

## Service Bulletin #LNK-113

### EDL Socket Replacement (Drag Links)

Released October, 2000

*This TRW Commercial Steering Division 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 date code on either socket end is any of the following: 9G1, 9G2, 9G3, 9G4, 9H1, 9H2, 9H3, 9H4, 9H5, 9J1, 9J2, 9J3 OR 9J4.

**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 "20 size" sockets. To identify the size: measure the outside swage diameter. A 20 size socket will measure approx. 1 7/8". (24 size sockets measure 2 1/8", and are not part of this campaign.)

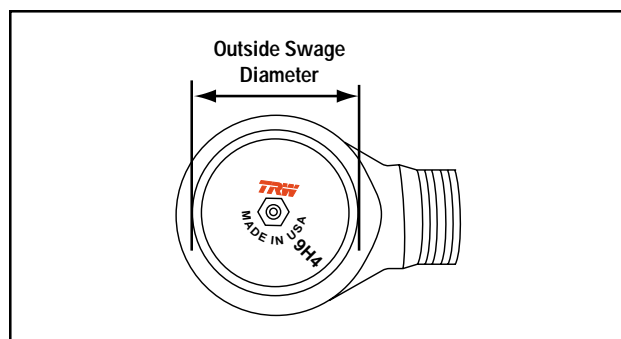
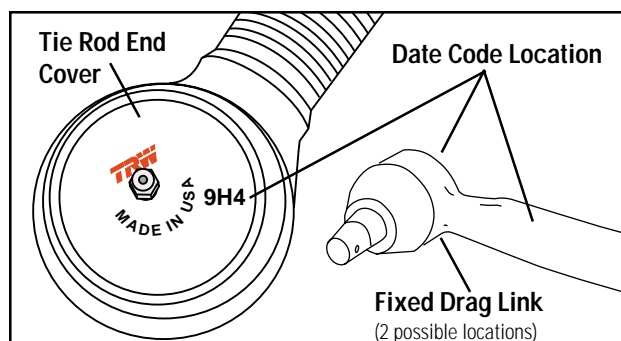
**THEN** ..... Both socket ends need to be replaced.

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

If you have a two-end adjustable drag link, both socket ends need to be replaced. Section: **Two-End Adjustable (page 2)**.

If you have a drag link with one adjustable and one fixed end, you should replace the complete drag link assembly. Section: **One-End Adjustable (page 3)**.

If you have a fixed drag link (both ends are fixed), you should replace the complete drag link assembly. Section: **Fixed Drag Links (page 3)**.



**NOTE:** Only 20 size sockets are subject to this campaign. Make sure you are servicing the correct size socket.

**NOTE:** Any socket with "DL" stamped into the end cover is a different design, and IS NOT part of this campaign.

# Two-End Adjustable Drag Link Socket Replacement

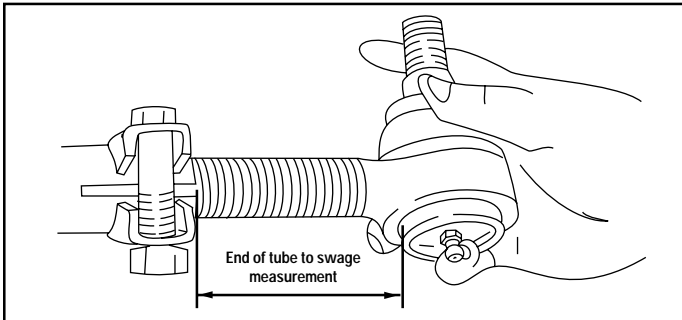
## Remove the Drag Link Assembly

1. Note the position of any bends in the drag link so it can be repositioned the same on reinstallation.
2. Remove the drag link connection to the **pitman arm** using a ball joint separator (pickle fork).
3. 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.

## Remove and Replace the Socket Ends

1. Note the position of the bolt and nut in the clamp, and the position of the clamp relative to the sockets.
2. On one end, measure from the end of the tube to the nearest outside swage diameter as shown below. Record the measurement.



3. Loosen one of the clamp bolts.

**WARNING** If the clamp is tack-welded, do not remove the tack weld. If the tack weld is removed, clamping force will not be enough to keep the socket threads stationary. Loss of steering control will result. If welds are broken, the cross tube must be replaced.

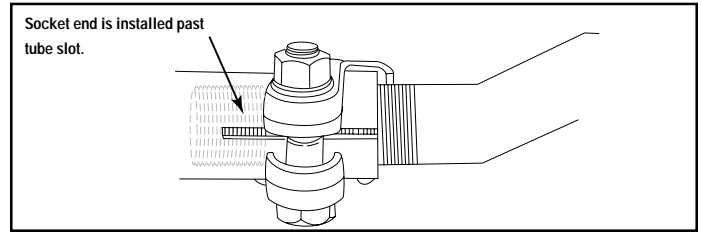
4. Remove one threaded socket end from the drag link. Use a pipe wrench if necessary, being careful not to deform the tube.

**WARNING** Do not heat the components to remove. Doing so will soften and damage the parts.

5. Install the new socket end. Thread the new socket end into the tube until the measurement from the end of the tube to the nearest outside swage diameter is the same as you measured in step 2.
6. Repeat steps 3- 5 for the other socket end.

7. Make sure both ends are threaded into the tube deeper than the slot in the tube.

**WARNING** Do not adjust the drag link to a position where you can see the end of the socket thread through the slot in the tube. If the socket thread end is visible, corrosion may occur in the tube weakening the components.



8. 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 Drag Link Assembly

1. Clean the tapered holes in the steering arm and pitman arm with a clean cloth.
2. Reconnect the 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 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. 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.

## 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.

**TRW Commercial Steering Systems**  
902 Lyons Rd.  
Portland, MI 48875  
Phone: (866) 280-3287 (toll free)  
Fax (517) 647-0343

