

TRW Automotive
Commercial Steering Systems

Service Bulletin #LNK-118

24DL Socket Replacement (Drag Links)

Released February 2001

This TRW Commercial Steering Systems service bulletin has been written to help you repair commercial vehicles more efficiently. This bulletin should not replace your manuals; you should use them together. These materials are intended for use by properly trained, professional mechanics, NOT "Do-it-yourselfers". You should not try to diagnose or repair steering problems unless you have been trained, and have the right equipment, tools and know-how to perform the work correctly and safely.

This campaign is limited to certain vehicles.

IF The chassis number of the truck is on the list identified by the OE manufacturer,

AND The tie rod end manufacturer, "TRW" is listed on either end of the socket assembly. (If it does not say "TRW", it is not included in this campaign.

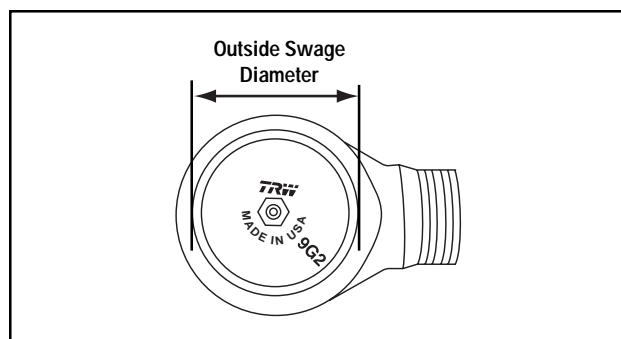
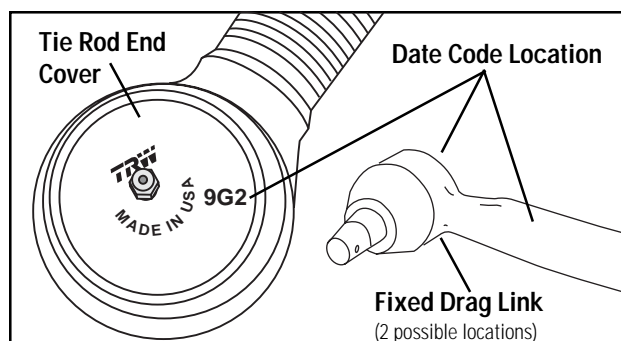
AND The date code on either socket end is any of the following: 9G2, 9G3

NOTE: In the case where a date code does not exist on either socket end, refer to the date code on the drag link bar adjacent to the part number stamp.

AND The sockets are "24 size" sockets. To identify the size: Measure the outside swage diameter. A 24 size socket will measure approx. 2 1/8".

THEN The entire drag link needs to be replaced, even if one end is adjustable.

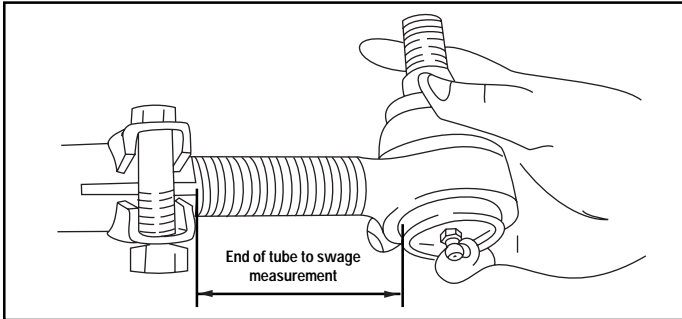
Identify the type of drag link, and proceed to the correct section.



Two-End Adjustable Drag Link Socket Replacement

Remove the Drag Link Assembly

1. Note the position of any bends in the drag link so it can be repositioned the same on reinstallation.
2. For two-end adjustable draglinks measure from the end of the tube to the nearest outside swage diameter on both ends as shown in the illustration below. Record these measurements.



CAUTION Do not steer to end of travel while the drag link is disconnected from the vehicle. Doing so may damage the steering gear poppets.

3. Remove the drag link connection to the **pitman arm** using a ball joint separator (pickle fork).
4. Remove the drag link connection to the **steering arm** using a ball joint separator (pickle fork).

Install the New Drag Link Assembly

1. Clean the tapered holes in the steering arm and pitman arm with a clean cloth.
2. Reconnect the drag link. For two-end adjustable draglinks, reposition the ends into the tube until the measurement for the end of the tube to the nearest outside swage diameter is the same as you measured in Step 2 under "Remove the Draglink Assembly". Torque the nut to the manufacturer's specifications. Install the cotter pin.
3. Make sure the adjustable end(s) are threaded into the tube deeper than the slot in the tube.
4. If the clamps are not tack-welded, seat the tabs on the clamps against the end of the tube. Position the bolts as noted earlier. Tighten the clamps and torque to manufacturer's specifications.

Install the New Drag Link Assembly (Cont.)

5. Reposition the road wheels to straight ahead and install the drag link to the pitman arm. Rotate the steering gear input shaft slightly if necessary until the ball stud falls into place. Torque the nut to the manufacturer's specifications. Install the cotter pin.

Center the Socket Ends

1. Loosen the clamp on the **PITMAN ARM END** of the drag link.
2. Grasp the long side of the drag link with both hands. Rotate the drag link away from you as far as it will go, then toward you as far as it will go. Center the drag link between these two points.
3. Hold the long side in place. Grasp the short end of the drag link (socket only) and rotate it as far toward you and away from you as it will go. Center the short end between these two points.
4. With both ends centered, position the clamp on the **PITMAN ARM END** as noted earlier. Tighten the clamp and torque to vehicle manufacturer's specifications.

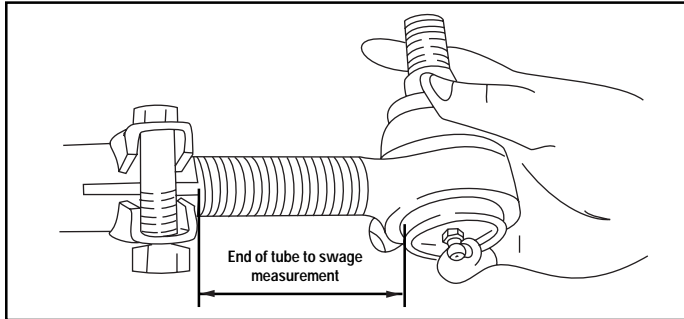
Check and Lubricate

1. Check to make sure the road wheels are straight ahead, and the steering gear is on center (timing marks are aligned).
2. Lubricate sockets through a grease zerk until you can see clean grease purging out of the seal.

One-End Adjustable Drag Link Assembly Replacement

Remove the Drag Link Assembly

1. Note the position of any bends in the drag link so it can be repositioned the same on reinstallation.
2. For one-end adjustable draglinks measure from the end of the tube to the nearest outside swage diameter as shown in the illustration below. Record this measurements.



CAUTION Do not steer to end of travel while the drag link is disconnected from the vehicle. Doing so may damage the steering gear poppets.

3. Remove the drag link connection to the **pitman arm** using a ball joint separator (pickle fork).
4. Remove the drag link connection to the **steering arm** using a ball joint separator (pickle fork).

Install the Drag Link Assembly

1. Clean the tapered holes in the mating surface and pitman arm with a clean cloth.
2. Reconnect the drag link. Reposition the adjustable draglink end into the tube until the measurement for the end of the tube to the nearest outside swage diameter is the same as you measured in Step 2 under "Remove the Draglink Assembly". Torque the nut to the manufacturer's specifications. Install the cotter pin.
3. Reposition the road wheels to straight ahead and connect the new drag link to the pitman arm. Rotate the steering gear input shaft slightly if necessary until the ball stud falls into place. Torque the nut to the manufacturer's specifications. Install the cotter pin.

Center the Socket Ends

1. Loosen the clamp on the PITMAN ARM END of the drag link.
2. Grasp the long side of the drag link with both hands. Rotate the drag link away from you as far as it will

go, then toward you as far as it will go. Center the drag link between these two points.

3. Hold the long side in place. Grasp the short end of the drag link (socket only) and rotate it as far toward you and away from you as it will go. Center the short end between these two points.
4. With both ends centered, position the clamp on the PITMAN ARM END as noted earlier. Tighten the clamp and torque to vehicle manufacturer's specifications.

Check and Lubricate

1. Check to make sure the road wheels are straight ahead, and the steering gear is on center (timing marks are aligned).
2. Lubricate sockets through a grease zerk until you can see clean grease purging out of the seal.

Fixed Drag Link Assembly Replacement

Remove the Drag Link Assembly

1. Remove the drag link connection to the **pitman arm** using a ball joint separator (pickle fork).
2. Remove the drag link connection to the **steering arm** using a ball joint separator (pickle fork).

CAUTION Do not steer to end of travel while the drag link is disconnected from the vehicle. Doing so may damage the steering gear poppets.

Install the Drag Link Assembly

1. Clean the tapered holes in the steering arm and pitman arm with a clean cloth.
2. Connect the new drag link to the steering arm. Torque the nut to the manufacturer's specifications. Install the cotter pin.
3. Reposition the road wheels to straight ahead and connect the new drag link to the pitman arm. Rotate the steering gear input shaft slightly if necessary until the ball stud falls into place. Torque the nut to the manufacturer's specifications. Install the cotter pin.

Check and Lubricate

1. Check to make sure the road wheels are straight ahead, and the steering gear is on center (timing marks are aligned).
2. Lubricate sockets through a grease zerk until you can see clean grease purging out of the seal.

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