



350 S. St. Charles St. Jasper, In. 47546  
Ph. 812.482.2932 Fax 812.634.6632

[www.ridetech.com](http://www.ridetech.com)

**Part # 11020298**  
**55-57 Chevy Air Suspension System**  
One Piece Frame

**Front Components:**

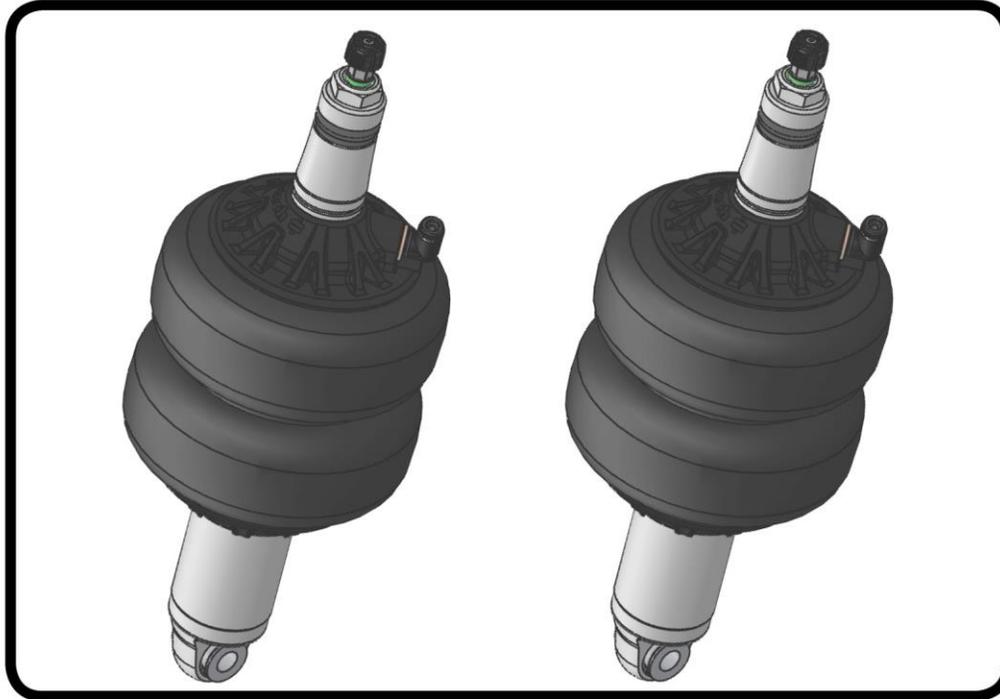
1	11013001	HQ Series Front Shockwaves
1	11012899	Front Lower StrongArms
1	11013699	Front Upper StrongArms
1	11019100	Front Muscle Bar

**Rear Components:**

1	11027199	Rear AirBar 4 Link
1	21140701	HQ Series Rear Shockwaves



**Part # 11013001 - 55-57 GM B-Body Front HQ Series Shockwave**



Recommended Tools



## 1000 Series Bellow, 2.00" Stud/Eye 4.1" Shock Installation Instructions

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Page 3..... Notes and Care of Your Shockwave

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### ShockWave Dimensions:

Center of bearing to Center of bearing:

Compressed: 11.00"

Ride Height: 13.10"

Extended: 14.50"

THE DELRIN BALL REQUIRES A 3/4" HOLE FOR THE FLANGE TO GO THROUGH. THIS CAN BE DRILLED WITH A UNIBIT.

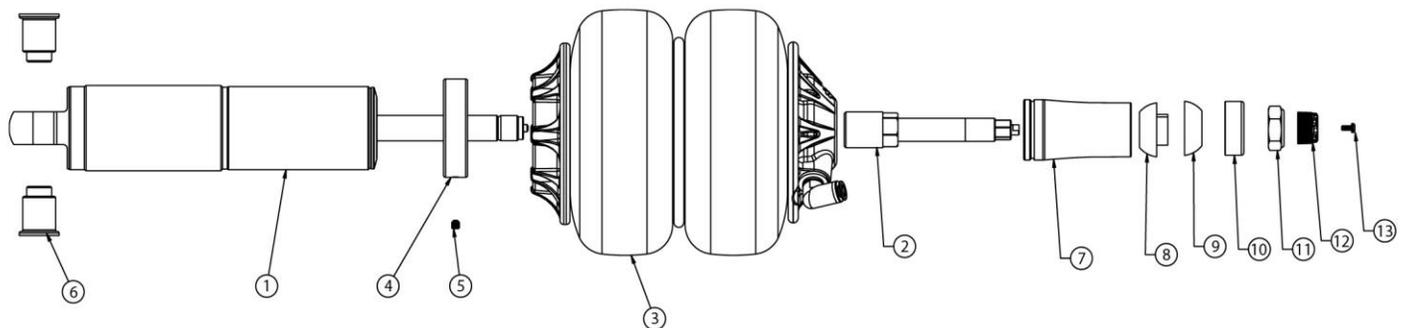
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### Major Components .....In the box

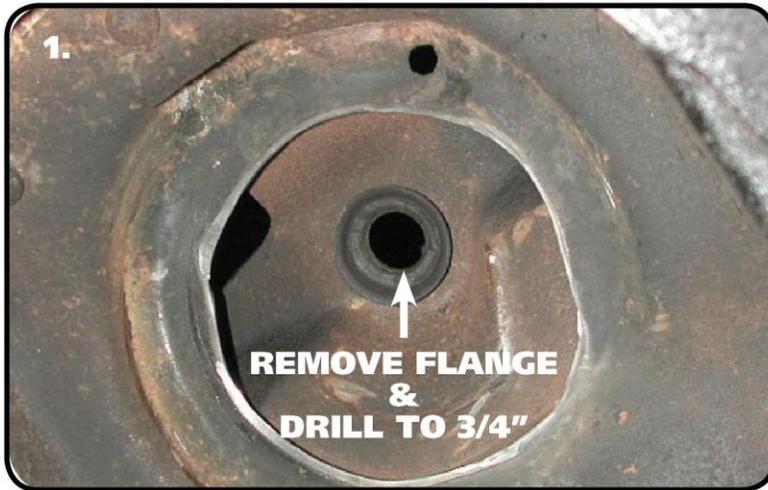
Item #	Part #	Description	QTY
1	24149999	4.1" Stroke HQ Series Shock	2
2	90009988	2.00" Stud Top (Installed on Shock) - Includes Adjuster Knob & Screw	2
3	24090199	1000 Series 6.5" Double Convoluted AirSpring	2
4	70010893	AirSpring Locking Ring (Installed on shock)	2
5	99055000	Locking Ring Set Screw (Installed on shock)	2
6	90002067	Spacers - INCLUDED WITH STRONGARMS	4
7	90002312	2.00" Aluminum Stud Top Base	2
8	90001904	Bottom Delrin Ball	2
9	90001903	Top Delrin Ball	2
10	90001902	Delrin Ball Aluminum Top Cap	2
11	99562003	9/16"-18 Thin Nylok Nut	2
12	90009972	Adjuster Knob - (90009988 assembly)	2
13	90009969	#4-40 X 1/4" SS, 18-8 Pan Head Torx Cap - (90009988 assembly)	2
	70012160	2.75" Stud Top Metering Rod (installed in stud top)	2
	90001994	5/8" ID Bearing (installed in shock and eyelet)	4
	90001995	Bearing Snap Ring (installed in shock and eyelet)	8



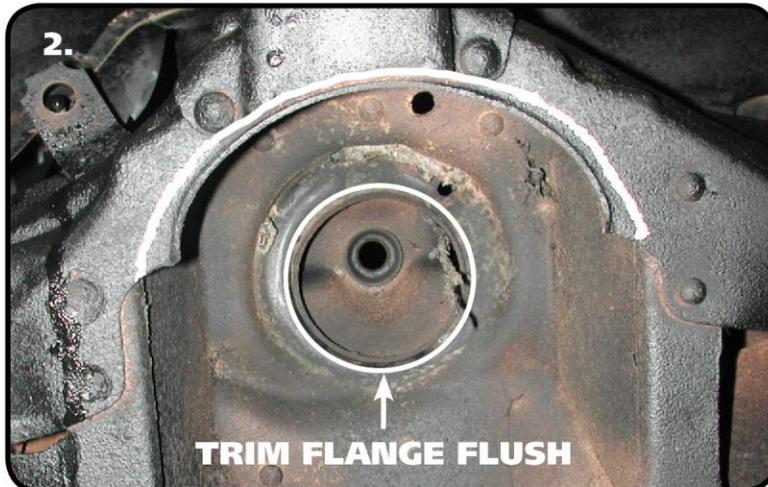
**THE DELRIN BALL REQUIRES A 3/4" HOLE FOR THE FLANGE TO GO THROUGH. THIS CAN BE DRILLED WITH A UNIBIT.**



### ShockWave Installation



1. Remove the OEM bushing flange by prying it out of the frame hole. After removing the flange, drill the OEM shock hole out to 3/4". This can be done with a Unibit.



2. Trim the coil spring location ring flush to prevent the ring from hitting the top of the ShockWave Air Spring. A die grinder with a cutoff wheels works well here.



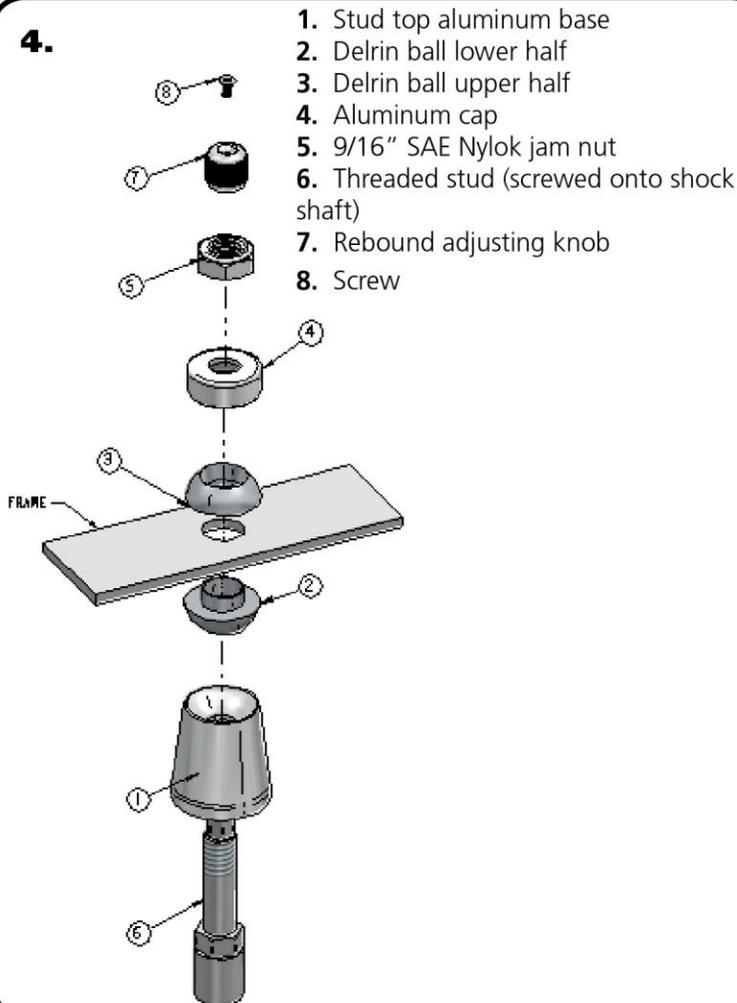
3. To allow clearance for the Shockwave, some trimming must be done on the outside edge of the coil spring pocket as shown by the white line in the picture. This is best done with either a cut off wheel or plasma cutter. Grind all cuts smooth when finished.

**Note:** It may be helpful to go ahead and install the lower StrongArms and Shockwaves to determine exactly what needs to be removed.



### ShockWave Installation

4.

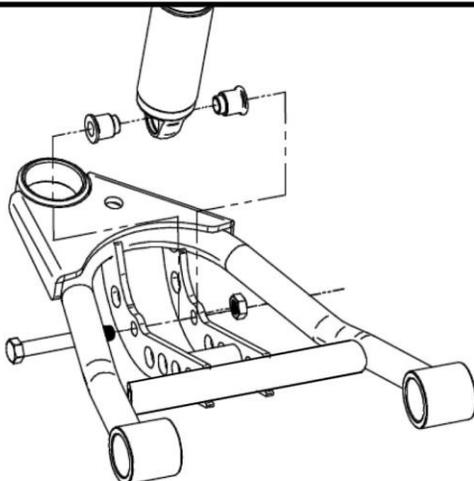


**Note:** The airline must also be routed at this time. It can be ran through the subframe toward the rear of the vehicle.

4. The air fitting location can be rotated by twisting the bellow assembly separate of the shock. Place the Shockwave into the coil spring pocket with the stud sticking through the OEM shock hole. See assembly **Diagram 4**. OEM Shock hole **must** be drilled out to  $\frac{3}{4}$ "

1. Stud top aluminum base
2. Delrin ball lower half
3. Delrin ball upper half
4. Aluminum cap
5. 9/16" SAE Nylok jam nut
6. Threaded stud (screwed onto shock shaft)
7. Rebound adjusting knob
8. Screw

5.



5. Raise the lower arm up to the Shockwave and bolt them together using the  $\frac{1}{2}$ " x  $3\frac{1}{4}$ " bolt and Nylok supplied w/ the lower arms. An aluminum spacer will be on each side of the bearing. Torque to 75 ftbs.

6. Raise the lower control arm to full compression and double-check to make sure the Shockwave does not rub on anything at any-time. Allowing the Shockwave to rub on anything will cause failure and is not a warrantable situation.

7. The best ride quality will occur around 50-60% suspension travel; depending on vehicle weight this typically occurs around 85-100 psi.



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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
1pr	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

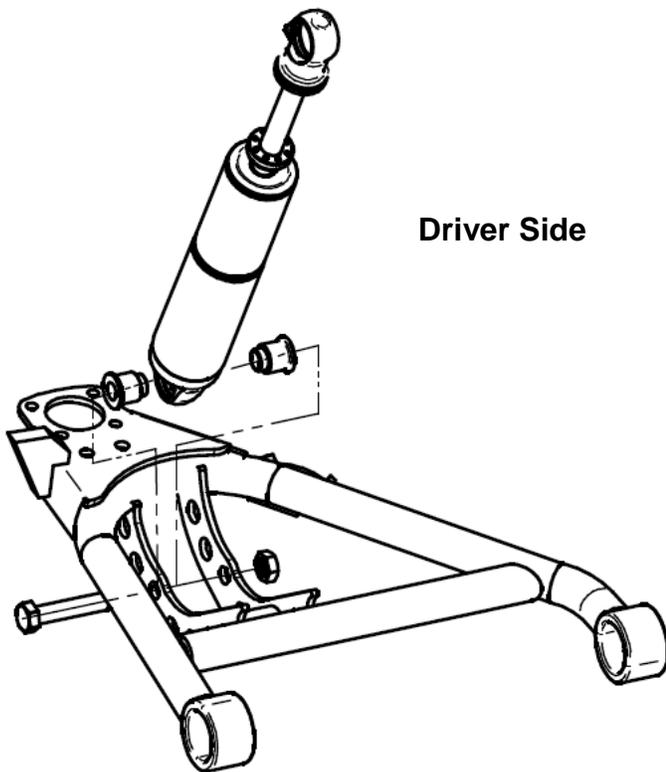
# STRONG ARMS™

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.

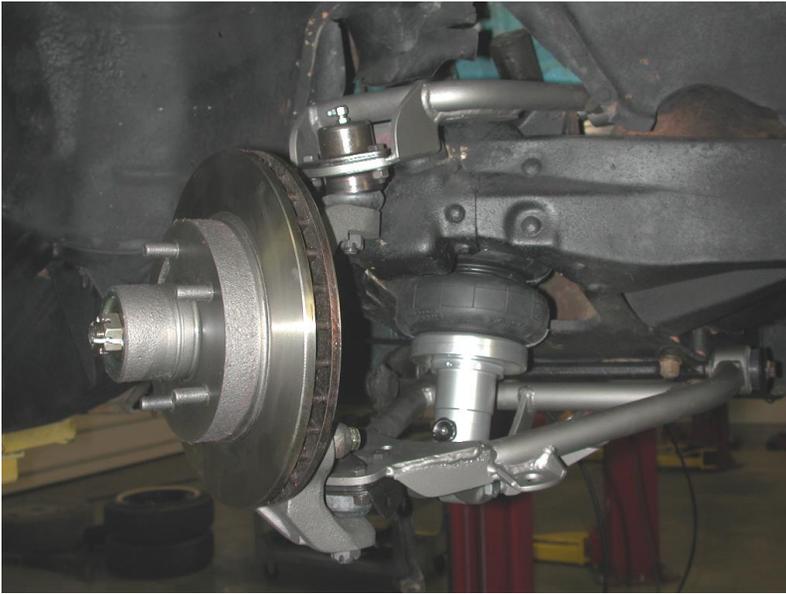


Driver Side

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.

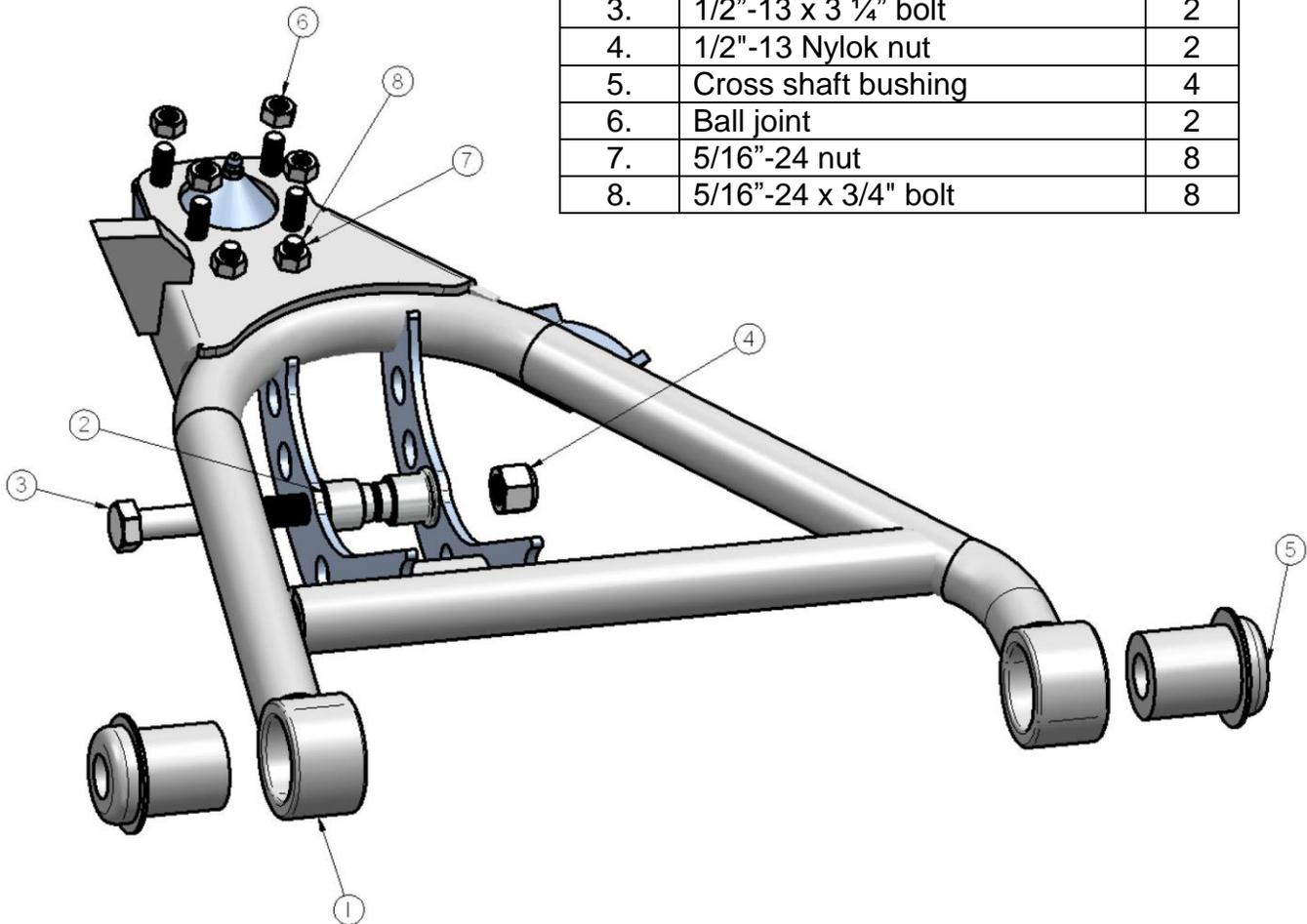
**Note:** There are holes on the lower arm near the ball joint to mount the factory bump stop. Although, it is not needed unless you are having tire clearance issues.

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

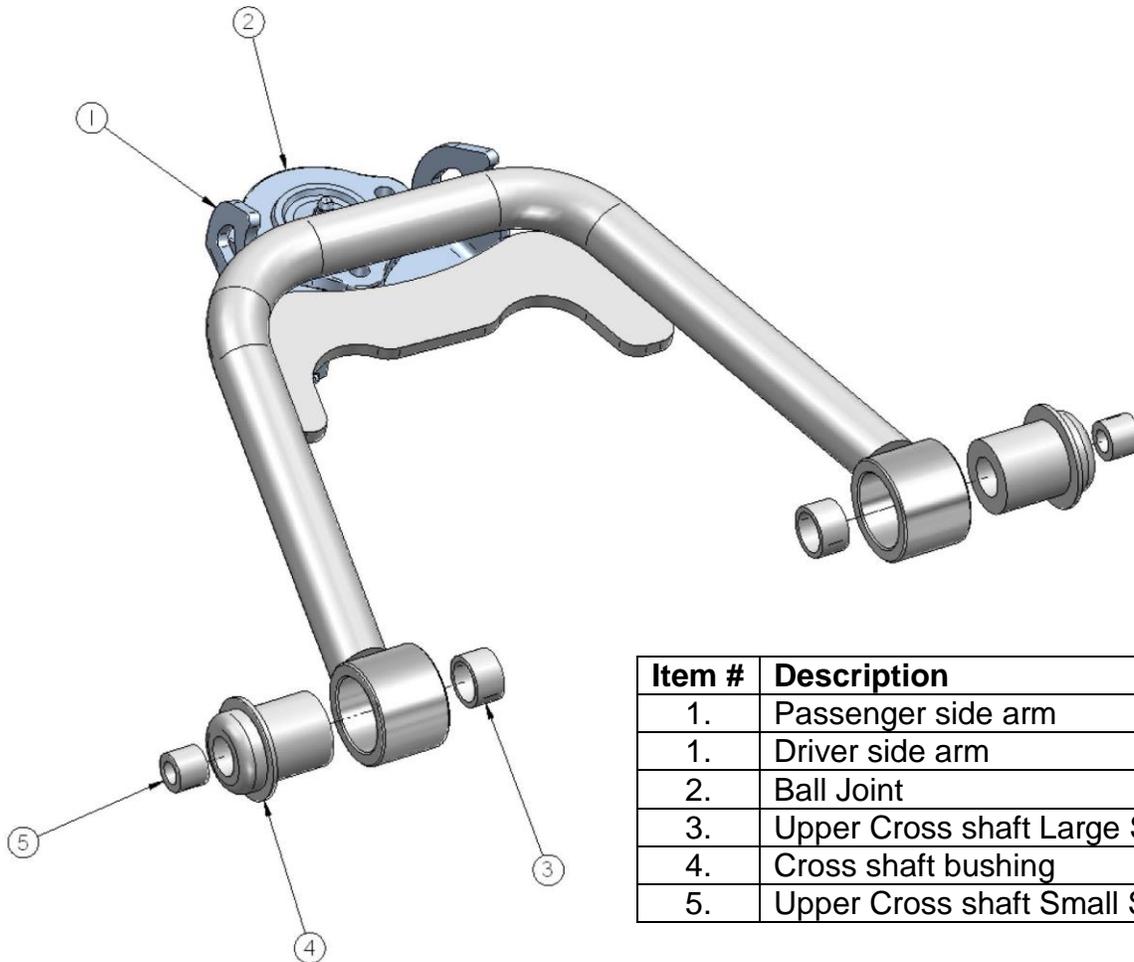
**Hardware:**

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

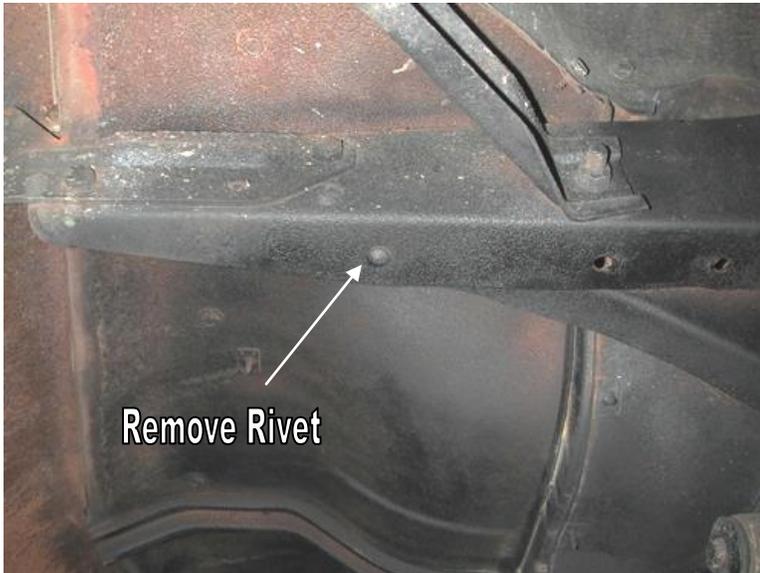
**POSI** • *Link*™

**MUSCLEbar**™

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

## 11019100 Installation Instructions

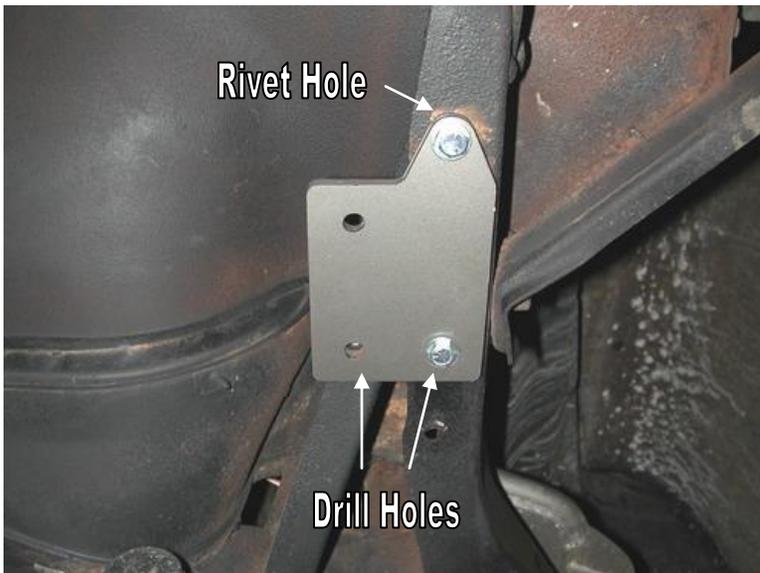
55-56



**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
4	90000552	Heim end spacer for diagonal bar
1	90000550	Lower shockwave mount
1	90000551	Lower shockwave mount
8	90001942	Pressed into bars
4	90000956	Parallel Bars C-C 18.50"
1	90000941	Diagonal bar C-C 30.25"
2	90001617	5/8" Shock studs
1	90000266	Brake line tab
4	90001584	Rod end
2	90001589	Heim end for Diagonal link
6	99752004	3/4"-16 Hex jam nut for rod ends
4	90002067	Aluminum spacer – lower shock bearing

**Hardware Kit Part # 99010019:**

4	1/2" x 3/4" Gr. 8 bolt	Lower Shockwave Mount
10	5/8" SAE Gr.8 Nyloc Jam nut	Bar ends
8	5/8" x 2 3/4" SAE Grade 8 bolt	Bar ends
2	5/8" x 3" SAE gr.8 bolt	Bar ends with diagonal link mounts
2	1/2" x 2 1/4" SAE bolt	Upper Shockwave mount
2	1/2" SAE Nyloc jam nut	Upper Shockwave mount
20	3/8" x 1" type F thread forming bolt	Crossmember and upper Shockwave mount
20	3/8" Lock washer	Crossmember and upper Shockwave mount
2	#10 x 3/4" Tek screws	Brake line bracket

# **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.

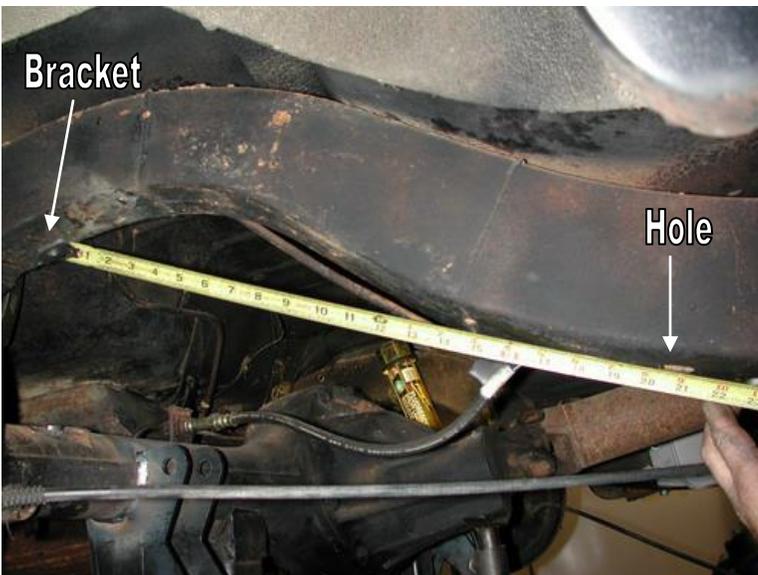


4. The rear brake line bracket on the passenger side frame rail must also be removed.



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.**

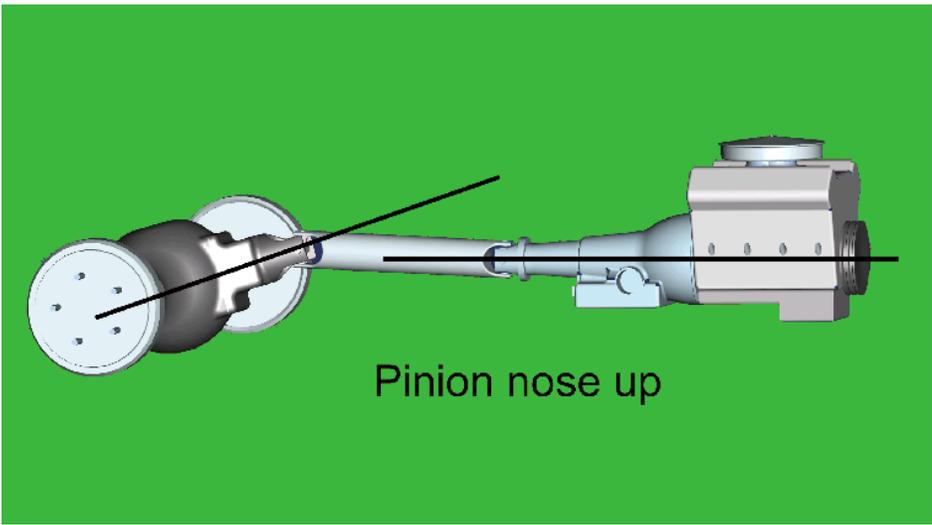
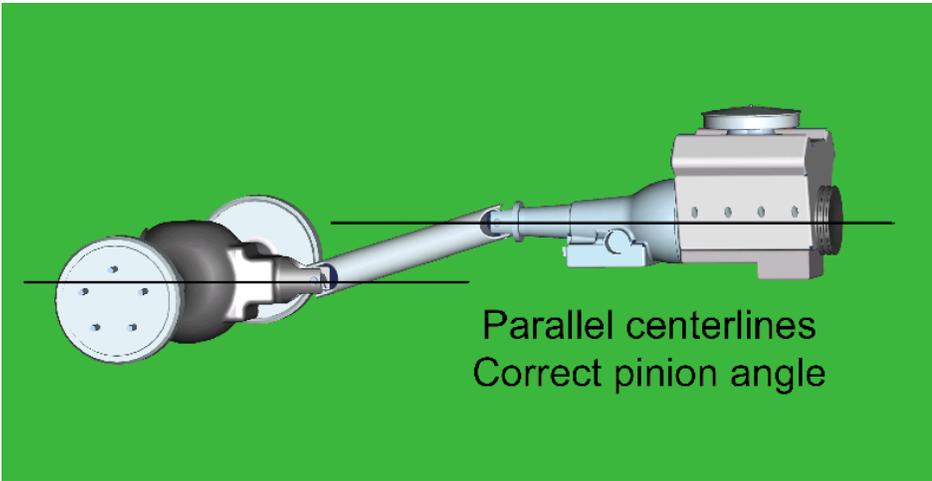
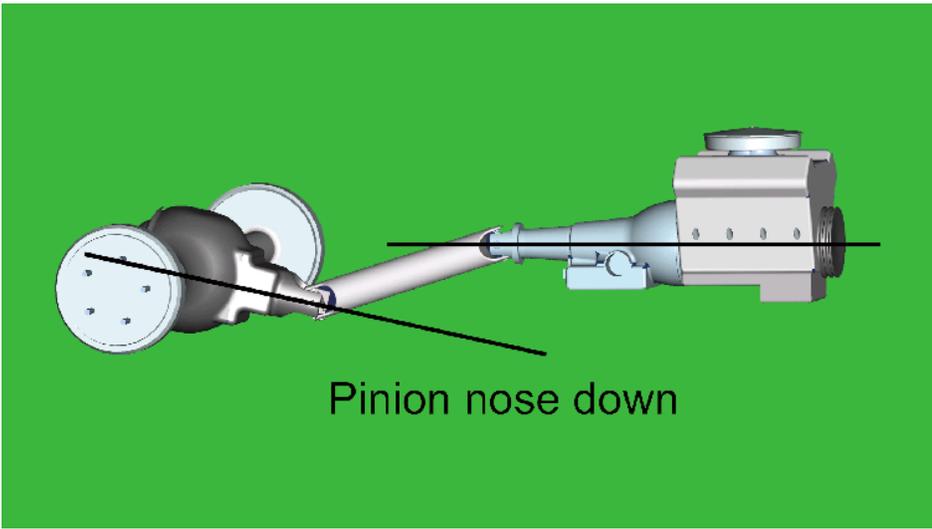


6. The location of the upper Shockwave mount is determined by measuring 20 1/4" from the edge of the bracket to the large hole in the bottom of the frame.



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 be 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. Install the 4 link bars into the crossmember and axle bracket, but **do not tighten the bolts yet**. Use the 5/8" x 2 3/4" bolts and nylocs 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.



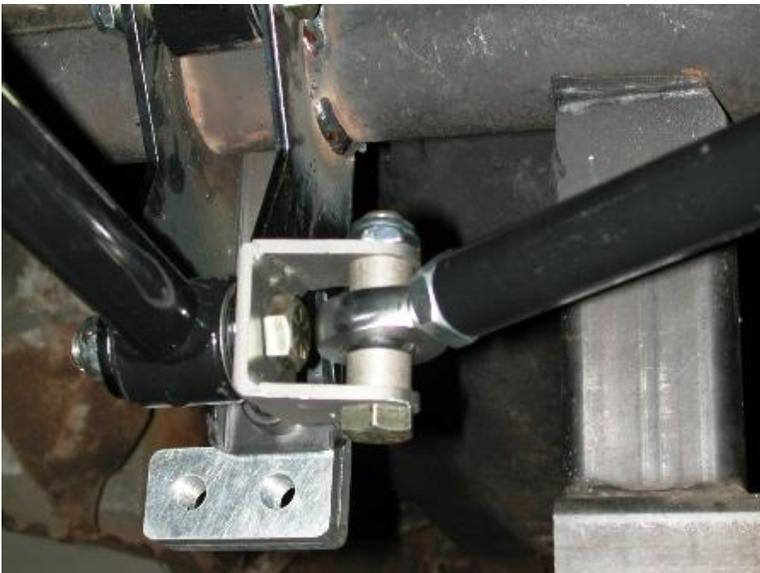
15. Swing the axle bracket up to the axle. These brackets must be centered and aligned with the crossmember mounts before welding. The brackets should be 31 5/8" apart on the outside measurement. Then just center it between the axle flanges.

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 5/8" x 3/4" Allen 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. Bolt the diagonal link into place with a spacer on both sides of it using a 5/8" x 2 3/4" bolt and nyloc. It should measure 30 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.

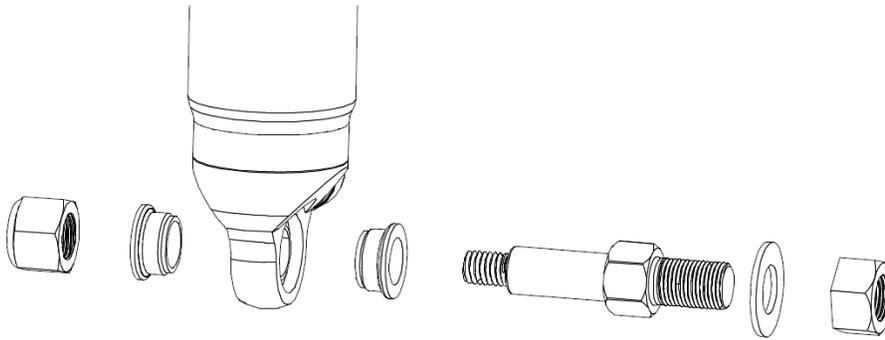
23. Screw the stud into the lower billet mount. Place the washer over the stud then the Shockwave followed by another washer. Apply anti-seize to the threads and then nyloc nut.

24. The Shockwave/CoilOver is held to the upper mount using a 1/2" x 2 1/4" bolt and nyloc.

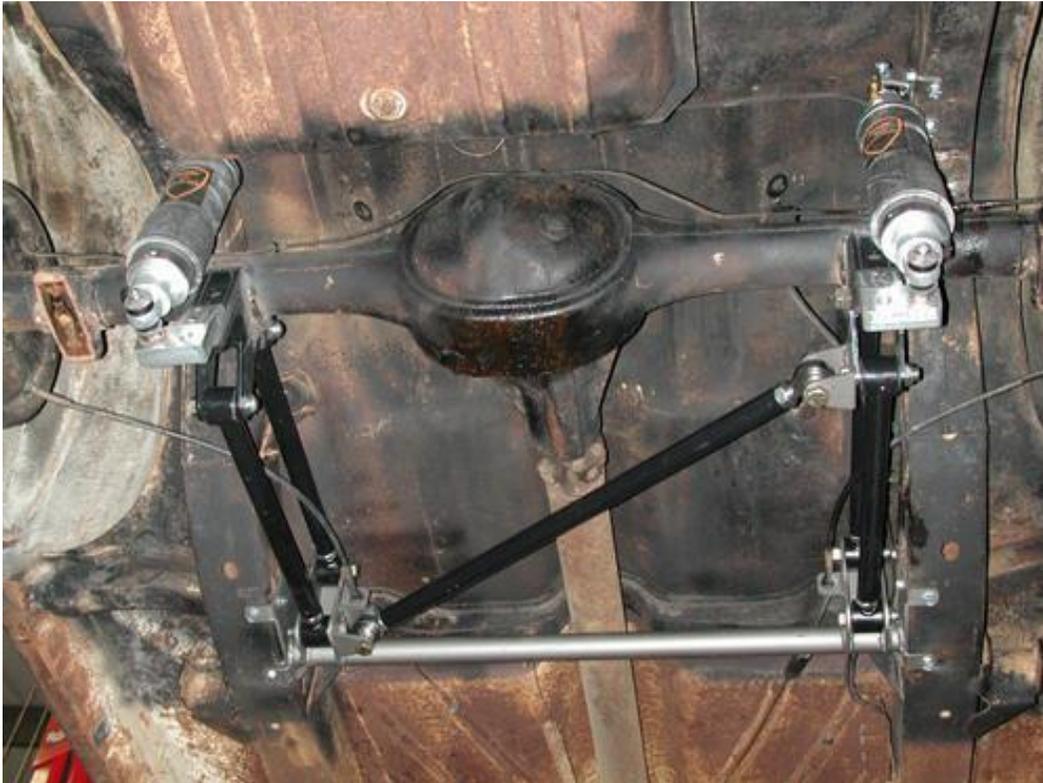


**25. Remove the spacer from between the axle and frame.**

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.



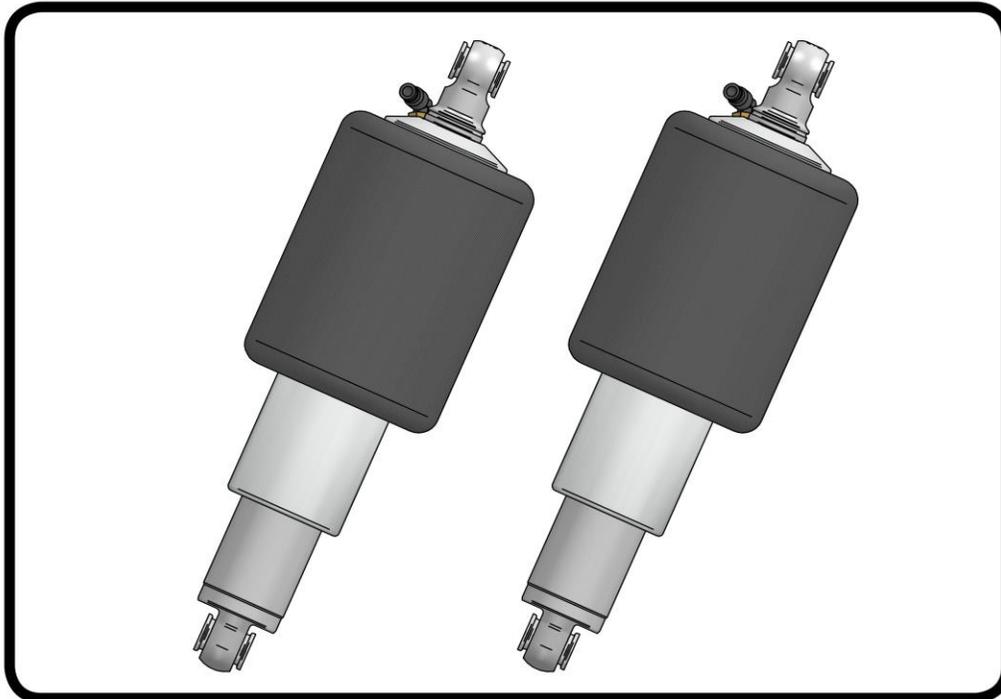
27. Driving height will be with approximately 13" from center eye to center eye.





### Part # 21140701 - 4.1" Stroke HQ Series Shockwave

#### Recommended Tools



## 7000 Series Bellow, Eye/Eye 4.1" Shock Installation Instructions

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- Page 4..... Shock Adjustment

#### ShockWave Dimensions:

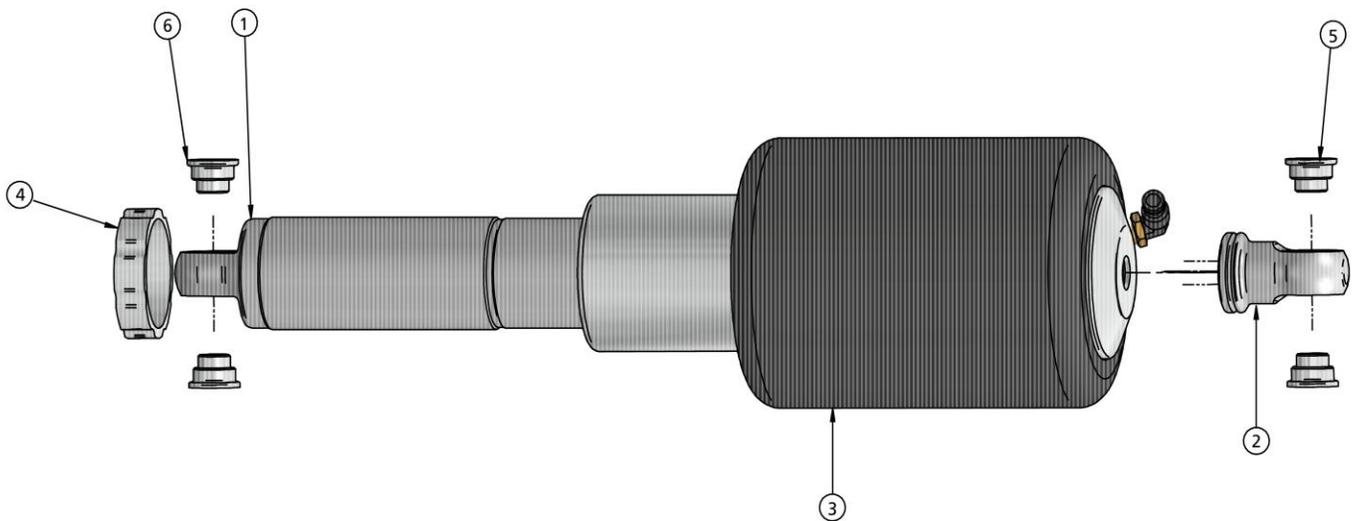
Center of bearing to Center of bearing:	
Compressed:	10.75"
Ride Height:	12.75"
Extended:	14.25"





### Major Components .....In the box

Item #	Part #	Description	QTY
1	24149999	4.1" Stroke HQ Series Shock	2
2	90002024	Shock Eyelet	2
3	24090799	7000 Series, 4" Diameter AirSpring	2
4	70010893	AirSpring Locking Ring (Installed on Shock)	2
5	90002044	Spacer kit - 1/2" ID and 5/8" ID	4
	90001994	5/8" ID Bearing (installed in shock and eyelet)	4
	90001995	Bearing Snap Ring (installed in shock and eyelet)	8





### Notes and Care of your Shockwaves

#### NOTES:

You can clock the airfitting location on the ShockWave by turning the AirSpring assembly of the shock.

The threads on the fittings need to have thread sealant applied to seal properly.

When cutting the airline, use a razor blade. The cut needs to be a clean cut and square for the airline to seal properly.

The Locking ring on the shock is **NOT** adjustable. These rings are set at the factory to optimize the Air-Spring stroke with the shock stroke.

### The care and feeding of your new ShockWaves

1. Although the ShockWave has an internal bumpstop, **DO NOT DRIVE THE VEHICLE DEFLATED RESTING ON THIS BUMPSTOP. DAMAGE WILL RESULT.** The internal bumpstop will be damaged, the shock bushings will be damaged, and the vehicle shock mounting points may be damaged to the point of failure. This is a non warrantable situation.
2. Do not drive the vehicle overinflated or "topped out". Over a period of time the shock valving will be damaged, possibly to the point of failure. This is a non warrantable situation! If you need to raise your vehicle higher that the ShockWave allows, you will need a longer unit.
3. The ShockWave is designed to give a great ride quality and to raise and lower the vehicle. **IT IS NOT MADE TO HOP OR JUMP!** If you want to hop or jump, hydraulics are a better choice. This abuse will result in bent piston rods, broken shock mounts, and destroyed bushings. This is a non warrantable situation.
4. Do not let the ShockWave bellows rub on anything. Failure will result. This is a non warrantable situation.
5. The ShockWave product has been field tested on numerous vehicles as well as subjected to many different stress tests to ensure that there are no leakage or durability problems. Failures have been nearly nonexistent unless abused as described above. If the Shockwave units are installed properly and are not abused, they will last many, many years. ShockWave units that are returned with broken mounts, bent piston rods, destroyed bumpstops or bushings, or abrasions on the bellows will not be warrantied.



### Shock Adjustment

#### 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. **CONTINUE ON NEXT PAGE.**

##### 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.**

### STILL HAVE QUESTIONS?

#### Tech line hours

Monday - Friday

8AM - 6PM (EST) ..... 812-482-2932

[www.ridetech.com](http://www.ridetech.com)  
812-482-2932