



350 S. St. Charles St. Jasper, In. 47546
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Part # 11320298
78-88 GM "G" Body Air Suspension System

Front Components:

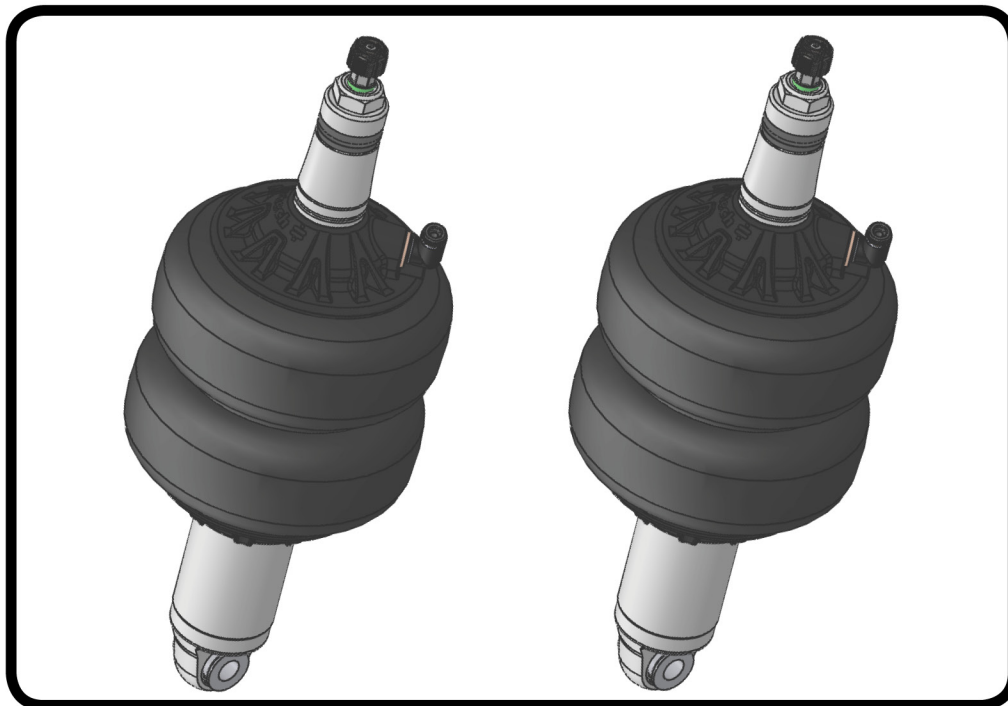
1	11323001	HQ Series Front Shockwaves for Strong Arms
1	11329599	Front Tru-Turn Suspension Package
1	11329100	Front MuscleBar

Rear Components:

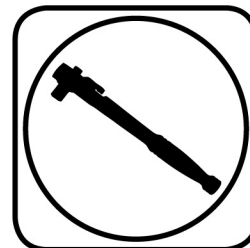
1	11325401	HQ Series Rear Shockwaves
1	11227299	Axle R-Joint Kit & Installation Tool
1	11324499	Rear Lower Strong Arms
1	11329122	Rear MuscleBar



Part # 11323001 - 78-88 GM G-Body Front HQ Series Shockwave



Recommended Tools



1000 Series Bellow, 2.00" Stud/Eye 3.6" Shock Installation Instructions

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ShockWave Dimensions:

Center of bearing to Center of bearing:

Compressed: 10.30"

Ride Height: 12.13"

Extended: 13.32"

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

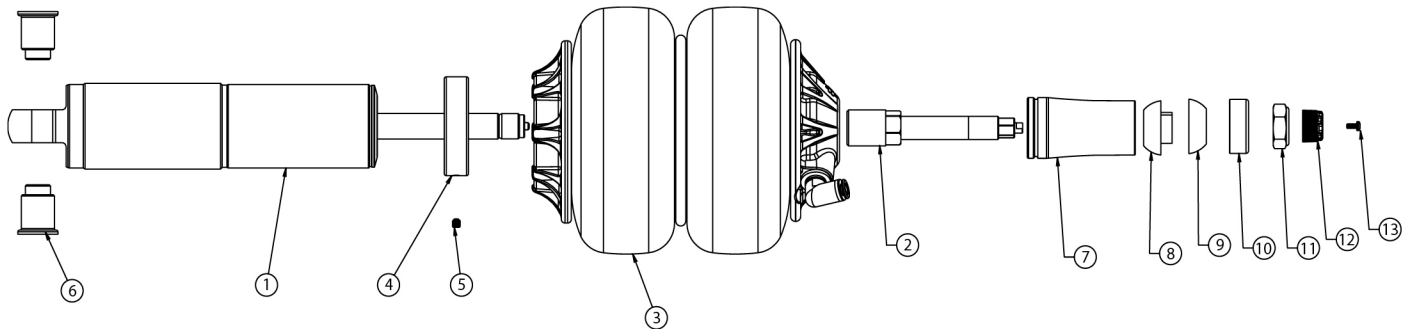
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Major ComponentsIn the box

Item #	Part #	Description	QTY
1	24139999	3.6" 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	90002062	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	2.00" 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

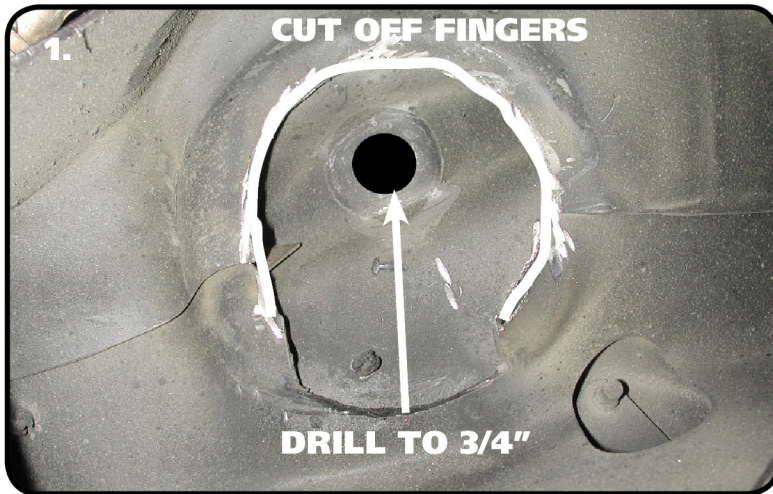


THE DELRIN BALL REQUIRES A 3/4" HOLE FOR THE FLANGE TO GO THROUGH. THIS CAN BE DRILLED WITH A UNIBIT.

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



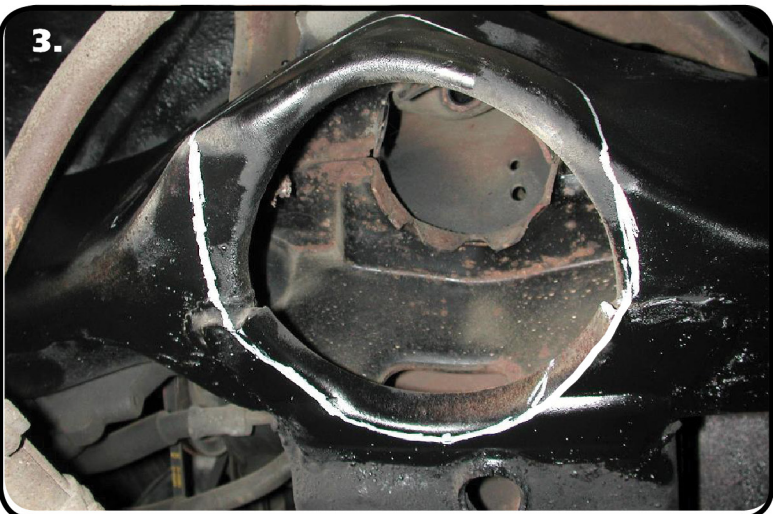
ShockWave Installation



1. Drill the OEM shock hole out to 3/4". This can be done with a Unibit. The Shockwave top can come in contact with the coil spring retaining fingers. Test fit the ShockWave to determine if they need cut off. A die grinder works well here.



2. 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 bellows. Check clearance throughout full suspension travel. **(Inflated diameter of this Shockwave is approximately 6.5")** This is best done with a cut off wheel or plasma cutter. Make the cuts round, square corners will create a fracture point.



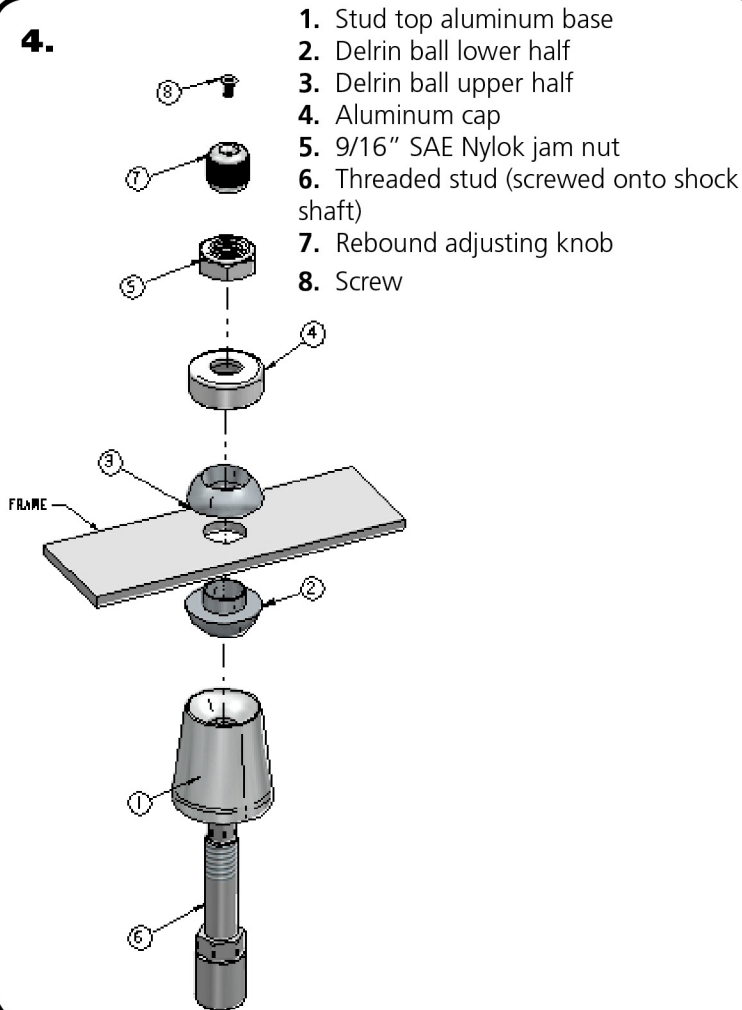
3. To allow clearance for the Shockwave, some trimming may need to be done on the inside of the coil spring pocket as shown by the white line in the picture. This is best done with either a cut off wheel or plasma cutter. Grind all cuts smooth when finished.

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.



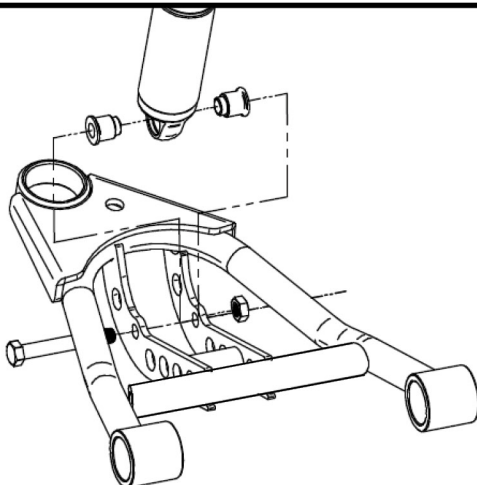
1. Stud top aluminum base
2. Delrin ball lower half
3. Delrin ball upper half
4. Aluminum cap
5. 9/16" SAE Nylok jam nut
6. Threaded stud (screwed onto shock shaft)
7. Rebound adjusting knob
8. Screw

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

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.



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.

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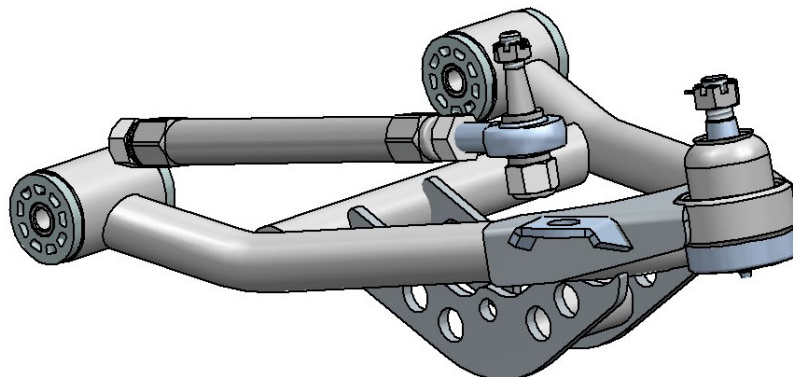
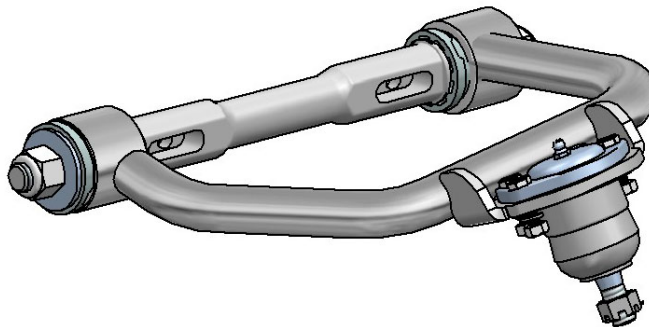
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Part # 11329599 78-88 GM "G" Body Tru-Turn Suspension Package

Front Components:

1	11323699	Upper Strong Arms
1	11322899	Lower Strong Arms
1	11329500	Tru Turn System





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Part # 11323699
78-88 GM "G" Body Upper StrongArms

Components:

1	90002379	Drivers side arm
1	90002380	Passenger side arm
2	90000913	Upper ball joint
2	90000914	Caster Adjustable Cross shaft w/Hardware
2	70010826	Delrin Bushing – no ledge
2	70010827	Delrin Bushing – small ledge
4	70010759	Delrin Bushing – outer
4	90002737	Cross shaft T-washer
4	70011955	Zero Offset Caster Slugs

Hardware:

4	99433004	7/16" USS Flatwasher	Cross shaft to Frame
4	99431009	7/16"-14 x 2 1/2" Bolt	Cross shaft to Frame
4	99432001	7/16"-14 Nylok Nut	Cross shaft to Frame

STRONGARMS

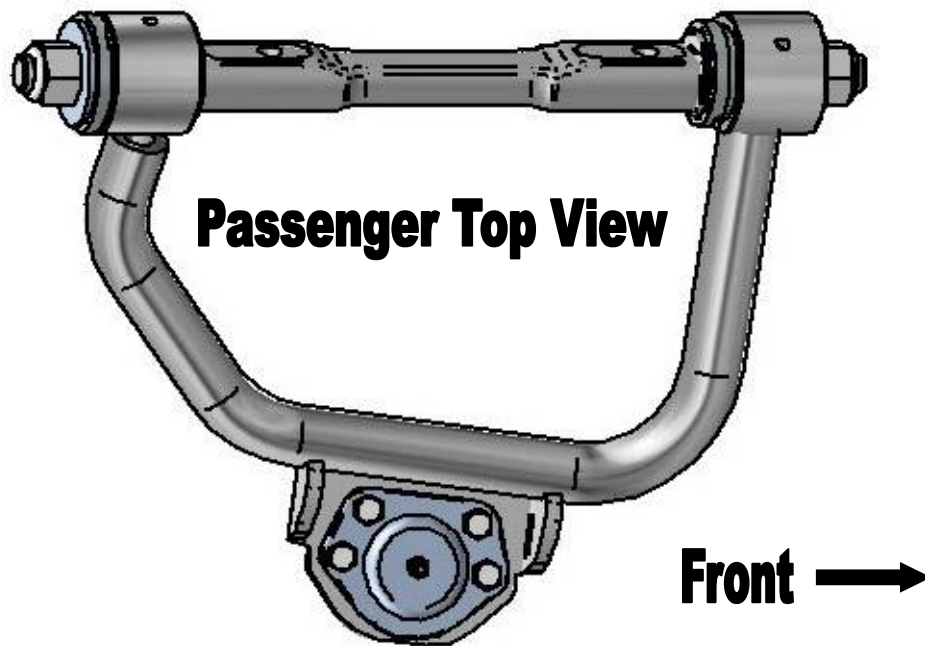


1. Fasten the upper arm to the frame using the OEM hardware with the supplied Washer under the nut. Reinstall the current alignment shims, but **vehicle must be realigned**.

2. 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.

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

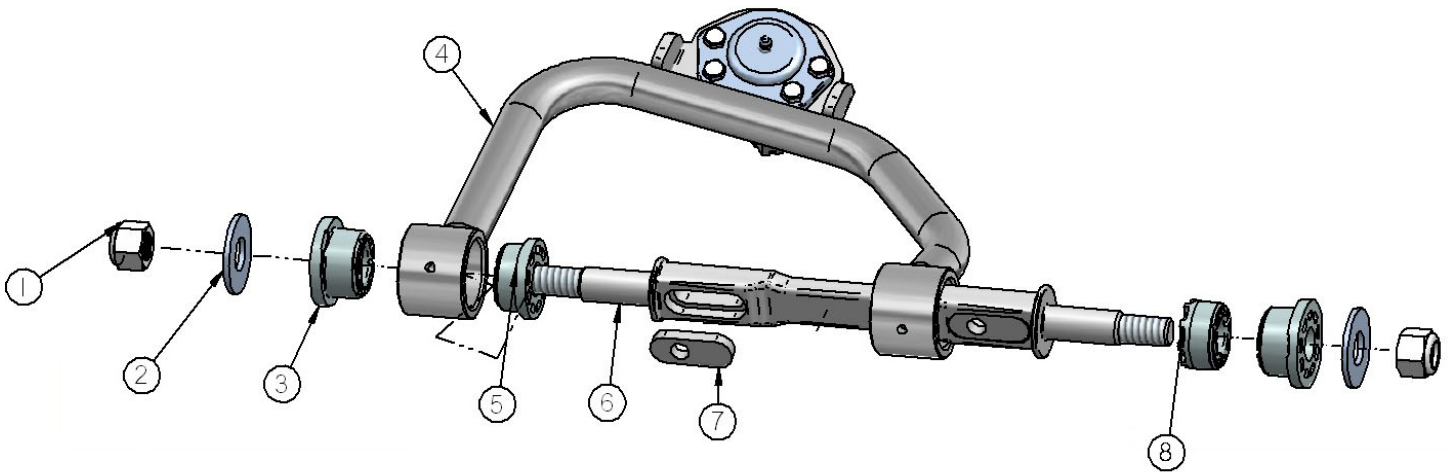
4. Tighten the cross shaft nuts enough to create drag on the delrin bushings, the arm should still move.



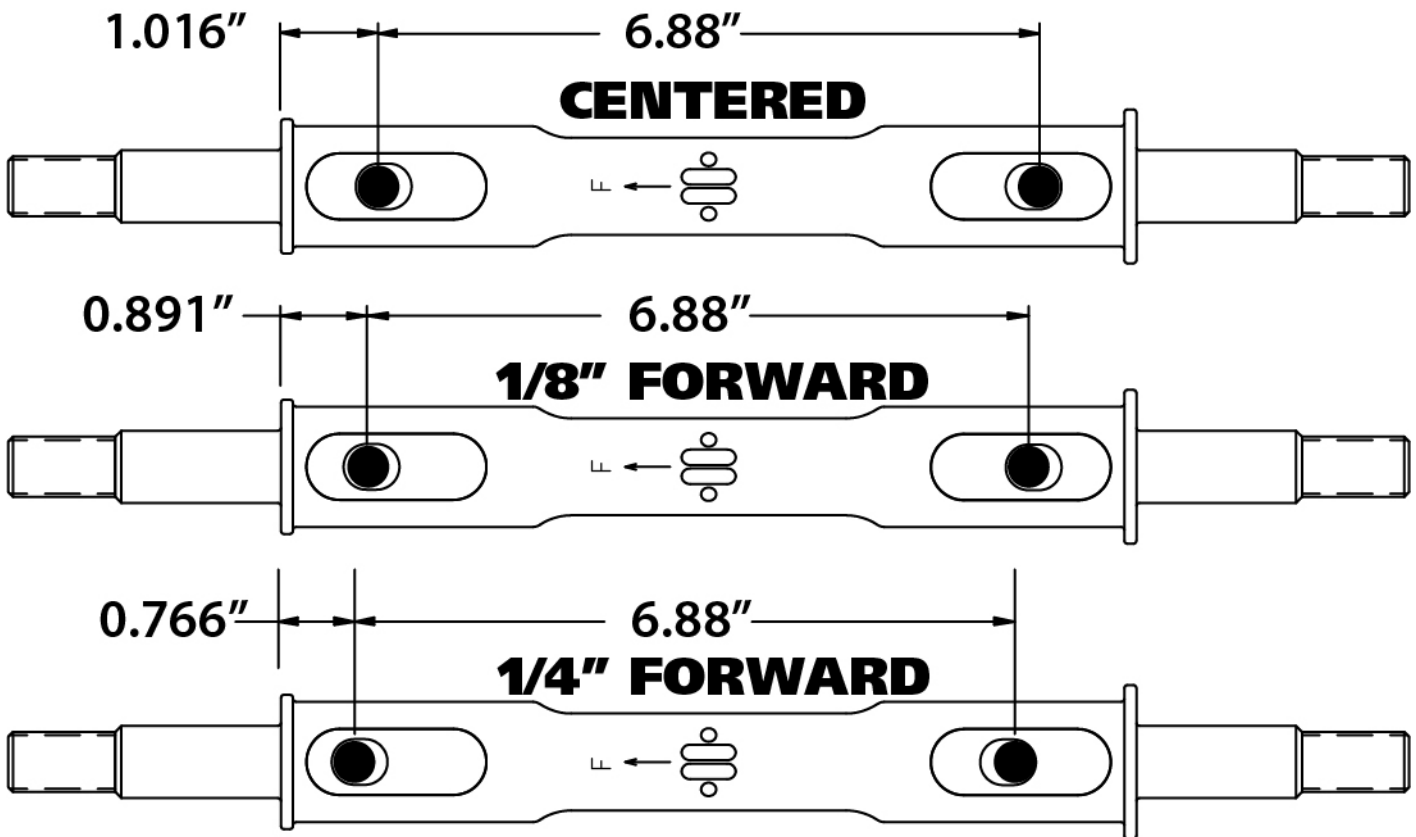
STRONGARMS

Passenger Side – Top View

Item #	Description	Qty.
1.	5/8 – 18 Toplock Jam Nut	4
2.	T-Washer	4
3.	Outer Delrin bushing	4
4.	Passenger side arm	1
4.	Driver side arm	1
5.	Inner Delrin bushing w/ledge	2
6.	Caster Adjustable Cross shaft	2
7.	Caster Slug	2
8.	Inner Delrin bushing no ledge	2



STRONG ARMS



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 5 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.

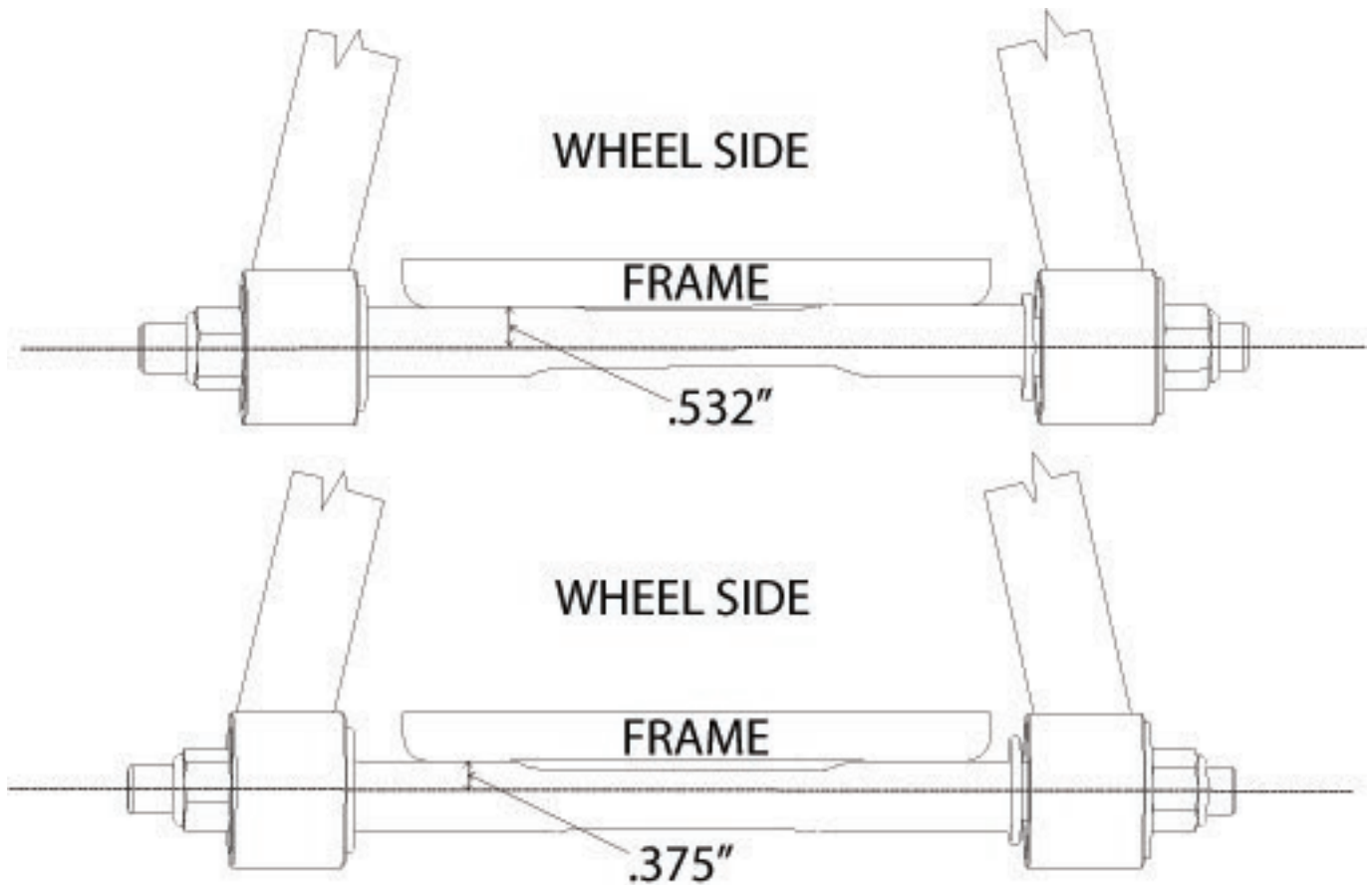
Caster Explained:

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.

STRONG ARMS



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.



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Part # 11322899
78-88 GM "G" Body Lower StrongArms
For Use w/ Shockwaves or CoilOvers

Components:

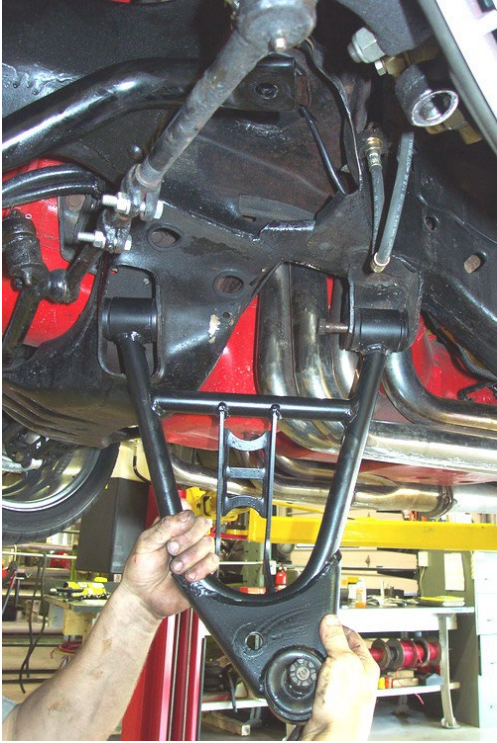
1	90002377	Driver side lower arm
1	90002378	Passenger side lower arm
2	90000896	Ball joint
2	90000572	Inner bushing sleeve
2	90000573	Inner bushing sleeve
8	70010759	Delrin bushing half
4	90002062	Aluminum spacer – Shock to lower arm

Hardware:

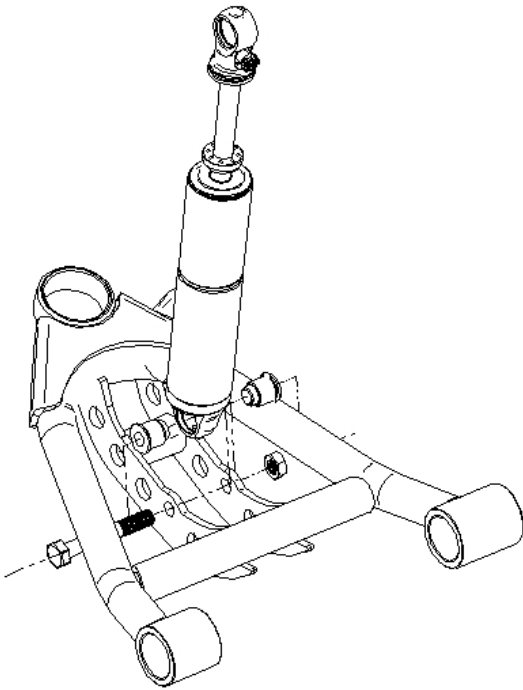
2	99501005	1/2"-13 x 3 1/2" Gr.8 bolt	Shockwave to lower arm
2	99502009	1/2"-13 Nylok nut	Shockwave to lower arm
4	99503014	1/2" SAE Flat Washer	Shockwave to lower arm
2	99121001	M12-1.75 X 90mm Bolt	Control arm to frame
2	99121002	M12-1.75 X 110mm Bolt	Control arm to frame
4	99122001	M12-1.75 Nylok nut	Control arm to frame

STRONGARMS

Installation Instructions



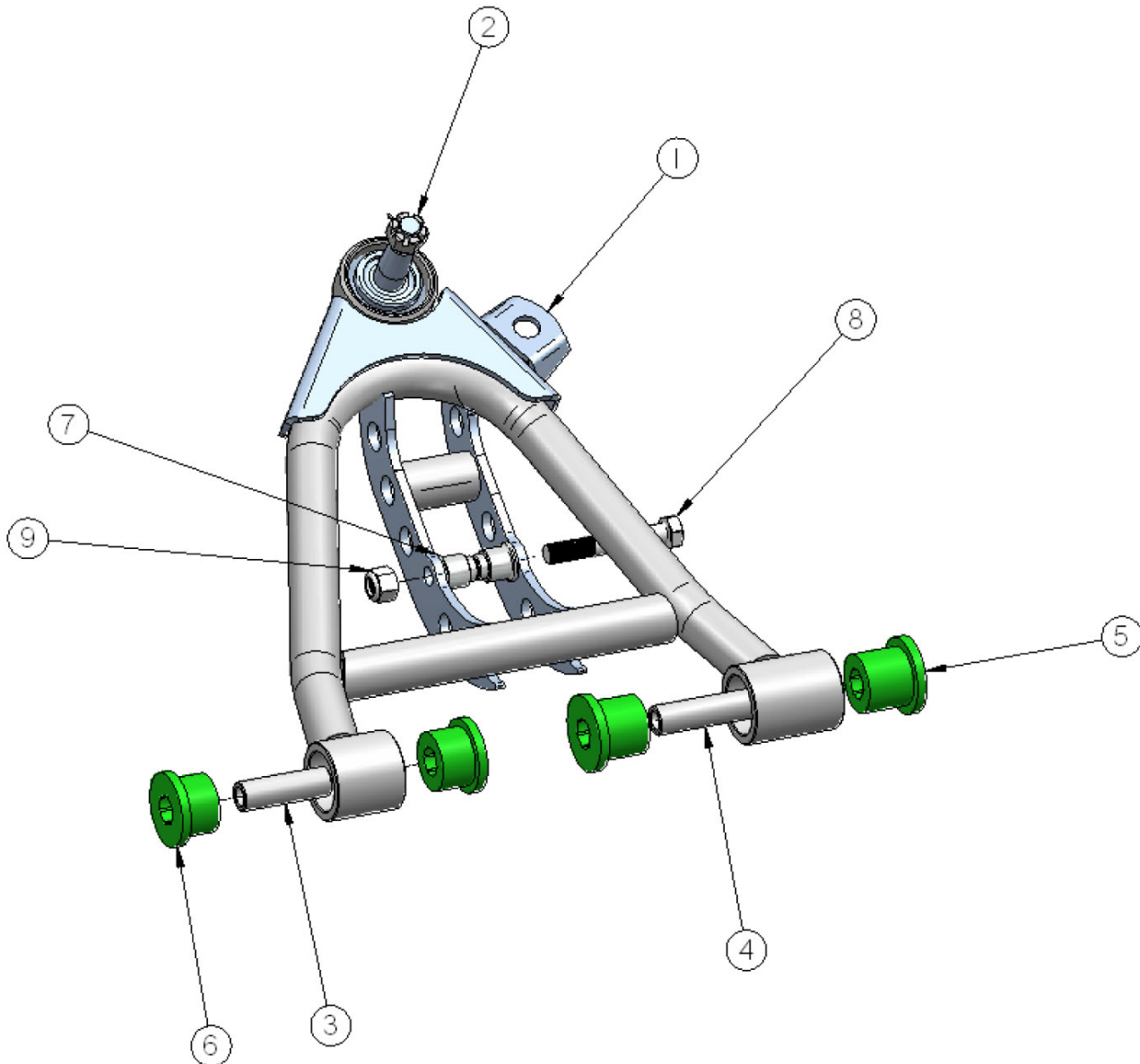
1. After removing the factory lower control arm, clean the bushing mounting surfaces on the frame to make sure they are fairly smooth.
2. Fasten the lower arm to the frame with the factory hardware.



3. Swing the lower StrongArm up to the shock 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.

STRONGARMS

Item #	Description	Qty.
1.	Driver side arm	1
2.	Ball Joint	1
3.	Inner bushing sleeve – narrow	1
4.	Inner bushing sleeve – wide	1
5.	Delrin bushing half	2
6.	Delrin bushing half	2
7.	Aluminum bearing spacer	2
8.	1/2"-13 x 3 1/2" bolt	1
9.	1/2"-13 Nylok nut	1
	1/2" SAE Flat Washer not shown	2



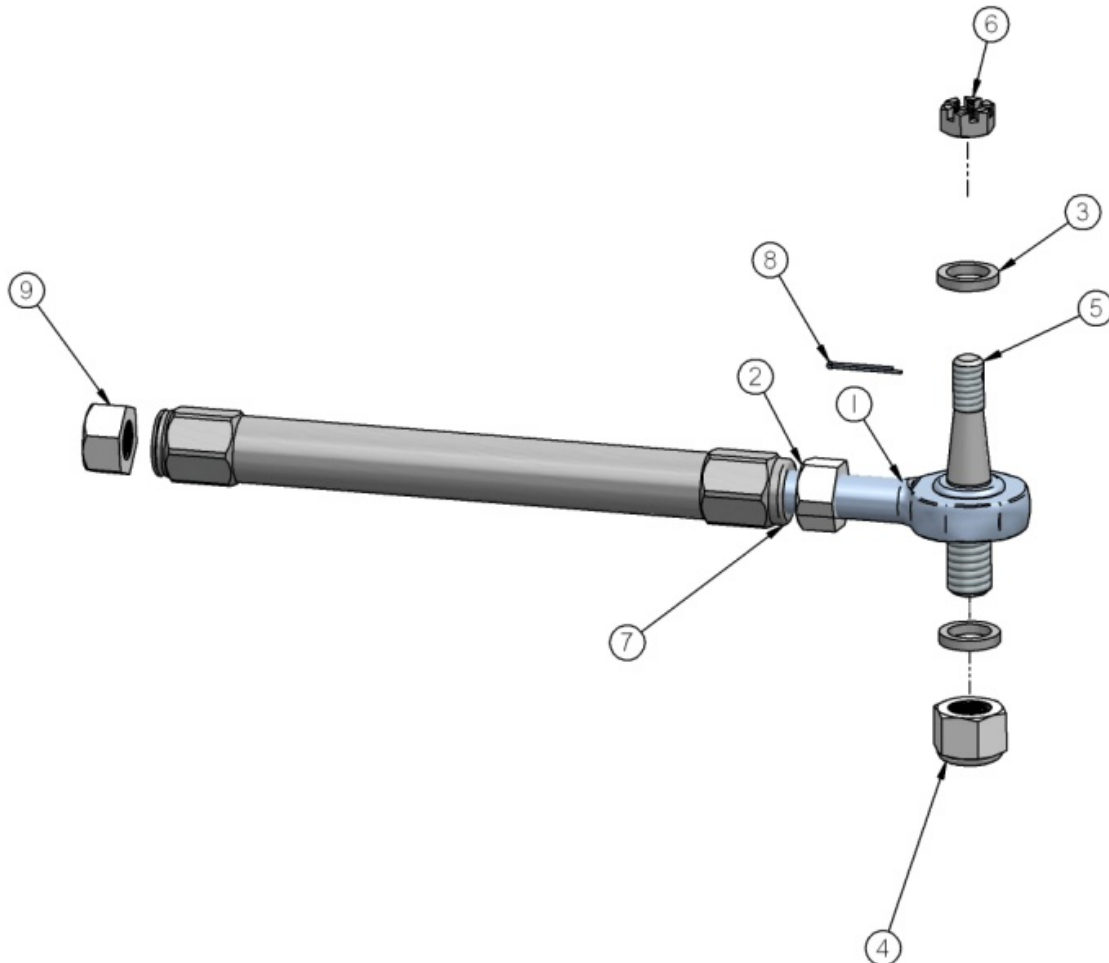


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Part # 11329500
78-88 G-Body TruTurn System without Spindles



Item #	Part #	Description-Specification	Qty.
1.	90001590	Heim end	2
2.	99800002	5/8"-18 RH jam nut	2
3.	90002373	Heim End Spacer	4
4.	99622003	5/8"-18 Lock Nut-35 ft lbs	2
5.	90002374	Tie Rod Stud	2
6.	99432005	7/16"-20 castle nut-35 ft lbs	2
7.	90002375	Adjusting sleeve	2
8.	99952002	3/32" cotter pin	2
9.	99800003	5/8"-18 LH jam nut	2





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Installation instructions:

NOTE: The number in (#) is the number of the part in the drawing on the previous page.

1. Raise and safely support the front of your vehicle at a comfortable working level
2. Remove existing outer tie rod and adjuster leaving the inner tie rod.
3. Install the (5) Tie Rod Stud into your factory spindle using the (6)7/16" castle nut. Torque the nut to 35 ft lbs and install (8) cotter pin. **NOTE:** If none of the holes line up tighten the nut until you can get the hole to line up with a slot.
4. Install the (7) Right Hand thread nut onto the (1) heim end and (9) Left hand nut onto the factory tie rod.
5. Antiseize the threads on the factory tie rod and heim end to prevent the threads from galling.
6. The left hand threaded side of the (7) adjuster goes onto the factory tie rod; it has a groove cut into the end of the adjuster. You will want the thread engagement the same on the tie rod end and the heim, the easy way to do this is set then nut on the tie rod 1 1/4" from the end of the tie rod and thread the adjuster on so that it touches the nut.
7. Install the heim end into the other end of the adjuster. Start by threading the lock nut all the way on the heim end and thread the heim end into the adjuster so that it touches the nut.
8. Install the heim end side of the tie rod onto the tie rod stud using the (3) aluminum spacer on top and bottom of the heim end and then install the (4)5/8" lock nut. Torque nut to 35 ft lbs.
9. Set the center to center length of the tie rod assembly to 17 3/4" by turning the adjuster out. This will get you close on the toe setting but it will need to be aligned. **USE THE SIGHT HOLES IN THE SIDE OF THE TIE ROD ADJUSTER TO ENSURE PROPER THREAD ENGAGEMENT.**
10. Adjust the camber and toe roughly until you can get the vehicle to a proper alignment shop. The recommended alignment settings are:

Camber - -.5 to -1.5 [within .3 from side to side]

Caster – 4 to 7 degrees positive

Toe - 1/16" to 1/8" toe in

Feel free to experiment with alternative alignment settings that may be more appropriate for your particular driving style.

Installation notes:

- A. **MAKE SURE** that the cotter pins are properly installed in all appropriate places [C] to ensure that the castle nuts do not become loose and fail. These are VERY important connections!



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11329100 78-88 GM "G" Body Front MuscleBar

Components:

1	90001825	Front sway bar (37.125")	
1	90001821	Driver side arm	
1	90001822	Passenger side arm	
2	90001819	Frame plate	
2	90001820	Frame bracket	
2	90000926	10 mm 90 degree PosiLink	
2	90000924	10 mm Straight PosiLink	
2	90001823	PosiLink Spacer (2.5")	
4	90000717	T-bushing (PosiLink to lower arm)	
2	90001099	Polyurethane frame bushing	
2	99250001	1/4" - 28 straight grease zerk	
1	90001092	Tube of Lithium grease	
2	99115009	10mm x 1.5 x 90mm stud (use Loctite)	In PosiLink

Hardware Kit: 99010049

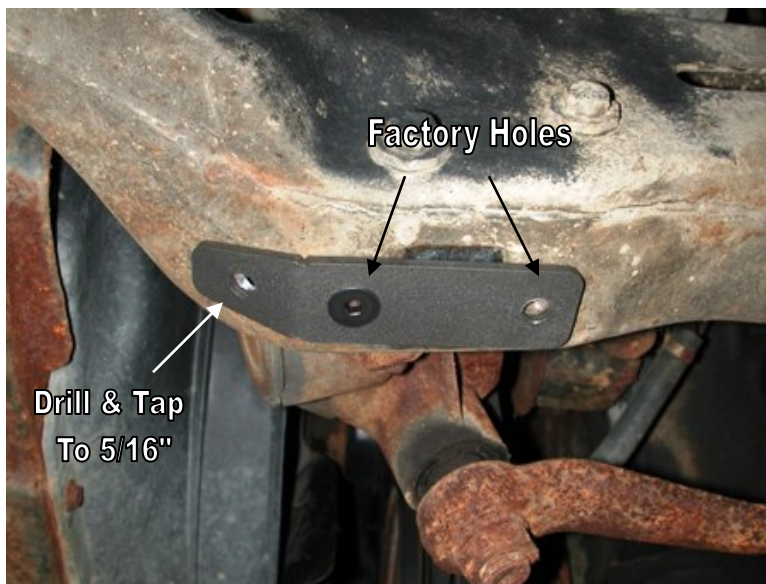
2	99111001	10 x 1.5 x 30mm Flat head Allen bolt	Frame plate to frame
2	99111002	10 x 1.5 x 30mm bolt	Frame bracket
4	99373003	3/8" SAE flat washer	Frame bracket
4	99373005	3/8" lock washer	Frame bracket
2	99373007	3/8" x 1" Self-tapping screws	Frame bracket
6	99371017	3/8" x 1" Button head Allen bolt	Sway bar arm to bar
6	99373003	3/8" SAE flat washer	Sway bar arm to bar
6	99373005	3/8" lock washer	Sway bar arm to bar
4	99112002	10mm Nylok nut	PosiLink
4	99373003	3/8" flat washers	PosiLink

MUSCLEbar™

POSI•Link™

11329100 Installation Instructions

1. This sway bar was designed for use with our lower StrongArms. Installation with other control arms may require modification.
2. Remove the end links from the factory sway bar. Then remove the bolts attaching the sway bar to the frame.



3. Bolt the frame plate to the frame using the factory sway bar holes. The front hole will use a 10mm x 30mm flat head Allen screw. The rear hole will use a standard 10mm x 30mm hex bolt.

4. Using the bracket as a guide, drill the front hole with a 5/16" bit. Then thread in 3/8" self-tapping screw.



5. Slide the poly bushing over the bar and lubricate with the lithium grease supplied.

6. Slide the bracket over the bushing and fasten the bar to the frame using the 10mm x 30mm hex bolt and 3/8" self-tapping screw.

Note: Future lubrication should only be done with non-petroleum based lubricants.



7. Bolt the sway bar arm to the bar using 3/8" x 1" Button head screws with flat washers and lock washers.



8. Fasten the 90 degree end of the PosiLink to the sway bar arm using a 10mm Nylok nut and flat washers

Note: There are two holes in the sway bar arm. For Shockwave/CoilOver arms use the front hole with the nut on the inside of the arm. For coils spring arms, use the rear hole with the nut on the outside of the arm (shown in picture).

9. Two T-bushing will be used on each side to attach the straight end of the PosiLink to the lower control arm. Secure with a 10mm Nylok nut.

10. Check PosiLink alignment through full suspension travel to ensure that it does not bind.



Part # 11227299 - GM A-Body & G-Body Differential R-Joint Bushing Removal/Installation



Recommended Tools



GM A-Body & G-Body Differential R-Joint Bushing Removal/Installation

Installation Instructions

Table of Contents

Page 2..... Included Components and Getting Started

Page 3-4..... Bushing Housing Installation

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.





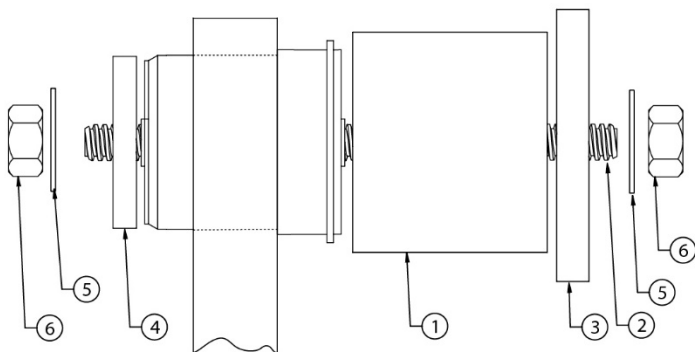
Major ComponentsIn the box

Part #	Description	QTY
R-Joint Housing Components		
90002122	R-Joint Bushing Housing with R-Joint Components installed	2
70013776	Housing Snap Ring	2
70013784	R-Joint Spacers	4
R-Joint Components Installed In Housing		
70013275	R-Joint Center Ball	
70013276	R-Joint Composite Center Ball Cage	
70013279	Retaining Ring	
70013280	Wavo Wave Spring	
Bushing Removal & Installation Tool Components		
90002560	1.875" ID x 1.00" Long Sleeve	1
90002880	1.825" OD Washer	1
90002566	2.625" OD Washer	1
90002559	2.375" ID x 2.375" Long Sleeve	1
99505003	1/2" -10 x 8" ACME Threaded Rod	1
99502013	1/2" -10 ACME Hex Nut	2
99503003	1/2" Flat Washer	2

Getting Started.....

This kit is designed to aid in the removal of the OEM bushings and installation of the Delrin R-Joint Axle Housing Bushing. This guide will show you how the kit is to be used. It is important to not get the bushings crooked on installation.

2.

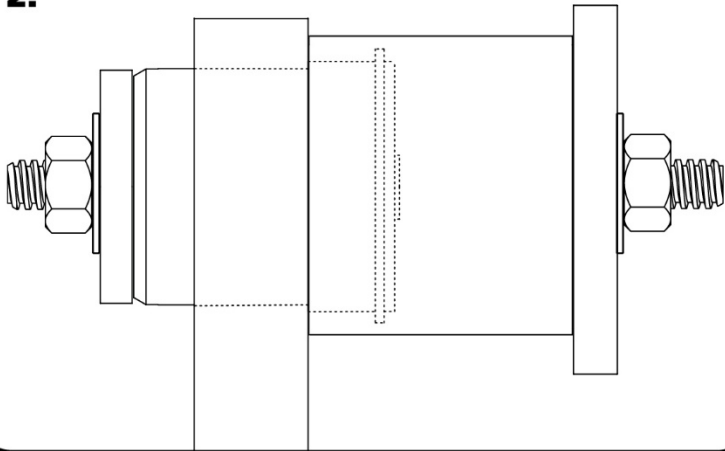


1. Start by sticking the 2 3/8" Sleeve(1) over the OEM bushing. Insert the 1/2" -10 x 8" Threaded Rod(2) into the OEM bushing. Install the Large 2 5/8" Diameter Washer(3) onto the threaded rod on the Sleeve side. Install the Small 1.825" Washer(4) on the threaded rod (on the side with the bushing sticking through the housing). Install a 1/2" washer(5) and nut(6) on each end of the threaded rod. Use **Images 1 & 2** as a reference.



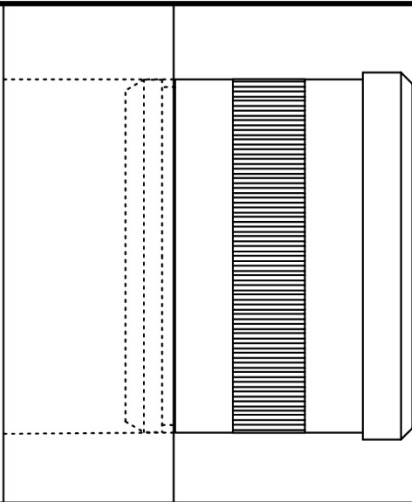
Lower Control Arm Bushing Removal

2.



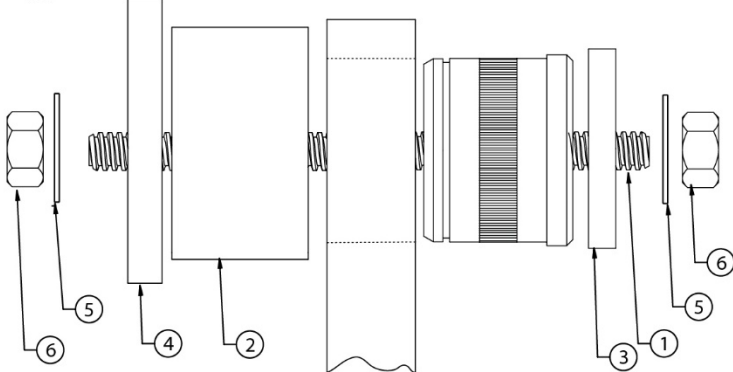
2. Tighten the 1/2" nuts, pushing the bushing out of the mount.

3.



3. Start the R-Joint Housing into the OEM bushing hole by hand.

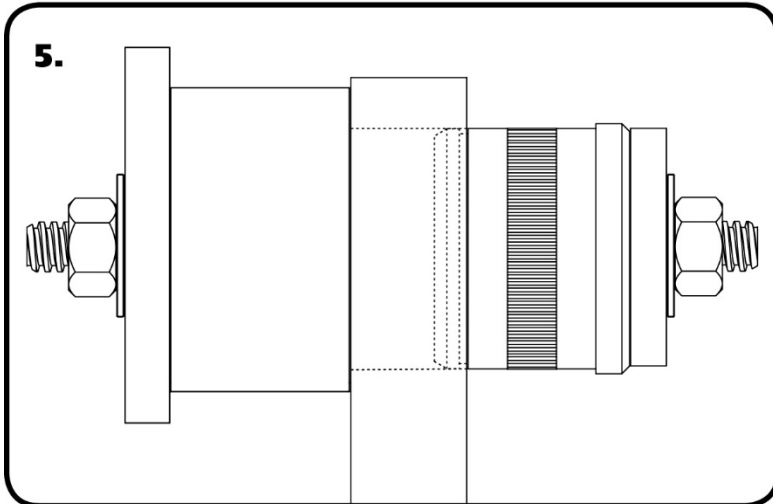
4.



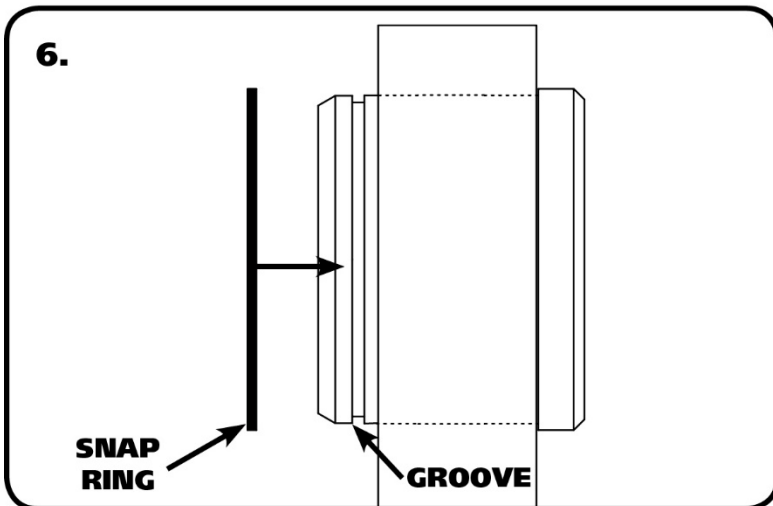
4. Insert the 1/2"-10 x 8" Threaded Rod(1) into the bushing. Install the 1 7/8" ID x 1" Long Sleeve(2) on the opposite side of the bushing. This sleeve will be centered over the bushing hole. Install the 1.825" Washer(3) on the stud (on the bushing side). Install the 2 5/8" Washer(4) on the 1 7/8" Sleeve side. Install a 1/2" washer(5) and nut(6) on each end of the threaded rod. Use **Images 4 & 5** as a reference.



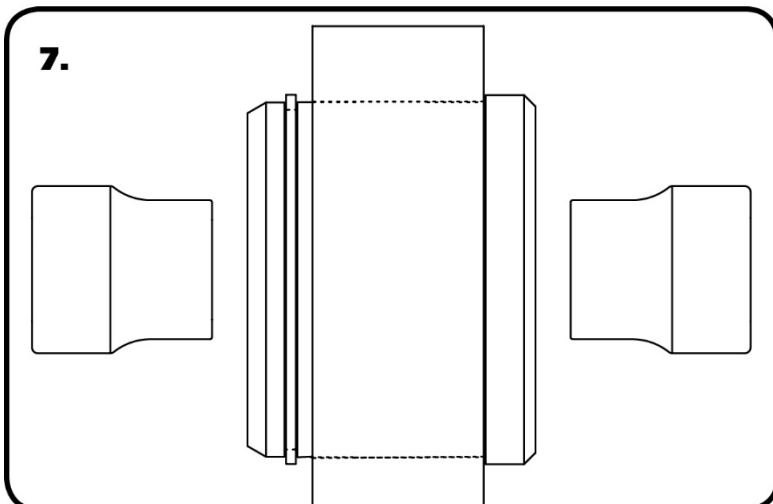
Lower Control Arm Bushing Installation



5. Snug down the nuts enough to hold the sleeve and washers in place. Check to make sure the sleeve is centered over the hole and the 1.825" washer is center on the bushing housing. Tighten the nuts to press the bushing housing into the axle housing. Tighten the nuts until the housing bottoms in the axle mount.



6. Install the supplied Snap Ring into the groove on the bushing housing.



7. Install the Spacers by inserting the SMALL side of the SPACER into the Center Pivot Ball. Push them in until they bottom out and stop.

8. Install your Ridetech StrongArms. Refer to the instructions supplied with the StrongArms.



350 S. St. Charles St. Jasper, In. 47546
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www.ridetech.com

Part # 11326699
78-88 GM "G" Body Rear Upper StrongArms

Components:

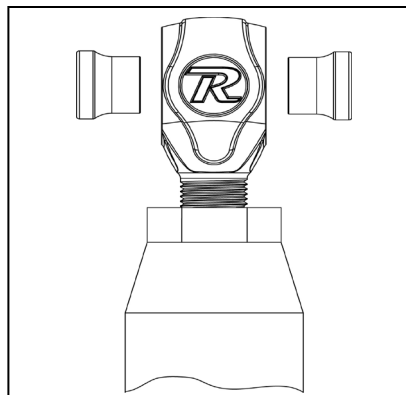
- 2 90001118 Upper StrongArm (Set to 11.125")
- 2 70013364 R-Joint threaded rod end housing
- 4 70013784 R-Joint Spacers

R-Joint Components

- 70013279 Retaining Ring
- 70013280 Wavo Wave Spring
- 70013276 R-Joint Composite Center Ball Cage
- 70013275 R-Joint Stainless Center Ball

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

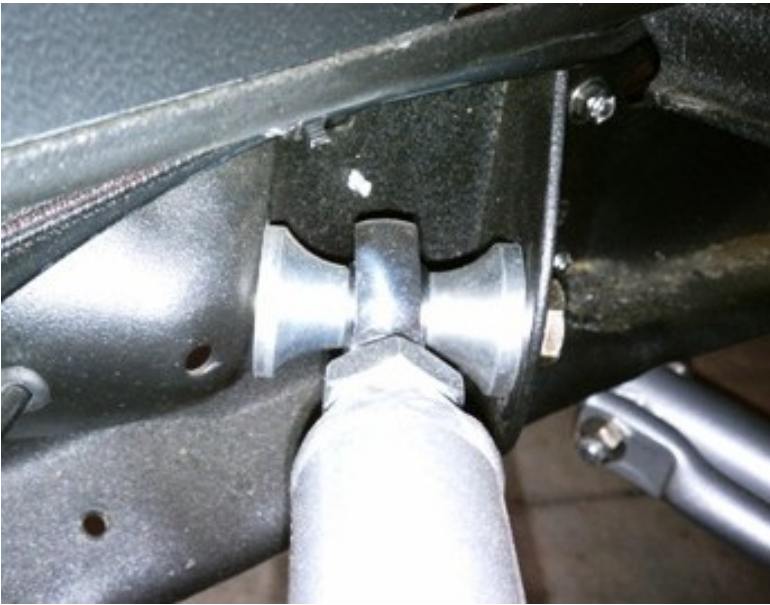


Insert the SMALL end of the spacer INTO each side of the center pivot ball. Push the spacer in until it bottoms out in the center pivot.

STRONGARMS

Installation Instructions

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.



1. The length of the upper bar should be set from the factory at 11.125" center to center. Ensure that the jam nut is tight.

2. Insert the Spacers into the R-Joints. Refer to Diagram 1 on Page 1.

3. Using the 1/2" x 3 1/2" bolt and Nylok nut supplied, fasten the R-Joint end to the frame bracket. An aluminum spacer must be installed on each side of the Heim end.



4. Fasten the other end of the bar to the axle using the factory hardware.

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



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

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Part # 11324499
78-88 GM "G" Body Rear Lower StrongArms

Components:

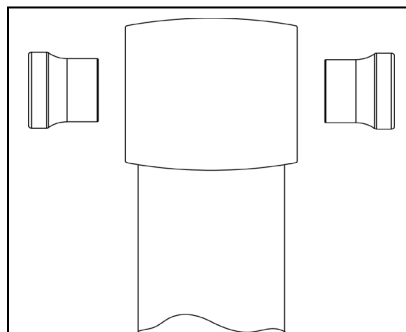
- 2 90002121 Lower StrongArm – WW 19.250" with R-Joint Components installed
- 8 70013784 R-Joint Spacers

R-Joint Components

- 70013279 Retaining Ring
- 70013280 Wavo Wave Spring
- 70013276 R-Joint Composite Center Ball Cage
- 70013275 R-Joint Stainless Center Ball

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



Insert the SMALL end of the spacer INTO each side of the center pivot ball. Push the spacer in until it bottoms out in the center pivot.

STRONGARMS

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. Insert the Spacers into the R-Joints. Refer to Diagram 1 on Page 1.
3. 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.
4. 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.



5. 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: Tighten the bolts enough to remove any lateral movement.

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.



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Part # 11325401
78-88 GM "G" Body Rear ShockWave Kit
Single Adjustable

Shockwave Assembly:

2	24159999	5" stroke single adjustable shock
2	24090799	7000 Series sleeve assembly
2	70008913	Locking ring for bellow
2	90002024	1.7" Eyelet –adjustable
4	90001994	.625" bearing
8	90001995	Bearing snap ring

Components:

8	90002043	Aluminum spacer - .5" I.D.
2	90002327	Upper shock bracket
1	90002325	Driver side lower shock bracket
1	90002326	Passenger side lower shock bracket
2	90002158	Lower Shock Bracket

Hardware:

4	99311001	5/16"-18 x 1" Gr. 5 bolt	Upper bracket to frame
4	99312003	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 3/4" Gr. 5 bolt	Shock bracket to trailing arm bracket
6	99501002	1/2"-13 x 1 1/2" Gr.5 bolt	Shock bracket
4	99501003	1/2"-13 x 2 1/2" Gr. 5 bolt	Shock to upper & lower brackets
12	99502001	1/2"-13 Nylok nut	Lower shock bracket
8	99503001	1/2" SAE flat washer	Lower shock bracket

SHOCKwave®

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.



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

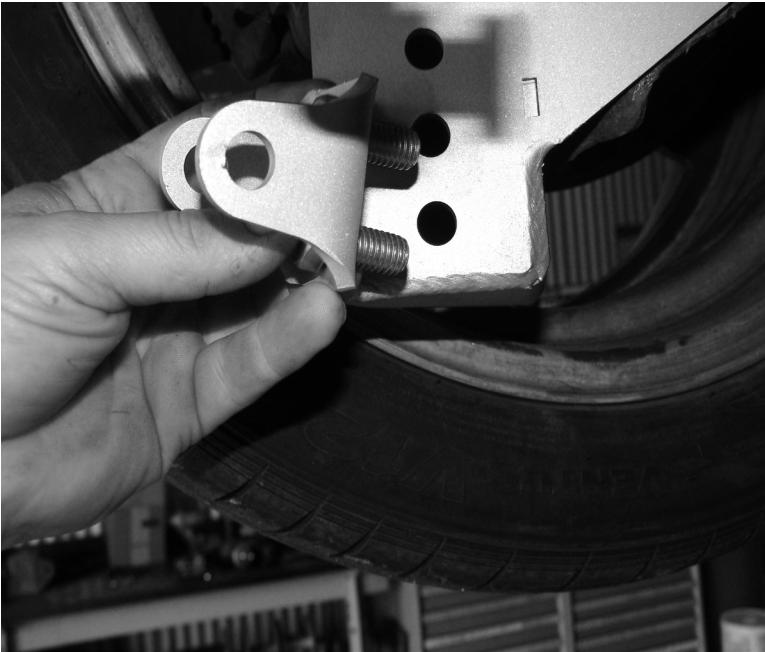
Note: Position the bracket to offset the shock toward the center of the car.



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

7. Place the new lower shock bracket up against the factory lower shock bracket. Use a 1/2" x 1 1/2" bolt, Nylok nut and flat washers to fasten the new bracket to the factory bracket. Install the longer 1/2" x 3 3/4" bolt through the lower trailing arm mount, secure w/ the supplied flat washers and Nylok nuts.

SHOCKwave®



8. Install the Lower Bolt on Shock Bracket in the top 2 holes using (2) $\frac{1}{2}$ " x $1\frac{1}{2}$ " Hex Bolts, and (2) $\frac{1}{2}$ " Nylok Nuts.

The lower Bracket has 3 holes. The top 2 holes are the holes that the kit will normally use. If a lower ride height is desired, the bottom 2 holes can be used.



9. Install the aluminum spacers into the upper and lower eyes of the shock.



10. The air fitting location can be rotated by twisting the bellow separate of the shock.

11. Fasten the ShockWave to the upper bracket using a ½" x 2 ½" bolt and Nylok nut.

12. Fasten the ShockWave to the lower bracket using a ½" x 2 ½" bolt and Nylok nut.

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

14. Ride height on this ShockWave is 14.5" from center eye to center eye.

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!

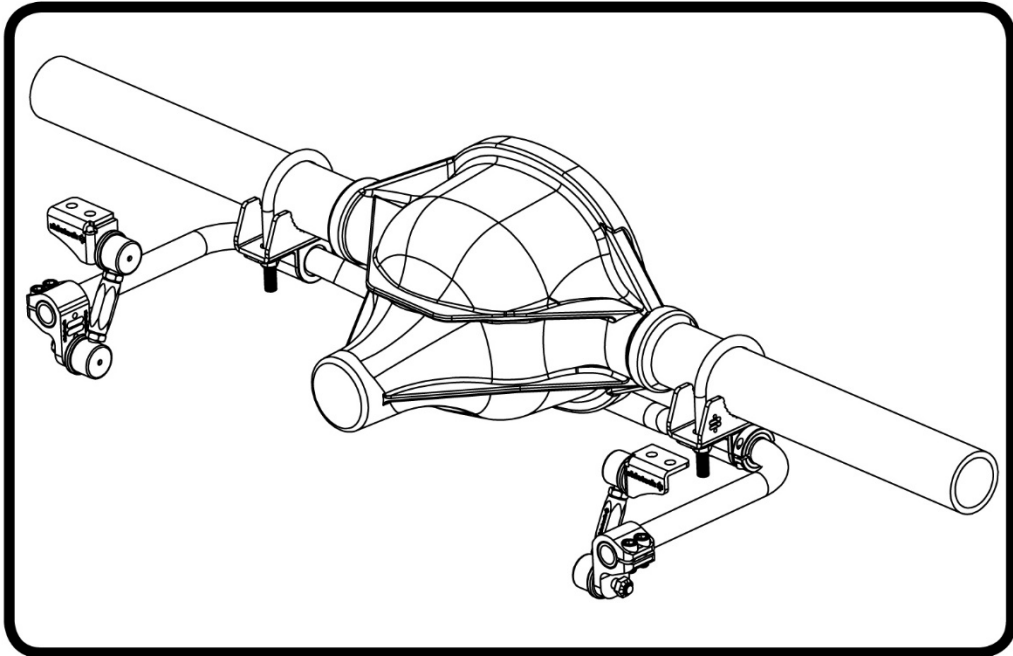
Take the vehicle for another test drive and repeat the above steps until the ride quality is satisfactory.

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.



Part # 11329122 - 1978-1988 GM G-Body Rear SwayBar



Recommended Tools



1978-1988 GM G-Body Rear SwayBar Installation Instructions

Table of contents
Page 2..... Included Components and Hardware List
Page 3-4..... SwayBar Installation

Hardware Torque Specifications

3/8"-16.....	30 ftlbs
7/16"-20.....	55 ftlbs
M10-1.5.....	37 ftlbs



Major ComponentsIn the box

Part #	Description	QTY
90001237	Rear SwayBar	1
90001261	Axle Bracket, 2.5" Axle Tube	2
70012496	Delrin Sway Bar Bushing Liner	2
90001250	Bushing Strap	2
90002539	SwayBar Bushing	2
90001251	Frame Tab, Driver	1
90001252	Frame Tab, Passenger	1
70014301	Clamp Ring	2
70014207	Clamp On SwayBar End	2
90002571	10mm 90 Degree End Links	4
90001262	SwayBar End Link Spacer, 2 1/8"	2
99436003	7/16" U-bolt	2

HARDWARE KIT.....99010084

QTY	Part Number	Description
SWAYBAR TO AXLE		
4	99433002	7/16" SAE Flat Washer
4	99432002	7/16"-20 Nylok Nut
SWAYBAR END CLAMP		
4	99371054	3/8"-16 x 7/8" Socket Head Bolt

QTY	Part Number	Description
TAB TO FRAME		
4	99371005	3/8"-16 x 1 1/4" Hex Bolt
4	99373002	3/8" Flat Washer
4	99372001	3/8"-16 Nylok Nut

Getting Started.....

This SwayBar Kit utilizes a Delrin Liner in the SwayBar Bushing. The Delrin Liner allows the SwayBar to move freely and quietly in the Bushing. The Delrin is self-lubricating, no lubrication is required.

THIS SWAYBAR ATTACHES TO THE AXLE AND FRAME.

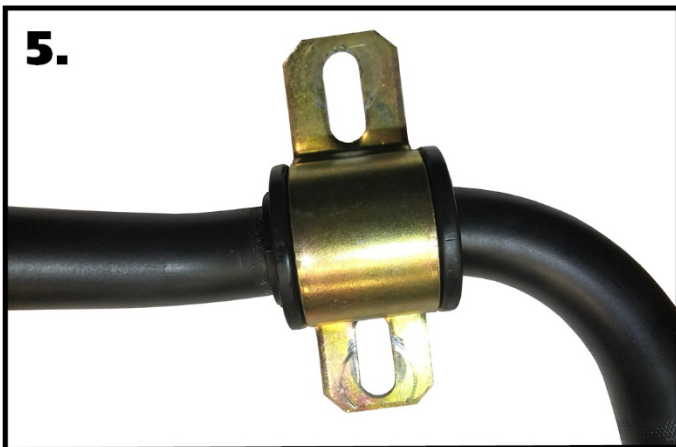
1. Jack the vehicle up to a safe working height and support with jack stands. Make sure the jack stands are stable before working under the car.
2. Remove the stock sway bar if the car is equipped with one.



3. Open the Delrin Liner at the split and slip it over the SwayBar. Position it in the center of the straight area that it will ride in. Do this on both ends of the swaybar.



4. Open the SwayBar Bushing at the split and slip it **OVER** the Delrin Liner. Do this on both Delrin Liners.



5.

5. Install the Bushing Straps over the SwayBar Bushings.



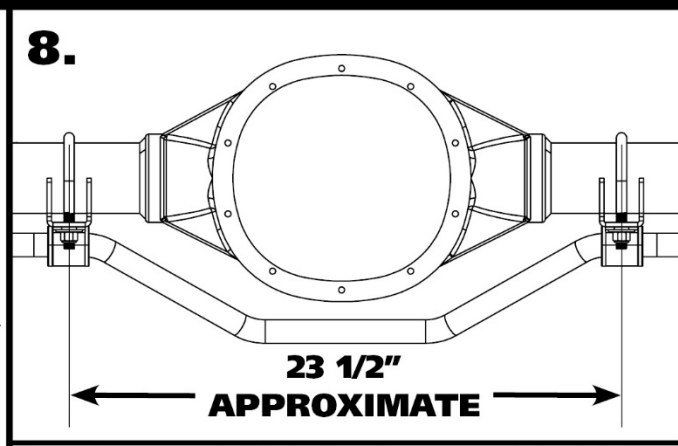
6.

6. Install the U-bolts onto the axle tube with the threads pointing down. You may need to raise the brake lines in the area of the u-bolts. The u-bolts will be approximately 23 1/2" apart and equal distance on each side from the brake backing plates.



7.

7. Install an Axle bracket onto each u-bolt with the flat side to toward the ground. The "teeth" of the mount should touch the axle tube.



8.

8. **Diagram 8** illustrates the correct installation of the sway bar. Again, the axle brackets will be approximately 23 1/2" from center to center. The mounts should be spaced equal amounts from the brake backing plates, centering the sway bar on the axle.



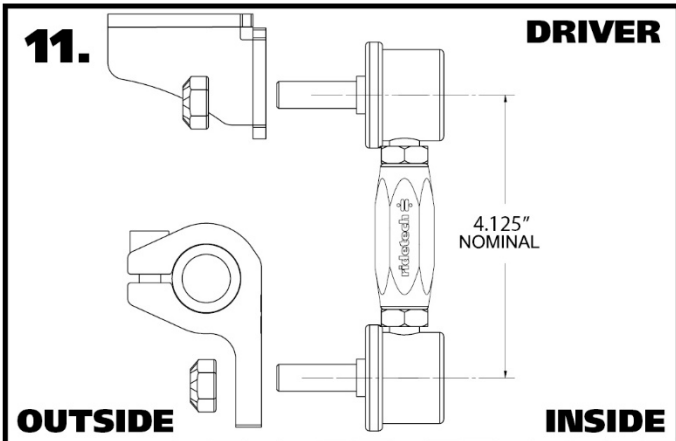
9.

9. Hold the SwayBar in position on the car with the center bend toward the ground. Install a 7/16" Flat Washer & 7/16"-20 Nylok Nut on the threads of the u-bolts. Snug the hardware down and verify that it is centered and the axle mounts are level. Torque the u-bolt hardware.

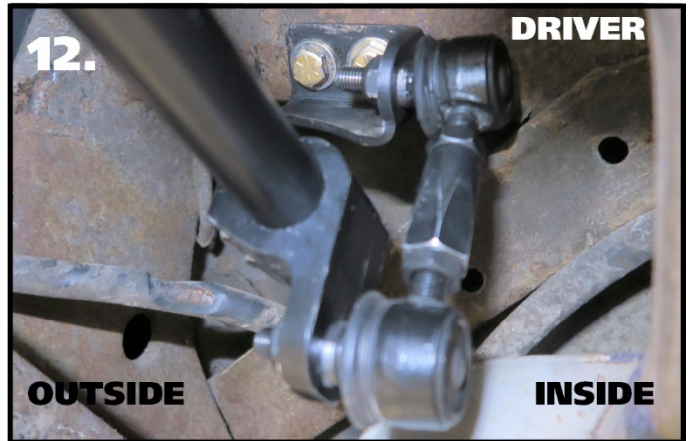


10.

10. Thread (2) 3/8"-16 x 7/8" Socket Head Cap Screws into each of the Clamp-On Ends. Install a clamp-on end on each end of the bar. The End Link mounting hole should be mounted to the inside of the bar and pointing down. Start with the mount flush with the end of the bar.



11. Set the Linkage to 4 1/8" center to center with the threaded studs pointed the same direction. Snug the jam nuts against the center adapter. Attach the SwayBar Linkage to the Clamp-On Mount using the hardware on the linkage. Attach the correct tab to the top of the linkage with the gusset to the front. Use **Diagram 11** as a reference. Attach the linkages and tab to both sides.



12. Swing the tab up to the frame, keeping the linkage straight from side to side. Use the tab to mark the location of the holes that will need to be drilled. Drill the holes with a 3/8" drill bit. Install a 3/8" flat washer on each of (2) 3/8"-16 x 1 1/4" hex bolts and install them through the bracket and drilled holes. Install a 3/8" flat washer & 3/8"-16 nylok nut on each bolts sticking through the frame. Torque the hardware and repeat on the other side.



13. Install the locking rings on the outside of each bushing assembly. Use a hex key to take the locking ring apart. Reassemble it on the bar positioned next to the outside of the bushing assembly. Push the locking ring up against the bushing assembly and tighten.

14. We recommend getting the swaybar as level as possible at ride height and with no preload. Both of these steps are done by adjusting the end links. These end links can be adjusted from 4 1/8" to 4 7/8". Disconnect the end links from the swaybar and adjust one side to get the swaybar level. Reattach the end link to the swaybar and adjust the 2nd end link so that it goes in and out of the clamp-on mount with ease. This will be zero preload. The rate of this sway bar is also adjustable. This is possible by changing the position of the clamp-on ends on the bar. The standard setting is with the clamp-on mounts even with the end of the bar, stiffest is with the clamp-on end positioned 3" from the end of the swaybar. The Diagram below shows the clamp-on mount in the softest and stiffest settings. The position of the mounts will be determined by several factors; spring rate, front bar size, and even tire size.

MINIMUM RATE 200 LB/INCH

HIGH RATE 350 LB/INCH

