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INSTALLATION INSTRUCTIONS

QA1 P/N 52340-x400 thru 52348-x400
'62-'76 Mopar Front Coil-over Conversion System

TOOLS AND SUPPLIES REQUIRED

- Floor Jack
- Two (2) Jack Stands
- SAE Wrench Set
- Anti-seize
- Ratchet & SAE Socket Set
- Torque Wrench
- Engine Hoist
- Ball Joint Separator

PRE-INSTALLATION NOTES:

Some big block applications will need a mid-sump oil pan as some stock oil pans will interfere with the steering rack. Milodon 30930 or 31580 oil pans will provide adequate clearance.

DISASSEMBLY

1. Measure and record the vehicle ride height at the center of the wheel opening. This will help in setting the ride height after installation of the front suspension system.
2. Lift and support the vehicle on a solid surface. Support the vehicle by the frame rails allowing the suspension to droop. A vehicle lift is best, but careful use of jack stands will work as well.
3. Remove the front wheels and tires.
4. Remove the shocks and front sway bar.
5. Remove the tension on the torsion bars by loosening the adjuster bolts in the lower control arms.
6. Remove the snap ring at the rear of the torsion bar (**Figure 1**) Slide the torsion bar back and out of the car. (**Figure 2**). Loosening the lower control arm pivot shaft and gently prying back on the control arm will help to remove the torsion bar.

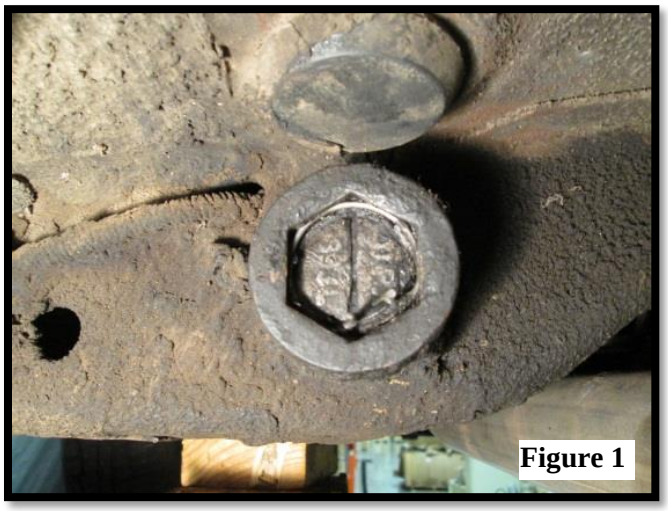


Figure 1

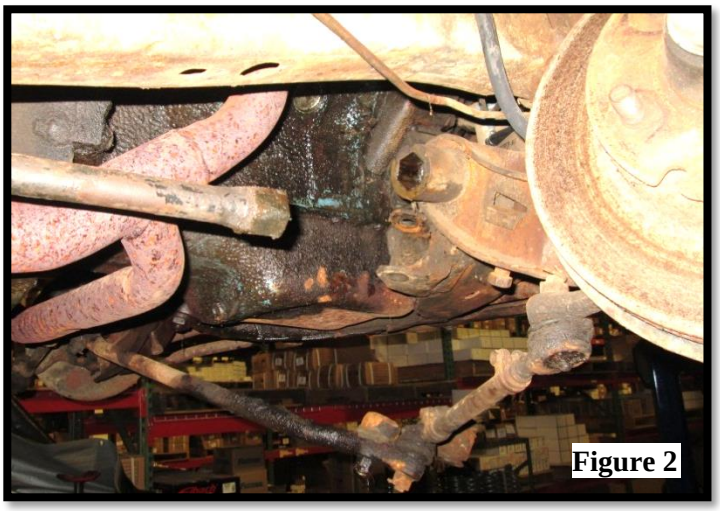


Figure 2

7. Remove the cotter pin from the lower ball joint. Loosen the castle nut, but do not remove. Separate the lower control arm from the ball joint and then remove the nut.

8. Remove the steering rods by disconnecting the tie rods from the spindles, the pitman arm, and the idler arm.
9. Unbolt the three bolts holding the steering box to the k-member and remove.

10. Remove the strut rods from the k-member and lower control arm connections.

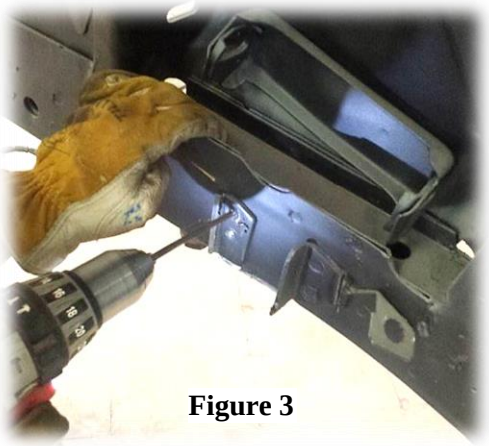


Figure 3

11. Locate the factory bump stops on both sides of the frame rails. There will be two bump stops per side. Remove the bump stops by drilling out the spot welds. **(Figure 3)** After removing the bump stops, touch-up the frame using paint or undercoating to prevent corrosion.

12. Unbolt the engine mounts from the k-member.

13. Support the engine using an engine hoist from the top or if using a lift for the installation, a transmission jack from below.

DO NOT CONTINUE UNTIL THE WEIGHT OF THE ENGINE IS OFF OF THE K-MEMBER.

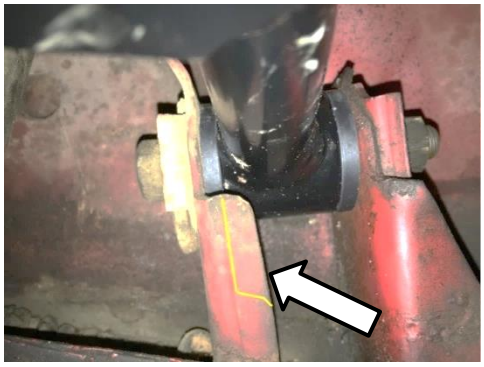
14. Unbolt the four k-member mounting bolts and remove from the car. Retain these bolts as they will be used to mount the new k-member.

15. Remove the engine mounts from the engine.

16. Ensure the threads in the frame and the k-member mounting bolts are clean and free of debris.

NOTE:

On some A-bodies there will be extra material on the rear lip of the front upper control arm mount. This does not apply to all A-bodies. If this extra material is present it will need to be notch the rearward part of the mount 3/8” on both sides of the vehicle to allow full motion of the new control arm.



ASSEMBLY

1. If using a big block requiring a mid-sump oil pan, install the pan with the correct oil pickup tube.

2. Using the factory k-member bolts, lift the new k-member into place and mount it to the frame. Torque to 150 lb. ft.

3. Identify the left and right-side engine mount indicated by the manufacturers stickers. **(Figure 4)**

4. Using a light coating of assembly grease, install the two bushing halves and inner metal sleeve into both engine mounts. **(Figure 5)**

5. Loosely install the engine mounts to the k-member and engine block reusing the factory hardware. **(Figure 6)**

6. With the k-member mounted and the hardware installed into the engine mounts, slowly release the engine support before torquing the engine mount hardware to? **(Figure X)**

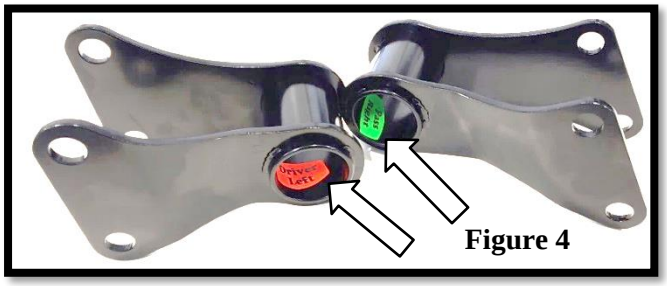


Figure 4


Figure 5

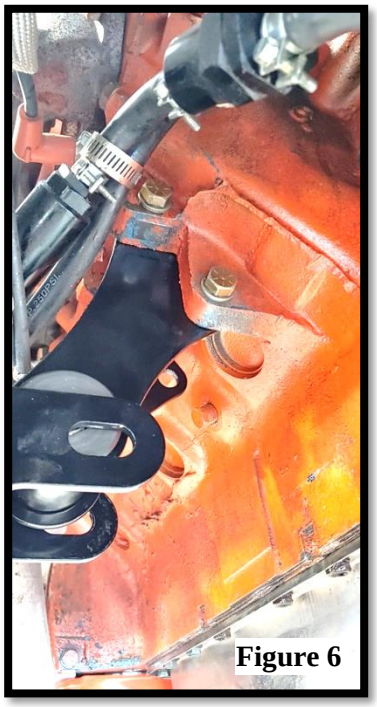


Figure 6

UPPER CONTROL ARMS

7. Identify the Driver (left) and Passenger (right) upper control arms by the stickers placed on the arms. In the correct position, the arms can also be identified by the front connection being higher than the rear connection. **(Figure 7)**

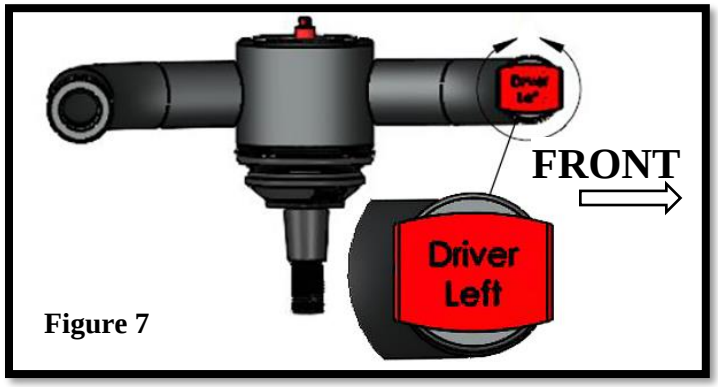


Figure 7

8. In preparation for installing the upper control arm, thread the 5/8” jam nuts onto the 5/8” male rod ends. Thread the jam nut so that two threads are showing between the jam nut and the head of the rod end. **(Figure 8)**


Figure 8

9. Apply anti-seize to the threads of the rod end and thread them into the upper control arms. Leave the jam nuts loose until the arms are installed to allow alignment with the mounting bolts.

10. Mount the upper control arm to the k-member with two 5/8” wide aluminum spacers per connection. Fasten the arm to the k-member using 1/2" x 3” bolt with two washers per connection and nylock nut. Torque to 50 lb. ft. **(Figure 9)**

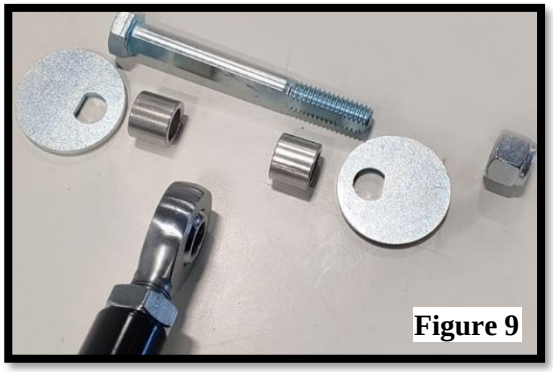


Figure 9

LOWER CONTROL ARMS

NOTE:

The Basic and Eliminator suspension comes with poly bushings for the lower control arm mounts. The Drag suspension comes with rod ends for the lower control arm mounts. Installation of either style of mounting follows the same procedure.

The lower control arms for this suspension will work on either side of the car and are not driver/passenger specific.

11. For Basic and Eliminator kits, assemble the included bushings and sleeves into the rod end. **(Figure 10)**

12. Thread one 5/8” jam nut onto the 5/8” threaded rod end (drag kit) or 5/8” rod end bushing (Basic/Eliminator kit). **(Figure 10)**

13. With anti-seize applied to the threads, thread the rod end into the lower control arm to the jam nut until approximately seven threads are showing between the jam nut and the rod end. **(Figure 11)** Leave the jam nuts loose until the arms are installed to allow alignment with the mounting bolts.

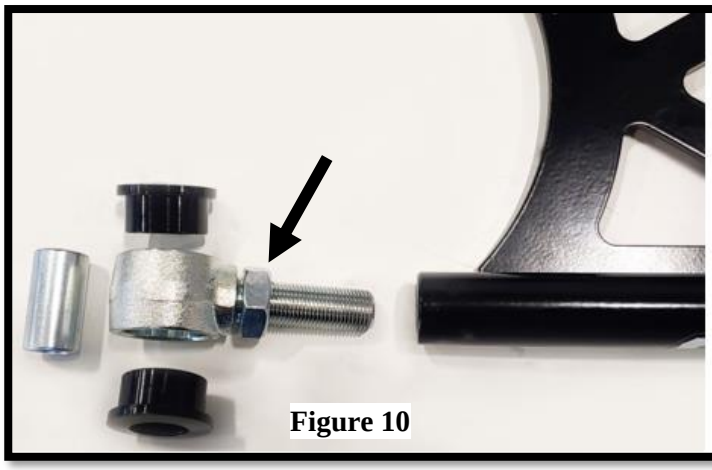


Figure 10

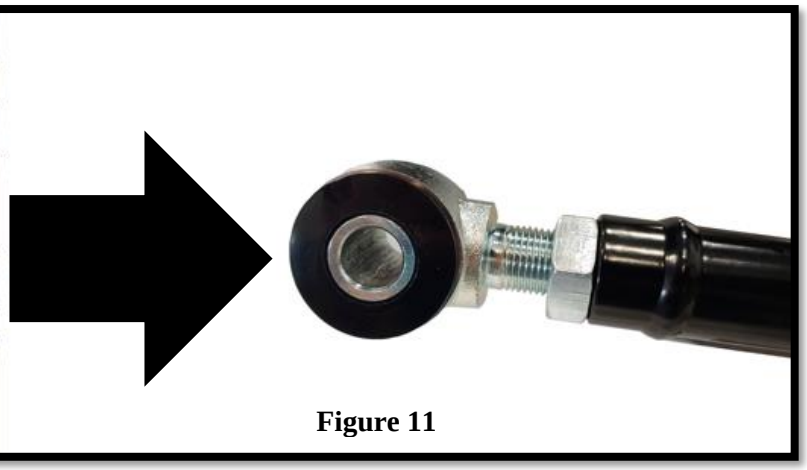
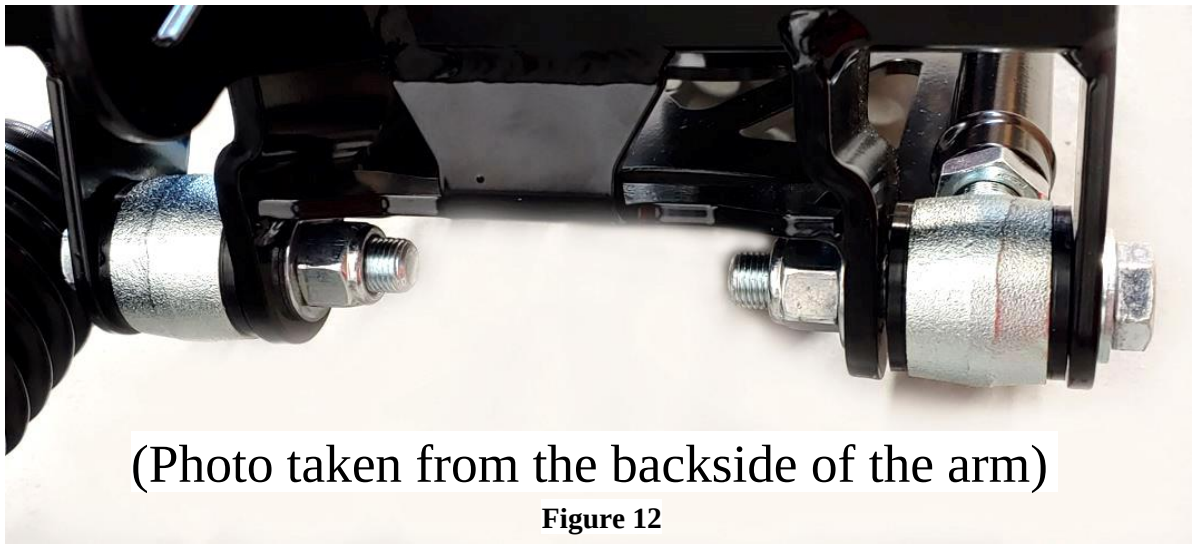


Figure 11

14. Mount the control arms to the k-member using 1/2" x 3” mounting bolts with one washer under the bolt head and one washer under the nut. Torque to 50 lb. ft. **(Figure 12)**



(Photo taken from the backside of the arm)

Figure 12

STEERING RACK

NOTE:

The power rack included with this suspension system needs the included rack extension kit installed before installation. **(See step 15)**

IF CONVERTING TO MANUAL STEERING:

The mounting is different for manual and power steering racks. QA1 crossmember is drilled with mounting holes for the power steering rack and pilot holes are present for the manual rack location.

To convert to a manual steering rack, you will need to drill out the pilot holes to 5/8" diameter. The hole on the driver side will end up overlapping the power rack mounting hole. Use a step drill bit on this hole to avoid catching the drill bit in the original hole. The manual rack to use is Speedway Motors part# 91034344 and rack extension kit needed is Speedway part# 910-34345-MAN.

15. Remove the dust boots from the steering rack.

16. Run the steering rack out on the geared end and place in a vice. **(Figure 13)** The geared end of the rack does not pass through any seals. DO NOT PUT THE SMOOTH END OF THE SHAFT IN THE VICE OR DAMAGE THE TEETH ON THE RACK

17. Remove the tie rod ends by unthreading them. The tie rods will be tight. Using a lever through the rack mount will help gain leverage on the tie rod.

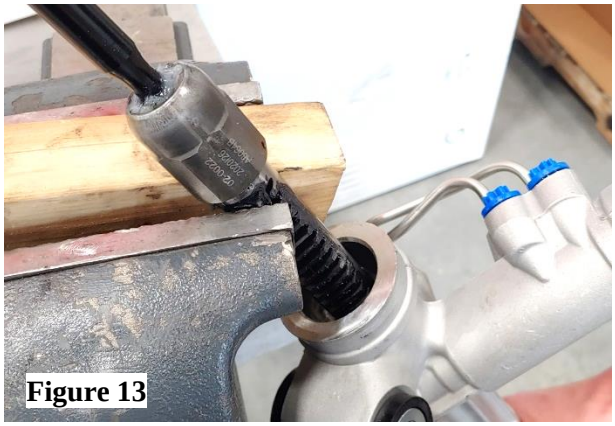
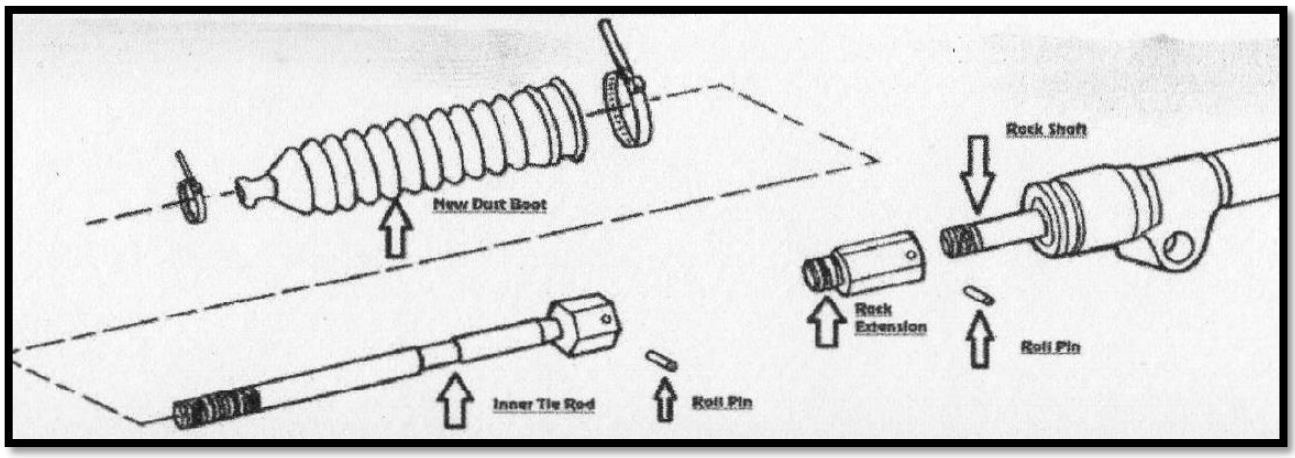


Figure 13



18. Using a small amount of red Loctite thread the rack extensions onto the rack.

19. With a small amount of red Loctite, re-install the inner tie rod onto the rack extension.

20. Once the rack extensions are installed on both sides of the rack, install the new dust boots and secure with ties. **(Figure 14)**

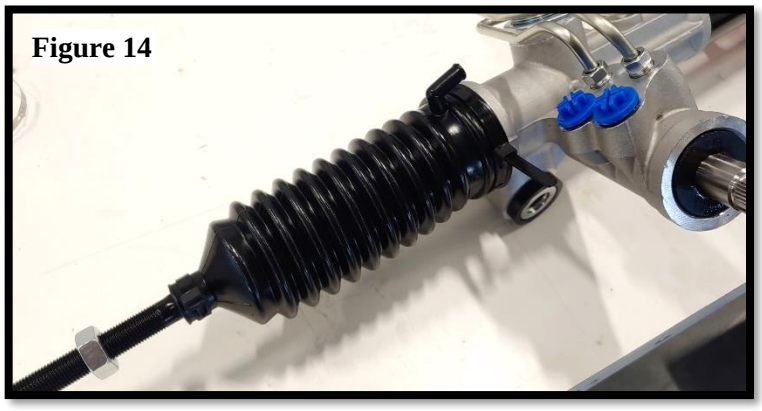


Figure 14

21. Install the power rack to the cross-member with one 3/4” wide rack spacer between the rack and k-member. **(Figure 15)** Attach using 5/8” x 4.5” hardware with one 5/8” I.D. x 1.75” washer on the rack bushing side and one 5/8” I.D. x 1.25” washer on the k-member side of the mount. Torque to 90 lb. ft.

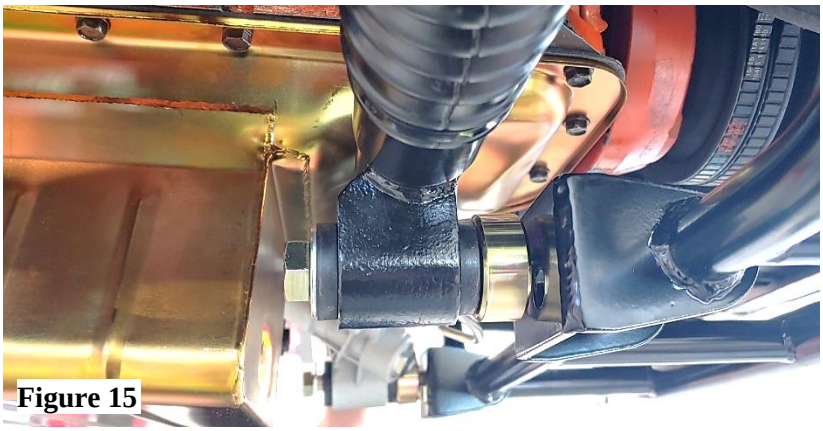


Figure 15

COIL-OVERS

22. Refer to the coil-over assembly instructions included with your shocks and assemble the spring onto the shock.

23. Install the upper shock connection with one .250” beveled spacer on both sides of the shock eyelet with the smaller beveled edge facing the shock bearing. **(Figure 16)** Secure to the crossmember using 1/2" X 3” hardware with two washers and nylock nut. Torque to 50 lb. ft.

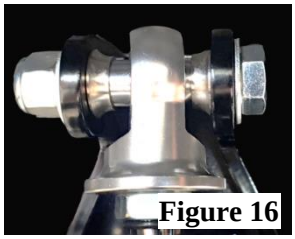


Figure 16

24. Install the lower shock connection to the lower control arm with the shock adjustment knobs towards the wheel/tire using the included 3/8” x 1.25” hardware and nylock nuts. Torque to 31 lb. ft. **(Figure 17)**

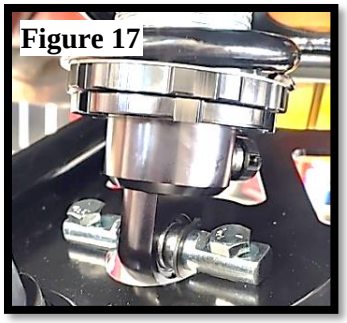


Figure 17

SPINDLES/BRAKES

25. Install the spindles with the steering arm forward to the upper control arm using one 9/16” (1.88” thick) spacer on the ball joint stud followed by the 1/2" castle nut. Torque to 55 lb. ft. Never loosen the castle nut to find the cotter pin hole. **(Figure 18)**

Figure 18

26. Install the lower ball joint into the spindle using one 9/16” washer and 9/16” castle nut. Torque to 65 lb. ft. Continue tightening to line up the cotter pin hole. Never loosen the castle nut to find the cotter pin hole.

27. Thread one right-hand jam nut onto the tie rod and one left-hand jam nut onto the XML10 left-hand male rod end.

28. Using anti-seize on the rod end threads, thread the rod end into the left-hand threaded end of the QA1 tie rod sleeve leaving four threads visible between the jam nut and head of the rod end.

29. Thread the tie rod sleeve onto the inner tie rod until the spindle visibly appears to be at 0 degrees of toe.

30. Tighten the jam nuts to the adjustment sleeve.

31. Attach the tie rod to the underside of the spindle with a 1” spacer between the rod end and spindle. Use one SG104 (.250” wide) spacer under the head of the 5/8” x 5” bolt with one washer and nylock nut. The smaller diameter of each spacer should face the rod end. **(Figure 19)**

Figure 19

A PROFESSIONAL ALIGNMENT SHOULD BE PERFORMED BEFORE DRIVING THE VEHICLE

32. Install the brake rotors and calipers according to the manufacturer’s instructions. This suspension system uses standard or drop spindles based on the Mustang II.

STEERING SHAFT

33. Remove the steering column from the car by unbolting the four-bolt mount on the inside of the firewall and disconnecting the column to steering box coupling. A small pin will need to be removed from the coupling. The pin is located on top of the coupling and holds the shaft from sliding.

34. Cut the steering shaft 5” from the column housing and deburr. **(Figure 20)**

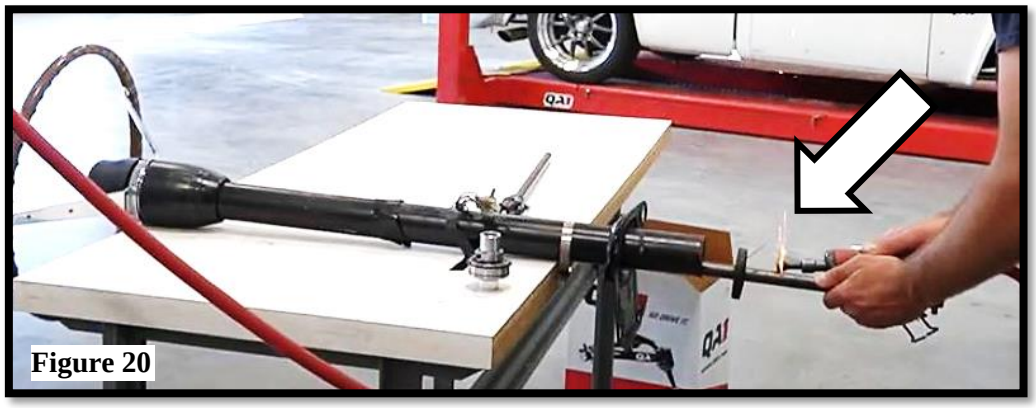


Figure 20

35. Install the included bearing onto the steering shaft and press into the column housing with the allen head bolts towards the steering rack (away from steering wheel). **(Figure 21)** Non-collapsible steering shafts will need the included bushing inside the bearing to fit 3/4” diameter steering columns. **(Figure 22)** Collapsible steering shafts will have a 1” diameter shaft and will use the bearing only.

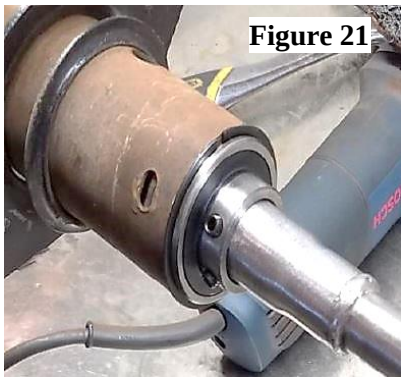


Figure 21


Figure 22

NOTE:

On some ’73-’76 cars the steering column housing will have a small lip that will prevent the bearing from being installed into the column housing. This lip will need to be removed using a Dremel or similar grinding device.

36. With the bearing pressed into the housing, torque the allen screws to 12 lb. ft.

37. Install the smooth end of one u-joint onto the steering column and weld into place. **(Figure 23)**

38. Reinstall the column into the car in the reverse order it was removed.

39. Install the splined end u-joint onto the steering rack with the allen screws lightly set. **(Figure 24)**

40. Measure the distance between the u-joints ensuring that the planned shaft length will not extend into the joint itself, which will cause binding. Cut the included steering shaft a bit longer than your measurement and test fit.

41. With the final length of steering shaft installed and no binding present, set the allen screws to 12 lb. ft.

42. Double check all work and hardware installation before re-installing the wheels/tires.


Figure 23


Figure 24

Power Steering Connections

- The steering rack included with this suspension is based on a Fox body mustang. The rack has a 9/16”-18 pressure port and 5/8”-18 return.
- Adapter fittings to convert the rack to -6 AN can be found at Speedway Motors as p/n 910-4047. Custom -6 AN hoses will be needed.
- The Saginaw PS pump is a common OE pump that can be used. For the 5/8” inverted flair on the pressure side use Summit Racing p/n 961947ERL to convert to -6 AN.
- The factory Gen 3 Hemi pump puts out too much pressure for the included steering rack. Bouchillon Performance offers a reduced pressure pump or can modify your pump to be used with this rack.

A PROFESSIONAL ALIGNMENT SHOULD BE PERFORMED BEFORE DRIVING THE VEHICLE

Recommended Alignment Specs

Caster	+5° to +6°
Cross Caster	±0.5°
Camber	-0.5° ±0.5°
Toe	+0.10° ±0.15° (positive is toe in)

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READ ALL INSTRUCTIONS CAREFULLY AND THOROUGHLY PRIOR TO STARTING INSTALLATION. PRODUCTS THAT HAVE BEEN INSTALLED ARE NOT ELIGIBLE FOR RETURN. USE THE PROPER JACKING LOCATIONS. DEATH OR SERIOUS INJURY CAN RESULT IF INSTRUCTIONS ARE NOT CORRECTLY FOLLOWED. A GOOD CHASSIS MANUAL, AVAILABLE AT YOUR LOCAL PARTS STORE, MAY ALSO AID IN YOUR INSTALLATION.

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