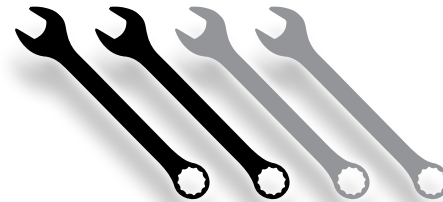
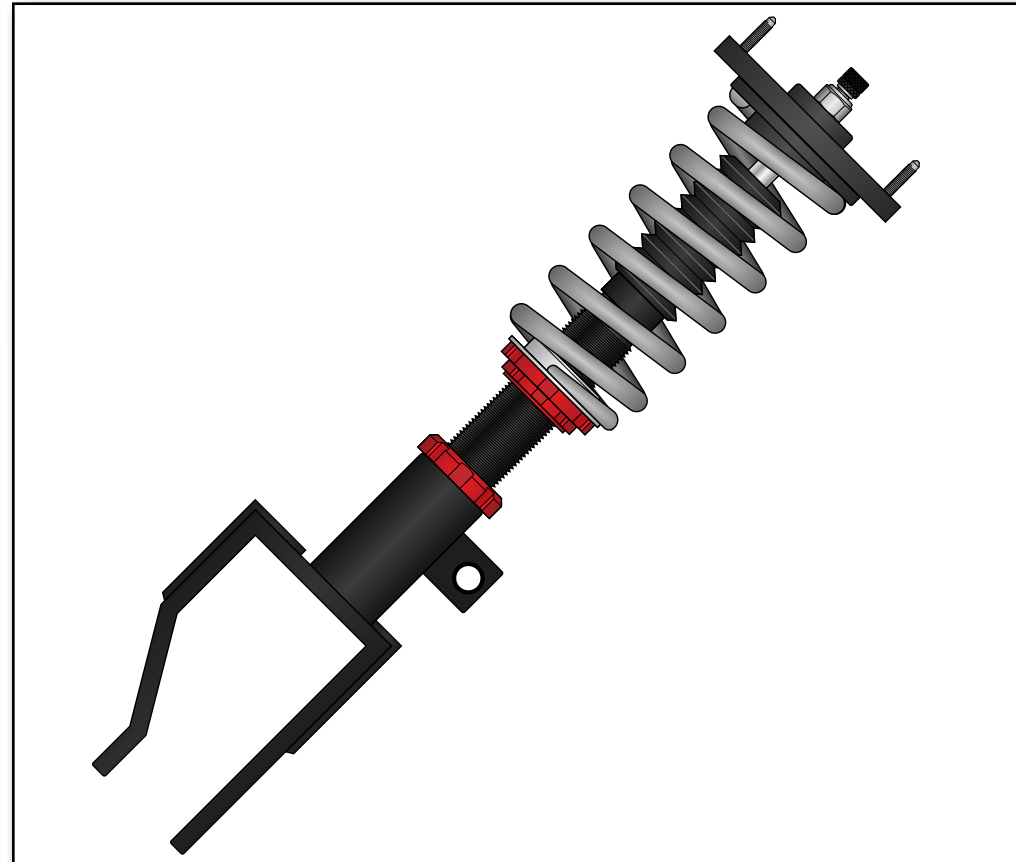




Tesla Model 3 Adjustable Coilover kit Installation Instructions - [Click HERE to Shop](#)



**Skill Level 2:
Moderate**



Proper service and repair procedures are vital to the safe, reliable operation of all motor vehicles as well as the personal safety of those performing the repairs. Standard safety procedures and precautions (including use of safety goggles and proper tools and equipment) should be followed at all times to eliminate the possibility of personal injury or improper service which could damage the vehicle or compromise its safety.

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REQUIRED TOOLS

Note: The tools required for each step will be listed by the step number throughout these instructions.

- 1/4", 3/8" & 1/2" Socket Sets & Ratchets
 - Non-Marring Trim Removal Tools
 - Protecta-Sockets (For wheel nuts)
 - Breaker Bar
 - Combination Wrench Set
 - Torx Socket Set
 - Hex (Allen) Socket Set
 - Torque Wrenches

INSTALLATION NOTES

- **RH** refers to the *passenger side* of the vehicle.
- **LH** refers to the *driver side* of the vehicle.
- Always use the proper torque specifications.
- If applicable to this installation, torque specifications will be listed throughout the document and at the end as well.
- Please read all of these instructions and familiarize yourself with the complete process **BEFORE** you begin.

GENERAL PREPARATION AND SAFETY INFORMATION

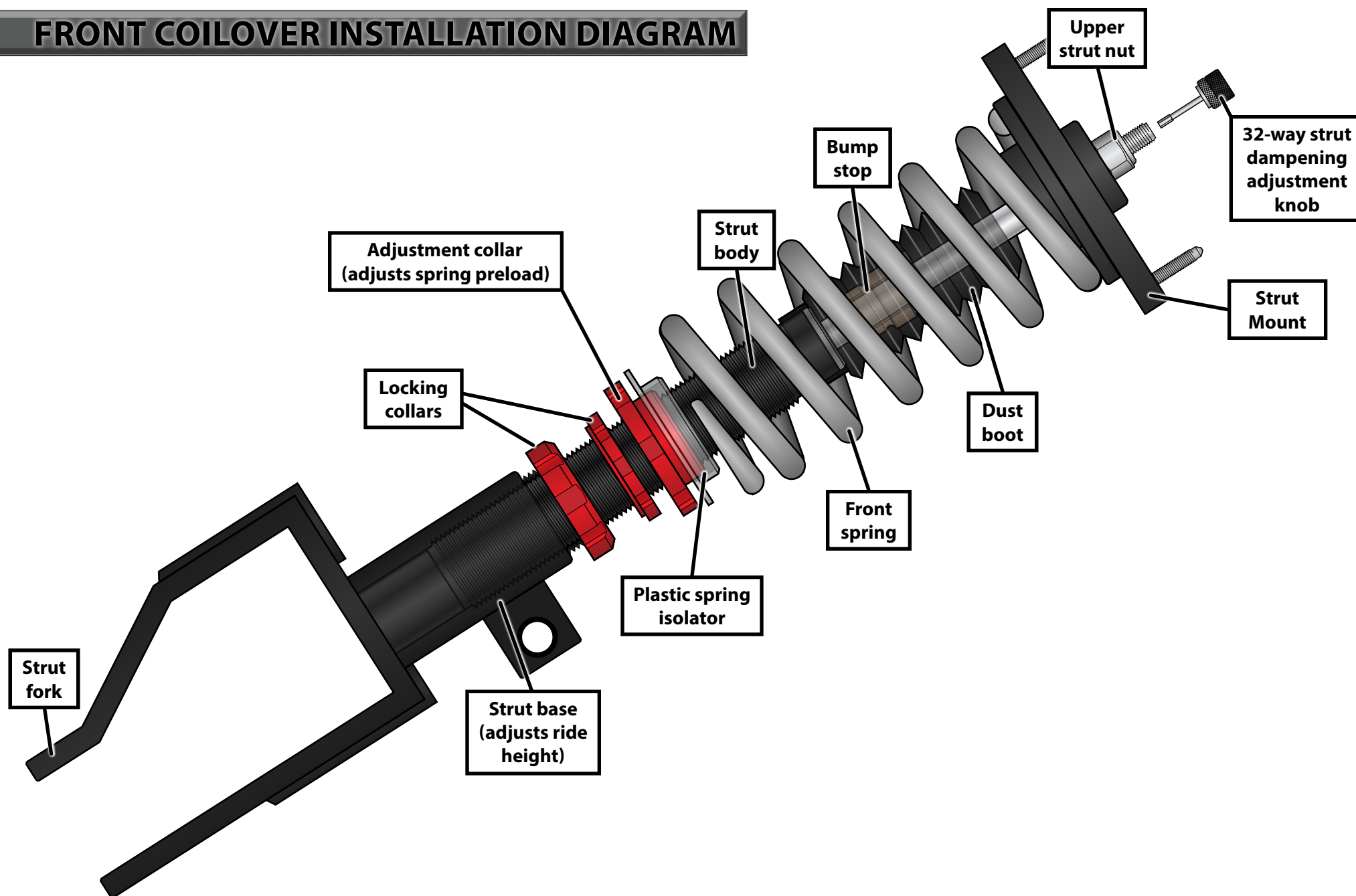
EVANNEX cares about your health and safety, please read the following safety information. This information pertains to automotive service in general, and while it may not pertain to every job you do, please remember and share these important safety tips.

- Park your car in a safe, well lit, level area.
- Shut the engine off and remove the key from the ignition switch.
- Make sure any remote start devices are properly disabled.
- **ALWAYS** wear safety glasses.
- Make sure the parking brake is applied until the vehicle is safely lifted and supported.
- Whether lifting a vehicle using an automotive lift or a hydraulic jack, be sure and utilize the factory specified lift points.
- Lifting a vehicle in an incorrect location can cause damage to the suspension/running gear.
- **ALWAYS** support the vehicle with jack stands.
- **ALWAYS** read and follow all safety information and warnings for the equipment you are using.



NEVER get underneath a vehicle that is supported only by a jack, and **ALWAYS** make sure that the vehicle is securely supported on jack stands.

FRONT COILOVER INSTALLATION DIAGRAM



REMOVING THE ORIGINAL FRONT STRUTS

Step 1:

Lift up on the rain tray cover (highlighted in **RED**) to pop the clips free, then remove it.

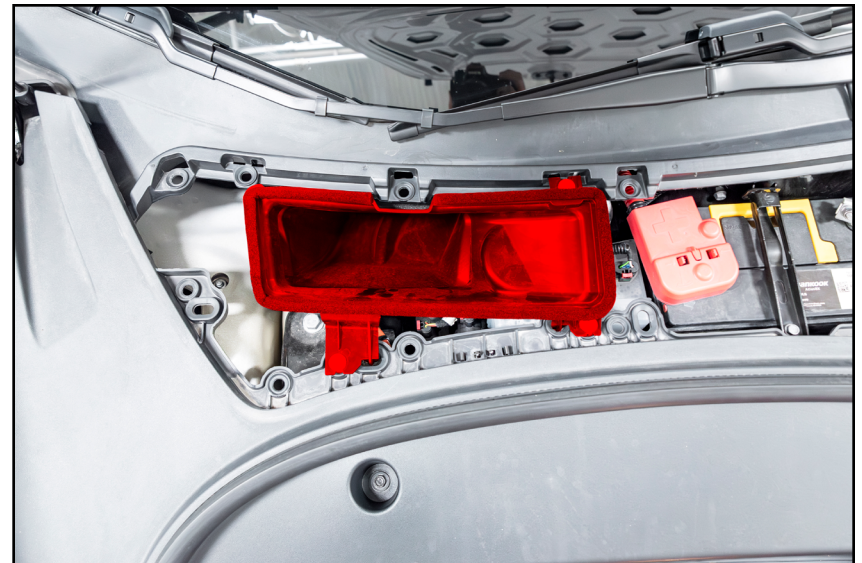


Before you begin your install take a moment to take some baseline measurements. Measure your fender to ground clearance at all four wheels and write it down. This will come in handy later on once you go to adjust the ride height.



Step 2:

Lift up on the cabin air duct (highlighted in **RED**) to pop the clips free, then remove it.



REMOVING THE ORIGINAL FRONT STRUTS

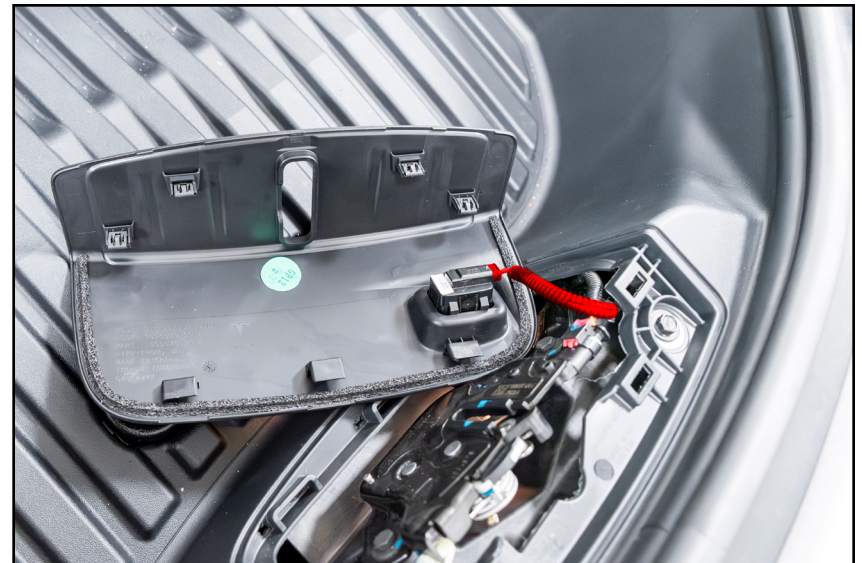
Step 3:

Lift up on the hood latch cover (highlighted in **RED**) to pop the clips free, but do not remove it yet.



Step 4:

Disconnect the connector (highlighted in **RED**), then remove the hood latch cover.



REMOVING THE ORIGINAL FRONT STRUTS

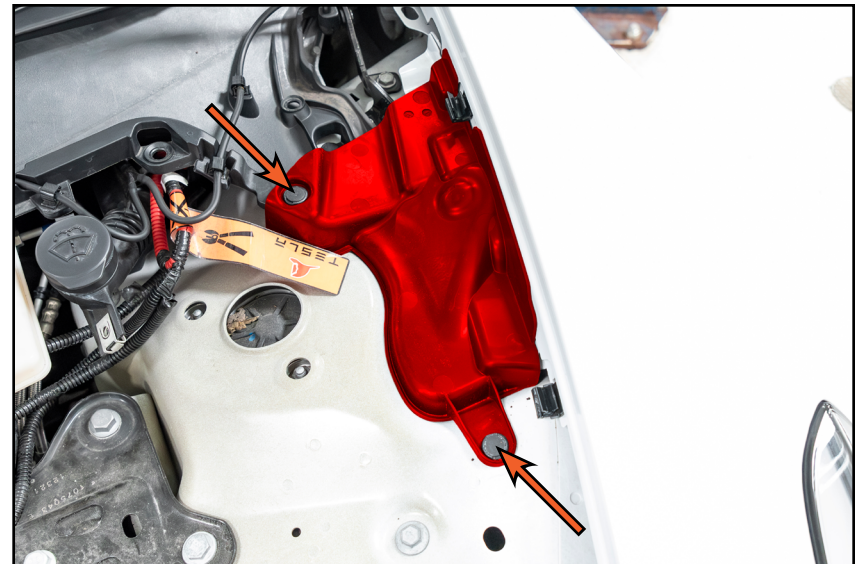
Step 5: 10mm Socket & Ratchet

Remove the six bolts (circled in **RED**), lift up on the storage tray to pop the clips free, then remove it.



Step 6: Trim Removal Tool

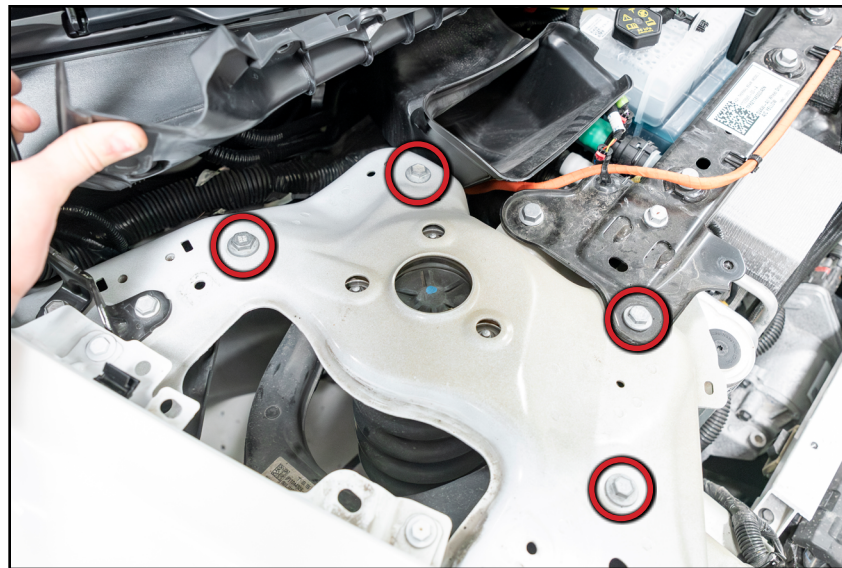
Release the push-rivets (arrows), then remove the strut tower cover (highlighted in **RED**) from either side.



REMOVING THE ORIGINAL FRONT STRUTS

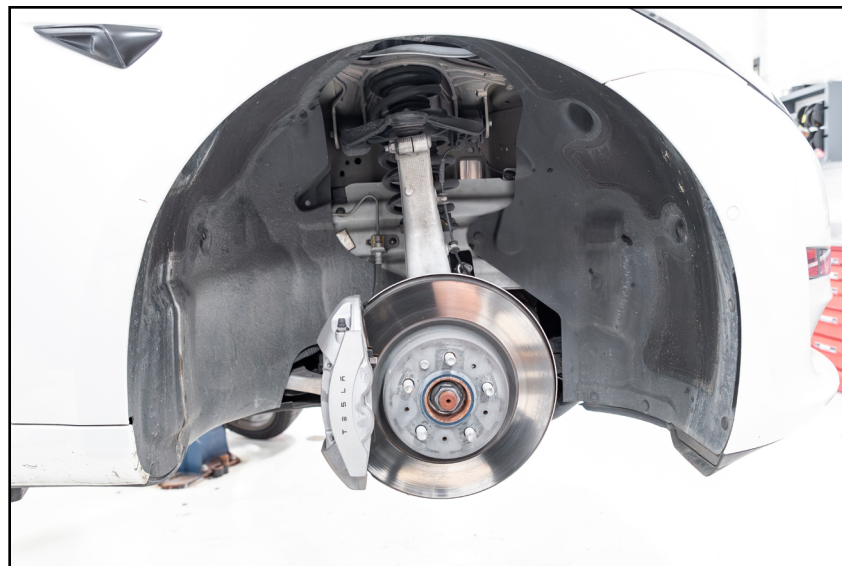
Step 7: 13mm, 15mm Socket & Ratchet

Remove the bolts (circled in **RED**) that secure the front upper control arm bracket to the strut tower.



Step 8: Protecta-Sockets & Breaker Bar

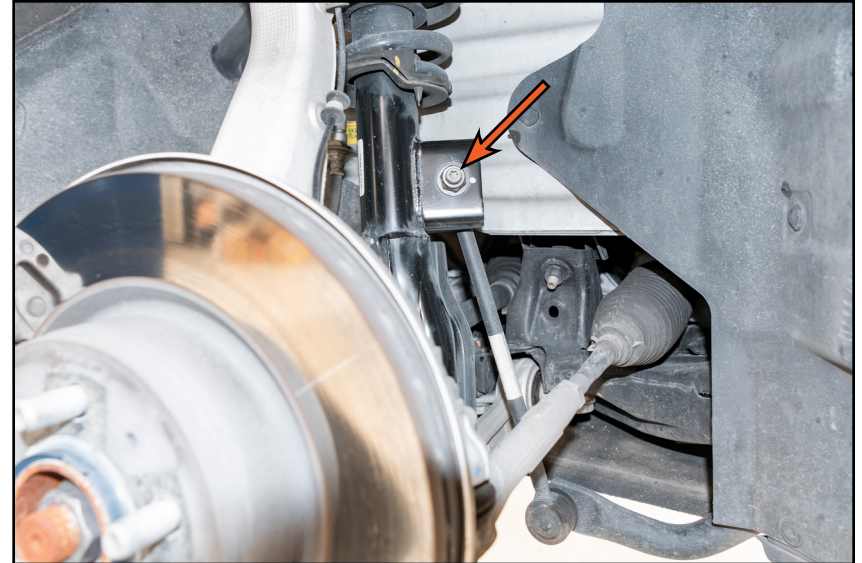
Safely lift and support the vehicle and remove all four wheels.



REMOVING THE ORIGINAL FRONT STRUTS

Step 9: 18mm Wrench, T40 Torx Socket & Ratchet

Remove the nut (arrow) that secures the end link to the strut, then pull the end link free.



Step 10: 15mm Wrench, T50 Torx Socket & Ratchet

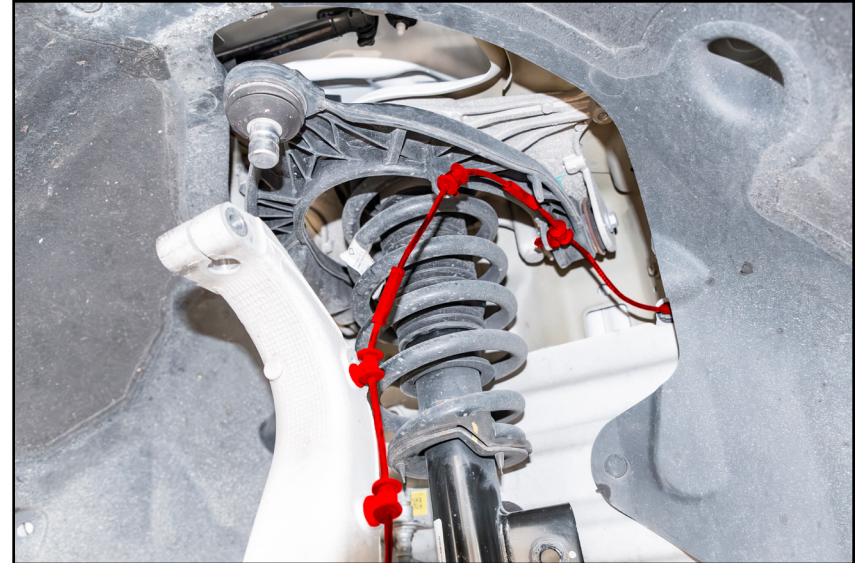
Remove the bolt and nut (arrows) that secure the upper control arm to the knuckle, then pull the upper control arm free.



REMOVING THE ORIGINAL FRONT STRUTS

Step 11:

If equipped, disconnect the ride height sensor, then free up the ABS wiring harness (highlighted in **RED**) from the upper control arm.



Step 12: 21mm Wrench, 21mm Socket & Ratchet

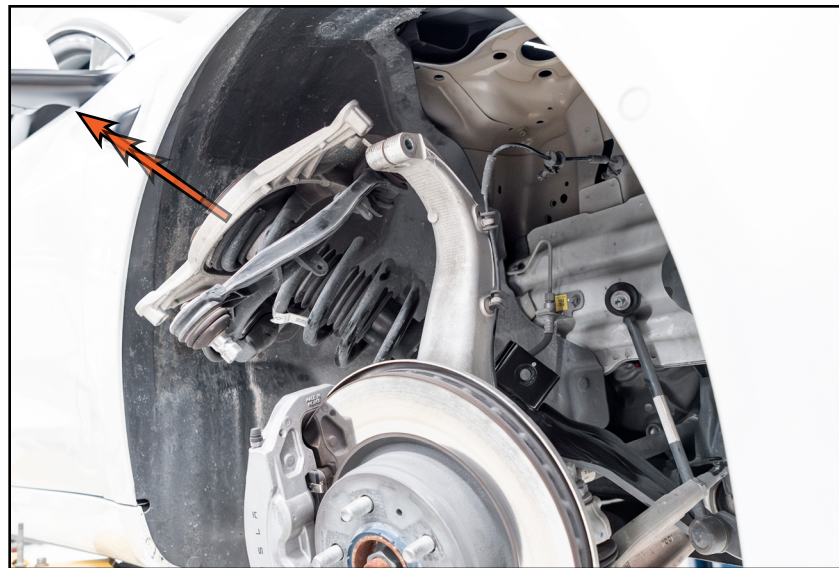
Remove the bolt and nut (arrow) that secure the strut to the lower control arm.



REMOVING THE ORIGINAL FRONT STRUTS

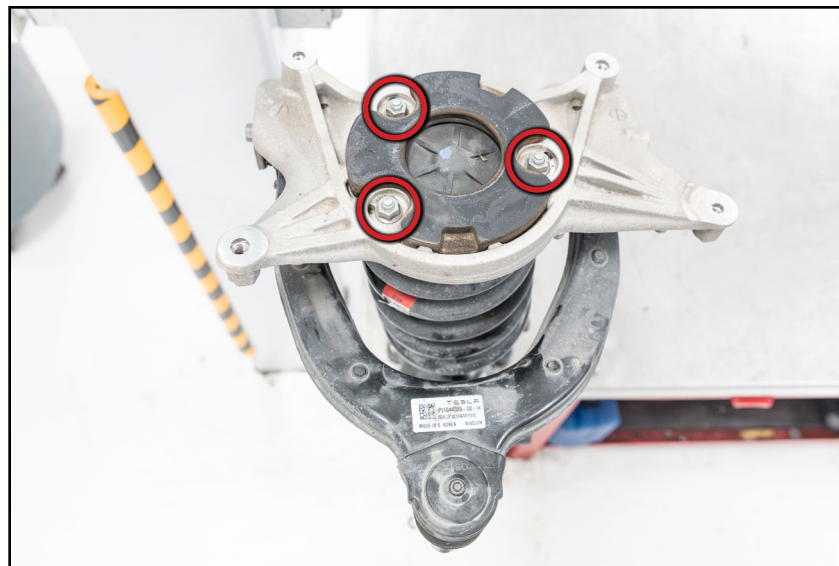
Step 13:

Carefully guide the strut assembly out of the fender well.



Step 14: 13mm Socket & Ratchet

Remove the three nuts (circled in **RED**) and pull the upper control arm bracket off of the strut.



INSTALLING THE FRONT COILOVERS

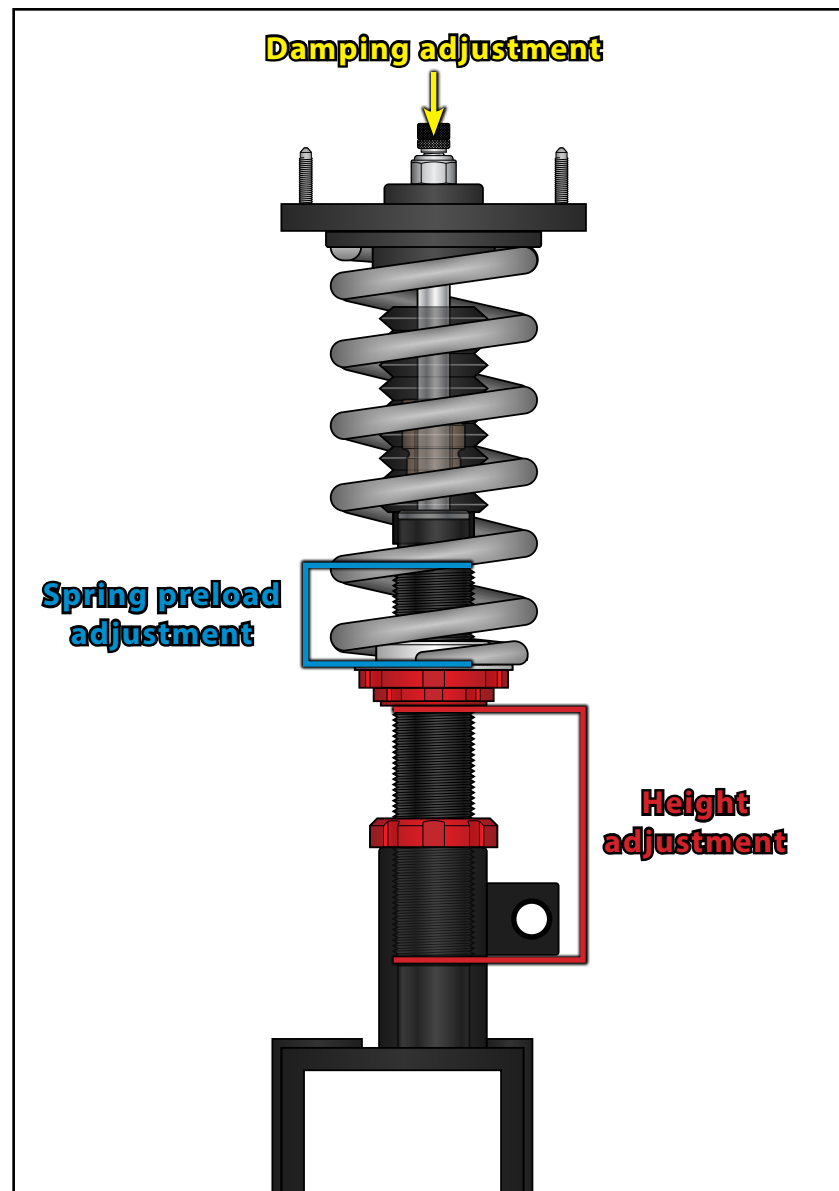
Step 1: Coilover Adjustment Wrenches

Before we install the front coilovers into the vehicle, it's time to set our baseline adjustment. Once the coilovers are all installed onto the vehicle we will come back and fine-tune them. Our front coilovers are three way adjustable, meaning you can adjust the damping, height, and spring preload all independently.

To adjust the damping, insert and rotate the adjustment knob until your desired setting is achieved. It is important to note that the damping can only be adjusted with the under hood storage tray removed, so it is important to set this number correctly. Typically we will set this number in the middle (16) initially, however this number may need adjusted based on your vehicle equipment and driving environment.

The spring preload can be adjusted by rotating the adjustment collar up until it compresses the spring the desired amount, then tightening the locking collar up against the adjustment collar to lock it in place. We found that a small amount of preload was ideal for our vehicle, so we spun the adjustment collar up until it was tight against the bottom of the spring then rotated it up one additional full turn before locking it in place.

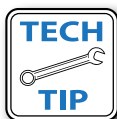
The strut itself can be rotated up or down inside the body to raise or lower the vehicle without affecting the spring preload or damping. We recommend setting the height higher than you want the vehicle to sit, this will leave some room for you to fine-tune once the coilovers are installed. Once you are happy with the overall height, tighten the locking collar against the strut body to lock it in. We settled on a final ride height that was 2 inches lower than stock.



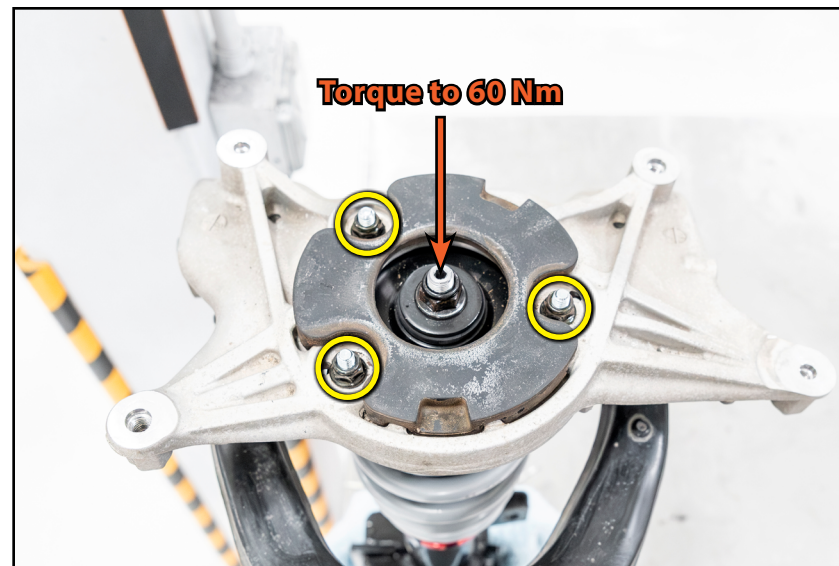
INSTALLING THE FRONT COILOVERS

Step 2: 5mm Allen, 19mm Strut Nut Socket & Ratchet

Transfer the upper control arm bracket to the coilover, then torque the nuts (circled in **YELLOW**) to 23 Nm (17 Ft-lbs). Before installing the coilovers, ensure the upper strut nut is torqued to 60 Nm (44 Ft-lbs).



We recommend applying a good quality wax-based lube to **ALL** the adjustment threads in this kit to protect them from the elements and help the adjustment collars easily spin up or down without resistance.

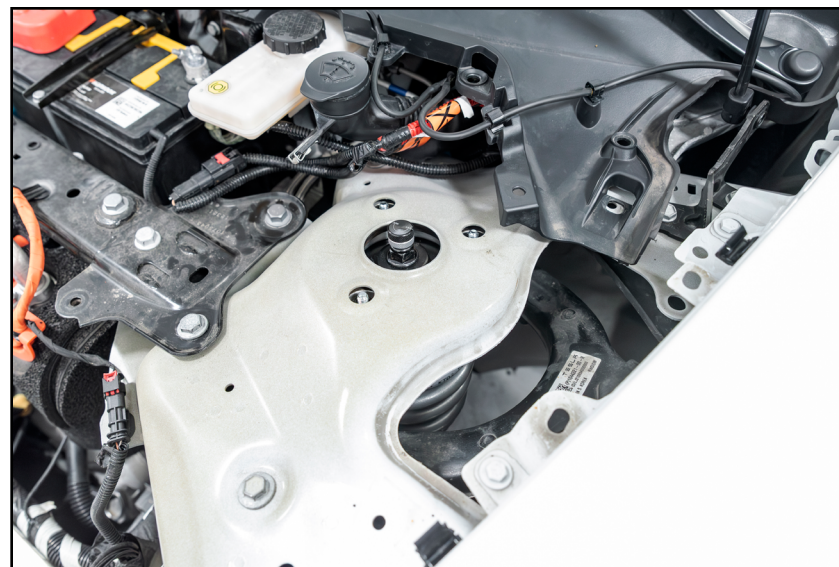


Step 3: 13mm, 15mm Socket & Torque Wrench

Lift the coilover assembly up into the strut tower, install the bolts, and torque them to:

M10 bolts: 62 Nm (46 Ft-lbs)

M8 bolts: 35 Nm (26 Ft-lbs)



INSTALLING THE FRONT COILOVERS

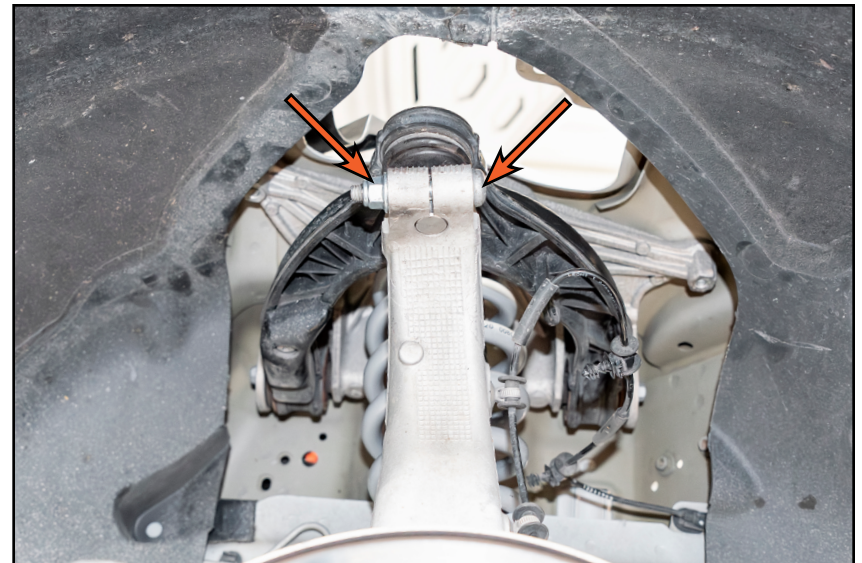
Step 4: 21mm Wrench, 21mm Socket & Ratchet

Place a pole jack under the lower control arm, then raise it until you can slide the new strut fork bolt into place, then loosely install the nut (arrow).



Step 5: 15mm Wrench, T50 Torx Socket & Ratchet

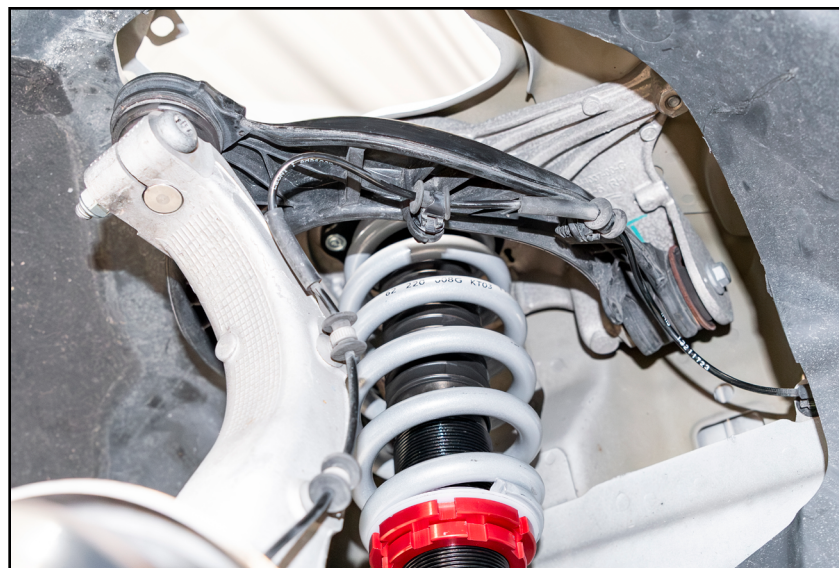
Slide the upper control arm into the knuckle, then reinstall the bolt and nut (arrows) and torque them to 56 Nm (41 Ft-lbs).



INSTALLING THE FRONT COILOVERS

Step 6:

Reinstall the ABS wiring harness on the upper control arm.

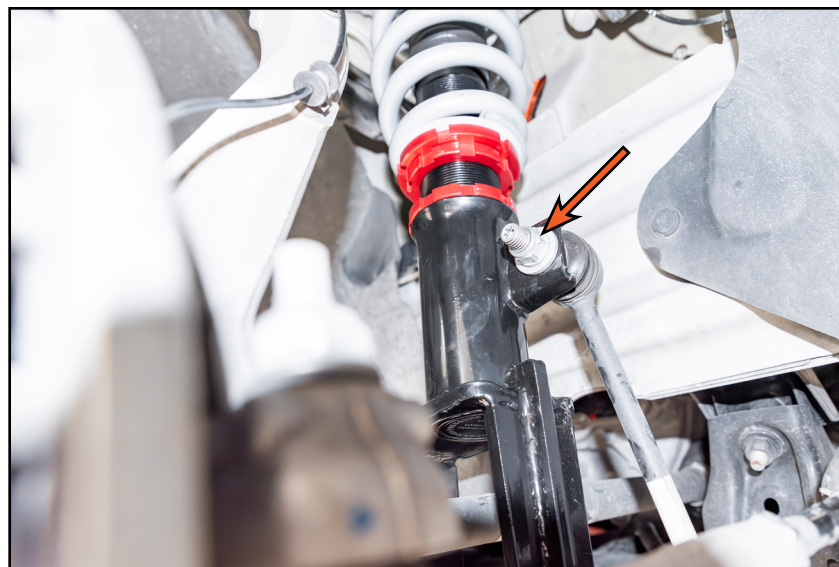


Step 7: 18mm Wrench, T40 Torx Socket & Torque Wrench.

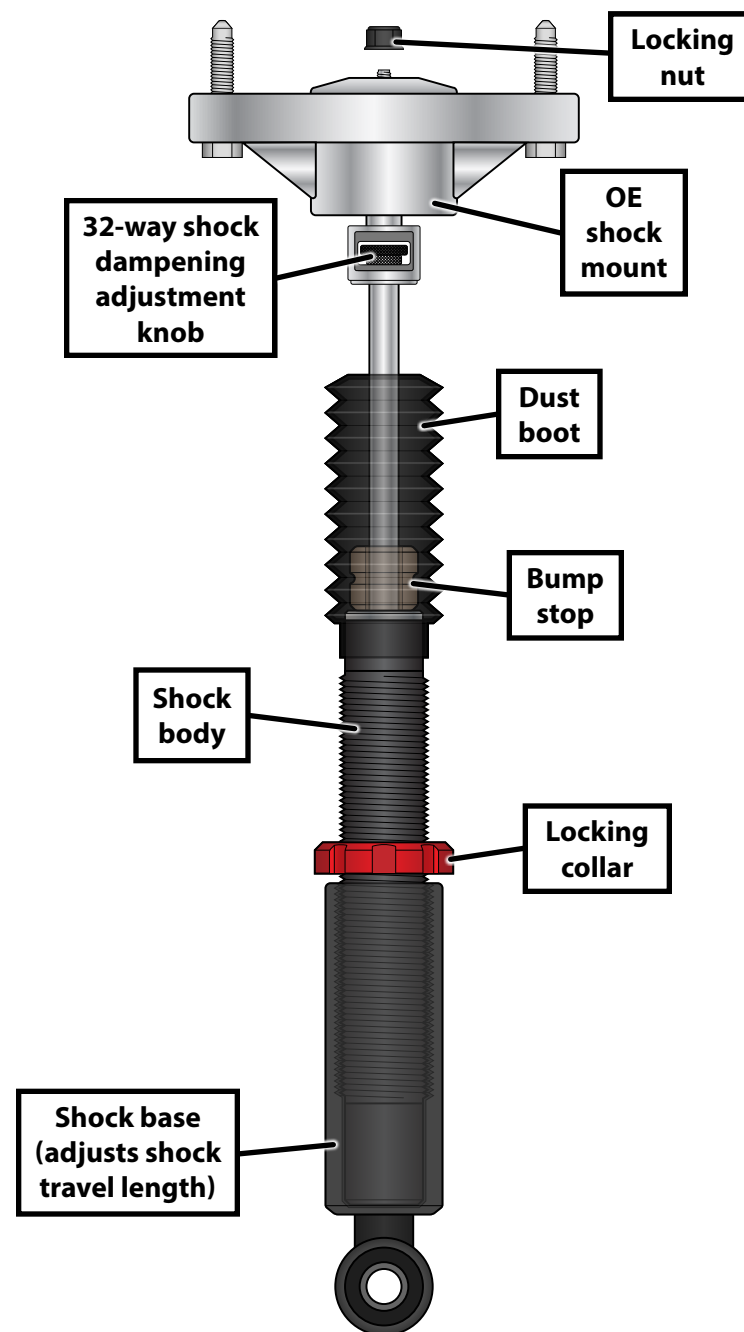
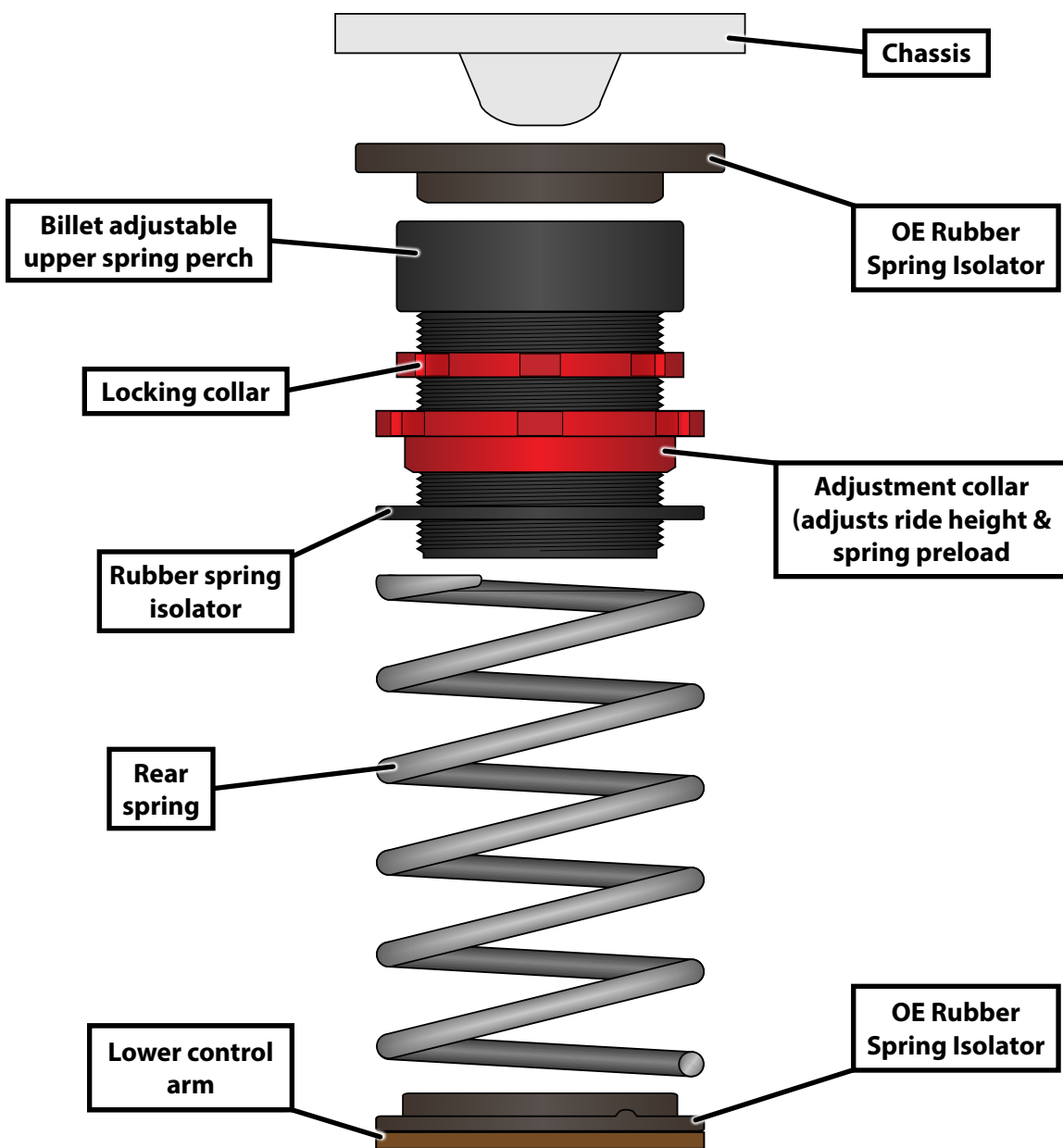
Slide the sway bar end link into the mounting bracket on the coilover, then replace the nut (arrow) and torque it to 98 Nm (72 Ft-lbs).

With the vehicle at ride height, tighten the strut fork nut to 106 Nm (78 Ft-lbs).

If equipped, reconnect the ride height sensor.



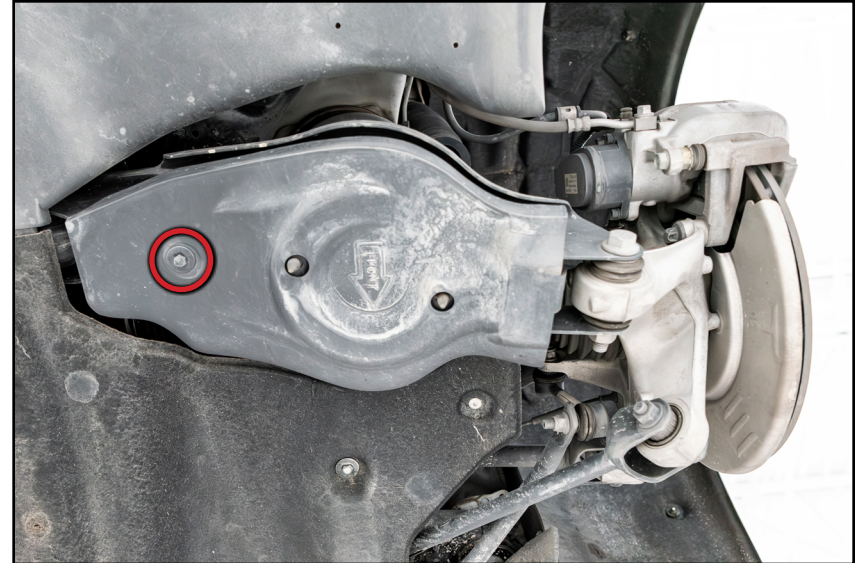
REAR COILOVER INSTALLATION DIAGRAM



REMOVING THE ORIGINAL SHOCKS AND SPRINGS

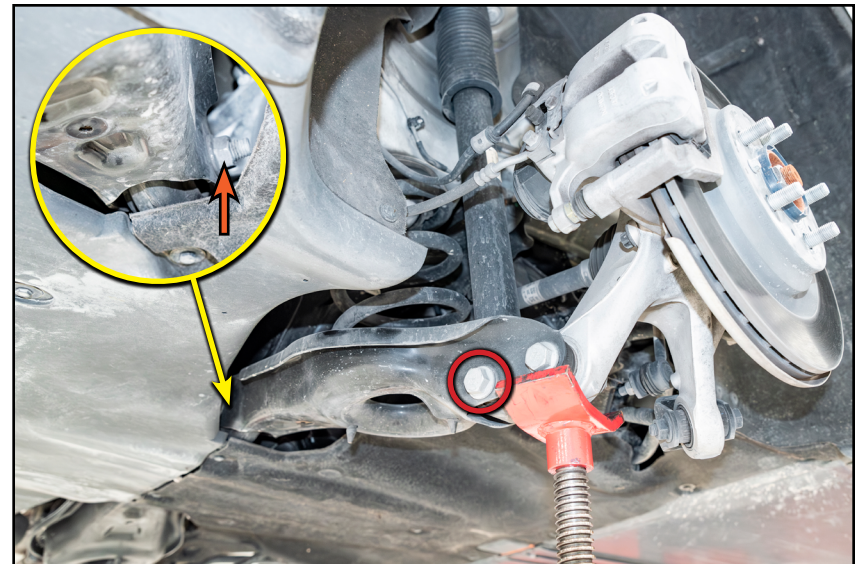
Step 1: 10mm Socket & Ratchet

Remove the screw (circled in **RED**) then remove the plastic lower control arm cover.



Step 2: 21mm Wrench, 21mm Socket & Ratchet

Loosen the inner lower control arm nut (arrow in inset photo) slightly, then support the arm from below while you remove the nut and bolt (circled in **RED**) that secure the shock to the arm.



REMOVING THE ORIGINAL SHOCKS AND SPRINGS

Step 3: 21mm Wrench, 21mm Socket & Ratchet

Support the lower control arm from below while you remove the nut and bolt (circled in **RED**) that secure the spindle housing to the arm.



Step 4:

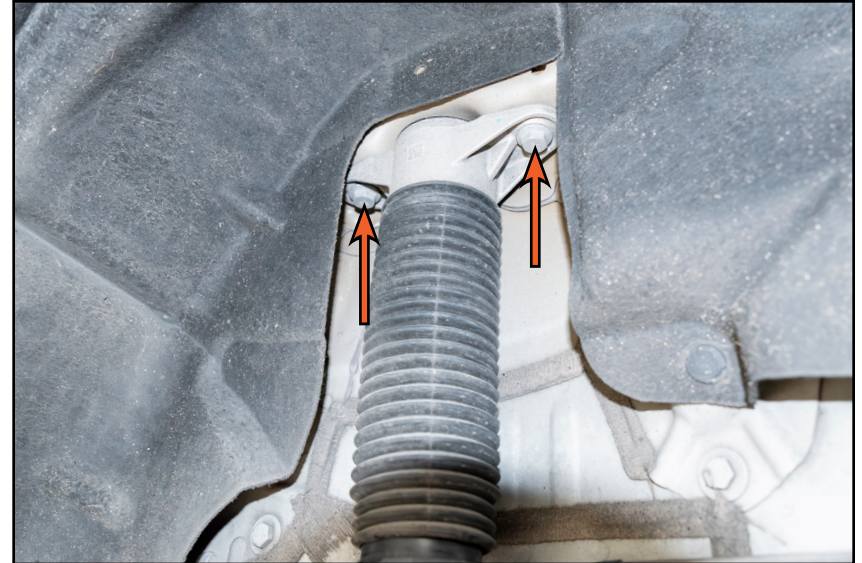
Carefully lower the control arm until the rear spring is no longer under tension, then remove it along with the rubber upper spring isolator.



REMOVING THE ORIGINAL SHOCKS AND SPRINGS

Step 5: 15mm Socket & Ratchet

Remove the two bolts (arrows) which secure the rear shock mount to the body, then carefully guide the shock out of the fender well.



Step 6:

Remove the rubber dust cap (highlighted in **RED**) from the rear shock mount.



REMOVING THE ORIGINAL SHOCKS AND SPRINGS

Step 7: 15mm Socket & Ratchet

Counter-hold the shaft while you remove the upper shock nut (arrow), then pull the mount free.



Step 8:

Pull the bump stop and dust boot (highlighted in **RED**) free from the rear shock mount.



INSTALLING THE REAR COILOVERS

Step 1: 15mm Socket & Torque Wrench

Slide the shock mount onto the shock, then counterhold the strut shaft while you torque the nut to 41 Nm (30 Ft-lbs).



Step 2: 15mm Socket & Torque Wrench

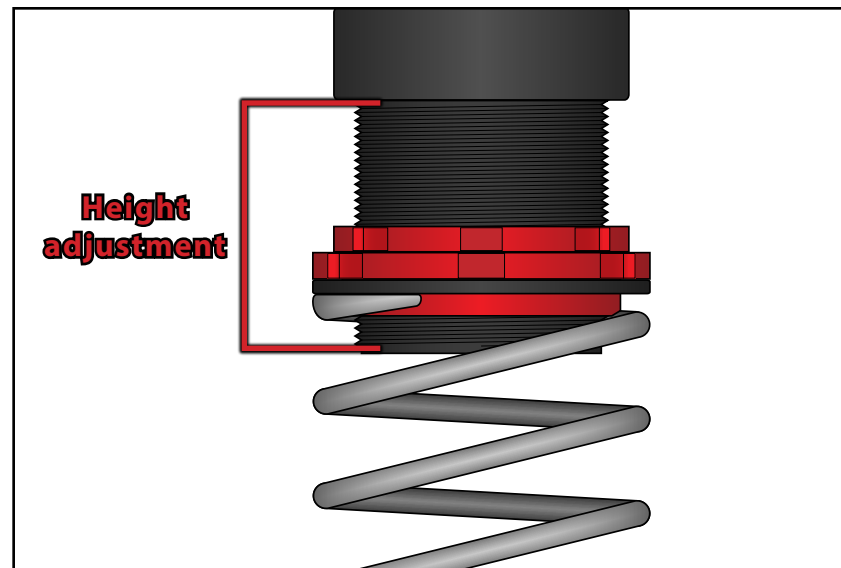
Carefully guide the new shock into the fenderwell, then install the bolts (arrows) and torque them to 41 Nm (30 Ft-lbs).



INSTALLING THE REAR COILOVERS

Step 3: Coilover Adjustment Wrenches

The adjustment collar on the rear spring perch can be used to adjust the height and spring preload simultaneously. Rotate the adjustment collar downward to preload the spring, raising the rear of the vehicle. Once your desired height has been achieved, tighten the locking collar down against the adjustment collar to lock it in place. We settled on a final ride height that was 2 inches lower than the stock ride height.



Step 4: 21mm Wrench, 21mm Socket & Ratchet

Using the diagram on [page 16](#) for reference, slide the spring assembly into the lower control arm, then jack up the control arm until the spring perch and upper isolator slide over the raised location boss on the chassis. Replace the outer lower control arm bolt (arrow) and loosely install the nut.



INSTALLING THE REAR COILOVERS

Step 5: 21mm Wrench, 21mm Socket & Ratchet

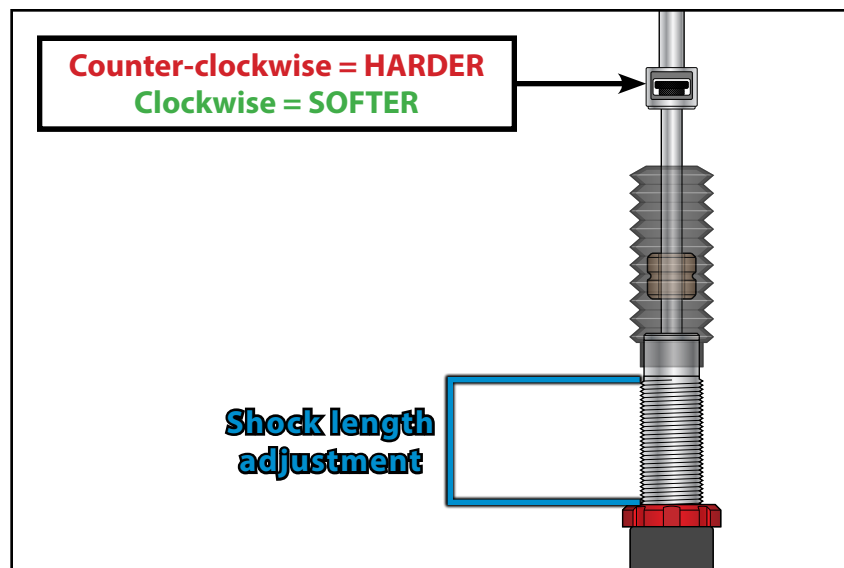
Shorten or lengthen then shock until you can replace the bolt (arrow) which secures the shock to the lower control arm, then loosely install the nut.



Step 6: Coilover Adjustment Wrenches

The knurled knob on the shock shaft can be rotated to adjust the damping. We settled on a damping setting of 16 on our vehicle, however this number may need adjusted on your vehicle depending on your suspension setup.

The shock itself can be rotated up or down inside the body to adjust the shock length. If your shock length is too short, you will sacrifice ride quality, too long and you will reduce shock travel and the spring may shift or rattle when the suspension unloads. To adjust, grab the threads of the shock by hand and shorten or lengthen the shock length until the spring is fully seated and the rubber isolators begins to compress just slightly, then tighten the locking collar against the shock body to lock it in.



INSTALLING THE REAR COILOVERS

Step 7: 21mm Wrench, 21mm Socket & Torque Wrench

With the suspension at final ride height, counterhold the shock and lower control arm bolts while you torque the nuts to 115 Nm (85 Ft-lbs).



Step 8: 10mm Socket & Ratchet, Protecta-Sockets & Torque Wrench

Reinstall the lower control arm cover and tighten the bolt until snug. Reinstall the wheels and torque the nuts to 175 Nm (129 Ft-lbs).



FINAL INSTALLATION STEPS

Step 1: Coilover Adjustment Wrenches

Set the vehicle on the ground and allow the suspension to settle, give it a few jounces for good measure, then ensure clearance for surrounding suspension components and fenders. Raise the vehicle, remove the wheels, and re-adjust the height as needed until you are happy with the final ride height, then fully tighten the locking collars.



Step 2:

Immediately perform a four-wheel alignment on your vehicle and take the car for a spin! Keep an eye (and ear) out for any rubbing or otherwise unusual noises before giving your vehicle the green light. Remember, at any time you can fine-tune your coilovers to match your vehicle equipment, driving environment and style of driving, so keep those adjustment wrenches handy!

Congratulations, your installation is complete!



TORQUING TIPS

Torque to Yield or “Stretch” Bolts

Many bolts will have a torque specification listed in the format - xx Nm (xx Ft-lbs) + xx degrees. These bolts are torque to yield bolts, commonly referred to as “stretch” bolts. The correct procedure for torquing these bolts is:

Stage One - Torque the bolt(s) to the initial Nm or Ft-lb specification. If there is more than one, be sure to torque them in the correct sequence.

Stage Two - Tighten or “stretch” the bolt(s) the additional specified number of degrees. If there is more than one, be sure to follow the correct sequence.

Note - Some bolts may have two or more stages of torquing before the final stage of “stretching” the bolts.

When tightening more than one bolt in a specified sequence, be sure to mark each fastener with paint **immediately** after performing the final stage or “stretching” of the bolts. This will ensure that you keep track of which bolts have already been “stretched”.

All Torque to Yield bolts should only be used once and should be replaced each time they are removed. If they are reused, they will not be able to achieve the proper clamping force with the specified torque.

Lubrication

Torque specifications are always listed for a dry fastener (**no** lubrication) unless specified otherwise.

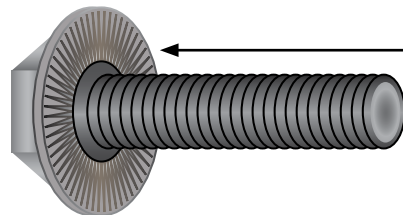
Some fasteners require lubrication on the threads -or- on the contact surface while torquing. These fasteners will be listed with the specific location and type of lubrication required. Always follow manufacturers recommendations exactly.

Lubricating a fastener that is intended to be installed dry and then torquing it to factory specifications will increase the clamping force and stress on the fastener and components, which can result in damage or failure.

Do not lubricate the threads of any fastener unless it is specifically recommended by the manufacturer.

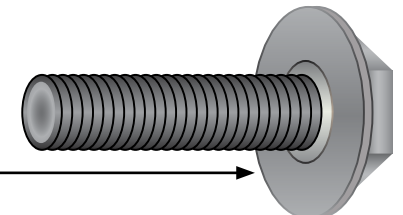
Ribbed vs. Non-Ribbed Bolts

Ribbed and Non-Ribbed bolts in the same location generally require a different torque specification.



A ribbed bolt is identified by the ribs on the contact surface

A non-ribbed bolt is identified by the smooth contact surface



TORQUING SPECIFICATIONS

Front Upper Strut Nut	60 Nm (44 Ft-lbs).....	(Page 13)
Front Upper Control Arm Bracket to Coilover Nuts	23 Nm (17 Ft-lbs)	(Page 13)
Front Upper Control Arm Bracket to Strut Tower Bolts	M8 Bolts: 35 Nm (26 Ft-lbs)	
	M10 Bolts: 62 Nm (46 Ft-lbs).....	(Page 13)
Front Upper Control Arm to Knuckle Nut	56 Nm (41 Ft-lbs)	(Page 13)
Front Sway Bar End Link Nut	98 Nm (72 Ft-lbs).....	(Page 15)
Front Strut Fork Nut	98 Nm (72 Ft-lbs).....	(Page 15)
Rear Upper Shock Nut.....	41 Nm (30 Ft-lbs)	(Page 21)
Rear Upper Shock Mount Bolts.....	41 Nm (30 Ft-lbs)	(Page 21)
Rear Lower Shock Bolt.....	115 Nm (85 Ft-lbs)	(Page 24)
Rear Inner and Outer Lower Control Arm Bolts.....	115 Nm (85 Ft-lbs)	(Page 24)
Wheel Nuts.....	175 Nm (129 Ft-lbs).	(Page 24)

Your Adjustable Coilover installation is complete!



These instructions are provided as a courtesy by: **EVANNEX**

Proper service and repair procedures are vital to the safe, reliable operation of all motor vehicles as well as the personal safety of those performing the repairs. Standard safety procedures and precautions (including use of safety goggles and proper tools and equipment) should be followed at all times to eliminate the possibility of personal injury or improper service which could damage the vehicle or compromise its safety. Although this material has been prepared with the intent to provide reliable information, no warranty (express or implied) is made as to its accuracy or completeness. Neither is any liability assumed for loss or damage resulting from reliance on this material. SPECIFICALLY, NO WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER WARRANTY IS MADE OR TO BE IMPLIED WITH RESPECT TO THIS MATERIAL. In no event will ECS Tuning, Incorporated or its affiliates be liable for any damages, direct or indirect, consequential or compensatory, arising out of the use of this material.