



QA1 STRUT INSTRUCTIONS '82 – '92 Camaro / Firebird

IMPORTANT! Read all instructions thoroughly before starting this project. Products that have been installed are not eligible for return. See your vehicle owner's manual for proper jacking locations and strut/shock/spring removal techniques. Death or serious injury can result if instructions are not correctly followed. A quality chassis manual, available at your local parts store, will also aid in your installation.

Tool requirements may vary based on your vehicle

- Floor jack • Jack stands • Standard and Metric sockets and boxed end wrenches
- Grinder

REMOVAL

1. Start your strut installation by inspecting your chassis. Look for worn/deteriorated bushings, ball joints, etc. If anything looks like it should be replaced, replace it before continuing.
2. Jack the car up and ensure that the frame is set in place securely on jack stands. See your owner's manual for proper jacking techniques. Remove the wheels.
3. Loosen the factory nut on the upper end of the piston rod where it comes through the factory caster/camber plate. There is a hex to enable use of a wrench to keep the piston rod shaft from turning. Do not completely remove the factory attachment nuts at this time.
4. Position the floor jack under the ball joint area of the lower control arm. Jack the A-arm up just enough to take the load off of the strut and the spindle, without raising the car off the jack stands. This will retain the factory spring in its location.
5. Unbolt and disconnect the brake line bracket from the strut. Move the brake line to the side to ensure it does not get stretched or damaged while working on the car.
6. Loosen and remove the two (2) nuts and bolts that attach the strut to the spindle knuckle. Remove the factory nut at the top of the strut and remove the strut assembly.

INSTALLATION

QA1 Strut Orientation

1. Struts are right and left hand specific. The part number on the closure nut will indicate L or R.
2. When assembled correctly the knobs should point towards the front of the car.

Coil-Over Installation

If you are installing the strut without the coil-over kit and caster camber plates, skip to the Strut Re-Installation section.

1. Start by standing the strut upright and extending the piston rod fully.
2. Thread the lock nut down to the bottom of the threads of the strut. The small raised shoulder will face upwards.
3. Thread the spring seat down the strut body towards the bottom just above the lock nut.
4. Slide the spring seat washer over the strut and place it on the spring seat.
5. Apply some anti-seize on the threads of the strut above the spring seat assembly. Failure to do so may result in damage to the strut.
6. Place the spring over the strut and rest it on the spring seat assembly.
7. Slide the spring cap over the strut shaft until it stops.
8. Place the thrust bearing assembly on top of the spring cap. One of the thrust washers will sit on the spring cap first. The thrust bearing will then sit on top of this washer. The second washer will then be installed on top of the thrust bearing.

- Slide the bearing retainer cap over the strut shaft and center it on the thrust bearing assembly.

Caster/Camber Plate Installation

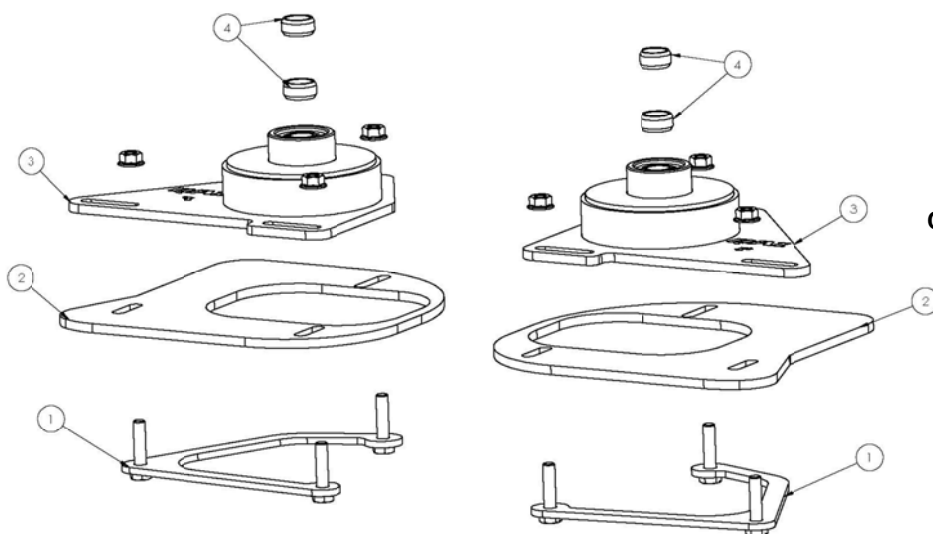
See below diagram for proper plate orientation

- Begin by loosening and removing the mounting bolts of the factory caster/camber plates on top of the strut tower.
- Remove the plates from the vehicle.
- Begin assembling the caster camber plates by sliding the stud retainer bracket through the holes in the strut reinforcement plate.
- Install this assembly from the bottom side of the strut tower so the studs slide up through the holes in the strut tower. Note: Elongated holes of the strut reinforcement plate should match the orientation of the elongated holes in the strut tower.
- Place the upper bearing plate on the strut tower so the studs on the stud retainer plate pass through the holes of the bearing plate. The elongated holes in the bearing plate will sit 90 degrees off center to the elongated holes in the strut tower. The bearing housing faces upwards much like the factory setup.
- Install and tighten the nuts and washers on the three studs of the caster camber plate assembly.

Strut Re-Installation

- Some third generation Camaro knuckle assemblies require some grinding to the spindle for clearance of the QA1 strut. Just below where the strut mounts to the knuckle there is a ridge that needs to be ground down. To find this area, attempt to position the spindle knuckle into the bracket on the strut. Mark the area on the knuckle at the bottom of the strut where it makes contact with the knuckle. Carefully use a grinder to remove enough material on the knuckle to allow the strut to line up with the holes in knuckle. Note: Do not grind material away from the strut assembly itself.
- Once the strut has clearance, install the two spindle mounting bolts and nuts. Torque to factory specifications.
- Slide the upper threaded end of the strut shaft up into the caster/camber plate and loosely install the factory nut. Note: Spacers for the piston rod will be provided with the QA1 caster/camber plate. The orientation of these spacers can be chosen based on the vehicle's driving application. If the vehicle is being used for drag racing place both spacers on the bottom of the caster camber plate. This will provide with more extension travel while the vehicle is launching. **If this orientation is used a longer bump stop may be needed to prevent the strut from bottoming out during compression.** If the vehicle is going to have a stock or lowered ride height both spacers should be placed on top of the caster/camber plate. This will provide for more compression travel for the strut.
- Re-install the brake line bracket to the QA1 strut.
- Reinstall the wheel. Torque all nuts and bolts to factory specifications.
- Torque the upper strut mount attachment nut to the factory specifications.
- Repeat the entire removal and installation procedures for the other side.

Take the car to a reputable alignment shop and have the car realigned.



Caster Camber Plate Components

- Stud Retainer Bracket
- Strut Reinforcement Plate
- Upper Bearing Plate
- Spacers

VALVING ADJUSTMENT

Your QA1 struts either have:

- 18 damping settings on one knob that simultaneously adjust compression and rebound (single adjustable);
- 18 damping settings on one knob that adjusts for a wide range of rebound with a firm compression. (drag race "R" series)
- 18 damping settings on two knobs that independently adjust compression and rebound (double adjustable).

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 STRUT NOT TO ADJUST. THIS WILL VOID ALL WARRANTIES. DO NOT USE THE STRUT AS A DROOP LIMITER. SEVERE DAMAGE TO THE STRUT COULD OCCUR AND THIS WILL VOID ALL WARRANTIES.

WARRANTY / DISCLAIMER

QA1 warrants that the products will be free from defects in material and workmanship for one year from date of sale to the original purchaser. QA1 makes no other warranty of any kind, express or implied. QA1 shall have no obligation under the foregoing warranty where the defect is the result of improper or abnormal use, your negligence, vehicle accident, improper or incorrect installation or maintenance, nor when the product has been repaired or altered in any way. QA1's liability in the case of defective products subject to the foregoing warranty shall be limited to the repair or replacement, at QA1's option, of the defective products. Consequential or incidental damages are not recoverable under this warranty. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights, and you may also have other rights that vary from state to state.

In order to be eligible for service under this warranty, you must return the defective part to QA1 together with a R.G.A. number issued from QA1. Tag each item with the part number and the specific explanation of defect. We will inspect the part and determine: a) if it is eligible for repair or replacement; and, b) if so, whether to repair or replace it. All returns must be shipped prepaid to:

QA1 Precision Products, Inc.
RGA #
21730 Hanover Avenue
Lakeville, MN 55044

THE BUYER UNDERSTANDS AND EXPRESSLY RECOGNIZES that racing parts, specialized street rod equipment, rod end bearings, and ALL parts and services sold by QA1 are exposed to many and varied conditions due to the manner in which they are installed and used. BUYER ACKNOWLEDGES that QA1 does not have full knowledge of the intended use of the goods, and BUYER WILL DEFEND AND INDEMNIFY QA1 upon demand against all claims, actions, liability, loss and expense (including investigating expense and attorney fees incurred in litigation or because of threatened litigation) for any loss, damage or injury, either to a person or to property, resulting from the direct or indirect use of any QA1 products or inability by the buyer to determine proper use or application of QA1 products. With the exception of the limited liability warranty set forth above, QA1 SHALL NOT BE LIABLE FOR ANY CLAIMS, DEMANDS, INJURIES, DAMAGES, ACTIONS, OR CAUSES OF ACTION WHATSOEVER TO BUYER ARISING OUT OF OR CONNECTED WITH THE USE OF ANY QA1 PRODUCTS.

MOTORSPORTS ARE DANGEROUS; AS SUCH, NO WARRANTY OR REPRESENTATION IS MADE AS TO THE PRODUCT'S ABILITY TO PROTECT THE USER FROM INJURY OR DEATH. THE USER ASSUMES THAT RISK.