

Installation Instructions: **Weld-on Rear Trackbar Tower for TJ Wranglers**

Kit Part Numbers	Nth29000
Applications	Jeep TJ Wrangler and Unlimited models including Rubicon package (can also be used in other applications requiring a similar track-bar position)
Assumptions	+3.0" to +6.0" of suspension lift is installed.
Equipment that must be present on your vehicle for this product to fit and work properly	At least 3.0" of bumpstop spacing has been added to the rear suspension.
	Axle Tube diameter is 2-5/8" to 2-3/4".
	An Nth° Stinger™ center-mounted rear torque arm is being used (because this tower has no provision for a driver's-side rear upper control arm)
	The stock rear track bar is being used. Other track bars will work if they can be made to fit the stock mounting points (12mm bolt x 1.6" width).
	If a stock TJ axle is being used, the stock tower must be completely removed.
Required Tools and Equipment (in addition to common hand tools)	MIG Welder
	T55 Torx bit
	5/16" Allen key or bit
	Floor Jack and Jack Stands
	Hacksaw or equivalent (if also using Nth23030 Spring Relocators)

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 does not restore the track bar (aka panhard rod) to a level position at static ride height. Consequently, asymmetrical handling behavior will be present, as well as lateral shifting of the axle through the suspension's range of travel – with correct installation these realities will be minimized to acceptable levels. This product is designed to provide correct roll center position for suspension lift heights from +3" to +6" over stock, which contributes to proper handling but cannot assure it because of all the other factors involved. 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 (and/or 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 listed above. 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. Your TJ may still be using the original T55 Torx-head bolt at the axle end of the rear track bar – and it is likely installed from the rear and will require lowering the axle below the fuel tank to allow its removal. Once the axle-end bolt is removed, remove the frame-end bolt and pull the track bar out of the pocket at the axle end (**figure 1**) and leave it out of the vehicle for now.

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Coordinated Step: If you are also installing the Nth° Shock Shifter™ (Nth23100), you can install the upper brackets now – while the track bar is out of the way to drill the passenger side frame hole.

Step 3 Alternate: Remove existing track bar with extension bracket If your TJ already had a conventional extension bracket installed, disconnect the track bar from it and remove the extension. You may leave the bar attached to the frame and tie it up to the frame out of the way until the end of this installation.

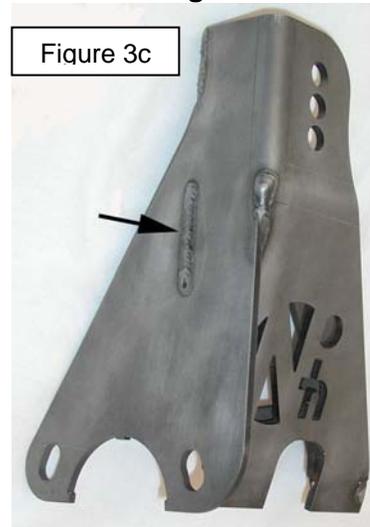
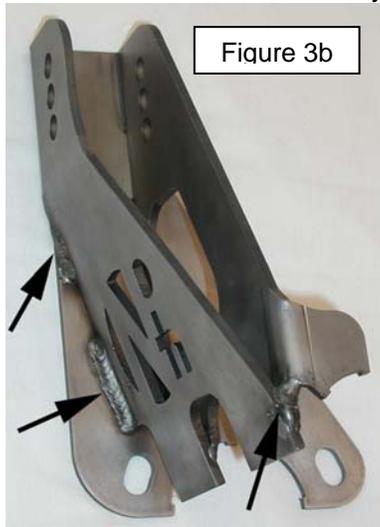
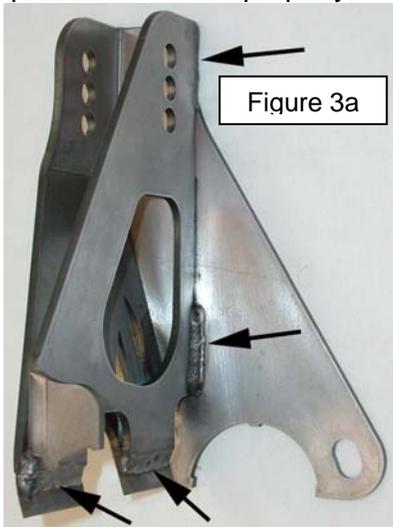
Step 4: Remove Original Trackbar/LRUCA tower bracket. If you are working on a stock TJ axle, remove the original bracket (**figure 2**) using whatever means you have available. The fastest way is usually to ‘slice’ the bracket into ‘chunks’ using vertical cuts at the corners, then use a grinder to weaken the welds at the axle tube and finally ‘wiggle’ each piece with a pliers until it falls off – then sand the remaining welds with a sanding disc or grinder. Messier but potentially faster is to cut the bracket off near the tube with a plasma cutter or sawzall and grind down the remainder. Regardless of your method, make sure to avoid damaging the hard line for the left-rear brake and do not remove the stabilizer bar bracket that sits ‘within’ the tower bracket on the front of the axle tube – but is not attached directly to it. Also of course do not gouge the axle tube itself and repair/reweld it if you do. You do not need a perfectly cylindrical surface when you’re done, but you should at least be close.

Step 5: Pre-weld new tower pieces together. Your new track bar tower was supplied as two separate pieces which must be welded together before they are installed to the axle. The part with the Nth° logo in it will be ‘readable’ from the back of the vehicle, and the other part fits into it towards the front of the Jeep. There are two features that will guarantee you get the parts mated properly: the ‘tab’ on the forward part fits into the ‘slot’ on the logo piece, and at the other (inboard) side of the pieces, there is a small notch in the logo part that the small tab on the forward part again fits into – this will be easier to understand if you have the main tab/slot already together.

Once the pieces are mated properly, weld them in the areas shown by the arrows in **figures**

3a/3b/3c.

There are a total of eight separate welds to make at this point – make sure you do them all! Let the welds cool for a while. Before moving



on, position the bracket on the axle roughly where it will go and note where it touches the axle and will need to be welded, then use a sander to remove the paint in those areas to make welding much easier and better in step 6.

Configuration Note: Make sure your rear bumpstops are set up properly to ‘catch’ your axle before this tower will hit the floor at full jounce! On normal TJ installations the only set up with proper bumpstop spacing that may still risk floor contact is a 3.0” lift. In this case you should check for adequate clearance after step 8 by removing your rear springs and letting the vehicle rest on the bumpstops. If contact occurs or is very close, you may trim the excess tower through the highest bolt holes since you should be using the lowest set of holes – this should provide the clearance you need...if it doesn’t, you don’t have enough bumpstop spacing!

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Step 6: Pre-assemble trackbar to New Tower. This tower bracket can be used for +3.0", +4.5", or +6.0" Nth° suspension systems (If using this kit with a different suspension lift, choose the configuration that is closest to your suspension lift height.) There are three 'sets' of holes in 'clevis' at the top of the bracket for the track bar to attach to. The higher your suspension lift height (don't count body lifts!), the higher hole you should use (i.e. 3.0" = bottom holes / 6.0" = top holes).

If you removed your track bar entirely in step 3, re-install it to the frame end now, and attach the new tower to the axle end using the original bolt in the original orientation (Torx head facing fuel tank – this is to avoid the bolt puncturing the tank in the event of a rear-end accident). Tighten both bolts just snug for now – so that the tower bracket can still rotate on the track bar bolt.

Step 7: Position Tower Bracket on Axle. You must concern yourself with both the lateral position of the tower on the axle (so that the axle will be centered under the vehicle) and the rotational position around the tube (so there is no bind in the track bar bushings). If you are using the stock, non-adjustable track bar – the rotational position will be easy since it is already set by pre-assembling the tower/bar/frame. For adjustable bars, the threaded connection means there is no set 'orientation' of the end of the track bar – so you need to set the orientation with a level or angle gage. To do this, simply make sure that the sides of the clevis are vertical (this assumes/requires that your Jeep is sitting level while you do this!) – do NOT level the area where the Nth° logo is! – use the areas where the sets of three holes are. Also make SURE your pinion angle is already set to about 1.5° 'flatter' than your driveshaft angle – if you must make a large change in pinion angle after installing this tower, you may need to cut and re-rotate the tower!

Setting the lateral position is required for proper axle centering. For this the vehicle must be sitting on its springs (with it's normal 'unloaded' weight) so that the correct ride height is established. If you are in the middle of a total suspension installation and this is not feasible, you may approximate the ride height if you know how tall your loaded springs will be – for Nth° suspensions that use our rear spring relocater brackets, the 'target height' of the rear springs (for a 'nominal weight vehicle') are:



Figure 5

Lift Height (using rear spring relocater brackets)	Rear Spring Loaded Height
+4.5"	10.125"
+6.0"	11.5"

To set height without springs, measure the relocater-to-axleseat distance as shown in **figure 5** (note this measurement is taken straight up over the center of the axle tube) Now make two measurements that will form an 'X' over the rear axle – when the measurements are equal, the axle is centered under the vehicle. For the normal TJ Wrangler installation, the suggested measurement points on the frame are the inner edge of the spring seat 'pan' (or better – the tip of the small triangular tab just above it); for the axle side, use the top edge of the brake backing plate (for drum brakes) or the rotor (for disc brakes – the disc backing plate is too 'flimsy' for a solid reading). Measure from the frame point on one side to the

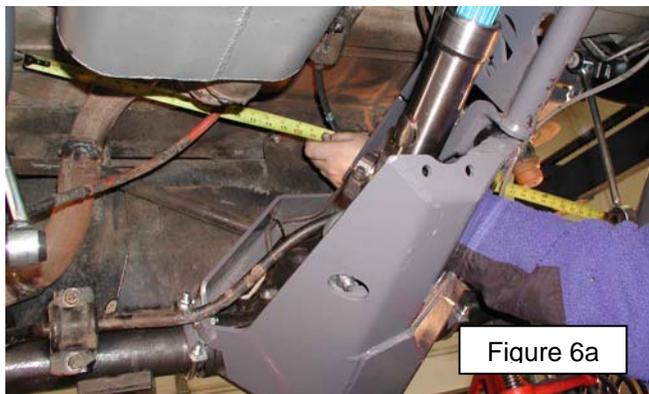


Figure 6a



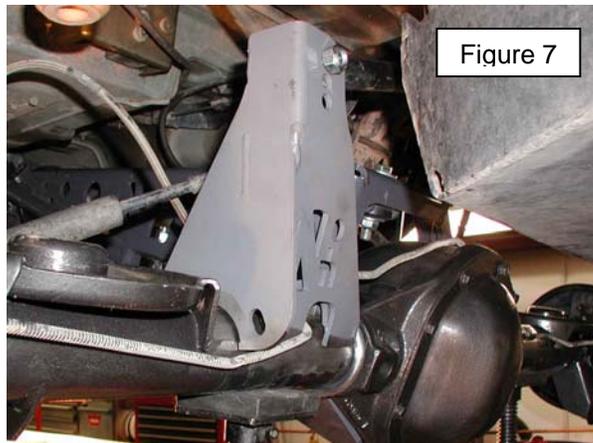
Figure 6b

axle point on the other as in **figures 6a & 6b**

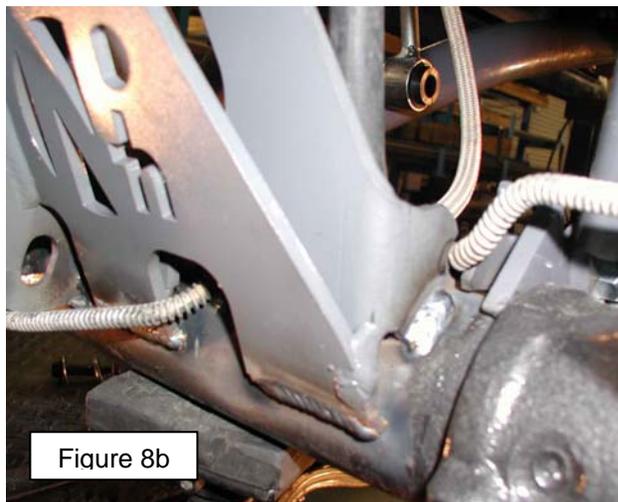
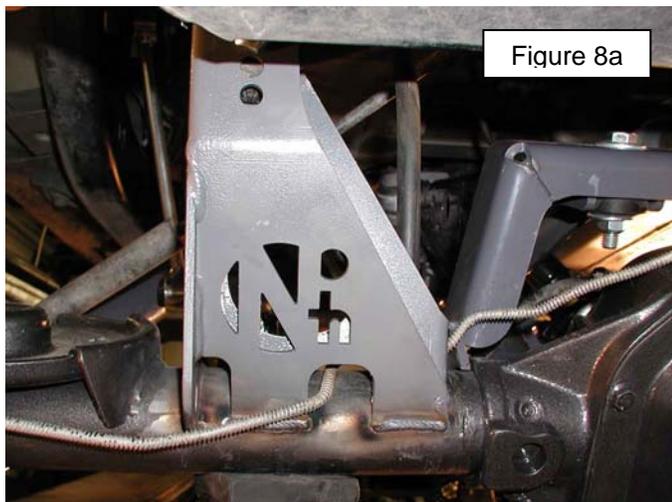
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and compare the two readings (the exact measurement is not important – just that they are equal). Without a track bar yet connected to the axle, the vehicle will usually want to ‘rest’ to one side or the other center, so once you determine which way it’s sitting, use a ratchet strap to pull the body/frame over until equal measurements are achieved. **Figure 7** shows a not-yet-welded tower held in place by the stock trackbar – notice that the tower is standing vertical automatically.

Step 8: Weld Tower to Axle Tube. You are now ready to weld the tower to the axle. These welds are even more important than the ‘pre-welds’ you did in step – these will be highly loaded welds and must be done by an accomplished welder – YOU are responsible for them lasting since Nth° has provided room for plenty of weld-length to assure an adequate connection if the welds are sound! You should weld around the outboard side of the ‘half moon’ next to the driver’s side spring, along the back side of the two tabs to either side of the notch for the brake line (directly beneath the Nth° logo), and finally along the ‘shark fin’ at the inboard end (near the differential casting). Note that the bottom edges of the back-side tabs should be either just touching the tube or quite close to it – either is fine as long as the weld penetrates both tab and tube.



Step 9: Wrap Up. At this point the actual installation is finished and all that should remain to do (for this tower installation at least) is to paint it and tighten the trackbar bolts. Refer to your vehicle’s service manual for proper torque values. Your final installation should look similar to **figures 8a & 8b.**



Step 10: Test Drive and ‘Debugging’ Tips. As with any suspension modification, take a test drive and listen/feel for any possible issues – see below for solution tips if you detect a problem.

Possible Issues and Solutions:

Big Thump over Big Bump. If you hear loud ‘thumps’ when the rear suspension compresses while going over large bumps, the tower may be hitting the floor. (This cannot occur if you are using the minimum 3” of bumpstop spacing that is called for under ‘assumptions’ at the top of these instructions.) If your bumpstop spacing is insufficient, add enough to prevent the trackbar tower from contacting the floor before driving the Jeep any further.

Mild Knock/Clunk over Moderate Bumps. If you hear noises while going over moderate bumps, the tower may be hitting your fuel tank skid plate. If the tower was ‘leveled’ to vertical properly in step 7,

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there should be more than enough clearance to 'miss' most known aftermarket skid plates, but also depends on your rear axle position – it may be too far rearward. Generally for lifts up to +6.0", the pinion angle needed on short-wheelbase TJs will not result in the tower hitting the tank skid before the differential cover does. If you do have contact in this area, do NOT cut material from the tower, instead trim the tank skid – trimming the tower may weaken it too much!

Rubbing/Scraping Noises. If you hear 'rubbing' noises while going over bumps, it may be the track bar rubbing on the fuel tank skid in the area above the differential cover. Again, if step 7 was done correctly, then your rear axle is set too far rearward and should be moved forward. This kit is designed for use with the stock TJ rear track bar and will allow the stock bar to clear the stock fuel tank skid and all known aftermarket skids with ample clearance just like on a stock TJ. If you are using an aftermarket rear track bar, it may not be bent to the same profile as the stock bar and could be source of the interference problem. Nth° always recommends using the stock track bar as it has superior construction and provides the ultimate in reliability - because it is a one-piece solid steel forging with no welds to fail or tubes to buckle.