Introduction to QA1 Quad Adjust 4-Way Adjustable Shocks

Congratulations on the purchase of your new QA1 Quad Adjust 4-way adjustable shocks. The D4 series shock is of similar outward appearance and method of adjustment as our QA1 double adjustable shocks, with the main difference, being that the D4 shock features four adjustment knobs controlling low speed rebound, high speed rebound, low speed compression and high speed compression. Both of the compression control knobs are located on the reservoir, with both rebound control knobs being located on the base of the shock itself. To accommodate the four adjustment mechanisms, the shock features an external reservoir that is connected to the main shock via a flexible braided hose with rotating fittings at both the shock and the reservoir. The shock is a nitrogen gas pressurized, hybrid twin tube design with a Schrader valve on the reservoir for quick and easy gas pressure adjustments.

The D4 shock features anodized internal and external components for durability and high-strength PTFE lined steel mount bearings. Also available are a variety of reservoir mount options including flat mounts for mounting to the firewall, fender well or frame rails and tube mounts for mounting to roll cage or engine bay tubes.

The D4 shock features both high and low speed adjustments for both compression and rebound strokes. This allows the user to adjust the shock from a soft linear valve curve to a very stiff super digressive curve and anywhere in between. The low speed adjustments give the performance minded driver more precise control over the low speed shock motions, while the high speed adjustments provide a wide range of adjustment rarely found in a single shock absorber. This adjustment combination results in one of the most versatile and highest performing adjustable shocks on the market, making the D4 a great choice for a vehicle that may find itself on the street, at the drag strip or on the road course.
TOOLS AND SUPPLIES REQUIRED

• Floor Jack
• Jack Stands
• Wrenches (SAE and/or Metric)
• Socket Set (SAE and/or Metric)
• Snap Ring Pliers
• Spanner Wrench Set (QA1 P/N T114W or T115W)
• 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.

Coil-Over Shock Assembly

1. Thread 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.

2. QA1 highly recommends using Thrust Bearing Kit (QA1 P/N 7888-109) for ease of 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 bearing. Finally, install the second washer.

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

3. With the piston rod fully extended, slide the spring over the shock onto the spring seat adjuster and install the spring cap. Note: D4401 requires 10” springs to be compressed about ½” for installation.

4. Make all ride height changes with the car off the ground and the suspension unloaded. Apply Permatex® Anti-Seize lubricant before making any adjustments to the ride height. Once you have the ride height set, tighten the lock nut against the spring seat adjuster using a spanner wrench (QA1 P/N T114W or T115W).

5. The reservoir and hose for the QA1 Quad adjustable shocks should be mounted clear of any moving components and away from any heat source. QA1 mounting bracket kits will allow the reservoir to be mounted on either 1.75” or 1.5” diameter tubing or on a flat surface. Mounting bracket kits are sold separately.

Note: A four-wheel alignment should be performed by a qualified alignment shop after any changes to the suspension system.
Shock Valving Adjustments

QA1 shocks have 18 damping settings per knob and are labeled “C” for compression, “R” for rebound. There are 6 clicks per revolution of each knob, and each knob has 3 complete revolutions. The knob turned fully counter clockwise is the softest setting - start your adjustments from this point for the high speed adjustments. Recommended base settings to begin testing with are as follows:

Low Speed Adjustment:
Set the low speed adjustments to full firm (fully clockwise) with the high speed adjustments set to the recommendations below. Once the high speed adjustments are set, soften the low speed until the desired handling is achieved.

Front Shock Valving Adjustments

<table>
<thead>
<tr>
<th>Drag Racing: Compression High Speed</th>
<th>12-18 clicks</th>
<th>Rebound High Speed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nice Ride and Handling:</td>
<td>0-6 clicks</td>
<td>0-6 clicks</td>
</tr>
<tr>
<td>Firm Ride &amp; Improved Handling:</td>
<td>6-12 clicks</td>
<td>8-14 clicks</td>
</tr>
<tr>
<td>Aggressive Handling:</td>
<td>13+ clicks</td>
<td>14-18 clicks</td>
</tr>
</tbody>
</table>

Rear Shock Valving Adjustments

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<th>Drag Racing: Compression High Speed</th>
<th>0-6 clicks</th>
<th>Rebound High Speed</th>
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Nitrogen Gas Pressure Adjustments:
Changing the gas pressure in the shock will increase the rod force 0.3 lbs. per 1 psi increase. The QA1 D4 shocks are pressurized to 50 psi from the factory and should not exceed 100 psi. Increasing the rod force can be advantageous in situations when increased lift is desired such as the front of a drag race car. Rod force at 50 psi is 15 lbs. and at 100 psi is 30 lbs.

High speed adjustments are fixed at full stiff with the low speed adjusted every click; 0-18 clicks.
Low speed adjustments are fixed at full soft with the high speed adjusted every click; 0-18 clicks.

Low speed adjustments are fixed at full stiff with the high speed adjusted every three clicks; 0-18 clicks.
To further upgrade your suspension, use other QA1 suspension products such as coil-overs, shocks, struts, springs, K-members, torque arms, panhard rods, sub-frame connectors, strut tower braces, rod ends, sway bars, tubular control arms, spherical bearings, carbon fiber drivshafts and more. For more information, please visit www.QA1.net.

*M - Proper measurement of shock lengths, extended, compressed and shock ride height are taken from the center of the top shock mount to the center of the bottom shock mount.
*For proper measurement of other style shock mountings see diagram below.

Compressed and extended lengths measured from the center of loop(s) and/or shaft shoulder and/or stud shoulder.
If measuring from mounting surface to mounting surface, deduct 5/8" for each mounting surface to allow for the bushings.