

WJ HD Steering Kit

1999-2004 Jeep Grand Cherokee WJ

Part number: KST-WJ-150H, Revision 6/19/19

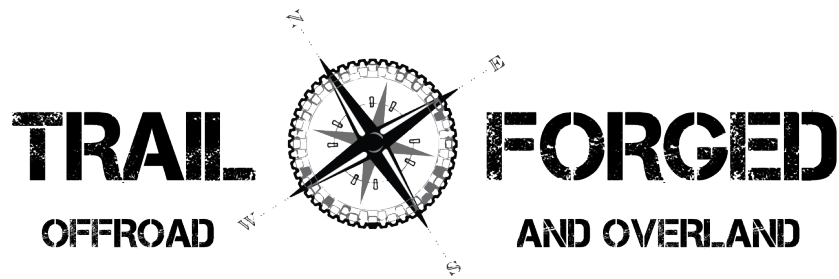
Thank you for purchasing the Trail Forged WJ HD Steering Kit. The installation is 95% similar to our XJ kit so here's a few WJ specific notes, otherwise follow steps outlined in the XJ instructions attached.

Mounting Location:

- If you have a stock configured trackbar, we recommend installing the kit under the knuckle so as to avoid introducing bump steer. You can mount it over the knuckle, just be aware it may not have ideal geometry. You can also keep your factory location steering stabilizer this way, if you've chosen to continue running one.
- If you do mount over the knuckle, what we've found to work the best is to cut off the factory stabilizer bracket that is on the axle tube, trim it, and re weld it either higher on the tube, on a heavy duty differential cover, or on an over the axle track bar bracket as we have. This configuration keeps all your steering components above the axle tube and out of harms way on the trail.
- In the XJ application, the drag link is traditionally mounted above the pitman arm, is needs to be noted that this does not work with a WJ. The drag link **must** be mounted below the pitman arm to clear the frame rail.

Installation:

- The WJ uses some different hardware sizes than the XJ, so the tool list may not be 100% accurate regarding socket sizes, please be sure you have an adequate selection of general hand tools to complete this job.
- You can remove the pitman arm to ream/drill it, or do as we did and just swing it to the right (passenger) so there was adequate room above it for the long bridge ream we used.
- The drag link uses the longer bolts, and the order at the knuckle is: bolt, washer, spacer, heim, spacer, washer, knuckle, washer, nut. At the pitman arm, we do recommend putting the bolt in from the top, so steer the arm out from under the frame to install in this order: bolt, washer, knuckle, washer, spacer, heim, spacer, washer, nut.
- The tie rod uses the shorter bolts. Tie rod bolt order: bolt, washer, knuckle, washer, heim, washer, nut for UTK mounting. Flip everything but the bolt for OTK.
- When you tighten the jam nuts, make sure the drag link is high enough to not contact or rub anything below it, and not too high as it will hit the sway bar bracket. Make sure the jam nuts are very tight, otherwise the bar will settle a little lower over time.
- For OTK mounting, the factory location sway bar will clear, but not a quick disconnect such as the JKS Quicker Disco mounted in it's suggested location. If you do have this style where it mounts outside of the factory location, you can flip it to inside and it will just clear the frame rail and still be removable. This is how we run it. If you do this, make sure you disconnect both sides and secure the sway bar up out of the way when you hit the trails so as not to bind up the quick disconnect, or flex the spring into the sway bar.
- Factory toe setting is 0.14 to 0.24 degrees toe in (closer at the front).



HD Crossover Steering Kit

1984-2001 Jeep Cherokee XJ, Jeep Comanche MJ 1986-1992

1997-2006 Jeep Wrangler TJ, 2004-2006 Jeep Wrangler LJ

1993-1998 Jeep Grand Cherokee ZJ

Part number: KST-MM-150H, Revision 3/15/18

Thank you for purchasing the Trail Forged HD Crossover 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 5/8" drill bit or bridge 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

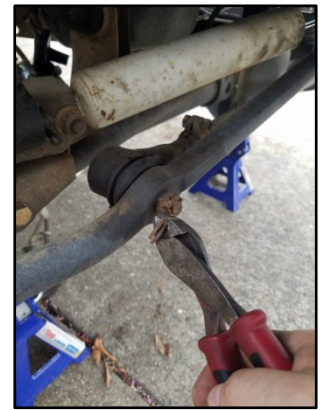
1. Chock rear wheels, jack up front and place on stands. You can support from the body but keep in mind axle droop and how high your stands are; we chose to support under the axle/control arm mounts.
2. Remove front tires. (DON'T tighten lugs back down with this; use a torque wrench please. I don't want 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. We also removed the one in the center Y connection so we could remove the links separately.
3. Remove steering stabilizer bolt from drag link (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 to work.



Cotter pin at knuckle



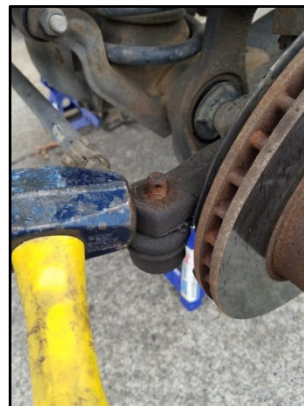
Cotter pin at Y



Castle nuts at knuckles



Nut at pitman arm



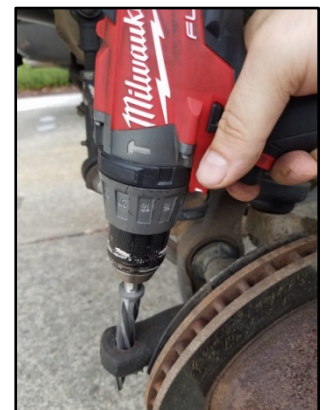
Hammer tie rod end



Hammer side of knuckle

Phase 3 - Drill Knuckles and Pitman Arm

1. Drill left and right knuckles to 5/8". We used a 5/8" bridge reamer that we had at the shop because we have found it self-centers a little easier, but a standard 5/8" drill bit should do the job just as easy. If using a drill bit we suggest starting from the bottom and drilling up to help center the bit in the existing taper.
2. Drill pitman arm to 5/8". Again, we used the bridge reamer. We did this with the pitman arm installed, just be careful of hot drill chips falling on you if drilling overhead.
3. Remove metal chips and debris from knuckles and pitman arm.
4. Reinstall pitman arm if removed, torque to 185 ft-lbs.



Drill knuckles to 5/8"
(bridge reamer shown)

Phase 4 - Install HD Crossover Steering Kit

1. Begin by installing drag link at the pitman arm. For most standard installations, the heim assembly will go **ABOVE** the pitman arm. Order is: 4" bolt and washer, misalignment spacer, heim, misalignment spacer, washer, pitman arm, washer, nut. Do not torque yet. We highly recommend checking axle droop to make sure the heims do not bind under flex; this is especially important on higher lifts and vehicles with a lot of droop travel. If necessary, move heim to below pitman arm.
2. Install tie rod below knuckles. If installing OTK, be aware of drag link/track bar geometry and possible bump steer. Standard order on the passenger side is: 5" bolt, washer, misalignment spacer, drag link heim, misalignment spacer, washer, knuckle, washer, tie rod heim, washer, nut. Do not torque.
3. Install driver side tie rod end. Order is: 3" bolt, washer, knuckle, washer, heim, washer, nut.
4. When tightening jam nuts, rotate tie rod up beyond where you want it to stay and tighten jam nuts on both sides. Adjust as necessary for desired position. Repeat this for the drag link, and make sure drag link heims are both rotated the same direction and amount to prevent any bind under articulation. Tighten jam nuts.
5. Align toe and steering wheel angle by adjusting heims in or out. Make sure the thread engagement on the heim joints is similar left to right. We suggest a very small amount of toe in for best ride, tire wear, and steering feel. This is a fairly straightforward job with a tape measure, and an extra pair of hands is very helpful. We like to measure the difference from the front edge of the rim to the back edge of the rim. (Toe in means closer at the front than the back.)
6. Once toe and steering wheel are where you want them, torque tie rod bolts down to 140 ft-lbs, and drag links bolts (with misalignment spacers) to 100 ft-lbs. Recheck torque after driving to ensure they don't loosen or settle.
7. (Optional) Install steering stabilizer with optional stabilizer bracket. Be sure to place bracket in the appropriate position to allow the stabilizer full range of motion.
8. Reinstall tires, torque to 100 ft-lbs, and then go wheel!



Pitman arm stackup



Passenger side stackup



Driver side stackup



Stabilizer bracket



Passenger side



Installation complete



Driver side

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.