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Major System: Steering

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Last Modified: 5/21/2025

Other Languages: NONE

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Coding Information

| | | | | | | | |
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Title: Steering Gear Seal Repair Guidelines

Applies To: Steering gears

CHANGE LOG

Please refer to the change log text box below for recent changes to this article:

05/21/2025- added grease oil separation.
04/09/2018 - Author updated for feedback purposes
07/21/2015 - Initial Article Release

DESCRIPTION

This document will guide the user through properly identifying and repairing steering gear seal leaks.

SYMPTOM(s)

Diagnostic Trouble Code(s) & Dashboard Indicator Light(s):

| DTC/Light | Description |
|----------------------------------|-------------|
| No faults with this failure mode | |

Customer Observations or Concerns:

-Leaks, Seepage, or weeping around the input shaft seal

SPECIAL TOOL(s) / SOFTWARE

| Tool Description | Tool Number | Comments | Instructions |
|-------------------|-------------|----------------|--------------|
| Pitman Arm Puller | ZTSE4439 | only if needed | |

SERVICE PARTS INFORMATION

| Kit Description | Part Number | Quantity Required | Notes | Feature Codes |
|-------------------------------|-------------|-------------------|--|---------------------------------|
| Input Shaft Seal Kit | 2585853C91 | 1 | All M, MD, HD, and SD series gears | ALL Sheppard Gear Feature Codes |
| Bearing Cap/ End Cap seal kit | 2588922C91 | 1 | HD 94- Master Only | 0005PSM |
| Sector Seal Kit | 2590542C91 | 1 | HD-94- All Sector Shaft Seal Kit w/Snap Ring | ALL HD Gears |
| Sector Seal Kit | 2602863C91 | 1 | M100- All Sector Shaft Seal Kit w/Snap Ring and L-Seal | ALL M Series Gears |
| Bearing Cap/End Cap Seal Kit | 2585860C91 | 1 | M100-Master Only End Cap Seal kit | 0005PSJ |

DIAGNOSTIC STEP(S)

WARNING! To prevent property damage, personal injury, and / or death, park vehicle on a hard, flat surface, turn the engine off, set the parking brake, and install wheel chocks to prevent the vehicle from moving in either direction.

WARNING! To prevent property damage, personal injury, and / or death, if the vehicle must be raised, do not work under the vehicle supported only by jacks. Jacks can slip or fall over.

WARNING! To prevent personal injury and / or death, always wear safe eye protection when performing vehicle maintenance.

WARNING! To prevent property damage, personal injury, and / or death, keep flames or sparks away from vehicle and do not smoke while servicing the vehicle's batteries. Batteries expel explosive gases.

WARNING! To prevent property damage, personal injury, and / or death, remove the ground cable from the negative terminal of the battery box before disconnecting any electrical components. Always connect the ground cable last.

| Step | Action | Decision |
|------|--|--|
| #1 | <p>DIAGNOSTIC:</p> <p>Is there a leak at the steering gear?</p> <p>NOTE - Excessive grease that purges from steering shaft joints can experience oil separation or "grease bleeding". When oil bleeds out of grease, it can make it appear as though there is an oil or fluid leak in the area.</p> <ul style="list-style-type: none"> -Clean off all excess grease in the area of the suspected leak -Clean off all oil residue from the area of the suspected leak -Operate the system to see if a leak is present (use UV dye if necessary) <p>Grease bleeding is explained below</p> <ul style="list-style-type: none"> -How to Minimize Grease Bleeding -Grease_Oil_Separation_TT_v4.pdf | <p>Yes: Proceed to step 2</p> <p>No: Identify whether the leak is coming from the steering or other components</p> |

| Step | Action | Decision |
|------|--|---|
| #2 | DIAGNOSTIC: Is there a leak at the fittings? | Yes: Repair the leak at fittings and proceed to step 3 |
| | | No: Proceed to Step 3 |

| Step | Action | Decision |
|------|---|--|
| #3 | DIAGNOSTIC: Inspect the Input Shaft Seal for leakage. Is there any leakage coming from the input shaft seal? (<i>Refer to Figure 1</i>). | Yes: Follow the service procedure for Input shaft seal replacement on RH Sheppard's Website |
| | | No: Proceed to Step 4 |

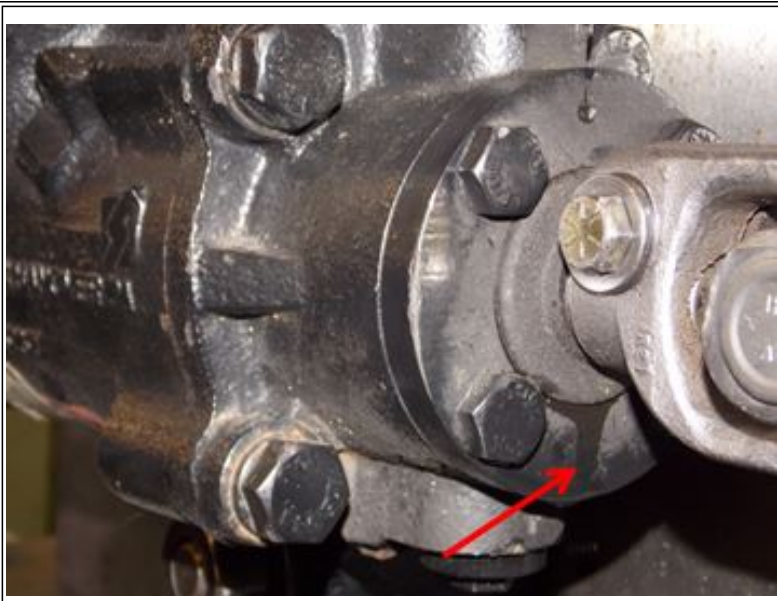


Figure # 1: Steering Gear Input

| Step | Action | Decision |
|------|--|--|
| #4 | DIAGNOSTIC: Is the bearing cap leaking? (<i>Refer to figure 2</i>) | Yes: Follow the bearing cap seal replacement service procedure on RH Sheppard's Website |
| | | No: Proceed to step 5 |

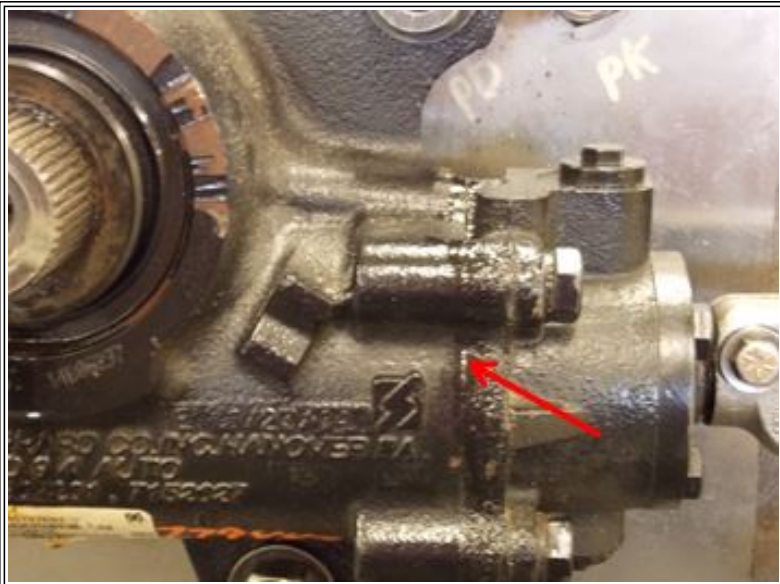


Figure # 2: Steering Gear Bearing CAP

| Step | Action | Decision |
|-----------|---|--|
| <p>#5</p> | <p>DIAGNOSTIC: Is the sector shaft leaking? <i>(Refer to figure 3)</i></p> | <p>Yes: Follow Sector Shaft seal replacement service procedure on RH Sheppard's Website</p> |
| | | <p>No: Repeat steps 1-5</p> |

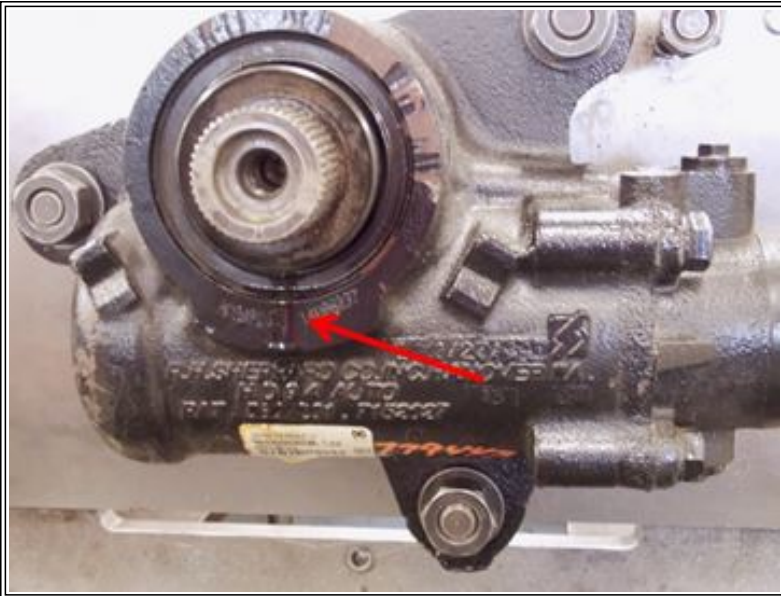


Figure #3 Sector Shaft

REPAIR STEP(s)

For repair procedures, refer to: <https://www.rhsheppard.com/customer-service/service-bulletins/>

For instructional videos, refer to: <https://www.rhsheppard.com/customer-service/service-and-instructional-videos/>

WARRANTY INFORMATION

Warranty Claim Coding:

Refer to the [Warranty Coding Manual](#) for Group and Noun Codes.

Standard Repair Time(s):

Refer to the [SRT Manual](#) for Repair Times

Special Requirement:

Replacement of a complete gear assembly for a leak complaint will be charged back to the dealer for improper diagnoses and repair. Use correct repair procedures and parts for repairing a steering gear leak.

OTHER RESOURCES

[Master Service Information Site](#)

Oil bleed is a term used to explain the separation of oil or seepage of oil during normal grease operating conditions. Oil bleed is easily identified by the presence of oily sections of greased components and/or the formation of small pools of oil around componentry

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Feedback Information

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