

# TERAFLEX

## PRODUCT INSTALLATION GUIDE

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## JK AXLE SLEEVE KIT

Part # 4990700



**Important Notes: Make sure your axle tubes are not bent before installing axle sleeves. (Check alignment angles and look for negative camber) TeraFlex is not responsible for damages that occur during faulty installation!**

*Prior to beginning this or any installation read these instructions to familiarize yourself with the required steps and evaluate if you are experienced and capable to personally perform these modifications.*

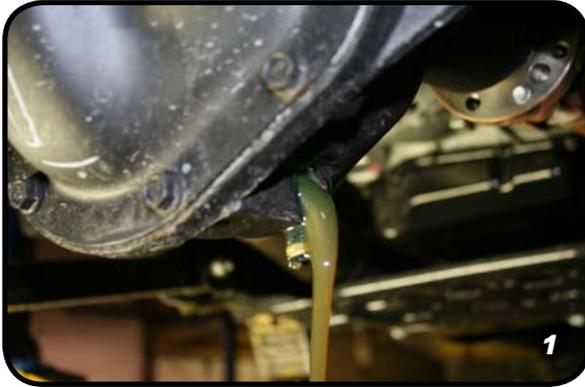
*Refer to the parts list to ensure that all necessary components and hardware has been included. If any parts are missing please contact your local retailer for assistance.*

**Required tools:**

8mm, 13mm 12point, 18mm, 19mm, 21mm sockets or wrenches  
5mm allen  
3/8", 1/2" drive ratchets  
Ft-lbs torque wrench  
Center punch  
Powered hand drill  
1/4", 1/2" drill bits  
Welder  
Grinder  
Silicon  
Razor blade  
Ball peen hammer  
Floor jack  
Jack stands  
Wheel chocks  
Pry bar  
Black Spray paint  
Safety glasses

# Axle sleeve installation:

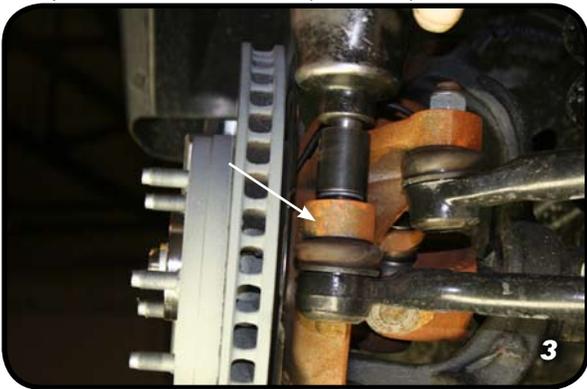
1. Lift vehicle and support frame with Jack stands.
2. Remove front wheels using a 19mm socket.
3. Remove drain plug from center section using a 3/8" ratchet and extension. (Photo #1)



4. While axle is draining remove steering stabilizer from tie rod using 18mm socket. (Photo #2)



5. Remove the tie rod from knuckle using a 21mm socket. Hit the face of the knuckle with a ball peen hammer where the tie rod mounts to the knuckle to loosen the taper and remove tie rod. (Photo #3)



6. Remove the drag link at the knuckle using a 21mm socket and Hit the face of the knuckle with a ball peen hammer. (Photo #4)



7. Remove brake calipers using a 21mm socket. Make sure to hang the calipers from the frame so that they do not hang from the brake lines. This can damage the brake line. (Photo #5)



8. Remove the rotor.
9. Remove the three bolts from the back of the knuckle that hold the unit-bearing and axle shaft in place, using a 13mm 12 point socket. (Photo #6)



10. Remove the wheel speed sensor using a 5mm allen. (Photo #7)



11. Remove the Axle shafts from the axle housing. You may need to pry on the U-joint ear to release it. (Photo #8)



12. Remove the diff cover bolts using a 13mm socket. (TIP leave the top bolt in loose and hit the cover with a dead blow hammer to release the silicon seal) (Photo #9)



13. For Rubicon models: remove the electrical connector at the top of the housing using an 8mm socket and disconnect the connector from the locker. (Photo #10)



14. Remove the carrier bearing caps using a 19mm socket. (Photo #11)



15. Remove the carrier by placing a 19mm wrench on the ring gear bolts and turning the carrier so the wrench wedges at the top of the housing, then use a pry bar on the ring gear to roll out the carrier. Make sure not to mix up the bearing caps or shims. (Photo #12)



16. After the carrier has been removed, drill pilot holes in the tubes. Use a 1/4" drill bit and drill 4 or more holes on the short side and 6 or more on the long tube side. Drill the holes where it is easy drill and easy to weld. (Photo #13)



17. After pilot holes are drilled, drill holes out to 1/2" diameter so you will get good penetration on your plug welds. (Photo #14)



18. After all the holes are drilled blow the metal shavings out of the tubes.  
19. Insert the new tube sleeves into the axle with the taper facing out. Make sure that the new sleeve is flush with the tube on the outside. (Photo #15)



20. Clean and prep all areas that will be welded.  
21. Weld in the sleeve using the holes that you drilled, make sure to do one at a time on each side until they are all welded. (Photo #16)



22. To finish welding the sleeve weld the outside of the sleeve where the taper meets the factory tube by the knuckle.  
23. After welding is complete clean out the tubes and or slag on the inside of the new sleeves.  
24. Paint all the welded areas.  
25. Install the carrier and shims together by hitting it in with a dead blow hammer. Once the carrier is in all the way make sure the shims are also, then install the caps. If you mixed up the caps there is a stamp on them that correlates to the housing. Install the caps using a 19mm socket. Torque to 80 Ft-lbs.  
26. For Rubicon models: Reconnect your locker and bolt the connector back on using the 8mm socket. Torque to 3 Ft-lbs.  
27. Make sure all of the old silicon is cleaned off the axle housing and diff cover, use a razor blade, brake clean and a rag to clean of the silicon. Once everything is cleaned re-silicon your diff cover and bolt it back on using a 13mm socket. Torque to 30Ft-lbs.  
28. Reinstall your diff drain plug. Torque to 25 Ft-lbs.  
29. Install the axle shafts; make sure to grease the spline and seal surface so you do not destroy the seals. Use a 13mm 12 point socket to install the bearing bolts. Torque to 75 Ft-lbs.  
30. Install the wheel speed sensor using a 5mm allen torque to 3Ft-lbs.  
31. Install the rotor and brake caliper using a 21mm socket. Torque caliper bolts to 120 Ft-lbs.  
32. Install the drag link to knuckle using a 21mm socket. Torque to 63Ft-lbs  
33. Install the tie rod to the knuckle using a 21mm socket. Torque to 63Ft-lbs.  
34. Install the steering stabilizer to tie rod using a 18mm socket. Torque to 50 Ft-lbs.  
35. Install the wheels with a 19mm socket. Torque the wheels to 85-125 Ft-lbs.  
36. Fill diff to fill plug using 80w-90w gear oil.  
37. Remove jack stands and lower vehicle.



# PRODUCT INFORMATION

## **MAINTENANCE INFORMATION:**

It is the buyer's responsibility to have all suspension, drivetrain, steering, and other components checked for proper tightness and torque after the first 100 miles and every 3000 miles after that.

## **NOTICE TO INSTALLER:**

The enclosed "Warning to Driver" sticker must be installed in the vehicle in driver's view. This sticker is to act as a constant safety reminder when operating the vehicle. It is your responsibility as the equipment installer to install the provided sticker and to forward the product instructions to the vehicle's owner for review. If a "Warning to Driver" sticker or product installation guide were not included in the kit, FREE replacement stickers and instructions are available by request. It is the installer's duty to ensure a safe and controllable vehicle after the modifications have been performed.

## **WARNING:**

Neither the seller nor the manufacturer will be liable for any loss, damage, or injury directly or indirectly arising from the use of or inability to determine the use of these products. Before using, the user shall determine the suitability of the products for its intended use, and the user shall assume all responsibility and risk in connection therewith.

## **WARNING TO DRIVER:**

This vehicle has been modified to enhance off road performance and has unique handling characteristics. Use in harsh environments can cause extreme stress on the components. Vehicle should be inspected after being off road to make sure that all the components are in working order and safe to travel on the highway. All fasteners should be checked so that they are at the correct torque specifications as the vibration and stresses from off roading may cause critical fasteners to work loose. Extra care should be taken to inspect the critical components, steering, and brake systems. During each oil change components such as arms, tie rod ends, etc should be greased and checked for excessive wear. Any worn components should be replaced. When returning to the pavement always set or restore tire air pressure to the factory recommendation and connect or engage any disabled sway bar mechanisms. Because of the higher center of gravity and larger tires, this vehicle handles and reacts differently than many passenger cars, both on and off road. You must drive it safely! Extreme care should be taken to prevent vehicle rollover or loss of control, which can result in serious injury or death. Avoid sudden sharp turns or abrupt maneuvers. Generally, braking performance and capabilities are decreased when significantly larger/heavier tires are used, especially when used in combination with transfer case low-range reduction kits. Take this into consideration while driving. Do not add, alter or fabricate any factory or aftermarket parts to increase vehicle height over the intended height of the TeraFlex product purchased. Mixing component brand is not recommended. TeraFlex Inc. will not be responsible for any altered product or any improper installation or use of our products. We will be happy to answer any questions concerning the design, function, and correct use of our products. It is ultimately the buyer's responsibility to have all bolts/nuts checked for tightness after the first 100 miles and then every 3000 miles. Wheel alignment, steering system, suspension and drive line systems must be inspected by a qualified professional mechanic at least every 3000 miles.

## **TERAFLEX PRODUCT WARRANTY:**

Tera Manufacturing warrants TeraFlex Suspension products to the original retail purchaser to be free of defects in material and workmanship for as long as the original purchaser owns the vehicle on which products were originally installed.

Failure to complete regular maintenance (grease every 3000 miles) on TeraFlex FlexArms will void this warranty. All other conditions of the standard TeraFlex product warranty apply.

All TeraLow products are covered by TeraFlex's two (2) year warranty to be free of defects in material and workmanship for two years from date purchased.

Tera axles are covered by a 12-month warranty to be free of defects in materials and workmanship.

This warranty does not cover or include product finish, improperly installed or applied products, improperly maintained products, products or components used for racing or competition or damage due to abuse or neglect, products that fail due to the use of larger tire and wheel combinations.

All returns must be accompanied by an original invoice. It is the customer's responsibility to remove the product from the vehicle. Shipping charges are the responsibility of the customer. Tera Manufacturing will pay the return freight if the product meets the terms of warranty.

This warranty is for the replacement or repair of defective TeraFlex products only and does not include freight charges, labor charges for removal of or installation of TeraFlex or related products or components, costs incurred due to down time of the vehicle, or lost profits due to vehicle down time.

A returned goods authorization number (RGA#) must accompany any returned products. For more information please contact a TeraFlex customer service representative.

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