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Installation Instructions

Part # 12276210 - 2015 up Mustang HQ Rear CoilOvers

Recommended Tools

2015 up Mustang HQ Series Rear CoilOvers

Installation Instructions

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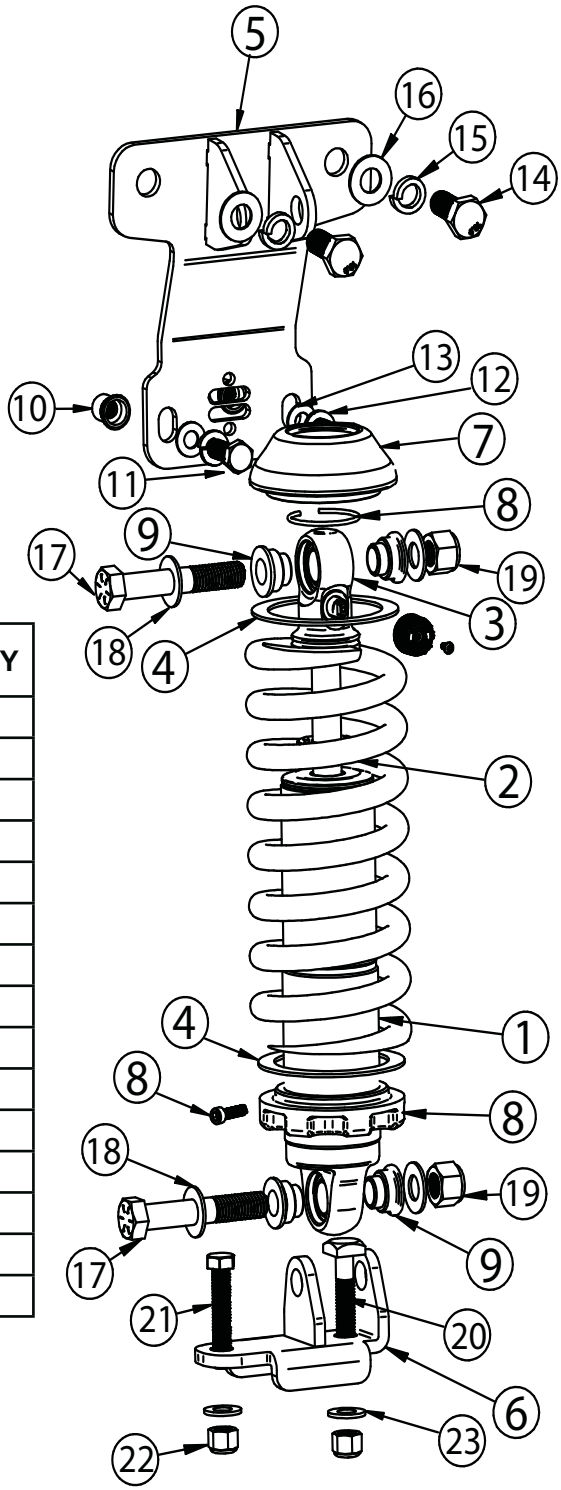
REV0 12/28/23

812-482-2932

Major Components .....In the box

Item	Part #	Description	QTY
1	24149998	4.1" Stroke HQ Series Shock	2
2	59080400	8" 400lb CoilSpring	2
3	90003598	1.7" Eyelet	2
4	70010828	Delrin CoilSpring Washer	4
5	90002481	Upper Shock Mount	2
6	90002482	Lower Shock Mount; Driver	1
6	90002483	Lower Shock Mount; Passenger (Not Shown)	1
7	90002070	Dropped Upper CoilSpring Mount	2
8	038-01-006-A	CoilSpring Retaining Ring	2
8	234-15-200	Lower Spring Adjuster Nut	2
8	99050001	Adjuster Nut Locking Screw	2
9	90002043	Shock Spacer	8
	90001995	Bearing Snap Ring (Installed in Shock Body)	8
	90001994	5/8" ID Bearing (Installed in Shock Body	4
	70012266	Sway Bar Relocator (Not Shown)	2



HARDWARE LIST - Kit # 99010247

Item #	Part #	Description	QTY
	UPPER BRACKET TO CAR		
10	99372007	3/8"-16 Riv-Nut	5
11	99371005	3/8"-16 x 1 1/4" Hex Bolt	4
12	99373006	3/8" Lock Washer	4
13	99373002	3/8" SAE Flat Washer	4
14	99121005	M12-1.75 x 30mm Hex Bolt	4
15	99503015	1/2" Lock Washer	4
16	99503014	1/2" SAE Flat Washer	4
	SHOCK TO UPPER/LOWER MOUNTS		
17	99501050	1/2"-13 x 2 1/2" Hex Bolt	4
18	99503014	1/2" Flat Washer	8
19	99502009	1/2"-13 Nylok Nut	4

Item #	Part #	Description	QTY
	LOWER MOUNT TO CONTROL ARM		
20	99371048	3/8"-16 x 2" Square Head Bolt	2
21	99371077	3/8"-16 x 2" Hex Head Bolt	2
22	99372001	3/8"-16 Nylok Nut	4
23	99433005	7/16" SAE Flat Washer	4
	SWAY BAR RELOCATOR		
	99371065	3/8"-16 x 3/4" Hex Bolt	4
	99433002	3/8" SAE Flat Washer	4

Getting Started and Disassembly

Congratulations on your purchase of the Ridetech Mustang CoilOver System. This system has been designed to give your Mustang excellent handling along with a lifetime of enjoyment. The CoilOver System provides flexibility that can not be achieved with conventional coil springs. The CoilOver System will give you the flexibility of adjusting your ride height along with numerous spring options to dial in your ride quality to your personal preference.

This CoilOver System is designed to replace the factory shock and coil springs.

Refer to the Factory Service Manual for disassembly and coil spring removal instructions.

1. Remove the shocks and the OEM upper shock mount from the car.

This kit utilizes Riv-nut on the upper CoilOver mount. An Instruction sheet is supplied for the Riv-nut installation. Read the Riv-nut instruction sheet on how to install the Riv-nut. A drill bit and installation tool is supplied with this kit. The upper mount will be used as a guide for drilling the holes.

2. Unbolt the brake line bracket from the chassis. Retain the hardware for reassembly.

Disassembly

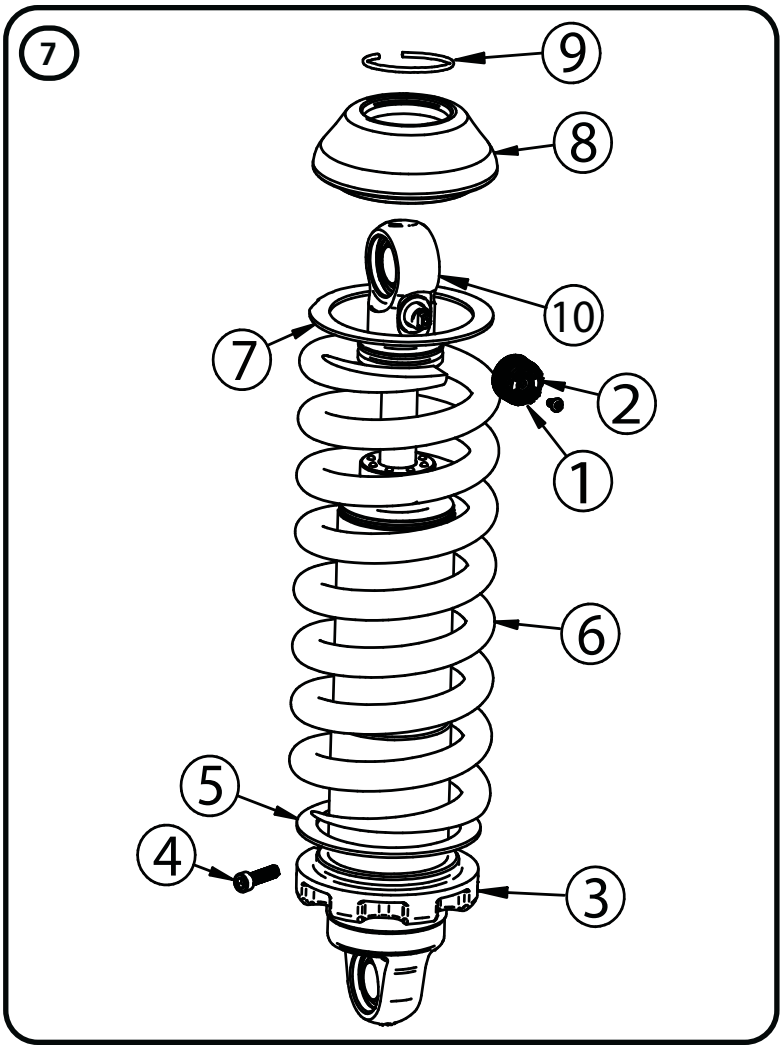
3. Detach the ABS wire from the chassis.

4. Remove the ABS wire from the bracket on the knuckle.

5. Disconnect the sway bar linkage from the sway bar. Retain the hardware for reassembly.

Disassembly & CoilOver Assembly

6. Disconnect the sway bar linkage from the lower control arm. Retain the hardware for reassembly.



7. To assemble the CoilOver you need to:

a. Turn Adjuster Knob all the way in (Clockwise) . Remove Screw from center of Adjustment Knob (1) and remove Adjustment Knob (2).

b. 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.

c. Install a Delrin Spring Washer (5) onto the Adjuster Nut.

d. Slide the CoilSpring (6) onto the CoilOver.

e. Install another Delrin Spring Washer (7) on top of the CoilSpring.

f. Install the Upper Drop CoilSpring Cap (8) onto the CoilSpring.

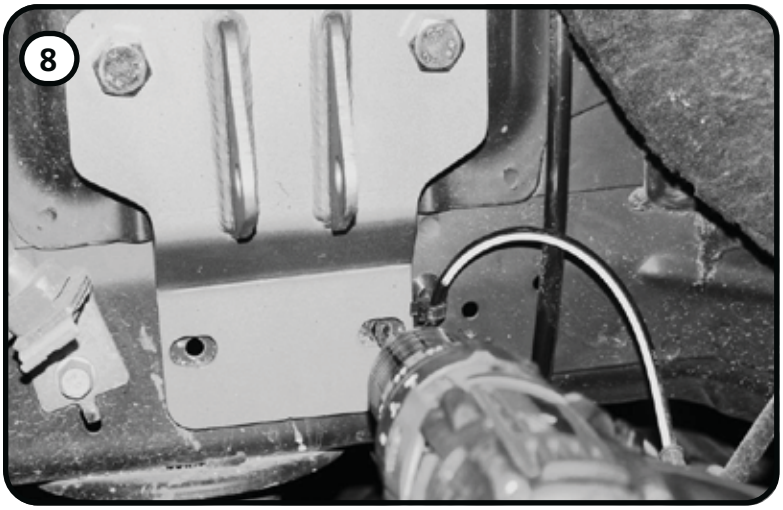
g. Install the CoilSpring Retaining Ring (9) onto the Upper Eyelet (10). It fits into the groove in the base.

h. Reinstall Adjuster Knob (2) and Screw (1).

Repeat on second CoilOver.

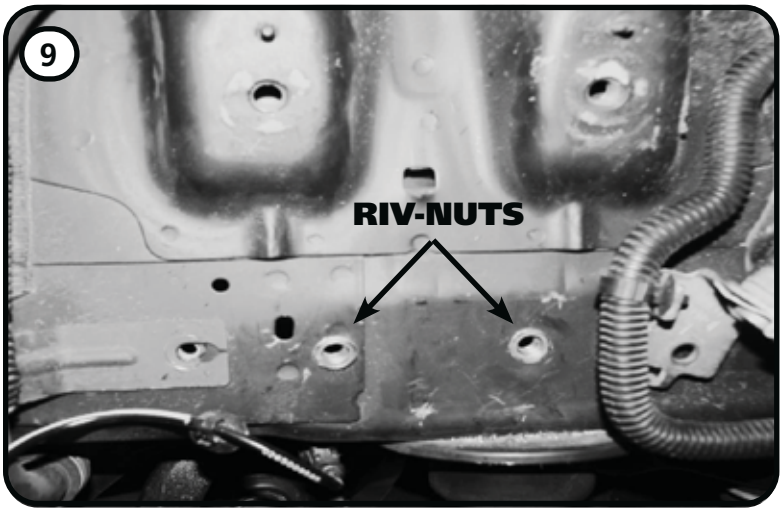
Note: Remember to adjust the shock valving before driving, the shock is currently set to full stiff.

CoilOver Installation

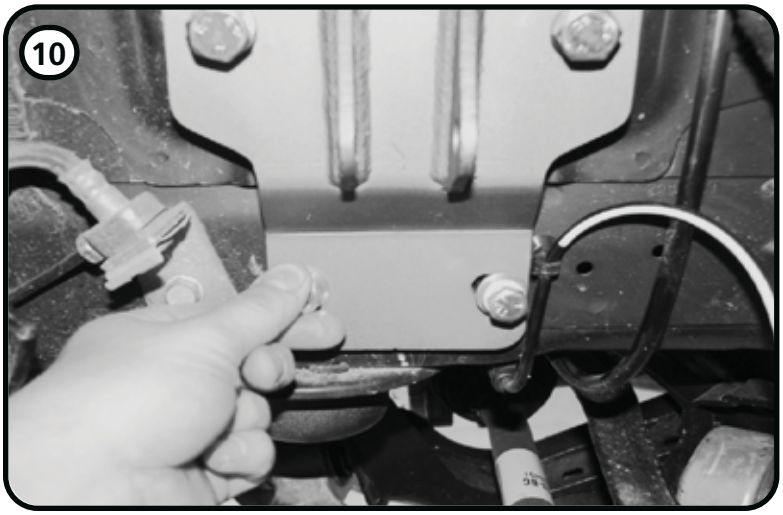


8. Bolt the upper CoilOver mount into the OEM location using (2) M12-1.75 x 30mm hex bolts, (2) 1/2" lock washers, & (2) 1/2" flat washers. Tighten enough to hold in place. Use the shock mount as a guide to mark the center of each slot. After the holes are marked, remove the upper shock mount. A 17/32" drill bit is included in the kit, but we suggest drilling a pilot hole with a smaller bit before using the 17/32" Drill Bit.

Repeat for both sides.



9. Install (2) Riv-nuts using the supplied tool and instructions on **Page 7** for Riv-nut installation. Do this for both sides.



10. Reinstall the upper shock mount as in **Step 8**, adding (2) 3/8"-16 x 1 1/4" hex bolts, (2) 3/8" flat washers, & (2) 3/8" lock washers in the bottom 2 holes. Tighten all hardware.

Torque Specs.
3/8"-16 Bolts - 23 ftlbs.
M12-1.75 - 65 ftlbs.

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Installation Instructions

Rivnut® Installation & Specs

1. Drill Hole in Frame using the SUPPLIED DRILL BIT keeping the Drill square with the metal.

2. Thread a Rivnut® onto the supplied Tool. Thread the Rivnut all the way onto the Tool until it stops.

3. Insert the Tool and Rivnut® into the drilled hole 90° to the Frame Rail.

4. The Tool requires (2) 9/16" Wrenches to use. A Ratchet can be used on the top of the Tool.

KEEP THE TOOL AND RIVNUT 90° TO THE SURFACE WHILE TIGHTENING

5. Put a 9/16" Wrench on the Lower Hex of the tool. Use a Wrench or Ratchet on the Top hex to Tighten.

6. Hold the Wrench in one position and turn the TOP HEX CLOCKWISE to engage the Rivnut®. Keep Turning the TOP WRENCH until you feel a positive stop and you can't turn the TOP WRENCH anymore.

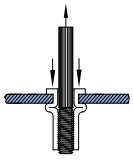
7. Break the Tool loose by turning the TOP HEX counterclockwise and thread the Tool out of the Rivnut®

THE DATA BELOW ILLUSTRATES THE STRENGTH OF THE RIVNUT®

RIVNUT® Fastener Engineering Data

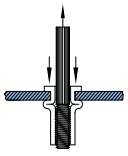
Upset Load (lbs.)		
RIVNUT ® Size	Steel	
	Min. Grip	Max. Grip
3/8-16	4965	5325

Fig. 1



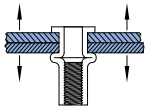
Ultimate thread strength (lbs.)		
RIVNUT ® Size	Steel	
	Min. Grip	Max. Grip
3/8-16	11500	10450

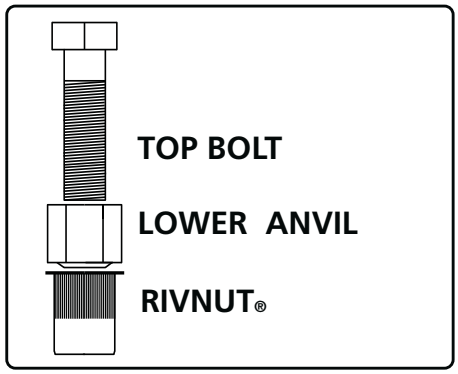
Fig.2



Ultimate tensile strength (lbs.)	
RIVNUT ® Size	Steel
3/8-16	3900

Fig. 3





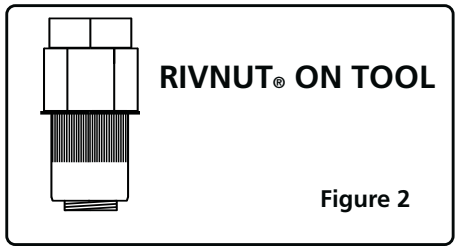


Figure 2

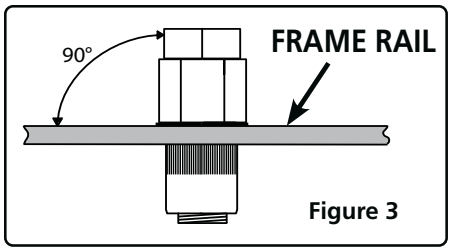


Figure 3

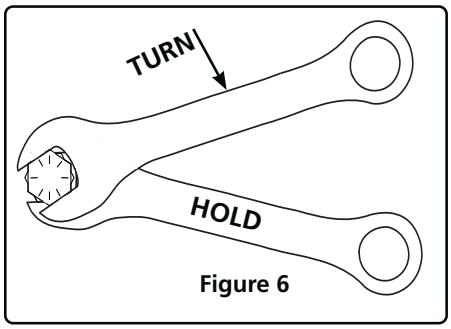
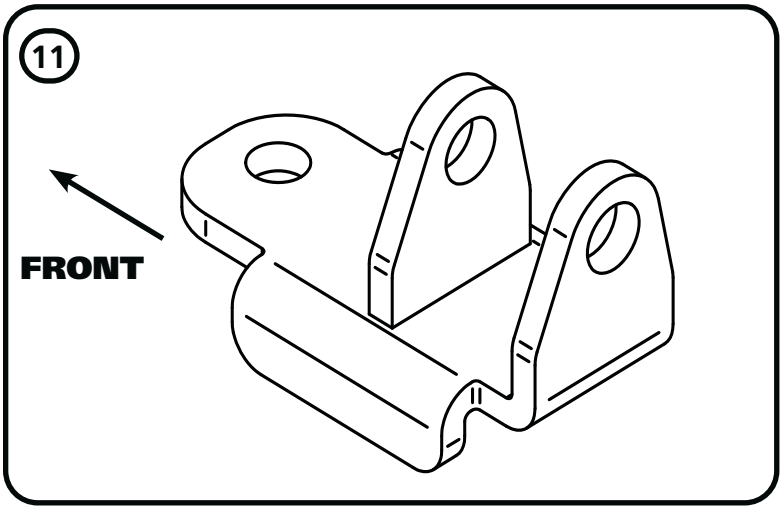


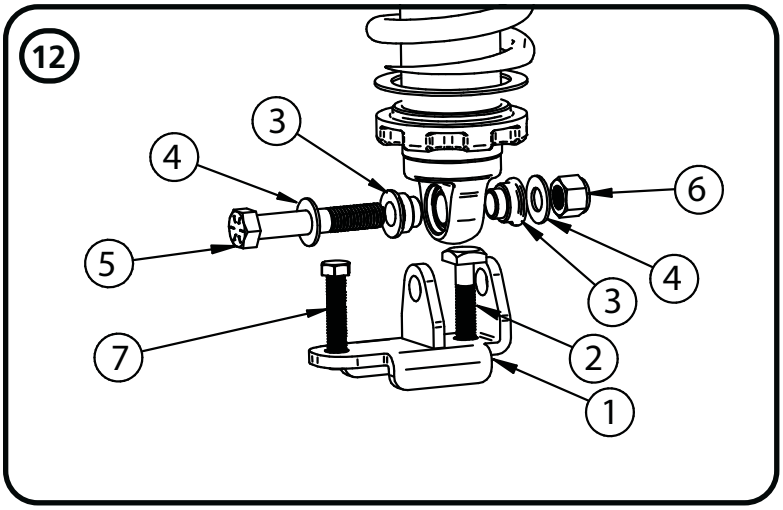
Figure 6

Single Shear Strength 3/8" Grade 5 Bolt 3,975.8 lbs

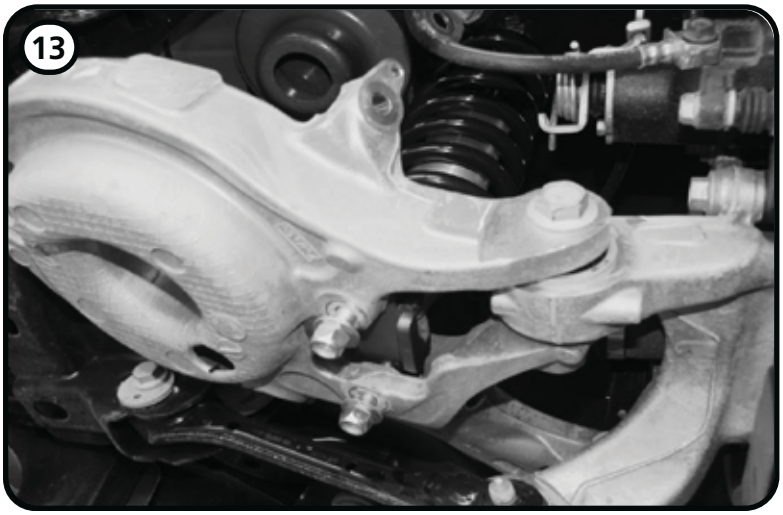
CoilOver Installation continued....



11. Illustration 11 shows the Driver lower shock mount. The shock mount offsets the shock to the rear of the car.



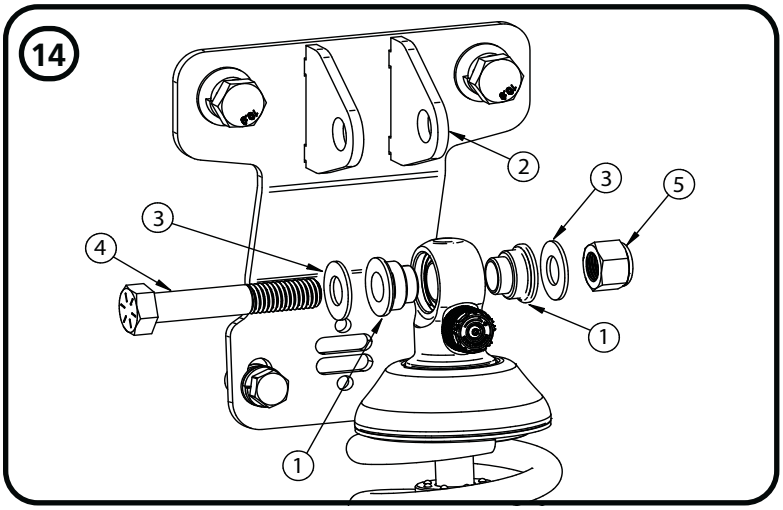
12. Insert (1) 3/8"-16 x 2" square head bolt[2] into the lower shock mount[1] between the 2 shock Tabs. Insert (2) bearing spacers[3] into the bearing in the shock body of the assembled CoilOver. Slide the CoilOver into the lower shock mount, aligning the hole in the mount with the bearing spacers. Slide a 1/2" flat washer[4] onto a 1/2"-13 x 2 1/2" hex bolt[5] and insert the bolt/washer into the lower shock mount/shock. Install a 2nd 1/2" washer[4] followed by a 1/2" nylok. Tighten the lower shock bolt. Insert a 3/18"-16 x 2 hex bolt[7] into the remain hole in the lower shock mount. Repeat for Passenger side. Torque 1/2"-13 x 2 1/2" bolt to 75 ftlbs.



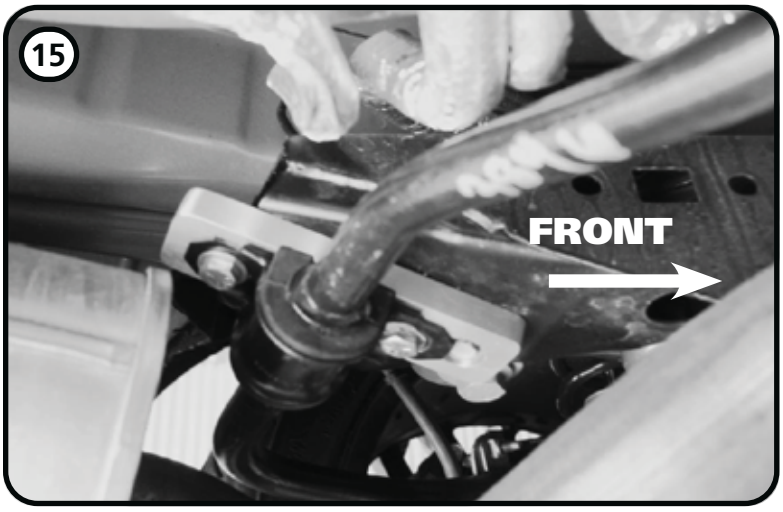
13. Install the CoilOver/lower shock mount assembly on the Driver lower control arm in the OEM shock location. With the assembly in place, insert a 7/16" flat washer on the 3/8"-16 x 2" bolts sticking through the OEM control arm, followed by a 3/8"-16 nylok nut. Torque 3/8" hardware to 23 ft-lbs.

Note: One of the flats on the square head bolt under the CoilOver will lock against the shock tab allowing it to be tightened.

CoilOver Installation continued....



14. Insert bearing spacers[1] into each side of the bearing in the upper CoilOver eyelet. Slide the CoilOver into the upper shock mount[2] aligning the holes in the upper mount with the holes in the bearing spacers. You may have to Jack the lower control arm up to get the holes to align. Install a 1/2" flat washer[3] onto a 1/2"-13 x 2 1/2"" hex bolt[4] and install it through the Shock mount and bearing spacer holes. Install a 1/2" flat washer[3] on the bolt, followed by a 1/2"-13 nylok nut[4]. Torque 1/2"-13 x 2 1/2" bolt to 75 ftlbs.



15. Install the sway bar relocators using the OEM hardware to attach the mount. The bracket should be bolted to the car with the threaded holes to the REAR of the car. Torque the OEM hardware to 52 ft-lbs. Install the sway bar using (4) 3/8"-16 x 3/4" hex bolts and (4) 3/8" flat washers. Torque the 3/8" hardware to 23 ft-lbs.

16. Reinstall the sway bar linkage. Torque the nuts to 85 ft-lbs.

17. Reattach the ABS wires.

18. Reattach the brake line to car body.

Repeat for both sides.

Setting Preload & CoilSpring Adjusting

Start with an initial preload of 1/2". The locking screw on the adjuster nut has to be loose to set the preload. To set this: screw the spring adjuster up snug against the coil spring (THIS IS 0 PRELOAD). Measure from bottom of adjuster nut to flat on shock. Using spanner, tighten the adjuster nut until the measurement from the nut to the flat on the shock is 1/2" greater. Tighten locking screw on adjuster nut. This will be your starting point for ride height. It may be necessary to raise or lower the adjuster to level the car.

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

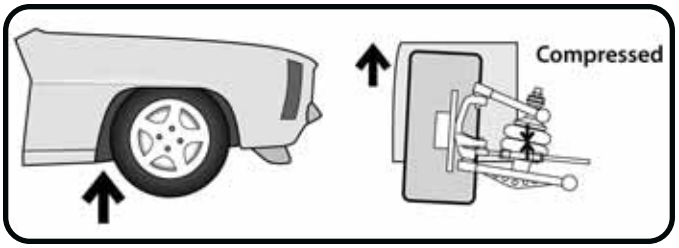
When assembling the CoilOver, screw the spring retainer tight up to the spring (0 preload). After entire weight of car is on the wheels, jounce the suspension and roll the car forward and backward to alleviate suspension bind.

- 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.

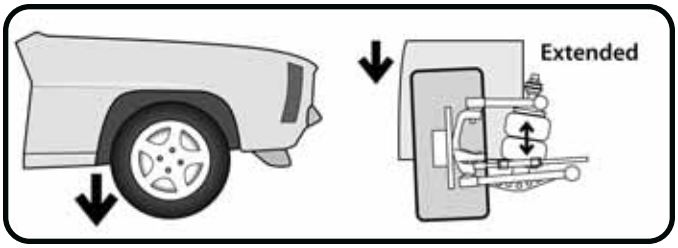
TUNING GUIDE
SINGLE-ADJUSTABLE SHOCKS

The Basics...



COMPRESSION

This typically occurs when you hit a bump in the road. The bump forces the wheel/tire/suspension assembly to "compress" or move upwards into the car.



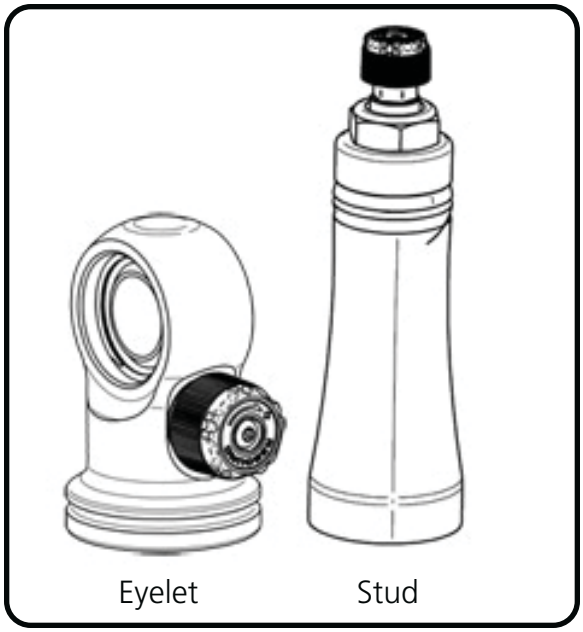
REBOUND

Rebound is the opposite of compression. This occurs when the wheel/tire/suspension assembly falls into a pothole, or simply "rebounds" from being compressed.

Where Are The Knobs?

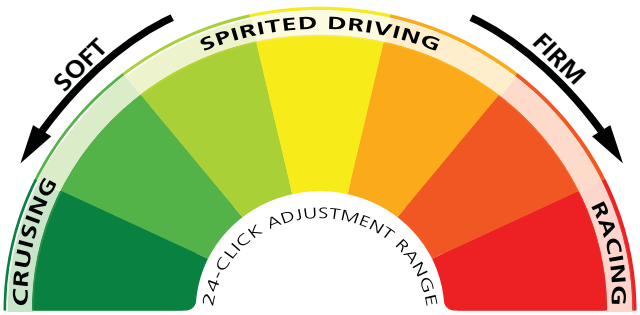
HQ Series Shocks

- **The adjustment knob is located on the top of the shock, either protruding from the side of the eyelet, or atop the stud.**
- **This knob provides rebound adjustment only.**



Knob Function

Counterclockwise = Softer



Clockwise = Firmer

TUNING GUIDE
SINGLE-ADJUSTABLE SHOCKS

Initial Rebound Setting

NOTE: Before jumping straight to a middle-of-the-road shock setting, we recommend you experience the full range of adjustment potential of your new shocks by first driving your vehicle at both the "full stiff" and "full soft" settings. Understanding how your shocks behave at these extremes will provide recognizable reference points as you attempt to dial in your settings.

1. Begin by setting your shocks to the "full stiff", or minimal rebound position. You do this by turning the adjustment knob clockwise until it stops.

2. Now turn the adjustment knob counterclockwise 12 clicks. This is the approximate center of the adjustment range.

3. Take the vehicle for a test drive. Try to determine if you are experiencing any of the unwanted behaviors found at the extremes of the adjustment range. If you are satisfied with the ride quality and handling, you're all set. Enjoy the ride!

4. If the vehicle feels too "floaty" or soft, turn the knob a few clicks clockwise to increase the damping effect.

If the ride quality is still too harsh or stiff, turn the knob a few more clicks counterclockwise to decrease the damping effect.

5. Take the vehicle for another test drive. If necessary, repeat the steps above until your desired optimal ride quality has been acheived.

General Guidelines

- The rear shocks typically have the the most influence on ride quality. This is due to your seating position being closer to the rear than the front.
- Adjustments to the front shocks will generally require 3-4 clicks in any direction to be noticable, while adjustments to the rear shocks may only require 1-2 clicks to be felt.
- Don't be afraid to turn the knobs and experience the full adjustment range. You are not going to hurt anything and you can always go back if you adjust too far one way or the other.