Front Tie Rod Ends
Installation Instructions
SPL TRE NAMR/NAPS/NBPS – Miata

1. Loosen the lug nuts on the front wheels, then either jack the car up or raise it on a lift. If jacking, place chocks at the front wheels, then use jack stands under the car to support it. Once you have the car securely raised, remove front the wheels, then remove the factory inner and outer tie rod ends.

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

3. Remove the two silver colored nuts.

Your kit may come with inner tie rods that have grease packed in them already (Figure 1), or there may be grease packets (Figure 2). If there are grease packets, pack the grease into the tie rod. See the following pictures for clarification. Figure 1 shows a grease packed tie rod, and Figure 3 shows the dry tie rod before being packed with grease.

Figure 1: Factory packed grease in tie rod.

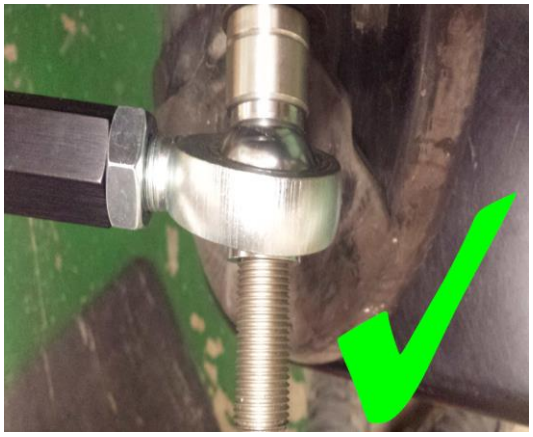
Figure 2: Factory supplied tie rod grease packets.

Figure 3: Dry tie rod before grease being packed into it.

4. Install the 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.

5. Install the locking nut on the 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 the 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 rotating the turnbuckle back and forth.

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. **We do not suggest increasing the length of the tie rod end!** This can put too much force onto the inner tie rod and cause failure. This is a secondary adjustment device to only be used when you cannot quite get your toe into spec with the adjustment from the inner.

The outer tie rod ends can be lengthened or shortened on the car using the following procedure:

1. Loosen the Blue Titanium Socket Head Cap Screws 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. This may be difficult due to the curve of the turnbuckle, so it is sometimes best to get the adjustment close with the turnbuckle, then make fine adjustment with the inner tie rod.
3. Once the outer tie rod end is long/short enough, tighten the Blue Socket Head Cap Screws to **150 in.-lbs.** with a 3/16 allen key. Note that for safe thread engagement, the maximum amount of exposed thread on the rod end should not exceed 0.25".
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** 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.

SPL PARTS INC makes no other warranties, either expressed or implied, including limitation warranties as to merchantability or fitness for a particular purpose. SPL PARTS INC shall not be liable for, and buyer assumes all risk of, any advice or failure to provide advice by SPL PARTS INC to buyer regarding the product or use and installation of product. SPL PARTS INC shall not be liable for any special, incidental or consequential damages.

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.