

MM Adjustable Rear Swaybar, Bolt-in (MMRSB-1 to -9)



When your goal is ultimate handling, you need the ability to fine-tune the balance of your Mustang. Maximum Motorsports' Tubular Rear Swaybar is an excellent tool to tune your Mustang. Neither the Mustang's stock rear swaybar nor any other aftermarket swaybar gives you the tuning capabilities that you'll have with the MM Rear Swaybar.

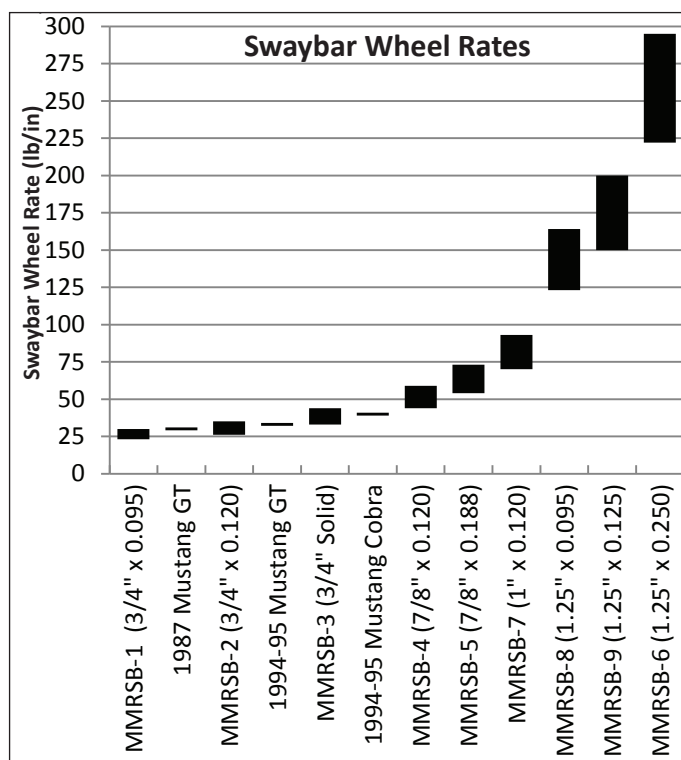
The MM Rear Swaybar is more effective than a stock-style swaybar because it attaches to the axle and chassis in a much more advantageous manner. Stock-style swaybars mount to the lower control arms and have their effectiveness weakened by having to act through the control arm bushings. In addition the portion of the swaybar itself which should be loaded in pure torsion is actually loaded in a combination of torsion, bending and tension. This makes the swaybar less linear in behavior and much more prone to breaking. The MM swaybar mounts to the axle and acts directly on the chassis through end links made of spherical rod-ends. Adjustments in swaybar rate can be made by changing the position of the end links on the arm of the swaybar. Moving the end links toward the bar effectively shortens the swaybar arm, increasing the swaybar rate.

A note of caution: One of the factors influencing total wheel rate is suspension bind (restriction of movement). The total wheel rate is the sum of the swaybar wheel rate, the wheel rate of the springs, and the wheel rate of any suspension binding. There is some bind caused by the stock control arms. The bushing configuration of Maximum Motorsports' rear lower control arms was carefully designed to minimize binding of suspension movement. Most aftermarket control arms use bushing designs which actually cause an increase in suspension bind. When we tested other aftermarket control arms that had hard urethane bushings at each end, we found they increased the wheel rate by 1,000%.

So why does the wheel rate increase? In a four-link suspension design, the control arms do not simply pivot around the bolt axis. When there is any suspension movement, the control arms not only pivot about their mounting bolts, they also pivot some at 90 degrees to the bolt axis. If that angular motion is restricted because of a poor bushing design, the suspension will bind up (not want to move). That binding causes an increase in wheel rate. Potential binding of aftermarket control arms is something to take into consideration when trying to tune your Mustang's handling characteristics.

Maximum Motorsports offers 9 different swaybar sizes to ensure that you'll have a swaybar rate to suit your needs. See the chart below for a comparison of the MM Rear swaybar rates versus different OEM Mustang rear swaybars. In general the softer rear swaybars should be used with cars that have softer front swaybars (25-29mm). The medium swaybars should be used with front swaybars in the 30-33mm size. The stiffest swaybars should be used with front swaybars in the 33-35mm range. If the car has wider rear tire or wheels than the front tire or wheels, the next size up rear swaybar should be used. For a pure drag race or drift car, the stiffest rear swaybar should be used.

In general these bars are recommended only with stock lower control arms or control arms that cause minimal bind, such as MM's lower control arms.



Read all instructions before beginning work. Following instructions in the proper sequence will ensure the best and easiest installation.

1. On each side of the car, measure the vertical distance from the rear axle centerline to the fender lip and record as D1.



2. Raise the front of the car on a level surface. Support it with jackstands.
3. Raise the rear by jacking under the differential. Place two jackstands, one on each side, under the torque boxes or rear of the subframe connectors.
4. Adjust the jack stand heights until the rocker panels are level to the ground. *The car must be level before proceeding.*
5. Lower the rear axle until the rear shocks top-out.
6. Remove the rear wheels.
7. Remove the factory swaybar.
8. Unbolt the quad shocks from the axle.
9. If your car is equipped with coil-overs, skip to Step 13.
10. Using the jack, raise the rear axle about 1 inch.
11. Unbolt the rear shocks from the axle. Be careful not to allow the axle to droop too far, as damage to the rear brake line will occur!
12. Remove the conventional rear springs. They are in the way when drilling the holes for the Chassis Brackets. Skip to Step 15.
13. Place the jack under the center of the rear axle and raise until the jack just begins to lift the axle. This will unload the rear shocks.

14. Unbolt the rear shocks and coil-overs from the axle. This is necessary so that the suspension may be freely cycled later. Be careful not to allow the axle to droop too far, as damage to the rear brake line will occur!

15. Raise the axle back up such that the distance from the centerline of the axle to the fender lip is the same as D1 on each side of the car. Place the jack stands outboard on the axle under the control arm mounts.

NOTE: The car should now be completely in the air, supported at six points.

16. Begin swaybar assembly by sliding both Shaft Collars onto the Swaybar Tube, leaving them loose in the center of the Swaybar Tube.
17. Slide one urethane bushing on each end of the Swaybar Tube. The job will be cleaner if you do not grease the urethane until later when the bar is completely mounted.



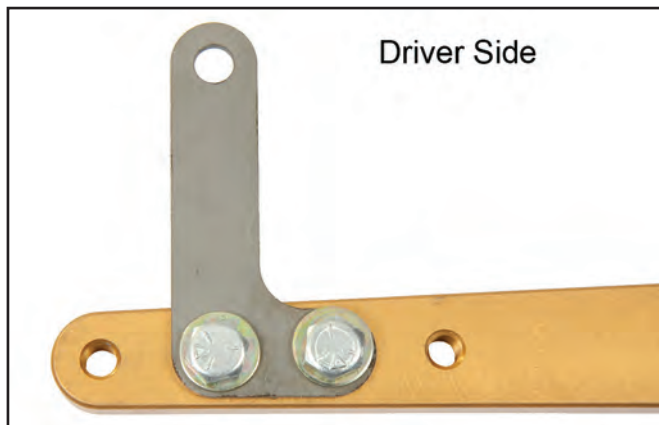
18. Bolt each urethane U-bracket over the urethane bushing and onto each Axle Mount. Use (4) 3/8" Nylock nuts and (4) 3/8" Grade 8 washers. The outboard edge of the urethane should be 1/2" to 1" away from the splines of the bar. Tighten the bolts until snug. It is not necessary to torque them, they will be loosened later.



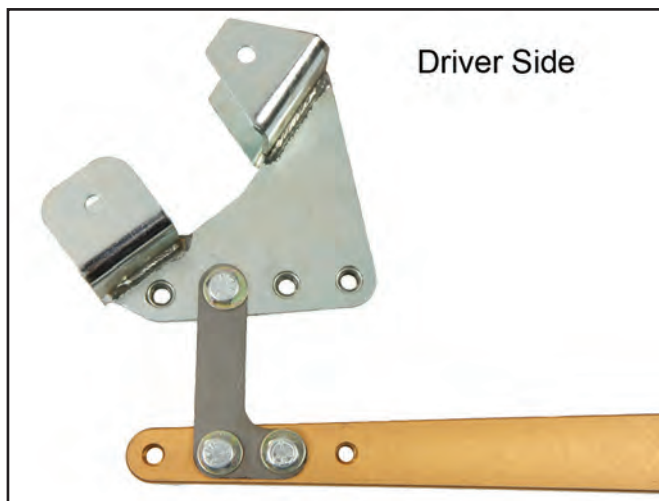
19. Slide one Aluminum Swaybar Arm onto each end of the Swaybar Tube. You may need a rubber mallet or a soft block of wood to drive the arms onto the swaybar. Do not strike the Swaybar Tube or Swaybar Arm with a metal hammer, it will damage the splines making it impossible to install. Make sure that both arms are indexed the same. To check, lay the Swaybar assembly down on a flat level surface. It should lay flat and not wobble. Install the appropriate Swaybar Arm pinch bolts, placing one washer under the head of each nut and bolt. Do NOT tighten, the arm position must be adjusted in subsequent steps.



20. Bolt the Installation Plates on the outside of each Swaybar Arm. Use (4) 3/8" X 1" G5 bolts and (4) 3/8" AN Washer, placing one under the head of each bolt. Lightly tighten the bolts. The Installation Plate will be used to keep the Chassis Brackets in the correct position and square on the car during installation. The Installation Plate is installed such that the remaining open hole is positioned away from the Swaybar Tube, towards the end of the arms.

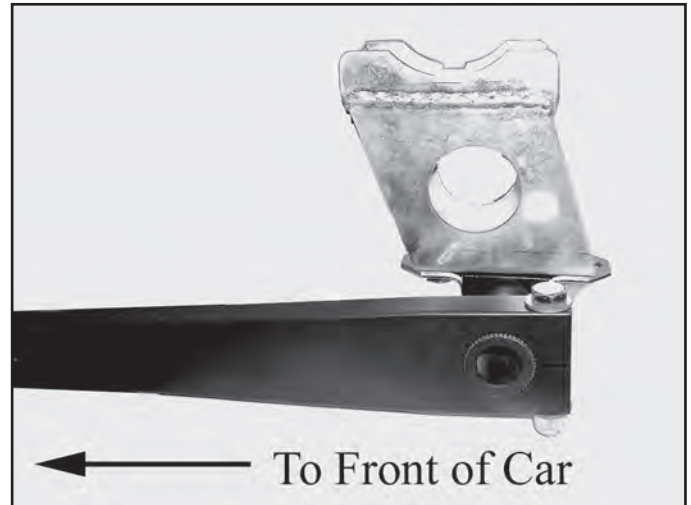


21. Bolt each Chassis Mount to the inside of the Installation Plate as shown. **These brackets are specific to the driver and passenger sides.** Make sure the two 5/16" holes in the U-bracket are facing outboard. Use (2) 3/8" X 1" bolts and (2) 3/8" AN washer, placing one washer under the head of each bolt. Snug the bolts just tight enough so that the brackets can still be pivoted, although with some effort.



22. On 1979-95 cars, unclip the brake lines from the axle tube and gently push the brake lines on both sides of the axle upward enough to slide the four U-bolts around the axle tubes. On 1996 and newer cars, the brake lines do not run along the axle tubes.

NOTE: When installing the axle brackets, orient them so that the swaybar mount is biased toward the rear of the car.



23. Place a jack stand or blocks of wood just to the rear of, and approximately level with, the bottom of the differential. Rest the Swaybar on the jack stand or wood with the arms facing forward.

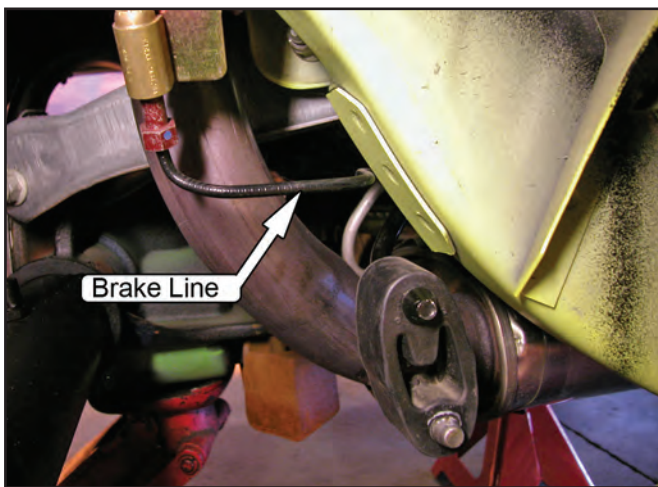
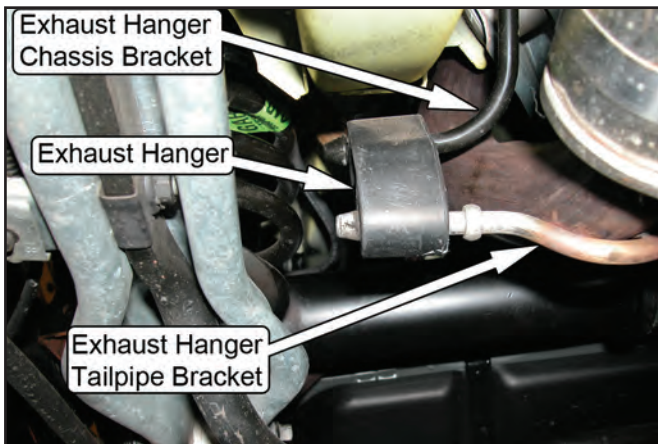


24. Mate the Axle Mounts to the axle; their exact position at this time is not critical. As you do so, slide a U-bolt into place on each Axle Mount. Be careful to not pinch the brake lines. Thread (8) 3/8" Nylock Nuts onto the U-Bolts, placing one 3/8" Grade 8 washer under each nut. Leave the brackets slightly loose so they can pivot on the axle tubes. **NEVER** weld the Axle Mounts to the axle! Welding on the axle will cause the axle to warp!



NOTE: 1979-98 cars skip to Step 31.

25. On 1999-04 models, Ford moved the rear brake line and added two additional exhaust hangers. Both items obstruct the installation of the Swaybar Chassis Mount. It is necessary to remove the exhaust hanger chassis and tailpipe brackets. Removing the hanger will not cause any problems. By doing this, you will be converting to the hanger configuration of 1979-98 cars.

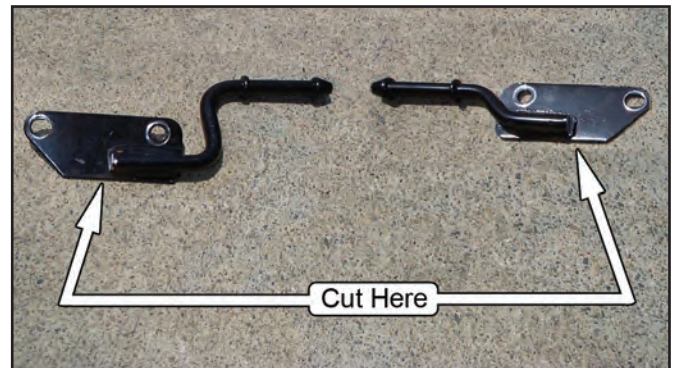


26. Remove the rubber Exhaust Hanger.

27. Using a hacksaw or reciprocating saw cut the exhaust hanger chassis and tailpipe brackets.



28. It is recommended that the exhaust hanger chassis brackets are removed from the vehicle and trimmed further. Cut off the unnecessary portion of the Exhaust Hanger Chassis Brackets as shown below.



29. Reinstall the exhaust hanger chassis brackets.

30. Gently flex the brake line out of the way just enough to allow clearance for the swaybar Chassis Mount. Be careful to not kink the brake line and ensure it is not touching the exhaust tailpipe.

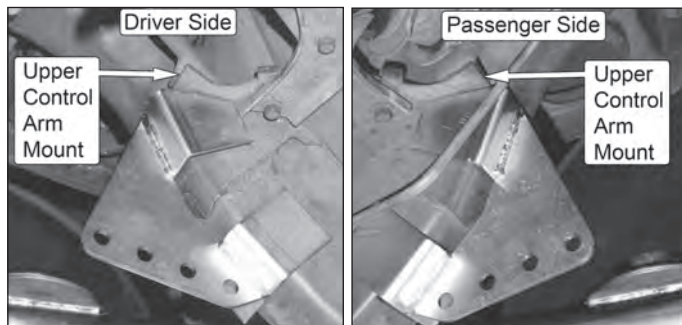


31. Use two floor jacks, or one floor jack and the factory scissors jack, to jack up the swaybar arms. Place the jacks only in front of the Installation Plate. Do not place the jacks rearward of the Installation Plates as that will cause the Swaybar to rotate upward behind the differential, which you do not want to happen.

32. Evenly raise both Swaybar Arms by jacking in small increments. With each pump of the jack, alternate side to side and also lightly tap the Chassis Mount forward. This procedure will ensure that the Mount will stay aligned with the bottom of the frame rail.



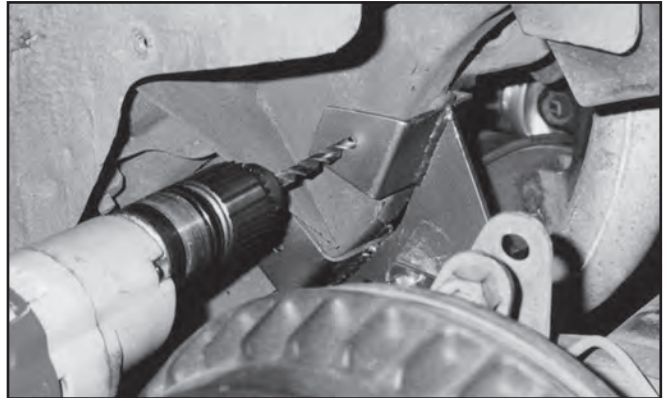
The proper position for the Chassis Mount is with it completely touching the bottom of the rear subframe, and the inside of the upper bracket will be touching the horizontal portion of the upper control arm mount.



NOTE: Check for interference between the passenger side Chassis Mount and the fuel line. Along the inside of the frame rail there is a small clip holding the fuel line to the frame rail which may need to be removed.

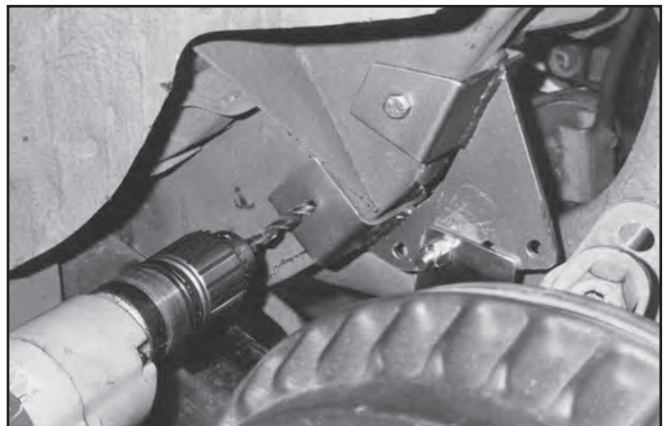
33. Use enough force with the jacks to keep the Chassis Mounts held firmly against the bottom of the rear subframes, and tighten the (4) Axle Mount U-bolts. Do not worry about the side-to-side position of the Axle Mounts at this point. The U-bolts need to be tightened to help hold the swaybar assembly in position for drilling through the frame rails. Tighten both ends of the U-bolt evenly. Avoid tightening only one end of a U-bolt, as it will pull over center and cause unnecessary stress on the bolts.

34. With the jacks still in position, place a 5/16" drill bit in the hole in the rearward U-portion of the Chassis Mount. Drill completely through both sides of the frame, and the inboard side of the U-portion of the Chassis Mount. Keep the drill as square as possible while drilling. To avoid frustration, use sharp or new drill bits.



35. Slide (1) 5/16" X 3 1/4" G8 bolt through the hole you just drilled and put a 5/16" Nylock nut on, finger tight.

36. Place a 5/16" drill bit in the forward hole and drill completely through both sides of the frame including the inboard side of the U-portion of the Chassis Mount. Slide (1) 5/16" X 3 1/4" G8 bolt through the hole and put a 5/16" Nylock nut on finger tight.



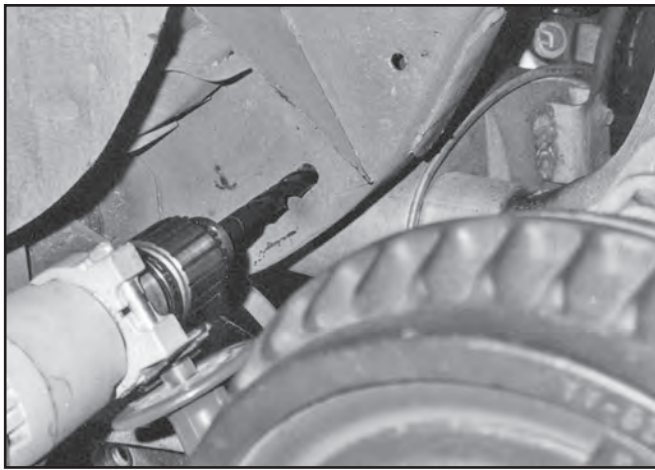
37. Repeat Steps 34-36 for the other side of the car.

38. Remove the 5/16" bolts from the Chassis Mounts, and lower the jacks and Swaybar Arms (with the Chassis Mounts still attached) away from the frame rails.

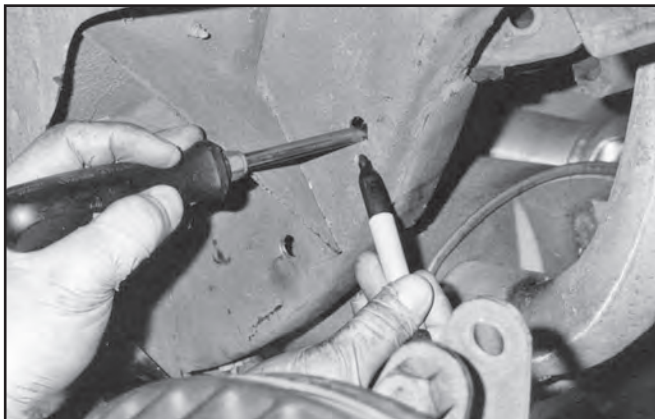
39. Drill **only the holes in the OUTSIDE** of the frame rails to 1/2".

TIP: Drill in stages, such as 3/8" then 1/2".

DO NOT enlarge the 5/16" hole on the inside of the frame rail.



40. The frame insert tubes must be cut to the proper length for your car. Determine the proper length for **each** tube by inserting a bolt, screwdriver or caliper into the hole you drilled until it touches the inside of the inboard side of the frame rail. Carefully record the depth at the **outside** edge of the frame rail.



Transfer each measurement to the appropriate tube and cut the tube 1/16" to 1/10" shorter than your mark. That gives a slight "crush" to the frame rail when the bolts are tightened and ensures the mount will be secure when installed. Be sure to label each insert for the right and left side of the car, and which end is toward the front or rear. Do not be surprised if every tube is cut to a different length.

41. Install the (4) inserts into the frame rail. Install them as you marked them initially: right and left, forward and rearward.
42. With all (4) Frame Inserts in position, swing the swaybar assembly back up into place.
43. Install (4) 5/16" X 3-1/4" G8 bolts, (4) 5/16" Nylock nuts and (8) 5/16" Grade 8 washer, placing one washer under the head of each nut and bolt. Torque to 29 ft-lb. The exclusive MM Frame Inserts allow you to torque the bolts without collapsing the frame rails.

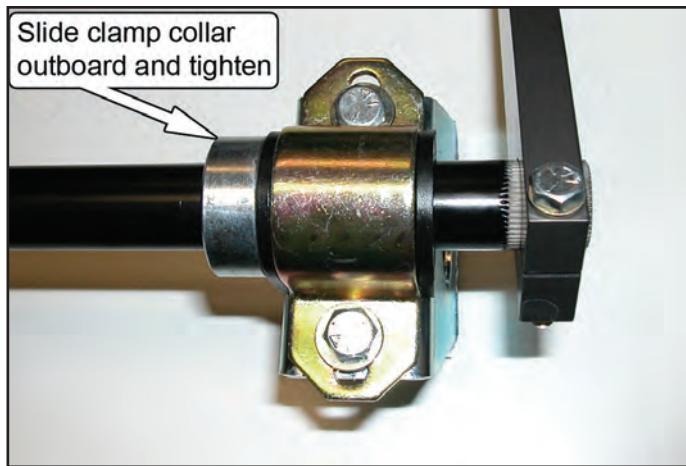
44. Loosen all four U-bolts on the Axle Mounts, to allow alignment of the swaybar on the axle in the following steps. The Swaybar Tube should be about 1" above the bottom of the differential.



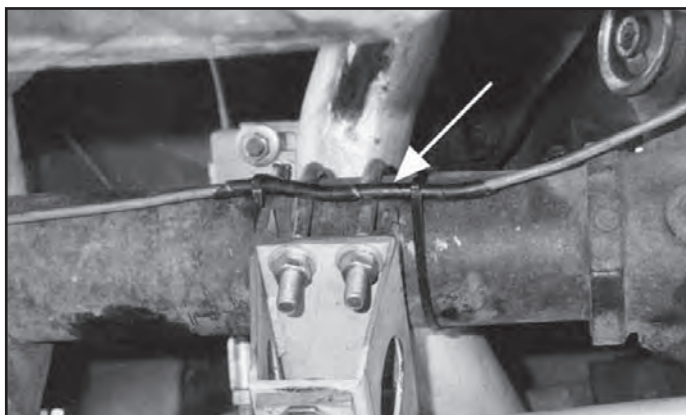
45. Center the Swaybar Tube relative to the arms by sliding the Swaybar Arms on the splines. Torque the Swaybar Arm pinch bolts using a torque wrench, securing the arms to the Swaybar Tube. Do not over-tighten, as the aluminum will distort and may break. Consult the following table for correct pinch bolt torque.

Swaybar Diameter	MM Kit Number	Pinch Bolt Diameter	Pinch Bolt Torque
3/4"	RSB-1 thru -3	1/4"	10 ft-lbs
7/8"	RSB-4 thru 5	1/4"	10 ft-lbs
1"	RSB-7	5/16"	10 ft-lbs
1-1/4"	RSB-6, -8, -9	3/8"	33 ft-lbs

46. Remove the urethane U-brackets. Lube the urethane with the supplied grease, and re-install. However, leave the (4) 3/8" nuts loose.
47. Slide the Axle Mounts side-to-side, to position them on the axle so the outer edge of the urethane is about 3/4" away from the splines. Evenly tighten the U-bolts to 33 ft-lb. Avoid tightening only one end of a U-bolt, it will pull over center and cause unnecessary stress on the bolts.
48. Torque the (4) 3/8" nuts on the urethane U-brackets to 33 ft-lb.
49. Slide the Shaft Collars outboard until they contact the urethane bushings. Use the supplied Hex Key and tighten the Shaft Collars onto the Swaybar.



50. To protect the brake lines on 1979-95 cars, slide the Spiral Wrap around the brake lines where the lines pass by the Axle Mount, and securely tie them to the axle with a Zip-Tie. The Spiral Wrap is not used on 1996 and newer cars.



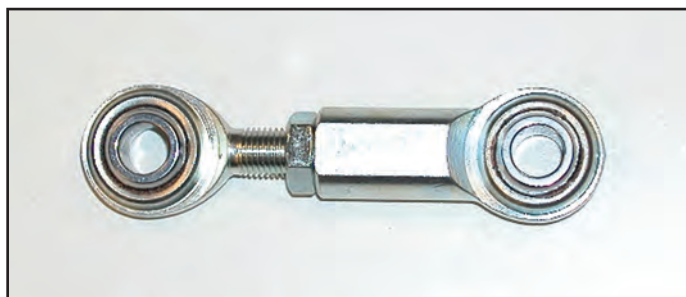
51. Remove the Installation Plates.

NOTE: The (6) 3/8" X 1" bolts used for the Three-Hole Installation Plates are extras, and will not be used again.

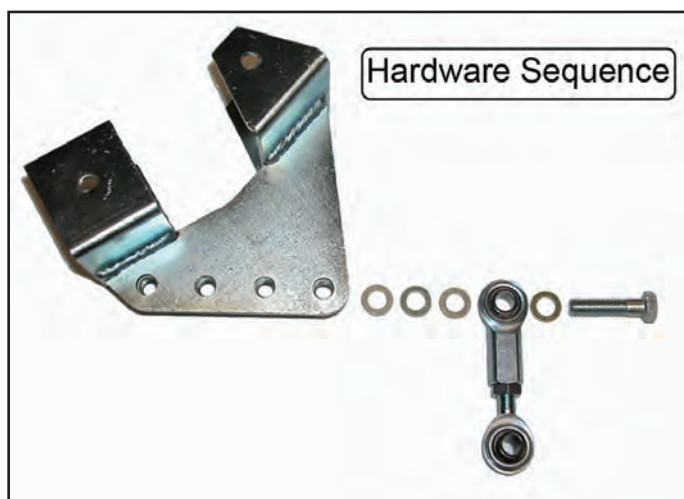
52. The rear axle needs to be raised to the bumpstops to check for interference. If the car uses bumpstops on the frame rails the axle is ready to be raised. If the car uses bumpstops on the shocks, re-attach the rear shocks. Coil-over equipped vehicles will need to have the coil-over springs removed from the shock.
53. Place a floor jack under the differential housing and jack up the differential until it hits the bump stops. Check for clearance between the U-Bolts and the exhaust. Cars with aftermarket tailpipes may have a clearance problem. Appropriate modifications can be done now or after the swaybar installation is complete.
54. Re-install the rear springs. Swing the Swaybar Arms slightly downward to avoid binding while lowering the rear axle enough to re-install the rear springs. Re-

install the rear springs. The pigtail on the bottom of the spring should be toward the rear of the car. DO NOT allow the axle to droop so far as to damage the rear brake line!

55. Re-attach the quad shocks to the rear axle and torque the mounting bolts to factory specification for your car.
56. Re-install the wheels and torque the lug nuts. To avoid damage to the Swaybar ends, temporarily tie up one end of the Swaybar Arm to the chassis with a piece of wire or string. Jack up the car and remove the jack stands. Lower the car to the ground, and settle the suspension by rolling the car on a level surface.
57. For the final assembly of the swaybar, the car MUST be on flat, level ground. Block the wheels.
58. Install the Jam Nuts onto the Male Rod-ends. Thread each Male Rod-end approximately halfway into the Female Rod-ends.



59. It is recommended that you start with the bar in the full-soft setting (forward holes) and increase the stiffness if you find it necessary. Bolt the Female end of the rod-end assembly to the outboard side of the flange on the Chassis Bracket using parts in the following order: Under the head of a 3/8" X 1 1/2" G5 bolt, place (1) 3/8" AN washer, the Female Rod-End then (3) 3/8" AN washers. Thread the bolt into the Chassis Bracket and torque to 33 ft-lb.





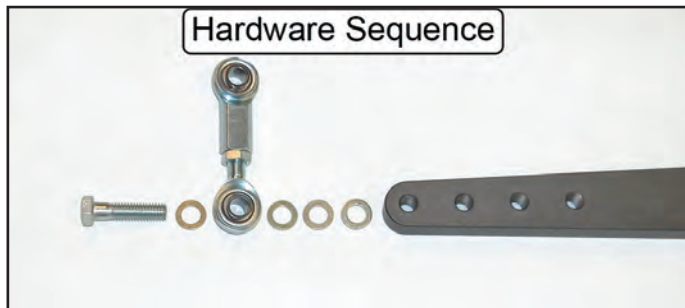
Full-Soft



Full-Stiff

60. Repeat previous step on the other side of the car. Make sure the same hole is used on both sides of the car.

61. On one side of the car, bolt the Male end of the rod-end assembly onto the outboard side of the Swaybar Arm. Under the head of a 3/8" X 1 1/2" G5 bolt, place (1) 3/8" AN washer, the Male Rod-End then (3) 3/8" AN washers. Thread the bolt into the Swaybar Arm and torque to 33 ft-lb.



62. On the opposite side of the car, adjust the length of the Rod-end assembly so that the 3/8" X 1 1/2" G5 mounting bolt easily slides through the Male Rod-end and the mounting hole in the Swaybar Arm. This procedure ensures the Swaybar is not preloaded. Assemble the hardware as in Step 61, and torque the bolt to 33 ft-lb.

63. Tighten the Jam Nuts until they are flush with the female end of each Rod-end assembly. Make sure the male and female Rod-ends remain aligned to one another as you tighten the Jam Nut.



Aligned



Not Aligned

64. Check the alignment of the Rod-end assemblies. To avoid binding, they should be vertical when viewed from the rear of the car. If the Rod-end assemblies are not vertical, you must make adjustments to one or more of the following: The sideways location of the Swaybar can be adjusted by resetting the Shaft Collars. The overall width of the Swaybar can be adjusted by sliding the Swaybar Arms on the Swaybar splines. If the required width is beyond the range of adjustment allowed by the splines, use more AN washers on the Rod-end mounting bolts. DO NOT use less than three AN washers between the Rod-ends and the Swaybar Arm or Chassis Bracket. Once the overall width is adjusted, be sure to tighten any of the loosened bolts.

65. Re-check the alignment of the Rod-ends when viewed from the side of the vehicle. They should be vertical or nearly vertical. If adjustment is necessary, loosen and pivot the Axle Mounts slightly on the axle. Be careful to keep the orientation of each axle mount the same with respect to the opposite side in order to minimize any potential binding in the bushings.

66. You are now ready to drive and adjust your new MM Rear Swaybar!

This Kit Includes

- 1 Swaybar Tube
- 2 Aluminum Swaybar Arm
- 2 Axle Mount
- 1 Driver side Chassis Mount
- 1 Passenger side Chassis Mount
- 1 Set of Urethane Mounts & Grease
- 2 Shaft Collar
- 1 Hex Key
- 2 Rod-end, Female 3/8" - 24
- 2 Rod-end, Male 3/8" - 24
- 2 Jam Nut 3/8" – 24
- 2 Installation Plate
- 4 Frame Insert Tube
- 2 Length of Spiral Wrap
- 2 Zip-Tie
- 4 U-Bolt 3/8" - 16
- 4 Hexbolt 3/8" - 16 X 1 1/2" G5
- 6 Hexbolt 3/8" - 16 X 1" G5
- 4 Hexbolt 5/16" - 18 X 3 1/4" G8
- 12 Washer 3/8" G8
- 16 Washer 3/8" AN
- 8 Washer 5/16" G8
- 12 Nylock Nuts 3/8" -16
- 4 Nylock Nuts 5/16" -18 G8
- 2 Swaybar Pinch Bolts (*Varies by Kit # - See table*)
- 4 Pinch Bolt Washers (*Varies by Kit # - See table*)
- 2 Pinch Bolt Nuts (*Varies by Kit # - See table*)

MM Kit Number	Pinch Bolt	Pinch Bolt Washer	Pinch Bolt Nut
RSB-1 thru -3	1/4-20 x 1-3/4"	1/4 -AN	1/4-20 Nylock
RSB-4 thru -5	1/4-20 x 2"	1/4 -AN	1/4-20 Nylock
RSB-7	5/16-18 x 2-1/4"	5/16 -AN	3/8-16 Nylock
RSB-6, -8, -9	3/8-16 x 2-3/4"	3/8 -AN	3/8-16 Nylock