



350 S. St. Charles St. Jasper, In. 47546

Ph. 812.482.2932 Fax 812.634.6632

www.ridetech.com

Part # 11240299

68-72 GM "A" Body Level 2 Complete Air Suspension System

Front Components:

1	11243001	HQ Series Front Shockwaves
1	11222899	Front Lower StrongArms
1	11223699	Front Upper StrongArms
1	11009300	RideTech Tall Spindles

Rear Components:

1	11225401	HQ Series Rear Shockwaves
1	11224499	Rear Lower StrongArms
1	11246699	Rear Upper StrongArms

Compressor System:

1	30334100	5 gallon LevelPro Compressor Kit
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Part # 11243001
68-72 GM "A" Body Front HQ Series Shockwaves
For Use w/ StrongArms & RideTech Spindles

ShockWave Assembly:

2	24090399	104mm Master Series rolling sleeve assembly
2	24139999	3.2" stroke HQ Series shock
2	90001994	.625" I.D. bearing
4	90001995	Bearing snap ring
2	90009988	Short Delrin stud top – 2"
2	70008913	Locking Ring

Components:

2	90002312	Short Delrin stud top base – 2"
2	90001902	Aluminum cap for Delrin ball
2	90001903	Delrin ball upper half
2	90001904	Delrin ball lower half
2	31954201	¼"npt x ¼" tube swivel elbows

Hardware:

2	99562003	9/16" SAE jam nut	Stud top hardware
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SHOCKwave[®]

by Air Ride Technologies

Installation Instructions



1. For air spring clearance some trimming must be done on the outer portion of the coil spring pocket. The amount of trimming necessary will vary from one car to another, it is best to install the Shockwave onto the lower arm and inflate the bellow. Check clearance throughout full suspension travel. **(Inflated diameter of this Shockwave is approximately 6.5")**

4. This is best done with a cut off wheel or plasma cutter. Make the cuts round, square corners will create a fracture point.

Allowing the shockwave will rub will result in failure, this is not a warrantable situation.

7. Apply thread sealant to a 90 degree air fitting and screw it into the top of the Shockwaves. The fitting location can be rotated by twisting the bellow while holding the shock body.

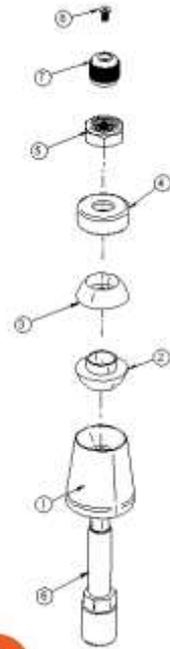
8. Place the Shockwave up into the coil spring pocket with the stud protruding through the factory shock hole. See assembly diagram on next page.

9. Fasten the Shockwave to the factory lower control arm using the 1/2" x 3 1/4" bolt, Nylok nut & aluminum spacers supplied w/ the StrongArms.

13. The best ride quality will occur around 50-60% suspension travel; depending on vehicle weight this typically occurs around 100-110 psi.



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



SHOCKwave[®]
by Air Ride Technologies

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.**



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Part # 11222899

64-72 GM "A" Body Front Lower StrongArms

For Use w/ Shockwaves or CoilOvers

Components:

1	90000636	Driver side lower arm
1	90000637	Passenger side lower arm
2	90000898	Ball joint (includes boot, grease fitting, castle nut & cotter pin)
4	90000516	Inner bushing sleeve - .5" I.D. x .75" O.D. x 2.375" long
8	70010759	Delrin bushing half – 1.5" O.D.
4	90002062	Aluminum spacers – shock to lower arm

Hardware:

2	99501024	½-13 x 3 ¼" Gr.5 bolt	Shockwave to lower arm
4	99501005	½"-13 x 3 ½" Gr. 5 bolt	Lower arm to frame
6	99502001	½"-13 Nylok nut	Shockwave to lower arm / Lower arm to frame

STRONG ARMS™

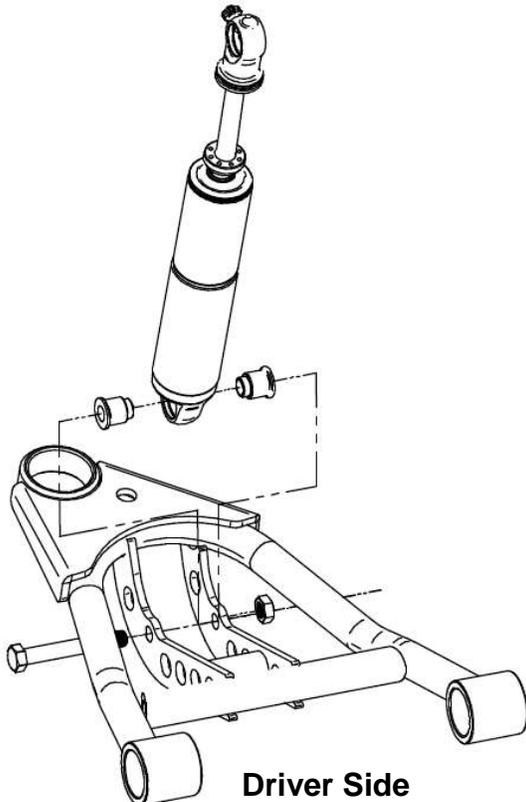
by Air Ride Technologies

Installation Instructions



1. After removing the factory lower control arm, clean the bushing mounting surfaces on the frame and lubricate with lithium grease.
2. Fasten the lower arm to the frame with the $\frac{1}{2}$ " x $3 \frac{1}{2}$ " bolts and Nylok nuts supplied.

Note: On some cars the frame brackets may be pinched and will need to be spread back apart to allow bushing to slide in.

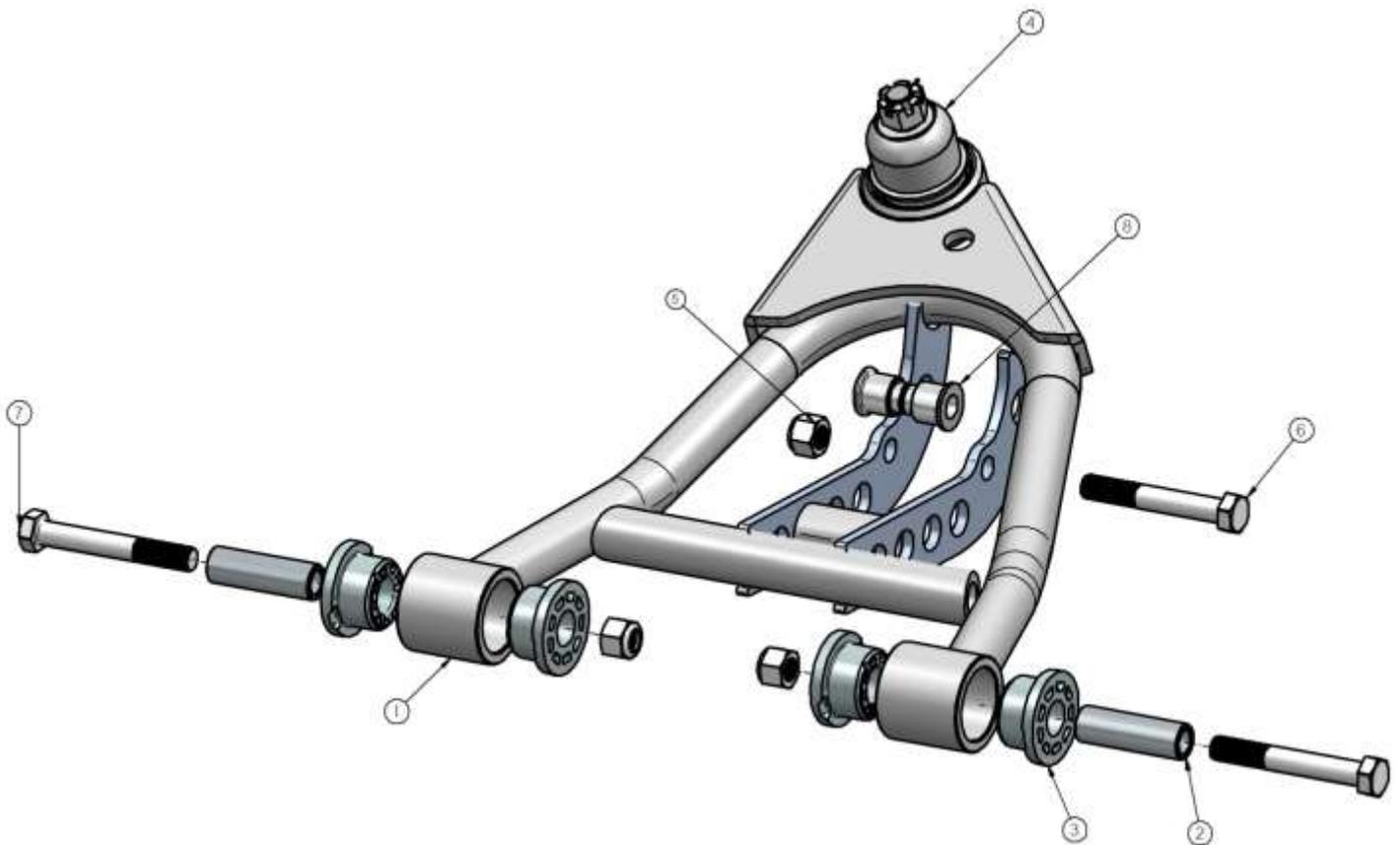


3. Swing the lower StrongArm up to the Shockwave and secure with the $\frac{1}{2}$ " x $3 \frac{1}{4}$ " bolt and Nylok nut, an aluminum spacer must be installed on each side of the bearing.
4. Slide the ball joint boot over the stud, then push the stud up through the spindle. Secure w/ the new castle nut and cotter pin supplied.
5. Grease the ball joints.

STRONG ARMS™

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Item #	Description	Qty.
1.	Passenger side arm	1
1.	Driver side arm	1
2.	Inner bushing sleeve	4
3.	Delrin bushing half	8
4.	Ball joint	8
5.	1/2"-13 Nylok Nut	6
6.	1/2"-13 x 3 1/4" bolt	2
7.	1/2"-13 x 3 1/2" bolt	4
8.	Aluminum bearing spacer	4





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Part # 11223699

64-72 GM "A" Body Upper StrongArms

Components:

1	90002388	Drivers side arm
1	90002389	Passenger side arm
2	90000908	Ball joint (includes boot, grease fitting, castle nut & cotter pin)
2	90000914	Caster Adjustable Cross shaft
2	70010826	Delrin Bushing – no ledge
2	70010827	Delrin Bushing – small ledge
4	70010759	Delrin Bushing – outer
4	70010883	Zero Offset Caster Slugs

Hardware:

4	99163001	Stainless Washer	Cross shaft to bushing
4	99622005	5/8" SAE crimp locking nuts	Cross shaft to bushing

STRONG ARMS™

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1. On some cars, to remove the upper control arm you must remove the bolts, which are pressed into the frame. We made this slide hammer adapter (a nut with a piece of angle iron welded to it) to aid in removing the bolts.

2. Fasten the upper arm to the frame using the factory hardware. Reinstall the current alignment shims, but **vehicle must be realigned**. This arm was designed with an extra 2 degrees of positive caster with the centered caster slugs. Additional caster slugs are available if more or less caster is desired. By changing the caster slugs you can achieve the caster setting you are wanting without having to run a lot of shims. Caster is explained on the next page.



3. Drop ball joint down through upper arm. Slide ball joint boot over stud, then place boot retainer over the boot. Clamp assembly tight w/ the hardware supplied.

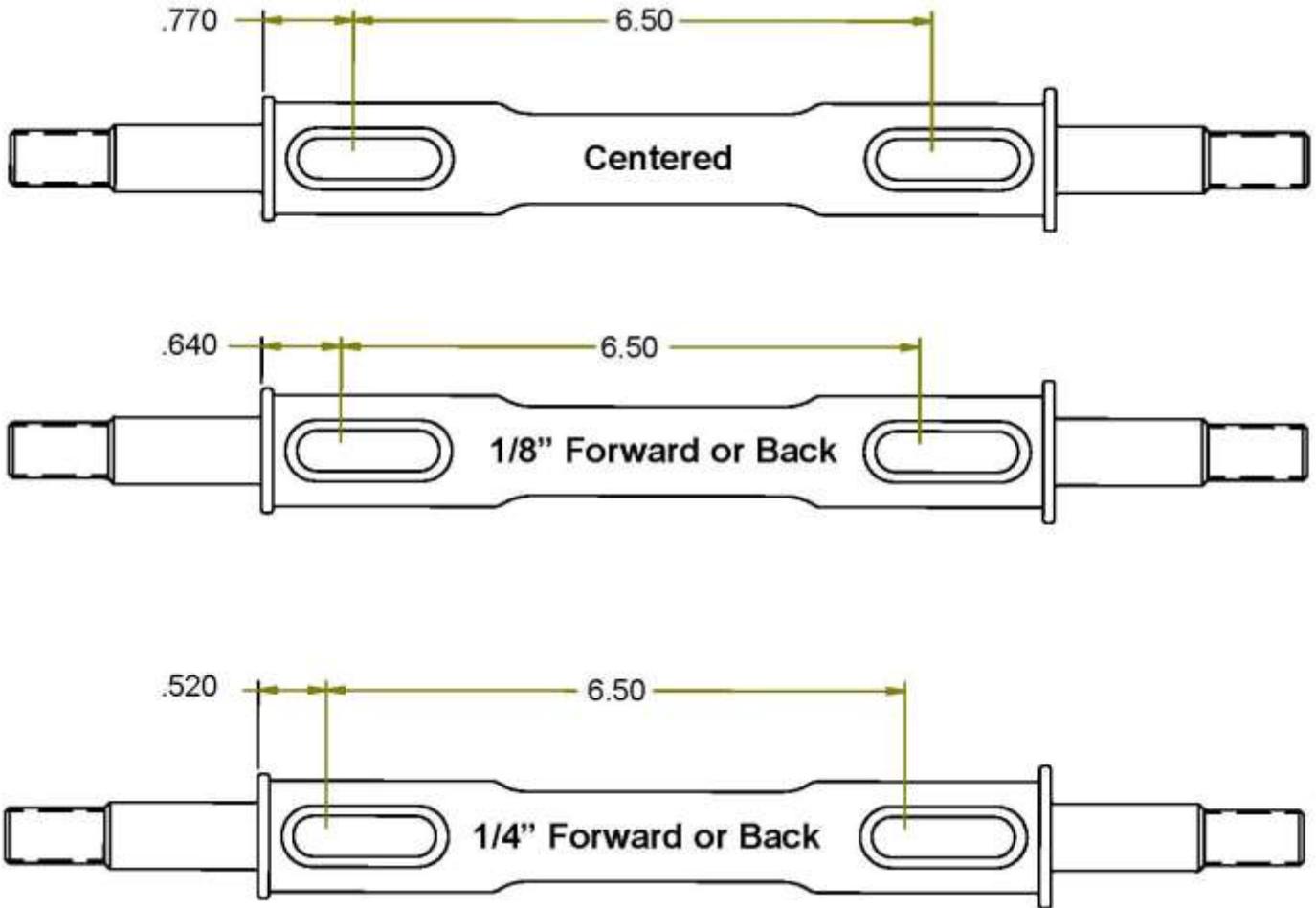
4. Fasten the ball joint to the spindle w/ the new castle nut and cotter pin supplied.

5. Tighten the cross shaft nuts enough to create drag on the delrin bushings, the arm should still move.

6. Lubricate the ball joint w/ standard grease.

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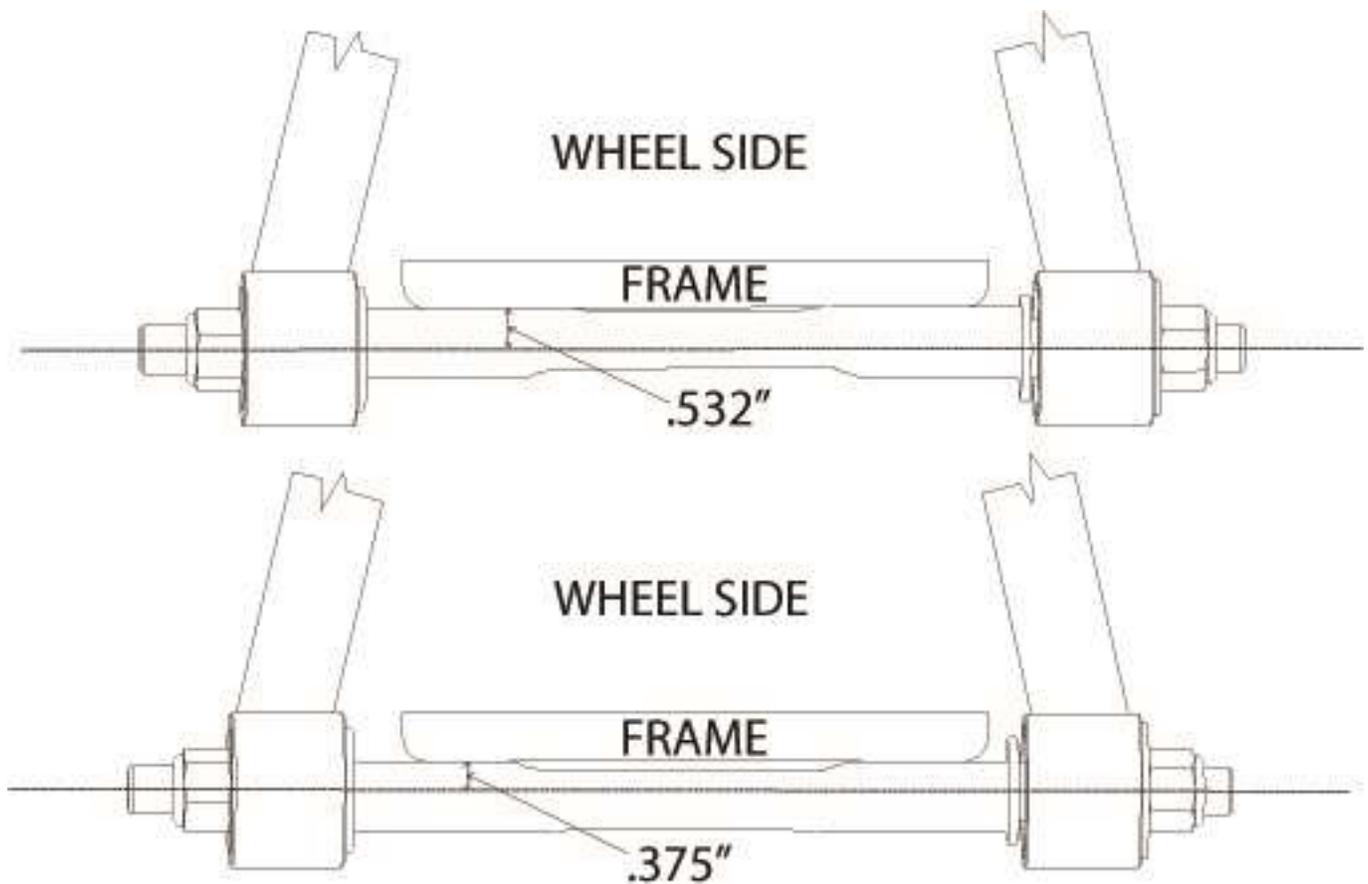
These Strong Arms come equipped with a changeable caster slug setup. This allows you to add or remove caster from the front suspension, if desired. The caster slugs that come in the kit are setup to put the control arm in the centered position, which is approximately 3 degrees of caster. The caster slugs allow you to add or remove caster without having to use a stack of shims. If more or less caster is desired, optional caster slugs can be purchased from your Ridetech dealer or Ridetech.

Caster Explained:

To understand caster you need to picture an imaginary line that runs through the upper ball joint and extends through the lower ball joint. From the side view the imaginary line will tilt forward or backward. The tilting of this imaginary line is defined as caster.

Caster is measured in degrees by using a caster camber gauge. If the imaginary line described above tilts towards the back of the car, at the top, then you will have positive caster. If the imaginary line tilts forward then you would have negative caster.

Positive caster provides the directional stability in your car. Too much positive caster will make the steering effort difficult. Power steering will allow you to run more positive caster. Negative caster requires less steering effort but can cause the car to wander down the highway.



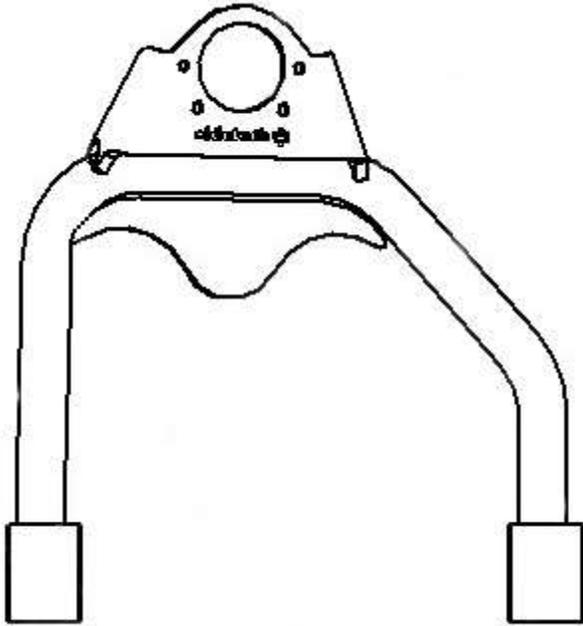
Offset Upper Cross Shaft

The cross shaft that is used in the upper control arm is offset. The offset combined with the caster slug option allows you to achieve the alignment setting you desire with minimal shims. To change the direction that the Icon faces, simply spin the cross shaft in the control arm.

If you are after an aggressive **Track or Autocross Alignment**, bolt the control arm to the frame bracket with the arm offset to the inside of the car (like the top illustration). The Ridetech Icon will be facing the engine.

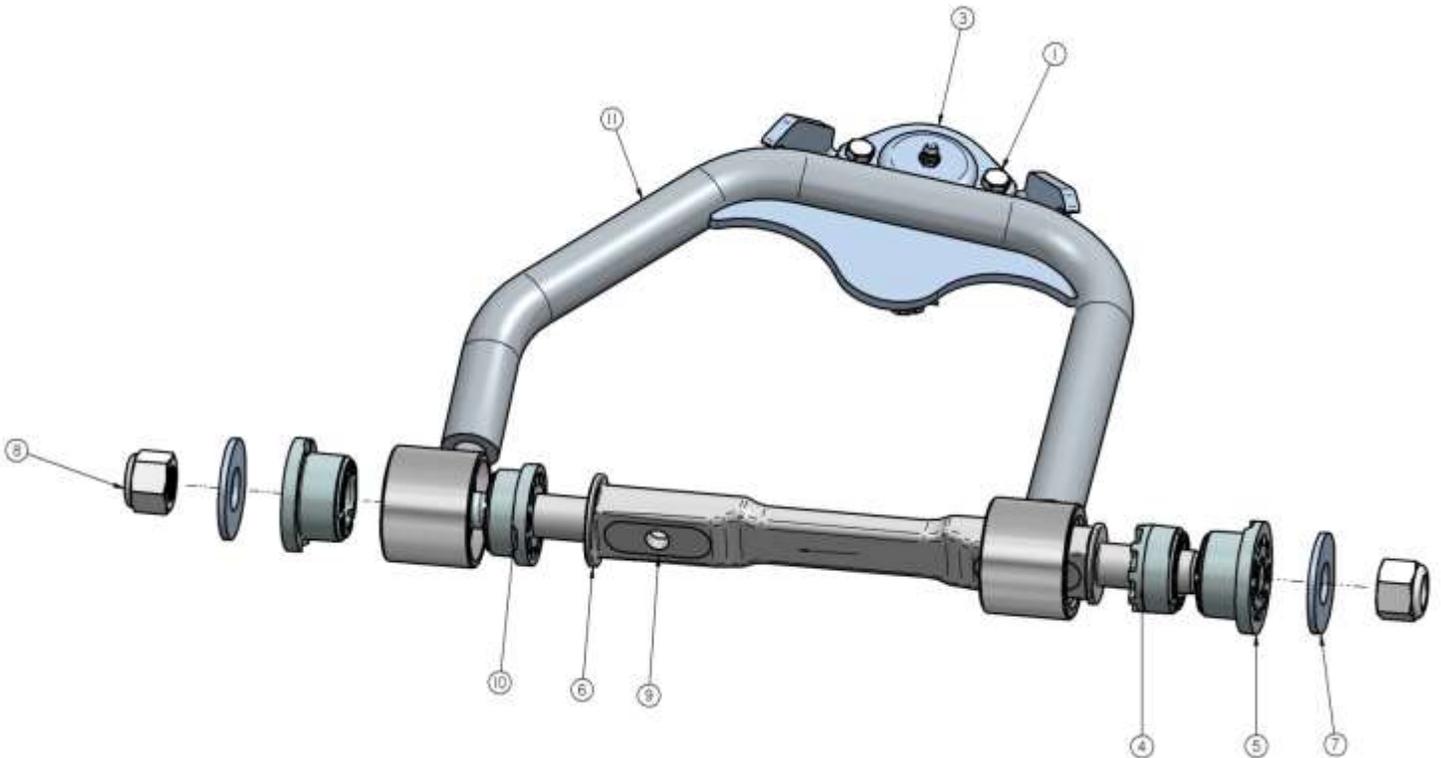
If a **Street Alignment** is desired, bolt the control to the frame bracket with the arm offset to the outside of the car (like the bottom illustration). The Ridetech Icon will be facing the wheel.

Driver Side – Bottom View



Item #	Description	Qty.
1.	1/4"-28 x 7/8" hex bolt	8
2.	1/4"-28 nut	8
3.	Ball joint	2
4.	Inner Delrin bushing no ledge	2
5.	Outer Delrin bushing	4
6.	Caster Adjustable Cross shaft	2
7.	Stainless washer	4
8.	5/8"-18 lock nut	4
9.	Caster Slug	4
10.	Inner Delrin bushing w/ledge	2
11.	Passenger side arm	1
11.	Driver side arm	1

Drivers StrongArm





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11009300 GM "A" & "F" Body Tall Spindles

2 Tall Spindles

Hardware:

Lower steering arm bolts

(4) 1/2NFX 2 1/2" flathead socket head bolts with Nyloc nuts

Lower caliper bracket bolts

(2) 1/2NFX 2" flathead socket head bolts with Nyloc nuts (Wilwood and Baer Brake kits)

(2) 1/2NFX 2" Grade 8 hex head bolts (use with stock stamped 1/2" thick caliper brackets)

INSTRUCTIONS FOR Ridetech Tall SPINDLES

These spindles will fit '67-69 Camaro, '64-'72 Chevelle, and '68-'74 Nova. They will provide a 2" drop, and are taller than stock to improve the car's cornering ability. The raised upper ball joint will cause the tires to lean into the corner, like a motorcycle, rather than outboard as the shorter stock spindles do. This camber action change also raises the roll center for less body roll, and transfer the car's center of gravity inboard in the turn as well. You will see an appreciable improvement in handling. Standard size anti sway bars will work well with those improvements, without the need for monster sway bars that can cause a harsh ride.

The spindles are modeled after stock disc brake spindles and will accept any disc brake set up designed for those. If your car came with drum brakes, be sure to swap to the appropriate disc brake master cylinder and valving. We have test fitted ECI, Wilwood, Baer, Aerospace, and stock GM kits. The only modification we discovered to be necessary was a small trim on the bottom of the stamped 1/4" steel caliper bracket that holds the caliper. It is an area that is not stressed and will not cause any loss of strength. There are variations among the various reproduction the shaft to be flipped in it's bushings for brackets, so the trim will be seen only on some of those.

Stock stamped control arms will accept these spindles, as will any aftermarket arms we have seen. Our own tubular control arms have the upper ball joint plates rotated slightly for better ball joint angles on lowered cars. We also set the ball joint 3/4" to the rear of the car to allow more aggressive positive caster settings, as well as to compensate for the normal forward rake seen on hot rods. The upper control arms shaft has a 3/16" offset, allowing the shaft to be rotated in it's bushings for a 3/8" net change in the upper arm's effective length. That design was pioneered by the MOOG company, as many stock autos suffer from a sagged cross member, making it difficult to obtain good alignment numbers. We suggest the alignment be done with 1/8" toe in, 1/2 degree positive camber, and 3 degrees positive caster with power steering, 2 degrees manual.

It is important to be sure you have the proper steering arms. Many cars were updated to disc brakes in the past by using disc brake and spindle assemblies from a donor car. However, the Chevelle steering arms are front steer, and the tie rod is roughly the same height as the lower ball joint. The Camaro and Nova arms are rear steer, with the outer tie rod end much lower than the ball joint. If the incorrect arms are used, the incorrect height tie rod end will cause major bump steer problems. Our testing of prototype versions of these spindles revealed that a small additional lowering of the mounting holes for the steering arms was necessary to remove the small amount of factory bumpsteer, and to account for the changes made by the taller spindle. We included that enhancement in the production version of your new dropped spindles.



Disassembly of the ball joints from the spindles can be eased by making the simple tool shown in the photo below. A pair of 1 ½" long bolts are threaded into a matching hex coupler. The ball joint cotter pins are removed, and the hex nuts loosened a couple turns. Place the tool between the ball joint studs, and turn a bolt to expand the tool, gently popping the ball joint studs loose. If your ball joint boots are torn, as often happens when a pickle fork is used to separate the ball joints, NAPA has replacements. The best way to remove the outer tie rod pivot is to loosen the hex nut, and then rap the steering arm boss with a hammer. Tie rod ends pullers are also available if you want to be more gentle on the parts. Do NOT hammer on the tie rod stud itself! Be sure to leave the shock absorber in place to control the spring and prevent it jumping out.





If you remove the calipers but leave the hoses attached, supporting them to avoid stressing the hoses, you won't even need to rebleed the brakes!

Reattach the new spindle, being sure to get the castle nuts tight, and install new cotter pins. Attach the steering arms into the lower holes in the spindles using the 4 supplied 1/2NFx2 1/2" long flathead bolts and Nyloc nuts supplied. The 1/2NFx 2" long flat head bolts and nyloc nuts we supply are for use with Wilwood and Baer brake kit lower bracket bolts. The 1/2NFx2" hex head bolts are used with stock caliper brackets. Reassemble your disc brakes as well. Now would be a good time to clean and grease the bearings.

BEFORE you try moving the car, pump the brakes to reset the pads to the rotors. Rebleed if necessary. Have the alignment shop set the car with 1/2 degree positive camber, 2-3 degrees positive caster, and 1/8" toe in. We're sure you'll be amazed at the difference in handling!



Note: If using a factory style stamped caliper bracket, the bracket may need to be trimmed. The dust shield may also need to be modified.



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Part # 11225401
64-72 GM "A" Body Rear ShockWave Kit
Master Series –Single Adjustable

Shockwave Assembly:

2	24159999	5" stroke Master Series single adjustable shock
2	24090799	Master Series 7000 sleeve assembly
2	90002024	1.7" eyelet
4	90001994	.625" bearing
8	90001995	Bearing snap ring
2	70009813	Locking Ring

Components:

2	31954201	¼ npt x ¼ tube swivel elbows
8	90002043	Aluminum spacer - .5" I.D.
2	90002327	Upper shock bracket
1	90002224	Driver side lower ShockWave bracket
1	90002223	Passenger side lower ShockWave bracket

Hardware:

4	99311001	5/16"-18 x 1" Gr. 5 bolt	Upper bracket to frame
4	99312001	5/16"-18 Nylok nut	Upper bracket to frame
8	99313002	5/16" SAE flat washer	Upper bracket to frame
2	99501027	1/2"-13 x 3 ¾" SAE bolt	ShockWave bracket to trailing arm bracket
4	99501002	1/2"-13 x 1 ½" SAE bolt	ShockWave bracket to factory shock bracket
4	99501003	1/2"-13 x 2 ½" SAE bolt	ShockWave to upper and lower bracket
10	99502001	1/2"-13 SAE Nylok nut	Lower ShockWave mount and mounting
10	99503001	1/2" SAE flat washer	Lower ShockWave mount

SHOCKwave[®]

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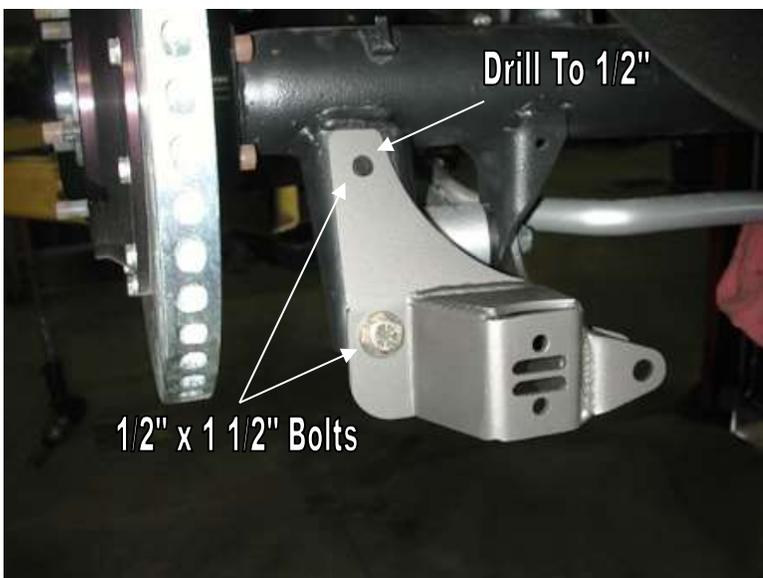
Installation Instructions

1. Raise and safely support the vehicle by the frame rails.
2. Using a jack, slightly raise the axle approximately 1". Remove the shock absorbers.
3. Lower the axle down enough to remove the coil springs.
4. The exhaust tail pipes may need to be removed and/or modified for ShockWave installation.



4. Remove the lower trailing arm mounting bolt. (Do one side at a time to keep the axle from rotating).

5. Install the longer 1/2" x 3 3/4" bolt through the lower trailing arm from the outside in. Install the lower bracket over the bolt and secure with a 1/2" Nylok nut and flat washer.



6. The lower bolt hole in the back of the bracket will align with the factory shock stud hole. Use a 1/2" x 1 1/2" bolt, Nylok nut and flat washers.

7. The upper hole must be drilled with a 1/2" bit. The edge of the bracket should be parallel to the axle bracket. Use an centering punch and 1/8" bit to drill a pilot hole. A 1/2" x 1 1/2" bolt, Nylok nut and flat washers will be used here as well.



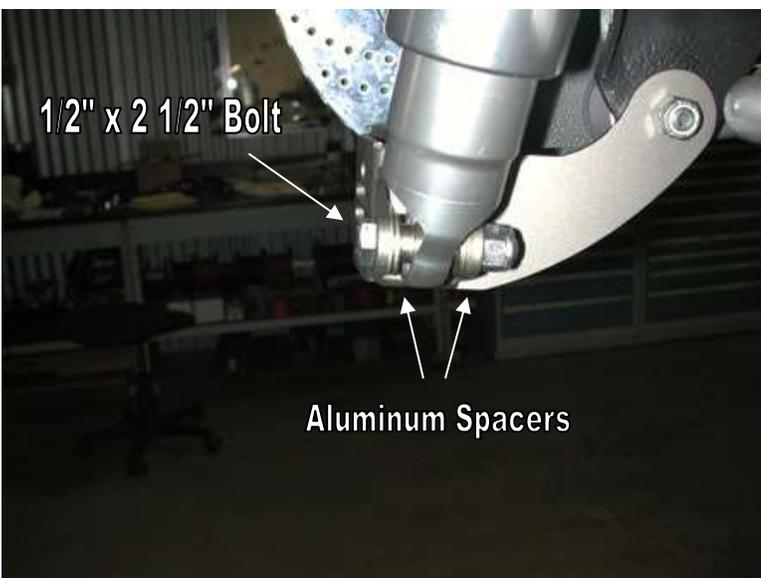
8. Fasten the new upper shock bracket into the factory shock location using the 5/16" x 1" bolts, flat washers and Nylok nuts supplied.

Note: Position the bracket to offset the shock toward the center of the car.



9. Apply thread sealant to a 90 degree air fitting and screw it into the top of the ShockWave. The air fitting location can be rotated by twisting the bellow separate of the shock.

10. Fasten the ShockWave to the upper bracket using a 1/2" x 2 1/2" bolt and Nylok nut. 1/2" I.D. aluminum spacers must be installed on each side of the bearing.



11. Fasten the ShockWave to the lower bracket using a 1/2" x 2 1/2" bolt and Nylok nut. 1/2" I.D. aluminum spacers must be installed on each side of the bearing.

12. Double check air spring clearances throughout full suspension travel.

13. Ride height on this ShockWave is 14.5" from center eye to center eye. This should occur around 70-80psi, but may vary to vehicle weight and driver preference.



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Part # 11224499
64-72 GM "A" Body Rear Lower StrongArms

Components:

2	90001026	Lower StrongArm – WW 22"
8	90001089	Poly bushing half – .75" I.D. x 1.5" O.D. x 1.125" long
4	90000516	Bushing sleeve - .5" I.D. x .75" O.D. x 2.375" long
2	90001092	Tube of Lithium grease – to lubrication bushing mounting surfaces

Hardware:

4	99431003	7/16" x 3" USS bolt	Swaybar to lower bars
4	99432001	7/16" USS Nylok nut	Swaybar to lower bars
8	99433002	7/16" SAE flat washer	Swaybar to lower bars
4	99501006	1/2" x 3 1/2" USS Gr. 8 bolt	StrongArms to frame
4	99502001	1/2" USS Gr. 8 Nylok nut	StrongArms to frame

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by Air Ride Technologies

Installation Instructions



1. Remove the sway bar (if equipped) and factory lower trailing arm. Do one side at a time to keep the axle from rotating.
2. Clean bushing mounting surfaces on frame. Lubricate w/ lithium grease supplied.
2. Attach to front on the lower StrongArm to the frame using the $\frac{1}{2}$ " x $3 \frac{1}{2}$ " bolts and Nylok nuts supplied.
3. This arm has holes in the tube for sway bar attachment. Mount the bar so that the holes are closest to the axle. New $\frac{7}{16}$ " x 3" bolts are supplied to reattach the sway bar.



4. Attach to rear of the lower StrongArm to the frame using the $\frac{1}{2}$ " x $3 \frac{1}{2}$ " bolts and Nylok nuts supplied.
- Note:** These polyurethane bushing are lubricated at the factory w/ lithium grease.
- Note:** Tighten the bolts enough to remove any lateral movement and apply moderate drag on bushings. Over-tightening can cause excessive suspension bind.



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Part # 11246699
68-72 GM "A" Body Rear Upper StrongArms

Components:

2	90001115	Upper StrongArm (Set to 10.26")
2	90001589	Kevlar lined Heim end
4	90002065	Aluminum spacers for Heim end

Hardware:

2	99752004	3/4" SAE Jam nut	Heim end
4	99501006	1/2" x 3 1/2" USS Gr. 8 bolt	StrongArms
4	99502001	1/2" USS Gr. 8 Nut	StrongArms

STRONG **ARMS**[™]
by Air Ride Technologies

Installation Instructions



1. The length of the upper bar should be set from the factory at 10.26" center to center. Ensure that the jam nut is tight.

2. Using the $\frac{1}{2}$ " x 3 $\frac{1}{2}$ " bolt and Nylok nut supplied, fasten the heim end to the frame bracket. An aluminum spacer must be installed on each side of the Heim end.



3. Fasten the other end of the bar to the axle using a $\frac{1}{2}$ " x 3 $\frac{1}{2}$ " bolt and Nylok nut.

Note: Inspect the rubber bushing in the axle for wear or cracked. Replace with factory replacement bushing if needed.



Part # 30334100 - 3 Gallon LevelPro Compressor System

Recommended Tools

Components:

2	31920020	Thomas 319 Compressor
1	31934001	4 way RidePro air valve assembly
1	31913100	3 gallon Aluminum tank
5	31988150	Air pressure sensor
1	31398001	RidePro LevelPro ECU
1	31398002	RidePro LevelPro Display
2	99064002	6-32 x 3/8" Phillips pan head screw for display
1	82010000	Installation Guide

Wiring & Hardware:

1	31900031	Display Harness
1	31900020	Air valve wiring harness
1	31900006	Air pressure sensor wiring harness
1	31900048	Main power / compressor harness
2	90001924	Fuse holder
2	90001922	20 Amp fuse
6	99104001	10-24 x 1" phillips screw
6	99102002	10-24 Nylok nut
6	99103001	#10 SAE flat washer
2	90001913	12-10 Gauge Butt Connector
2	90001916	#10 x 5/16" Ring Terminal

Airlines & Fittings:

2	31940002	1/4" DOT airline – 30' roll
6	31954201	1/4" npt x 1/4" tube elbow fitting - air springs / tank
7	31954000	1/4" npt x 1/4" tube straight fitting - air valve
2	31952150	1/8" npt female x 1/4" tube straight fitting - compressor
2	31957003	1/8" npt nipple (install between FIT2150 & compressor)
3	31957004	1/4" npt plug - plug extra supply port
1	31954400	1/4" air line tee- compressors to check valve fitting
1	31959301	Check Valve- SCREWS INTO TANK FOR COMPRESSOR LINE



THE CHECK VALVE SUPPLIED SCREWS INTO THE AIR TANK WITH AN AIR FITTING THREADING INTO IT. THE COMPRESSOR LINES WILL FEED INTO THE CHECK VALVE.

