



### Part # 11390201 - 82-03 GM S10/S15 CoilOver System

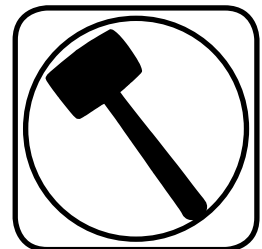
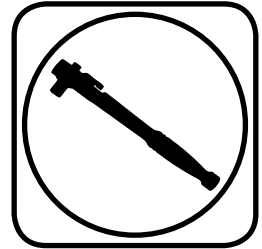
#### Front Components:

11399959	Front TruTurn Control Arm System
11393510	FrontCoilOver
11399100	Front MuscleBar

#### Rear Components:

11397199	Rear StrongArm System
11396510	RearCoilOver

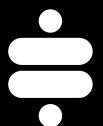
#### Recommended Tools



## 82-03 S10/S15 ShockWave System Installation Instructions

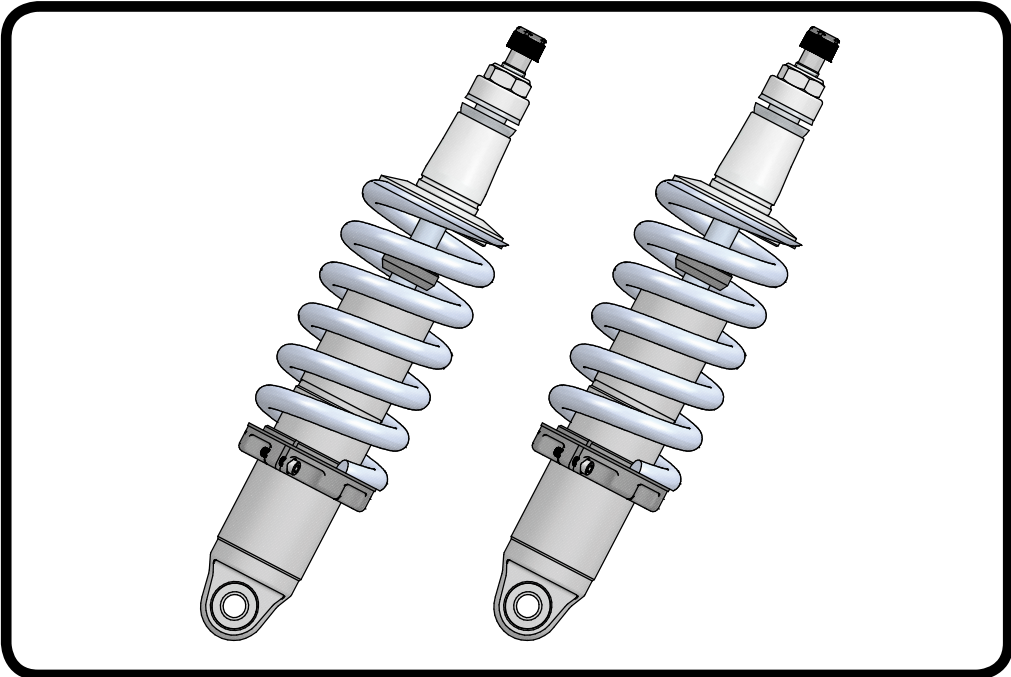
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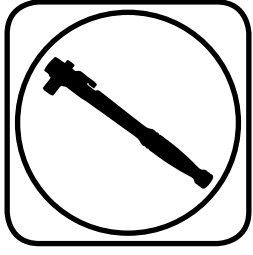




### Part # 11393510 - 1982-2003 S10/S15 HQ Front CoilOvers



#### Recommended Tools



### 1982-2003 S10/S15 HQ Series Front CoilOvers

# Installation Instructions

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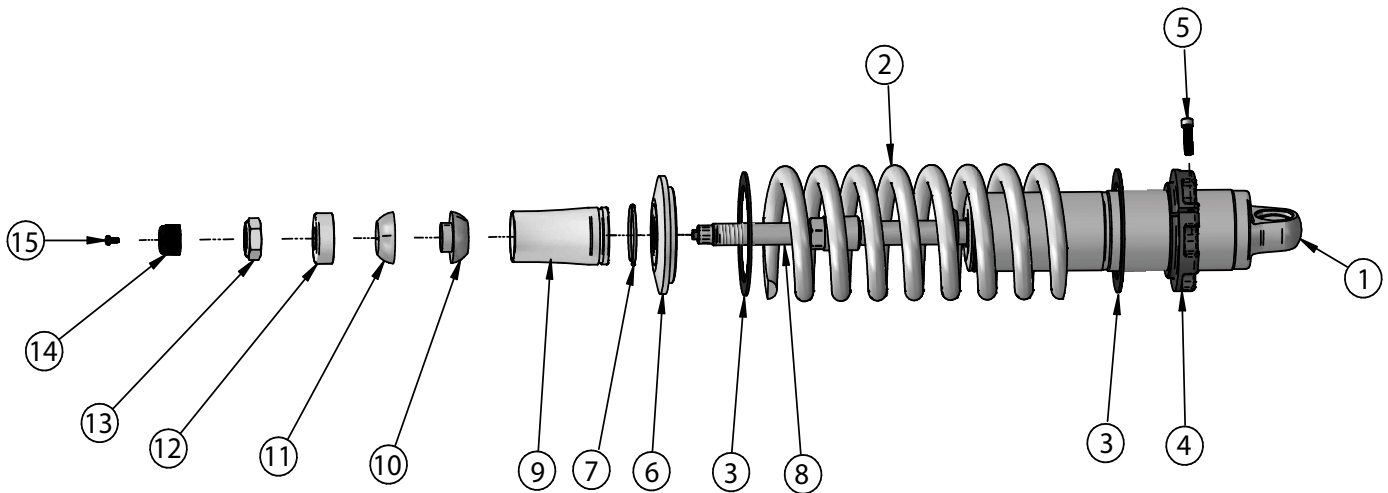
CoilOver Dimensions:

Center of bearing to Stud Mounting Surface:	
Compressed:	9.73"
Ride Height:	10.80"
Extended:	11.93"



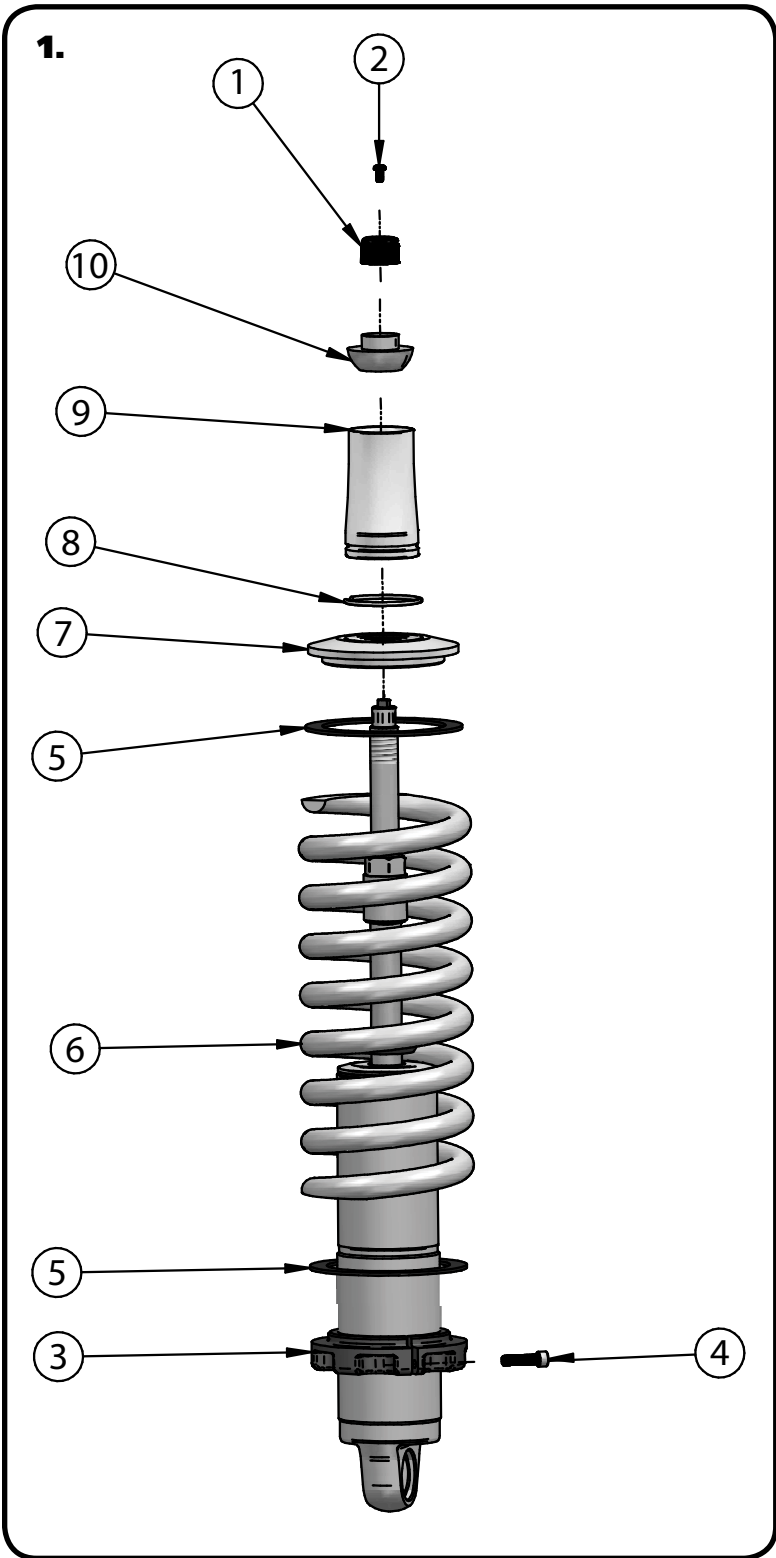
### Major Components .....In the box

Item #	Part #	Description	QTY
1	24139999	3.6" Stroke HQ Series Shock	2
2	59070750	CoilSpring 7" 750lb	2
3	70010828	Delrin Spring Washer	4
4	90002222(kit)	Lower Spring Adjuster Nut (90002222 kit)	2
5	90002222(kit)	Adjuster Nut Locking Screw (90002222 kit)	2
6	90002070	Dropped Upper CoilSpring Retaining Plate	2
7	90002222(kit)	CoilSpring Plate Retaining Ring	2
8	90009988(kit)	2.00" Stud Adjuster Assembly	2
9	90002312	2.00" Stud Top Base	2
10	90001904	Delrin Ball Lower Half	2
11	90001903	Delrin Ball Top Half	2
12	90001902	Delrin Ball Upper Cap	2
13	99562003	9/16-18" Nylok Nut	2
14	90009989(kit)	Shock Adjuster Knob	2
15	90009989(kit)	Adjuster Knob Retaining Screw	2
	90001994	5/8" ID Bearing (installed in shock body)	2
	90001995	Bearing Snap Ring (installed in shock body)	4





### CoilOver Assembly

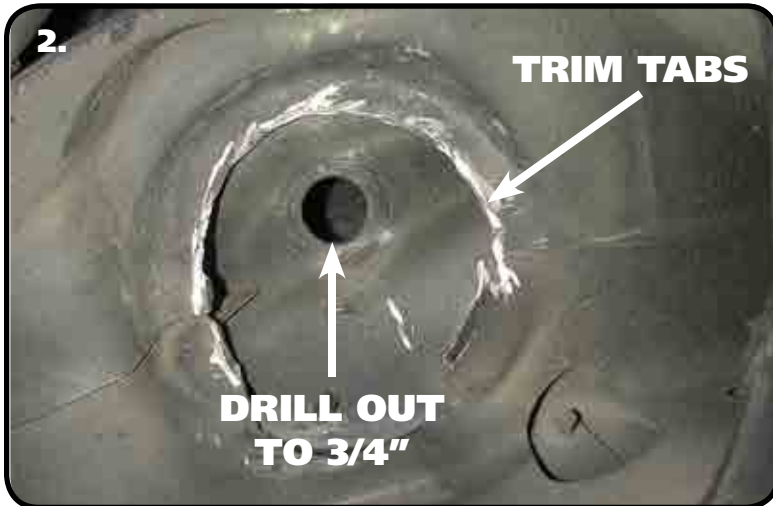


1. To Assemble the CoilOver you need to:
  - a. Remove Screw (2) from center of Adjustment Knob (1) and remove Adjustment Knob.
  - b. Remove Nylok Nut, Delrin Upper Cap, Delrin Upper and Lower Balls, along with the base from the Coliover stud.
  - c. Thread Adjuster Nut (3) onto the CoilOver body. Once it is threaded on the shock body, lightly thread in the locking screw (4) into the Adjuster Nut.
  - d. Install a Delrin Spring Washer (5) onto the Adjuster Nut.
  - e. Slide the CoilSpring (6) onto the CoilOver.
  - f. Install another Delrin Spring Washer (5) on top of the CoilSpring.
  - g. Install the Upper CoilSpring Plate (7) onto the CoilSpring.
  - h. Install the CoilSpring Retaining Ring (8) onto the Stud Top Base (9). It fits into the groove in the base.
  - i. Slide the Stud Top Base onto the shock until it bottoms out on the stud. It may be necessary to thread the Adjuster Nut down the shock body (to lower the spring) if the base will not slide all the way down onto the stud.
  - k. Slide the Lower Delrin Ball (10) (it has the collar sticking up around the center hole) on to the Stud Top.

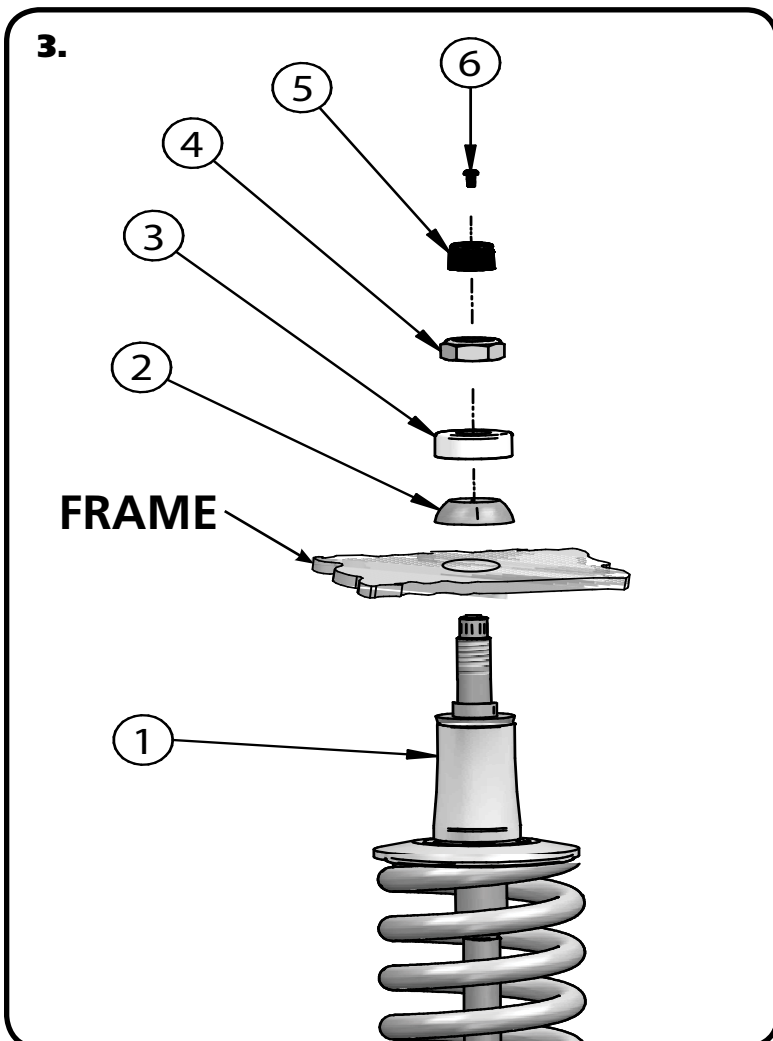
Repeat on second CoilOver.



### CoilOver Installation



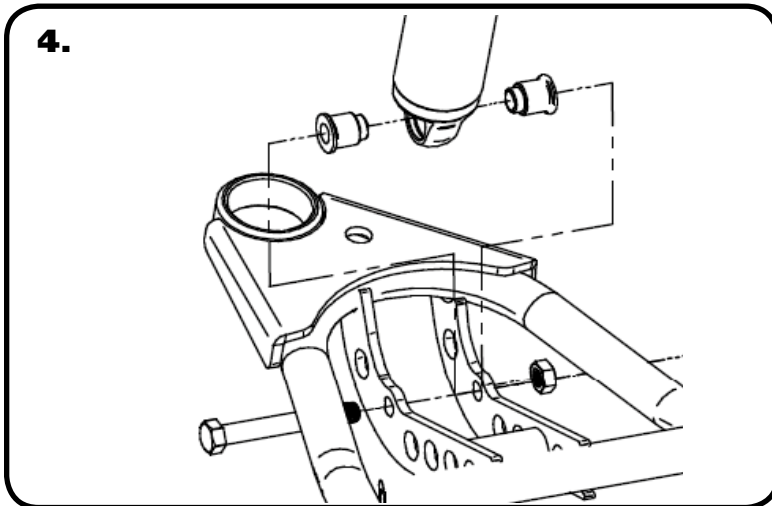
2. The factory shock hole will need to be drilled out to 3/4", this can best be done using a Unibit. The CoilSpring retaining tabs will need to be trimmed to keep them from hitting the CoilOver Spring Retainer.



3. With the CoilOver(1) assembled, it is time to bolt them into the car. Insert to CoilOver Stud Top through the factory hole in the frame. Install the Upper Delrin Ball(2) onto the shock stud with the flat side facing the frame. Next, Install the Delrin Ball cap (3) onto the shock stud with the Concave side facing the Upper Delrin ball. Install the Nylok Nut(3) onto the shock stud and lightly tighten. The needs to be some resistance on the ball but not tight enough that it will not rotate freely. Reinstall the adjuster knob(5) using the screw (6) that was removed during step 1.



### CoilSpring Adjusting



4. Install a spacer on each side of the lower CoilOver. Slide the shock with the spacers installed into the lower control arm. Raise the arm up to line up the holes in the bushing with the 1/2" hole in the control arm straps and hold it in place while you install the 1/2" x 3 1/2" bolt, 1/2" flat washer, and 1/2" Nylok nut. Tighten the upper and lower shock bolts.

### Ride Height

We have designed most cars to have a ride height of about 1 1/2" lower than factory. To achieve the best ride quality & handling, the shock absorber needs to be at 40-60% overall travel when the car is at ride height. This will ensure that the shock will not bottom out or top out over even the largest bumps. Measuring the shock can be difficult, especially on some front suspensions. Measuring overall wheel travel is just as effective and can be much easier. Most cars will have 4-6" of overall wheel travel. One easy way to determine where you are at in wheel travel is to take a measurement from the fender lip (center of the wheel) to the ground. Then lift the car by the frame until the wheel is just touching the ground, re-measure. This will indicate how far you are from full extension of the shock. A minimum of 1.5" of extension travel (at the wheel) is needed to ensure that the shock does not top out. If you are more than 3" from full extension of the shock then you are in danger of bottoming out the shock absorber.

### Adjusting Spring Height

When assembling the CoilOver, screw the spring retainer tight up to the spring (0 preload). After entire weight of car is on the wheels, jounce the suspension and roll the car forward and backward to alleviate suspension bind.

- If the car is too high w/ 0 preload then a smaller rate spring is required. Although threading the spring retainer down would lower the car, this could allow the spring to fall out of its seat when lifting the car by the frame.
- If the car is too low w/ 0 preload, then preload can then be added by threading the spring retainer up to achieve ride height. On 2.6" - 4" stroke shocks, up to 1.5" of preload is acceptable. On 5-7" stroke shocks, up to 2.5" of preload is acceptable. If more preload is needed to achieve ride height a stiffer spring rate is required. Too much preload may lead to coil bind, causing ride quality to suffer.



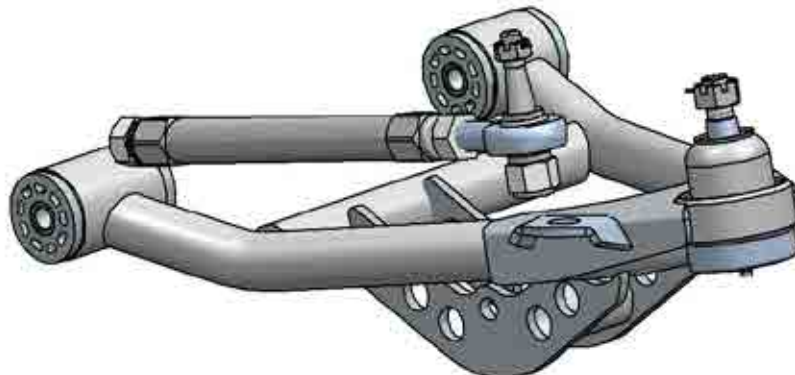
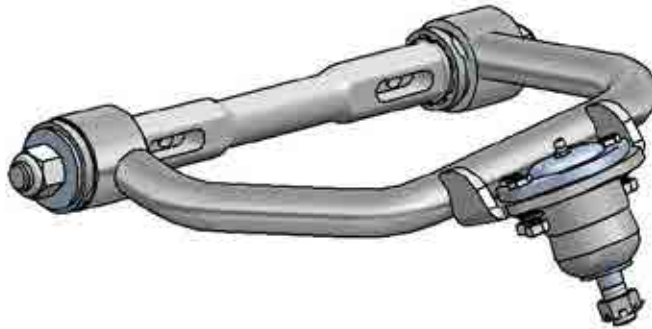
350 S. St. Charles St. Jasper, In. 47546  
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[www.ridetech.com](http://www.ridetech.com)



### Part # 11399599 82-03 S10 Tru-Turn Suspension Package

#### Front Components:

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







### Upper StrongArm Installation

#### 82-03 S10 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	70010807	Zero Offset Caster Slugs

##### Hardware:

4	99431009	7/16-14 x 2 ½" Hex Bolt	Cross shaft to Frame
4	99432001	7/16" -14 Nylok Nut	Cross shaft to Frame
4	99433002	7/16" SAE Flatwasher	Cross shaft to Frame

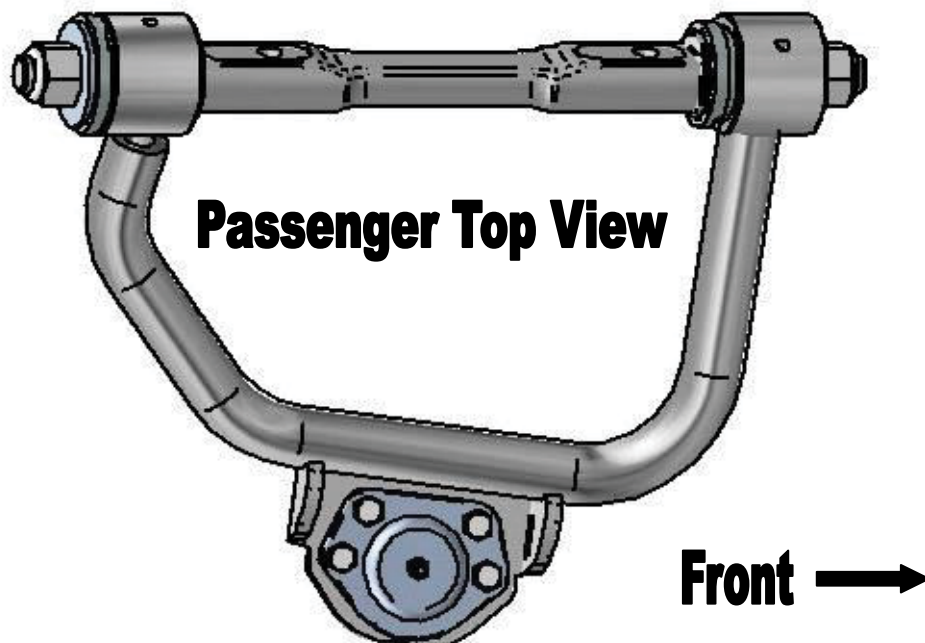




### Upper StrongArm Installation



1. Fasten the upper arm to the frame using the supplied hardware. 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.

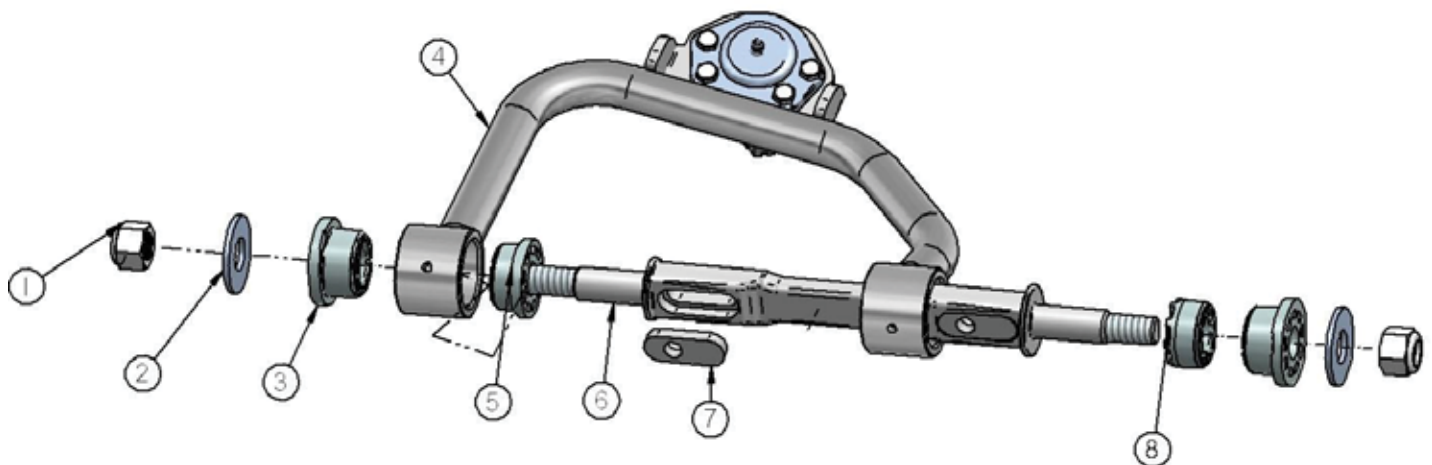




### Upper StrongArm Installation

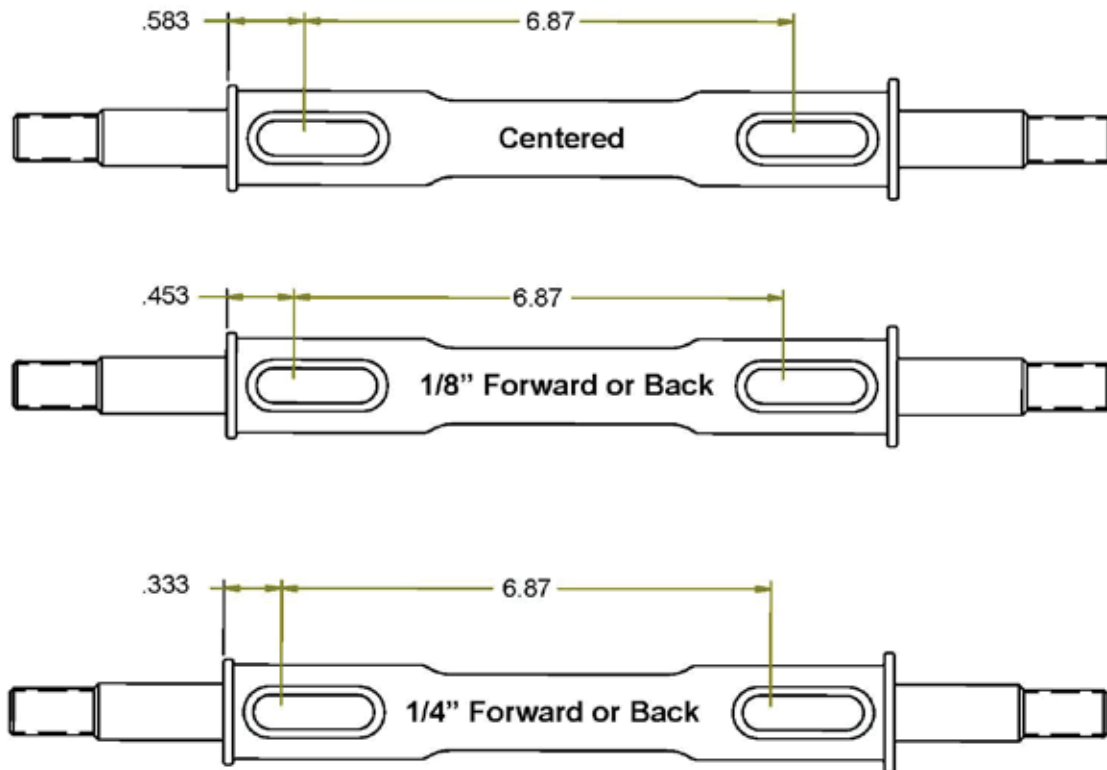
#### Passenger Side – Top View

Item #	Description	Qty.
1.	5/8 – 18 Toplock Jam Nut	4
2.	Outer 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





### Upper StrongArm Installation



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:

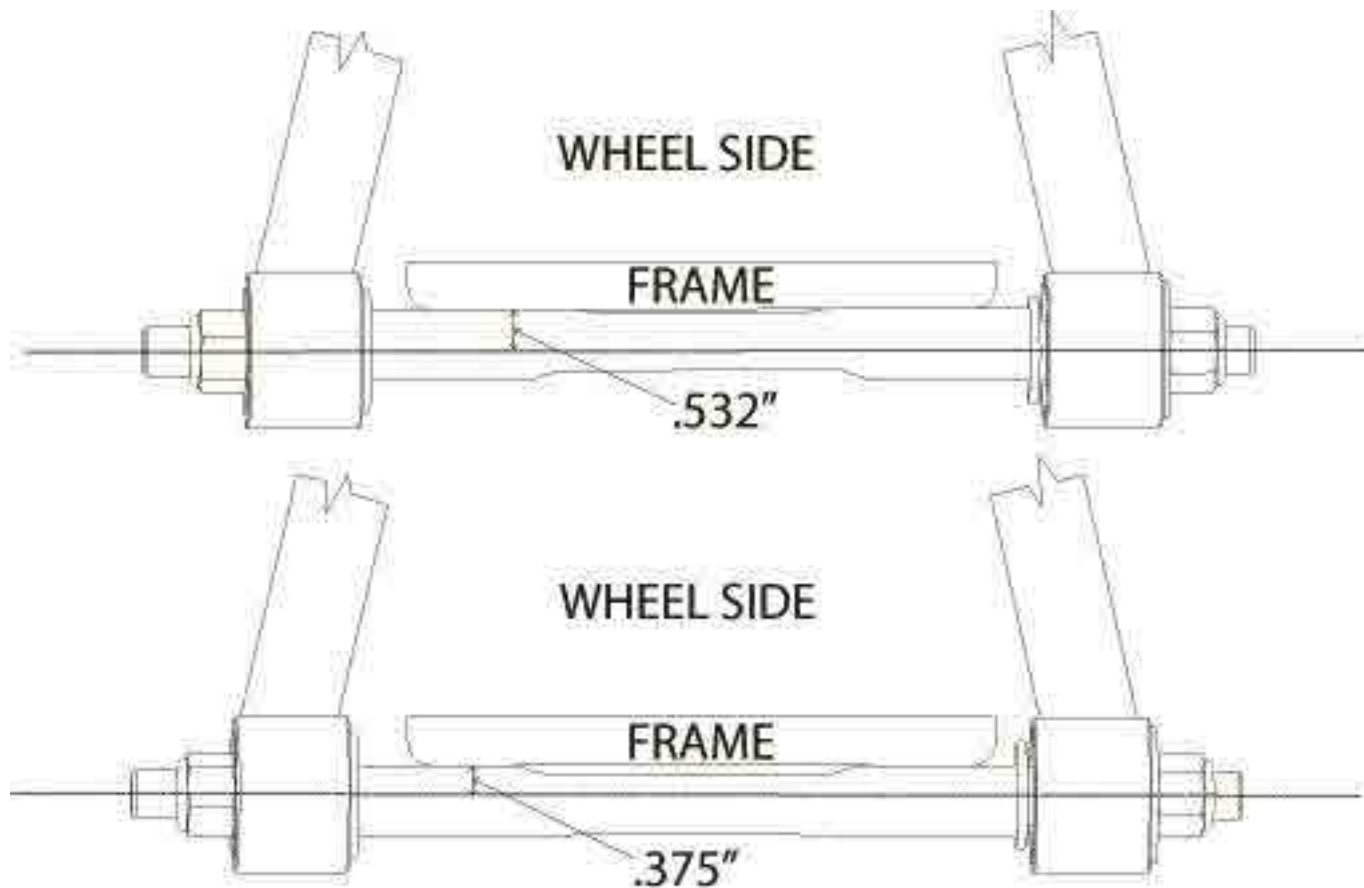
To understand caster you need to picture an imaginary line that runs through the upper ball joint and extends through the lower ball joint. From the side view the imaginary line will tilt forward or backward. The tilting of this imaginary line is defined as caster.

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.



### Upper StrongArm Installation



### 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.



### Lower StrongArm Installation

#### 82-03 S10 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	90000516	Inner bushing sleeve
2	90001094	Inner bushing sleeve
8	70010759	Delrin bushing half
4	90002062	Aluminum spacer – Shock to lower arm

##### Hardware:

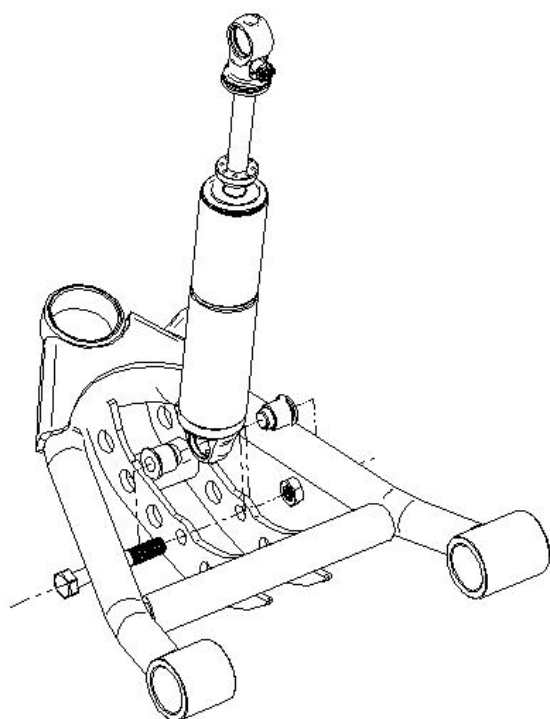
2	99501024	½"-13 x 3 ¼" Gr.5 bolt	Shockwave to lower arm
2	99502001	½"-13 Nylok nut	Shockwave to lower arm



### Lower StrongArm Installation



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.



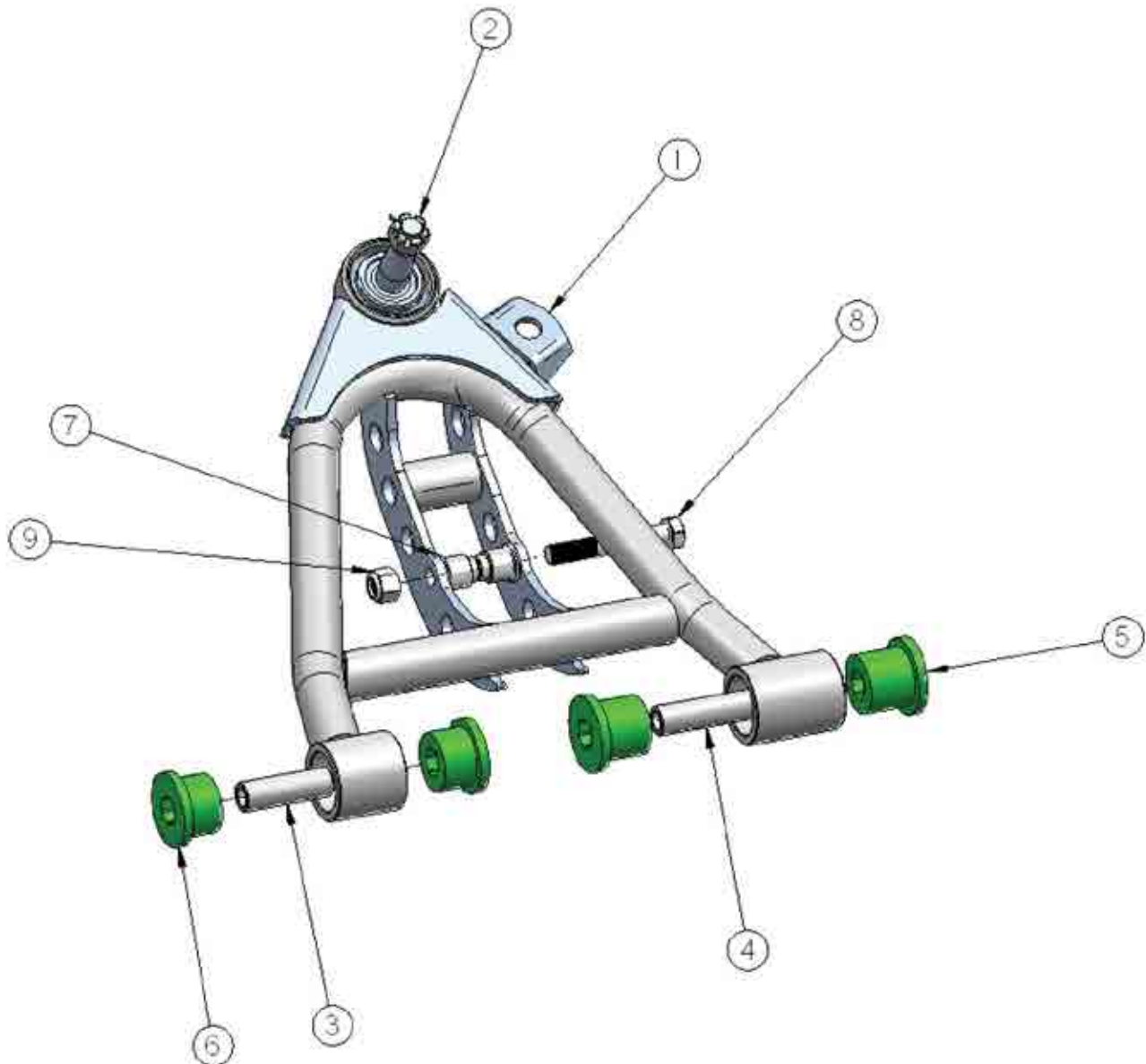
3. Swing the lower StrongArm up to the shock and secure with the  $\frac{1}{2}$ " x  $3\frac{1}{4}$ " bolt and Nylok nut, an aluminum spacer must be installed on each side of the bearing.
4. Slide the ball joint boot over the stud, then push the stud up through the spindle. Secure w/ the new castle nut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





### Lower StrongArm Installation

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 1/4" bolt	1
9.	1/2"-13 Nylok nut	1





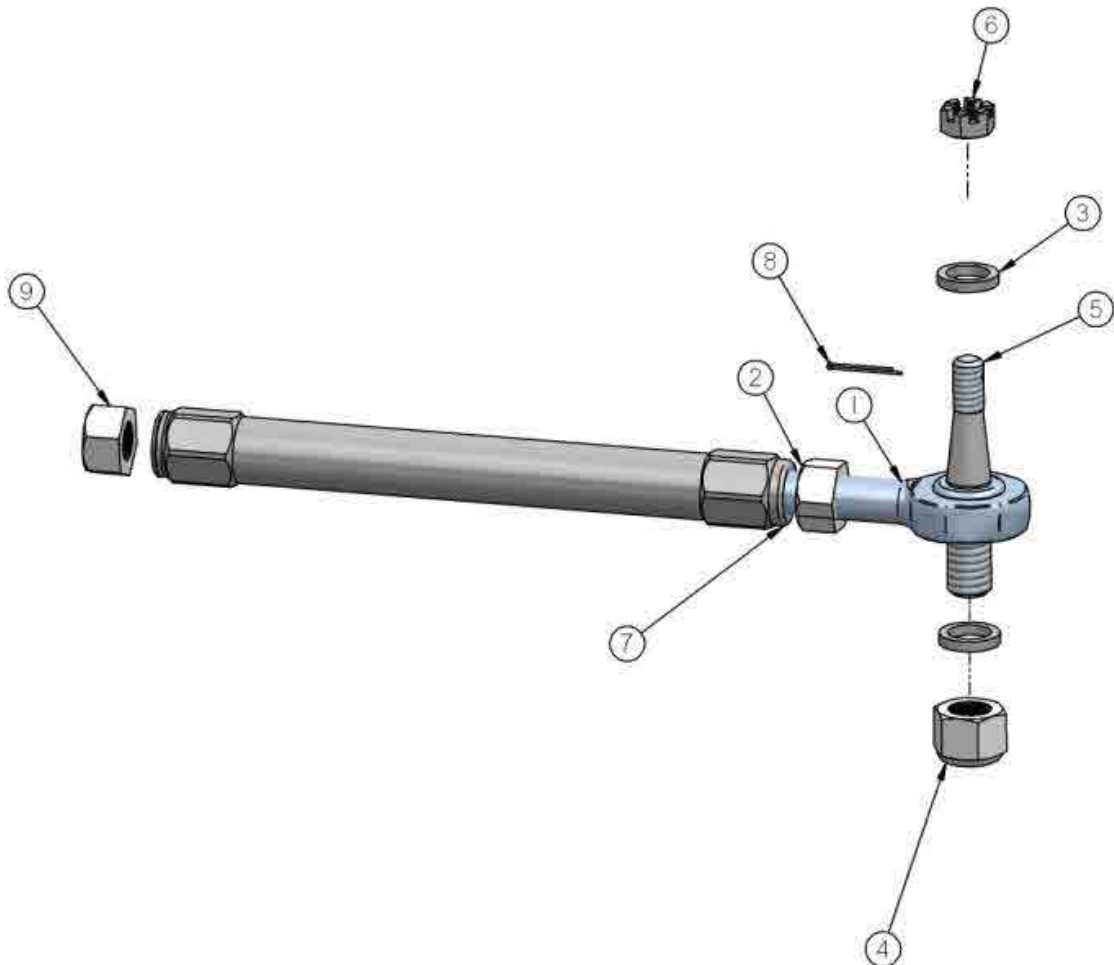


### TruTurn Installation

#### 82-03 S10 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" cotterpin	2
9.	99800003	5/8"-18 LH jam nut	2





### TruTurn Installation

#### 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.
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:

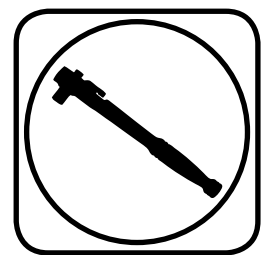
- A. MAKE SURE that the cotter pins are properly installed in all appropriate places [C] to ensure that the castle nuts do not become loose and fail. These are VERY important connections!



**Part # 11399100 - 1982-2003 S10/S15 Front MuscleBar**



**Recommended Tools**



**1982-2003 S10/S15 Front MuscleBar  
Installation Instructions**

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Page 19..... Included Components and Hardware List  
Page 20..... MuscleBar Installation



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

Part #	Description	QTY
1399101	Front MuscleBar with Bushings	1
90000924	10mm Straight PosiLink (Preassembled)	4
90000717	PosiLink T-Bushing	8
90001092	Lithium Grease Tube	1

#### HARDWARE

Part #	Description	Usage	QTY
99112002	10mm x 1.5 Nylok Nut	PosiLink	4
99112002	10mm x 1.5 x 36mm stud	Preassembled in PosiLink	2

### Getting Started.....

Remove the OEM Swaybar to prepare for the MuscleBar SwayBar installation.

1. Use the supplied grease for the poly frame bushings. Apply a thin coat of grease to the inside of the bushings.



2. Open up the Poly SwayBar Bushings and install them over the MuscleBar.

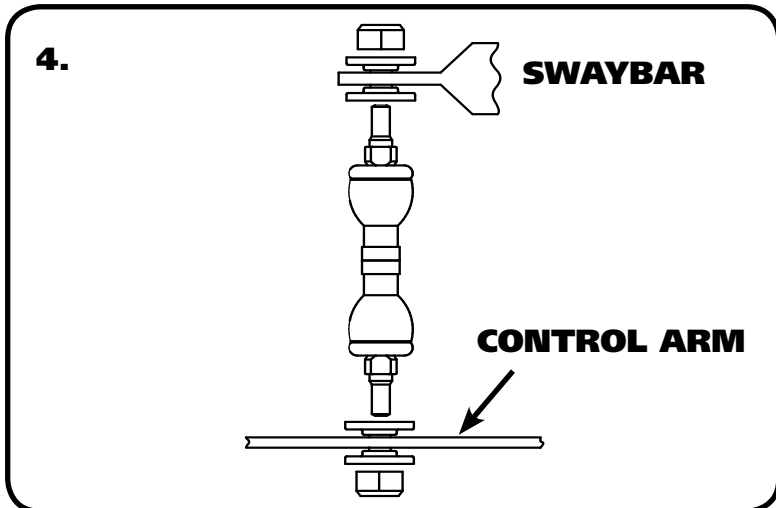


### MuscleBar Installation



3. Slide the bushing strap over the bushing. Bolt the sway bar to the frame using the 10mm x 30mm bolts supplied.

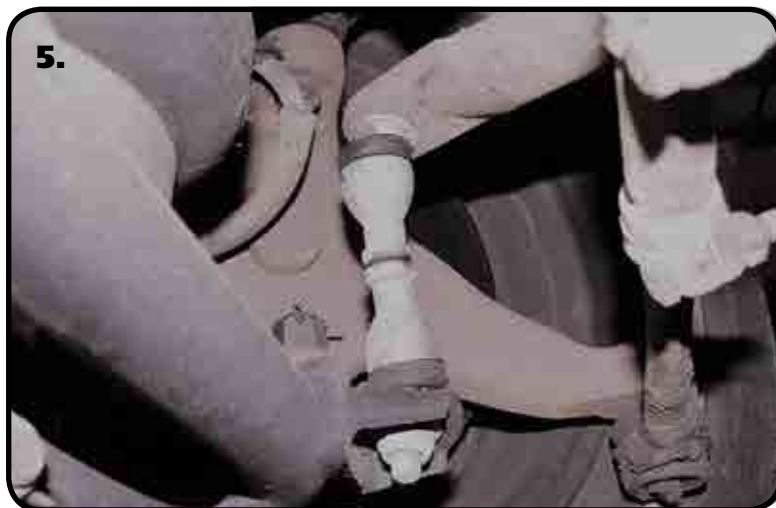
Note: Some trucks did not come with a factory sway bar. In this case the holes may need to be drilled and tapped.



4. Bolt the PosiLinks to the sway bar and lower control arm. The holes in the arm and bar are larger than the PosiLink studs, so T-bushing are supplied and must be installed on the top and bottom of the bar and the control arm tabs.

5. Check sway bar clearance through full suspension travel and from lock to lock.

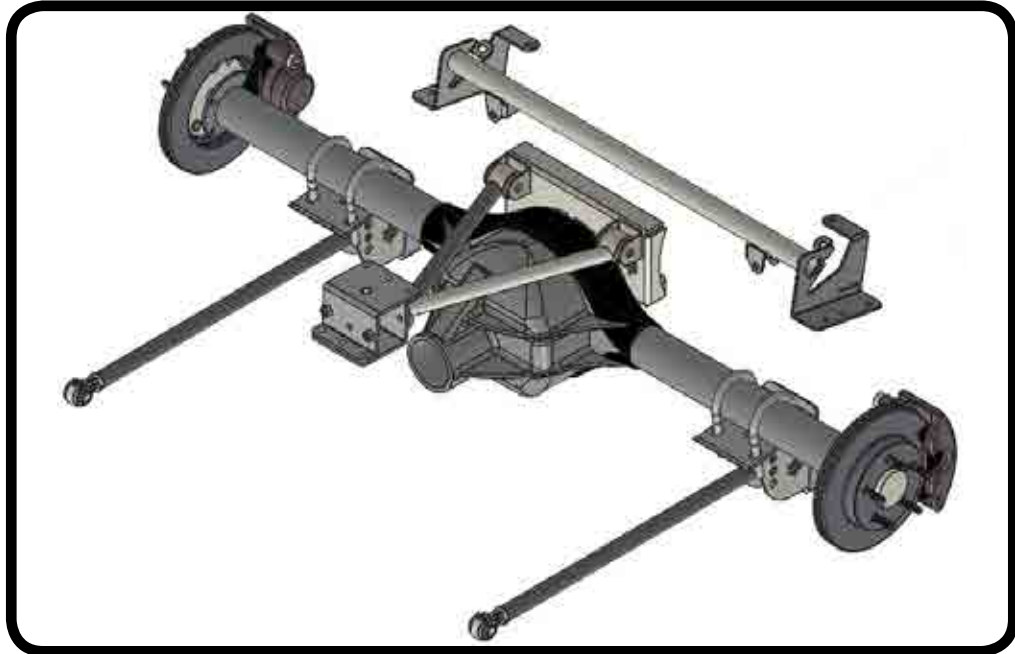
**Make sure that the PosiLinks do not bind.**



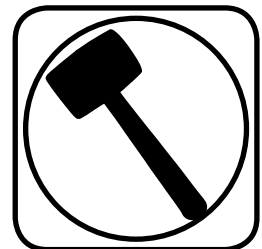
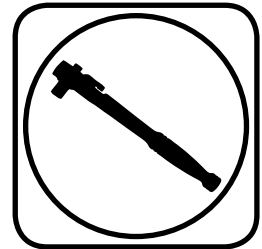


**Part # 11397199**

### 1982-2002 S10/S15 Rear Bolt-On Wishbone Suspension System



#### Recommended Tools



## 1982-2002 S10/S15 Rear Suspension Installation Instructions

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Page 30.....	Wishbone & Lower Mount Installation
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**NOTE:** Due to the various locations of the emissions equipment, etc. over the years, you may need to relocate items such as the charcoal canister, fuel lines, brake lines, and electrical wiring. A little thought and care goes a long way here! Typically the fuel lines, brake lines and wiring can be simply moved aside if they are in the way, while the charcoal canister may need to be repositioned entirely.





**Major Components** .....In the box

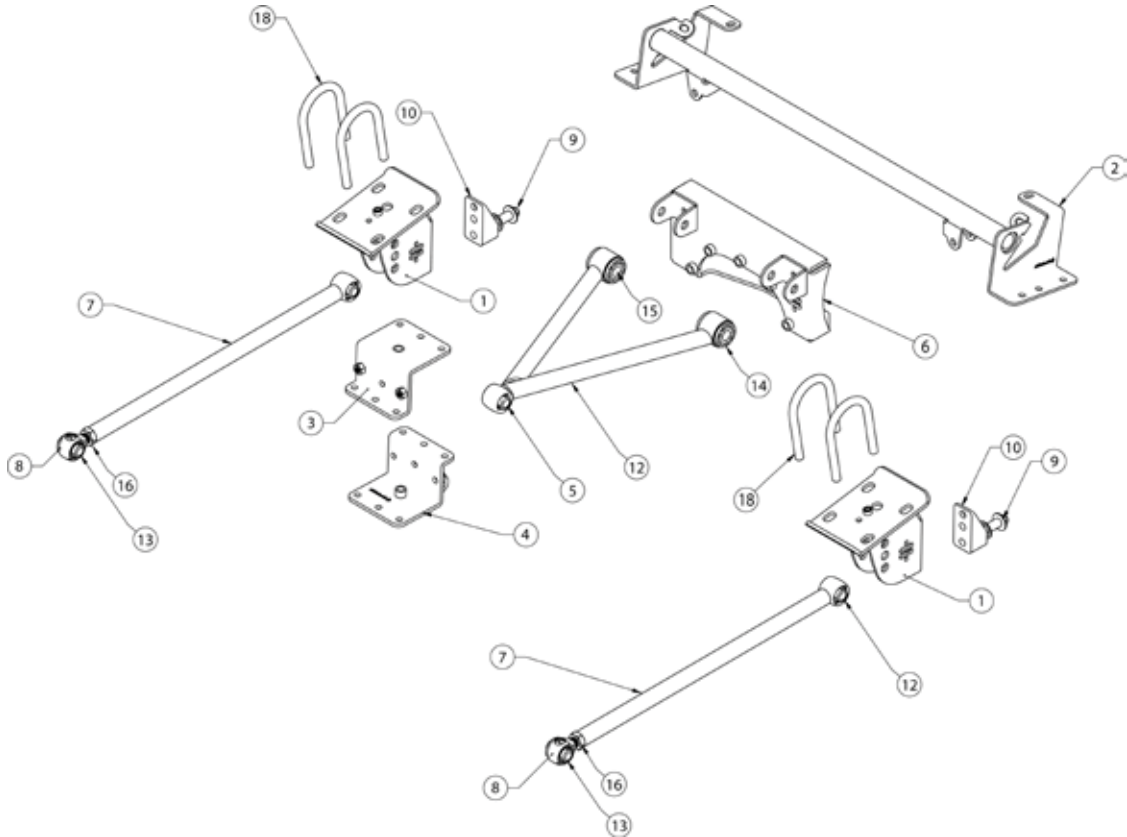
Item #	Part #	Description	QTY
1	90002901	Lower Axle Bracket	2
2	90002902	Rear Upper ShockWave/CoilOver Mount Crossmember	1
3	90000387	Upper Wishbone Crossmember Bracket - Front Half	1
4	90002904	Upper Wishbone Crossmember Bracket with Mount - Rear Half	1
5	90002870	Rear Upper Wishbone	1
6	90002903	Rear Upper Control Arm Differential Mount	1
7	90002869	Lower Bars - Set to 26 1/4"	2
8	70013364	RH R-Joint Threaded Housing	2
9	90001617	5/8" Shock Stud	2
10	90001624	Aluminum Lower Shock Mount	2
11	90002067	Lower Shock Bearing Spacers	4
12	70013540	Narrow R-Joint Spacers (680" Long) - upper control arm and rear lower bar	6
13	70013768	Wide R-Joint Spacer (1.240" Long) - Lower Bars - front lower	4
14	70010759	Delrin Bushings - installed in upper control arm	4
15	90002895	Delrin Bushing Inner Sleeves - installed in upper control arm	2
16	99752004	3/4"-16 Jam Nut - Installed on Upper Control Arm	2
17	90001083	Short Bumpstops with Hardware	2
18	99566004	U-Bolt- 9/16-18 x 3.13 x 5 w/2" Thread	4
<b>R-Joint Components - (Installed in bar ends and front of wishbone)</b>			
	70013279	Retaining Ring	5
	70013280	Wavo Wave Spring	5
	70013275	R-Joint Center Ball	5
	70013276	R-Joint Composite Center Ball Cage	5

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.





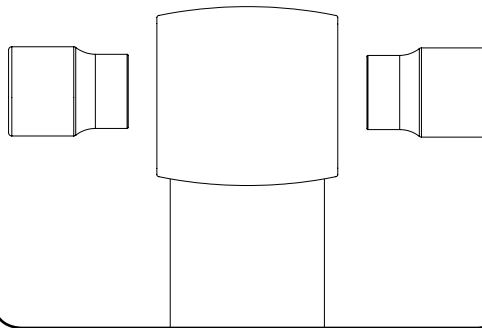
### Major Components .....In the box



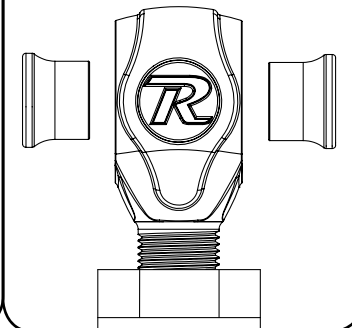
#### R-JOINT SPACER INSTALLATION

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.

#### LOWER FRONT R-JOINT



#### ALL OTHER R-JOINTS



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.



### Hardware List ....In the box (Kit# 99010082)

The Hardware Kit contains bags to help aid in selecting the correct hardware for the component being installed. The hardware list shows how the hardware is bagged.

QTY	Part Number	Description	QTY	Part Number	Description
<b>WISHBONE FRONT CROSSMEMBER MOUNT</b>			<b>LOWER 4LINK BARS</b>		
6	99371004	3/8" -16 x 1 1/4"	2	99561012	9/16" x 4 1/2" SAE GR8 Bolt
12	99373003	3/8" Flat Washer	4	99566003	9/16" SAE Flat Washer
6	99372002	3/8" -16 Nylok Nut	2	99562003	9/16" SAE Nylok Nut
4	99431001	7/16" -14 x 1"	2	99621004	5/8" x 3" SAE Gr. 8 Bolt
<b>UPPER WISHBONE DIFFERENTIAL MOUNT</b>			2	99622006	5/8" SAE Nylok Jam Nut
5	99311022	5/16-18 x 1 3/4" Hex Bolt	4	99623001	5/8" SAE Flat Washer
5	99313001	5/16" Flat Washer	<b>UPPER CROSSMEMBER</b>		
5	99313005	5/16" Split Lock Washer	10	99371004	3/8" -16 x 1 1/4" Hex Bolt
<b>UPPER SHOCK MOUNTING</b>			20	99373003	3/8" Flat Washer
2	99501050	1/2" x 2 1/2" USS Bolt Gr. 8	10	99372002	3/8" -16 Nylok Nut
2	99502009	1/2" USS Nylok Nut Gr. 8	<b>BRAKE LINE JUNCTION BLOCK</b>		
4	99503012	1/2" SAE Flat Washer Gr. 8	1	99311003	5/16" -18 x 1 1/2" Hex Bolt
<b>UPPER CONTROL ARM MOUNTING</b>			2	99313002	5/16" Flat Washer
1	99621004	5/8" x 3" SAE Gr. 8 Bolt	1	99312003	5/16" -18 Nylok Nut
3	99622006	5/8" SAE Nylok Jam Nut	<b>LOWER SHOCK MOUNT</b>		
6	99623001	5/8" SAE Flat Washer	2	99501019	1/2" -13 x 1 1/4" Hex Bolt
2	99621005	5/8 x 3 1/2" Hex Bolt	2	99501046	1/2" -13 x 1 3/4" Hex Bolt
<b>AXLE BRACKET TO AXLE</b>			4	99502001	1/2" -13 Nylok Nut
8	99562010	9/16" SAE High Nut	4	99503001	1/2" SAE Flat Washer
8	99566003	9/16" SAE Flat Washer			

### Disassembly

Congratulations on your purchase of the Ridetech Rear Wishbone System. This system has been designed to give your truck excellent handling along with a lifetime of enjoyment. Some of the key features of this system: 3Link setup to replace the leaf spring and provide better control of the rear axle, upper wishbone to eliminate the side-to-side movement of the differential, R-joints for excellent wear and quiet operation, and the biggest feature of all, it allows the use of ShockWaves or CoilOvers.

**Note:** This system is designed for use with the Ridetech ShockWaves or CoilOvers. **The factory shocks and springs or the factory sway bar will not fit this 4Link.**



### Getting Started.....

1. Raise the truck to a safe and comfortable working height and support it by the frame. You will need to be able to raise and lower the differential. Use a jack under the rear differential so it can be raised and lowered as needed during the install.
2. Remove the bed, retaining the hardware for reassembly. This kit can NOT be installed with the bed on.
3. Remove the leaf springs and shock absorbers. Refer to the factory service manual for proper disassembly procedures. If the Truck has the ZQ8 suspension package, the horizontal shock absorber will need to be removed.



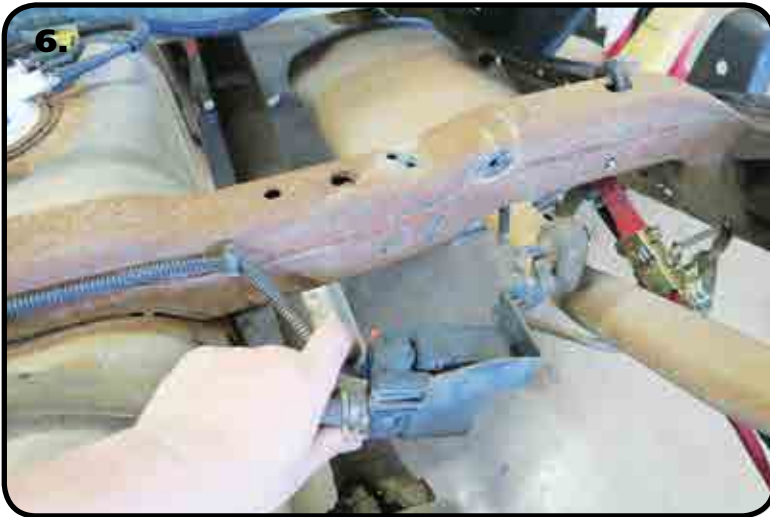
4. Remove the OEM bumpstop and bracket. A die grinder with a cutoff wheel works well for this. We use the cutoff wheel to cut the weld, taking care to not cut into the frame.



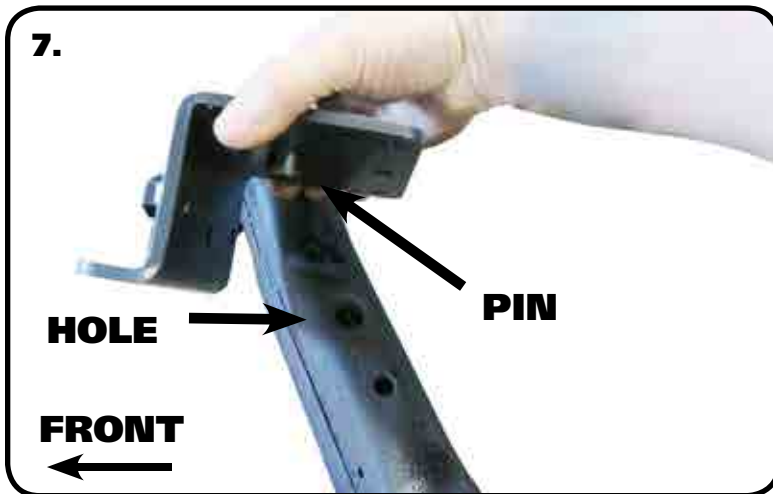
5. Grind the frame smooth after removing the bumpstop bracket. We recommend painting the area to prevent future rust.



### Crossmember Wishbone Mount Installation



6. If your truck came equipped with the emissions module mounted at the center of the gas tank crossmember, it will need to be relocated. The emissions control locations vary through the years.



7. The Wishbone Crossmember Mount uses the Hardware Bag labeled "Wishbone Front Crossmember Mount". Use **Images 7 - 10** as a reference for installing the front Wishbone Mount. It sits on top of the gas tank crossmember with the **PIN** engaged into the **CENTER HOLE** of the crossmember. The Wishbone Mounting Point is to the **REAR** of the truck. In **Image 7**, the installer is lining up the pin with the locating hole in the crossmember.



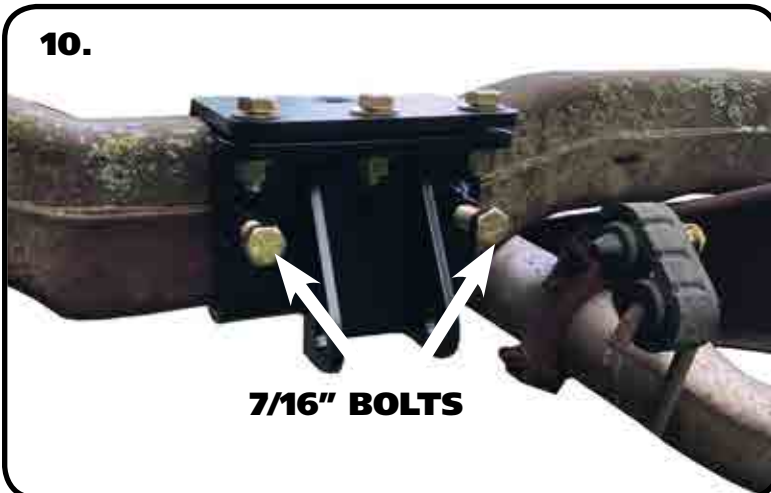
8. The Front portion of the Wishbone Mount sits on top of the gas tank crossmember.



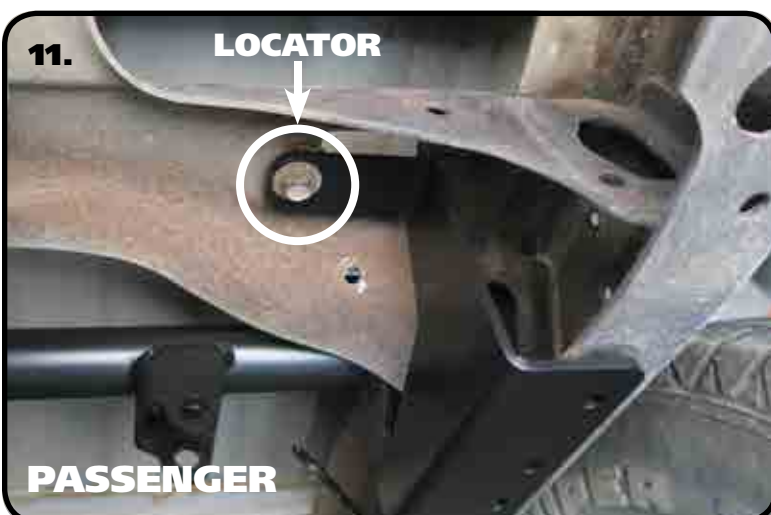
### Crossmember Wishbone Mount Installation



9. The Rear half of the Wishbone Mount is installed against the bottom of the gas tank crossmember with the PIN ENGAGED IN THE HOLE. The Rear Half has the Wishbone Mounr built into it. The 2 halves are bolted together using (6) 3/8"-16 x 1 1/4" Hex bolts, (6) 3/8"-16 Nylok Nuts, & (12) 3/8" SAE Flat Washers. Install a Flat Washer on each on the (6) Bolts. Hold the front half of the Wishbone Mount in place and insert a bolt/washer in each of the (6) holes. Install a 3/8" SAE Flat Washer and Nylok Nut on each of the Bolts. Torque to 30 ftlbs.



10. The Wishbone Mount has (2) 7/16"-14 Threaded Holes, front and rear. These are used if the Wishbone Mount fits the crossmember loosely. If it is loose, install a 7/16"-15 x 1" Bolt into each hole. Tighten the Bolts until the Mount is fitting tightly on the crossmember.



11. Upper Crossmember Installation. The Upper Crossmember uses the Hardware Bag labeled "Upper Crossmember". The Upper Crossmember locates off the OEM upper shock holes. Remove the OEM u-nuts from the shock mounting holes, if equipped. Holding the Crossmember in position, bolt the locating tabs to the shock mounting holes using (1) 3/8"-16 x 1 1/4" Bolt, (2) 3/8" Flat Washers, & (1) 3/8"-16 Nylok Nut in each locating tab. Snug the hardware down, but do not tighten at this time.

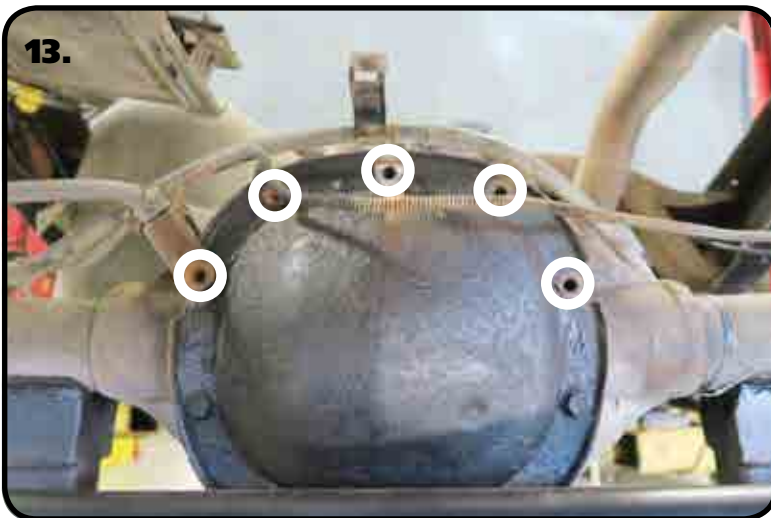




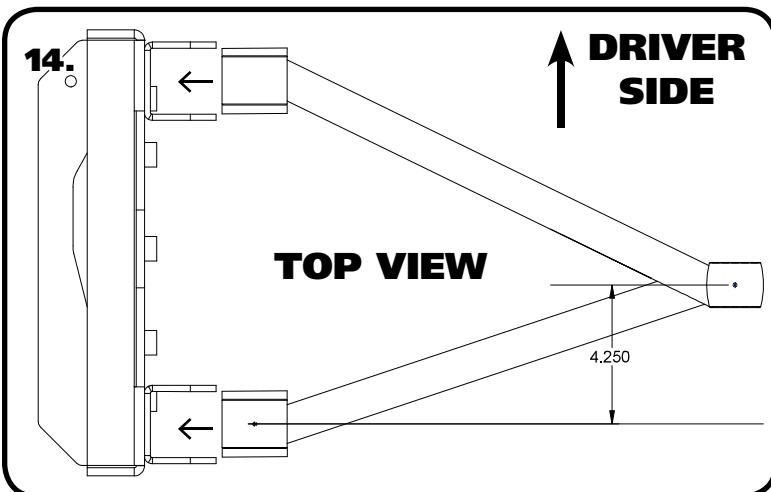
### Upper Crossmember Installation



**12.** You will need to drill the (3) bottom holes & (1) top hole using the crossmember as a template. Use a drill with a 3/8" Drill Bit. The top holes will need to be drilled from the top side. Drill the (4) holes in the driver and passenger sides. Install a 3/8" Flat Washer on each of the (8) remaining 3/8"-16 x 1 1/4" bolts. Insert each of them into one of the drilled holes. Install a 3/8" Flat Washer and 3/8"-16 Nylok Nut on each bolt. Torque to 30 ftlbs. Also, Torque the (2) that were installed into the shock holes.



**13.** Remove the **TOP 5** Bolts from the differential cover. These are Circled in **Image 13**. Also remove the mounting bracket from the brake line distribution "T".

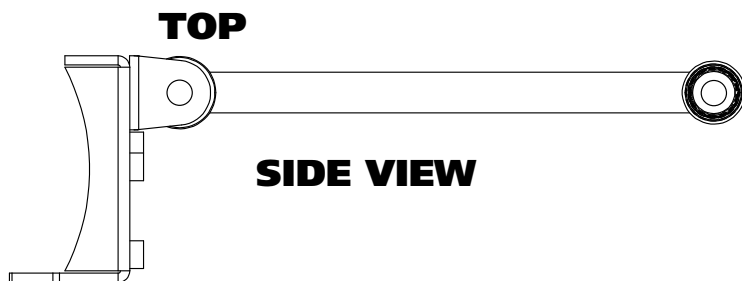


**14.** The Upper Wishbone front R-Joint is offset to the passenger side. Use **Images 14 & 15** as a reference for assembling the Upper Wishbone to the Wishbone Axle Mount. Slip the wishbone into the Mount with the Front R-Joint offset to the passenger side.



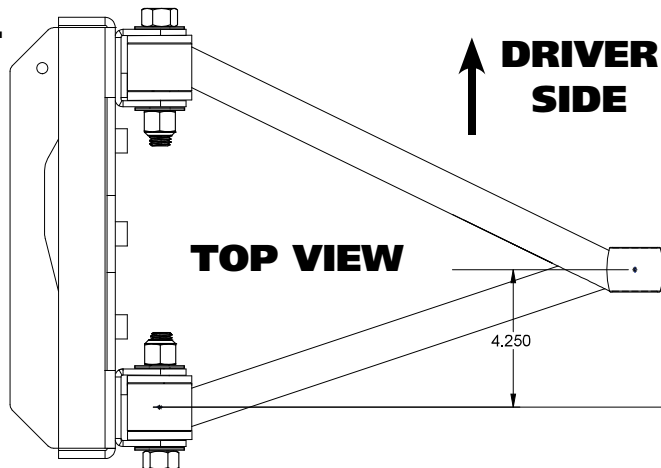
### Wishbone Installation

15.



15. The Wishbone Mounts are to the TOP of the Axle Mount. Insert the Wishbone into the Mount lining up the holes in the mount with the Inner Bushing Sleeves.

16.



16. Using the Hardware Bag "Upper Wishbone Mounting", install a 5/8" Flat Washer on each of (2) 5/8"-18 x 3 1/2" Bolts. Install each Bolt/Washer from the outside. With the bolts installed, install a 5/8" Flat Washer & 5/8"-18 Nylok Nut on each bolt. Tighten the Bolts/Nuts enough to eliminate any gaps.

17.



17. Line the 5 holes in the Axle bracket with the 5 holes the bolts were removed from in Step 11. Using the Hardware Bag "Upper Wishbone Differential Mount", install a 5/16" Lock Washer, followed by a 5/16" Flat Washer on each of the (5) 5/16"-18 x 1 3/4" Bolts. Thread a Bolt into each of the 5 holes. Torque the bolts to 25 ftlbs.





### Wishbone & Lower Mount Installation



**18.** Using the Hardware Bag "Brake Line Junction Block", install a 5/16" Flat Washer on a 5/16"-18 x 1/2" Bolts. Insert the bolt/washer through the junction block and mounting hole in the differential bracket. Install a 5/16" Flat Washer & 5/16"-18 Nylok Nut on the threads of the bolt. The brake lines will need to be tweaked to get the distribution block in position. Torque the bolts to 25 ftlbs.



**19.** Insert a Narrow R-Joint Spacer (.680") into each side of the front R-joint of the Wishbone. Using the Hardware Bag "Upper Wishbone Mounting", install a 5/8" Flat Washer on a 5/8"-18 x 3" Bolt. Line up the R-Joint with the Front Wishbone Mount. Insert the bolt/washer in the lined up r-joint/mount. With the bolt installed, install a 5/8" Flat Washer & 5/8"-18 Nylok Nut on the bolt. Tighten the Bolts/Nuts enough to eliminate any gaps.



**20.** The Axle Mounts are the same for driver and passenger sides. Install the supplied 9/16" U-bolts on each side of the OEM leaf spring pads. Slide an Axle Mount on the U-bolts with the center pin inserted into the leaf spring pad. The hardware bag is labeled "Lower Axle Bracket to Axle". Hold the mount in place and install a 9/16" Flat Washer and 9/16" High Nut on the threads of the u-bolts sticking through the axle mount. Tighten the nuts evenly in a crisscross fashion making sure the center pin is engaged into the leaf spring pad. Torque the nuts in a crisscross fashion to 60 ftlbs. Repeat on the other side.



### Lower Mount & Lower Bar Installation



**21.** The Hardware Bag for the Lower Shock Mount is labeled "Lower Shock Mounting". The Lower Shock Mount attaches with (1) 1/2"-13 x 1 1/4" Hex Bolt, (1) 1/3"-13 x 1 3/4" Hex Bolt, & (2) 1/2" Flat Washers, & (2) 1/2"-13 Nylok Nuts. The Lower Mount gets attached to the TOP 2 holes of the Axle Mount. Insert the Bolts through the Aluminum Shock Mount with the 1 1/4" long bolt in the top hole, 1 3/4" in the bottom hole. Insert the bolts through the TOP 2 holes of the Axle Mount and install the Flat Washers & Nylok Nuts on the Threads sticking through. Repeat on both sides and torque the Bolts/Nuts to 75 ftlbs. Install a 5/8" Flat Washer onto the 5/8"-18 threads of the shock stud. Apply Red Loctite to the 5/8" threads of the stud. Thread the Shock Stud into the threaded hole of the Lower Mount. Repeat on both sides and torque the Shock Stud to 65-75 ftlbs.



**22.** The hardware bag for the lower bars is labeled "Lower Link Bars". Insert the long R-Joint Spacers (1.240" long) into the front of the lower bar with the small OD inserted into the R-joint. Insert the Front Lower Bar R-Joint into the Front Leaf Spring Mount. Line the through hole of the R-Joint with the holes of the leaf spring mount. Install a 9/16" Flat Washer on to a 9/16"-18 x 4 1/2" Hex Bolt, insert into the lined up holes. Install a 9/16" Flat Washer followed by a 9/16"-18 Thin Jam Nylok Nut. Repeat on both sides and tighten the Bolts/Nuts enough to eliminate any gaps.



**23. The rear of the Lower Bar gets bolted into the center set of holes.** Insert 2 narrow R-Joint Spacers (.680" long) into the R-Joint of one end of each Lower Bars. Insert the Rear Lower Bar R-Joint into the Lower Axle Bracket. Line the through hole of the R-Joint with the holes of the Axle Bracket. Install a 5/8" Flat Washer on to a 5/8"-18 x 3" Hex Bolt, insert into the lined up holes. Install a 5/8" Flat Washer followed by a 5/8"-18 Thin Jam Nylok Nut. Repeat on both sides and tighten the Bolts/Nuts enough to eliminate any gaps.



### ShockWave/CoilOver Installation



**24.** Insert the 1/2" ID Shock Bearing Spacer into each side of the ShockWave/CoilOver Bearing. Install a 1/2" Flat Washer on a 1/2"-13 x 2 3/4" Bolt. Insert the top of the shock into the shock mount on the upper crossmember with the adjusting knob to the inside. Line up the holes and insert the bolt/washer. Install a 1/2" Flat Washer and 1/2"-13 Nylok Nut on the threads and tighten to 50 ftlbs.



**25.** The Shock Stud requires Bearing Spacers that are .400" long (90002067). Install a 5/8" ID 90002067 spacer (**Small side towards shock body**) onto the lower Shock Stud. Slide the bottom of the Shock onto the Stud. Install a second 5/8" ID 90002067 Spacer onto the Stud (**small side towards shock**). You may need to jack the rear end up to Slide the Shock onto the Stud. Install the 7/16" Flat washer and 7/16" Nylok nut. Tighten the upper and lower shock bolts. Torque the Upper Bolt to 50 ftlbs and the Lower Nut to 40 ftlbs. The designed ride height of the CoilOver/Shockwave is 14 1/2" center to center.

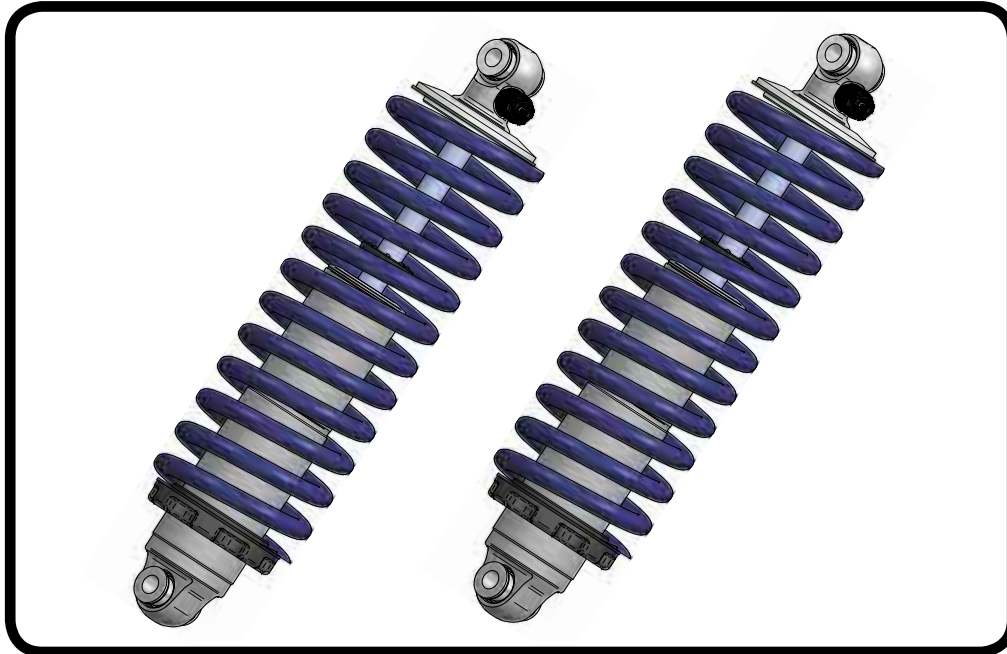


**26.** This particular truck had the emissions canister mounted right behind the gas tank. We had to trim the rear corner off for clearance of the new lowered suspension.

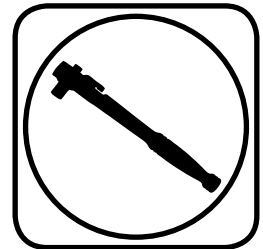




### Part # 11396510 - 1982-2002 S10/S15 Rear HQ Series CoilOvers



#### Recommended Tools



## 1982-2002 S10/S15 HQ Series Rear CoilOvers Installation Instructions

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Page 35..... Assembly and Adjusting

Page 36..... Final Adjusting and Preloading the Spring

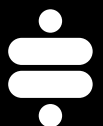
#### CoilOver Dimensions:

Center of bearing to Center of bearing:

Compressed: 11.23"

Ride Height: 14.50"

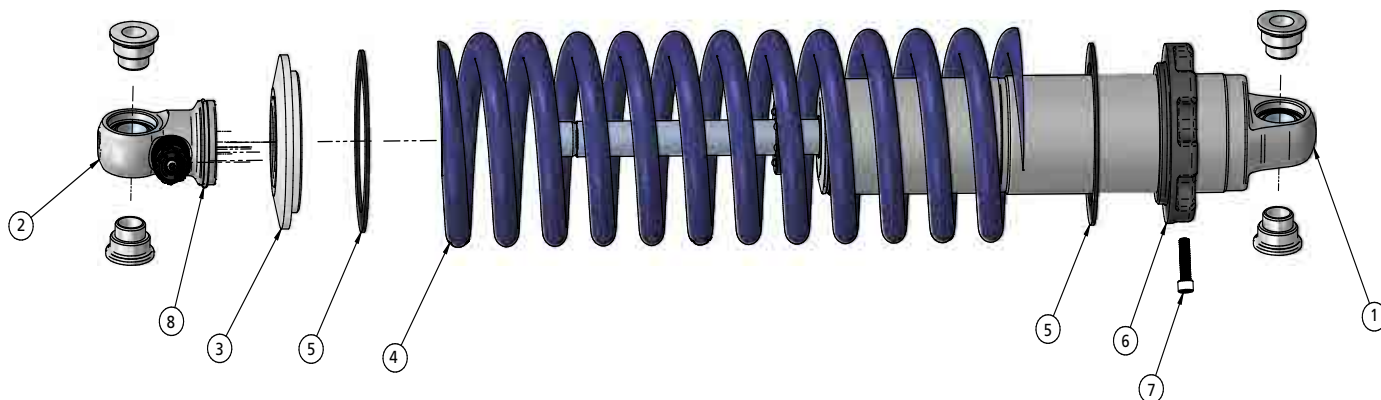
Extended: 16.43"





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

Item #	Part #	Description	QTY
1	24159999	5.2" Stroke HQ Series Shock	2
2	90002024	Shock Eyelet	2
4	59120175	Coilspring 12" 175lb	2
5	70010828	Delrin Spring Washer	4
6	90002222(kit)	Lower Spring Adjuster Nut (90002222 kit)	2
7	90002222(kit)	Adjuster Nut Locking Screw (90002222 kit)	2
8	90002222(kit)	Retaining Ring (90002222 kit)	2
	90002043	1/2" ID Upper Bearing Spacers	4
	90001994	5/8" ID Bearing (installed in shock and eyelet)	4
	90001995	Bearing Snap Ring (installed in shock and eyelet)	8





### Assembly and Adjusting



1 First using the supplied lower adjuster nut(90002222) thread the nut onto the shock from the bottom side as seen in figure 1.



4 Slide the Derlin washer over the spring, Next slide the upper spring mount (90002222) over eyelet as seen in figure 4.



2 Next install delrin washers then coil spring over the top of the shock as seen in figure 2.



5 Install upper spring mount retainer clip (90002057) into the groove on the upper eyelet as seen in figure 5. Then reinstall adjuster to complete assembly.



3 Before the upper spring mount can be installed screw the adjuster knob on the upper eye mount to the firmest setting (clockwise) as seen in figure 3. Then remove the knob.



The included set of bearing spacers (900002044) are used to adapt the coil-overs to just about any application. The supplied spacers allow the coil-overs to accept 5/8" or 1/2" bolts.

### Shock adjustment 101- Single Adjustable

#### Rebound Adjustment:

How to adjust your new shocks.

The rebound adjustment knob is located on the top of the shock absorber protruding from the eyelet.

You must first begin at the ZERO setting, then set the shock to a soft setting of 20.



-Begin with the shocks adjusted to the ZERO rebound position (full stiff). Do this by rotating the rebound adjuster knob clockwise until it stops.

-Now turn the rebound adjuster knob counter clock wise 20 clicks. This sets the shock at 20. (settings 21-24 are typically too soft for street use).

#### Take the vehicle for a test drive.



-if you are satisfied with the ride quality, do not do anything, you are set!

-if the ride quality is too soft increase the damping effect by rotating the rebound knob clock wise 3 clicks. **CONTINUE ON NEXT PAGE.**



### Final Adjusting and Preloading Spring

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.**

### Final Tightening and Adjusting

#### Ride Height

We have designed most cars to have a ride height of about 2" lower than factory. To achieve the best ride quality & handling, the shock absorber needs to be at 40-60% overall travel when the car is at ride height. This will ensure that the shock will not bottom out or top out over even the largest bumps. Measuring the shock can be difficult, especially on some front suspensions. Measuring overall wheel travel is just as effective and can be much easier. Most cars will have 4-6" of overall wheel travel. One easy way to determine where you are at in wheel travel is to take a measurement from the fender lip (center of the wheel) to the ground. Then lift the car by the frame until the wheel is just touching the ground, re-measure. This will indicate how far you are from full extension of the shock. A minimum of 1.5" of extension travel (at the wheel) is needed to ensure that the shock does not top out. If you are more than 3" from full extension of the shock then you are in danger of bottoming out the shock absorber.

#### Adjusting Spring Height

When assembling the CoilOver, screw the spring retainer tight up to the spring (0 preload). After entire weight of car is on the wheels, jounce the suspension and roll the car forward and backward to alleviate suspension bind.

- If the car is too high w/ 0 preload then a smaller rate spring is required. Although threading the spring retainer down would lower the car, this could allow the spring to fall out of its seat when lifting the car by the frame.
- If the car is too low w/ 0 preload, then preload can then be added by threading the spring retainer up to achieve ride height. On 2.6" - 4" stroke shocks, up to 1.5" of preload is acceptable. On 5-7" stroke shocks, up to 2.5" of preload is acceptable. If more preload is needed to achieve ride height a stiffer spring rate is required. Too much preload may lead to coil bind, causing ride quality to suffer.