



PART # RTAL

TMS Trailing Arm Bushing Limiter

These rear trailing-arm bushing limiters create a stiffer suspension without sacrificing ride quality. They are a perfect upgrade from stock without the harshness of race only bushings. By combining the limiters and stock bushings, this is a low cost and effective suspension performance enhancement. By limiting the amount of side-to-side movement of the stock bushing, drivers will have increased feel because of the reduction of toe variation due to the squirm of the stock rubber bushings. The bushings will also have longer life. This is also an advantage because many BMW's have issues with the stock bushings ripping and tearing over time. Some stock class racing series even allow this kind of modification, because the stock bushing is still being used.

Parts list for kit: 4-Blue anodized bushing limiters
8-5mm allen bolts
Template

Tools required: 10mm wrench or socket (brake bracket)
18mm socket (toe plate to chassis)
18mm socket and wrench (toe plate to trailing arm)
1/4" drill bit and drill (toe plate)
3mm allen key (limiters)

Install time: 2 hours



Directions:

1. Properly lift and support the car to access the rear trailing arms
2. Mark the rear toe position.

-Use paint marker and draw a circle around the bolts on the toe plate.
-Wait for paint to dry

NOTE: This is to reset the toe as close to original as possible during reinstallation. We do recommend having a professional alignment done if not confident on the reassembly position of the toe plates



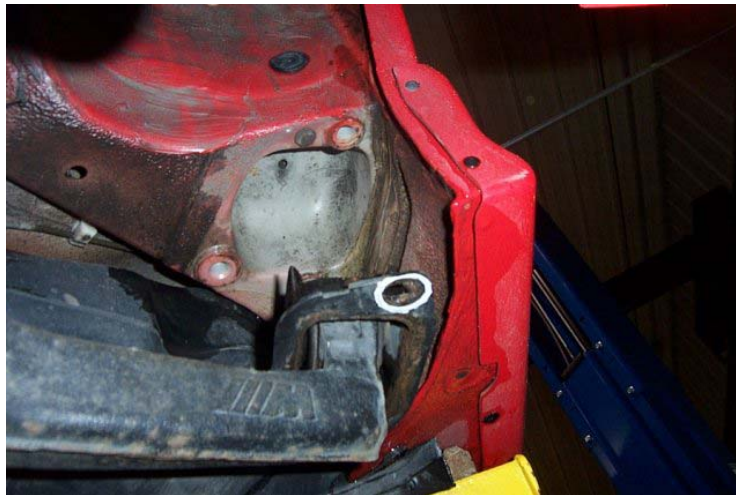
3. Remove brake line bracket from rear trailing arm
- Remove 2 10mm head bolts from brake line bracket, each side
-Do not disconnect the brake lines.

NOTE: This allows the brake lines to move freely while the trailing arm is lowered. If not removed damage may occur to the brake lines



4. Remove the 3 bolts that connect the toe bracket to the chassis

NOTE: We recommend that the trailing-arm is supported during this step. This allows the spring pressure to be removed slowly and safely. Repeat for both sides of car.



5. Remove the bolt through the center of the toe plate bracket.
Remove toe plate bracket from trailing arm.

6. Assemble template

- Insert original bolt through the center of the toe plate so that the nut will be on the template side.
- Center the template
- Align template horizontally to the bottom of the toe plate
- Finger tighten the nut.



7. Drill template holes

- Drill only one 1/4" hole
- Drop one of the 5mm bolts into the hole to keep plate in place
- Drill other hole in template
- Switch sides of the toe plate and repeat.
- Repeat for the other toe plate.
- When all holes are drilled, debur all of them, front and rear.
- Spot prime and paint to prevent corrosion, and let dry

8. Install bushing limiters

- Place a small amount of Red (or similar) Loctite on the 5mm bolts.
- Bolt and tighten limiters into place in each toe plate.
- Slide toe brackets onto the trailing arm bushing and insert bolts
- Align the bottom of the toe bracket to be parallel with the center line of the trailing arm. NOTE: This is so that the bushing will not be pre-loaded when car is at ride height.
- Insert bolt and torque to 110 N*m (81 ft*lb)



9. Reinstall trailing arm (or refer to the optional chassis reinforcement at this time)
 - When raising trailing-arms into place make sure spring is seated correctly.
 - Align to original marked spots and torque down the three chassis bolts to connect each toe bracket to the chassis.
 - Torque to 77 N*m (57 ft*lb)
 - Reconnect brake line brackets

Suggested Chassis Reinforcement

Many times trailing arm mounts become cracked and can actually start to pull out of the chassis. If not properly taken care of they *WILL* pull all the way out. This is especially common in E36 3-series chassis. The reason for this is that the welds did not go all the way around the mounting points to the chassis.

Warning: Only a professional welder should perform this. Welding is done very closely to the gas tank. So if any fumes or fuel leaks can be detected do not weld until checked out and deemed safe. The ECU, alternator, and battery should all be disconnected before welding to prevent electrical damage. The welder should be directly grounded to the chassis, not to any suspension parts.

1. -In the area that the mounts are not fully welded around, remove all the paint. (A die grinder with wire wheel works well)

NOTE: This is because any paint on the welded surface will cause defects in the weld and weaken it.



2. -Finish the weld around each of the mounting studs.



3. -Prime and paint welded or exposed areas.
4. Return to step 9 to finish install