



**Application:** Corvette 1963-1982

**Part Includes**

- 2 - Competition Style Strut Rods
- 1 - Cam Replacement Kit

## Competition Strut Rod Kit



**Tools Needed**



**Helpful Hints:**

- To ease removal and prevent damage to costly shock mounts, we recommend use of our #602-708, 1963-82 Shock Mount Removal Tool.
- Be sure to check wear and need for replacement of any part in this area of the suspension (i.e. bushings, u-joints, shocks, leaf spring, wheel bearings, etc.). Save time and money replacing them now, as most of the tear-down procedure would be duplicated.
- It's a good practice to replace or clean and soak any hardware in parts cleaning solution to better identify rust problems, bad threads, and other indicators of need for replacement.

**REMOVAL OF EXISTING STRUT RODS (REMOVE ONE SIDE AT A TIME):**

**STEP 1.**

Jack up car and place securely on jack stands.

**STEP 2.**

(**Note:** The following step is optional, but provides more room for strut rod removal and installation.) Remove spring bolt from trailing arm assembly by jacking up spring. (**Note:** A fiberglass spring only needs to be raised a few inches or less. On steel spring application **ONLY**, use vise grips to prevent jack from slipping up toward the center of the spring.) Lower jack to remove tension on spring. Remember that even in this extended position, the spring is still under tension.

**STEP 3.**

Remove Cam Bolt assembly (Diagram A, Item 1) to release the inner end of the existing strut rod from the bracket located under differential housing. These bolts will not be reused, as you will now adjust the strut rod tube itself for camber settings.

**STEP 4.**

Remove the nut from the lower end of the shock absorber mount to remove shock mount assembly from bearing carrier. (Again, our #602-708 Shock Mount Removal Tool will ease this step, while reducing the chance of damage to the assembly.) Remove existing strut rod and measure center to center at bushing bolt holes, as you will use this measurement as a starting point for camber adjustment on your new adjustable strut rods.

**STEP 5.**

Repeat Steps 2-4 for the opposite side as noted above.



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### INSTALLATION OF NEW STRUT RODS

#### STEP 1.

Remove strut rod bracket (Diagram A, Item 2). We strongly recommend that while the bracket is removed, ensure that all four bracket tabs (Diagram A, Item 3) are welded in place, as they were only spot-welded at the factory. It is possible this step had already been done to your car.

**IMPORTANT NOTE:** Any repairs or replacement to the strut rods or bracket assembly may have resulted in a bent receiver portion of the bracket (space between the bracket tabs). This could cause your new strut rods to seem too large for this bracket. During manufacture, we fitted our strut rods to a new General Motors bracket assembly at factory specifications.

#### STEP 2.

Install the new strut rod assemblies. Be sure to use all hardware in this order: hex bolt, flat washer, square weld tab washer, strut rod bracket assembly/strut rod w/step spacers (Diagram A, Item 6), another square weld tab washer, flat washer, lock washer, hex nut (Diagram A, Item 4). The strut rod assembly should be complete when you receive it. YOU MUST use a centering cap washer on each side of the bushing/sleeve assemblies mounted into the strut rod bracket assembly as shown in Diagram A, Item 5. Once installed, the strut rod should fit tightly in the bracket. Should your bracket be bent, simply place the bracket assembly in a vise and bend as needed, or use shims included, to offset the difference. NOTE: You will use 1 or 2 of these shims (per side) in Step 5 also. We have included ample supply of shims to allow for this.

#### STEP 3.

Reinstall strut rod bracket (and dangling strut rods) to differential carrier.

#### STEP 4.

Using the center to center measurement from the stock strut rod, adjust the new strut rods to match that same measurement. Do this by loosening the rod end jam nuts and turn the rod ends. VERY IMPORTANT: BE SURE TO KEEP THE SAME AMOUNT OF REMAINING THREADS ON EACH ROD END. After adjusting to proper length, tighten jam nuts back on each end.

#### STEP 5.

One side at a time, secure the dangling end of the strut rod back into the bearing carrier as removed in Step 4 of Removal. Use shims provided, if needed, between the strut rod's step spacer (Diagram A, Item 6) and the bearing carrier to achieve a tight fit. Reinstall the lower shock mount and shock absorber. Reconnect leaf spring and spring bolt/bushing assembly. Again, this is a perfect opportunity to replace worn or failing bushings, U-joints, leaf springs, wheel bearings, etc. to ensure good suspension performance.

#### STEP 6.

Check over or retighten any hardware you removed before lowering the car to the ground. In ten foot intervals, roll (don't drive) the car back and forth at least three times to "seat" the new parts and relax the suspension. You may want to bounce the rear of the car a few times to settle the spring, any new bushings, and the shock absorbers. TO CHECK OR ADJUST REAR CAMBER SETTING

**NOTE:** The recommended base setting for rear camber is 3 degrees,  $\pm 0.5$  degrees. An alignment shop should be used to set this. We also recommend that while at the alignment shop, you adjust the rods one turn in both directions, checking the amount of degrees difference for each. This will allow you to make consistent performance adjustments to your rear suspension later, without the need for realignment. It is completely acceptable to do a home alignment to get your car back on the road. This method is surprisingly accurate and may meet your immediate performance needs. The following is a procedure for a home alignment.

#### STEP 1.

While on a level, preferably concrete surface, take a visual of the car's wheels from the rear of the car. Ideally, each wheel should form a right angle with the ground. If this is not the case, the camber will need to be adjusted.



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### **STEP 2.**

See Diagram B to determine degree and direction of adjustment. There are different methods to adjust the camber:

- a) "Eyeball" the wheel slant and adjust the strut rods as discussed in Step 3 below.
- b) Use a carpenter's level, taping a board length cut the same diameter as your wheels (stock 63-79 wheels would be 15"), a 2 x 6 works nicely, or two equal sized blocks . This will offset the level away from the tire and car body so that the level isn't obstructed. Hold the level/block assembly with the block against the wheel. With the level bubble entered, measure the distance between the wheel and the top block (if any) to determine amount of camber adjustment needed.

### **STEP 3.**

Each complete turn of the strut rod tube (a wrench flat is ground into each strut rod tube to allow this) adds or subtracts approximately 1/8". See Diagram B to determine need for negative or positive camber adjustment. For example, if the wheel lacks 3/16" from standing at a right angle, you will rotate the strut rod tube one and one half turns.

### **FINAL NOTES:**

#### **STEP 1.**

Re-check camber after a few days of driving, especially if a new spring or bushings are installed. These items will settle or compress and may cause a change in camber.

#### **STEP 2.**

Check fastener torque occasionally, especially before and after any "performance" driving or track events.



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