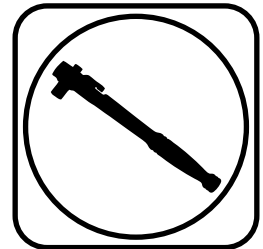




Part # 12272501 - 2015 Up Mustang HQ ShockWave



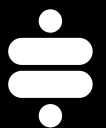
Recommended Tools



2015 Up Mustang Front HQ ShockWave Strut Installation Instructions

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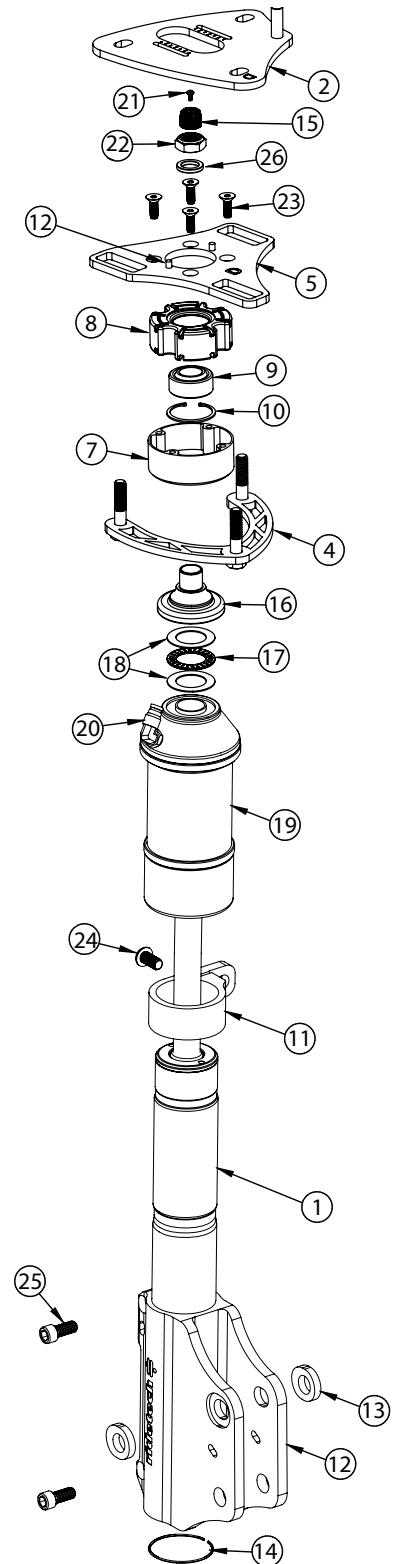
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Included ComponentsIn the box

Item #	Part #	Description	QTY
1	986-10-055	Strut Cartridge	2
2	90003585	Caster/Camber Guide Plate - Driver	1
3	90003586	Caster/Camber Guide Plate - Passenger	1
4	90003587	Caster/Camber Bolt Plate	2
5	90003588	Caster/Camber Bearing Plate - Driver	1
6	90003589	Caster/Camber Bearing Plate - Passenger	1
7	90003590	Strut Isolator Retaining Cup	2
8	70016907	Strut Isolator	2
9	90001042	Upper Mount Bearing	2
10	90000805	Upper Bearing Snap Ring	2
11	90003591	Front Sway Bar Mount	2
12	90001154	Lower Strut Mount	2
13	90003593	Lower Strut Slug	4
14	038-01-035	Strut Mount Retaining Ring	2
15	210-35-120-0	Rebound Dampening Adjustment Knob	2
16	90002368	Upper Bearing to Thrust Bearing Adapter	2
17	70010987	Thrust Bearing	2
18	70010988	Thrust Bearing Washer	4
19	21090798	4" Diameter Rolling Sleeve Air Spring	2
20	31954201	Air Fitting, 90° 14" NPT x 1/4" Tube	2
21	90009969	Adjustment Knob Screw - 4-40 x 1/4"	2
22	99562003	9/16"-18 Nylok Nut	2
23	72000008	1/4"-20 x 3/4" Flat SHCS	8
24	99371029	3/8"-16 x 3/4" Button HCS	2
25	99371042	3/8"-16 x 1" SS SHCS	4
26	70015872	Spacer	2
Hardware Kit: 99010244			
	99373002	3/8" SAE Flat Washer	8
	99372001	3/8"-16 Nylok Nut	8
	99161002	M16 x 2.00MM X 90 HCS GR10.9	4
	99162000	M16 X 2.00MM NYLOK NUT GR10.9	4
	99163003	M16 FLAT WASHER GR10.9	8





NOTE

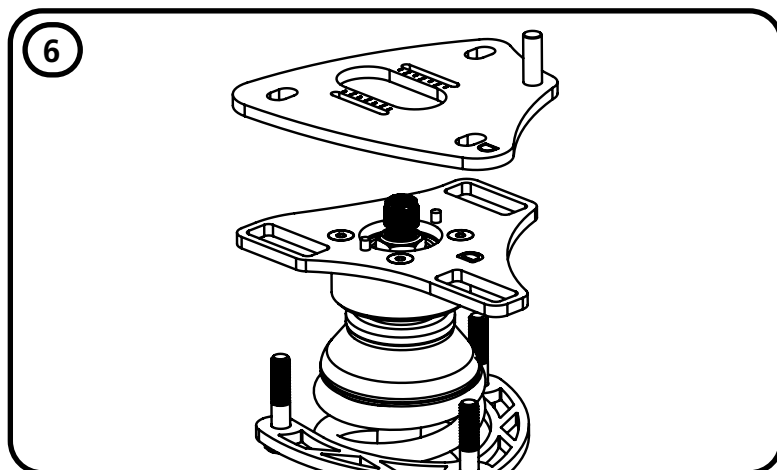


DUE TO VARIATIONS IN WIDTH OF THE OEM SWAY BAR, IT MAY BE NECESSARY TO CHANGE THE FRONT SWAY BAR TO RIDETECH SWAY BAR (12279120) WHEN TRYING TO ACHIEVE ALIGNMENT SETTINGS FOR TRACK PURPOSES. REGARDLESS OF YOUR ALIGNMENT SETTING, WE RECOMMEND CHECKING THE CLEARANCE BETWEEN THE STRUT AND THE OEM SWAY BAR LINKAGE

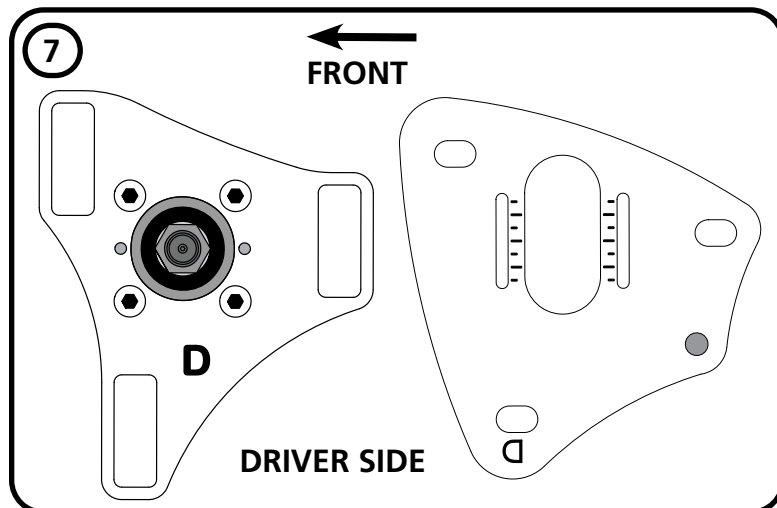
Disassembly

1. Remove the front struts by first disconnecting the ABS wire from the factory strut.
2. Disconnect the swaybar linkage from the strut.
3. Support the front hub and control arm assembly and remove the (2) struts bolts(retain hardware) that attach the strut to the spindle. Retain the lower strut bolts for reassembly.
4. Remove the (3) nuts holding the upper strut mount to the car body. **DO NOT REMOVE THE CENTER NUT.**
5. Remove strut assembly from the car.

Getting Started



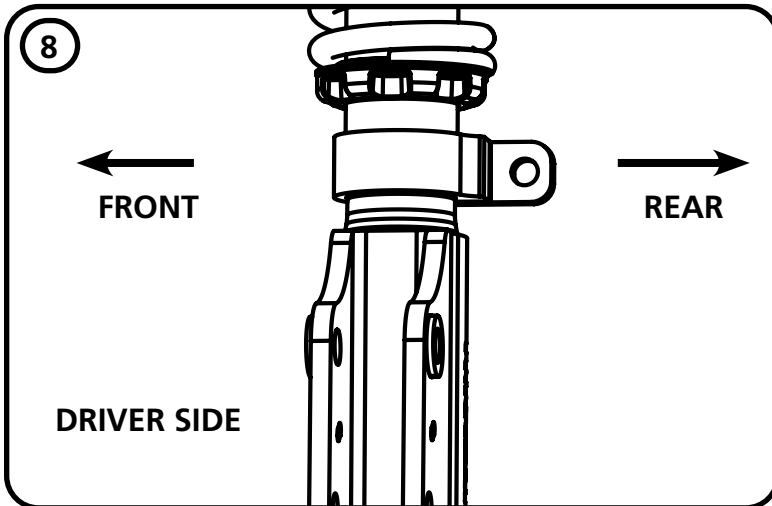
6. The upper strut mount is a 3 piece setup. All 3 pieces will be installed from the bottom side of the strut tower.



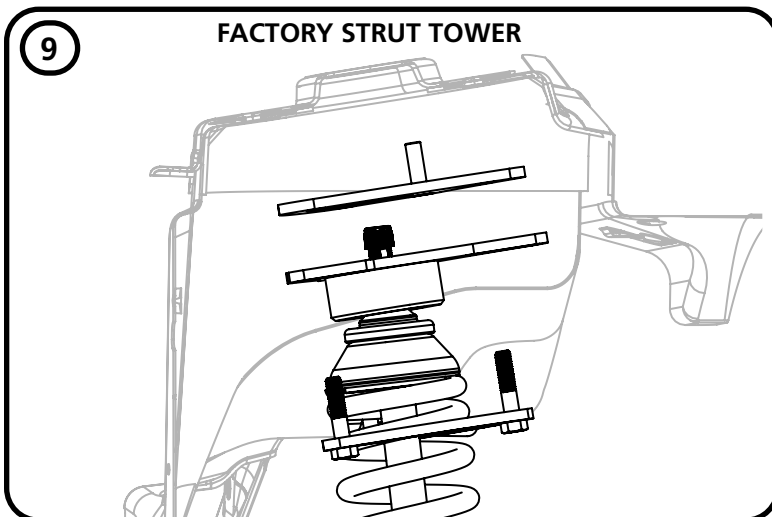
7. The upper mounts are marked with a D and P for Driver and Passenger.



Strut Installation



8. There is a driver and passenger strut assembly. The sway bar linkage mounting tab is to the **REAR** of the car. **Image 8** illustrates the Driver Assembly.



9. **Image 9** illustrates the orientation of the strut mounting components. Installation of these components is covered in **Steps 10-15**.



10. The upper plate has a stud pressed into the plate. The stud will go in the slotted hole that is to the rear of the strut tower. This stud locks down the caster adjustment.

NOTE: If you are only adjusting camber, this nut doesn't need to be loosened.



Strut Installation



11a & 11b. The caster/camber guide plate will sit on top of the bearing plate. The (2) guide pins will get inserted into the slots of the caster/camber guide.



11b. Image 11b illustrates the (2) pins in the slots.



12. The bolt plate will be inserted in from the bottom, with the studs sticking through the slots of the bearing plate & caster/camber plate.



Strut Installation



13. Image 13 shows the bolt plate inserted with the studs sticking through the bearing plate & caster/camber plate.



14. Insert the strut assembly into the car. You will have to hold the bolt plate in place until you can get nuts started on the top. The open end of the bolt plate will be facing the engine.



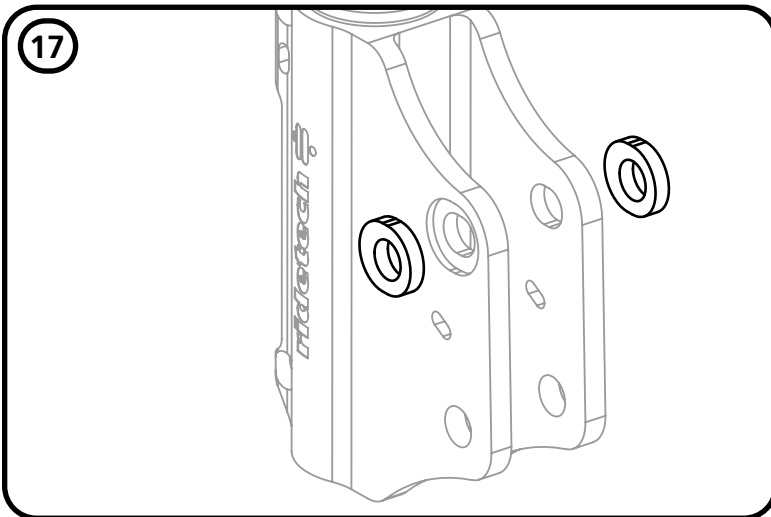
15. Install a 3/8" flat washer and 3/8"-16 nylok nut on each of the (4) studs. We recommend centering everything in the slots until you can get the front end aligned. Torque the 3/8"-16 nuts to 20 ft-lbs.



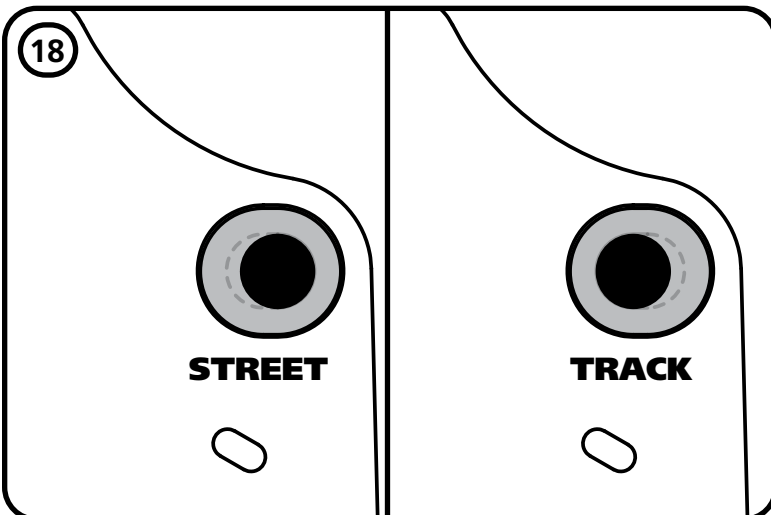
Strut Installation



16. Slip the strut mount onto the mounting area of the spindle. Slide an M16 flat washer onto an M16 hex bolt and Insert into the lower hole of the strut mount/knuckle. Install another M16 flat washer on the opposite end of the bolt and secure with an M16 nylok nut.



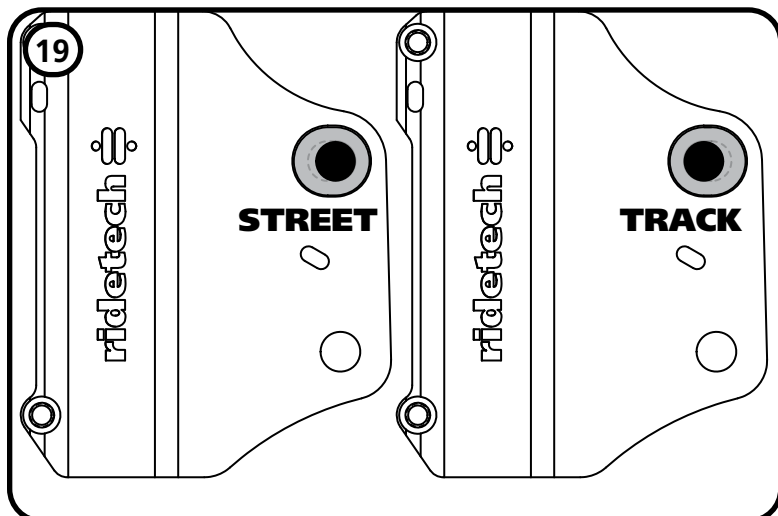
17. The upper strut bolt has a slug setup that allows for a more aggressive alignment settings if you are going to track or auto cross your car. The guide below will help you determine the orientation of the slug for your application.



18. The slug can be mounted in 2 different directions. The STREET position has the upper bolt moved outward on the strut mount. The TRACK position has the upper bolt moved inward on the strut mount. **Image 18** illustrates the 2 positions. It is zoomed in to show greater detail. **Image 19** shows the complete lower strut mount with the slugs mounted in the 2 positions.



Strut Installation



19. Below shows the camber range for each setting.

STREET : +.25° to -2.5°
TRACK : -1.0° to -4.25°

The upper strut mount has a caster range of +7.5° to +8.5°.



20. Insert the slugs into the strut mount using **Steps 18 & 19** as a guide. Make sure the front and rear slugs are orientated in the same direction. Also, make sure the slugs are installed in the same orientation drivers side and passenger side.



21. Slide an M16 flat washer onto an M16 hex bolt and insert into the upper hole of the strut mount/knuckle.



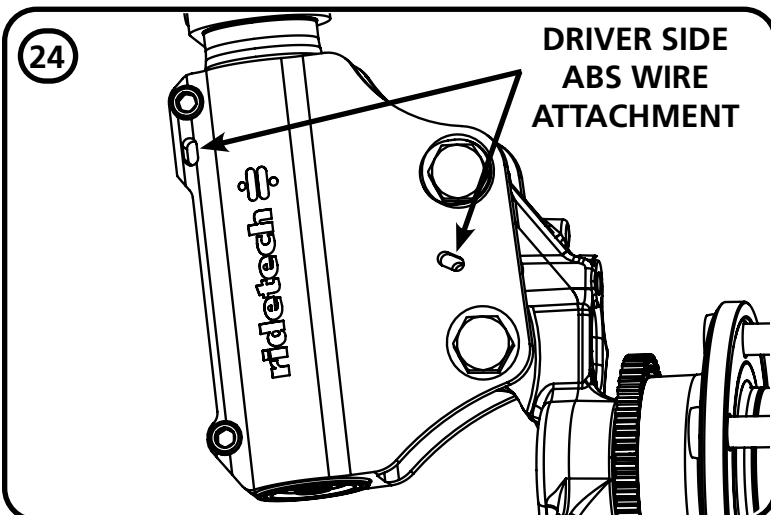
Strut Installation



22. Install another M16 flat washer on the opposite end of the bolt and secure with an M16 nylok nut. Torque the strut to steering knuckle hardware to 184 ft-lbs.



23. Attach the sway bar linkage to the strut using the OEM hardware. Torque to 85 ft-lbs.



24. The ABS wire attaches to the strut in the locations shown in **Image 24**. The OEM mounting clips are used to attach the ABS wire.



Strut Installation



25. Attach the outer ABS wire mount to the provision in the tab of the strut.



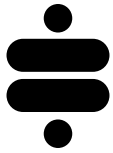
26. Attach the inner ABS wire mount to the provision in the rear flange of the strut.

Final Assembly

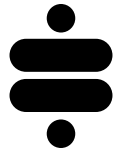
27. Repeat previous steps 11-26 on the Passenger side.

28. With Both sides installed, slowly lower the car to the ground to check ride height. It may be necessary to tighten the Adjusting nut (Also known as preloading the Coil Spring) to achieve proper ride height. To do this you will need to loosen the Adjuster Nut Locking Screw and tighten the Adjuster Nut to put preload into the Coil Spring. Once the correct ride height is achieved tighten the Locking Screw in the lower Adjuster nut. **It may be helpful to read the section pertaining to spring preload and adjustment below.**

IT IS NECESSARY TO HAVE THE CAR ALIGNED AFTER INSTALLATION. TORQUE THE STRUT TO SPINDLE ATTACHING BOLTS TO 184 FT-LBS.



SHOCKWAVE CARE GUIDE



PLEASE READ



The air spring locking ring **IS NOT** adjustable. This ring is set to a specific position at the factory to optimize the air spring stroke with the shock stroke. Attempting to adjust this ring will void your warranty.

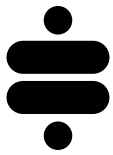


DO NOT attempt to remove the press-in air fitting. It may result in damage to the composite cap and void your warranty.



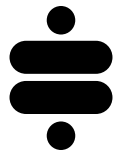
DO NOT drive the vehicle with the air springs fully deflated. Severe damage to the internal bumpstop, shock bushings, and shock mounts may occur.

- Avoid driving the vehicle with the air springs overinflated or “topped out”. Over time the shock valving may suffer severe damage or total failure. Our recommended ride-height range is between 40-60% of total suspension travel.
- Do not allow the air spring bellows to rub on or interfere with any surrounding objects. Ensure the ShockWaves are adequately distanced from the exhaust system. Damage or total failure may occur.
- Do not use harsh or abrasive chemicals or solvents to clean your ShockWaves. A mild soap and water solution is sufficient.
- When working around or near your shocks, avoid allowing overspray of harsh chemicals or solvents to make contact with your ShockWaves.
- When attempting to clock the air fitting, you may rotate the air spring assembly on the shock. Ensure the fitting does not contact the vehicle frame or other surrounding objects.

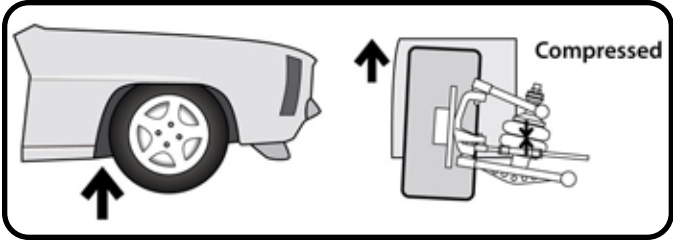


TUNING GUIDE

SINGLE-ADJUSTABLE SHOCKS

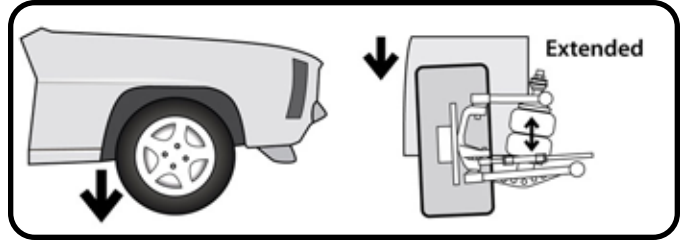


The Basics...



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.



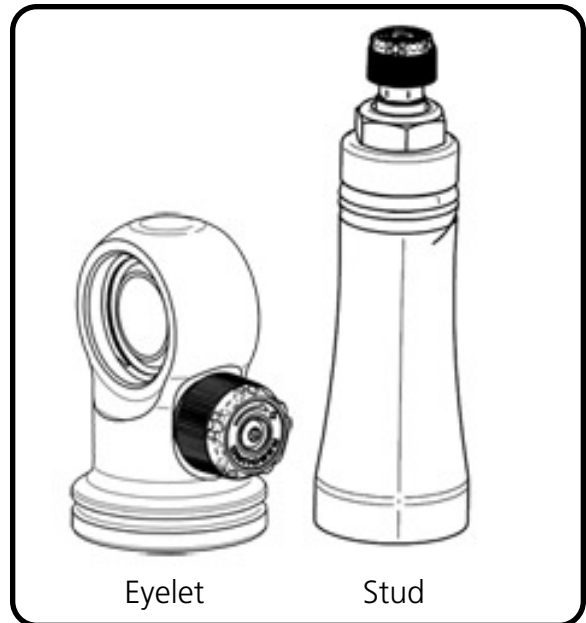
REBOUND

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

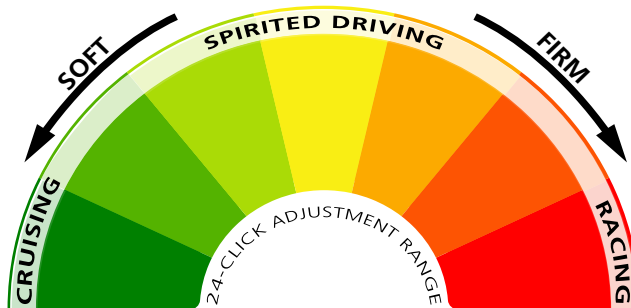
- The adjustment knob is located on the top of the shock, either protruding from the side of the eyelet, or atop the stud.
- This knob provides rebound adjustment only.



Knob Function

Counterclockwise

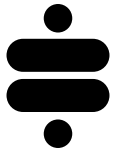
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Softer



Clockwise

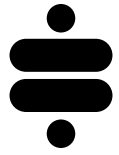
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Firmer





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 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.