



JEEP JK –2.5 Ton - No Flip - Tie Rod and Drag Link

At Apex, customer safety is our top priority, and steering is a **CRITICAL** safety component.

****Be sure the installer has read and follows these instructions****

Failure to follow these instructions may result in loss of control of the vehicle, accident, and injury.

Failure to follow install instructions and use correct install tools may also void the warranty.

Install instructions should follow vehicle through entire install process, including alignment, which requires safety-critical torque and process to complete.

Note: All parts that begin with TR belong to the Tie Rod Assembly and all DL part numbers belong to the Drag Link Assembly.

Installation Instructions:

1. Before removing your OEM, tie rod and drag link assemblies, measure from zerk to zerk fitting on each, and write these measurements down for later.
2. All parts that begin with TR belong to the tie rod assembly (TR190K and TR191). The parts for the drag link assembly consist of: DL121 on the knuckle side of drag link and DL120 for the pitman arm end of the drag link.
3. Locate the passenger and driver side tie rod ends and adjusting sleeve. The passenger side rod ends have notches in the jam nuts, indicating left-hand thread. The adjusting tube has a ring machined in one end next to the flats on the ends – this indicates left-hand threads. Please, coat the inside threads of the adjusting sleeve with anti-seize, **NOT the tie rod end threads**. Getting anti-seize in the area of the jam nuts can decrease the effectiveness of the jam nuts.
4. Thread jam nuts all the way down the tie rod ends, then install the pre-bent **Pro-Lock Keyway** washer onto the keyway tie rod end, with the bent side facing toward the adjusting sleeve. Install the serrated Belleville washer onto opposite non-keyway tie rod end.
5. Start with passenger side thread in the tie rod ends, ensuring the correct thread direction. Thread until it reaches the jam nut.
6. Continue with the driver's side of the tie rod and repeat the above instructions.
7. Now adjust the ends equally to set the grease fitting to grease fitting (or ball-stud center to center) distance to the same as the OE measurements you took earlier.
8. Assemble the Drag link assembly, locate drag link adjusting sleeve and ends. Thread jam nuts all the way down the drag link ends, then install the bent Ninja washers onto the adjusting sleeve with the bent side facing toward the adjusting sleeve.

- CONTINUED ON REVERSE SIDE

9. Starting with the drag link adjusting sleeve, locate the drivers side, it will have a cut line toward the end of the rod, find the left tie rod end, this will have notches in the jam nut. Start to thread in the drag link end, ensuring the correct thread direction. Thread until it reaches the jam nut.
10. Continue with the knuckle side of the drag link and repeat the above instructions. Now adjust the ends equally to set the grease fitting to grease fitting (or ball-stud center to center) distance to the same as the OE measurements you took earlier.
11. Remove OEM tie rod and drag link assemblies.
12. Before installing the ends, apply a light layer of grease to the top of the boot. This will create a lubricated surface between the boot and the joint, helping to reduce friction.
13. Install **Drag Link** first with the drag link end on the knuckle side then the pitman arm side. **Torque the castle nuts 75-82 ft/lbs.** leave the jam nuts loose and center the steering wheel before turning the tube until lined up.
14. **Install the tie rod assembly, torque castle nuts to 63-67 ft/lbs.** Leave jam nuts loose and use tape measure to set tow to factory specs.
15. Tighten all the jam nuts on the tie rods and drag links, **torque to 150 ft/lbs.** (Note: There is an anti-flop bearing in the tie rod ends). This bearing allows for 4 degrees forward and back rotation (flop). When tightening the tie rod jam nuts ensure that you are not tightening against these bearings. To do this: Tighten the passenger side jam nut first, then center the “flop” in the bearing while tightening the driver’s side jam nut. When both jam nuts are tight there should be approximately 4 degrees of forward and back rotation (flop).
16. At this point we highly recommend engaging a professional to get the alignment set.
17. After alignment and torquing down jam nuts, use hammer to tap Key Washers onto adjusting sleeve. Apply thread locker to the set screws all the jam nuts, and torque to **8-10 ft/lbs.**
18. Set and adjust steering stabilizer, be sure that it has equal travel at full lock both directions.
19. Check jam nuts for tightness at 500 miles and monitor jam nuts regularly every 5000 miles or after oil changes for tightness.

Wrenches needed:

KIT521 – WR112x2 - 41mm/46mm

If you have any questions or concerns, please don't hesitate to give us a call or email.

Thank you,

Team Apex

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****Use either bent Ninja washers or Belleville washers to secure jam nuts (Not both)**