



WJ One Ton TRE OTK Steering

1999-2004 Jeep Grand Cherokee WJ

Part number: KST-WJ-150TRE, Revision 2/15/18

Thank you for purchasing the Trail Forged WJ OTK TRE Steering Kit. We hope you will be as pleased with this product as we are. Tag us in a review on Facebook and we'll hook you up with 10% off your next order. We love seeing pictures of our products in action too; send photos to info@trailforged.com or tag us on FB or IG for a chance to be our feature rig.

Installation should only be performed by an experienced mechanic, if you do not have all the necessary tools, experience, or confidence to undertake this project, please seek help before beginning. This should only take a few hours start to finish, so let's get to it.

Tools Required:

- Floor jack and jack stands
- Wheel chock
- 3/4" socket and impact or wrench
- Pair of dykes or pliers
- Small sledge hammer
- PB Blaster or similar (recommended)
- Pitman arm puller (optional)
- Drill and one ton tapered reamer
- 15/16" socket, box wrench, and ratchet
- Torque wrench
- 33mm or 1 5/16" wrench or socket (pitman arm, optional)
- 1 1/8" & 1 5/16" box wrenches
- Additional sizes of wrenches and sockets depending on specific application and previous modifications

Phase 1 - Jack Up and Remove Tires

1. Chock rear wheels, jack up front and place on stands. You can support from the body but keep in mind axle droop and how high your stands are; we chose to support under the axle/control arm mounts.
2. Remove front tires. (DON'T tighten lugs back down with this; use a torque wrench please. I don't want to hear back that you stripped out lugs and studs by going a few ugga duggas too far.)

Phase 2 - Remove Factory Steering Kit

1. We suggest hosing down the tie rod connections and pitman arm connection with some PB Blaster first.
2. Use dykes or pliers to remove cotter pins from castle nuts at both knuckles and at the pitman arm.
3. Remove steering stabilizer (if still installed).
4. Remove tie rod nuts (ours were 3/4" and the impact took care of these nicely, we used a box wrench on the pitman arm due to lack of room).
5. Hammer side of knuckles a few times and then hit the tie rod stud. Tie rod should pop out. If you intend on saving these tie rods, keep the nut threaded on so you hammer the nut and not the end of the tie rod threads. If they don't pop out easily, hit the sides of the knuckles a few more times, and if all else fails, use a small torch to add a little heat to the knuckle (not the tie rod!).
6. Repeat for the pitman arm; a little lube, a few good whacks and it should come. If not, remove pitman arm with a puller to give you more room for reaming.

Phase 3 - Ream Knuckles and Pitman Arm

1. Ream left and right knuckles, from the top down (all knuckle TRE's mount on top). Use new tie rod ends to determine appropriate depth. With castle nut tight, cotter pin hole should line up with slots in castle nut. If tie rod end is not seated adequately at this depth, up to 2 washers can be used below castle nut to appropriately space it out for cotter key alignment. Do not ream too deep, as this will effectively reduce available misalignment the joints have available. Drag link offset TRE goes at the knuckle. Use liberal amounts of cutting oil for all reaming operations, and clean ream out frequently to aid in operation. Ensure reamed hole is perpendicular to knuckle face.
2. Ream pitman arm, from bottom up (TRE mounts below pitman), to appropriate depth. Drag link straight left TRE goes at the pitman arm.
3. Remove metal chips and debris from knuckles and pitman arm.
4. Reinstall pitman arm if removed, torque to 185 ft-lbs.

Phase 4 - Install TRE Steering Kit

1. Install drag link and tie rod. Both are adjustable on the vehicle. Drag link is designed to sweep down after pitman arm, and rearward and up at knuckle to give maximum clearance for our OTA trackbar bracket system and give the most misalignment at droop. Tighten castle nuts to 60 lb-ft, and then further if necessary only until cotter key hole is centered in castle nut window.
2. Some clearing of the driver side coil bucket may be necessary. At full lock turn, tie rod may just graze bottom lip of coil bucket. This won't damage the steering, but we removed the lip to prevent any contact. You also may need to remove the lower portion of the outer tab of passenger sway bar mount.
3. We highly recommend checking axle droop to make sure the joints do not bind under flex; this is especially important on higher lifts and vehicles with a lot of droop travel.
4. Align toe and steering wheel angle by rotating links. Recommended toe setting is 0.14 to 0.24 degrees toe in. If you are pairing this with our OTA trackbar system, you will need to droop axle, turn wheel, and remove passenger swayer link to rotate drag link. Drag link will require 180 degree rotations to ensure proper alignment. If steering wheel is still slightly off after drag link flips, it may require one flip of only one TRE, if so remove TRE, flip it, and reinstall.
5. Make sure the thread engagement on the tie rods is similar left to right. Once aligned, tighten jam nuts, install grease fittings and cotter keys, grease tie rods with quality grease.
6. (Optional) Install steering stabilizer with optional stabilizer bracket. You will need to relocate fixed end bracket of stabilizer to accompany OTK steering. Our OTA trackbar system is designed with space to re-purpose the OE axle trackbar bracket but cutting it off the axle and welding to axle trackbar bracket. Be sure to place bracket in the appropriate position to allow the stabilizer full range of motion and no interference of components.
7. Reinstall tires, torque to 100 ft-lbs, and then go wheel!

Notes: These instructions are meant to be a general guideline and not a factory certified service procedure. We are not responsible for any failures or issues that may arise in others' installs. This product is intended **for offroad use only**, vehicle owner assumes all responsibility by purchasing and/or installing this product.

Returns: All returns must be complete within 30 days of purchasing, in original packaging, unmodified, and as shipped in uninstalled condition. Buyer must contact Trail Forged to receive a return authorization before returning product. Returns are subject to inspection, and a 15% restocking fee.

Warranty: This product is backed by a limited lifetime warranty against bending or breaking of rods and links only. This warranty is non-transferrable and covers original purchaser only. Warranty is void if modified in any way, installed improperly, or not used in it's intended application. Purchaser must contact us for all warranty claims, and pay return shipping of damaged product back to us as well as shipping of replacement part.

Not Covered: Worn bushings, heims, rod ends, jam nuts, etc. Damage to threads or inserts due to improper thread engagement, tightening, or contaminants. Damage from corrosion, either on items sold bare or coated as damage can occur in shipping, installation, and use. Products or components which have been subjected to abuse, accident, alteration, modification, improper installation, tampering, negligence, misuse, or products installed on a vehicle used in sanctioned racing events. A race is defined as any contest between two or more vehicles, or any contest of one or more vehicles against the clock, whether or not such contest is for a prize.