

# Front Tie Rod Ends Installation Instructions

## SPL TRE 996 - Porsche

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**Tools needed:**

18mm wrench

Torx T30 driver

19mm wrench

24mm wrench/socket

Remove the original tie rod end from the car. A good idea is to measure the distance from the current tie rod shank to the inner tie rod joint if possible, or from the end of the rack boot to the shank. This will make it easier to drive to the alignment shop and minimize wear on your tires on that drive. The shank nut is 18mm. To prevent the shank from spinning, use a Torx T30 driver to hold it still. Once the nut is removed, pry the tie rod shank out of the knuckle. Now begin the installation of the SPL tie rod ends:

Insert shank into spindle. Use the two supplied silver colored nuts, and jam the two nuts together to help hold the shank. **Torque nut on top of knuckle to 75 ft-lbs. DO NOT USE IMPACT GUN OR OVERTORQUE!** Otherwise, the strength of tie rod end will be severely compromised. *\*SPL Parts is not liable for any issues due to overtorque.\**



Remove the two silver colored nuts. Install supplied stainless steel spacers to adjust bump steer. You will want to try to make the angle of the tie rod set up match the angle of the lower control arm. The lower the car, the more spacers you will use. Test and adjust from there. **NOTE:** With more spacers the tie rod will be pushed closer to the rotor. As long as there is clearance no matter how close, they should never touch.

Install locking nut on bottom. This nut will take some effort to thread (about 20 ft-lbs of torque) as it is a metal crimping/locking nut. **TORQUE TO 80 ft-lbs.** Verify there are no clearance issues with the knuckle, subframe, or other suspension arms before putting the car back on the ground.



Check for binding or any problems by rotating steering wheel lock to lock with car sitting on ground. Check that the spherical bearing does not bind (the edge of the ball bearing hitting or close to hitting the housing) under any situation as shown in the picture below. After installing, run the suspension and the steering rack from lock to lock through its travel to make sure there is no contact between the arms.



Note that the inner tie rod end can rotate freely, so the picture on left is not binding even though the edge of the ball is touching the housing. If uncertain, try rotating the inner tie rod by using a wrench on the hex part of the inner tie rod.

Tighten down the two jam nuts that go against the hex buckle of the outer tie rod end. When getting the car aligned, please adjust toe by turning the inner tie rod. Do not turn the tie rod end buckle, this will not adjust toe.

## **Length adjustment of outer tie rod ends**

SPL tie rod ends are preset to a specific length, but in certain cases it may be necessary to make the outer tie rod ends longer or shorter. The outer tie rod ends can be lengthened or shortened on the car using the following procedure:

1. Loosen the jam nuts on both sides of the hex buckle.
2. Hold the inner tie rod fixed and turn the hex buckle so as to thread in/out the rod end (spherical bearing side). Note that since both the rod end and the inner tie rods are right hand thread, threading in/out the rod end will in turn thread out/in the buckle on the inner tie rod side.
3. Once the outer tie rod end is long/short enough, tighten down jam nut on the rod end side. Note that for safe thread engagement, the maximum amount of exposed thread on the rod end should not exceed 0.7".
4. Follow the normal procedure of turning the inner tie rod to adjust the toe.

## **ONE-YEAR LIMITED WARRANTY AND DISCLAIMER**

*All SPL brand products are intended for **Off Road Use Only** and carry a one year limited warranty. See below for details. All other branded products carry their respective manufacturer warranty.*

*SPL PRO suspension products warranted to be free of defects in material and workmanship for one (1) year from the date of purchase.*

*If a product fails to meet specifications, SPL PARTS INC will, at its election, repair, replace, or make appropriate adjustment, if SPL PARTS INC determines to its satisfaction that the product is defective in material or workmanship, i.e. contains a defect arising out of the manufacture of the product and not a defect caused by other circumstances, including, but not limited to accident, misuse, abuse, unforeseeable use, neglect, alteration, improper installation, improper adjustment, improper repair, or failure caused by other equipment or interaction with other equipment. SPL PARTS INC is not responsible for labor charges, removal charges, installation, or other incidental or consequential costs. In no event shall the liability of SPL PARTS INC exceed the purchase price of the product.*

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*If the purchaser of the product shall fail to pay when due any portion of the purchase price, or fail to meet any terms required under contract agreed on at time of purchase, all warranties and remedies granted may be terminated.*

***Using any SPL arm as a tie/strap down point for a dyno session or transport will void the warranty.***