



INSTALLATION INSTRUCTIONS

P/N: C2021

MUSTANG ANTI-ROLL BAR KIT

Welding Required

*******IMPORTANT***** This part is intended for drag racing only.**

If driven on the street, one Adjusting Link MUST be disconnected.

This kit is designed for use in all 1979-04 Ford Mustangs to control side-to-side body roll during hard launching. It mounts between the frame rails of the chassis above the rear axle housing with links that attach to the housing. It is adjustable for preload enabling you to tune for changing track conditions. The ball bearing construction makes for smoother functioning and the unit can be disassembled for maintenance. The splined Billet Arm can be pre-positioned at the installers option within the frame rails to offer more versatility to work around other components such as tailpipes.

PARTS LIST

QTY	PART NO.	DESCRIPTION
2)	C2021250	Billet Aluminum Arms
1)	C2021020	Bearing Mount Bracket D/S
1)	C2021010	Bearing Mount Bracket P/S
2)	0606044	3/8-16 x 1/2 Long Set Screw
2)	0606043	3/8-16 1/2 Long Set Screw W/Patch
2)	0706006	3/8-24 Right Hand Jam Nut
2)	0706109	3/8-24 Left Hand Jam Nut
2)	C2021030	Tube Ends, 3/8-24 RH Thread
2)	C2021040	Tube Ends, 3/8-24 LH Thread
4)	0706009	3/8-16 Nylon Insert Lock Nut
2)	C2021050	Bearings, 1" ID Flange Mounted
4)	0406121	3/8-16 x 1.25 Hex Head Screw Gr 5
2)	0406161	3/8-16 x 1.75 Hex Head Screw Gr 5
4)	C2021071	Mounting Tab, 3" Axle
4)	C2021070	Mounting Tab, Axle Back Brace
2)	90320100	3/8" Rod End Right Hand Thread
2)	90325100	3/8" Rod End Left Hand Thread
2)	C2021275	Link Tube Adjuster
1)	C2021061	Tube, Torsion
4)	0905061	5/16-18 x 3/4 Long Carriage Bolt Gr 5
4)	0403051	#8 x 5/8 " Self Tapping Screws
4)	0705082	5/16-18 Nylon Insert Lock Nut
2)	C2021200	Machined Spline Bushing

For Technical Assistance, call Competition Engineering's Tech Lines at

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Read these directions thoroughly before beginning the installation. Four self-drilling screws have been provided in the kit to hold the anti-roll bar assembly in place prior to welding. **WELDING OF THIS KIT IS MANDATORY! DO NOT USE THE SCREWS AS THE SOLE MEANS OF RETAINING THIS DEVICE.**

INSTALLATION

1. Pre-assemble the Anti-roll Bar Kit as follows:

a. Slide the splined bushing into the Billet Arm and install temporarily the non-patched 3/8-16 set screw and lightly secure. (The patched one will replace this set screw later.) (Fig. 1a)

b. Take (2) bearing flanges and insert the carriage bolts through the square holes with the heads located on the same side as the raised portion of the flanges.

Tack weld the heads in two places to secure the bolts in place. **CAUTION:** tack weld only because excessive weld will deteriorate the grade 5 bolt strength.

Loosely assemble the flanges and bearings as shown. (Fig's. 1b)

c. Take the adjusting tube and remove any mill surface finish, approximately 1/2" from one end of each tube. Insert the round body tube end (with right hand threads) into the adjusting tube and weld all around using a mild steel filler rod. (Fig. 1c)

d. Thread the right hand threaded jam nuts onto right hand threaded rod ends leaving (5) threads above the nut. Thread the rod ends into the adjusting tubes after they have cooled from welding.

(Fig. 1d)

e. Assemble the adjuster tube to the slotted billet arms with the hardware and hand tighten. (Fig. 1e)

f. Thread the left hand threaded jam nut onto the left hand threaded rod end leaving (5) threads above the nut. Thread the hexagon tube end (with left hand thread) onto the rod end. Place the appropriate axle or back brace mounting tabs on each side of the rod end with the wings facing outward. Insert the 3/8 x 1 1/4" long hex fastener and nut and secure the tabs against the rod end. Only one axle tab sub-assembly is required at this time. (Fig. 1f)

2. To facilitate the installation of this Anti-Roll-Bar, it will be necessary to raise the vehicle and support it by the frame and let the axle housing hang down. This will give the installer more room for the preliminary work.

3. On the passenger side, remove the bolt securing the fuel line against the frame rail. The fuel line will have to be re-bent to go around the outside of the bearing-mounting bracket and upward close to the trunk floor. Position the bearing bracket upward over the axle, against the floor and forward of the axle into the radius of the back seat bulkhead and maintain the two bracket ears facing the rear of the vehicle. Now determine the necessary bending needed to the fuel line. While the bracket is in it's position, mark the outline to grind away paint or rust on the frame rail. Mark and clean the other frame rail as well. With the bracket unsecured it will give the installer more room for bending the fuel line.

4. After the fuel line has been relocated. Reposition the bearing bracket and install the #8 self-drilling screws through the (2) holes in the ears with a hex driver into the frame rail. Locate the bracket on the opposite side of the vehicle in the same manner and secure with the (2) screws. (Fig. 2, example of bearing with flanges mounted to the bracket).

5. Take the bearing assembly with the bearing set screws facing in toward the center of the vehicle and slide the bearing housing assembly between the frame and into the bearing bracket pocket. Hand tighten (2) nuts to the carriage bolts. Repeat the same for the opposite side. (Fig. 2)

6. Slide the sub-assembled billet arms onto the torsion tube, and insert the tube through the bearing bore until the bar contacts the frame and then slide it back through the bearing on the opposite side of the vehicle.

7. Tighten only the lower carriage bolt nuts at this time and equally position the torsion bar from the bearings. Lightly secure one bearing set screw to lock the torsion bar from moving.
8. Now determine the most desirable position and to clear for example exhaust pipes; and equally space the billet arms from the bearings. NOTE: Keep in mind, the closer the arms are to each other, the more you increase the spring rate of the assembly. It's best to try to keep the arms as close to the frame rails as possible.
9. Once the arms are positioned, use a marker or scribe to mark the lateral positioning on the torsion tube. (Fig. 3)
10. Loosen the carriage nuts on both brackets and the bearing set screw. Remove the torsion bar from the bearings in the reverse method you installed it.
11. The next step we recommend using a tig weld process to achieve a small weld around the splined bushing to the torsion bar. Set the torsion bar and billet arms on a flat surface (Fig.4) where welding can be performed. Align the splined bushings to your previously scribed or marked line on the torsion bar. Recheck to be sure arms are still laying flat. Place the welding ground clamp in the center of the torsion bar so you don't short arc the finished aluminum billet arms. Tack weld the bushings in place keeping all welds below the minimum splined diameter, otherwise the weld will interfere with removal of the billet arms. Loosen the set screws in the billet arms and slide the arms off from the splined bushing. Complete the welding (Fig. 5) all around on both sides of the splined bushings.
12. *******VERY IMPORTANT***** Before welding the bearing mounting brackets in place to the frame rails, care must be taken to properly shield the fuel lines from heat and splatter which could lead to serious injury.**
13. Remove the bearing assemblies from the brackets and mig weld inside the pocket, the wall facing the front of the vehicle to the frame rail. Then mig weld the bracket on the outside, on the wall facing the rear of the vehicle between the two ears to the frame rail. (Fig. 6)
14. Reinstall the bearing assembly, and the torsion tube with the billet arms aligned one to the other. *******Important******* Lay the torsion tube and billet arms on a flat surface to be sure the billet arms are in alignment to each other. Replace the set screws with the patched set screws and torque to 18 foot-pounds. Note: the set screws should be facing downward in the aluminum arms when reinstalled in the vehicle for easier access if adjustments are needed. Tighten the carriage bolt nuts and torque to 15 foot-pounds. It is recommended to lubricate both ends of the torsion bar with Loctite brand anti-seize prior to installing into the bearings. This will help prevent rust from occurring and make disassembly easier if need be. Reposition the torsion tube between the bearings. Torque the (4) bearing set screws to 70 inch-pounds.
15. The vehicle must now be set on (4) level stands supporting the wheels to simulate the vehicle at the "ride height". This is an important step to achieve the necessary dimensions for cutting the adjusting tube and positioning of the axle tube tabs.
16. With an angle finder/level attached to the billet arm top surface or bottom with tape or zip tie, set the arm downward at 14 1/2 degrees. (This angle is determined by 4 1/2 deg. of the machined arm plus the recommended angle of 10 degrees = 14 1/2 deg. total). (Fig. 7)
17. The adjuster tubes should be at 90 degrees to the centerline of the axle. Take the rear axle mounting assembly and place it on the axle housing (assuming it will be welded to a round axle housing). This assembly can be rotated anywhere from a horizontal position at the rear of the axle housing up to a vertical position as long as there is sufficient adjuster tube length to make adjustments. Ideally the adjuster tube is positioned vertically. Clamp in your desired position the axle mount assembly and mark the length on the adjuster tube to be cut off up to the shoulder of the hex adjuster. Be sure to account for the 1/2" of the hex adjuster to go inside the adjuster tube. (Fig. 9)

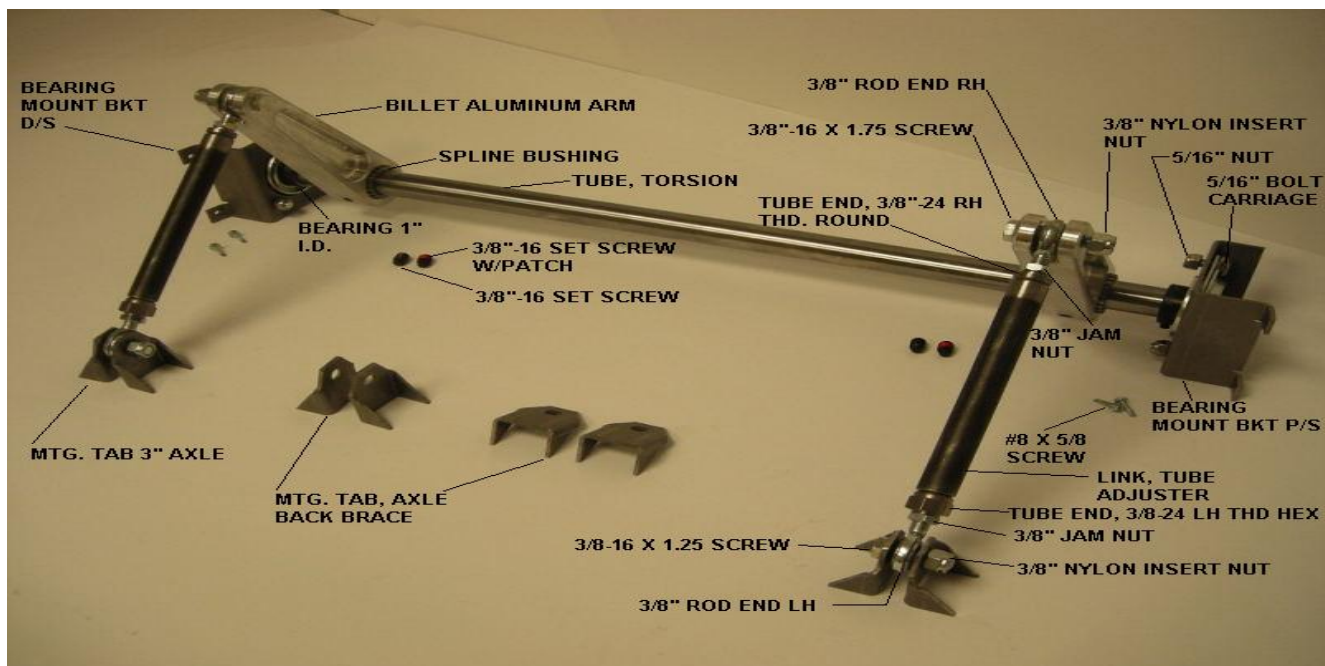
18. Tack weld the axle mounting tabs on the axle. Remove the rod end from the mounting tab along with the adjusting tube. Cut the adjusting tube to your marked length. Cut the other side adjusting tube to the same equal length. Unthread the hex adjuster from the rod end and weld it to the adjusting tube. Weld the other hex adjuster to the other tube adjuster.
19. After the adjuster has cooled, thread the rod end up to the hex adjuster and re-assemble the unit to the billet arm and the axle tab mount.
20. Install the hex jam nut to the remaining rod end leaving (5) threads from the top of the nut and thread the rod end into the other remaining adjusting tube. Install the adjusting tube to the billet arm. Attach the remaining axle tube tabs to the rod end and secure with 3/8" x 1 1/4" long hex screw and nut. Mount the tab assembly on the axle 90 degrees to the axle centerline and tack weld in place.
21. With all dimensions correct and everything level and square, remove the nylon insert nut, bolt and rod end from the tab assemblies. Finish weld the axle mounting tabs complete. After the weld has cooled, re-install the rod end and hardware.
22. Tighten the screws in the billet arm holding the rod ends. Torque to 25 foot-pounds. Tighten the screws in the axle tab mounts holding the other rod ends also to 25 foot-pounds. Tighten the (4) adjuster jam nuts. Your completed installation should look similar to Fig. 10.

ADJUSTMENTS

Begin your tuning by creating a baseline setting for the vehicle. Have someone watch or videotape the car as it leaves the starting line. Use the following guidelines to correct torque steer or chassis twist:

- If the car pulls to the right, lengthen the passenger side adjuster link to add preload.
- If the car pulls to the left, lengthen the driver's side adjuster link. You can also shorten the passenger side link to achieve the same results.

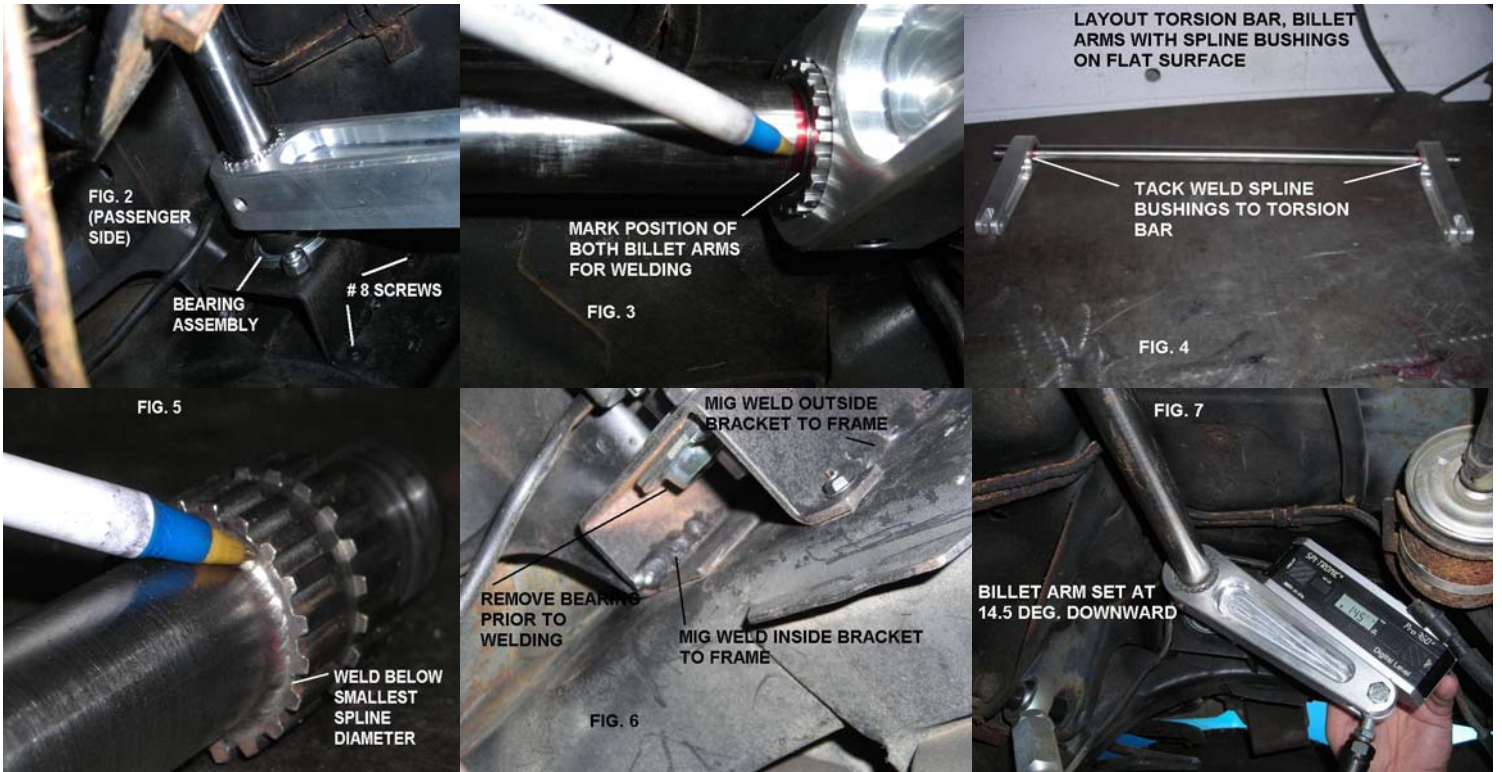
GENERAL OVERALL VIEW



PRE-ASSEMBLE



INSTALLATION





After you have completed this installation, we highly recommend you use a good quality primer and paint to protect your newly installed Anti-Roll Bar. Thank you for choosing Moroso Performance Products as your chassis parts supplier.