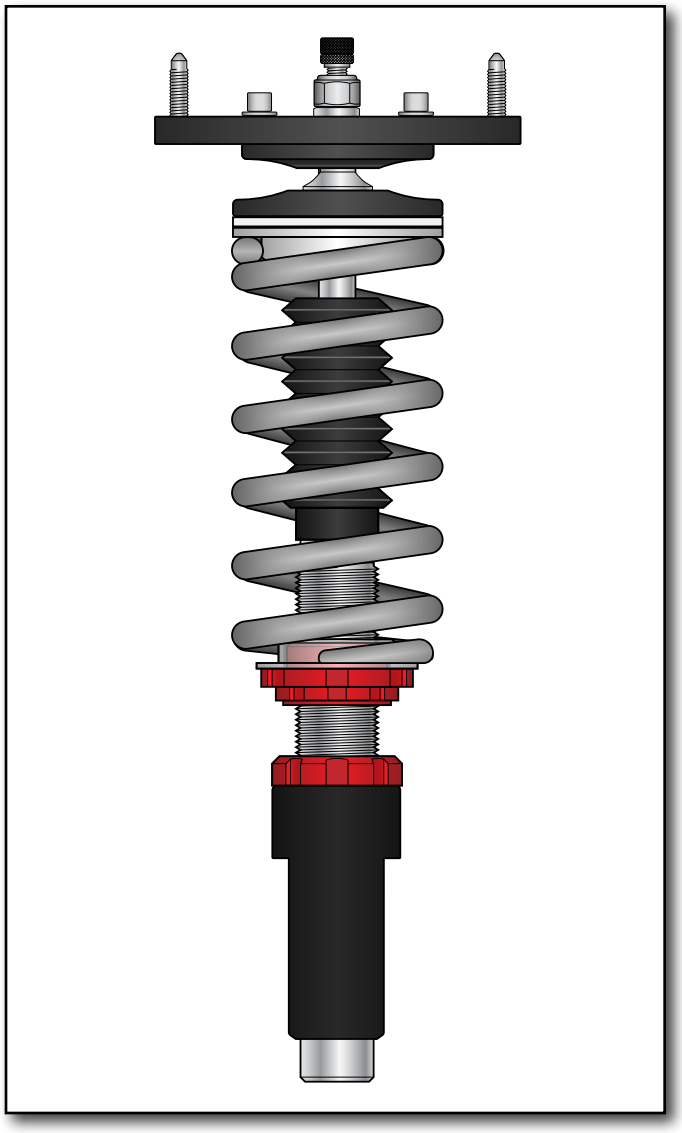
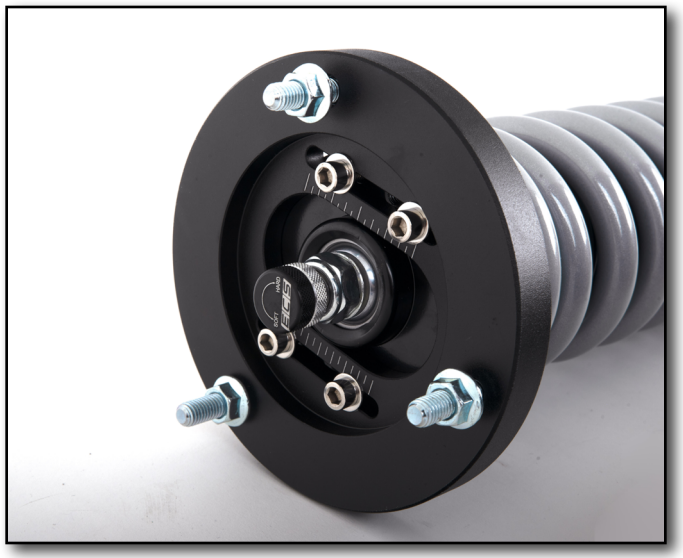
Porsche 986 Adjustable Coilover Kit Installation Instructions - Click HERE to Shop

Skill Level
2 - Moderate

Some Experience Recommended





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.

TABLE OF CONTENTS

REQUIRED TOOLS

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

Standard Automotive Tools

- **Protecta-Sockets (for lug nuts)** ..... ES#2221243
- ⅜" Drive Ratchet ..... ES#2765902
- ⅜" Drive Torque Wrench ..... ES#2221245
- ⅜" Drive Deep and Shallow Sockets ..... ES#2763772
- ⅜" Drive Extensions ..... ES#2804822
- **Hydraulic Floor Jack** ..... ES#2834951
- **Torx Drivers and Sockets** ..... ES#11417/8
- **½" Drive Deep and Shallow Sockets** ..... ES#2839106
- **½" Drive Ratchet**
- **½" Drive Extensions**
- **½" Drive Torque Wrench** ..... ES#2221244
- **½" Drive Breaker Bar** ..... ES#2776653
- **Bench Mounted Vise**
- Crows Foot Wrenches
- Hook and Pick Tool Set ..... ES#2778980

Required For This Install

- ¼" Drive Ratchet ..... ES#2823235
- ¼" Drive Deep and Shallow Sockets ..... ES#2823235
- ¼" Drive Extensions ..... ES#2823235
- Plier and Cutter Set ..... ES#2804496
- **Flat and Phillips Screwdrivers** ..... ES#2225921
- **Jack Stands** ..... ES#2763355
- **Ball Pein Hammers**
- **Pry Bar Set** ..... ES#1899378
- Electric/Cordless Drill
- Wire Strippers/Crimpers
- Drill Bits
- **Punch and Chisel Set**
- **Hex Bit (Allen) Wrenches and Sockets** ..... ES#11420
- Thread Repair Tools ..... ES#1306824
- **Open/Boxed End Wrench Set** ..... ES#2765907

Available On Our Website

Specialty Tools

- **Ball Joint Separator** ..... ES#2795140

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.

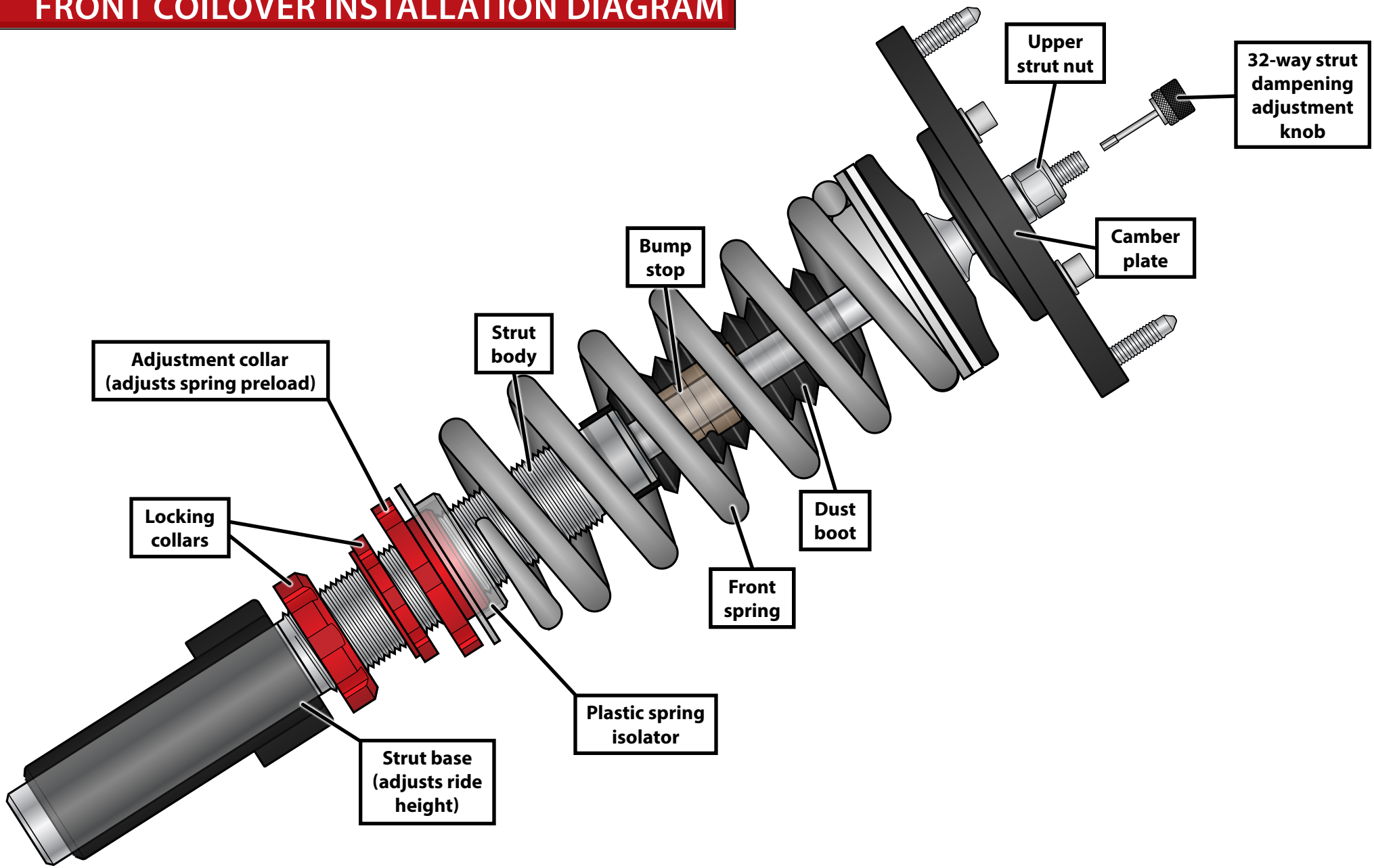
GENERAL PREPARATION AND SAFETY INFORMATION

ECS Tuning 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.

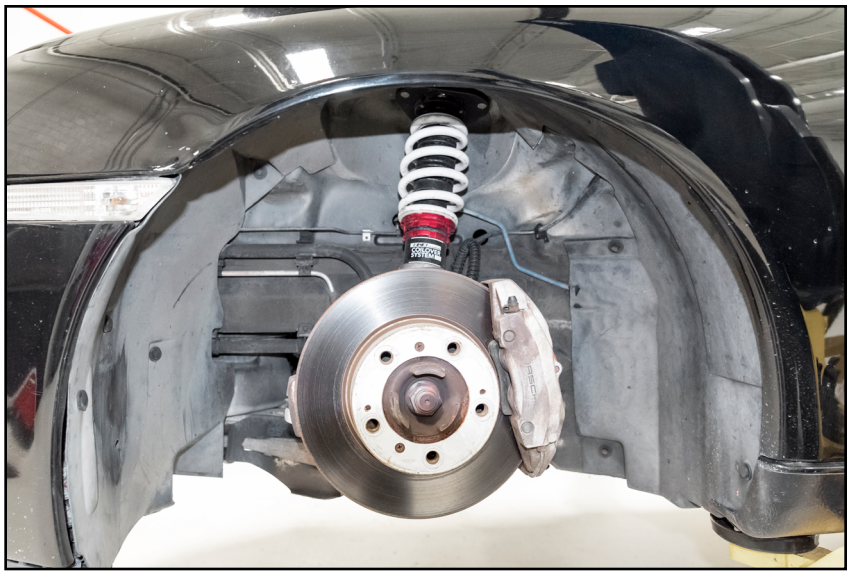
FRONT COILOVER INSTALLATION DIAGRAM



REMOVING THE ORIGINAL FRONT STRUTS

Step 1: Protecta-Sockets & Breaker Bar

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

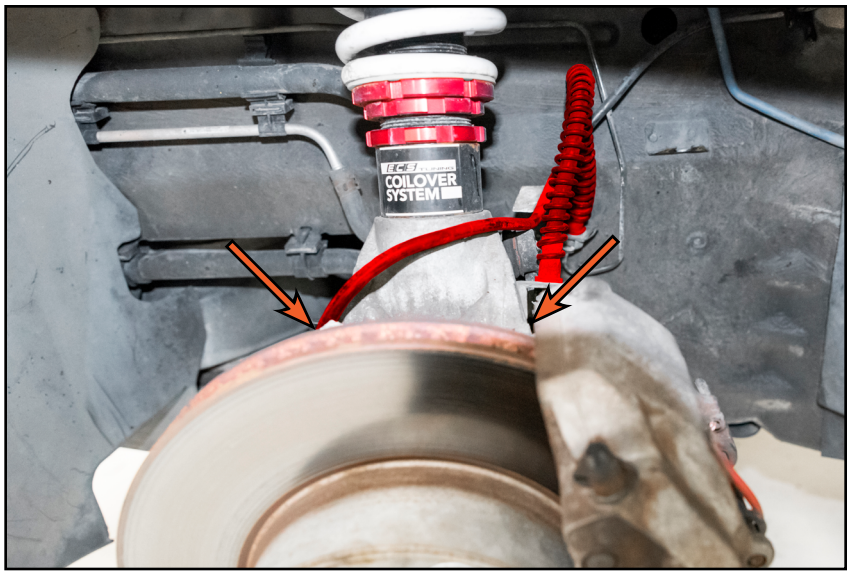


TECH TIP

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: 10mm Socket & Ratchet

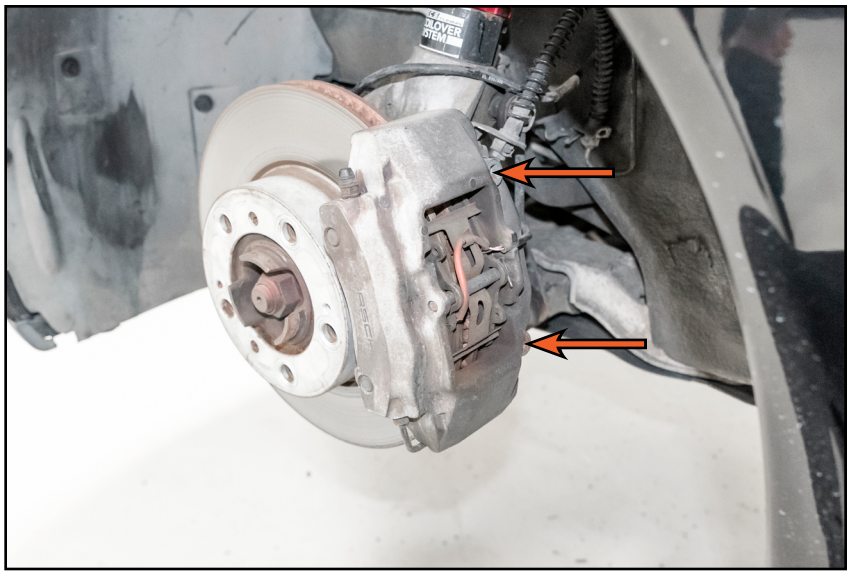
Remove the two bolts (arrows) and free the ABS wiring harness and brake hose (highlighted in **RED**) from either side of the steering knuckle.



REMOVING THE ORIGINAL FRONT STRUTS

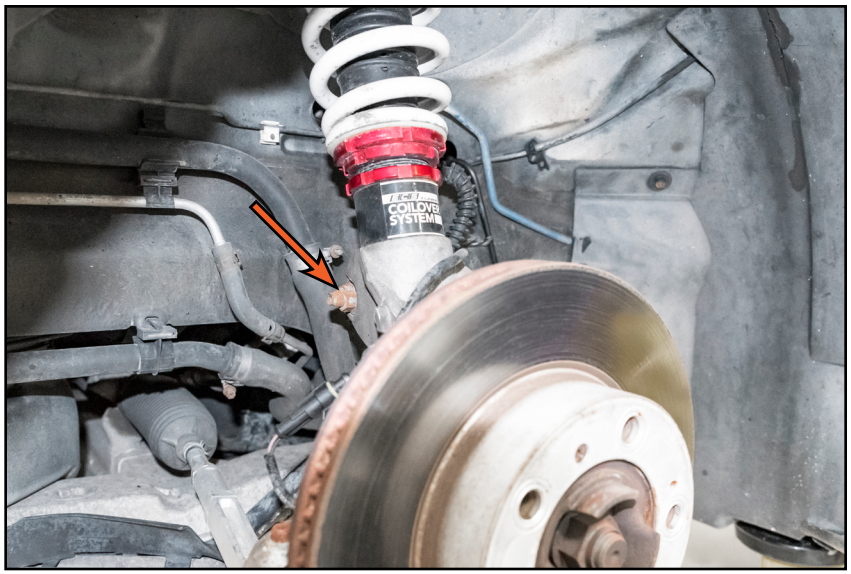
Step 3: 10mm Hex (Allen) Socket & Ratchet

Remove the two bolts (arrows) and safely hang the caliper out of the way.



Step 4: 18mm Socket & Ratchet

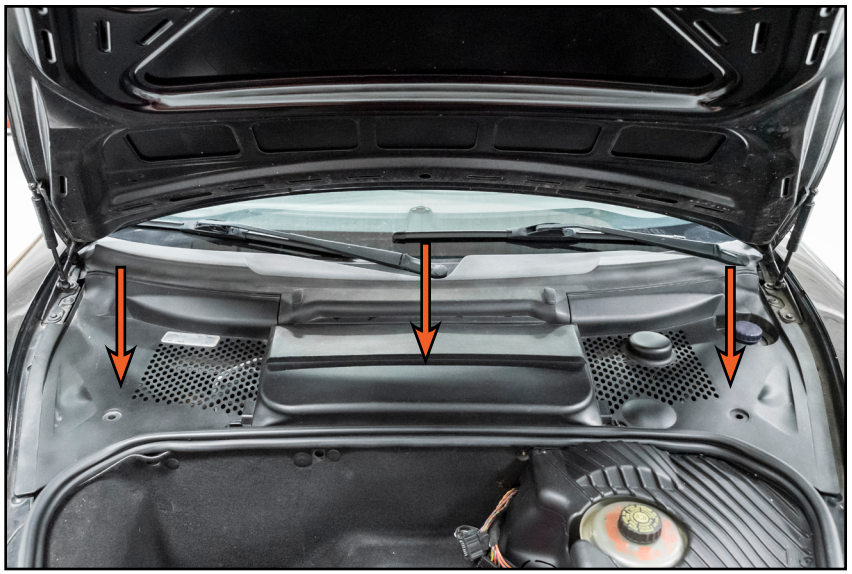
Slide a jack under the spindle housing, then loosen the nut (arrow) and slide the sway bar end link out of the steering knuckle.



REMOVING THE ORIGINAL FRONT STRUTS

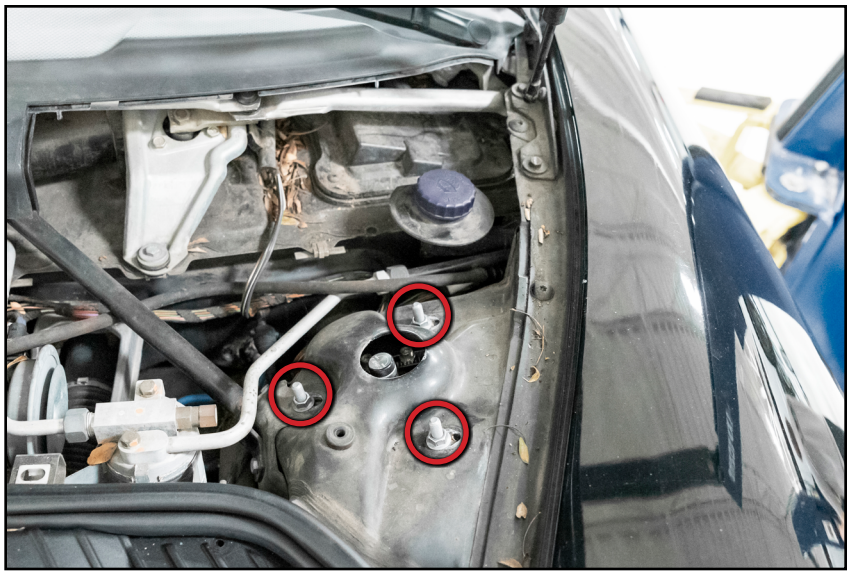
Step 5:

Remove the battery cover, and rain trays (arrows).



Step 6: 13mm Socket & Ratchet

Remove the three nuts (circled in **RED**) which secure the strut to the strut tower.

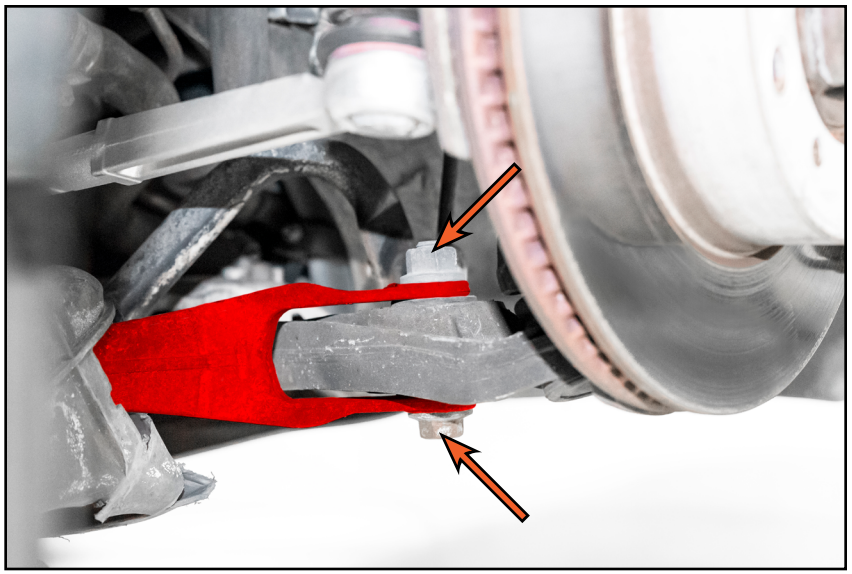


REMOVING THE ORIGINAL FRONT STRUTS

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

NOTE

This installation was completed on a vehicle which was already equipped with our prototype coilovers. If your vehicle is equipped with stock suspension, you may need to remove the bolt and nut (arrows) and slide the forward link (highlighted in **RED**) out of the way to gain enough clearance to slide the strut assembly out of the fenderwell.



Step 8:

Lower the jack and carefully guide the strut assembly out of the fenderwell as shown.

INSTALLING THE FRONT COILOVERS

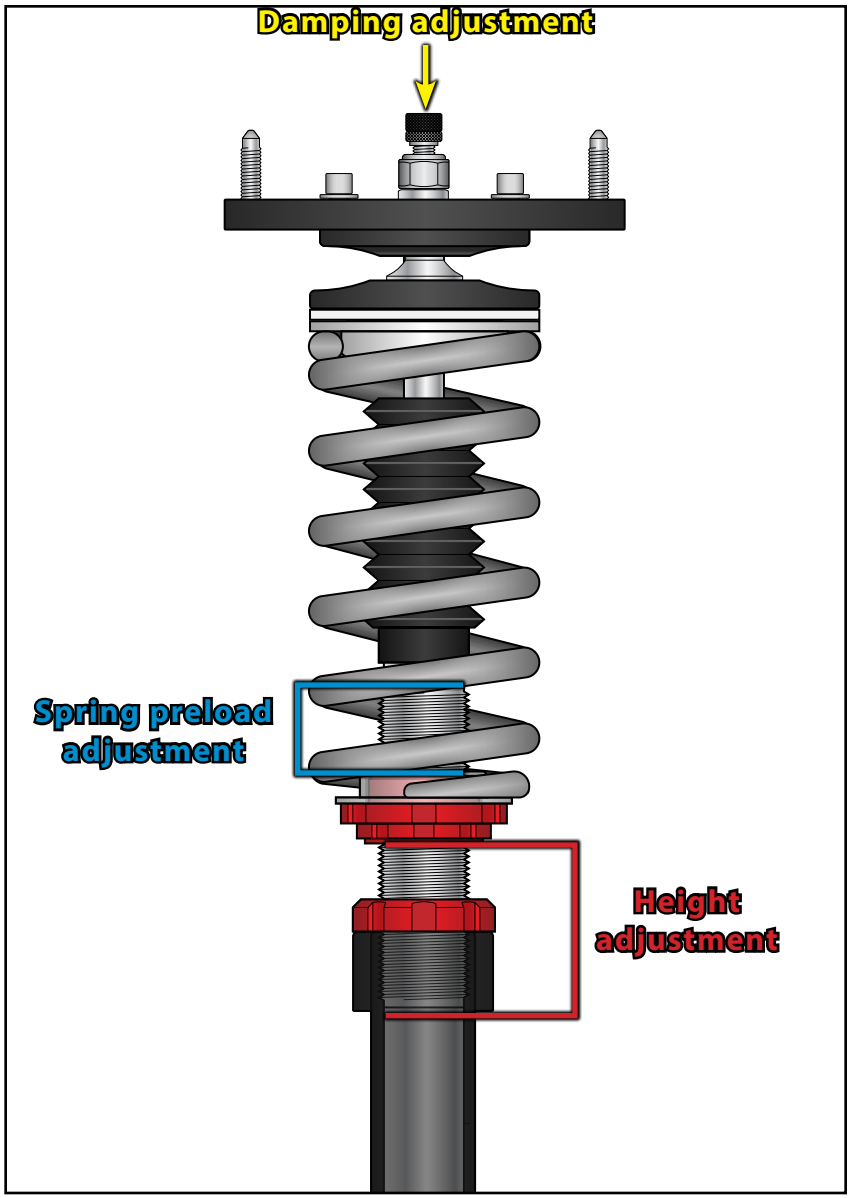
Step 1: Coilover Adjustment Wrenches

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 strut out of the vehicle, so it is important to set this number correctly. Typically we will set this number somewhere between 16-26, 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 minimal 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 full additional 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. It is important to note that the strut body must be threaded into the base at least 10mm for proper thread engagement. 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 in the front.



INSTALLING THE FRONT COILOVERS

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

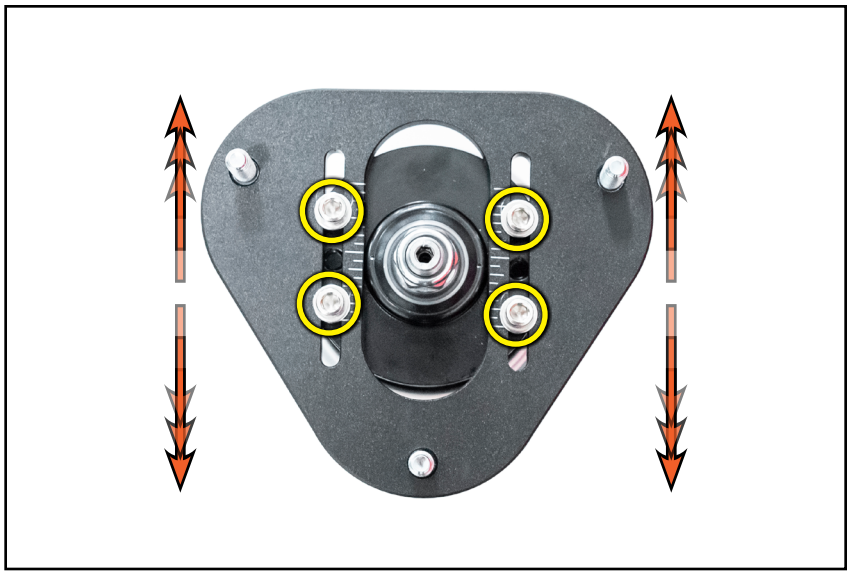
Before installing the coilovers, ensure the upper strut nut is torqued to 60 Nm (44 Ft-lbs).

TECH TIP

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: 5mm Hex (Allen) Socket & Ratchet

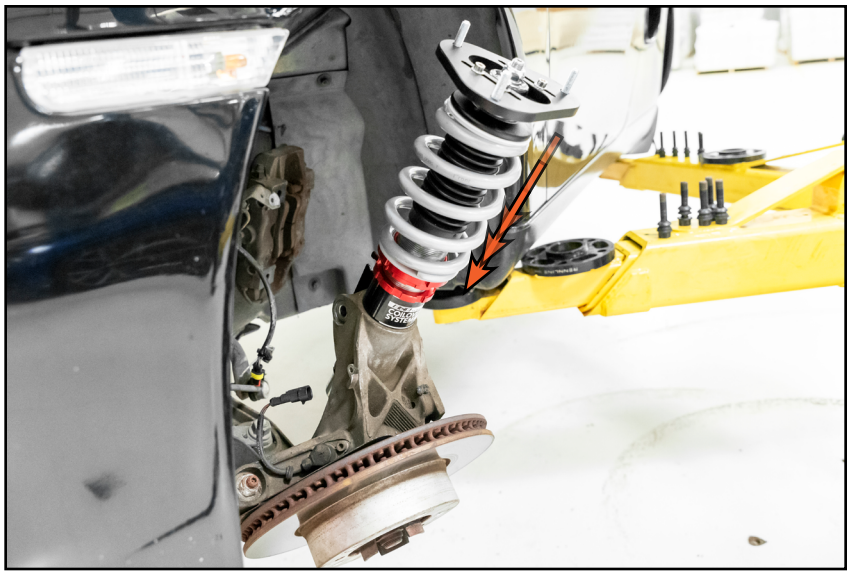
Our coilovers come with adjustable camber plates pre-installed. Loosen the four bolts (circled in **YELLOW**) and slide the plate in or out to adjust the camber to your desired setting, then tighten the bolts until snug to lock it in.



INSTALLING THE FRONT COILOVERS

Step 4:

Slide the new coilover into the spindle housing as shown, ensuring that the tab on the back of the coilover body slides into the slot in the back of the steering knuckle.



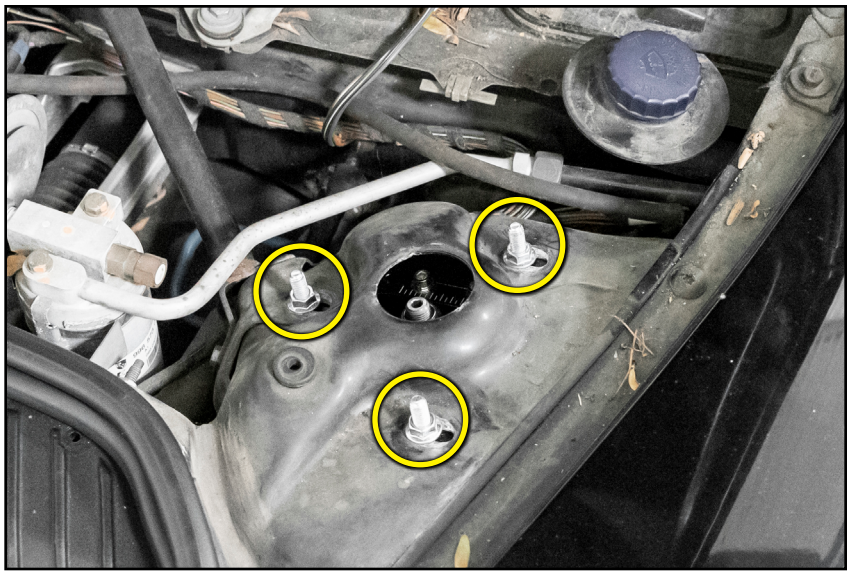
Step 5:

Carefully guide the coilover into the fenderwell, then slowly raise the jack while you guide the coilover studs into the holes in the strut tower.

INSTALLING THE FRONT COILOVERS

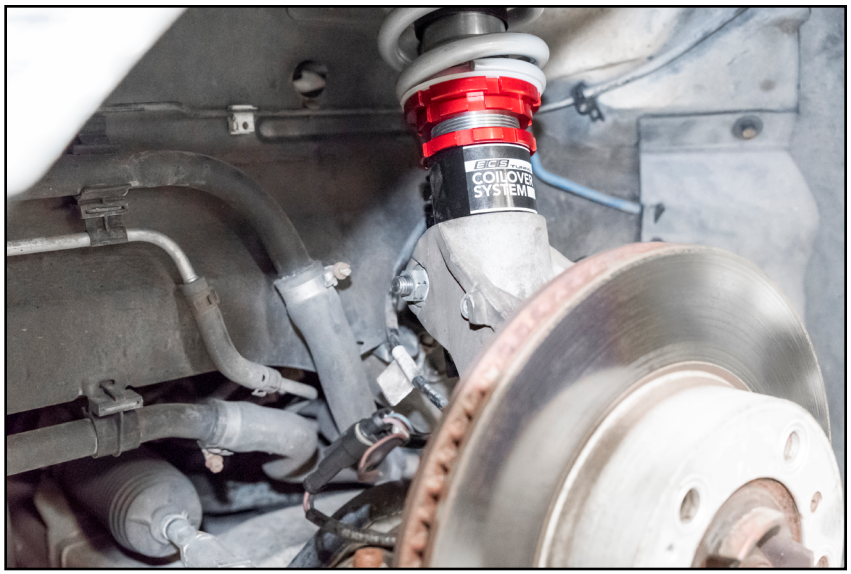
Step 6: 12mm Socket & Torque Wrench

Install the provided nuts (circled in **YELLOW**) to secure the coilover to the strut tower, then torque them to 37 Nm (27 Ft-lbs).



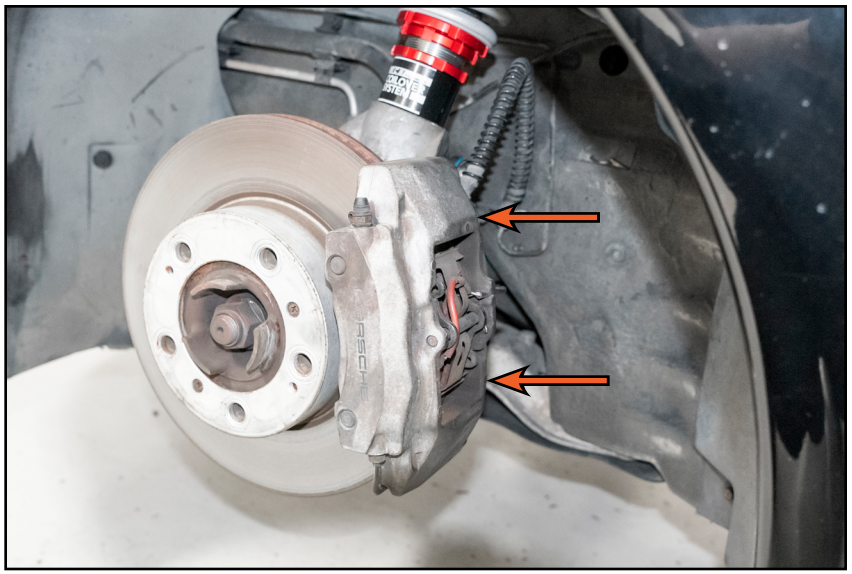
Step 7: 18mm Socket & Torque Wrench

Slide the end link through the spindle housing, then replace the nut (arrow) and torque it to 85 Nm (63 Ft-lbs).



10mm Hex (Allen) Socket & Torque Wrench

Reinstall the caliper onto the spindle housing, then replace the bolts (arrows) and torque them to 85 Nm (63 Ft-lbs).

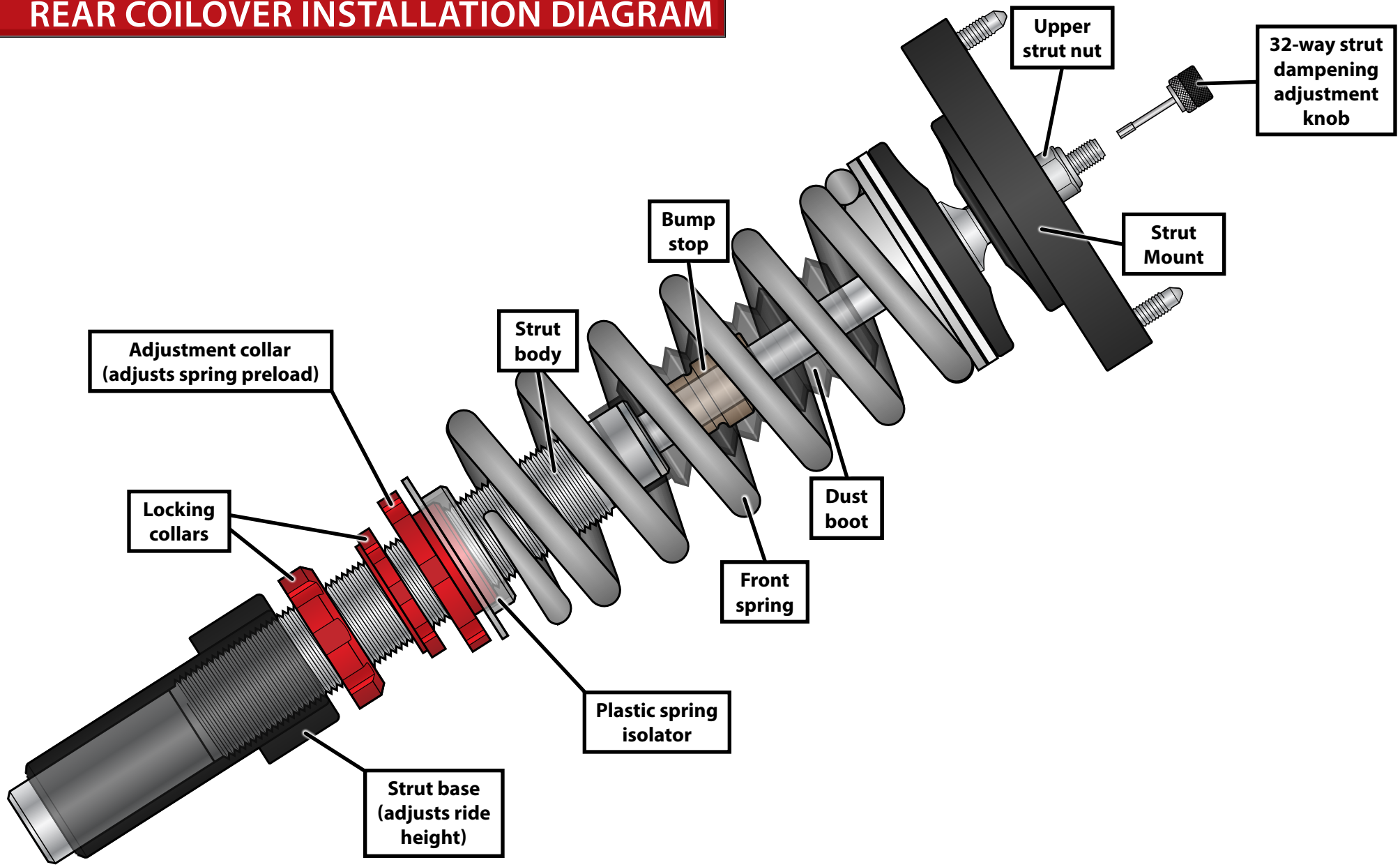


10mm Socket, 21mm Socket & Torque Wrench

Reinstall the ABS wiring harness and brake hose (highlighted in **GREEN**) onto the spindle housing as shown.

- ☐ With the vehicle at ride height, tighten the forward link nut to 160 Nm (118 Ft-lbs).
- ☐ Reinstall the rain trays and battery cover.
- ☐ Reinstall the front wheels and torque the wheel bolts to 130 Nm (96 Ft-lbs).

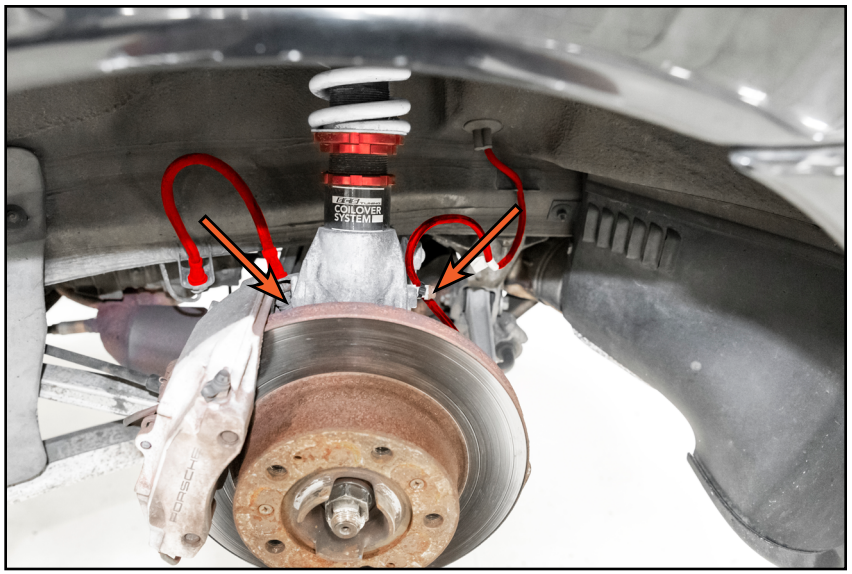
REAR COILOVER INSTALLATION DIAGRAM



REMOVING THE ORIGINAL REAR STRUTS

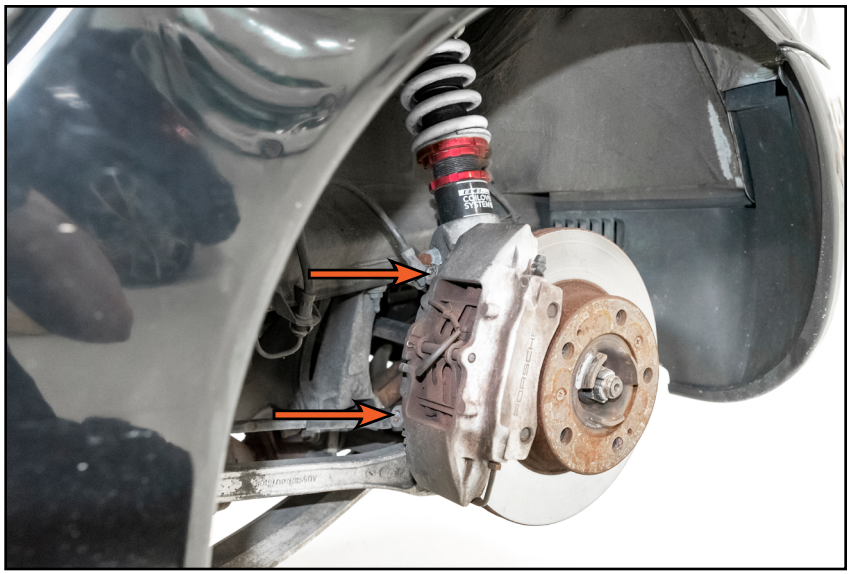
Step 1: 10mm Socket & Ratchet

Remove the two bolts (arrows) and free the ABS wiring harness and brake hose (highlighted in **RED**) from either side of the spindle housing.



Step 2: 10mm Hex (Allen) Socket & Ratchet

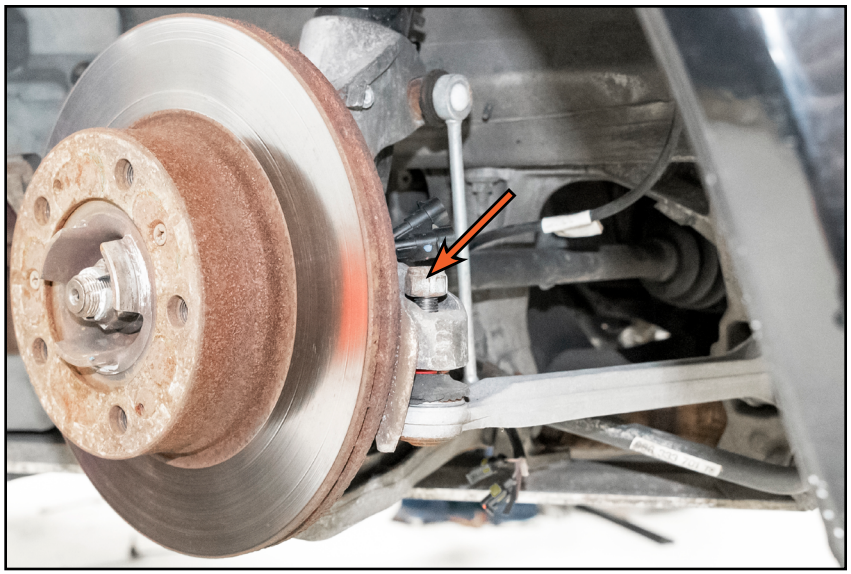
Remove the two bolts (arrows) and safely hang the caliper out of the way.



REMOVING THE ORIGINAL REAR STRUTS

Step 3: 10mm Hex (Allen) Socket & Ratchet

Remove the nut (arrow) and pull the toe arm out of the spindle housing.

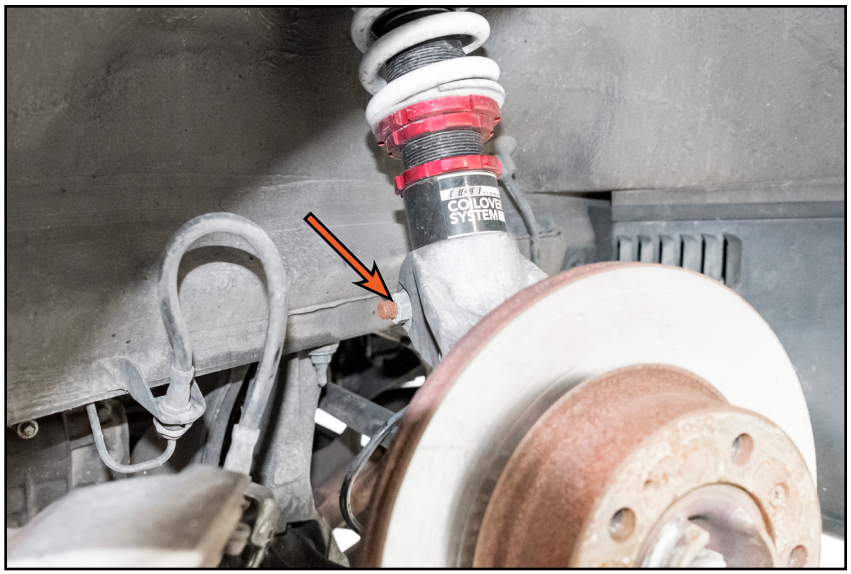


TECH TIP

Our Schwaben ball joint separator tool (available HERE) makes removal of these toe arms a breeze.

Step 4:

Slide a jack under the spindle housing, then loosen the nut (arrow) and slide the sway bar end link out of the spindle housing.

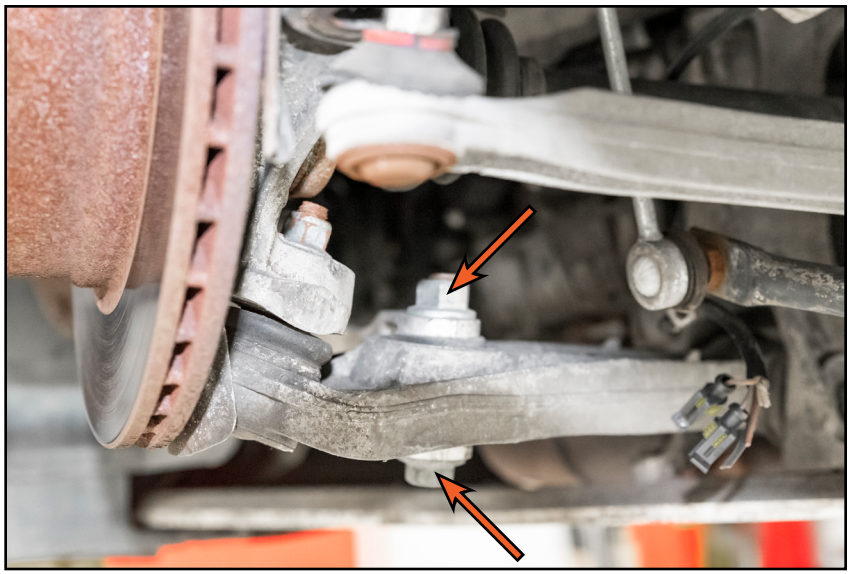


REMOVING THE ORIGINAL REAR STRUTS

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

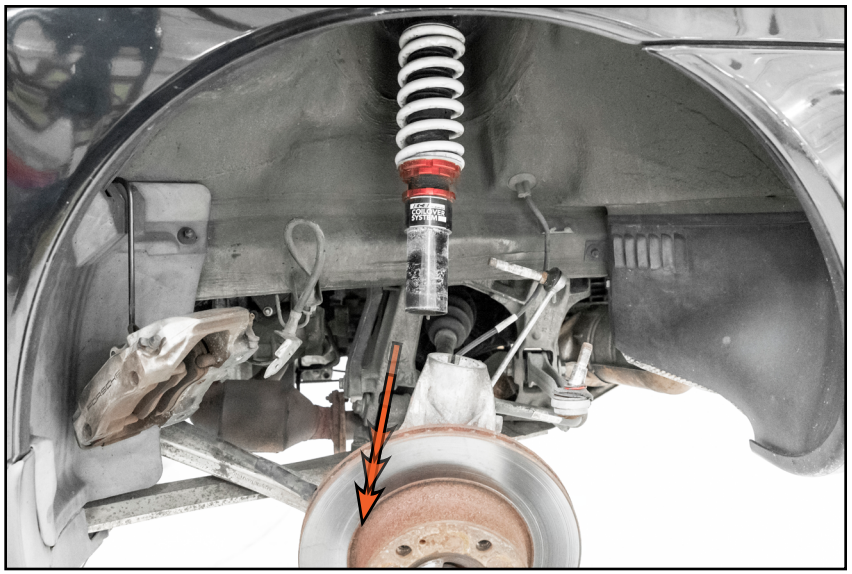
NOTE

This installation was completed on a vehicle which was already equipped with our prototype coilovers. If your vehicle is equipped with stock suspension, you may need to remove the bolt and nut (arrows) and slide the trailing arm out of the way, or disconnect the lower control arm to gain enough clearance to slide the strut assembly out of the spindle housing.



Step 6:

Lower the jack and carefully guide the strut assembly out of the spindle housing as shown.



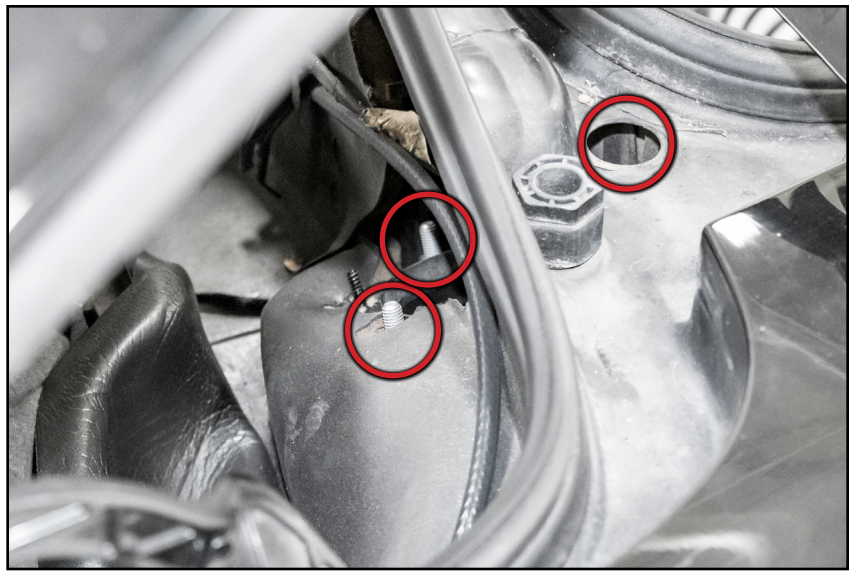
REMOVING THE ORIGINAL REAR STRUTS

Step 7:

Close the convertible top then hold the open button until the rear panel opens to its widest as shown.

Step 8: 13mm Socket & Ratchet

Open the trunk, pull back the foam covering the strut tower, then remove the three nuts (circled in **RED**) which secure the strut to the rear strut tower, carefully guiding the strut out of the fenderwell.



INSTALLING THE REAR COILOVERS

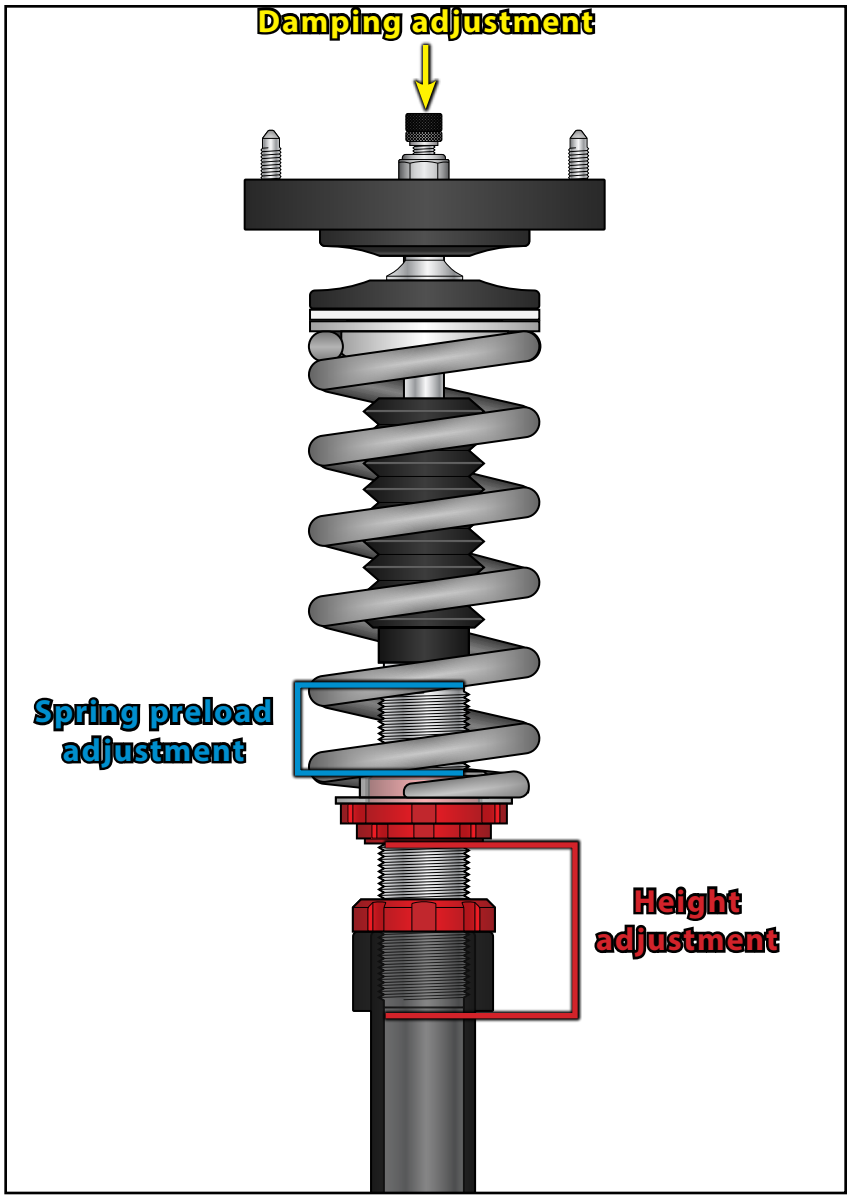
Step 1: Coilover Adjustment Wrenches

Before we install the rear 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 rear 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 strut out of the vehicle, so it is important to set this number correctly. Typically we will set this number somewhere between 16-26, 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 minimal 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 an additional 10mm 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. It is important to note that the strut body must be threaded into the base at least 10mm for proper thread engagement. 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 2.25 inches lower than stock in the rear.



INSTALLING THE REAR COILOVERS

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

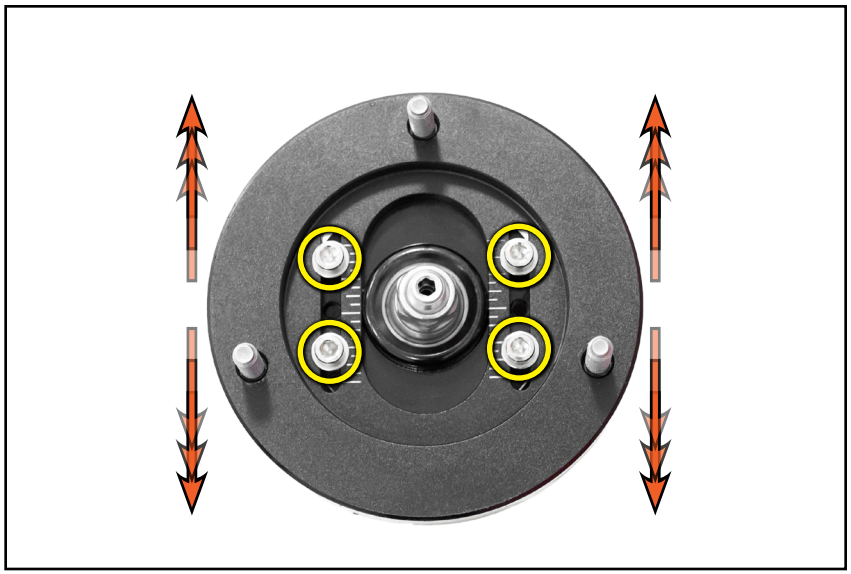
Before installing the coilovers, ensure the upper strut nut is torqued to 60 Nm (44 Ft-lbs).

TECH TIP

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: 5mm Hex (Allen) Socket & Ratchet

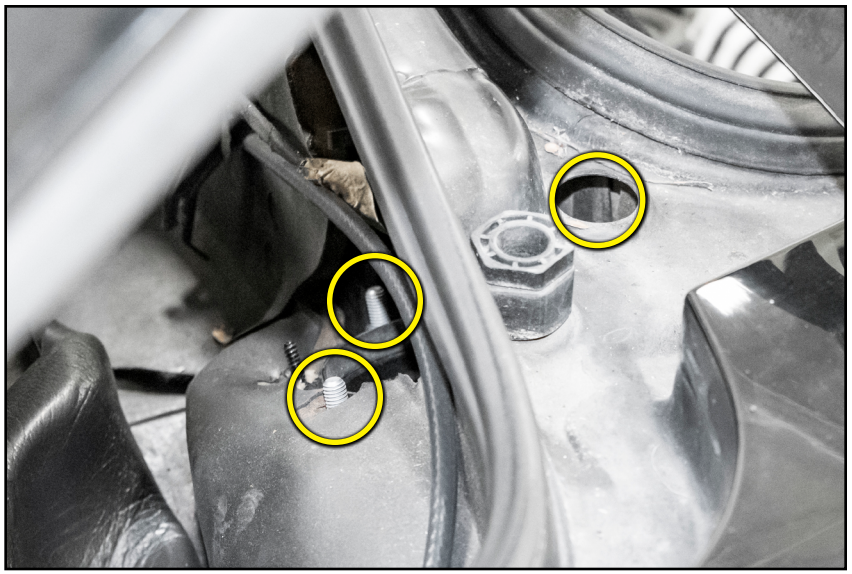
Our coilovers come with adjustable camber plates pre-installed. Loosen the four bolts (circled in **YELLOW**) and slide the plate in or out to adjust the camber to your desired setting, then tighten the bolts until snug to lock it in.



INSTALLING THE REAR COILOVERS

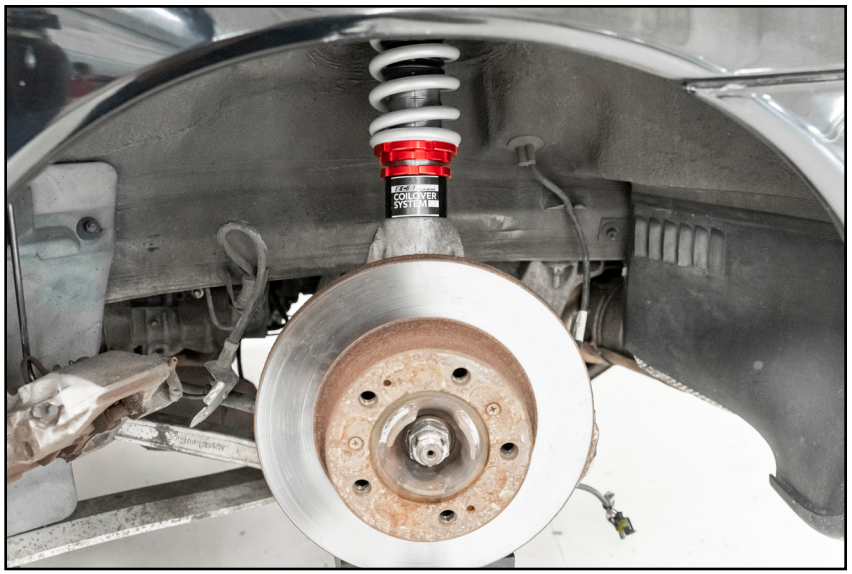
Step 4: 12mm Socket & Torque Wrench

Install the provided nuts (circled in **YELLOW**) to secure the coilover to the strut tower, then torque them to 37 Nm (27 Ft-lbs).



Step 5:

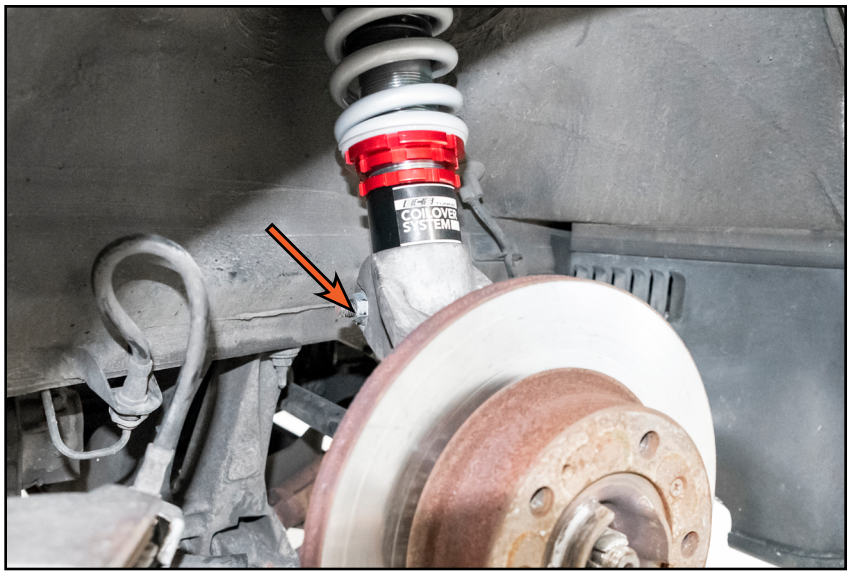
Slowly raise the jack while you guide the coilover body into the spindle housing, ensuring that the tab on the back of the coilover body slides into the slot in the back of the spindle housing.



INSTALLING THE REAR COILOVERS

Step 6: 18mm Socket & Torque Wrench

Slide the end link through the spindle housing, then replace the nut (arrow) and torque it to 85 Nm (63 Ft-lbs).

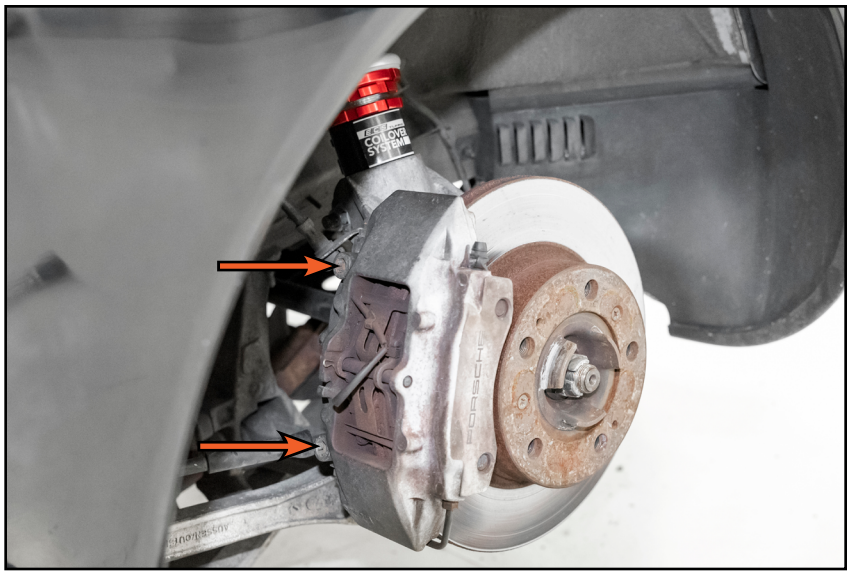


Step 7: 18mm Socket & Torque Wrench

Reinstall the toe arm, then torque the nut (arrow) to 75 Nm (55 Ft-lbs).

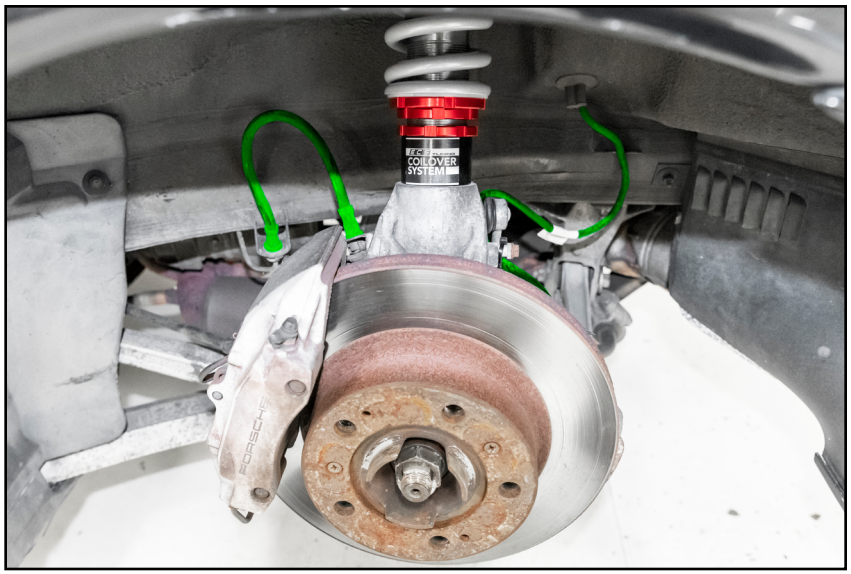
10mm Hex (Allen) Socket & Torque Wrench

Reinstall the caliper onto the spindle housing, then replace the bolts (arrows) and torque them to 85 Nm (63 Ft-lbs).



10mm Socket, 21mm Socket & Torque Wrench

Reinstall the ABS wiring harness and brake hose (highlighted in **GREEN**) onto the spindle housing as shown.



- ☐ With the vehicle at ride height, tighten the trailing arm nut to 160 Nm (118 Ft-lbs).
- ☐ Reinstall the foam strut tower cover and close the top/trunk.
- ☐ Reinstall the front wheels and torque the wheel bolts to 130 Nm (96 Ft-lbs).

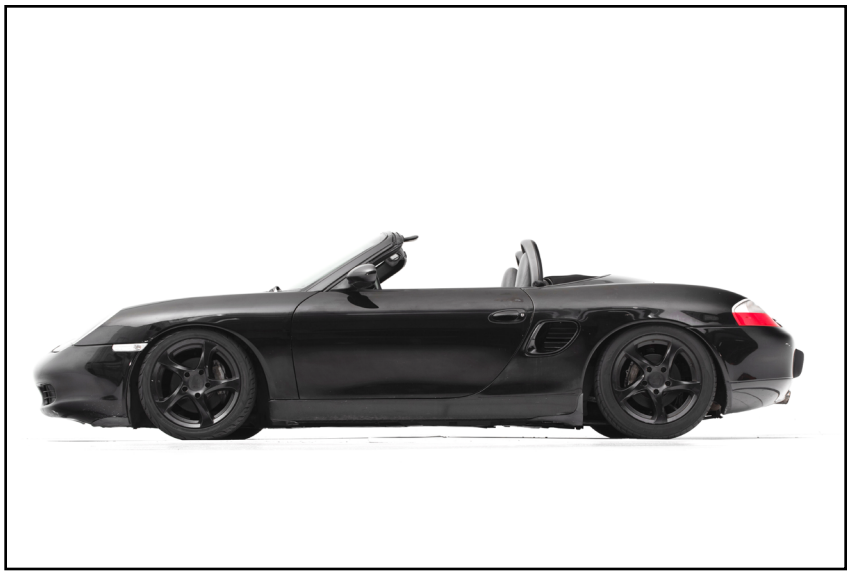
FINAL INSTALLATION STEPS

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. Remove the wheels and re-adjust the height as needed until you are happy with the final ride height then 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 remove the wheels and 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.

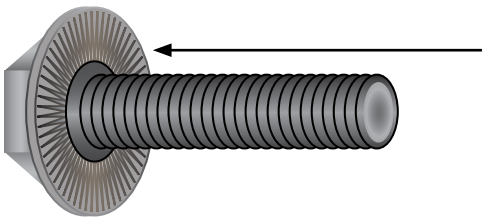
Some fasteners require lubrication on the threads -or- on the contact surface while torquing. These fasteners will be listed with the specific location and type of lubrication required. Always follow manufacturers recommendations exactly.

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.

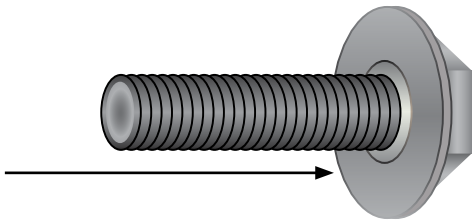
Ribbed vs. Non-Ribbed Bolts

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



TORQUE SPECIFICATIONS

Your Adjustable Coilover Kit installation is complete!

These instructions are provided as a courtesy by ECS Tuning

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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