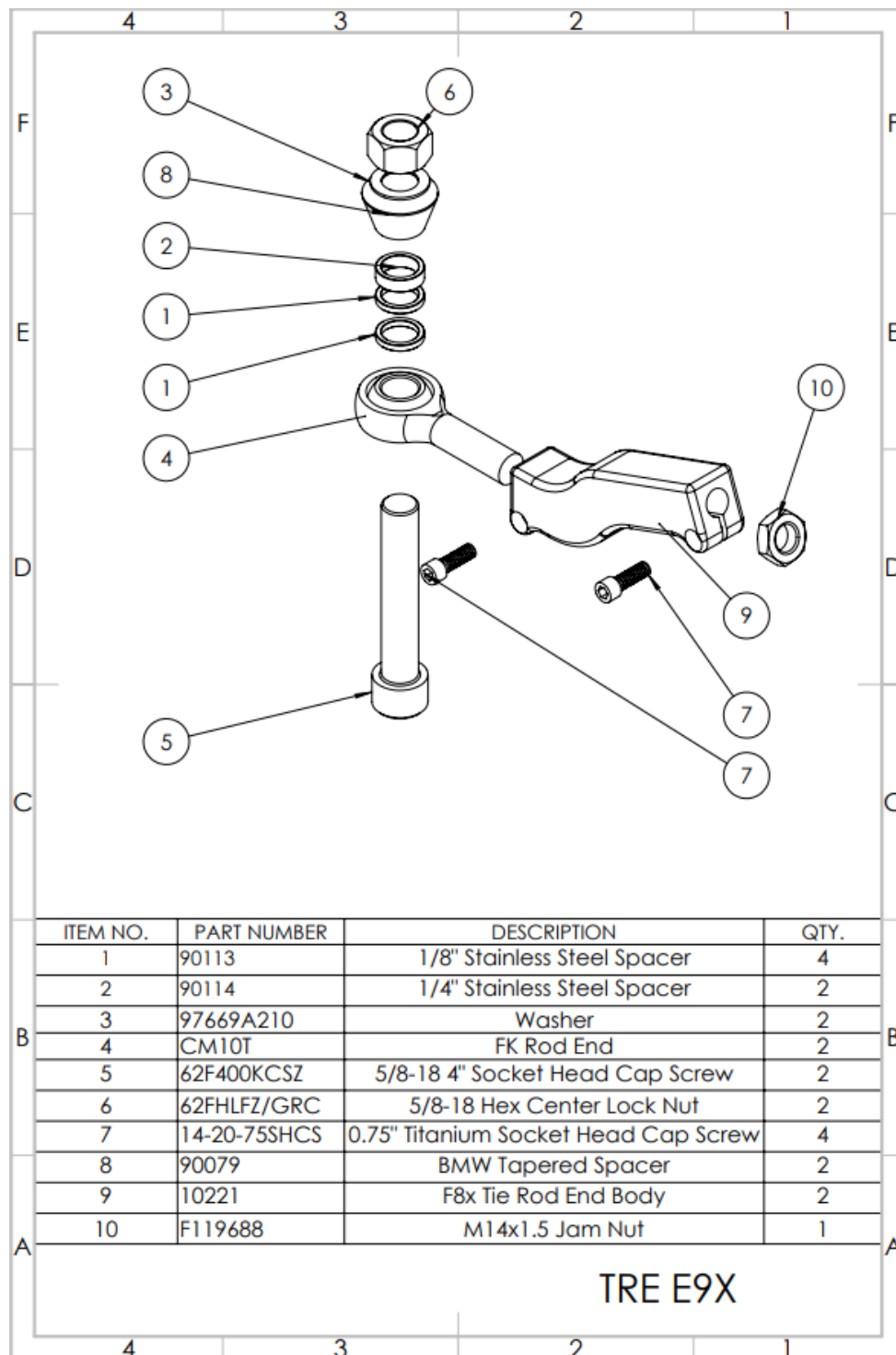


# Front Tie Rod Ends Kit Installation Instructions SPL TRE E9X-BMW



Thank you for your purchase of this SPL Parts performance suspension product. Please follow these instructions exactly to ensure that the product is able to function to the best of its ability, and you can achieve the most performance out of your vehicle.

**Tools Needed:**

1/2" allen wrench      15/16" socket      21mm wrench  
crescent wrench or 7/8" open ended wrench  
Torx heads for stock tie rod pinch bolt, size varies



*Make sure the conical spacer is in proper position.*



*When tight, the conical spacer should be flush.*

1. Mark your current tie rod positions to make realignment easier. After securely jacking your car up and removing your old tie rod ends, install the silver colored jam nut on the inner tie rod.
2. Install the Jam Nut (10) onto the inner tie rod, followed by the SPL Parts Aluminum Turnbuckle (1) and FK Rod End (5). Once the Aluminum Turnbuckle and FK Rod End are in approximate position, insert the Shank (6) through the FK Rod End.
3. There are 3 Stainless Steel Spacers shown: The tapered spacer (9) must be used. The 1/8" Stainless Steel Spacer (2) and 1/4" Stainless Steel Spacer (3) can be used in any combination to achieve the proper bumpsteer setting for your car. Verify there are no clearance issues with the knuckle, subframe, or other suspension arms before putting the car back on the ground. If used with tubular/straight trailing/tension rod, use the 1/4" Stainless Steel Spacer to ensure clearance.
4. The shank is a 1/2 inch Allen head. Make sure to lubricate the threads (motor oil is acceptable), then tighten the nut at the top to **110 ft-lbs.**

**DO NOT OVERTORQUE!** Otherwise, the strength of the Tie Rod End will be severely compromised. *SPL Parts is not liable for any issues due to overtorque.*

5. Once tight, check for binding or any problems by rotating steering wheel lock to lock. Ensure 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 through its travel and the steering rack from lock to lock 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 socket head cap screws (8) on each end of the turnbuckle until the assembly cannot rotate, not exceeding 13 ft-lb. Then use the jam nut (10) to ensure the tie rod is locked in place. Tightening the socket head cap screws first ensures your alignment does not change when tightening the jam nut.

6. Take your car to a professional alignment shop. Take these instructions with you to ensure that it is adjusted correctly. When getting the car aligned, **please adjust toe by turning the Inner Tie Rod**. Do not turn the tie rod end buckle, as this will not adjust toe.

## Length adjustment of Outer Tie Rod Ends

Our 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 socket head cap screws (8) on both sides of the Aluminum Turnbuckle.
2. Hold the Inner Tie Rod fixed and turn the Aluminum Turnbuckle so as to thread in/out the FK Rod End (spherical bearing side). Note that since both the FK 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 FK Rod End side. **Note that for safe thread engagement, the maximum amount of exposed thread on the FK 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 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.*

*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.***