



**DON'T FORGET**  
These instructions can be found in  
color and expandable at QA1.net

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

### INSTALLATION INSTRUCTIONS

*QA1 Pro Coil Coil-Over Systems*

P/N GS401, GR401, GD401, GS501, GR501, GD501, GS507, GR507, GD507  
MS303, MS302, MS301, MR303, MR302, MR301, MD303, MD302, MD301

### TOOLS AND SUPPLIES REQUIRED

- Floor Jack
- Jack Stands
- Ball Joint Separator
- Spanner Wrench (QA1 P/N T114W or T115W)
- SAE Wrench Set
- SAE Socket Set
- Coil Spring Compressor
- Permatex® Anti-Seize Lubricant

### DO NOT VOID YOUR WARRANTY!

Permatex® Anti-Seize Lubricant should be used on coil-over threads to prevent galling. Failure to lubricate the coil-over threads with Anti-Seize prior to making ride height adjustments will cause damage to your shock absorber and will void any warranty. All ride height adjustments must be made with the vehicle weight completely unloaded from the suspension. Please call QA1 Technical Support with any questions.

### DISASSEMBLY INSTRUCTIONS

1. Measure the vehicle ride height from the ground to the edge of the fender through the center of the wheel. Record these measurements.
2. Unbolt the front upper shock mounts from inside the engine bay.
3. Raise and support the vehicle by the frame with jack stands on a stable surface and remove front wheels.
4. Remove the sway bar end links.
5. Unbolt the lower shock mounting bolts and remove the shocks from the car.
6. Remove the cotter pin from the lower ball joint and loosen the castle nut. Do not remove the nut.
7. Separate the lower ball joint from the spindle using a ball joint separator.
8. With a spring compressor, compress the coil spring to remove pressure from the lower control arm.
9. With the spring pressure off the control arm, remove the ball joint nut and spring from the car.
10. For applications using a lower T-bar connection it is necessary to remove the welded nuts or "U" clips for the stock shock mount on the factory control arms. This can be accomplished with a grinder or hammer and chisel. The holes may then need to be enlarged to 3/8". (depending on application)

## INSTALLATION INSTRUCTIONS

### GM Front Coil-over Note:

**WHEN USING QA1 LOWER CONTROL ARMS, remove the T-bar from the lower shock connection by removing the two c-clips and pushing the T-bar out. QA1 lower control arms will include the bearing kit to mount the shock to the lower control arm. This process is detailed in the lower control arm installation instructions.**

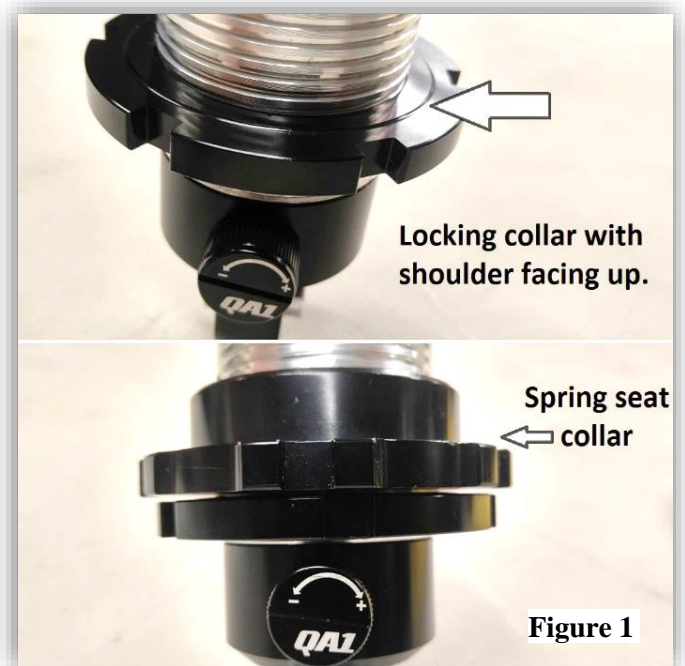
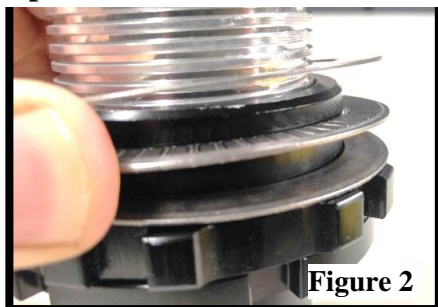


1. Screw the aluminum lock nut (shoulder up) and the spring seat adjuster nut (shoulder up) down to the last thread - NO FURTHER. Now is a good time to lubricate the threads of the shock with **Permatex® Anti-Seize lubricant**. **(Figure 1)**

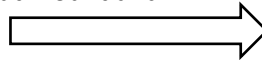
2. QA1 highly recommends using the QA1 thrust bearing kit (P/N 7888-109) for ease of ride height adjustment. If the thrust bearing kit is used, coat both sides of the washers with **Permatex® Anti-Seize lubricant**. Install the stainless-steel spring seat washer followed by the needle bearing, then the second washer. **(Figure 2)**

3. If the thrust bearing kit is not used, coat the stainless-steel spring seat washer with **Permatex® Anti-Seize lubricant**. Place the lubricated side of the washer down on the spring seat.

### Optional 7888-109 Thrust Bearing



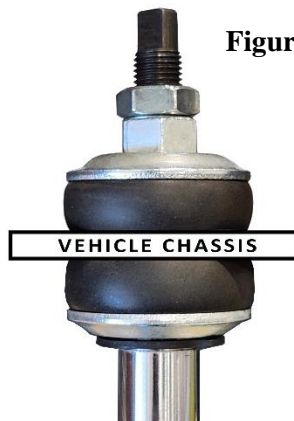
'93-'02 Camaro/Firebird Note: Re-use the factory upper strut mount and insulator.



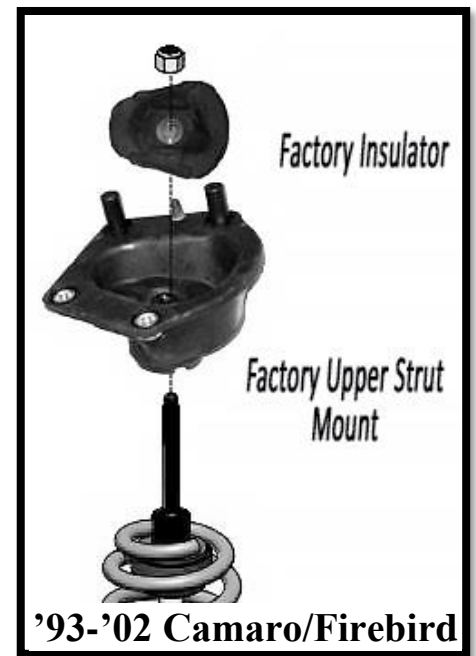
4. With the piston rod fully extended, install a washer and bushing on the piston rod. Slide the small diameter end of the spring over the shock down to the spring seat adjuster.
5. Insert the assembly into the upper spring pocket. **(Figure 3)**

#### **THE TOP BUSHINGS:**

The included upper bushings have different sized shoulders on either side of them. Match the shoulder sizes to the chassis hole size for the upper and lower bushings to adequately center the shock rod through the chassis hole.



**Figure 4**



6. Install the top bushing, washer, nut, followed by the thinner jam nut. **(Figure 4)** Do not tighten the nut at this time. Align the pigtail on the upper spring with the recess in the upper spring pocket (if using pigtail style spring). The adjusting knob(s) can face the spindle or the center of the vehicle, whichever way is easier to access.
7. Using hand tools (DO NOT USE IMPACT) and holding the tip of the shock rod, tighten the nut until the top bushings are compressed to the same diameter as the washers, no further. Install and tighten the jam nut at this time.
8. With a jack under the lower control arm, raise the lower control arm up to the lower shock mount. When installing onto factory control arms, knock the factory threaded inserts off the control arm and drill them out to 3/8". Attach the t-bar of the shock on the **top side of the control arm** with the supplied 3/8" bolts. **(Figure 5)**

#### **NOTE:**

When installing onto a GM vehicle using the QA1 lower control arms, use the 1/2" hardware (included with the control arms) to secure the shock. Torque to 50 lb. ft.

**Mustang II:** Install the supplied 7/16" or 1/2" lower shock bolts. For Mx301 shocks, install a spacer on each side of the spherical bearing.

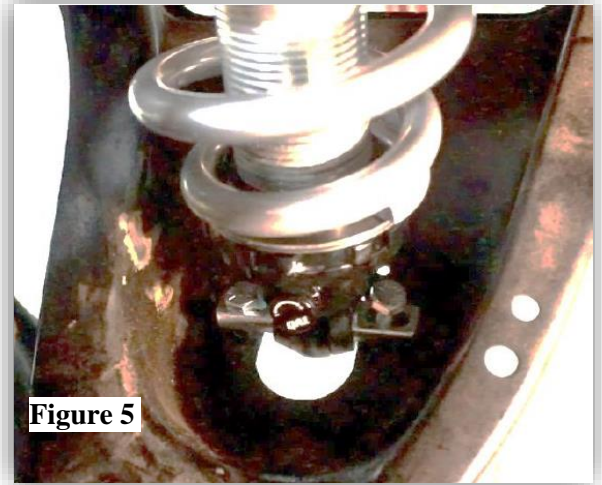
9. With the lower shock bolt(s) installed, jack the lower control arm up and reconnect the lower ball joint and tighten to the factory specification. Install a new cotter pin.



10. Using a spanner wrench, adjust the spring seat adjuster to set the ride height of the car. Raising the spring seat will raise the ride height and lowering the spring seat will lower the car. If you have not done so, lubricate the threads on the shock with **Permatex® Anti-Seize lubricant** prior to making any ride height adjustments.

11. Re-install the sway bar end links

12. Re-install the front wheels.



**NOTE:**

**All ride height adjustments should be made with the shock adjustment knobs on the softest setting.**

13. Lower the car to the ground and bounce the suspension to seat the springs. Rolling the vehicle a couple feet back and forth will help un-scrub the tires and will lead to more accurate ride height measurements. Check the vehicle ride height referring to your notes from step 1 of disassembly. Raise the car off the ground and adjust the ride height as necessary using a spanner wrench. Once you have the ride height set, tighten the lock nut against the spring seat adjuster.

14. An alignment should be performed by a reputable alignment shop after any changes to the suspension.

**QA1 shocks either have:**

- 18 valving settings on one knob that simultaneously adjusts compression and rebound (Single adjustable).
- 18 valving settings on two knobs that independently adjust compression and rebound (double adjustable).

QA1 shocks have 18 damping settings per knob. There are 6 clicks per revolution of each knob, and each knob has 3 complete revolutions. The knob set fully counter clockwise is the softest setting - start adjustments from that point. Recommended base settings to begin testing with are as follows:

***Shocks with one adjuster knob:***

Drag Racing:	0-6 clicks
Other Applications:	2-8 clicks for nice ride and handling; 8-12 clicks for firm ride and improved handling; 13+ clicks for more aggressive handling

***Shocks with two adjuster knobs:***

Drag Racing:	12-16 clicks compression and 0-4 clicks rebound
Other Applications:	2-8 clicks compression and rebound for nice ride and handling; 8-12 clicks for firm ride and improved handling; 13+ clicks for more aggressive handling

**NOTE:**

The initial adjustment of the knob(s) may seem “sticky” or that the knob does not want to turn. The knob is slotted so that light pressure with a flat head screwdriver can be used for adjustment. After the initial movement of the knob it will become much easier to adjust by hand.

## HEARING A SQUEAK?

If the front suspension produces a squeak after installing QA1 coil-overs, loosen the upper nut and ensure the shock rod is centered in the chassis hole and the correct sized shoulder of the bushing most closely matches the chassis hole. (discussed on page 3) With the chassis and bushings clean and dry, re-install with the shock rod centered. Tighten until the bushings compress to the same diameter as the washers. This is a critical step to prevent the shock rod from rubbing the edge of the chassis hole, producing a squeak during operation.



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.

### • DISCLAIMER / WARRANTY •

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- Frequently Asked Questions
- Quick Tips
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