



350 S. St. Charles St. Jasper, In. 47546  
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[www.ridetech.com](http://www.ridetech.com)

**Part # 11020201**  
**55-57 Chevy CoilOver System**  
One Piece Frame

**Front Components:**

|   |          |                           |
|---|----------|---------------------------|
| 1 | 11013510 | HQ Series Front CoilOvers |
| 1 | 11012899 | Front Lower StrongArms    |
| 1 | 11013699 | Front Upper StrongArms    |
| 1 | 11019100 | Front MuscleBar           |

**Rear Components:**

|   |          |                          |
|---|----------|--------------------------|
| 1 | 11027199 | Rear AirBar 4 Link       |
| 1 | 11016510 | HQ Series Rear CoilOvers |
| 1 | 85000000 | Spanner Wrench           |



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**Part # 11013510**  
**55-57 Chevy HQ Series Front CoilOvers**  
For Use w/ StrongArms

**Shock Assembly:**

|   |          |                                 |
|---|----------|---------------------------------|
| 2 | 24149999 | 4.1" stroke HQ Series shock     |
| 2 | 90009988 | 2" adjustable threaded stud top |
| 2 | 90001994 | .625" I.D. bearing              |
| 4 | 90001995 | Bearing snap ring               |

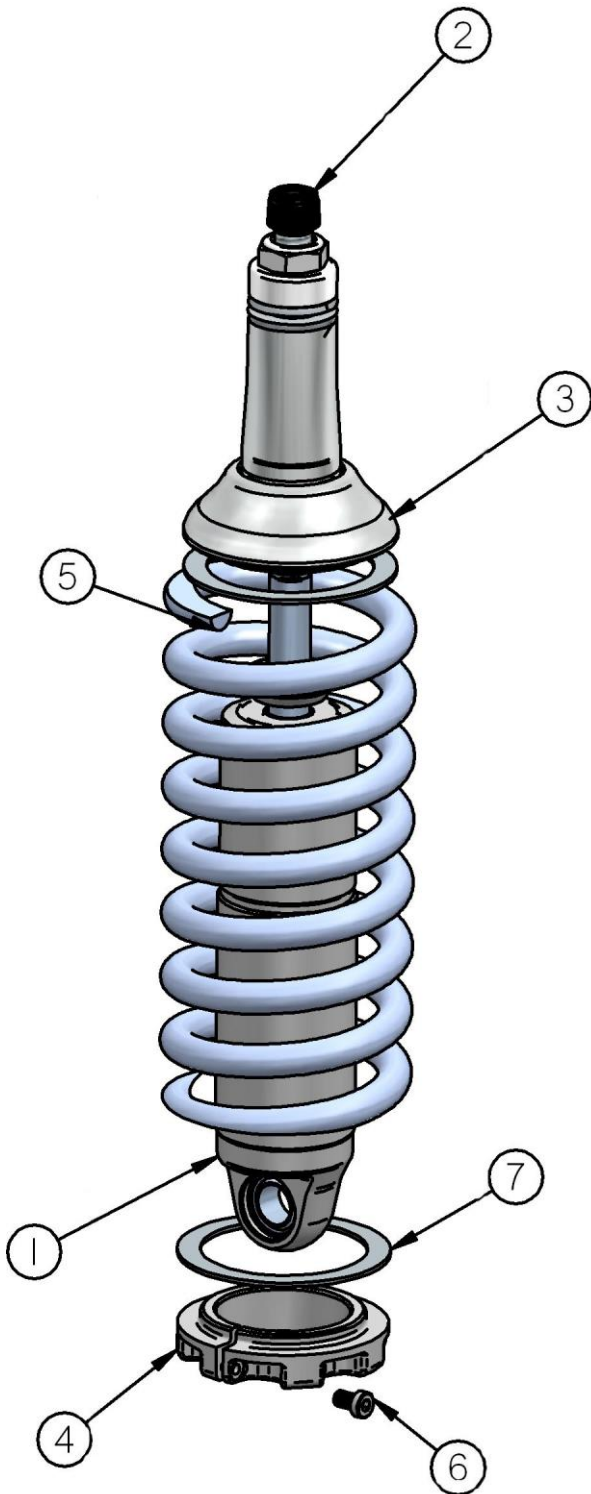
**Components:**

|   |          |   |
|---|----------|---|
| 2 | 59100600 | Coil spring – 10" long / 600 # rate                             |
| 2 | 90002312 | 2" stud top base  |
| 2 | 90002222 | Spring retainer kit (do not use standard upper spring retainer) |
| 2 | 90002070 | ¾" drop upper spring retainer                                   |
| 2 | 90001902 | Aluminum cap for Delrin ball                                    |
| 2 | 90001903 | Delrin ball upper half  |
| 2 | 90001904 | Delrin ball lower half  |
| 4 | 70010828 | Delrin Spring Washers   |

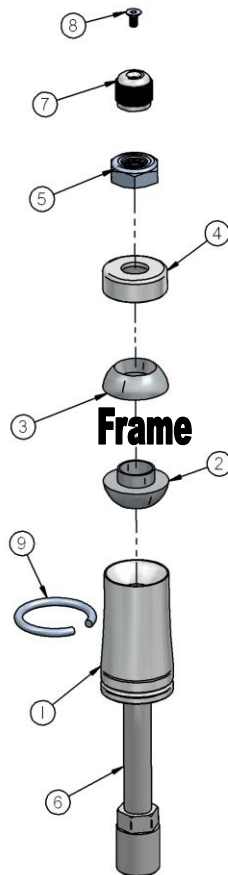
**Hardware:**

|   |          |                         |                   |
|---|----------|-------------------------|-------------------|
| 2 | 99562003 | 9/16" SAE Nylok jam nut | Stud top hardware |
|---|----------|-------------------------|-------------------|

# COILOver

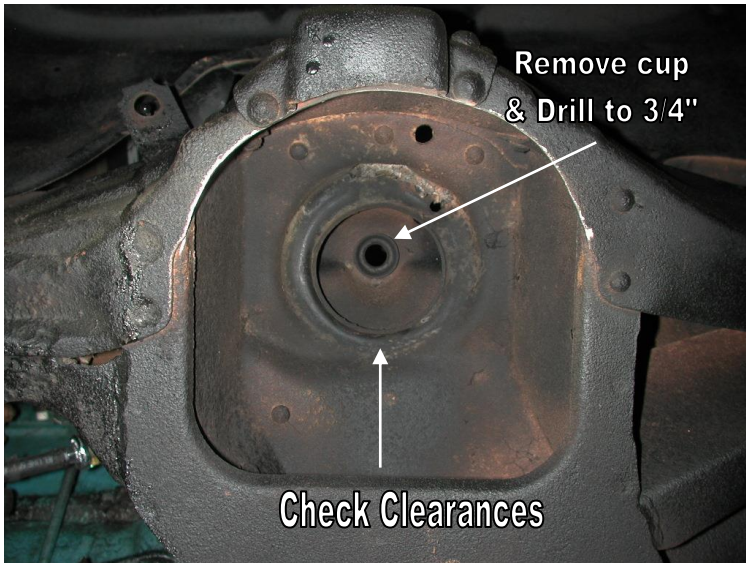


1. Impact Forged, Monotube shock
2. Rebound adjustment knob (SA Only)
3. Upper coil spring retainer (Use  $\frac{3}{4}$ " dropped cap)
4. Lower coil spring retainer
5. High tensile coil spring
6. Set screw
7. Delrin Spring Washer



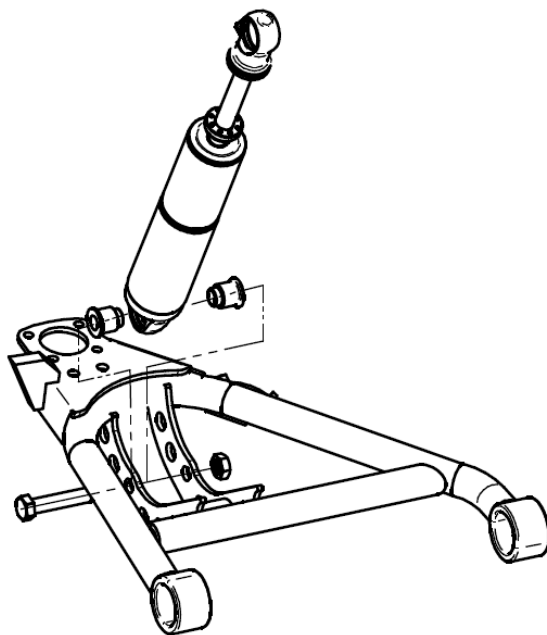
1. Stud top base
2. Lower Delrin ball half
3. Upper Delrin ball half
4. Aluminum cap
5. 9/16" Nylok jam nut
6. Threaded stud
7. Adjustment knob (SA Only)
8. Screw
9. Snap ring

# COILOver



1. To allow the step in the lower Delrin ball half to slide into the factory shock hole, the bushing cup will need to be removed and the hole may need to be drilled out to  $\frac{3}{4}$ ".

2. Assemble the CoilOver then place into the coil spring pocket w/ the stud and lower Delrin ball sticking through the factory shock hole.



3. Check clearance between the upper factory spring retaining lip and stud top base. Allowing this to hit could cause the shock to break, this

4. Place the upper Delrin ball over stud, then the aluminum cap. Secure the assembly w/ the 9/16" Nylok jam nut.

5. Attach the bottom of the shock to the lower StrongArms using the spacers and hardware supplied w/ the arm.



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**Part # 11012899**

**55-57 Chevy Car Lower StrongArms**

For Use with Shockwaves or CoilOvers

**Components:**

|   |          |  |
|---|----------|--|
| 1 | 90000561 | Driver side lower control arm                                  |
| 1 | 90000562 | Passenger side lower control arm                               |
| 2 | 90000916 | Lower ball joint (includes boots, castle nuts and cotter pins) |
| 4 | 90000906 | Lower control arm bushing                                      |
| 2 | 90002694 | Lower Cross shafts   |
| 4 | 90002062 | Aluminum spacers for Shockwaves                                |

**Hardware:**

|   |          |                         |                        |
|---|----------|-------------------------|------------------------|
| 2 | 99501024 | ½"-13 x 3 ¼" Gr. 5 bolt | ShockWave to lower arm |
| 2 | 99502001 | ½"-13 Nylok nut         | ShockWave to lower arm |

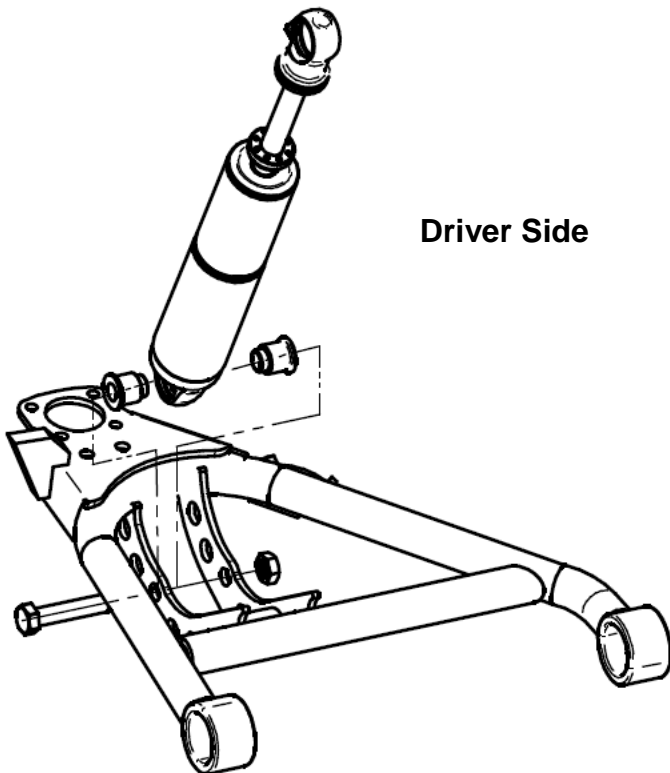
# STRONG ARMS™

by Air Ride Technologies

## Installation Instructions



1. Remove the OEM controls are from the car.
2. Bolt the lower StrongArm to the car using the oem bolts. Note that the sway bar mount will face toward the front of the vehicle.

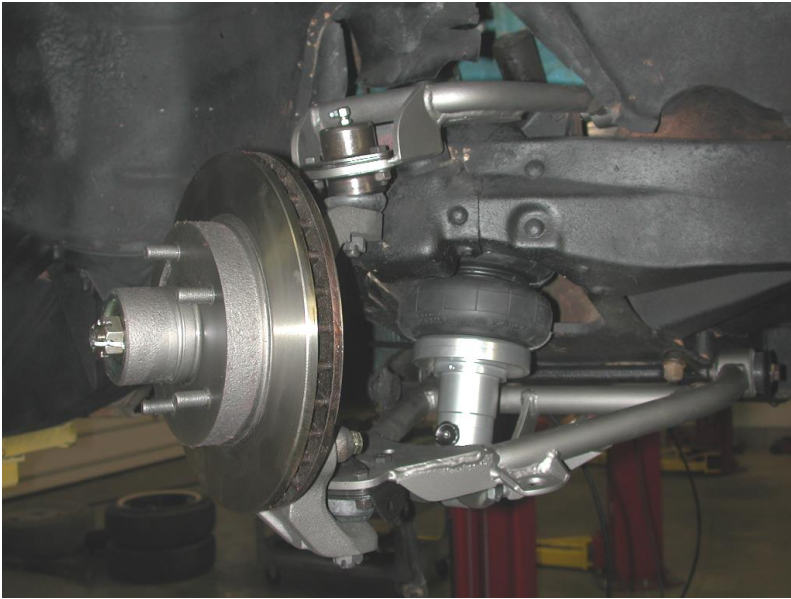


Driver Side

3. Bolt the Shockwave or CoilOver to the lower arm using the supplied 1/2" x 3 1/4" bolt and Nylok. An aluminum spacer on both sides of the eye will center the Shockwave.

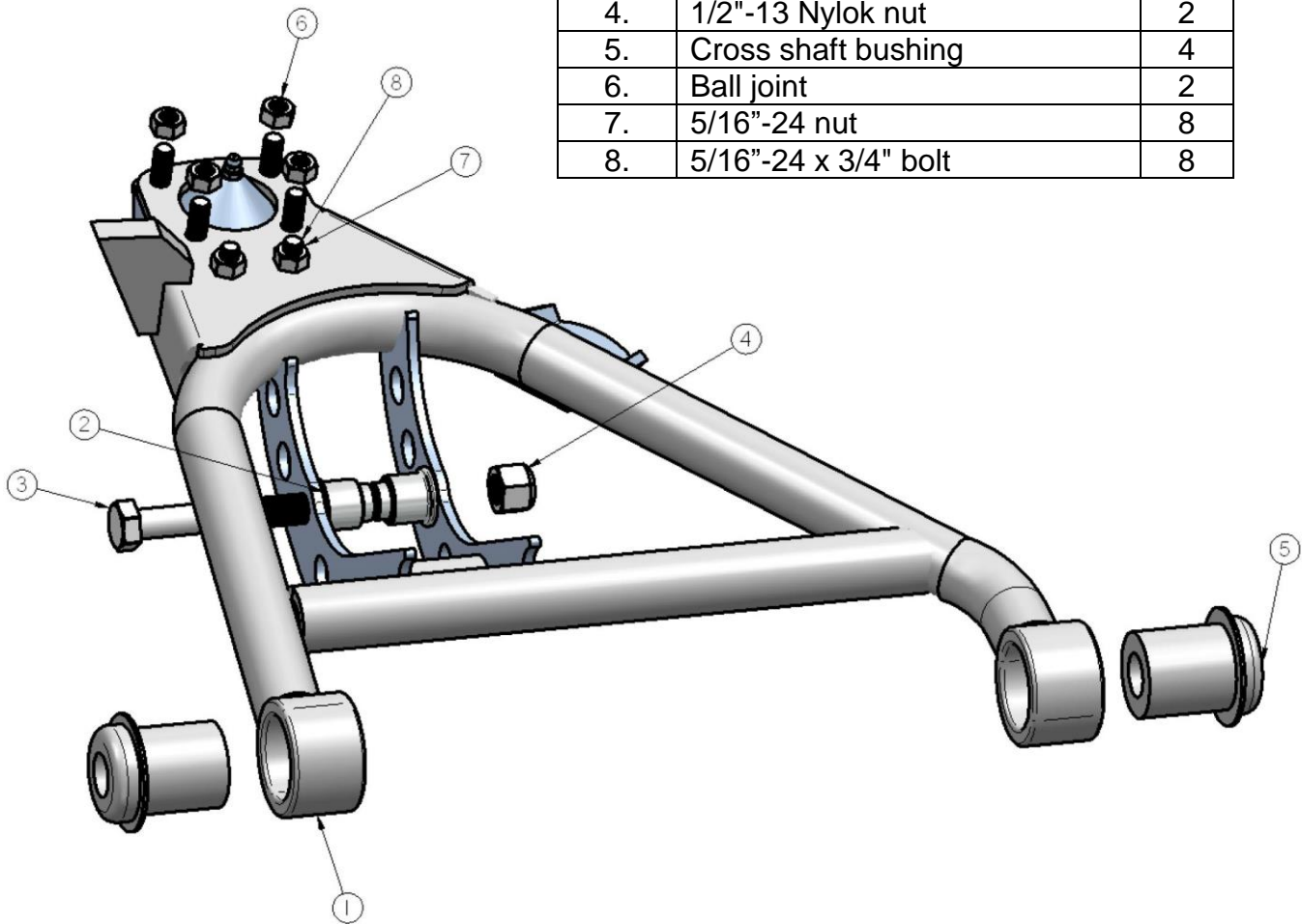
**Note:** There are holes on the lower arm near the ball joint to mount the factory bump stop. Although, it is not needed unless you are having tire clearance issues.

4. Slide the ball joint through the spindle and secure w/ castle nut and cotter pin.



5. Grease the ball joints.
6. Double check air spring clearance through full suspension travel. If any part of the Shockwave touches the frame at anytime it will damage the unit. **This is not a warrantable situation.**

| Item # | Description             | Qty. |
|--------|-------------------------|------|
| 1.     | Passenger side arm      | 1    |
| 1.     | Driver side arm         | 1    |
| 2.     | Aluminum bearing spacer | 4    |
| 3.     | 1/2"-13 x 3 1/4" bolt   | 2    |
| 4.     | 1/2"-13 Nylok nut       | 2    |
| 5.     | Cross shaft bushing     | 4    |
| 6.     | Ball joint              | 2    |
| 7.     | 5/16"-24 nut            | 8    |
| 8.     | 5/16"-24 x 3/4" bolt    | 8    |





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**Part Number 11013699**  
**55-57 Chevy Upper StrongArms**

**Components:**

|     |          |  |
|-----|----------|--|
| 1   | 90000541 | Driver side upper arm  |
| 1   | 90000542 | Passenger side upper arm   |
| 2   | 90003041 | Tall Ball joint (includes boot, grease fitting, castle nut & cotter pin) |
| 1pr | 90002695 | Upper Cross shafts   |
| 4   | 90000907 | Cross shaft bushing  |
| 4   | 90000543 | Upper cross shaft large sleeve   |
| 4   | 90000544 | Upper cross shaft small sleeve   |

**Hardware:**

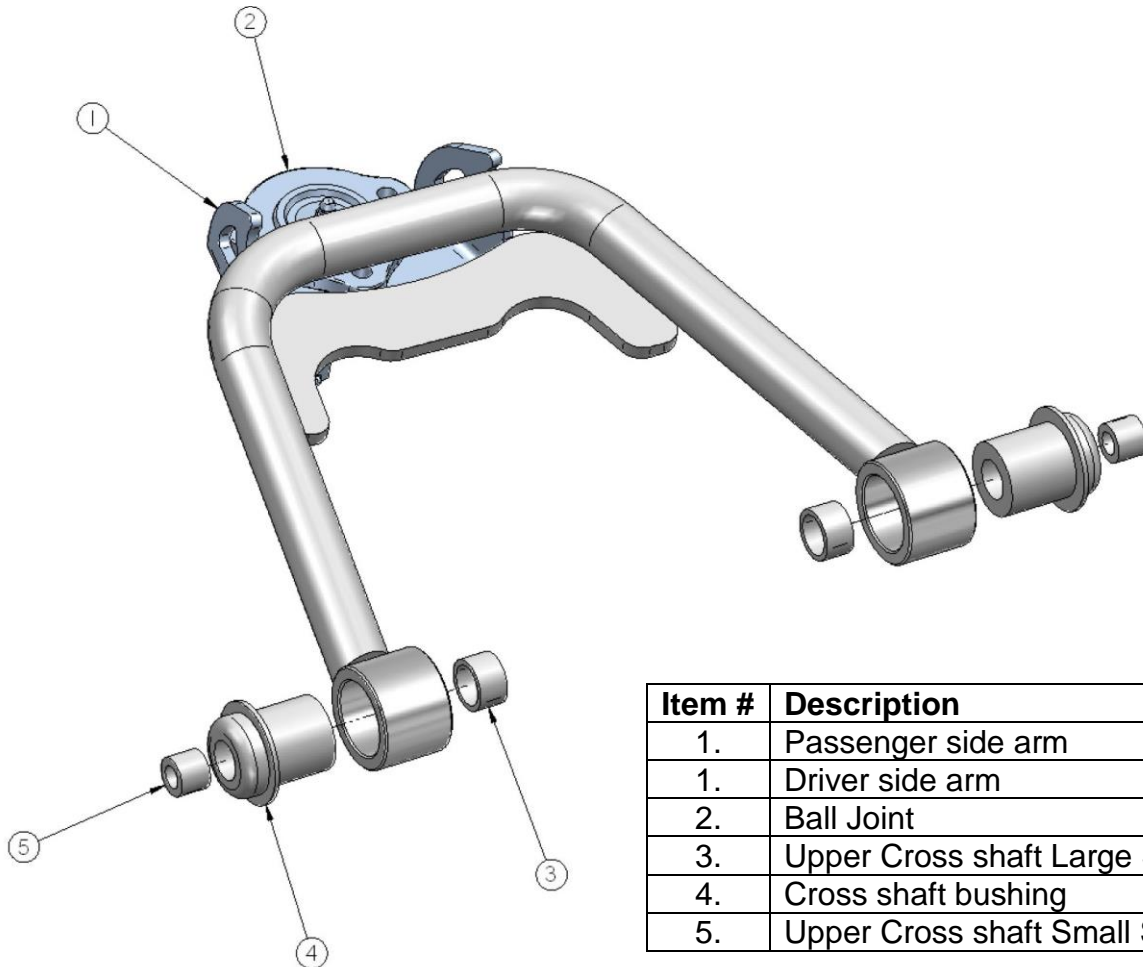
|   |          |                        |                   |
|---|----------|------------------------|-------------------|
| 4 | 99371015 | 3/8"-24 x 1 1/2" bolts | Upper cross shaft |
| 4 | 99373005 | 3/8" lock washers      | Upper cross shaft |



## Installation Instructions



4. Bolt the upper StrongArm to the frame and spindle using the factory frame bolts.
5. The upper control arm bump stop is reused.
6. Grease the ball joints.



| Item # | Description                    | Qty. |
|--------|--------------------------------|------|
| 1.     | Passenger side arm             | 1    |
| 1.     | Driver side arm                | 1    |
| 2.     | Ball Joint                     | 2    |
| 3.     | Upper Cross shaft Large Sleeve | 4    |
| 4.     | Cross shaft bushing            | 4    |
| 5.     | Upper Cross shaft Small Sleeve | 4    |



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**Part # 11019100**  
**55-57 Chevy Front MuscleBar**

**Components:**

|   |          |                         |                           |
|---|----------|-------------------------|---------------------------|
| 1 | 90000731 | Sway Bar                |                           |
| 2 | 90001100 | Bushing and strap kit   |                           |
| 2 | 90000729 | Frame plate             |                           |
| 4 | 90000717 | Aluminum step washer    |                           |
| 2 | 90000924 | 10mm straight PosiLink  |                           |
| 2 | 90000926 | 10mm 90 degree PosiLink |                           |
| 1 | 90001092 | Tube of lithium grease  |                           |
| 2 | 99115001 | 10mm x 1.5 stud         | In PosiLink (use Loctite) |

**Hardware Kit: 99010047**

|    |          |                        |                        |
|----|----------|------------------------|------------------------|
| 2  | 99115006 | 10mm lock washer       | 90 degree PosiLink     |
| 2  | 99112002 | 10mm Nylok nut         | Straight PosiLink      |
| 8  | 99371005 | 3/8" x 1 1/4" USS bolt | Frame plate            |
| 8  | 99372002 | 3/8" USS Nylok nut     | Frame plate            |
| 18 | 99373003 | 3/8" SAE flat washers  | Frame plate & PosiLink |

**POSI** • *Link*<sup>TM</sup>

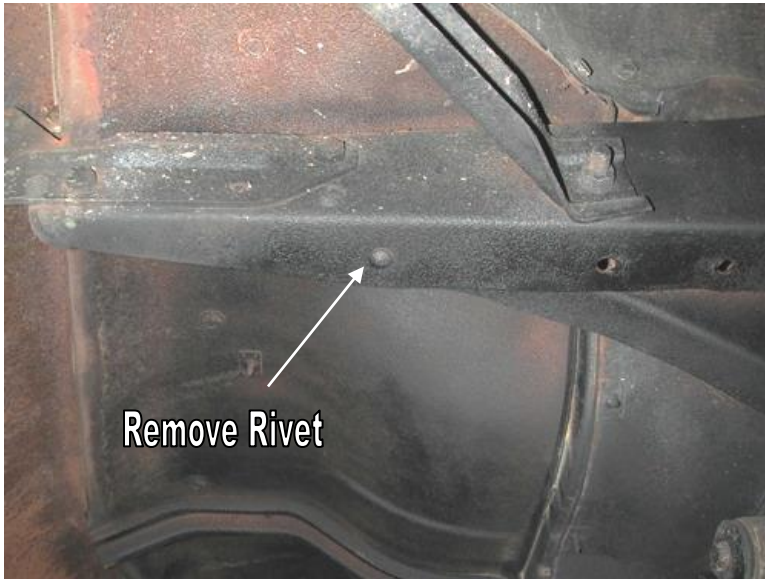
***MUSCLEbar***<sup>TM</sup>

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**This sway bar is designed for use with Air Ride Technologies StrongArms.**

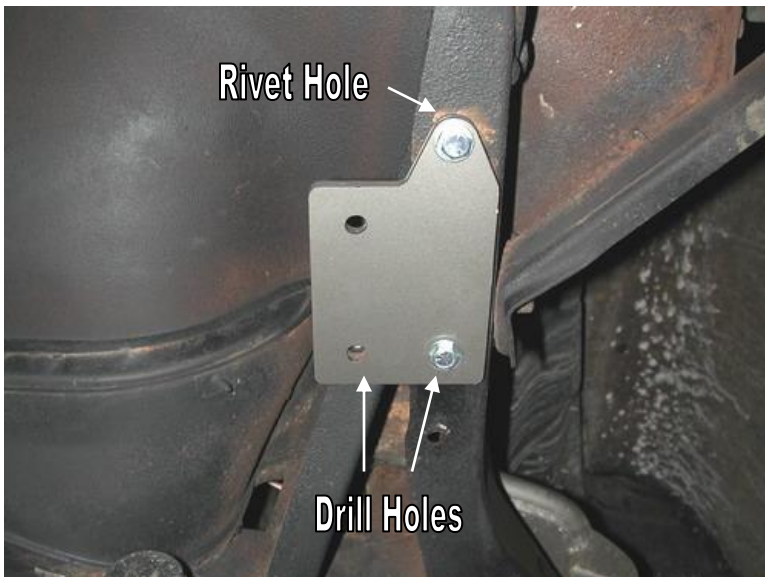
## 11019100 Installation Instructions

55-56



**55-56 ONLY** For 57, go to Step 6.

1. The sway bar frame plate will index off of this factory support brace rivet. Remove the rivet by grinding the head smooth, then drive it out with a hammer and punch.
2. Drill hole to 3/8".



3. Using a 3/8" x 1 1/4" bolt, flat washer and Nylok nut, bolt the frame plate to the bottom of the frame rail.

4. Make sure the side of the plate is aligned with the outside of the frame rail. Drill the remaining holes.

5. Bolt the outside rear hole of the plate to the frame using a 3/8" x 1 1/4" bolt, Nylok nut and flat washer.

Skip to Step 7

57 ONLY



**57 ONLY**

6. There isn't a rivet to use as a locator on the 1957 Frame. The Frame Mount is position 5" from the FRONT of the frame rail to the FRONT EDGE of the Frame Mount. The Center of the Bolt hole is 1 1/2" from the outside edge of the frame. Use the Frame Mount as a template to drill the 2 holes. The hardware will need to installed from the top with the threads pointing down. Use a 3/8" x 1 1/4" Hex Bolt with a Flatwasher in each one. Do this for both sides. With the hardware installed, install a Frame Mount on the hardware with the SMALL bolt pattern to the inside of the car. Tighten down with a 3/8" Flatwasher and 3/8" Nylok Nut.



7. Apply lithium grease to the poly bushing. Install the bushing over the sway bar, and then place the bushing strap over the bushing.

8. Bolt the sway bar to the frame plate using two 3/8" x 1 1/4" bolts, Nylok nuts and flat washers. Do not tighten yet.



9. Bolt the 90 degree end of the PosiLink to the sway bar. A 3/8" flat washer and 12mm lock washer must be installed between the PosiLink and the bar.

10. Bolt the straight end of the PosiLink to the lower control arm. An aluminum step washer must be installed on each side of the control arm tab. Fasten with a 12mm Nylok nut. Then tighten the bushing frame bolts.



Your MuscleBar installation is now complete. If you have any further questions, please call our technical support line at 812-482-2932.



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**Part # 11027199**  
**55-57 Chevy Rear AirBar**  
**(One Piece Frame)**

**Components:**

|    |          |   |
|----|----------|---|
| 1  | 90000160 | Driver side lower axle bracket                              |
| 1  | 90000558 | Passenger side lower axle bracket                           |
| 1  | 90000556 | Front cross member (33.688")                                |
| 1  | 90000554 | Upper shock mount   |
| 1  | 90000555 | Upper shock mount   |
| 20 | 70013334 | R-Joint Spacers   |
| 1  | 90000550 | Lower shockwave mount - Driver                              |
| 1  | 90000551 | Lower shockwave mount - Passenger                           |
| 4  | 90002852 | Parallel Bars C-C 18.50"                                    |
| 1  | 90002853 | Diagonal bar C-C 30.25"                                     |
| 5  | 70013364 | RH R-Joint Threaded Housing End (installed in bars)         |
| 1  | 70013564 | LH R-Joint Threaded Housing End (installed in diagonal bar) |
| 2  | 90001617 | 5/8" Shock studs  |
| 1  | 90000266 | Brake line tab  |
| 5  | 99752004 | 3/4"-16 RH Hex jam nut for rod ends                         |
| 1  | 99752006 | 3/4"-16 LH Hex jam nut for rod ends                         |
| 4  | 90002067 | Aluminum spacer – lower shock bearing                       |

**R-Joint Components** (installed in bar ends)

|          |                                    |
|----------|------------------------------------|
| 70013279 | Retaining Ring                     |
| 70012380 | Wavo Wave Spring                   |
| 70013275 | R-Joint Center Ball                |
| 70013276 | R-Joint Composite Center Ball Cage |



## Hardware Kit Part # 99010019:

### Cross Member Mounting

- 10 3/8"-16 x 1" type F thread forming bolt
- 10 3/8" Lock washer

### Lower Shockwave Mounting

- 4 1/2"-20 x 3/4" Gr.5 bolt

### 4Link Bars

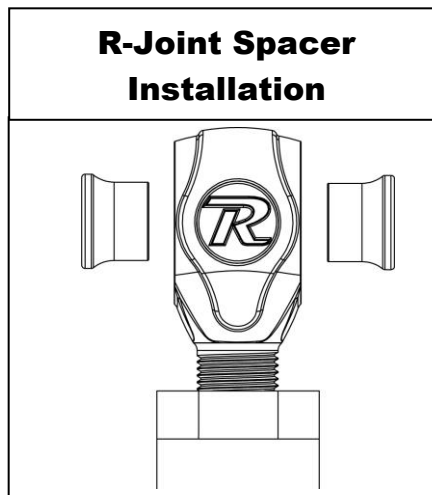
- 10 5/8"-11 Nylok jam nut
- 8 5/8"-11 x 2 3/4" Gr.5 bolt
- 2 5/8"-11 x 3" Gr.5 bolt

### Upper Shockwave Mounting

- 2 1/2"-13 x 2 1/4" Gr.5 bolt
- 2 1/2"-13 Nylok jam nut
- 10 3/8"-16 x 1" type F thread forming bolt
- 10 3/8" Lock washer

### Brake Line Bracket

- 2 #10 x 3/4" Tek screws



*New R-Joints will be quite stiff (75-90 in/lbs breakaway torque) until they "break in" after a few miles of use. After the break in period they will move much more freely. Because the composite bearing race contains self-lubricating ingredients, no additional lubrication is needed or desired. Any additional lubrication will only serve to attract more dirt and debris to the R-Joint and actually shorten its life.*

# **AirBAR<sup>®</sup>**

by Air Ride Technologies

1. Raise the vehicle to a safe and comfortable working height. Use jack stands to support the vehicle with the suspension hanging freely.
2. Support the axle and remove the leaf springs, shocks, bump stops, pinion snubber and tail pipes. Refer to the factory service manual for proper disassemble procedures.



3. The parking brake brackets will be in the way of the 4 link and must be removed. Loosen the parking brake adjustment nut and remove the cable from the frame bracket. The tack weld can be broke loose with a hammer and chisel. Grind the remains of the weld smooth.

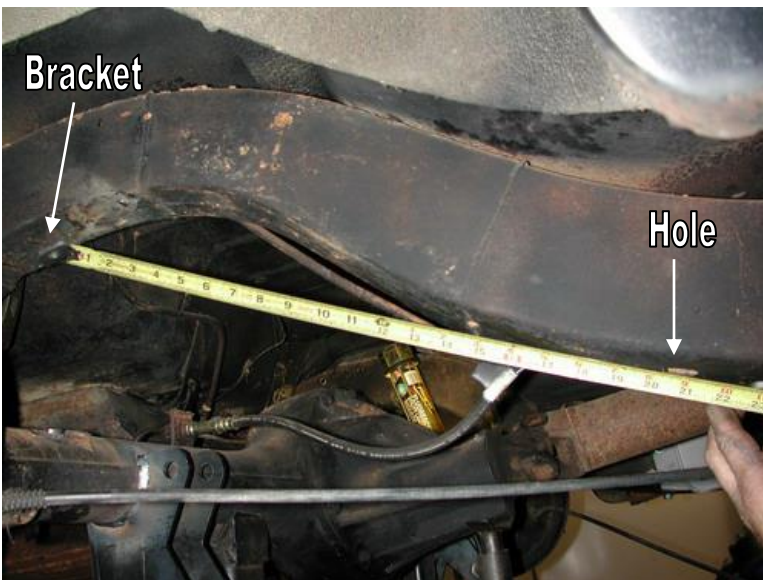


4. The rear brake line bracket on the passenger side fame rail must also be removed.



5. Use a couple clamps to secure the crossmember between the frame rails. Slide it forward to the edge of the body mounts. Drill the holes with a 5/16" bit and thread the 3/8" x 1" self-tapping bolts in one at a time.

**Do not over tighten the self-tapping bolts; they can be stripped.**



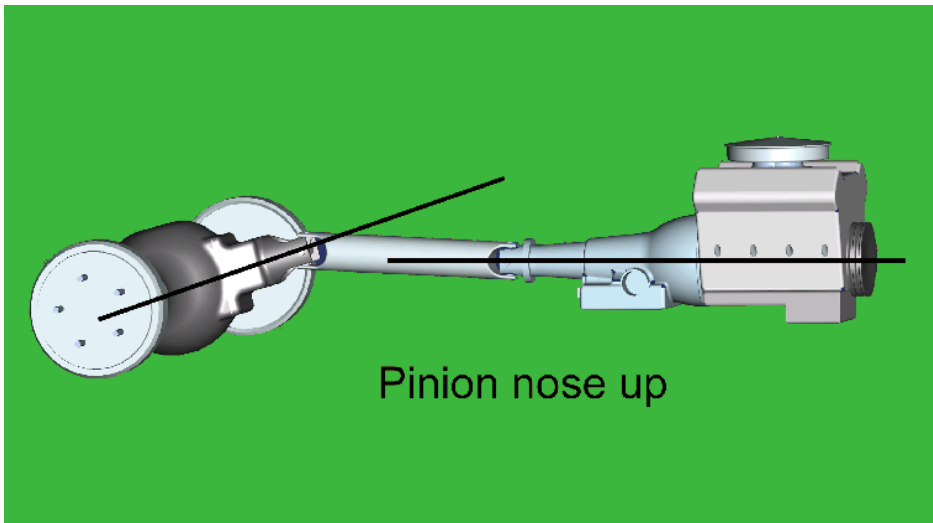
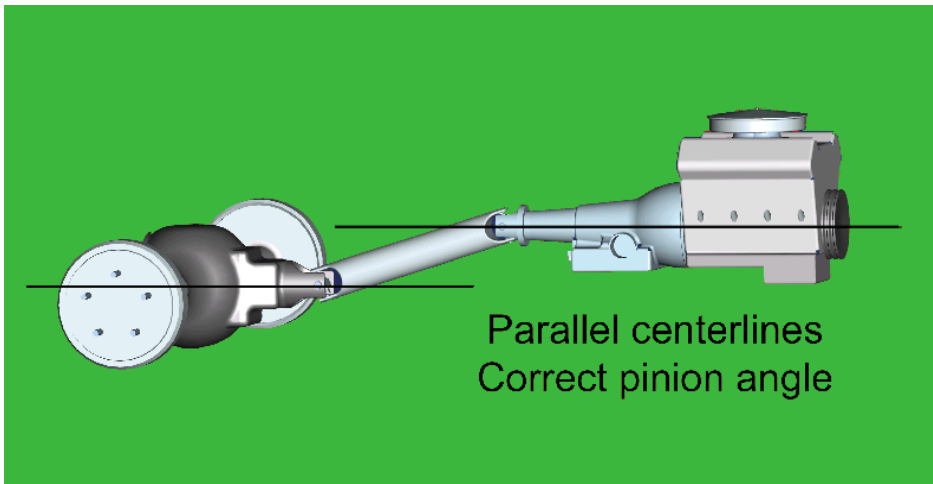
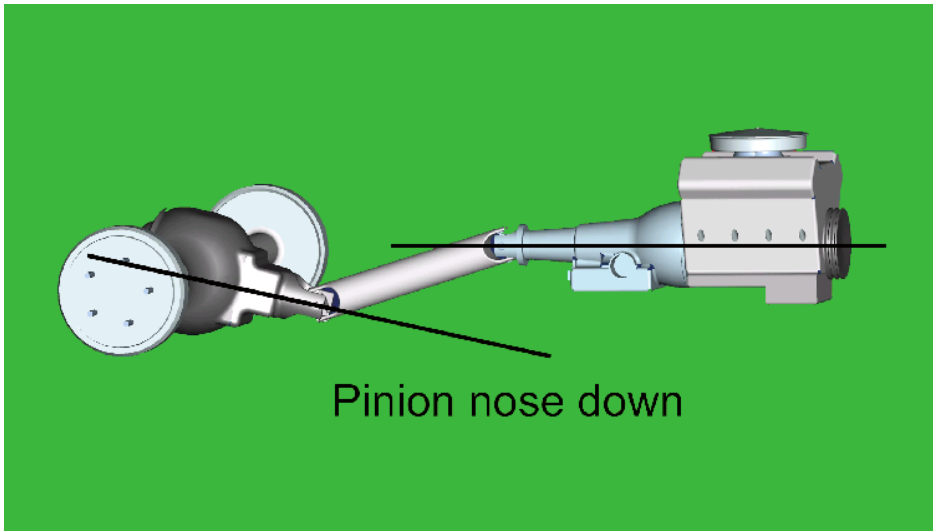
6. The location of the upper Shockwave mount is determined by measuring 20 1/4" from the edge of the bracket to rear edge of the large hole in the bottom of the frame.



7. Use a clamp to hold the bracket against the inside of the frame and drill the holes with a 5/16" bit. Thread a 3/8" x 1" self-tapping bolt into the frame after drilling each hole.

8. Note there is a driver and passenger side bracket and are stamped accordingly. When using the correct bracket the Shockwave will perpendicular with the ground.





9. How do you set the pinion angle? On a single-piece shaft you want to set it up where a line drawn through the center of the engine crankshaft or output shaft of the transmission and a line drawn through the center of the pinion are parallel to each other but not the same line.

Your transmission angle should be around 3 degrees down in the rear. If it is more or less than 3 degrees, you might want to consider changing it. Too little angle on the transmission reduces the amount of oil getting to the rear bushing. Too much transmission angle will increase the working angles of the u-joints which will increase the wear. With the transmission at 3 degrees down in the rear, you will want to set the pinion 3 degrees up in the front.

A simple way to do this is to place a digital angle finder or dial level on the front face of the lower engine pulley or harmonic balancer. This will give you a reading that is 90 degrees to the crank or output shaft unless you have real problems with your balancer. At the other end, you can place the same level or angle finder against the front face of the pinion yoke that is also at 90 degrees to the centerline. If you rotate the yoke up or down so both angles match, you have perfect alignment.

Road testing will tell you if you have it right. If you accelerate and you get or increase a vibration, then the pinion yoke is too HIGH. Rotate it downward in small increments of a degree or two until the problem goes away. If you get or increase a vibration when decelerating, then the pinion yoke is too LOW. Rotate it upward to correct it.



10. Pinion angle must be set at ride height. At ride height there should be 4 1/2" between the axle and frame.

11. One trick to help maintain these setting while welding in the axle bracket is to tack weld a 4 1/2" long spacer between the axle and frame.

12. After setting the pinion angle, make sure the axle is centered. This can done by measuring from the axle flange in to the frame rail.



13. Insert the R-Joint spacers into the R-joint with the small OD inserted into the R-Joint center pivot. Install the 4 link bars into the crossmember and axle bracket. Use the 5/8" x 2 3/4" bolts and nyloks supplied. Check the length of the bars; they should be 18 1/2" C-C.

14. There is a driver and passenger side bracket. The passenger side bracket has the diagonal link bracket welded to it. These rod ends will use a 3" bolt. You can use a large hose clamp to hold these in place temporarily.



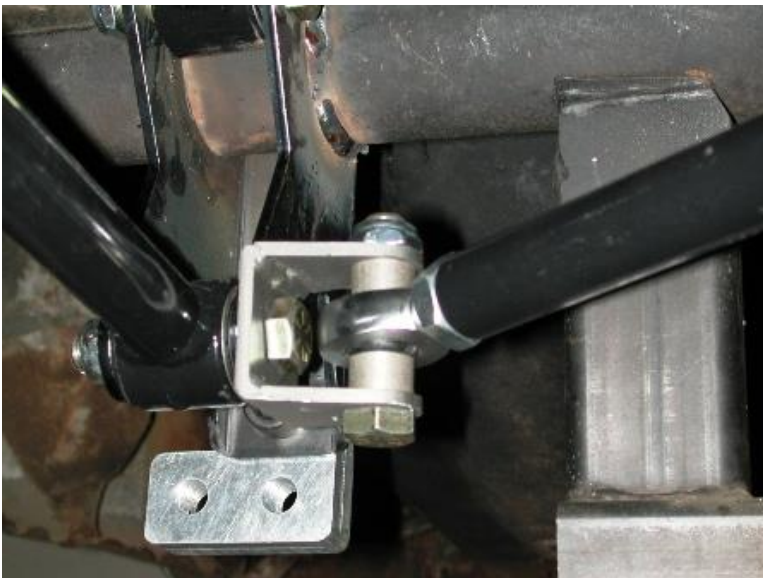
15. Swing the axle bracket up to the axle. These brackets must be centered and aligned with the crossmember mounts before welding. The brackets should be 31 5/8" apart on the outside measurement. Then just center it between the axle flanges.

16. Tack weld the bracket to the axle. Double-check axle center, bracket alignment, and pinion angle. Remove the bars to avoid frying the bushings. Then finish welding the bracket 1" at a time in different spots to avoid warping the axle.



17. Bolt the lower Shockwave mount to the axle bracket using the  $\frac{1}{2}$ "-20" x  $\frac{3}{4}$ " Hex Head Bolt. Apply anti-seize to the threads. It is easier to remove the bars to install these bolts.

18. There is a driver and passenger side bracket; the correct bracket will offset the Shockwave toward the wheel.



19. Insert the R-Joint spacers into the R-joint with the small OD inserted into the R-Joint center pivot. Bolt the diagonal link into place using a  $\frac{5}{8}$ " x  $2\frac{3}{4}$ " bolt and nylok. It should measure  $30\frac{1}{4}$ " C-C.

20. Install the parking brake cable into the new tab on the cross member.

21. With the axle at ride height snug all the 4 link bolts. These bushings are rubber and do not require lubrication.



22. Apply thread sealant onto the air fitting and screw it into the top of the shockwave. Air fitting location can be moved by rotating the bellows assembly separate from the shock.

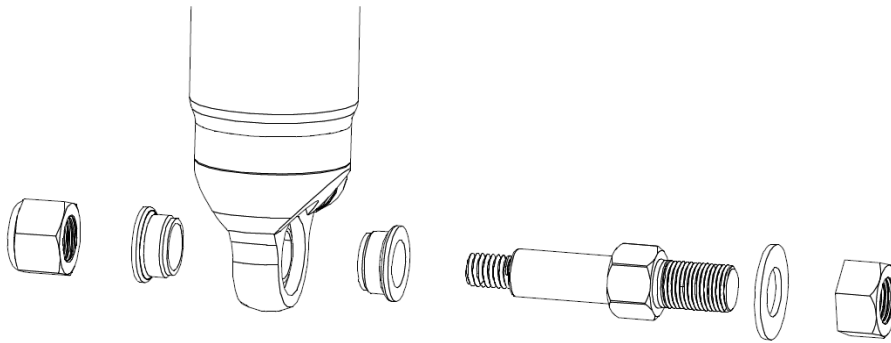
23. Screw the stud into the lower billet mount. Place the washer over the stud then the Shockwave followed by another washer. Apply anti-seize to the threads and then nylok nut.

24. The Shockwave/CoilOver is held to the upper mount using a  $\frac{1}{2}$ " x  $2\frac{1}{4}$ " bolt and nylok.



**25. Remove the spacer from between the axle and frame.**

26. A new brake line tab is supplied and will mount just below the original. Make sure it clears the bar through full suspension travel.



**27. Driving height will be with approximately 13" from center eye to center eye.**





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**Part # 11016510**  
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For Use w/ AirBar

**Shock Assembly:**

|   |          |                                 |
|---|----------|---------------------------------|
| 2 | 24149999 | 4.1" stroke HQ Series shock     |
| 2 | 90002024 | 1.7" eyelet – w/Adjustment knob |
| 4 | 90001994 | .625" I.D. bearing              |
| 8 | 90001995 | Bearing snap ring               |

**Components:**

|   |          |  |
|---|----------|--|
| 2 | 59100200 | Coil spring – 10" long / 200 # rate                    |
| 2 | 90002222 | Spring retainer kit (do not use upper spring retainer) |
| 2 | 90002070 | ¾" drop upper spring retainer                          |
| 4 | 90002043 | Aluminum spacer for upper bearing                      |
| 4 | 70010828 | Delrin Spring Washer                                   |

**Ride Height**

We have designed most cars to have a ride height of about 2" lower than factory. To achieve the best ride quality & handling, the shock absorber needs to be at 40-60% overall travel when the car is at ride height. This will ensure that the shock will not bottom out or top out over even the largest bumps. Measuring the shock can be difficult, especially on some front suspensions. Measuring overall wheel travel is just as effective and can be much easier. Most cars will have 4-6" of overall wheel travel. One easy way to determine where you are at in wheel travel is to take a measurement from the fender lip (center of the wheel) to the ground. Then lift the car by the frame until the wheel is just touching the ground, re-measure. This will indicate how far you are from full extension of the shock. A minimum of 1.5" of extension travel (at the wheel) is needed to ensure that the shock does not top out. If you are more than 3" from full extension of the shock then you are in danger of bottoming out the shock absorber.

**Adjusting Spring Height**

When assembling the CoilOver, screw the spring retainer tight up to the spring (0 preload). After entire weight of car is on the wheels, jounce the suspension and roll the car forward and backward to alleviate suspension bind.

- If the car is too high w/ 0 preload then a smaller rate spring is required. Although threading the spring retainer down would lower the car, this could allow the spring to fall out of its seat when lifting the car by the frame.
- If the car is too low w/ 0 preload, then preload can then be added by threading the spring retainer up to achieve ride height. On 2.6" - 4" stroke shocks, up to 1.5" of preload is acceptable. On 5-7" stroke shocks, up to 2.5" of preload is acceptable. If more preload is needed to achieve ride height a stiffer spring rate is required. Too much preload may lead to coil bind, causing ride quality to suffer.

## Assembly...



First using the supplied lower adjuster nut(90002222) thread the nut onto the shock from the bottom side as seen in figure 1



Next install delrin washers then coil spring over the top of the shock as seen in figure 2



Before the upper spring mount can be installed screw the adjuster knob on the upper eye mount to the firmest setting (clockwise) as seen in figure 3.



Slide the Derlin washer over the spring, Next slide the upper spring mount (90002222) over eyelet as seen in figure 4.



Install upper spring mount retainer clip (90002057) into the groove on the upper eyelet as seen in figure 5. Then reinstall adjuster to complete assembly.



The included set of bearing spacers (900002044) are used to adapt the coil-overs to just about any application. The supplied spacers allow the coil-overs to accept 5/8" or 1/2" bolts.

## Shock adjustment 101- Single Adjustable

### Rebound Adjustment:

How to adjust your new shocks.

The rebound adjustment knob is located on the top of the shock absorber protruding from the eyelet. You must first begin at the ZERO setting, then set the shock to a soft setting of 20.



-Begin with the shocks adjusted to the ZERO rebound position (full stiff). Do this by rotating the rebound adjuster knob clockwise until it stops.

-Now turn the rebound adjuster knob counter clock wise 20 clicks. This sets the shock at 20. (settings 21-24 are typically too soft for street use).

Take the vehicle for a test drive.



-if you are satisfied with the ride quality, do not do anything, you are set!



-if the ride quality is too soft increase the damping effect by rotating the rebound knob clock wise 3 clicks.

Take the vehicle for another test drive.



-if the vehicle is too soft increase the damping effect by rotating the rebound knob clock wise 3 additional clicks.

-If the vehicle is too stiff rotate the rebound adjustment knob counter clock wise 2 clicks and you are set!

Take the vehicle for another test drive and repeat the above steps until the ride quality is satisfactory.

Note:

One end of the vehicle will likely reach the desired setting before the other end. If this happens stop adjusting the satisfied end and keep adjusting the unsatisfied end until the overall ride quality is satisfactory.