

# Installation Instructions: Lightning Rod™ Disconnects for TJ Wranglers

<b>Kit Part Numbers</b>	Nth20521 (for suspensions lifted 3-6")
<b>Applications</b>	Jeep TJ Wrangler (all models including Unlimiteds & Rubicon pkg.)
<b>Assumptions</b> Equipment that must already be present on your vehicle	The original front stabilizer bar is still mounted in it's normal location on the frame.
	The front axle is an original-type housing with factory-welded 'pump handle' brackets that attach the bottom of the stabilizer end links. Non-stock axles should also work, though minor fit issues may arise.
	The correct LRD length must be used for a given lift height for proper stabilizer bar angle. Consult the website for correct lengths vs. lift height for each model.
<b>Required Tools and Equipment</b> (in addition to common hand tools)	T55 torx bit (to remove stock lower bolt on the axle)
	Blue Loc-Tite
	Bench Vise
	Hacksaw or other metal-cutting device

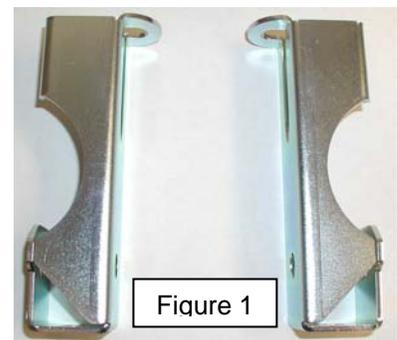
Please take the time to read these instructions completely before beginning – they are long because we want you to get the installation right the first time for best performance with no unnecessary delays.

**Notice:** Stabilizer bars (especially *front* ones) are not simply a 'comfort' item for the purpose of reducing body 'lean' when cornering or on side-hills – they are actually a critical element of the proper handling of vehicles that came with them as original equipment. For this reason they *must* be connected and of the correct 'rate' (stiffness) to assure that your vehicle understeers (plows straight ahead) if lateral traction limits are exceeded. Driving with a reduced-rate front stabilizer bar or none at all (as when disconnected) can contribute to severe accidents from loss of control. Like any 'disconnect' product for front stabilizer bars, the Lightning Rod Disconnects (LRD) are intended to be disconnected **ONLY** when driving off-road at slow speeds (i.e. in low range). Its purpose is **ONLY** to allow greater front axle travel (articulation) during off-road driving over rugged terrain. The LRDs should always be connected for on-road and/or high-speed driving to allow proper handling of your vehicle in turns – especially on loose or slippery surfaces. Failure to connect the front stabilizer bar to the axle under these conditions may lead to sudden and unrecoverable loss of control and is exclusively the responsibility of the owner/operator of a vehicle equipped with a front stabilizer disconnect system such as the Lightning Rod. By installation of this product, you acknowledge that this responsibility is yours regardless of whom you allow to drive your vehicle.

**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 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 installation if you are unsure of your abilities or do not have the resources 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:** Detach Stock links from axle. Because the Lightning Rod Disconnects make use of the stock links, there is no need to remove the stock links from the stabilizer bar – you only need to remove the bolts that attach their lower ends to the axle brackets. Before beginning, make sure the vehicle is parked on flat, level ground so that there is no 'preload' on the stabilizer bar, else you will have difficulty removing the bolts. Once the bolts are removed, swing the bar down for easy access to attach the Lightning Rods.



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Figure 2



**Step 4: Pre-assemble Lightning Rods.** Start by identifying the right and left-hand (driver's side) versions of the bracket as shown in **figure 1**. If you have a 3-4" lift, assemble each LR using the shorter pair of fine-thread bolts; for 4.5-6" lifts use the longer bolts and spacer tubes as shown in **figure 2**, making sure that there is one washer on each side of the bracket. Add a dab of blue loc-tite to the threads before screwing into the gold quick-connect ball joint. Once loose-assembled, clamp the upper collar of the gold body in a vise so that you can tighten the bolt as shown in **figure 3**. Use the screwdriver through the holes to keep the bracket located relative to the quick-connect – the 'socket' in the quick-connect must face outboard (toward tire) while the uppermost tap on the bracket must face inboard (toward frame). The exact orientation

isn't critical, but the tab and socket should be visually close to 180° apart. Repeat for other Lightning Rod.

Figure 3

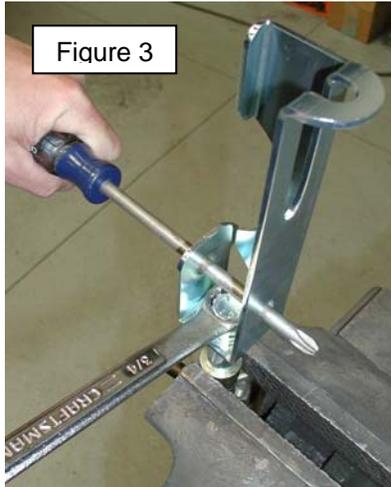
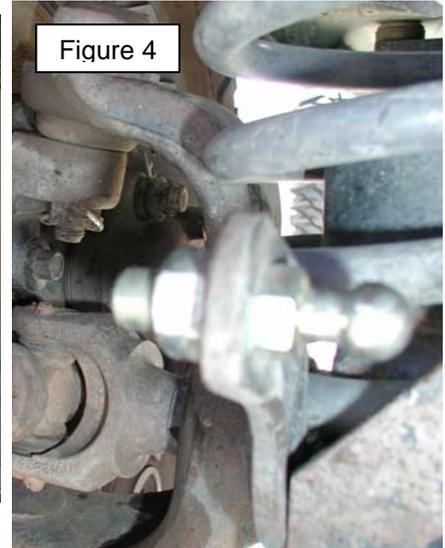


Figure 4



**Step 5: Install Quick-Connect Studs to Axle.** Now that the Lightning Rods are assembled, remove the ball-stud from each QC by lifting the sliding collar and pull out the stud. Place each stud into the hole on the axle brackets where the stock links had been attached – the stud should point toward the middle of the vehicle. Secure the each stud with a washer and nut as shown in **figure 4**. Repeat for other side.

**Note** The stock bushings can often look very distorted even after just a few hundred miles of use – this should not be a problem for the function of the Lightning Rods, but may make initial installation more difficult.

**Step 6: Install Lightning Rods.** To attach each LR, position the correct bracket over the stock lower link bushing with the tall side of the bracket on the same side that the stock linkage rod bends towards as shown in **figure 5** – you may have to pry the bracket open slightly to get it over the bushing. Once the coarse-thread bolt is through the bracket and bushing, add blue loc-tite to the nut and tighten it until the tabs on the bracket just barely touch (arrow in **figure 5**) – this will give the right amount of pre-load on the bushing for best operation. Repeat for other side.

**Step 8: Prepare for Parking Position.** For p/n Nth20521 (2-6" lift), the combination of the stock links and Lightning Rods is long enough that you must modify the inner fender support (at the front of the wheelwell - just above the stabilizer bar) to allow them to be swung over the spring towers to park them when disconnected. To allow the Lightning Rod links to be 'parked' above the spring seats, you must notch the inner fender support panel First, remove both

Figure 5



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wiring harness retainers from the two holes the panel so the wires do not get damaged during the cutting (hold the wires out of the way while cutting!) On each panel, make a cut starting from the lower edge

about 2" out from the grille – angle the cut upward and inward towards the grille, missing the inboard of the two small holes and ‘aiming’ for the small dimple there the panel meets the inner fender itself – cut all the way to the dimple as shown in **figure 6**. Once the cut is done, you may reinstall the other harness retainer in its original (outboard) hole. For the inner one, the wiring will not be retained to the inboard hole but rather will tuck behind the metal ‘triangle’ just

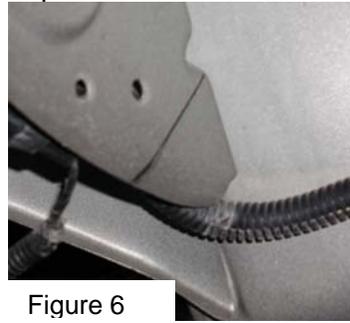


Figure 6

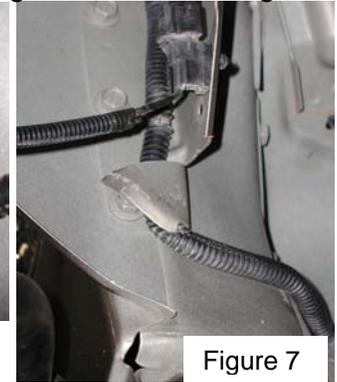


Figure 7

created by the cut: hold the wiring up against the grille just ahead of the panel and hammer the triangle forward over it until the triangle is firmly compressing the wire loom but not crushing the wires inside it (**figure 7**). Once this is done on both sides, rotate the bar up to see how far it will go before hitting the new notch in the panels – the bar should be able to go all the way up until the nut on the end of the bar (the ones holding the stock link to the bar) are less than 1/8" from touching the back side of the grille. Improve the clearance at the triangle ‘notches’ until the bar will freely swing as high as shown in **figure 8**.

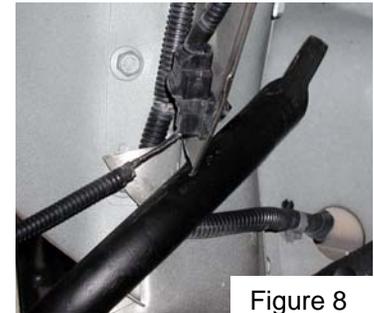


Figure 8

## Operation Procedures and Tips

**Disconnecting from the axle.** (assumes driver’s tire ‘high’ – reverse if passenger side is high.)

1. Un-latch the ‘high-side’ link; release quick-connect from the axle stud.
2. Un-cam the ‘low-side’ link; release quick-connect from the axle stud; rotate link around spring seat while pushing bar up towards back of grille; Once quick-connect is resting against shock tower (above spring seat), re-latch lightning rod to stock link.
3. Return to the first side; swing link over spring seat; tuck quick-connect behind lip on shock tower like the other side; re-latch link.



**Re-connecting to the axle.** (assumes driver’s tire is ‘high’– reverse if passenger side is high.)

1. Un-latch the driver-side link; swing it over the spring seat and down to a hanging position.
2. Un-latch the other side link; swing it down to the axle stud and engage it by sliding the collar.
3. Return to the driver’s side; engage the quick-connect to the axle stud by ‘opening’ the latch as much as needed to make the link short enough to line up the QC with the stud. Once the QC is attached, push on the latch until it is ‘snapped’ onto the stock link. cam as far as needed to fit the bolt into the bracket between the two bushings; cam the link.

NOTE: If your judgment was correct (that the driver-side front tire was the ‘high side’ where you parked), then the driver-side link will be able to



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engage the axle bracket and you can complete the hookup as described. If the link is not long enough to reach the axle stud even when straight, then the other tire was actually the 'high' tire. Simply unlatch the passenger link (but leave it connected to the axle stud), to allow the driver's side link to reach the axle, then latch both links.

### **Other Notes**

- 1) LRDs will operate fine even when covered with mud, etc., but you should clean the socket and stud of the quick-connect before reconnecting. The abrasive nature of dirt (dry or wet) will wear the socket and create a loose interface that will rattle excessively if not kept clean.