

## Supercharger Pulley Tensioner Power Steering Delete Bracket and Optional A/C Delete Pulley Installation

The TDR Tensioner Power Steering Delete Bracket installs in place of the power steering assembly. All required hardware is supplied.

**NOTE:** If this is a new installation and your Miata does not have power steering, you will need to locate a Mazda OEM P/S mount. Contact us as we may have some in stock.



### Step 1 (Power Steering Delete Block)

First, remove the supercharger belt. The power steering pump will be removed in its entirety. The P/S Delete bracket is attached with 2 bolts. One bolt is located through the tensioner bracket and the other mounts to the long bolt that held the power steering pump to the OEM bracket. Hammer the spacer in the OEM power steering bracket back as shown in Photo 1. There are three openings on the TDR tensioner bracket. The first hole at about 11 o'clock remains bolted to the OEM power steering pump bracket. The middle hole at about the 2 o'clock position gets bolted to the threaded section on the TDR Power Steering Delete Bracket as shown in Photo 2.



Photo 1: Hammer the spacer back



Photo 2: Bolt locations

The third hole at about the 6 o'clock position will not be used at this time as shown in Photo 3. Now run the long bolt from the power steering pump through the other side of the TDR Power Steering Delete Bracket as shown in Photo 4. Tighten the long bolt and nut in the OEM power steering pump bracket to make the spacer tighten up to the TDR Power Steering Delete Bracket as shown in photo 5.



Photo 3: Third hole not used at this time



Photo 4: Install long P/S bolt through TDR Power Steering Delete Bracket.

### Step 2 (Optional on Cars Equipped with A/C)

If you are running A/C and want to eliminate the hook section of the tensioner, remove the TDR Tensioner. Tape up the TDR Tensioner bracket to protect the adjustment groove from shavings and mark it as shown in Photo 6. You can cut the aluminum tensioner bracket along the line for a slightly cleaner look as seen in Photo 7.

**NOTE:** This is non-reversible and if you decide to eliminate A/C in the future, the TDR Tensioner bracket will need to be replaced..



Photo 5: Tighten the 14 mm long bolt to bring spacer back forward.



Photo 6: OPTIONAL: Tape up the bracket to protect the adjustment groove from shavings and mark it

### Step 3 (Cars without A/C)

To install the TDR Tensioner without P/S or A/C you need the optional A/C Delete Pulley.(TDR-ACDP) This is necessary to extend the length of the belt path as there are few to no belts available when using the TDR Tensioner without A/C and power steering

Attach the pulley to the bottom hole at the 6 o'clock position. Note using the special spacer/adaptor and hardware as seen in photo 8.and photo 9.



Photo 7: OPTIONAL: Cut the aluminum TDR tensioner for a slightly cleaner look on cars with A/C.



Photo 8: OPTIONAL A/C Delete Pulley necessary to extend the length of the belt path: Note the use of a special spacer/adaptor



Photo 9: OPTIONAL A/C Delete Pulley: Note the belt path.



Photo 10: Apply tension to the adjustable pulley while tightening down the tensioner bolt by hand

### Step 4 (Tension Belt)

Apply belt tension to the pulley as shown in Photo 10. Turn the 12 mm tensioner bolt by hand until you feel tension and complete using a 12 mm wrench. The ideal wrench to use is a short 12 mm ratcheting wrench to speed the tensioning process as shown in Photo 11. Belt tension should be about +/- 1/4" deflection in the longest section as shown in Photo 12. When the belt tensioning is complete, tighten the 13 mm jam nut as shown in Photo 13 and the 14 mm pulley bolt as shown in Photo 14.



Photo 11: Adjust the belt tension by turning the 10 mm bolt using a ratcheting wrench



Photo 12: Adjust belt tension to about +/- 1/4" deflection



Photo 13: Tighten the Jam Nut when tensioning is complete



Photo 14: Tighten the 14 mm pulley bolt after tensioning is complete

### Step 5

After the new TDR tensioner bracket is installed, check your supercharger for proper alignment. Use a 12" straight rule or other straight device to check the alignment with the power steering pulley as shown in Photo 15. The drive belt will ride more toward the front of center on the tensioner pulleys. If the supercharger needs to be realigned, loosen the top support bolts and slide the supercharger. Tighten down and check the vertical alignment.

It is not uncommon, due to the constant tension from the drive belt for the supercharger alignment to become altered over time. Use a 12" straight rule or other straight device to check the alignment. To measure the horizontal alignment, place the ruler on the front of the supercharger pulley as shown in Photo 16. Check alignment by comparing the horizontal plane at the valve cover. If necessary you can add a shim to the front support mount of the supercharger as shown in Photos 17 and 18 to improve alignment. Use a thin piece of metal or a washer to shim. To ease installation, cut a slot in a washer or shim so it can be placed in the front support mount without having to completely remove the mounting hardware.



Photo 15: Check for vertical alignment



Photo 16: Check for horizontal alignment



Photo 17: Shim on MP62 supercharger setup



Photo 18: Shim on M45 supercharger setup

This completes the installation of the TDR tensioner bracket. Belt replacement and tensioning is now much easier. New drive belts stretch initially and usually takes 2-3 readjustments before they reach their final stretch. Be sure to check periodically for belt tightness and excess wear.

If you have any questions please don't hesitate to contact us.

**The Track Dog Racing Team**

**NOTES:**