

TMS E46M3 Camber Plate (Street and Track Style) PART # TSU-46-80-501

Two New Features
*Better shock travel for lowered cars
Can be used with race springs*

The TMS stock style caster-camber plate is designed with a custom urethane bushing to be used either with the stock or aftermarket front strut/spring assembly. Installation is to simply replace the stock strut bearing with our assembly (reuses stock spring perches and bearings). Every dimension of our camber plate kit is based on the stock strut bearing to ensure a perfect fit. Camber has a wide range of adjustment, from stock to a full race setting. These plates are the result of several months of design and testing. Detailed settings and combinations will depend on each car's suspension geometry. There is *NO* other camber plate like this on the market. Note if using 2.5" or 60mm race springs we offer a spring perch and shock spacer for additional cost.

Technical Specifications

- *No strut tower cutting needed*, therefore the strength of the strut tower is not compromised.
- **Average Camber Range** $\approx -1.23^\circ \pm .33^\circ$ to $-3.23^\circ \pm .33^\circ$
 - Caster and Camber Ranges are based on stock ride height and dependent on setup and the suspension combination used
- Complete stress analysis on each component.
- Compatible with most strut braces including the BMW Motorsport brace.
- The entire camber plate assembly is based directly from the stock strut bearing to ensure proper fitment.
- CNC machined from high grade aluminum billet and Mil-A-8625F Type III anodized (hardcoat) for protection.
- Utilizes a full round upper plate to spread force throughout the entire strut tower to PREVENT deformation.
- Scale for camber and caster adjustment is laser engraved for adjustment.

Bushing Specifications

- Custom TMS designed urethane bushing specifically for this kit.
- Several choices of durometer (hardness) are available for your specific needs.
- Completed stress analysis for flow characteristics.
- Bushing is replaceable.

Parts list for kit: 2 – Upper plates

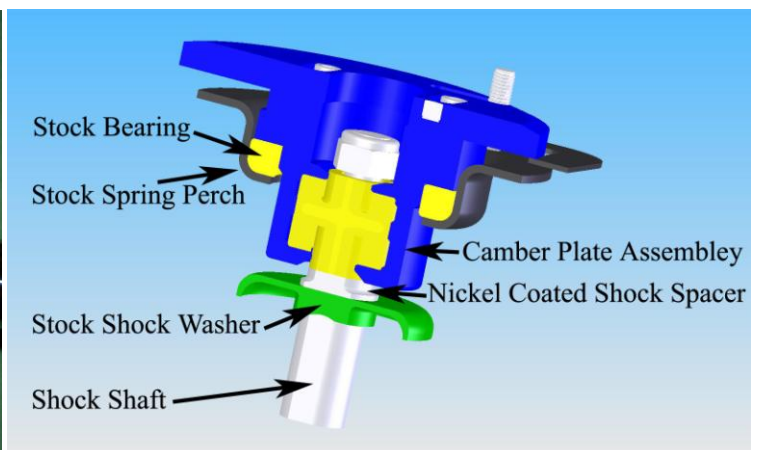
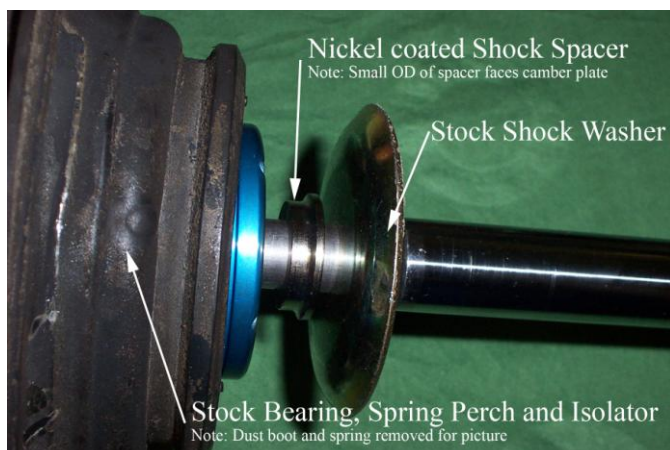
- 2 – Lower bushing carriers (with bushings and caps installed)
- 2 – Lower slides (with bolts welded in)
- 2 – Shock spacers (small nickel coated cylinders)
- 6 – M8 Flange nuts
- 8 – M8 bolts
- 8 – Slide washers (for M8 bolts)
- 2- M14 x 1.5 Nylock nuts (**Note make sure your strut has the same thread pitch before installing**)

Install time: 3 hours (Alignment time not included)

Directions:

1. Properly lift and support the front end of the car, and remove the wheels
2. Undo the swaybar links from the swaybar.
 - Requires a wrench (16mm) to be inserted between link and swaybar to remove
3. Remove struts (this makes it easier to assemble everything). May also want to remove brake calipers to prevent damage to brake lines.
 - Support the control arm assembly with a jack
 - Remove headlight adjusting link (if equipped)

- Loosen the lower shock bolt enough to let the shock body twist (note orientation)
 - Remove the top strut mount nuts (there are three).
 - Lower the control arm assembly. Be careful not to damage the brake lines or any other connecting wires/parts, and pull out the entire strut assembly.
 - Remove top strut plate by using a spring compressor (if needed) and removing the top shock nut.
4. Assemble camber plates. See pictures below.
- Springs should still be on shock and you will reuse the stock washer that sits on the shock chamfer.
 - Slide the shock spacer onto the shock. The large OD should sit flush against the stock washer.
 - Place the stock bearing, spring perch (and rubber isolator) onto the TMS camber plates.
 - Slide entire camber plate assembly over the strut. Make sure the bushing sits on the shock spacer with a little compression in the spring, and nothing binds up.
 - Put on M14 washer and shock nut.
 - Caster can be set at this time. Most people will want maximum caster, with the adjustment placed fully towards the back of the car.
5. Install Camber plates and shocks
- Place the shock shaft into the spindle properly oriented and torque bolt to:
81 N*m (61 ft*lb)
 - Note: You can also bolt the strut assembly to the strut tower first and use the jack to line up the spindle and shock.
 - Raise the control arm assembly up until it's close to the shock tower.
 - Make sure the camber plate is properly oriented and raise the control arm assembly up making sure the bolts go all the way through the shock tower.
 - Torque M8 flange nuts to: (18 ft*lb).
 - Hook up the swaybar links
- Tip: Do not hook up swaybar links if doing one side at a time. Both sides need to be undone.**
6. Alignment: To adjust the caster, the camber bolts must be loose and the plates able to slide back and forth. After caster is set, Camber can be set.
- Adjust the caster so the shock is the farthest back towards the rear of the car possible.
 - Tighten down the 4 M8 bolts and torque to: 10 ft*lbs (Do not over torque!!!)
 - Adjust the camber so the shock is leaned the farthest to the outside of the car possible.
 - Take to alignment shop with your required settings or they will set everything close to stock.
 - To adjust, the car should have the weight taken off of it to reduce wear and tear and prevent damage to the plates.

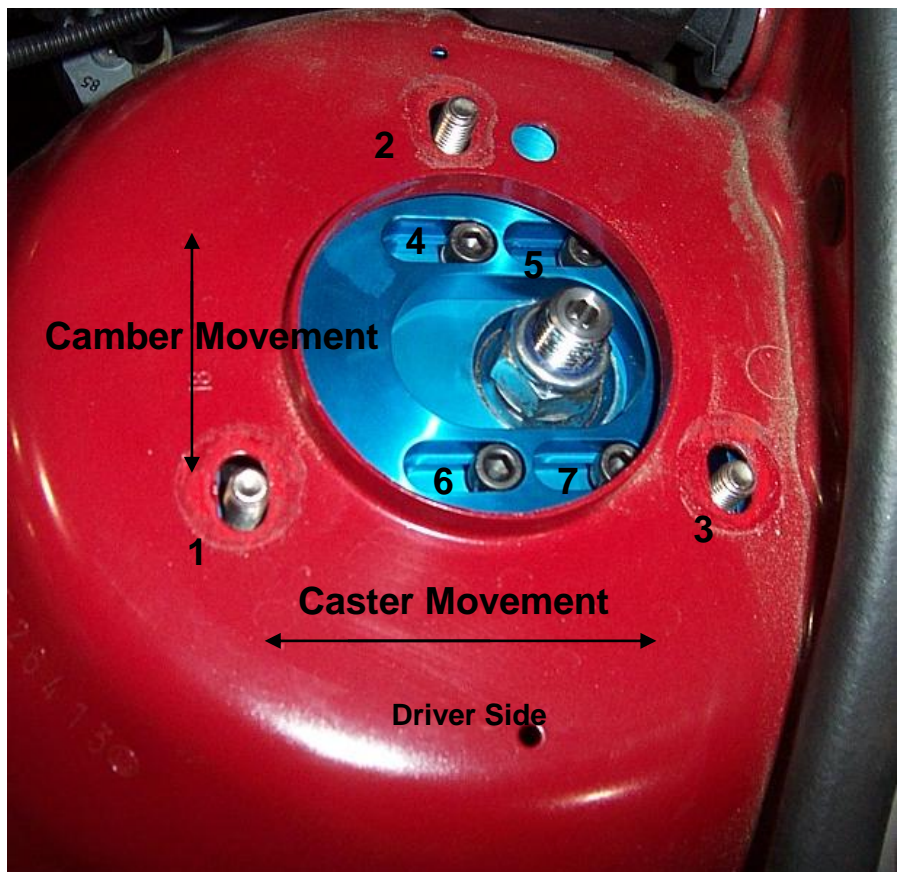


Adjusting Caster

- Loosen the camber nuts (1,2,3). This allows the Plate to move so each caster bolt can be accessed.
- Loosen the caster bolts (4,5,6,7) by moving plate back and forth, and adjust to desired position based on tick marks. Tighten Caster bolts (do no over tighten!!).
- Reset camber settings.
- Adjust camber using tick marks and tighten camber nuts.

Adjusting Camber

- Loosen the camber nuts (1,2,3) and slide plates into desired position. Tighten Camber bolts.



← Front of car

Note - To adjust the caster while keeping the camber set for fine tuning:

- Loosen all the camber nuts (1, 2, 3)
- Loosen the caster bolts (4, 5, 6, 7)
- Reset the camber for the desired position and tighten camber nuts
- Move caster to desired position.
 - Tighten down caster bolts that are within the strut tower opening.
- Loosen camber nuts, move plate back and forth to tighten the remaining caster bolts
- Set the camber to desired position and tighten camber nuts.

Tip – An approximation of 11.5mm of movement along the strut tower can be assumed to be 1 degree of camber change. This means that if the camber plate does not move in the strut tower slots when adjusted, each tickmark is approximately .5 degrees.