

# Installation Instructions: Front Trackbar & Brace for TJ Wranglers

<b>Kit Part Numbers</b>	<b>Nth20400</b>
<b>Applications</b>	Jeep TJ Wrangler and Unlimited models including Rubicon package
<b>Assumptions</b> Equipment that must be present on your vehicle for this product to fit and work properly	At least +3.5" of suspension lift is already installed
	A minimum of 3.0" of bumpstop <i>spacing</i> is used within the front springs (taller bumpstops do NOT count!).
	A 'dropped' pitman arm is being used that lowers the draglink tie-rod end by approximately 1.75" versus the stock TJ pitman arm.
	No 'high steer' system is being used that alters the angle of the steering draglink from the normal angle that the stock draglink would have for the current suspension lift height
	The stock trackbar mount's tapered frame hole should be intact, but this kit can still be used if it has been previously drilled out to a 5/8" diameter straight hole.
	The front axle is an original-type housing or an aftermarket housing with factory-style brackets that provide for attaching the trackbar in the stock position.
	The front axle is not located forward of it's normal position
	No differential cover guard is being used that extends up more than 2/3 the height of the cover from the bottom and does not have a 'full ring' that includes the upper differential cover bolts. (I.e. Warn style okay, Avalanche style not okay).
	If the front axle is larger than a Dana 44, minimum suspension lift height is +4.5"
<b>Required Tools and Equipment</b> (in addition to common hand tools)	Drill and 1/2" drill bit (smaller sizes and center punch also recommended)
	1-1/8" Hole Saw (or plasma cutter or large bit)

*Please take the time to read these instructions completely before beginning – they are long because we want you to get the installation right the first time for best performance with no unnecessary delays.*

**Notice:** Due to limitations of the stock vehicle's design, this product can only 'make the best of' the suspension geometry for lifted vehicles. Because this product can not restore the track bar (aka panhard rod) to a level position at static ride height, asymmetrical handling behavior will be present, as well as lateral shifting of the axle through the suspension's range of travel. This product is designed to allow the stock steering geometry to tolerate suspension lift heights up to +6" over stock and minimize the possible problems with 'bump steer' and tie-rod overangling, but is not guaranteed to prevent/fix/eliminate either as these things depend on many factors. As with any product that modifies your vehicle's suspension, it is the responsibility of the owner/driver to make the time and effort to become familiar with the altered behavior of the vehicle (in a safe location) after installation, make changes to driving habits, further modify the vehicle if needed, and control and advise others that may drive the vehicle thereafter.

**Step 0:** Nth° Suspension System Installations. If you are installing this product as part of a *complete* Nth Degree Suspension system, refer to the master system installation instruction for direction on the most efficient order of product installations – coordinating the install of several products will significantly reduce overall time and effort required. The master instructions will help guide you through configuring this product properly for your specific system and your system should include the required complimentary equipment to assure that this product performs properly and reliably.

**Step 1:** Unpack boxes; Check contents against the packing list; Verify parts are in good condition. Be especially sure that you have the right parts for your application!

**Step 2:** Read, Understand, and Plan for all of the following instruction steps before beginning! Do not disassemble vehicle unless all parts are present and all tools and facilities required are available. Do not start or attempt this product installation if you are unsure of your abilities or do not have the resources

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listed above. If applicable, be sure to have all welding done by a certified person, and check/set all specified torques with a torque wrench...too tight is not just right!!

**Step 3: Remove existing/stock track bar.** To remove the stock track bar, unbolt it from the axle bracket, then detach the tie-rod-end (TRE) connection at the frame end. To do this, first remove the cotter pin and loosen (but don't remove) the castle nut, then use a hammer as shown in **figure 1** to 'ring' the cast frame bracket by hitting it next to the TRE connection – it may take several hits before the TRE drops free. Once this occurs, remove the nut and the track bar from the Jeep.

**Step 4: Pre-set Drop Bracket for lift height.** Because the supplied trackbar is non-adjustable, the large bracket that is supplied in the kit is designed to provide adjustment for different lift heights. The purpose of this adjustment is to *partially* re-center the axle under the vehicle

NOTE: Only with a *completely level* track bar can the front axle be perfectly centered under the vehicle with no issues. Fully centering the axle with a non-level track bar (as with this kit) will cause it to shift too far to the passenger side at full uptravel, resulting in 'missing' the bumpstops and possibly binding and overstressing the springs or tire-to-fender and tire-to-spring tower clearance problems. This kit provides a 'best compromise' axle position to get the axle as centered as possible while avoiding these issues.

The small silver adjuster bracket fits inside the main powdercoated bracket and is held in place by two 3/8" bolts that must be installed from the outside of the large bracket for clearance reasons. Adjusting the assembly is a matter of adjusting the position of the round hole in the adjuster bracket relative to the slotted hole in the main bracket – this is done by adding 3/8" washers to the two bolts *between* them during assembly – **figure 2** shows the bolts and shim washers installed and ready for the adjuster plate for a 3.0" lift. For a +6" suspension lift, the hole should line up with the end of the slotted hole closest to the end of the large bracket as shown in



**FIG 2**



**FIG 3**

**figure 3** – this will require either one or no shim washers per bolt (depending on production variation). The opposite end of the slotted hole is appropriate for +3.0" of lift and requires the most shim washers to be used; for approximately 4-4.5" lifts, position the hole near the middle of the slot by using an appropriate number of washers. NOTE: always be sure to use the SAME number of washers on each bolt! Once you have determined and 'shimmed' the adjuster bracket to the correct position for your lift height, add one more washer and a locking nut on each – tighten to 25 ft-lbs.

**Step 5: Install Bracket Assembly to Stock Frame Mount.** You can attach to the stock cast bracket regardless of whether it has been drilled out to a straight 5/8" hole previously:

For an un-drilled track bar casting, insert the supplied tapered stud into the tapered hole from below and secure on top with a 1/2" washer and locknut – tighten to \_\_\_ ft-lbs. Next raise the bracket into position with the bottom of the tapered stud through the shimmed hole in the two brackets – then thread on the supplied 5/8" locking nut as shown in **figure 4** and tighten until the large bracket can just be moved by a tap with a mallet.

For a drilled track bar casting, use the supplied 5/8" x 2.25" long bolt instead of the tapered slug (it may be inserted from either direction – see **figure 5**).

Now you need to 'square up' the bracket to the frame to locate the passenger-side hole and avoid unnecessary bind in the track bar. Measure from two points near each end of the large bracket's front



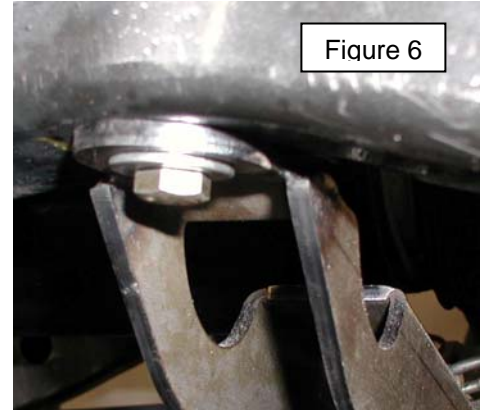
**FIG 4**

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face to two corresponding points at the front bumper – tap the bracket to rotate it about the stud until the measurements are equal.

**Step 6: Attach Bracket to Passenger Frame Rail.** Without disturbing the location of the bracket as set in the last step (square to frame rails), mark the location of the slotted hole on the underside of the frame rail. Then centerpunch and drill through the frame (you can leave the bracket in place). Note that if you set up the bracket for a 6" lift, you should drill your hole near the inboard end of the slot, and for a 3" lift it should be near the outer end of the slot (4.5" will be near the middle – basically these should all be in about location near the middle of the frame rail since the bracket is in different positions depending on the setup done in step 5). Do not worry about the slight angle difference between the bracket and the bottom of the frame – this is not a problem and will 'draw up tight' when the bolt is tightened.

You will also need to drill a second hole forward of the one through the slot – this one will be access to put the 'flag nut' into the frame rail. The hole must be 1-1/8" diameter (use a hole saw) and just ahead of the bracket. Once both holes are made, insert the provided flag nut into the frame and thread the 3/8"x1.0"L bolt into it – make sure you have the provided large-OD washer on the bolt before threading it. Tighten the bolt until the gap between the bracket and frame-bottom disappears. Your connection should look like **figure 6**.



**Step 7: Install new Track Bar.** Before the track bar can be installed, the axle bracket holes must be enlarged to fit the larger M12 bolt (original bolt was M10). A 1/2" drill bit will create a hole just large

Note: the axle-end hole should NOT be relocated since this kit is designed to use the existing hole. If you drilled/moved to another hole for a previous installation, you must return to the stock hole location now. If you do not, the axle will be WAY too far to the passenger side and the previously mentioned issues will be present.

enough to easily fit the supplied new bolt.

Once the holes have been drilled, attach the new track bar to the axle using one of the two supplied M12 bolts and locknuts. Though the new nut is not a 'flag-nut' as the original was, it is possible to get a wrench on the nut to hold it while tightening the bolt, however if you are installing this kit as part of a full Nth<sup>o</sup> suspension system that includes kit Nth23040 (rear Trac bar tower), you can 'trade' one of the M12 nuts included here for the M12 flag nut that the factory supplies at the axle-end of the rear track bar as it will no longer be necessary to use a flag nut in that location. To use that factory flag nut on the axle end of the new front track bar, you will need to trim down the 'flag' a little to fit it into the stock axle bracket, but once done this arrangement works out very well. Do not fully tighten the axle end until the frame end is also attached.

Next raise the bar and slip it inside the large bracket – this may require slightly prying the bracket open to fit the track bar bushing between the faces of the bracket. The center tube of the track bar bushing may not line up with both the front and back bracket holes at once, so concentrate on lining up the *rear* face with the bushing hole first since the bolt should be inserted from the rear on the frame end (for axle clearance). If the holes are not aligned side-to-side, you may need assistance to shove the vehicle to one side until the holes line up – or you can use a ratchet strap to pull the axle and frame into alignment as in **figure 7**. Once you can get the bolt started from the back side, tap it through with a hammer, being careful not to damage the threads when coming through the front side of the bracket if the holes are not perfectly aligned. If the front face is too far misaligned, you can use a punch or other device to pry them into better alignment for the bolt to come through. Once through, put the second M12 locking nut on the bolt and tighten to \_\_\_ ft-lbs., then fully torque the other M12 bolt as well.

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**Step 8: Check Axle to brace clearance.** It is advisable to check for proper front axle clearance to the brace at full uptravel. This cannot be adequately accomplished by simply 'flex-testing' the vehicle on a ramp, instead the proper way to verify clearance is to remove the front springs and bumpers (leave the cups and spacers) and let the vehicle down until it is resting on the axle directly. If the upper differential cover bolts come up high enough, they should be behind the back wall of the brace by about ¼" (see **figure 8**; this clearance is used up if you hit a large bump while braking). For stock axles with stock-length short lower control arms, and appropriate caster settings, the clearance should be ample and may not need to be checked, but for adjustable suspensions where the axle position might be farther forward, this clearance should be checked and adjusted if necessary.

**Rubicon TJ Owners:** On most installations, the electrical connector mounted to a small bracket that uses two of your upper differential cover bolts will likely hit the new track bar brace. To avoid this, simply slide the connector off the bracket and use a 'zip tie' and/or electrical tape to secure it behind the bracket instead of on top of it – this will move it rearward enough that it will clear. (The wiring that uses this connector is for the sensor that detects the status of your front locker – you locker will continue to work even if this connector is damaged, but the light on the dash may indicate otherwise if the wires are severed).

### **Notes:**

- 1) Make sure you have a drop pitman arm installed with this kit. Nth° sells the appropriate arm as Nth25000. If you do not use a drop pitman arm, you may experience 'bump steer' - where the vehicle changes direction when going over bumps even though the steering wheel doesn't move.
- 2) Recheck bolt torques after 100 miles of driving.