



## **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 GM cars, 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)

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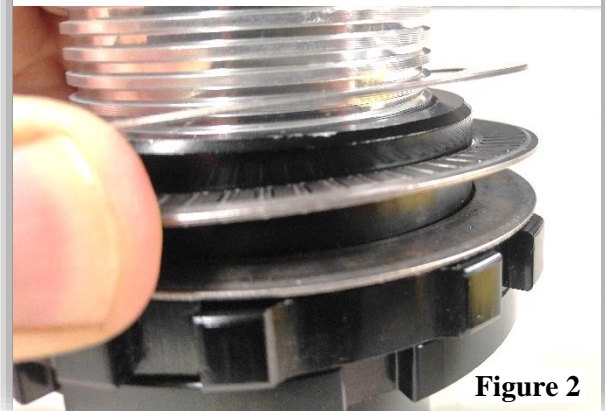
### **NOTE:**

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 a bushing sleeve to mount the shock to the lower control arm.

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)**



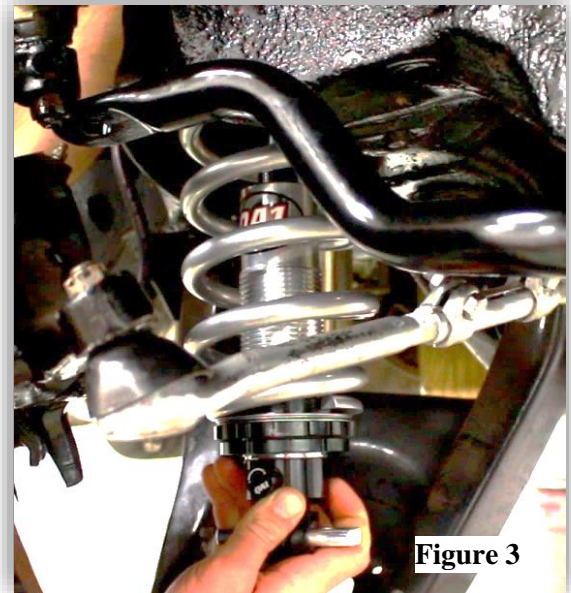
### Optional 7888-108 Thrust Bearing



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.

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)**

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 can face the spindle or the center of the vehicle, whichever way it is easier to access.

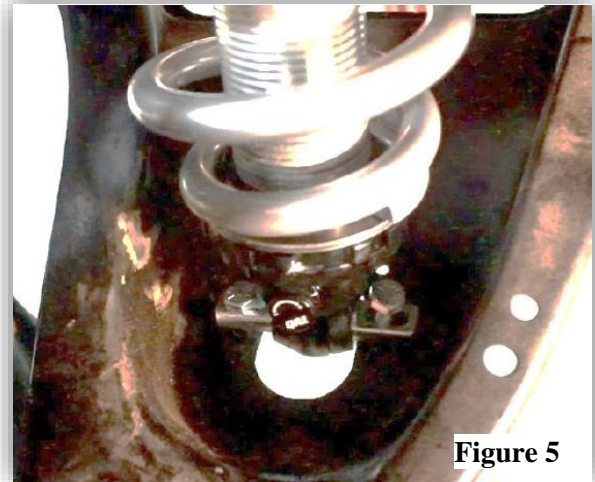
7. With the spring aligned in the pocket, tighten the nut until the top bushing is compressed to the same diameter as the washer, no further. Install and tighten the jam nut at this time.



8. GM Cars: With a jack under the lower control arm, raise the lower control arm up to the lower shock mount and install the supplied 3/8" bolts. The t-bar must be mounted on the top side of the control arm. **(Figure 5)**

Mustang II: Install the supplied 7/16" or 1/2" lower shock bolts supplied. 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.



**Figure 5**

**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: Do not force the adjuster knob. Do not use pliers or any other tools on the piston rod or the adjuster knob. Do not exceed 18 clicks under any circumstances. This could damage the adjuster and cause the shock to not adjust. This will void any warranty. Do not use the shock as a droop limiter. Severe damage to the shock could occur and this will void any warranty.*



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