

Hazard Warning Definitions

⚠ DANGER	Immediate hazards which WILL result in severe personal injury or death.
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⚠ WARNING	Hazards or unsafe practices which COULD result in severe personal injury or death.
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⚠ CAUTION	Hazards or unsafe practices which COULD result in minor personal injury or product or property damage.
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NOTE	A note gives key information to make following a procedure easier or quicker.
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Disclaimer

This Service Manual has been prepared by TRW Commercial Steering Systems for reference and use by mechanics who have been trained to repair and service steering components and systems on heavy commercial vehicles. TRW Commercial Steering Systems has exercised reasonable care and diligence to present accurate, clear and complete information and instructions regarding TRW Commercial Steering linkage components. Since this is a general service manual, the photographs and illustrations may not look exactly like the components being serviced. The procedures, therefore, must be carefully read and understood before servicing.

If inspection or testing reveals evidence of abnormal wear or damage to TRW linkage components or if you encounter circumstances not covered in the manual, **STOP - CONSULT THE VEHICLE MANUFACTURER'S SERVICE MANUAL AND WARRANTY. DO NOT TRY TO REPAIR OR SERVICE ANY LINKAGE COMPONENT WHICH HAS BEEN DAMAGED OR INCLUDES ANY PART THAT SHOWS EXCESSIVE WEAR UNLESS THE DAMAGED AND WORN PARTS ARE REPLACED WITH ORIGINAL TRW REPLACEMENT AND SERVICE PARTS AND THE UNIT IS RESTORED TO TRW'S SPECIFICATIONS FOR THAT SPECIFIC COMPONENT.**

It is the responsibility of the mechanic performing the maintenance, repairs or service on a particular TRW linkage component to (a) inspect components for abnormal wear and damage, (b) choose a repair procedure which will not endanger his/her safety, the safety of others, the vehicle, or the safe operation of the vehicle, and (c) fully inspect and test the linkage components and the vehicle steering system to ensure that the repair or service of the component has been properly performed and that the component and system will function properly.

Patents

TRW Commercial Steering Systems linkage components are covered by several United States and foreign patents, either issued or pending.

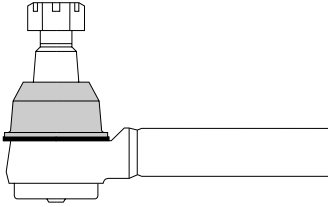
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Recommended Lubrication Guidelines

TRW Tie Rod and Drag Link Ends should be lubricated with **#2 NLGI extreme pressure, lithium-based, moly-filled, heavy duty grease**, at regular intervals recommended by the vehicle manufacturer. General guidelines for lubrication are listed below, but each owner has the ultimate responsibility for making sure the tie rod ends are lubricated appropriately for the vocation of the vehicle.

On-highway vehicles only

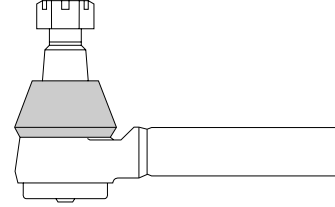


With Boot Seal

Severe Service - Lubricate tie rod end every oil change or 10,000 miles, whichever comes first.

Normal Service - Lubricate tie rod end every-other oil change or 20,000 miles, whichever comes first.

Flush with grease until you see clean grease.



With Sliding Seal

Normal Service - Lubricate tie rod end every oil change or more frequently when the vehicle is subjected to harsh environments.

Flush with grease until you see clean grease.

NOTE

More specific procedures and intervals can be found in the vehicle manufacturers service manual. These procedures and intervals are TRW Commercial Steering Systems' recommended general guidelines for steering related preventive maintenance.