADACXN1540970	4C9AAGAJ4N1540074	4C9ASAAA8M1540488
4C9AADAC0P1000224	4C9AADACXP1000084	4C9AAGAJ6N1540075	4C9ASAAA8M1540491
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4C9AADAC1N1540517	4C9AADAD1N1540588	4C9ABAAC8N1540901	4C9ATAAA4N1540115
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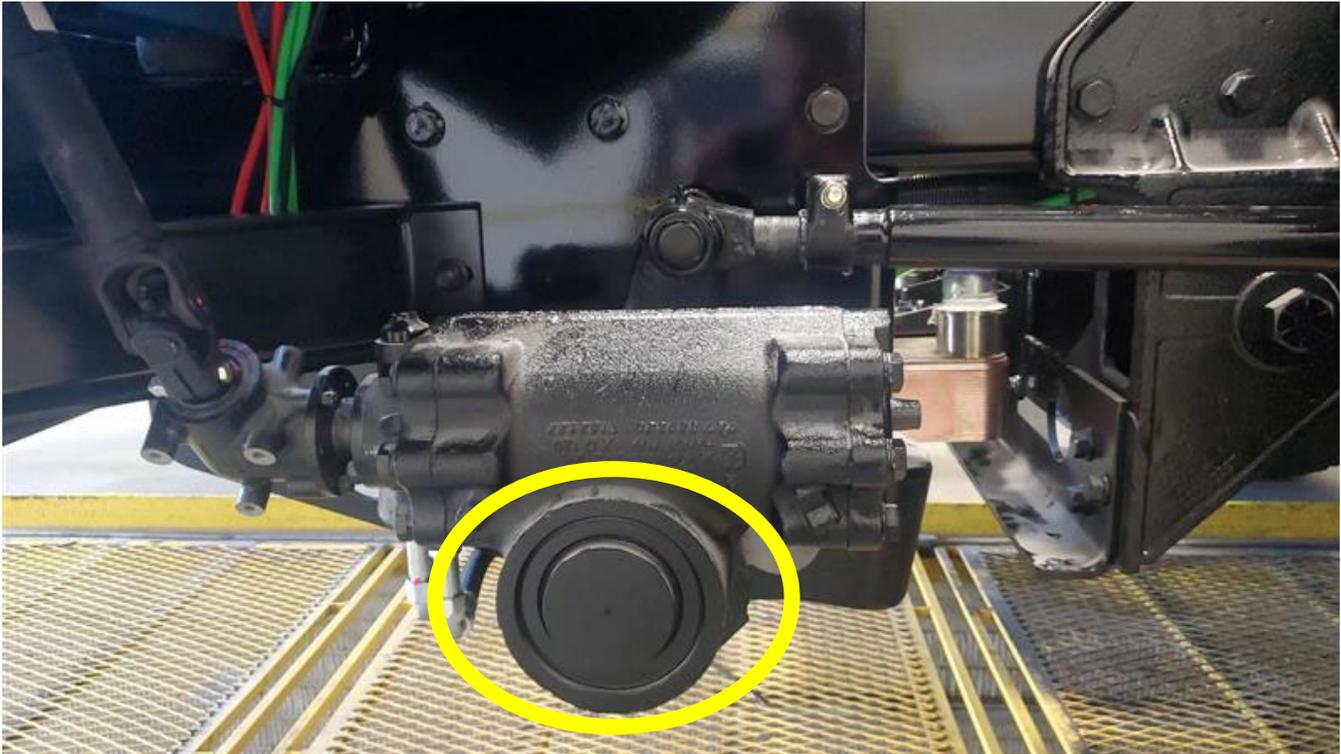


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			4C9ATAGA5P1000024
			4C9ATAGA8N1540092
			4C9ATAGA9N1540005

2. Need to raise the cab and the steering gear is located on the bottom left (Street) side as in the highlighted circle below.





3. Affected Sheppard Steering Gears can be identified by a serial number and a part number engraved into the steering gear housing. There are three common styles of engraving locations to be aware of when locating or deciphering the steering gear serial number and/ or part number.

Style 1: This style will have the serial number and part number engraved on one line with a space between the part number and serial number, The entire engraving should be centered on the machine surface.



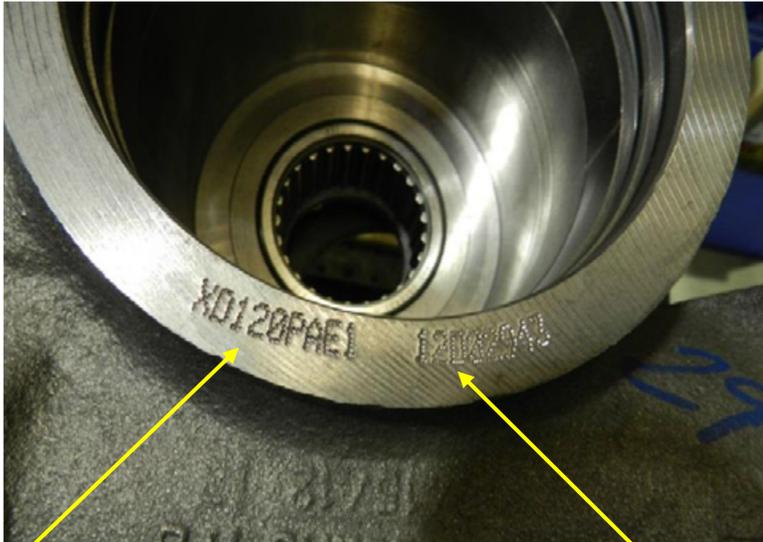
Part Number

Serial Number



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Style 2: This style will also have the serial number and part number engraved on one line with a space between the part number and engraved on more of a curve due to the lack of space provided.



Part Number

Serial Number

Style 3: The serial number and part number should be displayed on one line with a space between the part number and the serial number. This style will also have a customer number printed on the housing opposite of the part number and serial number.



Part Number

Serial Number

Customer Number

The serial number contains the year, month built, the sequential serial number for gears built that month and the steering gear sector cover style. For example, the serial number “21E07957-C” represents a steering gear assembly manufactured in 2021. The “E” represents the month built (i.e., May), “07957” represents the sequential serial number for gears built that month and “C” represents that steering gear sector cover has a snap ring retainer clip. The part number contains the steering gear family “SD”, the piston diameter in mm “110”, the specific model of steering gear “PAU”, and if the steering gear has automatic relief plungers “3” which is represented by the following part number example “SD110PAU3”.

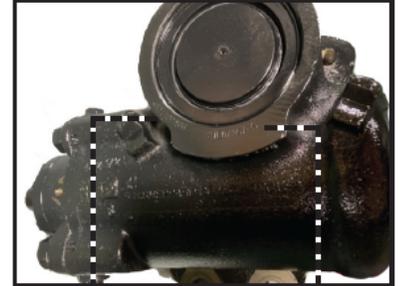
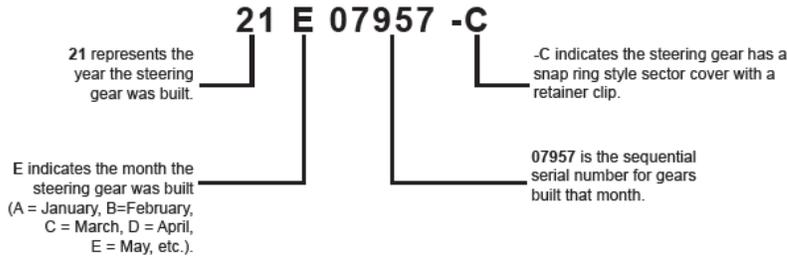
If a steering gear serial number begins with 21 E (May 2021) or earlier (i.e., 21 D [April 2021], 21 C [March 2021], 21 B [February 2021], 21 A [January 2021], 20 L [December 2020], 20 K [November 2020], etc.), it does not fall within the recall parameters. If a steering gear serial number begins with 22 C (March 2022) or later (i.e., 22 D [April 2022], 22 E [May 2022], 22 F [June 2022], 22 G [July 2022], 22 H [August 2022], etc.), it does not fall within the recall parameters.



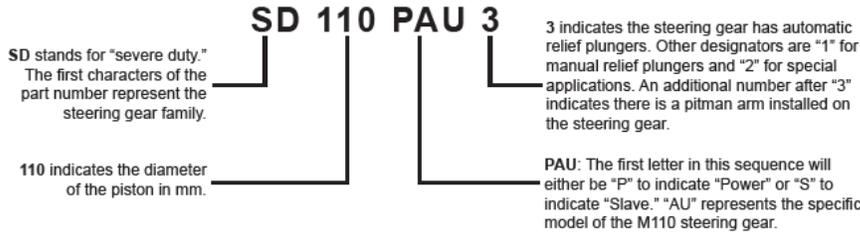
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Only serial numbers produced between June 01, 2021 - February 10, 2022 are Suspect to be effected.

SERIAL NUMBER EXAMPLE:



PART NUMBER EXAMPLE:



ENGRAVED NUMBERS



ENGRAVED LETTERS





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Vehicles with a “Good” steering gear serial number can be returned to service with no further remedy action required. CCC will cover the labor involved in the serial number inspection as per guideline.

Vehicles with a steering gear serial number identified as “Suspect” will require removal and replacement of the Steering Gear. Recording of the VIN, serial number, and part number will be required in order to process a claim.

A “Not Found” serial number indicates circumstances such as a possible character input error by the individual conducting the inspection or some other unique situation. Receipt of a Not Found classification will require you to contact the Sheppard Steering Gear Recall Product Action Center

4. Steering gears not affected in the recall include remanufactured steering gears, slave gears and steering gears outside of the date range.
5. If a Steering Gear is deemed to be Suspected due to the date code of the serial number refer to instructions in removing and replacing the steering gear as per Service Manual. If necessary, refer to Sheppard Steering Gear Installation RHS0006 at www.rshepard.com for instructions on replacing the steering gear.