ridetech

INSTALLATION INSTRUCTIONS

Part # 11633110

HQ Series Front Coilover Struts

2016-2024 Chevy Camaro

www.ridetech.com
812.482.2932

Please Read And Understand All Instructions And Warnings Prior To The Installation Of This Product.

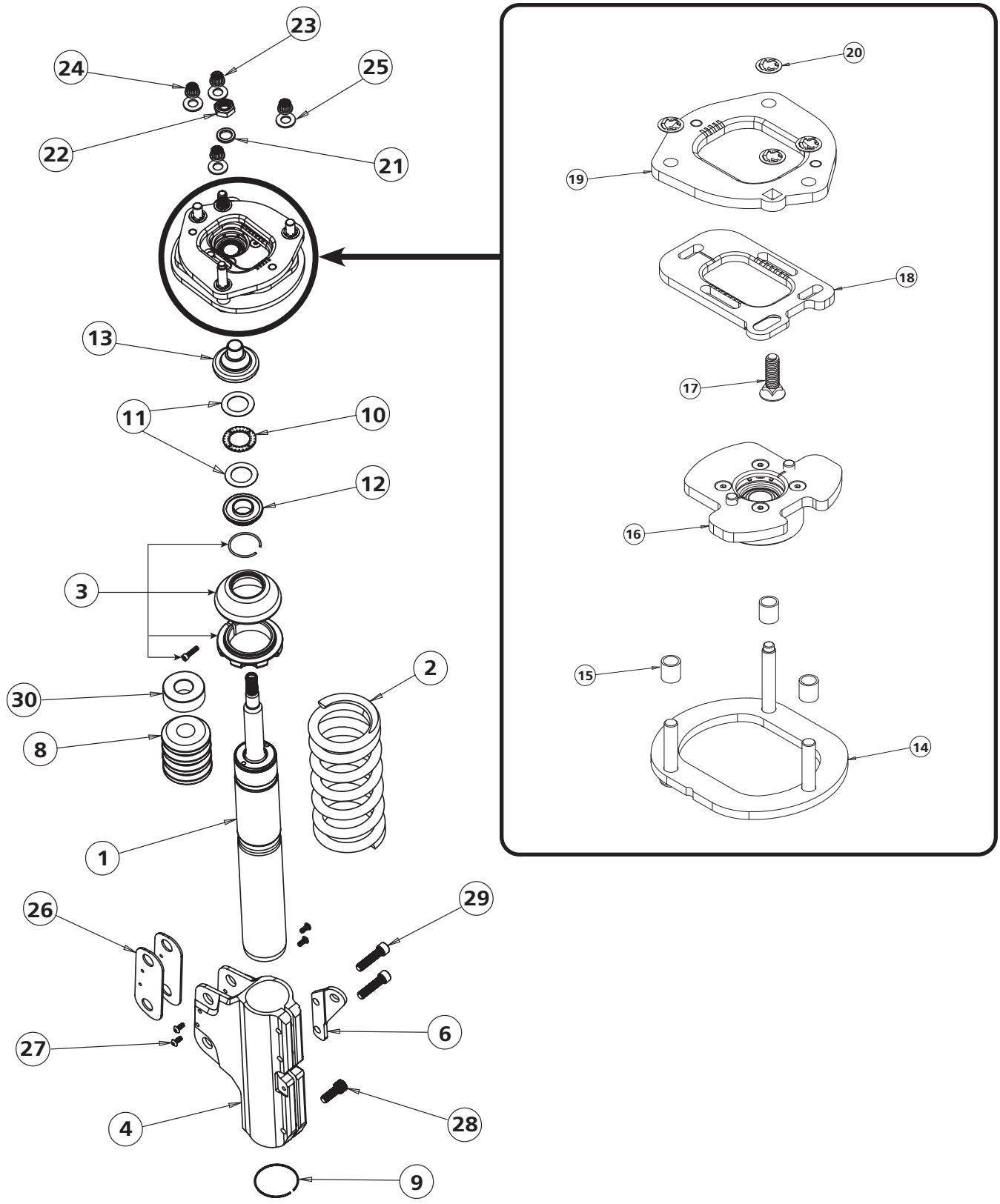
Congratulations on your new ridetech product! It's an honor that you've selected the ridetech brand to upgrade your ride. Our products are developed around quality and performance without compromise. We're confident you'll have many years (and miles) of pure driving enjoyment.
Thank you for choosing ridetech!

Road Map

IMPORTANT NOTE

If you are running front tires that are wider than stock, we recommend installing the optional bump stop spacers that are included with this kit. This will limit compression and prevent the tire from contacting the fender. See the instructions on pages 5-7 to install this optional spacer. The spacers are not necessary if you are running a stock tire size.

EXPLODED VIEWS AND PARTS LISTING



EXPLODED VIEWS AND PARTS LISTING

Item #	Part #	Description	Qty
1	986-10-055	6" Stroke HQ Strut Cartridge	2
2	59080225	Coil Spring, 8" 225 lbs/in	2
3	90001447	Coil Spring Retainer Kit, 3/4" Drop Cap	2
4	90003851	2016-24 Camaro Lower Strut Mount - Driver	1
5	90003852	2016+ Camaro Lower Strut Mount - Passenger (Not Shown)	1
6	90003853	2016+ Camaro Front Sway Bar Tab - Driver	1
7	90003854	2016+ Camaro Front Sway Bar Tab - Passenger (Not Shown)	1
8	008-02-039	BUMP STOP; 7/8 SHAFT, 2.80 LG	2
9	038-01-035	Strut, Extruded Mount Snap Ring	2
10	70010987	FOX Strut, Thrust Bearing	2
11	70010988	FOX Strut, Thrust bearing Race	4
12	90002365	FOX STRUT COILSPRING TO THRUST ADAPTER	2
13	90002368	FOX STRUT COM BEARING TO THRUST ADAPTER	2
14	70015767	2016-24 Camaro Camber Clamp Plate	2
15	70015867	SLEEVE; .625 OD X .495 ID X .6	6
16	1163CBAY	COM Bearing Assembly	2
17	99431035	7/16-14 X 1.50 PLOW BOLT	2
18	90003859	2016-24 Camaro Caster/Camber Main Plate	2
19	90003858	2016-24 Camaro Caster/Camber Top Spacer Plate	2
20	99432015	7/16" PUSH NUT	8
21	70015872	SPACER; .875 OD X .58 ID X .12	2
22	99562003	9/16"-18 NYLOK JAM NUT	2
23	99432013	7/16-14 12pt FLANGE NUT SST	2
24	99432014	7/16-20 12pt FLANGE NUT SST	6
25	99433012	7/16" SAE FLAT WASHER SST	8
26	90003857	2016-24 Camaro Front Strut Mount Shim	4
27	99101010	#10-32 X .438" BUTTON HEAD SOCKET SCREW SST	8
28	99371042	3/8-16 X 1.00" SOCKET HEAD CAP SCREW SST	2
29	99371060	3/8-16 X 1.50" SOCKET HEAD CAP SCREW SST	4
30	70017278	DELRIN SPACER; 2.00 OD X .88 ID X .75L (Optional)	2

Hardware Kit: 99010258			
Item #	**Part #**	**Description**	**Qty**
UPPER STRUT MOUNT			
25	99433012	7/16" SAE FLAT WASHER SST	8
BRAKE HOSE			
NA	99251021	1/4-20 X 1/2 SST BUTTON HEAD SCREW	2

Bump Stop Spacer Installation (Optional)

If you are running front tires that are wider than stock, we recommend installing the optional bump stop spacers included with this kit (item 30 in the exploded view on page 3). This will limit compression and prevent the tire from contacting the fender.
Follow the instructions below for the proper installation procedure.

THESE SPACERS ARE NOT NECESSARY IF YOU ARE RUNNING A STOCK TIRE SIZE

NOTE: You will need an impact with a 7/8" socket to remove and reinstall the top nut.

1. Loosen the locking screw on the coil spring adjustment nut (do not remove the screw). Turn the adjustment nut counterclockwise until the coil spring has been relieved of all preload tension.

Figure 1

2. Remove the T10 Torx screw and then remove the adjuster knob (Figure 2).

Figure 2

Bump Stop Spacer Installation (Optional)

3. Use an impact with a 7/8" socket to remove the top nut (Figure 3).

NOTE: Attempting to remove the top nut without an impact may be difficult since the shock is going to want to rotate and there is no easy way to lock it in place.

4. Lift straight up to remove the caster/camber plate assembly and set it aside (Figure 4).

If for some reason you removed the push nuts and disassembled the caster/camber plate assembly, refer to the exploded view on page 3 to ensure you reassemble the plates in the correct order and position.

5. When removing the caster/camber plate assembly, be sure to not lose or misplace the small spacer shown in Figure 5.

6. Remove the thrust adapter (Figure 6).

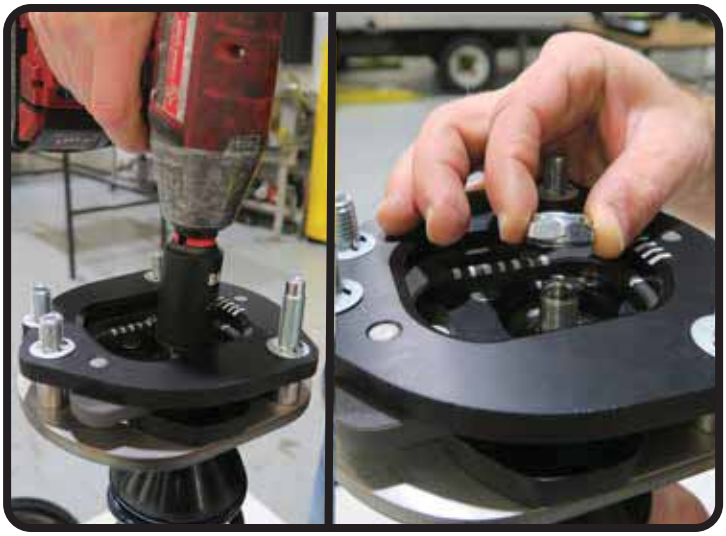


Figure 3

Figure 4

Figure 6

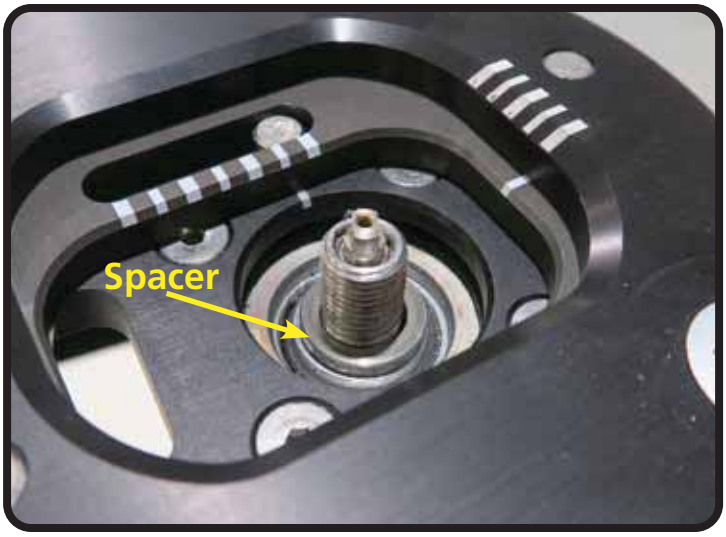


Figure 5

Bump Stop Spacer Installation (Optional)

7. Lift the drop cap straight up, keeping the thrust bearing, bearing race, and adapter intact upon the drop cap (Figure 7). Set the assembly aside.

Figure 7

8. Slide the 70017278 bump-stop spacer over the shock shaft and allow it to rest upon the bump stop (Figure 8). You do not have to remove the coil spring.

9. Reverse steps 1-7 to reassemble the shock.

When reinstalling the top nut, be sure to run the nut down far enough for it to snug up against the spacer shown in Figure 5, but **do not over tighten**.

10. Repeat steps 1-9 on the other shock.

Figure 8

Strut Installation

1. Raise the vehicle to a safe and comfortable working height.

2. Remove the existing front struts. Refer to the factory service manual for proper disassembly and removal instructions.

DO NOT REMOVE THE CENTER NUT ON THE TOP OF YOUR EXISTING STRUTS

NOTE: Retain the lower strut-mount hardware and sway bar end-link hardware for reassembly.

3. Position the new strut in the original strut location and align the four studs on the top of the strut assembly with the OEM mounting holes in the strut tower (Figures 1 & 2).

The longer stud goes in the hole through the strut-tower brace (Figure 2).

NOTE: The push nuts installed on the four mounting studs **do not** need to be removed. Their purpose is to hold together the caster/camber plate assembly during installation.

If you removed the push nuts and disassembled the caster/camber plate assembly, refer to the exploded view on page 3 to ensure you reassemble the plates in the correct order and position.

Figure 1

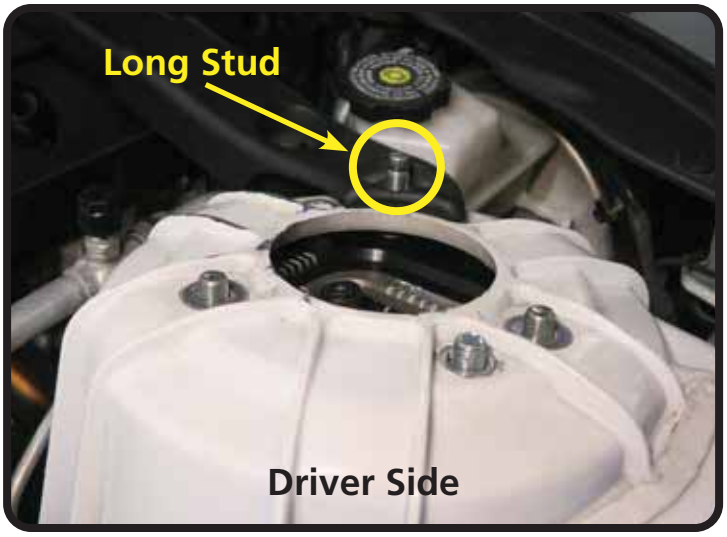


Figure 2

Strut Installation

4. Place a 7/16" flat washer from the 99010258 Hardware Kit onto each of the four studs protruding through the top of the strut tower (Figure 3).

Figure 3

5. Install a 7/16"-14 (99432013) 12-point nut on the course-thread bolt circled in Figure 4 (mirror for the passenger side).

6. Install 7/16"-20 (99432014) 12-point nuts on the three remaining studs (fine threads).

DO NOT TIGHTEN THE NUTS YET.

Figure 4

7. Rotate the steering knuckle assembly up and position it between the mounting flanges on the lower strut mount, aligning the holes in the knuckle with the holes in the lower mount.

Figure 5

Strut Installation

8. Install the OEM knurled bolts in the lower mount (Figure 6).

A hammer may be required to fully seat the bolts.

9. Install the OEM nuts on the bolts and torque to **111 ft-lbs.**

10. Make a reference mark on each nut and onto the strut-mount flange (Figure 7).

11. Using the reference mark as a dial, tighten each nut an additional **80-95 degrees** as illustrated in Figure 8.

Figure 6

Figure 7

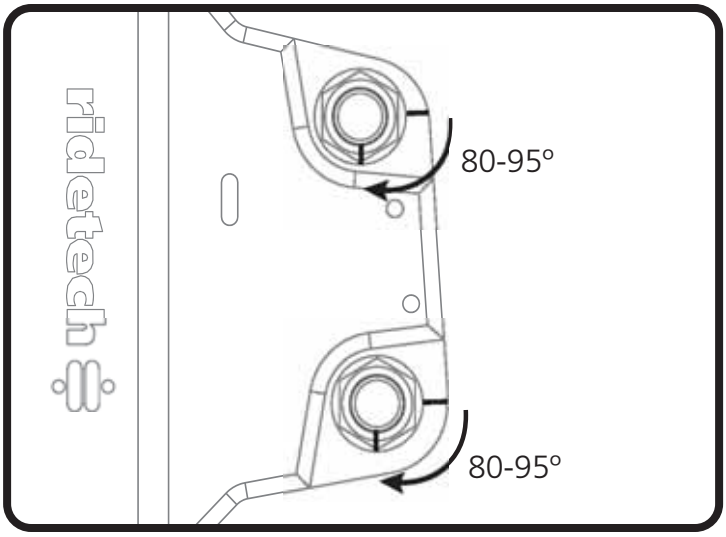


Figure 8

Strut Installation

12. Connect the sway bar end link to the sway bar tab on the strut (Figure 9).

13. Install the OEM end-link nut and torque to **74 ft-lbs**.

14. Using a 1/4"-20 Button-Head Screw from the 99010258 Hardware Kit, attach the brake-line bracket to back side of the lower strut mount as shown in Figure 10.

NOTE: We recommend applying some blue loctite to the threads of the screw.

15. Press the tab on the ABS sensor retaining clip into the slot on the front side of the lower strut mount (Figure 11).

Figure 9

Figure 10

Figure 11

Strut Installation

16. You may now tighten the upper strut-mount nuts. Position the strut in the center of the caster/camber adjustment ranges for now. It will be fine tuned in the alignment.

IMPORTANT: The nuts/studs do not all receive the same torque value. See Figure 13 and follow the direction below.

Figure 12

17. Refer to Figure 13 and torque the upper strut-mount nuts to the following:

Red circle = 42.5 ft-lbs.

Green square = 60 ft-lbs.

***Mirror for the passenger side.**

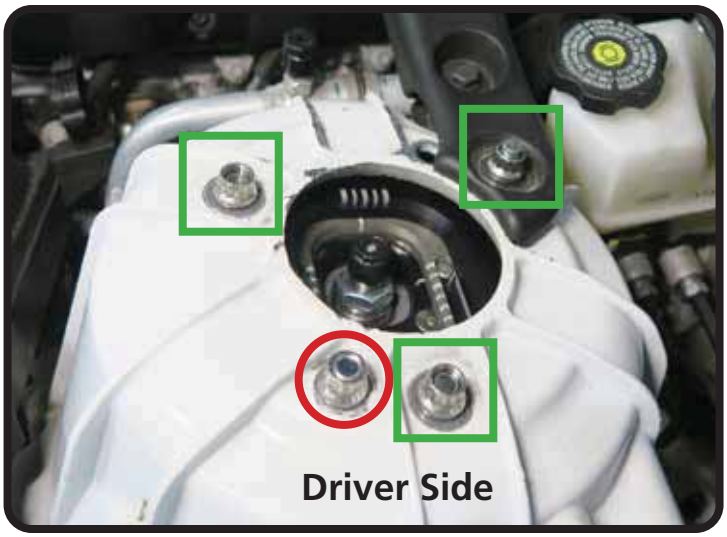


Figure 13

18. Refer to the "Setting Preload" guide on page 13 and apply an initial preload of **1 3/8"** to the coil spring.

19. Repeat steps 3-18 for the passenger side.

20. After both sides are installed and preload has been set, slowly lower the vehicle to the ground and evaluate ride height. If you need to adjust ride height, refer to the "Setting Ride Height" guide on pages 14-15.

21. Have the car aligned. Follow the guide on page 16 for instructions on adjusting the caster/camber plates during alignment.

SETTING PRELOAD

1. Before adding any preload to your coilover, ensure that you are starting with zero preload on the spring. The adjustment nut should be snug against the coil spring, but not compressing it. The locking screw should be installed, but not yet tightened.

Figure 1

2. With zero preload on the spring, measure the distance from the bottom of the adjustment nut to the top of the strut mount. This is your starting point of reference.

Figure 2

3. Using a spanner wrench (Figure 3), apply preload by threading the adjustment nut up the shock an additional **1 3/8"** from the measurement you took in Step 2. This is your initial preload setting.

Figure 3

4. Tighten the locking screw to secure the adjustment nut in its preloaded position. Torque to **18 in-lbs**.

Figure 4

ADJUSTING RIDE HEIGHT

NOTE: Optimal ride quality and handling typically occurs when the shock absorber is sitting between 40-60% of its full travel at ride height. However, measuring the shock can be difficult on some applications. If you do not wish to measure your shocks, an easier method that is still quite effective is to measure wheel travel. See Steps 1-4 below for this alternate method. If you've determined that your shock travel is good, you may skip to Step 5 to jump straight to making any necessary ride-height adjustments.

1. With coilovers installed and the preload set, lower the vehicle to the ground. With the entire weight of the vehicle on the wheels, jounce the suspension and roll the vehicle forward and backward to release any suspension bind.

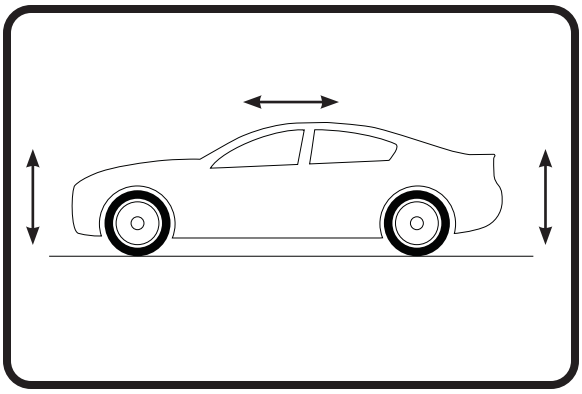


Figure 1

2. At the centerline of the wheel, take a measurement from the fender lip to the ground (Figure 2).

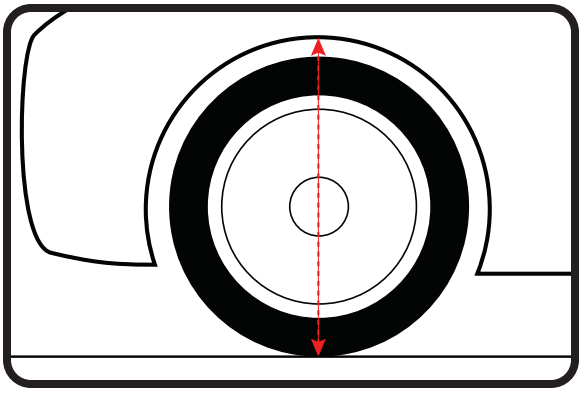


Figure 2

3. Lift the vehicle by the frame until the wheel is barely touching the ground. Take another measurement from the fender lip to the ground (Figure 3).

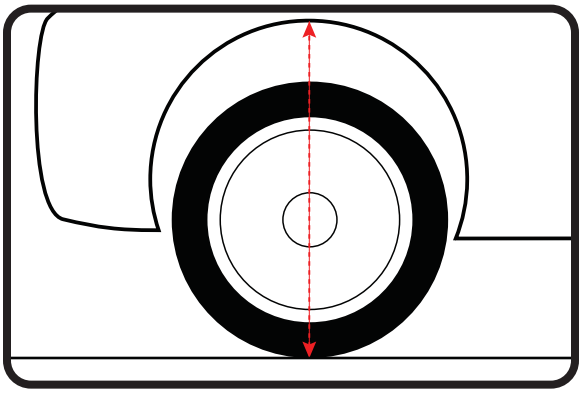


Figure 3

4. The difference between the measurements taken in Steps 2 and 3 is your **extension travel** at the wheel. A minimum of 1.5" of extension travel (at the wheel) is typically needed to prevent the shock from topping out. If you have more than 3" of extension travel, you may be at risk of bottoming out the shock and need to increase the ride height.

ADJUSTING RIDE HEIGHT

5. With coilovers installed and the preload set, lower the vehicle to the ground. With the entire weight of the vehicle on the wheels, jounce the suspension and roll the vehicle forward and backward to release any suspension bind. Evaluate your ride height.

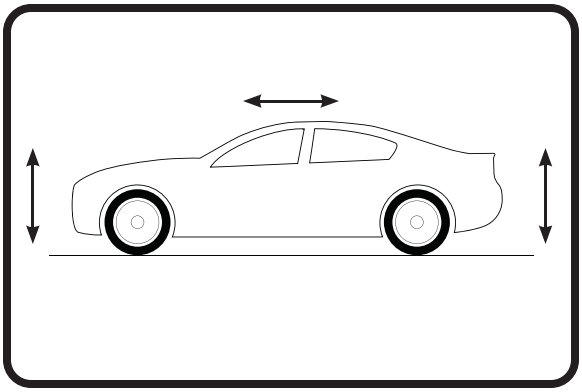


Figure 4

6. If you determine you need to adjust the ride height, raise the vehicle by the frame and allow the suspension to hang freely.

7. Loosen the locking screw on the coilover adjustment nut just enough to be able to turn the nut. **Do not remove the locking screw.** (Figure 5).

Figure 5

8. Measure the distance from the bottom of the adjustment nut to the top of the strut mount. We recommend recording this measurement for reference (Figure 6).

9. Using a spanner wrench, thread the nut up or down the shock body to achieve the desired ride height (Figure 7). Tighten the locking screw to secure the adjustment nut in place. Torque to **18 in-lbs**.

Figure 6

10. Lower the vehicle to the ground, jounce the suspension and roll the vehicle forward and backward to release any suspension bind.

11. Recheck your ride height. If you need to adjust, repeat Steps 6-10.

12. Once your desired ride height has been achieved, refer to the Shock Tuning Guide to dial in your shocks.

Figure 7

CASTER/CAMBER ADJUSTMENT

The caster adjustment tick marks are etched on the black top plate (Figure 1).

The camber adjustment tick marks are etched in parallel on the silver plate (Figure 1).

Each minor tick mark indicates an incremental caster/camber adjustment of **1/2 degree**.

Each major tick mark indicates an incremental caster/camber adjustment of **1 degree**.

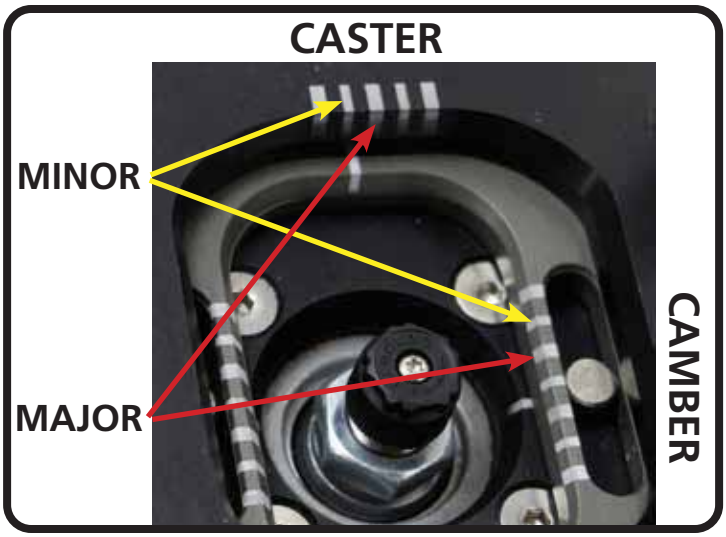


Figure 1

To adjust caster, loosen all four of the upper mounting nuts.

Once caster is set, lock it in place by tightening the nut circled in Figure 2.
***Mirror for the passenger side.**

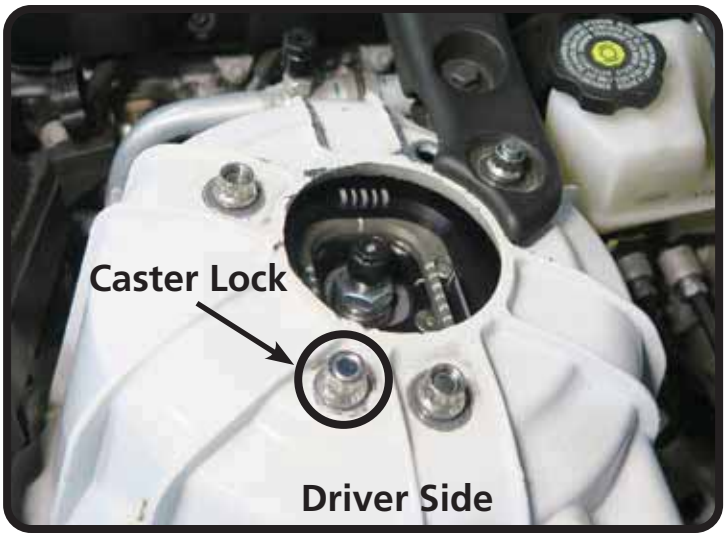


Figure 2

With caster locked in place, and the three remaining nuts left loose, you may adjust camber.

Once camber is set, refer to Figure 13 and torque the four upper strut-mount nuts to the following:

Red circle = 42.5 ft-lbs.

Green square = 60 ft-lbs.

***Mirror for the passenger side.**

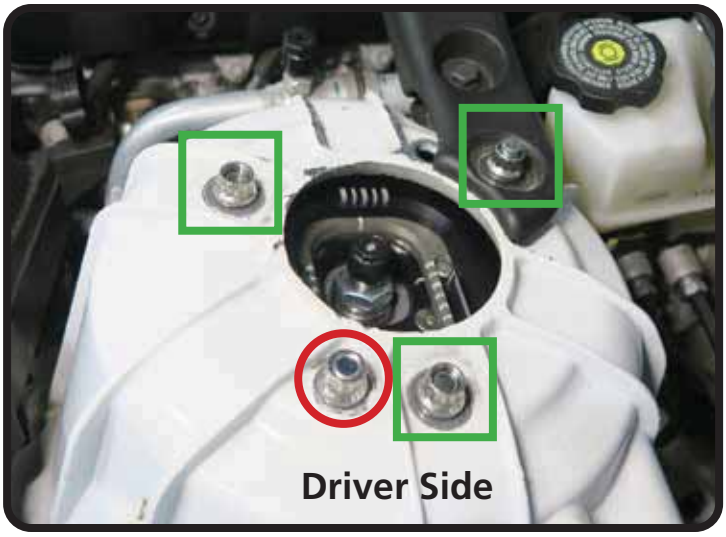
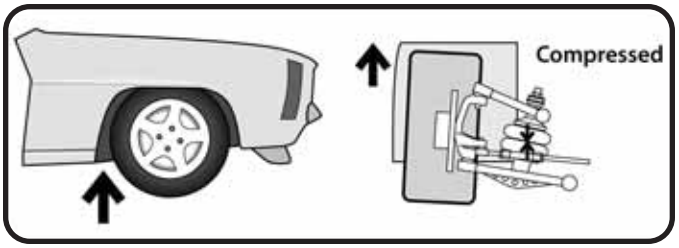


Figure 3

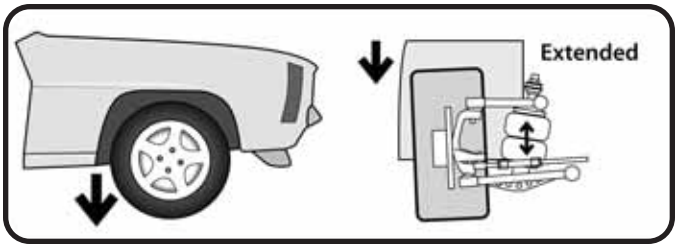
TUNING GUIDE
SINGLE-ADJUSTABLE SHOCKS

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.



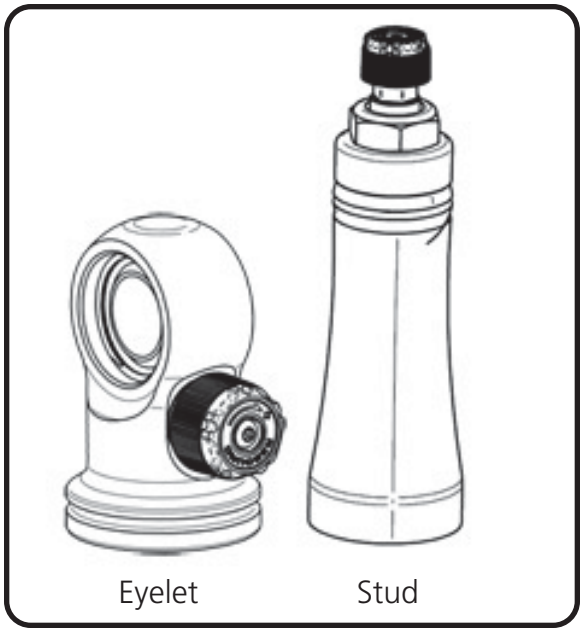
REBOUND

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?

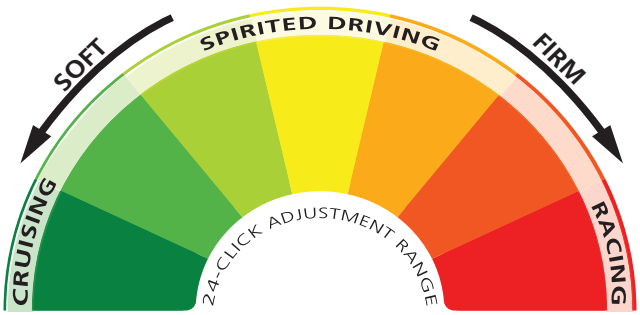
HQ Series Shocks

- **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 achieved.

General Guidelines

- The rear shocks typically have 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 noticeable, 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.