



Part # 11565010- 1989-1996 C4 Corvette StreetGrip System

Recommended Tools

Kit Components:

11569500	Front Delrin Control Arm Bushing Kit
11569120	Front SwayBar
11560110	Front & Rear HQ Series Shocks
11519122	Rear SwayBar



1989-1996 Corvette StreetGrip System Installation Instructions

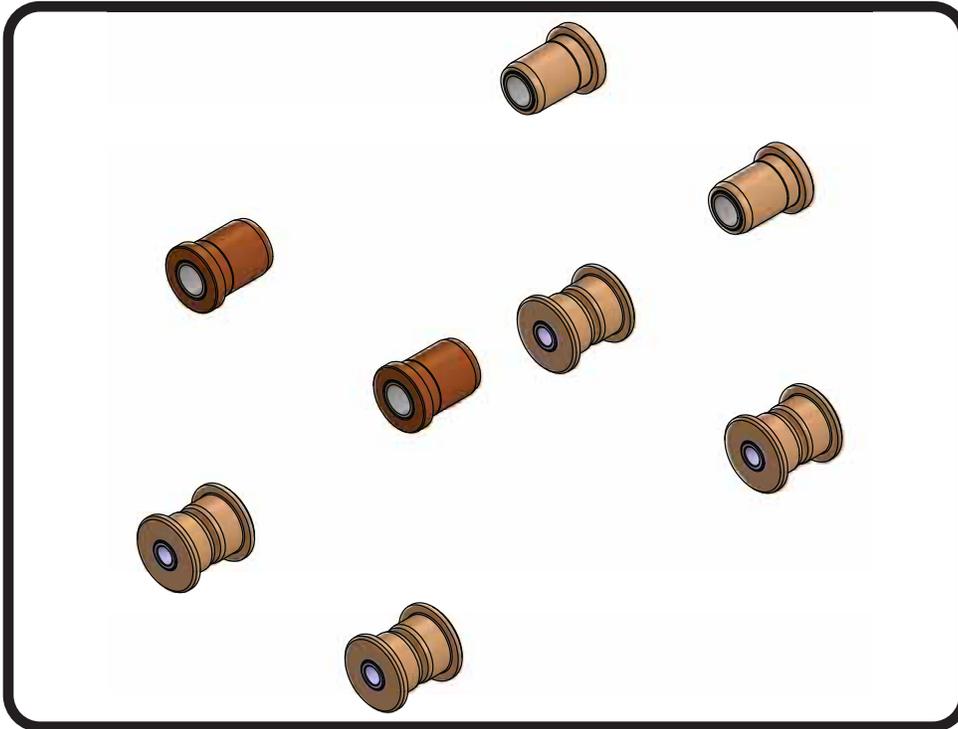
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Part # 11569500 - 89-96 Corvette Delrin Bushing Kit



Recommended Tools



89-96 C4 Delrin Control Arm Bushing Kit Installation Instructions

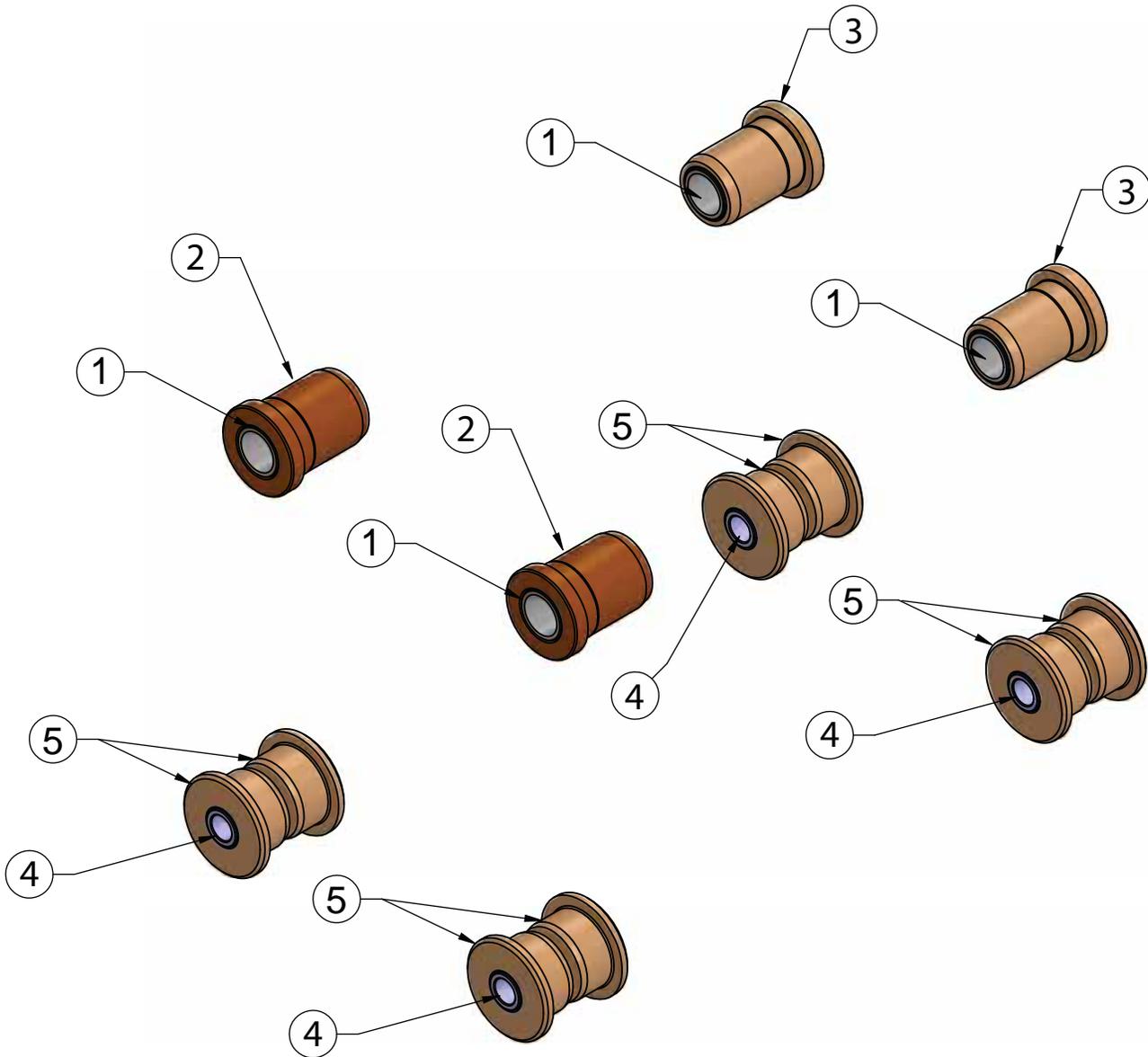
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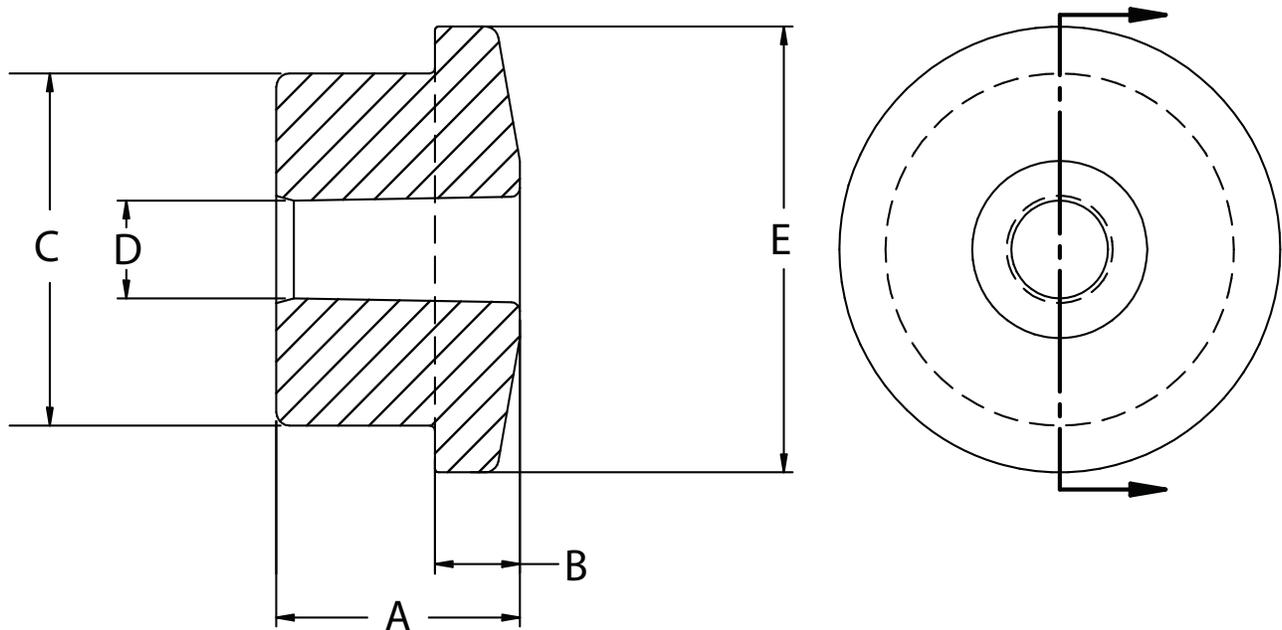
Included ComponentsIn the box



Item #	Part #	Description	QTY
1	90003108	Upper Inner Bushing Sleeve	4
2	70014075	Upper Forward Bushing	2
3	70014076	Upper Rear Bushing	2
4	90003109	Lower Inner Bushing Sleeve	4
5	70014082	Lower Bushing	8



Bushing & Sleeve Dimensions



Bushing Dimensions

Item #	Part #	A	B	C	D	E
2	70014075	2.075	.295	1.471	.990	1.750
3	70014076	2.080	.295	1.345	.990	1.750
5	70014082	.940	.188	1.530	.740	2.00

Inner Sleeve Dimensions

Item #	Part #	OD	ID	Over All Length
1	90003108	.988"	.800"	2.105"
4	90003109	.739"	.500"	2.125"

Disassembly

Congratulations on your purchase of the Ridetech C4 Control Arm Delrin Bushing Kit. This kit has been designed to help improve your Corvette's handling along with providing a lifetime of enjoyment. The Delrin Bushing Kit will improve your cars handling characteristics by eliminating the deflection at the bushing.

1. We recommend doing one control arm at a time to simplify installation of the bushings.
2. Raise the vehicle and support it by the frame, allowing the suspension to hang freely.
3. With the wheels and tires removed, disconnect the shocks, and sway bar linkage from the lower control arms, retaining the hardware.
4. Support the Rotor Assembly when removing any of the control arms to prevent unnecessary strain on the brake lines and ABS sensor wires.



Disassembly

5. With the rotor and hub supported, remove the Front Upper Control Arm by , first removing the ball joint nut and using a ball joint separator to release the ball joint from the control arm.
6. Remove the access panel above the control arm. If doing an early C4, you will need to prop the hood up to remove the hood prop from the passenger side.
7. Next, remove the (2) nuts attaching the upper cross shaft to the car. Mark any shims that may be behind the cross shaft. You will need to put these back in the same location when reinstalling the control arm. You will have to push the upper mounting bolts toward the engine to remove the upper control arm.

Front Upper Bushing Removal



8. Remove the outer nuts and washers and retain them. Press the bushings out of the control arm. We used a "H" press to remove ours. Use the cross shaft to push the bushings out. Push out the bushing with the small inner washer first. After pushing it out, the large inner washer can be removed from the cross shaft to be able to push the remaining bushing out.

9. Once the Bushing Assembly is removed from the arm, prep the bushing opening by cleaning it to remove any debris that may be left in the opening. **Remove the inner washer from the cross shaft, they will NOT be reused.**

Front Upper Bushing Installation



10. Install the Inner Sleeve in the upper control arm bushings. You can tap it in with a hammer or use an arbor press. The front upper bushings are 2 different sizes with the front bushing being the larger of the 2. Make sure you have the correct bushings for the location.



Front Upper Bushing Installation



11. Tap the bushing/sleeve into the control arm. Support the inside of the control arm, but make sure the opening is large enough for the control arm bushings to pass through.



12. Insert the cross shaft through the side of the control arm that doesn't have a bushing installed.



13. Tap the remaining bushing into the control. To do this, support the inside of the control arm. Again, make sure the opening is wide enough for the bushing to pass into it. We used a large deep well socket to tap the bushing in.

**Control Arm Mounting Bolts Torque Spec:
48 ftlbs**

Repeat on other side.



Front Upper Bushing Installation



14. Reinstall the OEM outer washers and nuts. Torque the nuts 35-40 ftlbs.



15. Reinstall the upper control arm. Make sure the upper mounting bolts are seated in the frame. Reinstall the shims stacks that came out of the car. Torque the nuts to 37 ftlbs.



16. Insert the upper ball joint into the spindle. Reinstall the castle nut and torque to 33 ftlbs. Check alignment of the cotter pin hole. If it does not line up with an opening in the castle nut, tighten the nut until it does line up. Reinstall the cotter pin and bend the ends to keep it in place.

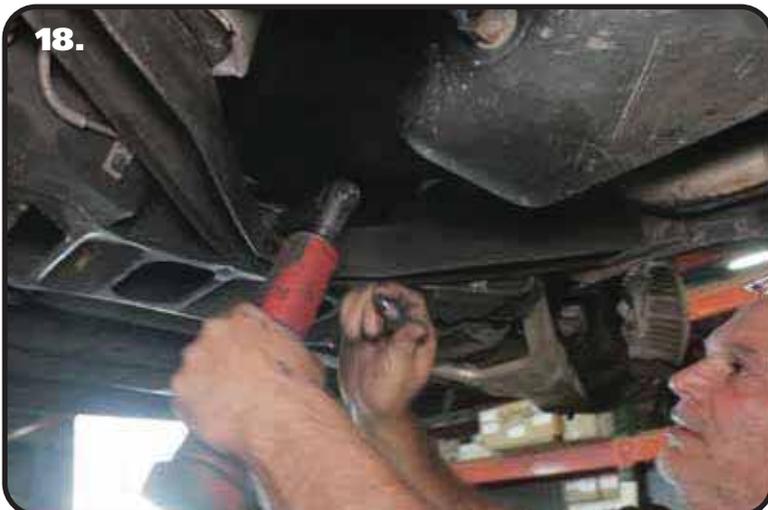
Repeat on other side.



Lower Control Arm Removal



17. The spring travel limiter will need to be removed. There are 2 vertical bolts and 2 horizontal bolts.



18. Later cars have a brace on the back side of the crossmember that will need to be removed to allow for removal of the rear control arm bolt. Remove the nuts from the lower control arm bolts to prepare for control arm removal.



19. Support the hub/spindle and separate the ball joint from the spindle. With the ball joint separated, remove the control arm bolts and the control arm.



Lower Control Arm Bushing Installation

20.



20. Press the bushings out of the control arm. We used a "H" press to remove ours. Once the Bushing Assembly is removed from the arm, prep the bushing opening by cleaning it to remove any debris that may be left in the opening.

21.



21. Insert a bushing half in each opening of the control arm. The front and rear bushings are the same size.

22.



22. Tap the bushings in until they are seated.



Lower Control Arm Bushing Installation



23. Push the inner sleeves into the Delrin bushings. We used an Arbor Press, but a bench vise will work for this.

NOTE: If you are installing Ridetech CoilOvers, remove the traverse leaf spring before reinstalling the lower control arms.



24. Reinstall the lower control arms in reverse order of how they were removed.



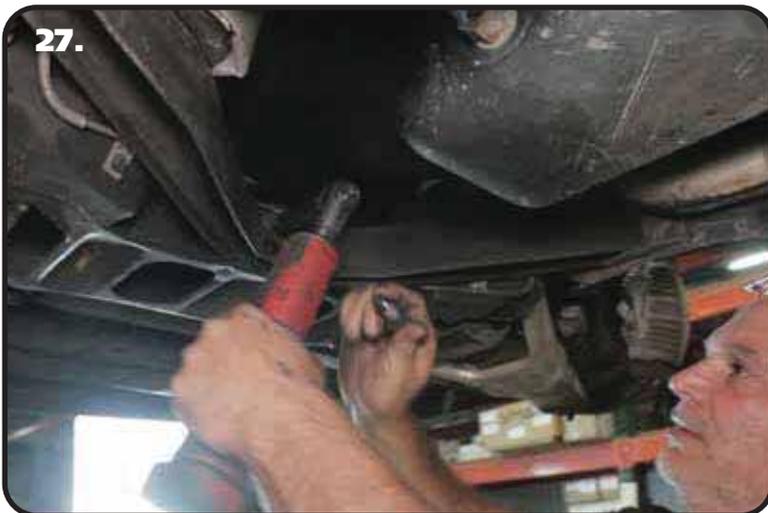
25. Insert the lower ball joint into the spindle. Reinstall the castle nut and torque to 50 ftlbs. Check alignment of the cotter pin hole. If it does not line up with an opening in the castle nut, tighten the nut until it does line up. Reinstall the cotter pin and bend the ends to keep it in place.



Finishing.....



26. Reinstall the spring travel limiter.



27. Reinstall the crossmember brace if working on a later model Corvette.

27. If you are installing Ridetech HQ Series Shocks and Sway Bars, refer to their instructions.

Anytime you change suspension components, have the car aligned!



Part # 11569120 - 1989-1996 C4 Front SwayBar



Recommended Tools



1989-1996 C4 Front SwayBar Installation Instructions

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Page 14-16..... SwayBar Installation

Hardware Torque Specifications

5/16"-18	17 ftlbs
3/8"-16	30 ftlbs
M10-1.5.....	37 ftlbs

Major ComponentsIn the box

Part #	Description	QTY
90003165	Front SwayBar	1
90003167	Sway Bar Bushing Frame Spacer	2
90003159	Control Arm Linkage Mount - Driver	1
90003160	Control Arm Linkage Mount - Passenger	1
70015014	Lined Sway Bar Bushing	2
90002513	Sway Bar Bushing Strap	2
90001258	End Link Adapter Spacer	4
70014722	Locking Rings	2

END LINK ASSEMBLY

Part #	Description	QTY
70014735	10mm Female with Stud	2
70014736	10mm Male with Stud	2

HARDWARE KIT.....99010126

QTY	Part Number	Description
SWAYBAR BUSHING FRAME SPACER		
2	99111003	M10-1.5 X 40mm Hex Bolt
SWAYBAR BUSHING STRAP		
2	99111017	M10-1.5 X 60mm SHCS Bolt
8	99113002	M10 Flat Washer
2	99371003	3/8"-16 x 1" Hex Bolt
LINKAGE MOUNT TO CONTROL ARM		
2	99373006	3/8"-16 X 2 3/4" Hex Bolt
6	99373002	3/8" SAE Flat Washer
2	99372001	3/8"-16 Nylok Nut

QTY	Part Number	Description
SHOCK BOLTS TO CONTROL ARM		
4	99311031	5/16"-18 x 2 1/4" Hex Bolt
4	99313001	5/16" SAE Flat Washer
4	99312002	5/16"-18 Nylok Nut
END LINKS TO SWAYBAR AND FRAME MOUNT		
4	99112005	M10-1.5 Flange Lock Kit
2	99112001	M10-1.5 Jam Nuts

Getting Started.....

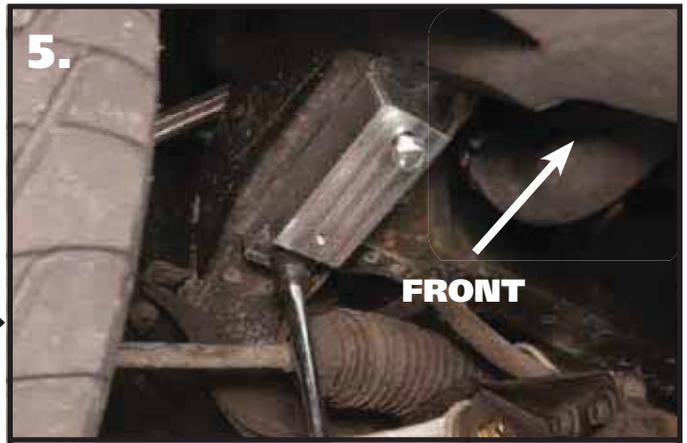
FOR THE BEST PERFORMANCE, WE RECOMMEND USING RIDETECH'S REAR SWAYBAR. THE PART NUMBER FOR THE REAR SWAYBAR IS 11569122.

This sway bar kit utilizes a anti-friction lining in the sway bar bushing. The lining allows the sway bar to move freely and quietly in the bushing. No lubrication is required.

- 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.
3. Remove the OEM end links.



4. Open the Sway Bar Bushing at the split and slide it **OVER** the sway bar. Do this for both bushings.



5. Bolt the Aluminum Spacer Block to the frame. The spacer bolt is attached to the frame using a M10-1.5 x 40 bolt and M10 flat washer in the rear hole. A M10-1.5 x 60mm SHCS bolt will be used in the front hole for alignment purposes. Torque the rear bolt. Remove the front bolt, it will get reinstalled later.



6. Slide the swaybar in place.



7. Install the Bushing Straps on the swaybar bushings.



8. Bolt the bushing straps in place using (1) M10-1.5 x 60mm socket head caps screw and M10 flat washer in the front hole. The rear holes uses (1) 3/8"-16 x 1" bolt and M10 flat washer. Insert the hardware through the bushing strap bolting the strap in place. **DO NOT TIGHTEN THE HARDWARE** at this time.



9. Remove the front shock bolt. Slide the Control Arm Linkage Bracket in place. It will mount at the OEM linkage location with a tab the uses the front shock bolt. There is a Driver & Passenger bracket. They will only fit on their corresponding side.



10.

10. Remove the front shock bolt. Slide the Control Arm Linkage Bracket in place. It will mount at the OEM linkage location with a tab that uses the front shock bolt. There is a Driver & Passenger bracket. They will only fit on their corresponding side.



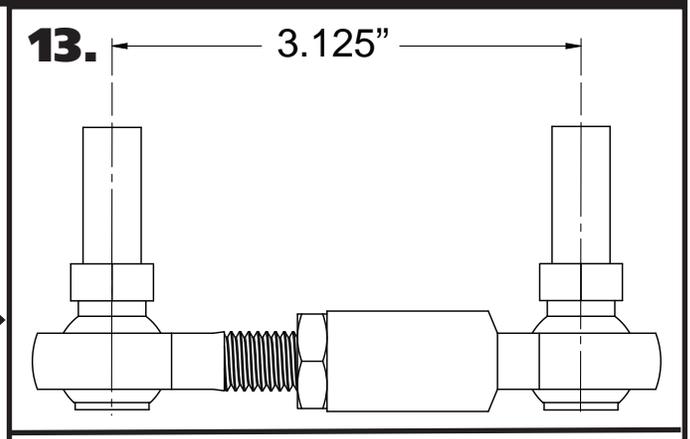
11.

11. Install a 3/8"-16 x 2 3/4" bolts through the bracket and OEM linkage location. Install a 3/8" flat washer and 3/8"-16 nylok nut on the threads of the bolt that are sticking through the bracket. Do Not Tighten until the shock bolt has been installed.



12.

12. Install a 5/16"-18 x 2 1/4" bolt through the outer tab and through the shock t-bar/control arm. Install a 5/16" flat washer and 5/16"-18 nylok nut on the threads sticking through the control arm. Torque all hardware.



13.

3.125"

13. Assemble the end links. First, thread a M10-1.5 Jam Nut onto the threads of the male endlink body. Next, thread the male endlink body into the female endlink body. Set them to 3 1/8" center to center of the endlinks. Keep the end links parallel with each other and tighten the jam nut against the female endlink.



14.

14. Install a T-bushing on one end of the linkage (small diameter out), with a 3/8" flat washer on the other end. The end with the T-bushing will be the TOP end of the linkage that will be installed in the swaybar end.



15.

15. Install the Linkage with the Studs pointing to the wheel. The linkage will be installed with the previously installed t-bushing in the swaybar end.



16. Install a 3/8" flat washer followed by a M10-1.5 serrated lock nut on the threads of the lower stud of the linkage.



17. Install a 2nd T-bushing on the threads of the upper stud with the small diameter sticking into the swaybar end.



18. Install a M10-1.5 serrated lock nut on the threads of the upper stud of the linkage. Repeat Steps 13-17 on the other side. Torque the hardware.



19. Center the swaybar on the mounts and torque the bushing strap hardware.



20. Disassemble the Locking Rings provided in the kit. The locking rings will need to be installed against the inside edge of the swaybar bushings. Assemble each locking ring against the swaybar bushing and tighten.



Part # 11560110 - 1989-1996 C4 HQ Series Shocks



Recommended Tools



1989-1996 C4 HQ Series Shocks Installation Instructions

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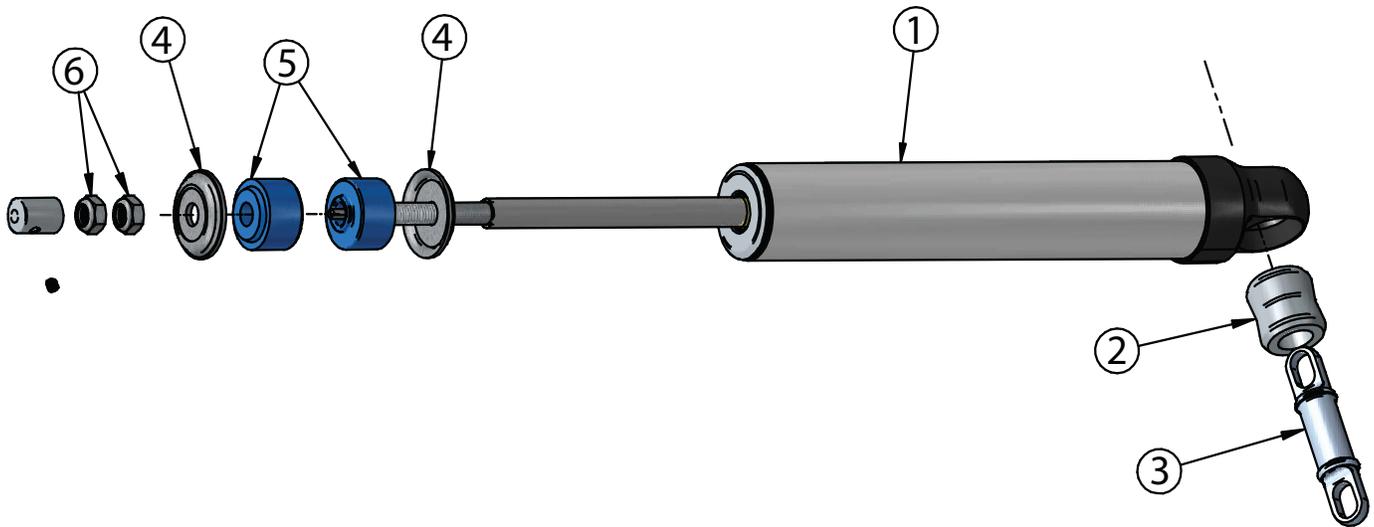




1989-1996 C4 HQ Front Smooth Body Shocks

Major ComponentsIn the box

Item #	Part #	Description	QTY
1	986-10-042	4.75" Stroke Shock	2
2	70011139	5/8" ID Shock Bushing	2
3	90002068	Wide Trunnion	2
4	70012188(kit)	Bushing Support Washer	4
5	70012188(kit)	Stem Bushing	4
6	99372006	3/8"-24 Thin Jam Nut	4
	85000020	Hex Key for Adjustment Knob Set Screw	1

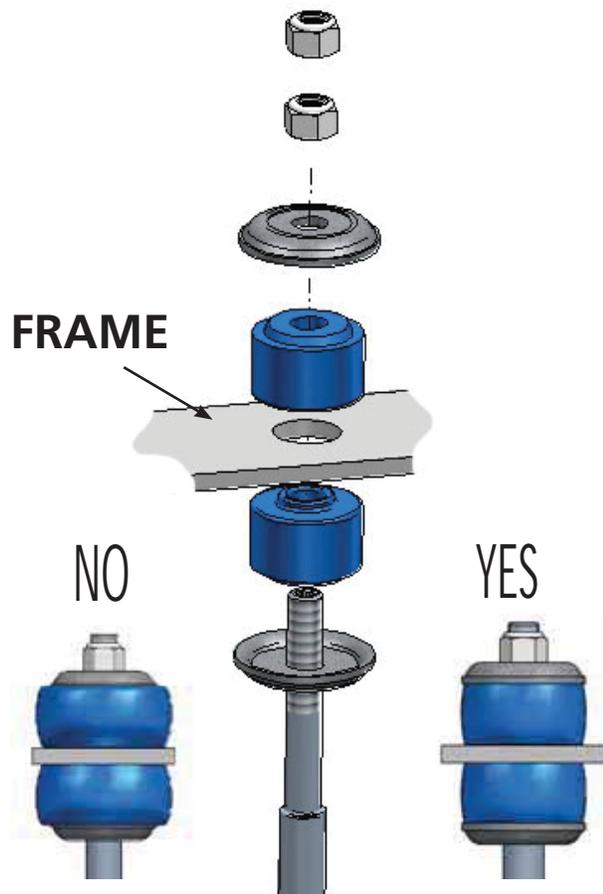


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Front Shock Installation

1.



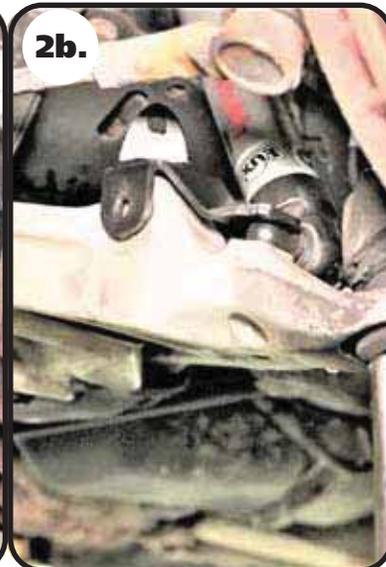
1. With the OEM shock removed, install the Ridetech shock. Remove the adjuster knob by loosening the set screw using the supplied Hex Key. Install a Bushing Support Washer on to the shock shaft followed by a Shock Stem Bushing. Insert the assembly through the factory shock hole in the frame. With the shock stud sticking through the frame, install a Shock Stem Bushing on to the shock stud followed with a Bushing Support Washer. Install a 3/8"-24 Thin Jam nut onto the threads and tighten to 35 inlbs. The Bushing should be tight, but not to the point that the bushing is bulging past the Support Washer. Install the 2nd 3/8-24 Thin Jam nut and tighten it against the first nut. Reinstall the Adjuster Knob, align the set screw with the FLAT side of the adjuster shaft that is sticking out of the top of the shock shaft.

NOTE: It may be necessary to remove the OEM Speed Nuts from the Control Arm to allow room for the Shock to slide through the opening in the Control Arm. The Speed Nuts can be reinstalled after the Shock is in position.

2a.



2b.



2a. Attach the Trunnion to the OEM control arm using the OEM hardware. It made be necessary to rotate the Trunnion to get it in the correct position. This can be done by sticking a screwdriver in one of the slots and spinning the trunnion in the shock bushing.

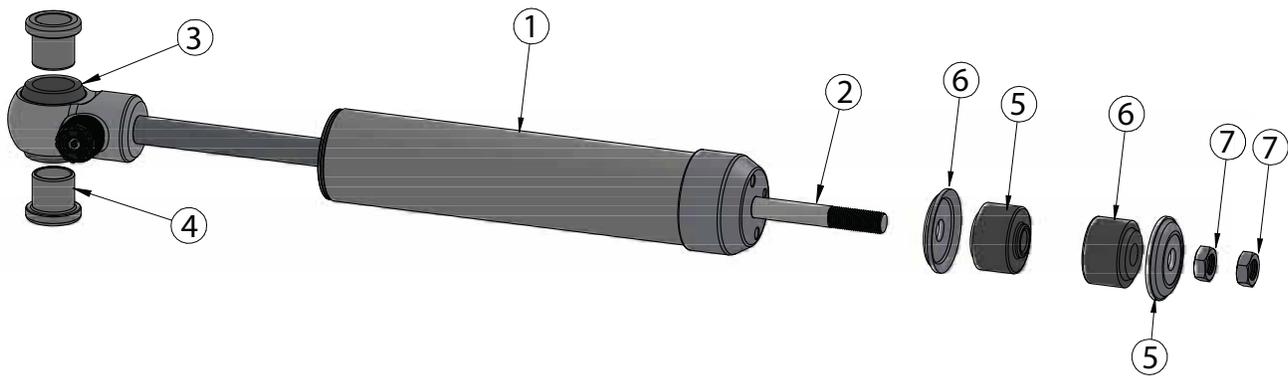
2b. If installing the Ridetech Front SwayBar, install the Control Arm Bracket at this time.



1989-1996 C4 HQ Rear Smooth Body Shocks

Major ComponentsIn the box

Item #	Part #	Description	QTY
1	986-10-039	4.75" Stroke HQ Series Shock	2
2	72000224	Shock Stud - threaded into shock body	2
3	70011138	3/4" ID Shock Bushing	2
4	70011190	5/8" ID Shock Sleeve Half - 2 per bushing	4
5	70011140	Shock Stud Bushing	4
6	70011141	Shock Stud Bushing Washer	4
7	99372006	3/8"-24 Thin Jam Nut	4



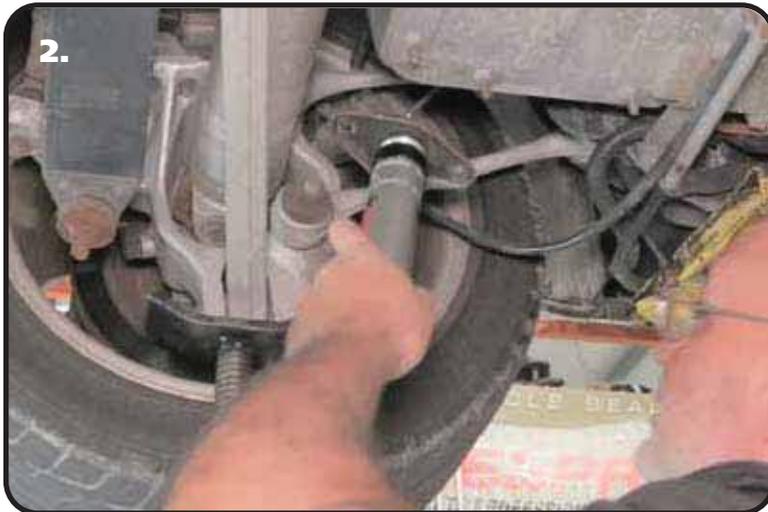
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Rear Shock Installation



1. Start by removing the OEM shock. Remove the upper mount from the shock, it will be reused on the Ridetech shock. Install a Bushing Support Washer on to the shock shaft followed by a Shock Stem Bushing. Insert the assembly through the factory shock hole in the frame. With the shock stud sticking through the frame, install a Shock Stem Bushing on to the shock stud followed with a Bushing Support Washer. Install a 3/8"-24 Thin Jam nut onto the threads and tighten. Tighten until the bushing is tight, but not to the point to where the bushing is bulging past the Support Washer. Install the 2nd 3/8-24 Thin Jam nut and tighten it against the first nut.



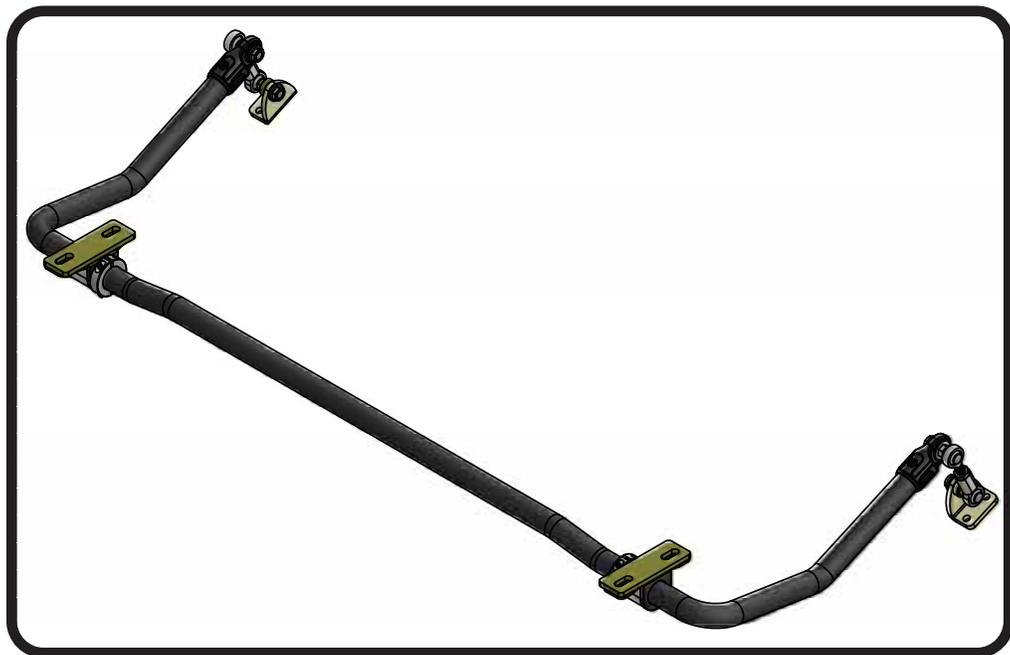
2. Install the shock/upper mount in the car. It will be reattached using the OEM hardware. Torque the hardware to 37 ftlbs.



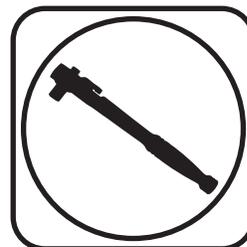
3. With the upper Shock installed, attach the lower eyelet of the shock to the OEM shock stud. Use the OEM hardware to attach the shock.



Part # 11569122 - 1989-1996 C4 Rear SwayBar



Recommended Tools



1989-1996 C4 Rear SwayBar Installation Instructions

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Page 23..... Included Components and Hardware List

Page 24-26..... SwayBar Installation



Major ComponentsIn the box

Part #	Description	QTY
90003161	Rear SwayBar	1
90003164	SwayBar Bushing Frame Spacer	2
90003162	Control Arm Linkage Mount	2
70012402	Delrin SwayBar Bushing Liner	2
90002539	SwayBar Bushing	2
90002533	SwayBar Bushing Strap	2
90001258	End Link Adapter T-Bushing	4
90003163	End Link Spacer (.300" Thick)	2
70014721	Locking Rings	2

END LINK ASSEMBLY (Preassembled)

Part #	Description	QTY
70014735	10mm Female with Stud	2
70014736	10mm Male with Stud	2
99112001	M10-1.5 Jam Nut	2

HARDWARE KIT.....99010127

QTY	Part Number	Description
END LINK MOUNTS TO KNUCKLE		
4	99311011	5/16"-18 x 1 1/4" Hex Bolt
4	99313001	5/16" SAE Flat Washer
4	99312002	5/16"-18 Nylok Nut
END LINKS TO KNUCKLE MOUNT		
4	99113002	M10 Flat Washer
END LINKS TO SWAYBAR AND FRAME MOUNT		
4	99112005	M10-1.5 Flange Lock Kit

Getting Started.....

FOR THE BEST PERFORMANCE, WE RECOMMEND USING RIDETECH'S FRONT SWAYBAR. THE PART NUMBER FOR THE FRONT SWAYBAR IS 11569120.

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.

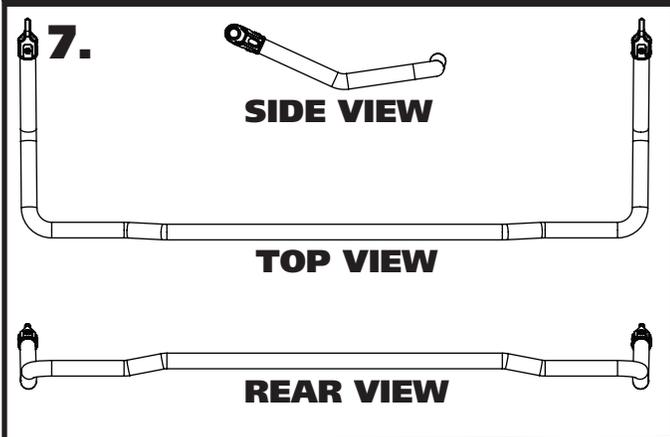
- 1. Jack the vehicle up to a safe working height and support with jack stands. Make sure the jack stands are stable before working under the car.**
2. Remove the spare tire and spare tire carrier from the car for easier access to the swaybar. It will be reinstalled later.
3. Remove the stock sway bar and endlinks. To remove the bar, the rear of the exhaust will need to be disconnected from the car. You need to be able to pull the exhaust down to remove the OEM bar and install the new Ridetech swyabr.
4. Remove the OEM end links mounts from the knuckle.



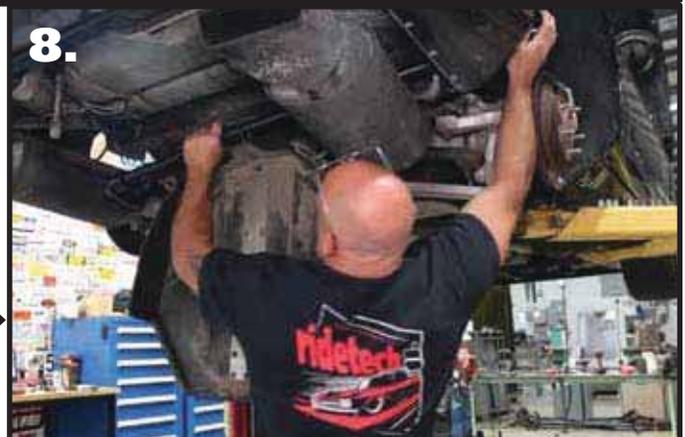
5. Open the Delrin Liner at the split and slip it over the SwayBar. Position it in the area that the bushing will ride based on the location of the stock swaybar. Do this on both ends of the swaybar.



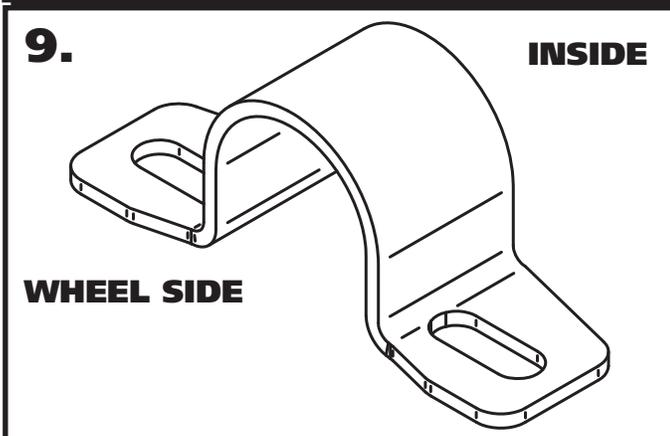
6. Open the SwayBar Bushing at the split and slide it **OVER** the Delrin Liner. Do this on both Delrin Liners.



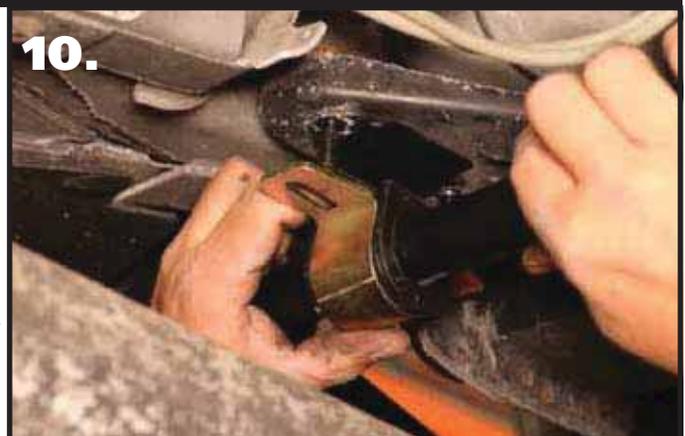
7. Slide the swaybar in place.



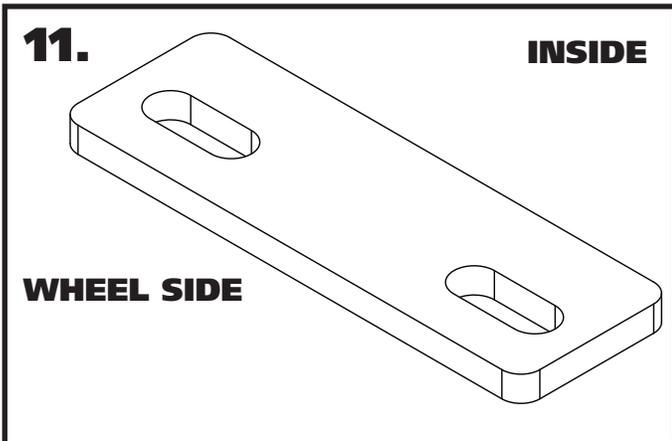
8. Slide the swaybar in place. The rest of the exhaust may need to be pulled down to get the swaybar installed.



9. The bushing straps included in this kit are offset. The straps need to be installed on the car with the bolt holes offset to the wheel side of the bushing strap.



10. Install the Bushing Straps on the swaybar bushings. They need to be installed with the bolt holes offset towards the wheel.



11. Just like the bushing straps, the bushing spacers included in this kit are offset. The bushing spacers need to be installed on the car with the bolt holes offset to the wheel side of the bushing strap.



12. Install the bushing spacers under the swaybar bushings. They need to be installed with the bolt holes offset towards the wheel. The spacers will slide over the OEM mounting studs.



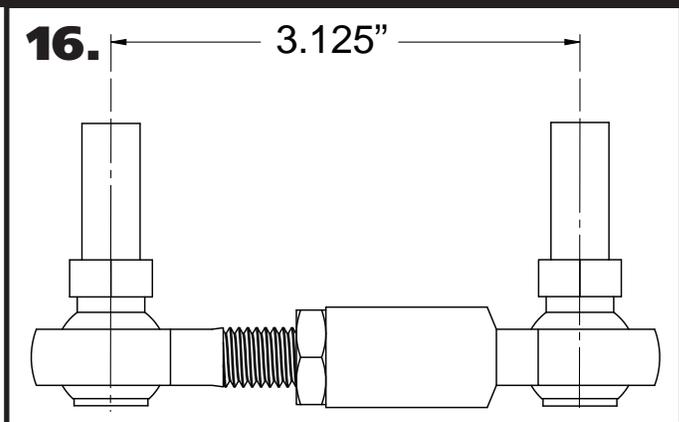
13. The swaybar bushings/straps will slip in place on the OEM studs. Push the swaybar up in place. Reuse the OEM hardware to attach the swaybar bushings/swaybar to the car. Torque nuts to 18 ftlbs.



14. Use the OEM hardware to reattach the gas tank safety cables to the swaybar mounting studs.



15. Install the new linkage mounts in place of the OEM mounts. They are installed with the mounting holes to the wheel. Line up the mounting holes with the OEM holes. Install a 5/16"-18 x 1 1/4" bolt, flat washer, and 5/16"-18 nylok nut. Torque hardware to 25 ftlbs.



15. Assemble the end links. First, thread a M10-1.5 Jam Nut onto the threads of the male endlink body. Next, thread the male endlink body into the female endlink body. Set them to 3 1/8" center to center of the endlinks. Keep the end links parallel with each other and tighten the jam nut against the female endlink.

17.



17. Install a T-bushing on one end of the linkage (small diameter out), with a .300" thick spacer on the other end. The end with the T-bushing will be the TOP end of the linkage that will be installed in the swaybar end.

18.



18. Install the Linkage with the Studs pointing to the center of the car. The linkage will be installed with the previously installed t-bushing in the swaybar end.

19.



19. Install a 2nd T-bushing on the threads of the upper stud with the small diameter sticking into the swaybar end.

20.



20. Install a M10-1.5 serrated lock nut on the threads of the upper stud of the linkage.

21.



21. Install a M10 flat washer and M10-1.5 serrated lock nut on the threads of the lower stud of the linkage. Repeat Steps 15-20 on the other side. Torque the hardware to 37 ftlbs.

22.



22. Disassemble the Locking Rings provided in the kit. The locking rings will need to be installed against the inside edge of the swaybar bushings. Assemble each locking ring against the swaybar bushing and tighten.

23. Reattach the exhaust.

24. Reinstall the spare tire and holder.



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 or stud top. You must first begin at the ZERO rebound position, 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 clock wise 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 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.