

## Competition Engineering Mustang Bump Steer Kit (79-93) - Installation Instructions



The below installation instructions work for the following products:

- **Competition Engineering Mustang Bump Steer Kit (79-93)**



Please read through the instructions carefully before starting this project. Take the time to get all the materials together as well as all the safety equipment.

### Intro:

- This kit is designed to correct the inherent weaknesses in the factory front suspension effectively eliminating "bumpsteer". Bumpsteer is the toe-in change that occurs as the front suspension travels through its vertical movement. The opposing arcs made by the outer tie rod and the lower ball joint as it pivots around the lower control arm pivot point cause this. When a vehicle has its front suspension lowered, it effectively changes the factory geometry causing these two arcs to work against each other.
- To correct this, Competition Engineering has developed this kit, which allows you to shim the outer tie rod away from its spindle mount to equal out the arc of travel with the lower control arm. We have also included a precision rod end and billet aluminum sleeve to replace the failure prone factory tie rods and split sleeves.
- NOTE: RE-ALIGNMENT AND TOE -IN ADJUSTMENT IS MANDATORY AFTER INSTALLATION! \

### Parts List:

- 2) Anodized Link Adjuster
- 2) RH 5/8" Rod End
- 1) Shim Kit
- 2) Tube Spacer
- 2) 5/8"-18 x 5" Bolt
- 2) Flat Washer
- 2) 5/8"- 18 Locknut
- 2) 5/8"-18 Jam nut

### Installation:

1. Raise and support the front of the vehicle with jack stands so that you can work underneath it comfortably.
2. Count the number of threads showing on the inner tie rod for each side. Write this number down. Also, measure the length of the stock outer tie rod from the jam nut to the center of the tapered stud. Remove stock tie rods and cotter pins. Leave the tie rod jam nuts on the inner tie rods.
3. Unbolt the sway bar end links from the lower control arms. Remove the brake calipers from the spindles and hang the securely from the frame to prevent stretching and damaging the brake hoses.
4. Loosen the lower control arm bolts.

5. Remove the front coil springs using an approved spring compressor following the factory removal procedure.
6. Remove the spindles from the car by loosening the lower ball joint. Make sure that the coil springs have been removed before completing this step. Failure to do so could cause serious injury or death!
7. Drill out the tie rod-mounting hole in the steering arm to 5/8".
8. Re-install the spindle onto the lower control arm. Do not install the spring at this time.
9. Center the rack and pinion unit by measuring the length of the inner tie rods on both sides. Rotate the steering wheel until both sides are equal. Lock steering in this position.
10. Support lower control arm at the ball joint. Raise the control arm until the ball joint is 1" higher than the control arm inner pivot bolts.
11. Coat the inner tie rod threads with anti-seize compound and thread the supplied anodized link adjuster so that the number of threads recorded in Step 2 are showing.
12. Thread the 5/8" rod end into the jam nut; thread the assembly into the link adjuster. Using the measurement taken in Step 2, set the rod end length to match the stock tie rod length. Your overall measurement should be taken from the center of the rod end to the end of the link adjuster that contacts the factory jam nut.
13. To eliminate bumpsteer the tie rod assembly must be parallel with the lower control arm. Mount the rod end to the modified spindle using the supplied 5/8" x 5" bolt. The bolt should mount through the top of the spindle hole.
14. Raise the tie rod end until it is as close as possible to being parallel to the lower control arm. Use the spacers in the kit to shim the tie rod the correct distance. Lock everything in place using the supplied lock nut.
15. To get this setting completely accurate, you must use a bumpsteer gauge. If you do not have one, reassemble the remaining front-end components (using caution when installing the front springs) and take the vehicle to a professional alignment shop for final adjustments. If you do have a bumpsteer gauge, adjust the tie rod up or down using the supplied shim kit to get as close to zero toe change for the first 1-1/4" of bump travel. Try to get toe out if zero cannot be achieved.
16. Tighten all bolts loosened during installation and use caution when re-installing the front springs. You may also re-install the brake calipers at this time.
17. Have the front toe settings checked at an alignment shop. You may also check your own toe settings by using Competition Engineering's Toe Plates P/N: C9600.

Installation instructions provided by Competition Engineering

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