



How To Install QA1's C5/C6
Corvette Coil-Over Systems

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Technical Support Line: (952) 985-5675 Email: sales@QA1.net

INSTALLATION INSTRUCTIONS

QA1 P/N MG455-08550, MG455-08700, MG455-08900
'97-'13 C5/C6 Corvette MOD Series Front Coil-overs

TOOLS AND SUPPLIES REQUIRED

- Floor Jack
- Metric Wrench Set
- Spanner Wrench (QA1 P/N T121W)
- 3/32" Hex Key
- Jack Stands
- Metric Socket Set
- Permatex® Anti-Seize Lubricant
- C-Clip Pliers

PRE-INSTALLATION NOTE:

Vehicles equipped with magnetic ride control will need to install shock simulators. These are available through many retailers including p/n 25-241303-1 from Ecklers Corvette.

DISASSEMBLY

1. Measure and record the vehicle ride height from the ground to the fender at the center of the wheel. Determine whether 1" or 2" of lowering is desired before moving forward.
2. Raise and support the vehicle with jack stands on a stable surface. Refer to the owner's manual for proper jacking points.
3. Remove the front wheels from the car.
4. Remove the sway bar end link from the control arm. **(Figure 1)** 2002 and later cars will use an 18mm open wrench and an 18mm socket. using an 18mm wrench. Pre-2002 cars with plastic end links will use an 18mm wrench and T-45 torx bit.
5. Unplug the ABS sensor from the hub and remove the wire from the control arm to keep from damaging it during this installation.
6. Remove the two 13mm lower shock connections and the upper 13mm shock connection to remove the shocks from the car. The upper passenger shock connection can be accessed by removing the coolant reservoir. This connection can also be accessed from inside the wheel well just above the shock mount.
7. With a block of wood on a jack, raise one side of the leaf spring slightly off the lower control arm.
8. Mark the camber eccentrics on the lower control arm of the supported side and remove the control arm hardware.
9. Swing the removed lower control arm around the leaf spring so that the leaf spring is on the bottom side of the arm. Only one lower control arm will need to be unbolted to gain enough room to remove the leaf spring.
10. Remove the frame mounted leaf spring brackets using a 13mm socket. **(Figure 2)**

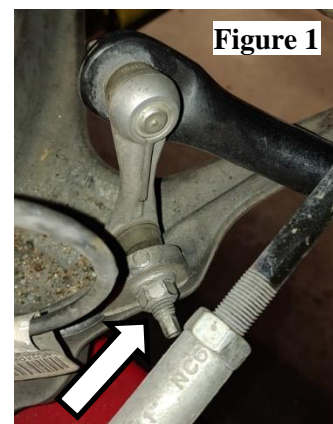


Figure 1



Figure 2

1. Slowly release the jack supporting the control arm.
2. Remove the leaf spring. **The factory leaf spring is NOT USED in conjunction with coil-overs.**
3. Once the leaf spring is removed, re-install the control arm and cam eccentrics and torque to 107 lb. ft.

SHOCK ASSEMBLY

1. Using c-clip pliers and safety glasses, install one internal c-clip into one of the two grooves in the lower shock eyelet. **(Figure 3)** Double check that the c-clip is seated in the groove.
2. Remove the external c-clips on the t-bar so it can be fit through the shock eyelet. **(Figure 4)**
3. From the opposite end of the installed c-clip, insert the bearing mounted t-bar into the shock eyelet. **(Figure 5)**

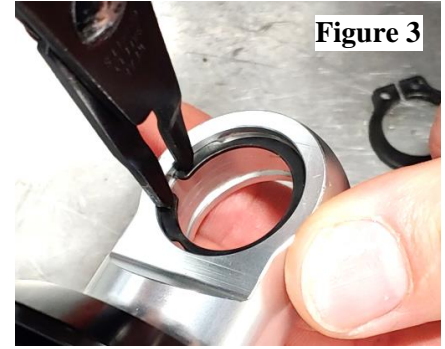


Figure 3

4. Install another c-clip into the shock eyelet to secure the bearing into the eyelet. **(Figure 6)** Lightly push on the c-clip with a flathead screwdriver or similar to ensure the c-clip is seated in the groove.



Figure 4

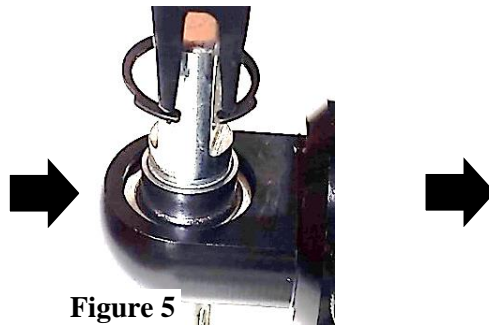


Figure 5

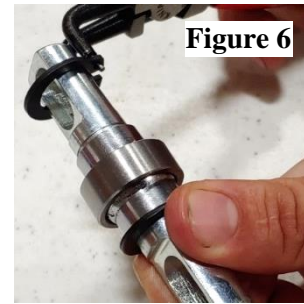
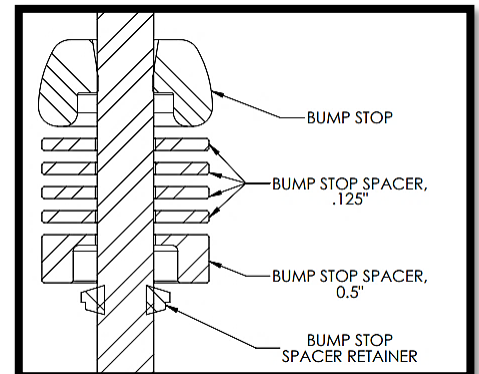


Figure 6

5. Install one external c-clip onto each side of the t-bar shaft to complete the lower shock mount. **(Figure 4 is shown out of the shock eyelet for demonstration)**
6. Pull on the shock rod to fully extend the shock and turn the compression (C) clock-wise until the knob stops. This will aid in installing the bump stop and bump stop spacers without compressing the shock rod.
7. Reference the chart below to find your desired ride height change and install the appropriate amount of bump stop shims onto the shock rod. This system comes with one 1/2" shouldered base shim and thinner .125" shims that can be added to achieve the necessary shim thickness of the chart.
8. Once the bump stop shims are installed, turn the compression knob counter-clockwise until the knob stops. This is the softest compression setting.

BUMP STOP SPACERS		
SPRING RATE	RIDE HEIGHT CHANGE	SHIMS NEEDED
450	-1"	One .5" Spacer + Three .125" Spacers = .875" Total
	-2"	None
550	-1"	One .5" Spacer + Three .125" Spacers = .875" Total
	-2"	None
700	-1"	One .5" Spacer + One .125" Spacers = .625" Total
	-2"	None
900	-1"	One .5" Spacer + Two .125" Spacers = .750" Total
	-2"	None



9. Apply a small amount of motor oil to the range of coil-over threads shown. **(Figure 7)** Failure to lubricate the threads will void the shock warranty.

Figure 7

Apply a small amount of motor oil to threads



10. Thread the spring seat nut down the body of the coil-over to the lowest thread, followed by one stainless washer or thrust bearing kit (p/n 7888-180).

11. Next install the helper spring onto the shock followed by one stainless washer, then the spring slider, with one more stainless washer on top of the spring slider. **(Figure 8)**



Figure 8

12. Install the coil spring onto the shock. **(Figure 9)**

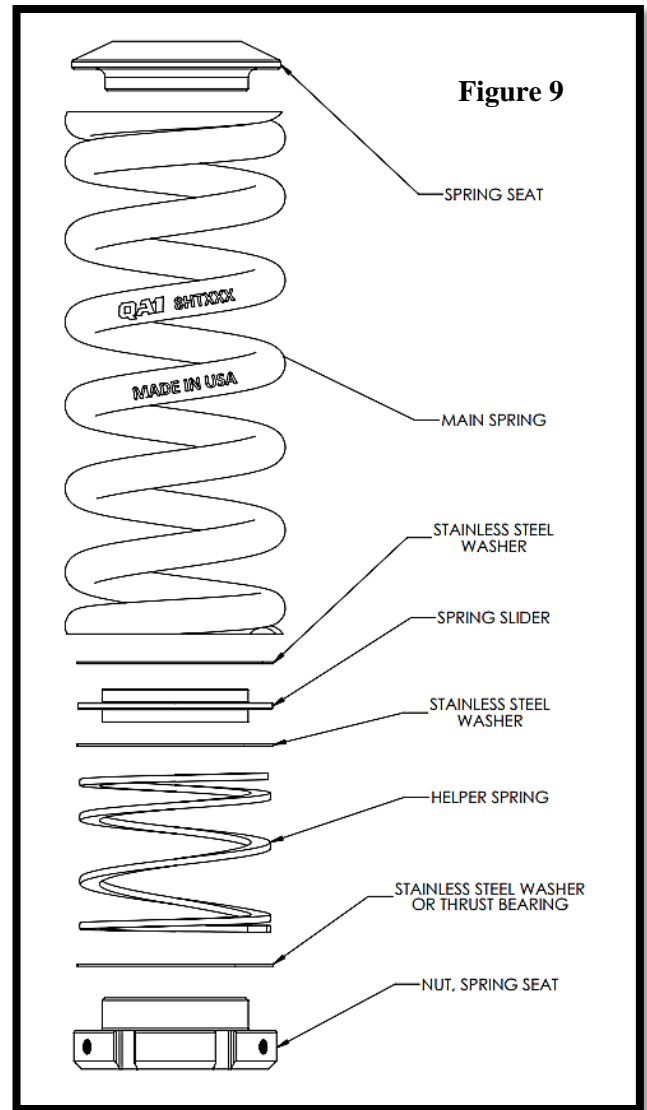


Figure 9

NOTE:

The upper shock connection consists of five pieces which include a lower spherical race, upper spherical race, internal sleeve, and two half-sphere bushings.

13. With the jam nut on the shock threaded all the way down, thread the lower spherical race onto the shock rod until it contacts the jam nut. **(Figure 10)** Torque the jam nut to the lower spherical race to 31 lb. ft.

14. Install one half-sphere bushing into the cup. **(Figure 11)**



Figure 10

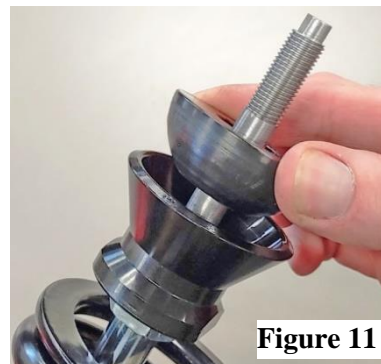
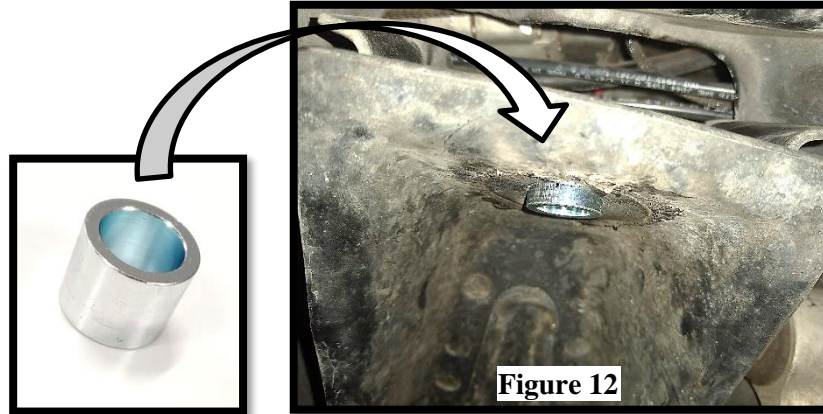


Figure 11

15. Install the included metal sleeve into the factory upper shock mounting hole. **(Figure 12)** This sleeve is designed to be a tight fit in the factory shock hole. The hole may need to be enlarged using a file to fit the bushing. Do not enlarge the hole to the point that the sleeve is has play when installed.



16. The coil-over will be easiest to install in its shortest possible length. The MOD Series shocks have high speed compression and rebound adjustments (marked C & R on the knobs) as well as low speed compression and rebound adjustments. **(Figure 13)**

17. Turn the High Speed Rebound knob (Marked "R") clockwise until the knob stops. **(Figure 13)**

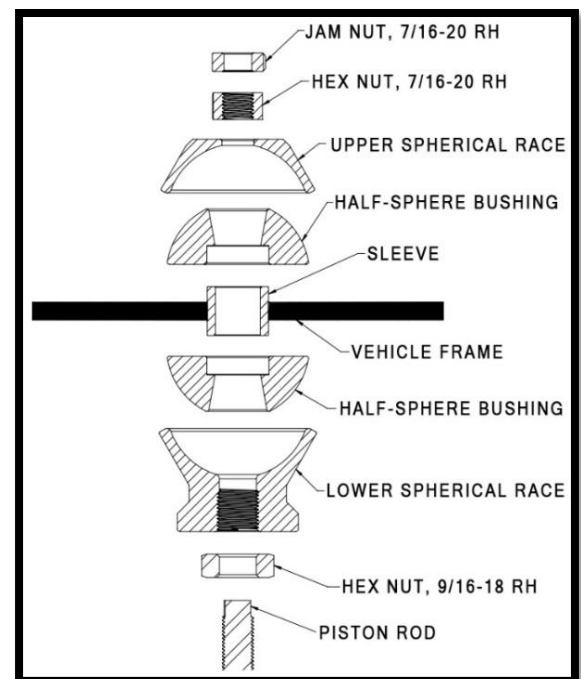
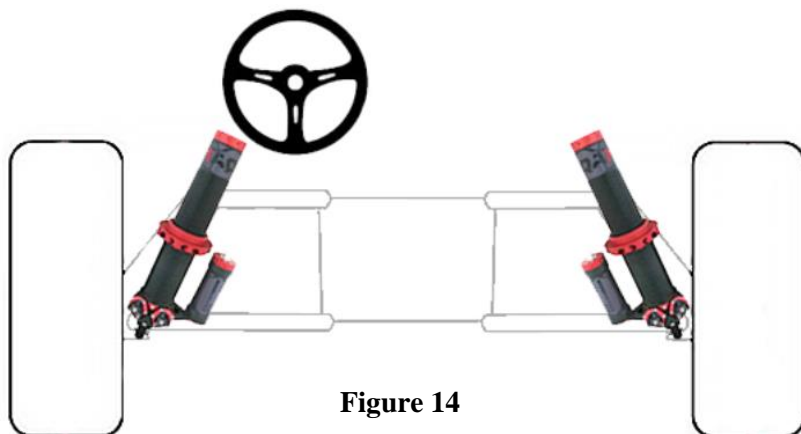
18. Using a 3/32" hex key, loosen the Hex Screw between the Low Speed adjustments. **(Figure 13)**

19. Using the same 3/32" hex key, turn the rebound side Low Speed bleed (left of the center hex screw) adjustment clockwise until the hex screw stops. The shock now has the maximum amount of rebound valving to help keep the shock compressed during installation.

20. The shock can now be compressed against a hard surface (ground) to its shortest possible length. The rebound valving will help keep the shock compressed while it is installed in the car.

NOTE:

The shocks are Right/Left specific and should be installed with the adjustment knobs facing the rear of the car with the canisters inboard. **(Figure 14)**



21. Insert the upper shock stud through the bushing in the chassis followed by the upper half-sphere bushing and the upper spherical race. **(Figure 15)**
22. Secure the top mount using one 7/16" hex nut. Snug the hex nut lightly to take any play out of the mount then back the nut off 1/4 turn. DO NOT OVER-TIGHTEN. Use a 7/16" jam nut tightened to the hex nut to 31 lb. ft.

23. With the adjustment knobs facing rearward and the canisters inboard, attach the lower shock mount with **two washers between the t-bar and the control arm** using the included 5/16" x 2.5 hardware. Torque to 25 lb. ft. **(Figure 16)**



Figure 15

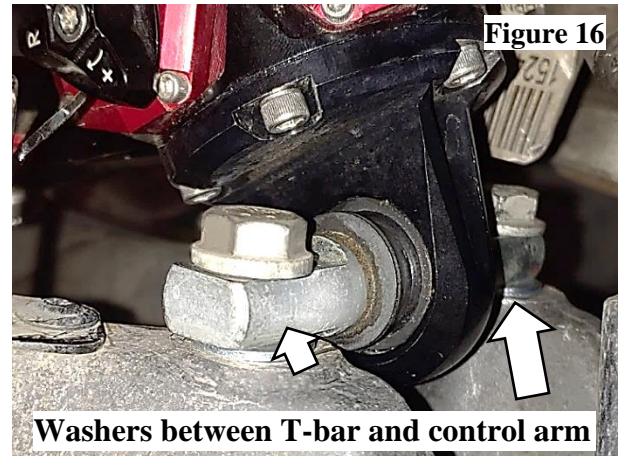


Figure 16

Washers between T-bar and control arm

24. Turn all shock adjustment knobs counter-clockwise to the softest position as to prevent the valving from showing inaccurate ride height adjustments.

25. Using the T115W spanner wrench set, adjust the spring seat collar up the shock body until the helper spring is compressed to 2" tall. This is the minimum ride height that can be safely run.

26. Continue adjusting the spring seat collar and measuring ride height to the desired ride height.

NOTE:

Roll the vehicle 2-3 feet to un-scrub the tires before measuring each ride height adjustment. Un-scrubbing the tires will usually show an additional 3/8" of drop vs. without un-scrubbing the tires.

27. Once final ride height is achieved, install the nylon tipped, stainless set screw into the threaded hole of the spring seat collar to secure. The set screw should be no tighter than finger tight.

28. Check the clearance of the front sway bar and coil spring at full droop. If necessary, clearance the flat portion of the sway bar to allow a minimum of 1/8" with the coil-over throughout the suspension cycle. **(Figure 17)**

29. Double check all work and reinstall the wheels.

30. Refer to the Tuning Guide included with the shocks for shock adjustment settings.

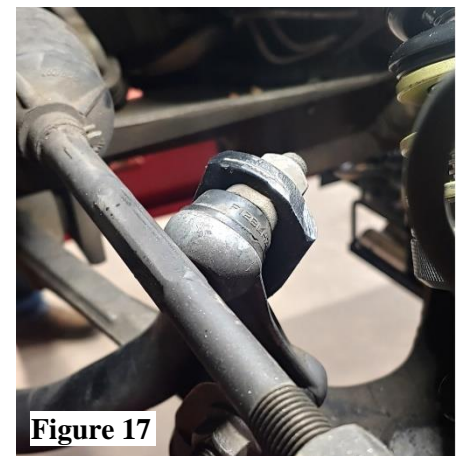


Figure 17

A professional four-wheel alignment is required before driving the vehicle.



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