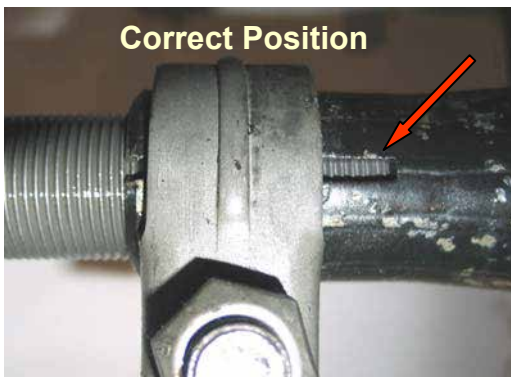
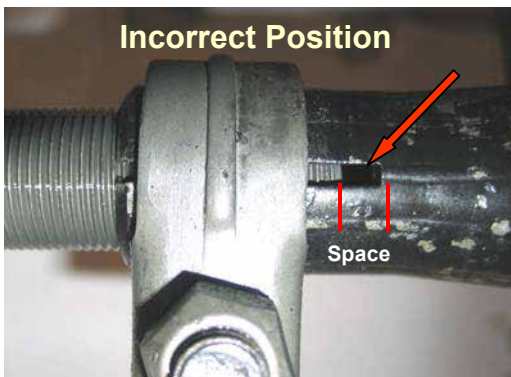


# Spicer® Tie Rod Inspection Procedure

1. The threaded portion of each tie rod end must be inserted completely in the cross tube split. This is essential for adequate clamping. Replace components if this fit cannot be obtained.



The tie rod end must be installed so that the threaded end is past the slot in the cross tube.



The threads of the tie rod end must travel past the end of the cross tube slot. It is unsafe to release a vehicle with this condition.

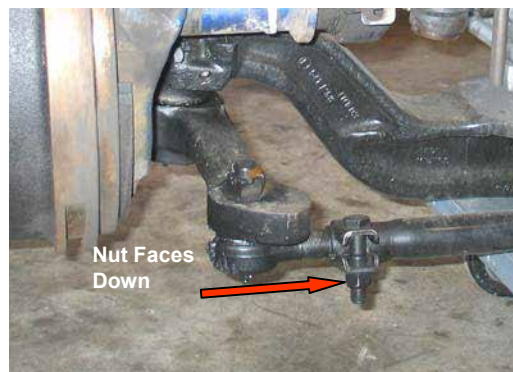
2. If the cross tube or clamps are bent, cracked or damaged, replace if necessary. Do not attempt to repair a cross tube, as this could result in damage to the steer axle.

3. Make sure the tie rod end boot is not damaged. Inspect for cuts or tears. If there is damage to the boot, replace the tie rod end.



Cut in tie rod end boot

4. Make sure the tie rod nut is torqued to the proper specification and the cotter pin is correctly installed. If the cotter pin is missing, the tie rod nut could become loose and steering will be affected.
5. Proper positioning of the clamp relative to beam and correct orientation of the nut and bolt are required to ensure clearance at high wheel cut.



Correct clamp orientation, bolt faces rear of vehicle.

# Spicer® Tie Rod Inspection Procedure

6. To protect the cross tube, use only your hands or a pipe wrench with jaw protectors to rotate the cross tube.
7. Where zerk fittings are necessary, make sure they are installed correctly.
8. Park the vehicle with the wheels in the “straight ahead” position, then turn the vehicle off.
9. Place blocks in front of and behind the front and rear tires to prevent the vehicle from moving.
10. There are two separate methods that can be used to check the degree of movement in the tie rod end:

**Caution:** Do not use a pry bar or other mechanical method on the steering linkage. This could result in damage to the tie rod end and/or create a false indication of wear.

- a. To check axial (up and down) movement, set the dial indicator so that the base of the indicator is on the tie rod arm. Then, place the tip of the indicator on the bottom of the tie rod end at an area that is most flat.



- b. To check radial (back and forth) movement, set the dial indicator so that the base of the indicator is on the tie rod arm. Then, place the tip of the indicator socket at the tie rod end. Be sure to position the indicator so that it is in line with the direction of movement.



11. Set the dial indicator to zero.
12. Again, move the cross tube assembly by hand up and down or back and forth, depending on which direction you are checking for movement. **If the indicator reads .060” or more, replace the tie rod end immediately. If the indicator reading is above .030”, it should be replaced at the next service interval.**

**Caution:** Do not remove the tie rod end from the tie rod arm to check for ball rotation torque. This may damage the seal if a removal tool is used. Additionally, the tie rod end seal can cause a false indication of internal torque.

13. Repeat Steps 10 through 12 for the other tie rod ends.

**Note:** When one tie rod end requires replacement, it is recommended to replace both to allow for even wear on both sides of the vehicle.

All applications must be approved by the Application Engineering Department. Specifications and/or design are subject to change without notice or obligation.

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