



Part # 11130298
61-64 Buick Fullsize/63-65 Riviera
Air Suspension System

Front Components:

1 11132401 HQ Shockwave Kit

Rear Components:

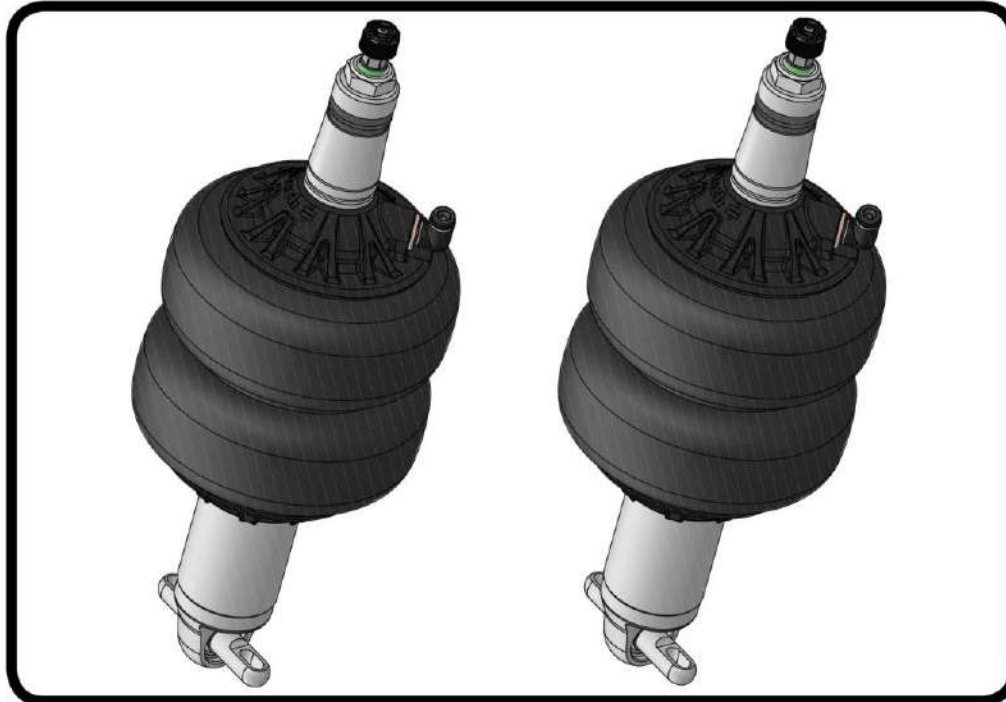
1 11134099 Rear CoolRide Kit for Stock Lower Arms

1 11130701 HQ Series Rear Shocks



Part # 11132401

61-64 Buick Full Size, 63-65 Riviera Front HQ Shockwave, OEM Control Arms



Recommended Tools



1000 Series Bellow, 2.75" Stud/Trunnion 2.9" Shock Installation Instructions

THE CONTROL ARMS NEED TO BE REINFORCED IN THE AREA THAT THE TRUNNION BOLTS TO.

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ShockWave Dimensions:

Mount to Mount:

Compressed: 10.35"

Ride Height: 11.75"

Extended: 12.65"

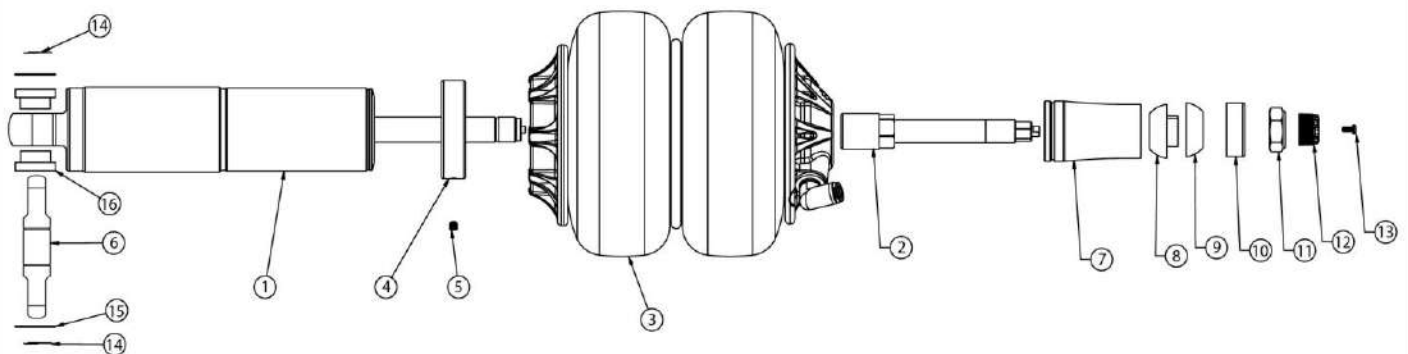
THE DELRIN BALL REQUIRES A 3/4" HOLE FOR THE FLANGE TO GO THROUGH. THIS CAN BE DRILLED WITH A UNIBIT.



Major ComponentsIn the box

THE CONTROL ARMS NEED TO BE REINFORCED IN THE AREA THAT THE TRUNNION BOLTS TO.

Item #	Part #	Description	QTY
1	24129999	2.9" Stroke HQ Series Shock	2
2	90009989	2.75" Stud Top (preassembled on Shock) - Includes Adjuster Knob & Screw	2
3	24090199	1000 Series 6.5" Double Convolute AirSpring	2
4	70010893	AirSpring Locking Ring (preassembled on shock)	2
5	99055000	Locking Ring Set Screw (preassembled on shock)	2
6	90001659	Buick Trunnion (preassembled in shock)	4
7	90002313	2.75" 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 - (90009989 assembly)	2
13	90009969	#4-40 X 1/4" SS, 18-8 Pan Head Torx Cap - (90009989 assembly)	2
14	90001634	Trunnion Locking Rings (preassembled in shock)	4
15	90009936	Trunnion/Bushing Shims (preassembled in shock)	4
16	70009554	Poly Bushing (preassembled in shock)	4
	70012161	2.75" Stud Top Metering Rod (preassembled in stud top)	2
	99311002	5/16" X 1 1/4" Hex Bolt	4
	99312003	5/16"-18 Nylok Nut	4
	99313002	5/16" SAE Flat Washer	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. Drill the OEM shock hole out to 3/4". This can be done with a Unibit.



2. Some trimming must also be done on the outside of the frame pocket to allow clearance for the Shockwave.

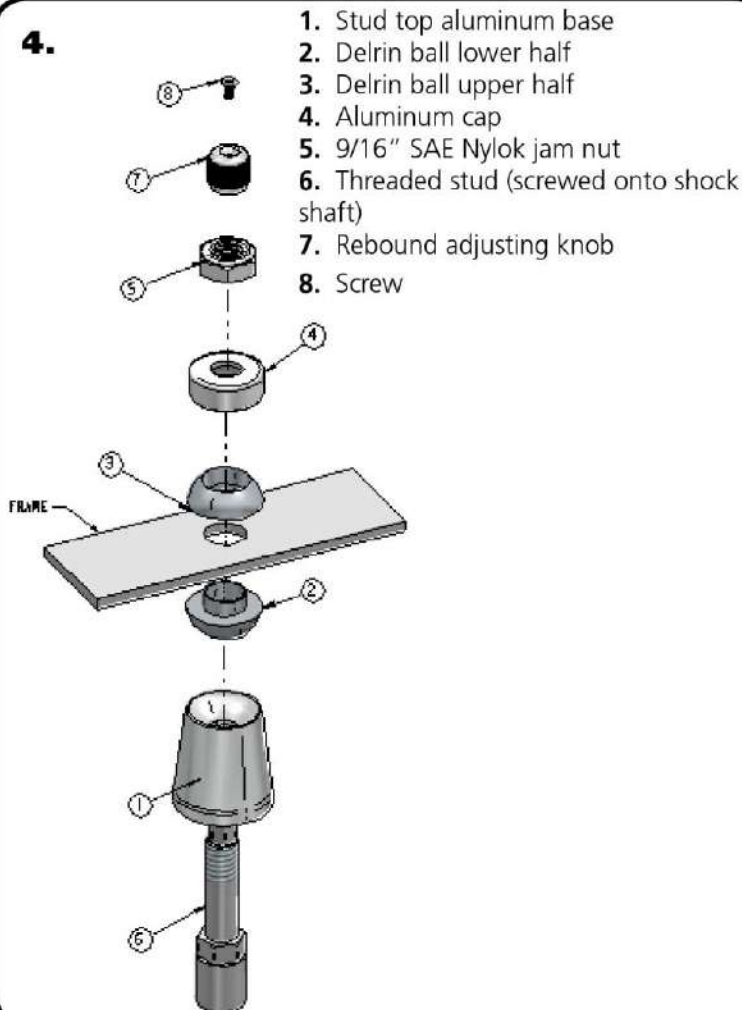


3. The upper plate of lower control arm must also be trimmed for Shockwave clearance.



ShockWave Installation

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

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

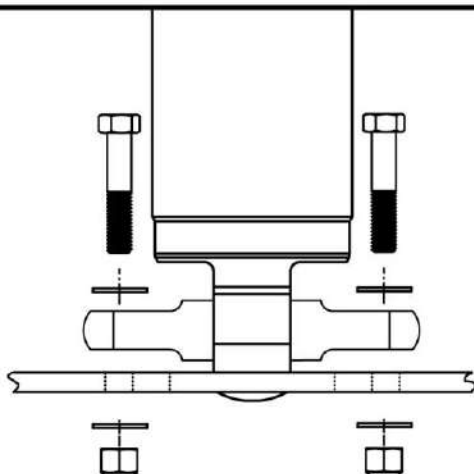
TIGHTENING THE TOP 9/16"-18 NUT: SNUG THE NUT DOWN AGAINST THE TOP CAP. YOU NEED TO BE ABLE TO ARTICULATE THE SHOCK BY HAND.

5. Raise the lower arm up to the Shockwave and bolt them together using the 5/16" x 1 1/4" Bolts, Washers, & Nylok Nuts supplied with the ShockWaves. Torque to 17 ftlbs.

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 90-100 psi.

5.





Installation Instructions



Notes and Care of your Shockwaves

NOTES:

WARNING: ATTEMPTING TO REMOVE THE AIR FITTING WILL DAMAGE IT AND VOID THE WARRANTY.

TIGHTENING THE TOP 9/16"-18 NUT: SNUG THE NUT DOWN AGAINST THE TOP CAP. YOU NEED TO BE ABLE TO ARTICULATE THE SHOCK BY HAND.

You can clock the airfitting location on the ShockWave by turning the AirSpring assembly of the shock. Make sure the fitting doesn't contact the frame.

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 AirSpring 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 than 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.



Part # 11130701
63-65 Buick Riviera & 61-64 LeSabre, Invicta
HQ Series

Shock:

2	22999999	HQ Series Shock Cartridge
4	70011138	3/4" ID Shock Bushing
2	90002103	5/8" ID Shock Sleeve
2	70011194	7/16" ID Shock Sleeve



Part # 11134099
63-65 Buick Riviera & 61-64 LeSabre, Invicta

Components:

2	90006873	Air spring – 8" diameter, double convoluted, 1/4" port
2	90000070	Lower air spring roll plate
2	90000291	Upper washer
2	90000298	Upper cup brackets (Tall)
2	90000299	Upper bracket cap (Short)
2	31954000	Straight Air Fitting

Hardware kit:

2	99371003	3/8" x 1" USS bolt	Air spring to axle
2	99373005	3/8" lock washer	Air spring to axle
6	99373003	3/8" SAE flat washer	Air spring mounts
4	99372002	3/8" USS Nylok nut	Air spring to upper cup bracket
2	99435002	7/16" x 8" stud	Upper cup bracket to frame
2	99432001	7/16" USS Nylok nut	Upper cup bracket to frame
2	99433002	7/16" flat washer	Upper cup bracket to frame

COOL RiDE®

by Air Ride Technologies

Installation Instructions

1. Raise and support vehicle at a safe and comfortable working height.
2. Support the axle then remove the coil spring and shock. Refer to service manual for proper disassembly procedure. The studs in the upper coil spring mount must be removed. To help keep the axle in place, do one side at a time.

***** For Use With RideTech Shock Kit *****



3. Apply thread sealant to a straight air fitting and screw it into the top of the air spring.

4. Place the upper cup (tall) on top of the air spring and fasten with two 3/8" Nyloc nuts and flat washers. Thread the 8" stud into the nut in the bottom of the cup. The upper cup cap (short) will sit on top with the flat plate on top. The airline must be routed at this time. The assembly will be secured to the upper coil spring mount with the large washer and a 7/16" Nyloc nut and flat washer as shown in the picture.



5. Place the lower air spring plate on top of the lower arm. Raise the axle up to the air spring and fasten with a 3/8" x 1" bolt, lock washer and flat washer.

6. Install the new shock absorbers.

7. Ride height on this air spring is approximately 5" tall. This may vary to driver preference.

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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 or stud top.

You must first begin at the ZERO setting, then set the shock to a street setting of 12.



-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 clockwise 12 clicks. This sets the shock at 12. (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 clockwise 3 clicks.

Take the vehicle for another test drive.



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

-if the vehicle is too stiff rotate the rebound adjustment knob counter clockwise 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.