

# CorkSport Performance

## AXL-3-303 Camber Plates

Installation Instructions for the CorkSport Performance Camber plates for the 2007-2013  
Mazdaspeed 3 and 2004-2013 Mazda 3.

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## INTRODUCTION

In this installation guide we have provided step by step instructions to remove the OEM Front Strut Top and install the CorkSport Performance Camber Plates.

### Advisory:

- Working under the vehicle requires a safe and sturdy location for the vehicle to sit on jackstands.
- Spring compressors can be dangerous. Follow the manufacturer's instructions and safety precautions to prevent injury.

### TOOLS:

- Hydraulic Jack (1)
- Jack Stand (2)
- Spring Compressors (2)
- 3/8" Drive Ratchet (1)
- 1/2" Drive Breaker Bar (1)
- 1/2" Torque Wrench (1)
- 1/2" Impact Gun (if available) (1)
- 3/8" Drive Electric Impact Gun (1)
- 14mm Socket - Deep (1)
- 17mm Socket - Deep (1)
- 19mm Socket - Deep (1)
- 5mm Allen Key Socket (1)
- 6mm Allen Key Socket (1)
- Wrench, 14mm (1)
- Wrench, 17mm (1)
- Wrench, 19mm (1)
- Small Needle Nose Pliers (1)
- Flathead Screwdriver (1)
- WD-40 Lubricant Spray (1)
- Shop Towels/Rags (1)
- Small Sledge Hammer (1)
- Safety Glasses (1)
- Gloves (1)

### PARTS:

- AXL-3-303 Camber Plate (2)

## Step 1 — Getting Started



- First and foremost; **THANK YOU** for becoming a part of the CorkSport Family. We hope to bring you the highest level of Parts, Customer Service, & Support
- ① How To Use These Instructions
  - The instruction format will relate colored marking in the image to the color dot in the text to the right of the image
- ① The vehicle used in these instructions was a 2009 Mazdaspeed 3. Other model years and configurations will be similar

## Step 2 — Lifting the Car & Removing the Front Wheel



**⚠️ Ensure the vehicle is parked on a level surface before proceeding**

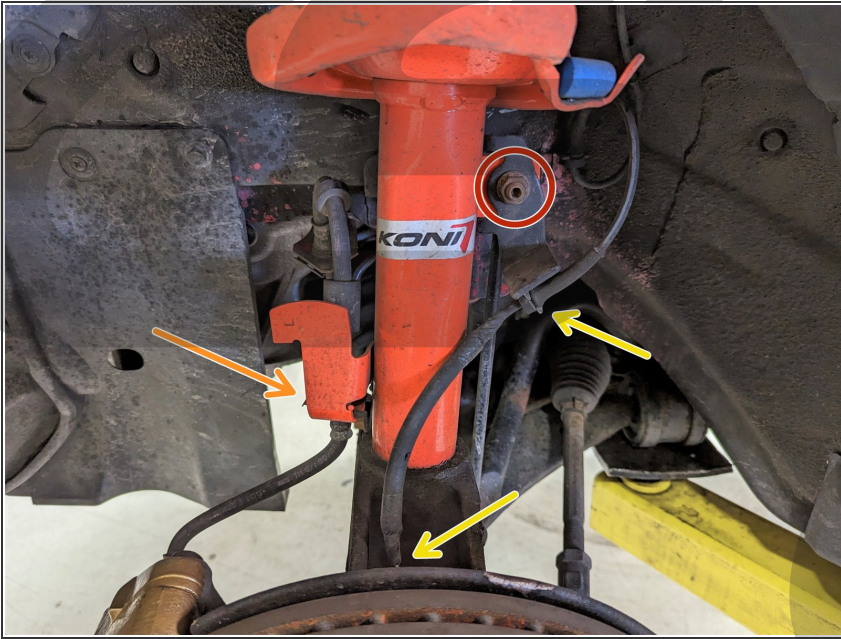
- Start by lifting up the front of the car using a hydraulic jack and jack stands.

**⚠️ Be sure to reference your owners manual for jack points and the jack manufacturer's instructions for proper practices**

- Remove the left side front wheel from the vehicle using the 1/2" drive breaker bar or impact gun and a 19mm socket

**ⓘ A different socket may be required if you have aftermarket or locking lug nuts**

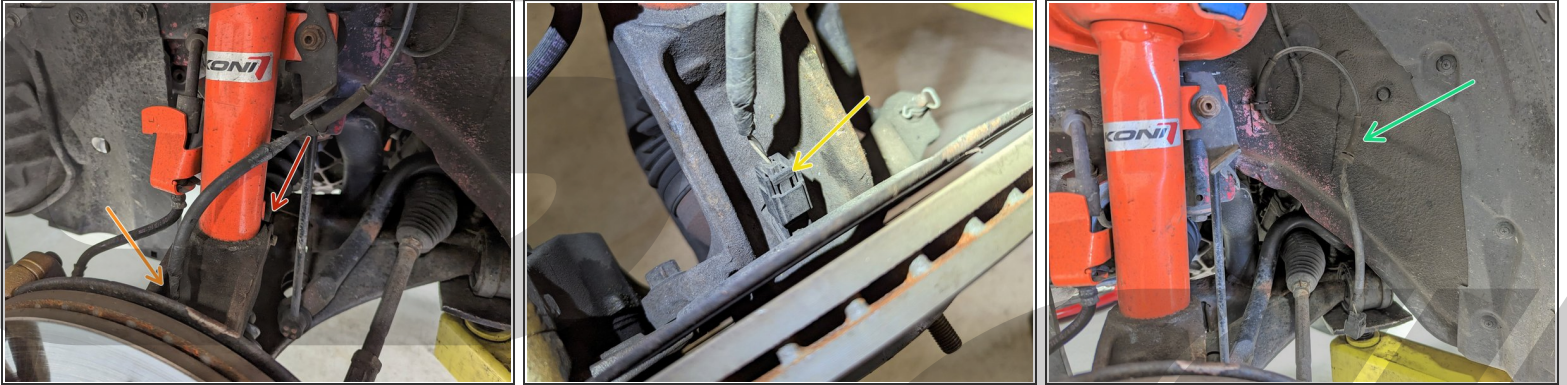
### Step 3 — Front Suspension Component Identification



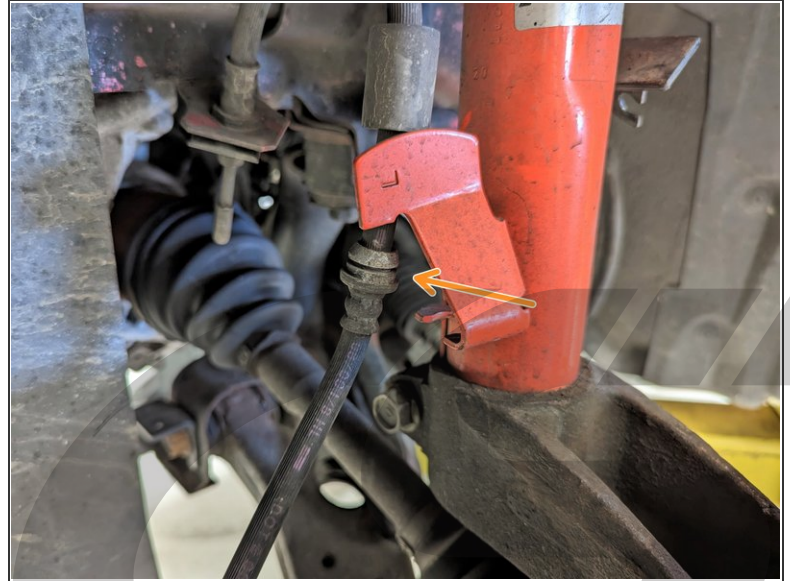
- This image serves as a location reference for components referenced in the following steps.
- Front swaybar endlink
- Front brake line
- ABS wiring



## Step 4 — Front Suspension Disassembly - Part 1



- Locate the ABS wiring
- Pull the ABS wiring free from the mounting bracket by pulling the rubber grommet in the direction shown
- Trace the ABS wiring to where the sensor is attached to the knuckle near the back of the brake rotor
- Unplug the connector by depressing the tab and remove it from the ABS sensor
- Move the ABS wiring out of the way as shown

**Step 5 — Front Suspension Disassembly - Part 2**

- Locate the front brake line
- Using needle nose pliers or a flathead screwdriver, remove the silver brake line retainer clip
- Then free the front brake line from the mounting bracket

**Step 6 — Front Suspension Disassembly - Part 3**

- Locate the front sway bar end link
- Using a 14mm socket and ratchet, remove the front swaybar end link nut and bracket for the ABS wiring
- ⓘ If the nut is spinning without loosening, use a 5mm Allen key in the center to keep it secure and a 14mm wrench to loosen
- Push the front swaybar endlink out of the mounting point on the strut and off to the side

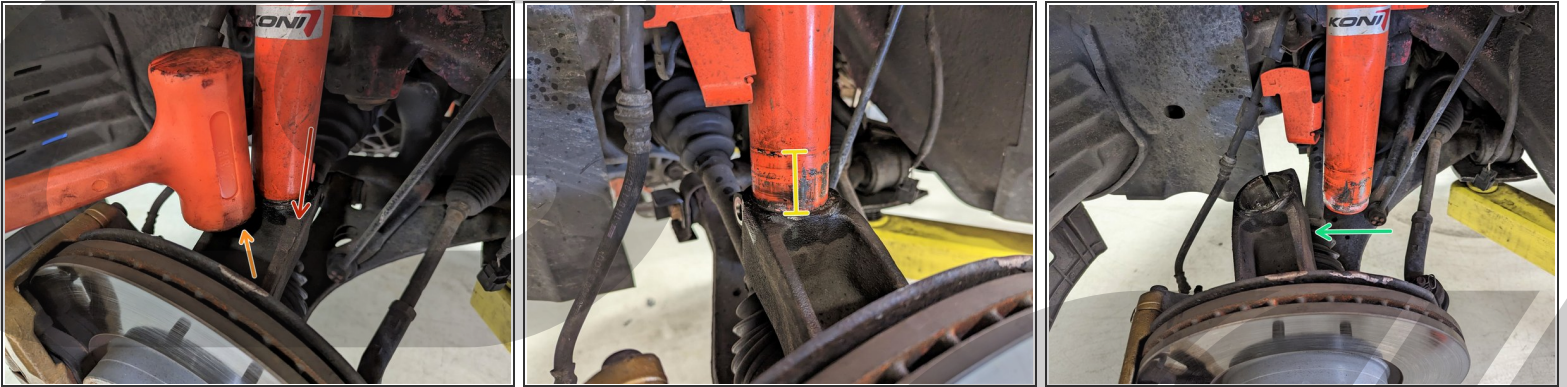


## Step 7 — Front Suspension Disassembly - Part 4



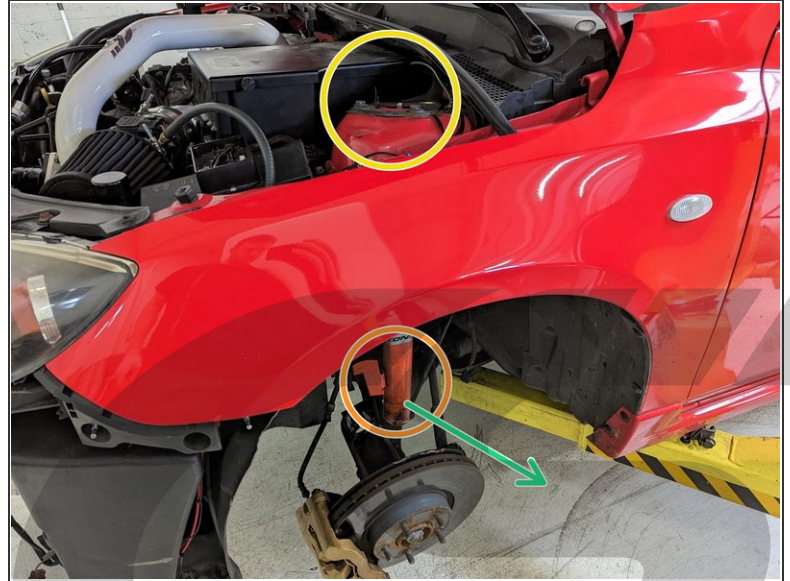
- Locate the strut pinch bolt near the bottom of the front strut
- Using a 17mm socket and ratchet, remove the strut pinch bolt.
- Using WD-40 or a penetrating fluid, lubricate where the strut meets the knuckle.
- ⓘ Letting the penetrating fluid sit for a few minutes can help the strut release from the knuckle easier

## Step 8 — Front Suspension Disassembly - Part 5



- Move the knuckle downwards to free the bottom portion of the strut
- If the knuckle is not moving, use a hammer to hit the knuckle in the location shown
  - ⚠ If using a hammer use extreme caution to not hit anywhere except where shown or damage may occur
- The knuckle will need to travel downwards about 2 inches until the strut can be removed from the knuckle
- When the strut is free from the knuckle, rotate the knuckle forward as shown

## Step 9 — Front Suspension Disassembly - Part 6



- Open the hood of your vehicle
- Locate the three bolts holding the front strut to the vehicle. They will be near the back corner of the engine bay
- Loosen these three nuts with a 14mm socket and ratchet, but do not fully remove
- Hold the bottom of the strut with one hand so it does not fall during the next step.
- Completely remove the bolts with the other hand.
- Remove the front strut from the vehicle



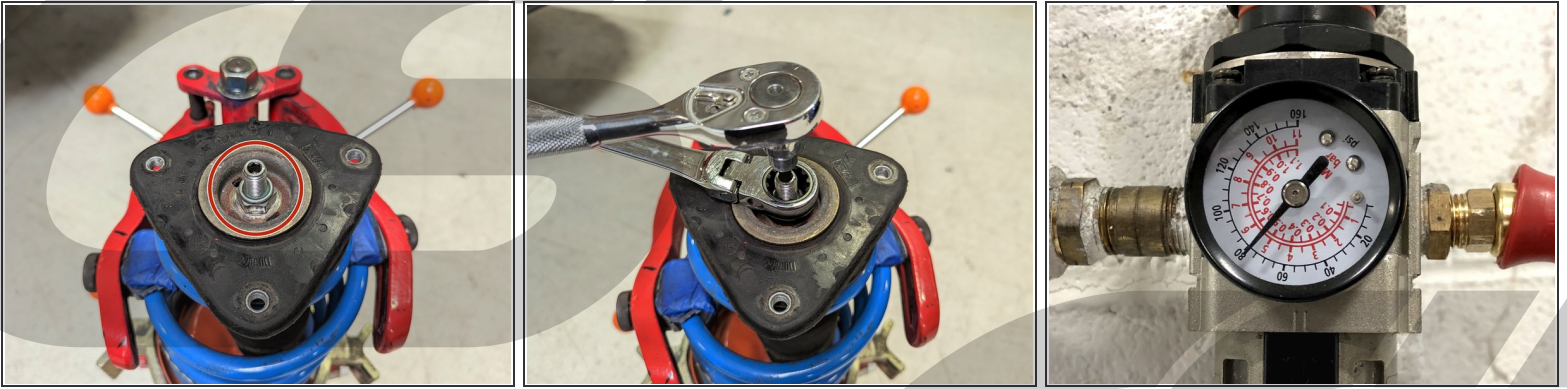
## Step 10 — Front Strut Disassembly - Part 1



- A strut with a CS lowering spring already installed is shown but the process will be the similar if you are on stock springs.
  - Ready your spring compressors. The first image shows a standalone unit that makes compressing springs easier if done frequently.
  - The second image shows more traditional spring compressors.
- ⚠ Spring compressors can be very dangerous if used improperly. Ensure you understand how to use them and are following the manufacturer's recommended practices.
- ⚠ Use personal safety equipment when using a spring compressor - safety glasses & gloves for example

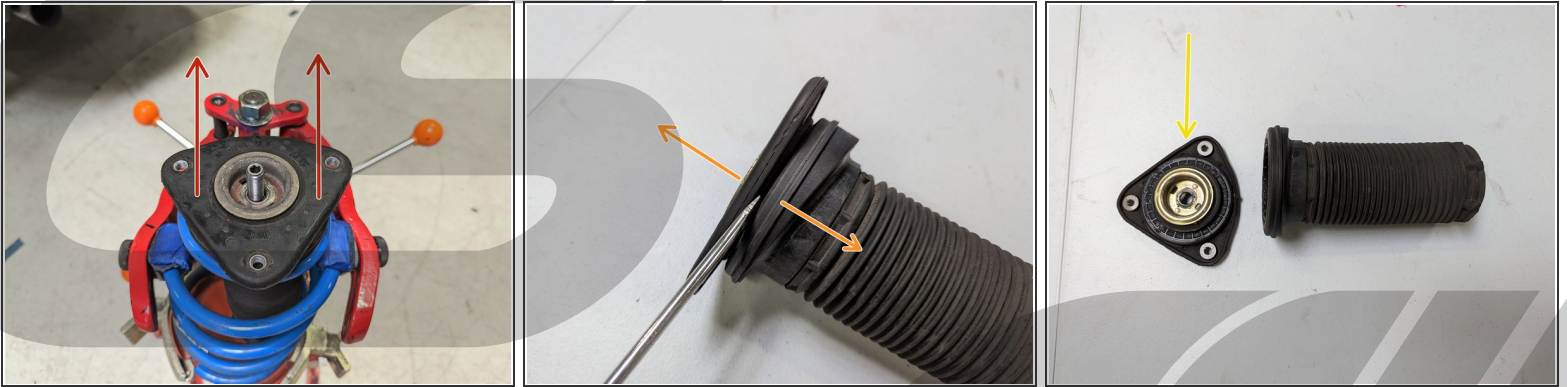


## Step 11 — Front Strut Disassembly - Part 2



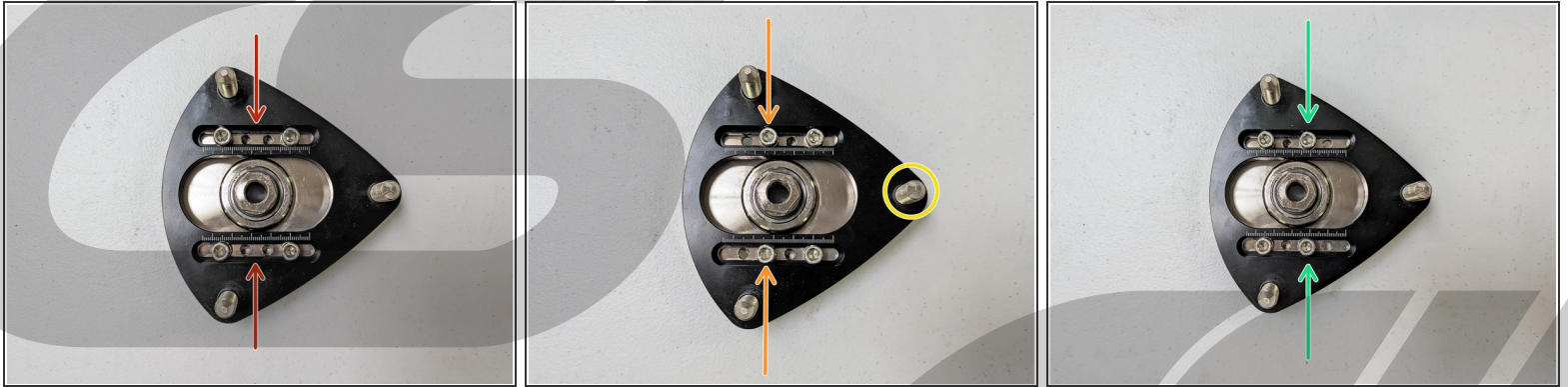
**⚠️ Compress the spring until the top spring coil is no longer touching the spring top hat.**

- Remove the nut on top of the strut using a 17mm wrench and a 6mm Allen key or socket.
- ⓘ If you have an impact gun, you can also use it to remove the strut top nut. Be sure to turn your air pressure down to 60-80psi to prevent damage to the strut.
- ⓘ You may need a pass-through socket to remove the nut depending on the tools you have available.

**Step 12 — Front Strut Disassembly - Part 3**

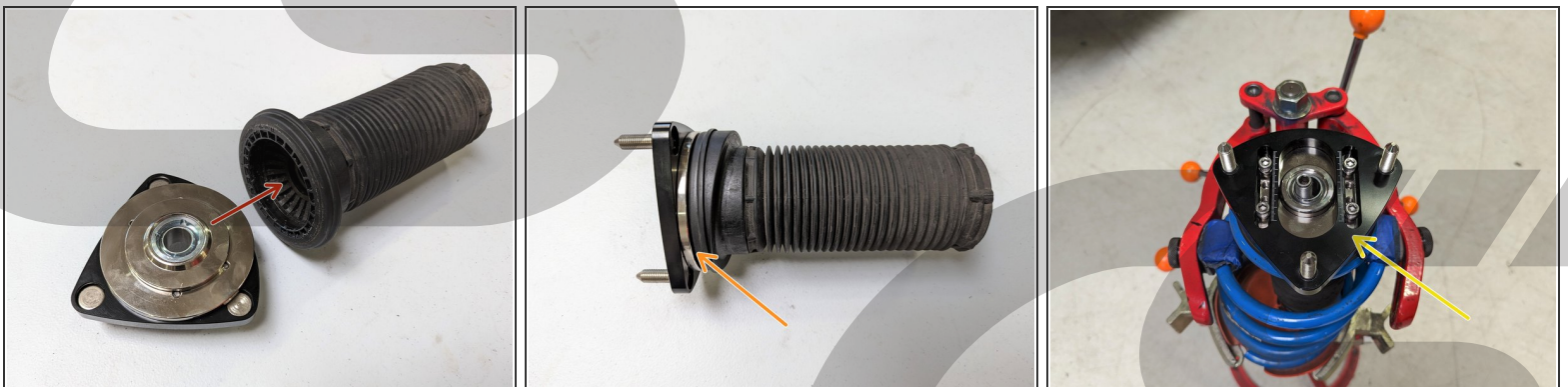
- Remove the strut top hat and dust boot
  - ⓘ The bottom of the dust boot may be attached to the strut. Release the dust boot before attempting to remove the top hat
- Using a flat blade screwdriver, separate the strut top bearing and dust boot from the rubber top mount.
- Set the rubber mount aside as it will be replaced by the CS Camber Plate.

### Step 13 — Setting the Camber Plate Adjustment Range



- The CS camber plates will come in the first configuration with the bolts spaced with two open holes between them.
- If you want to change your camber adjustment range to be able to achieve max negative camber, move the bolt to the right one hole to the position shown.
  - Make sure the camber plate is in the exact same orientation as shown with the one stud circled on the right side.
- If you want to change your camber adjustment range to be able to achieve max positive camber, move the bolt to the left one hole to the position shown.

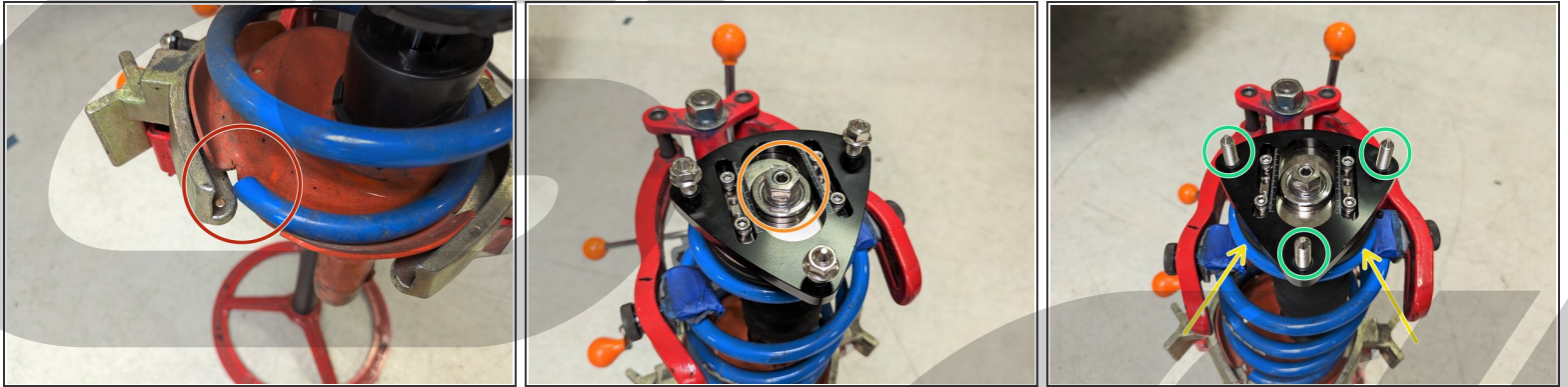
### Step 14 — Installing the CS Camber Plate - Part 1



- Install the CS camber plate onto the strut bearing
- Make sure that the camber plate is fully seated in the strut bearing all the way around
- Place the camber plate assembly back on the strut and spring



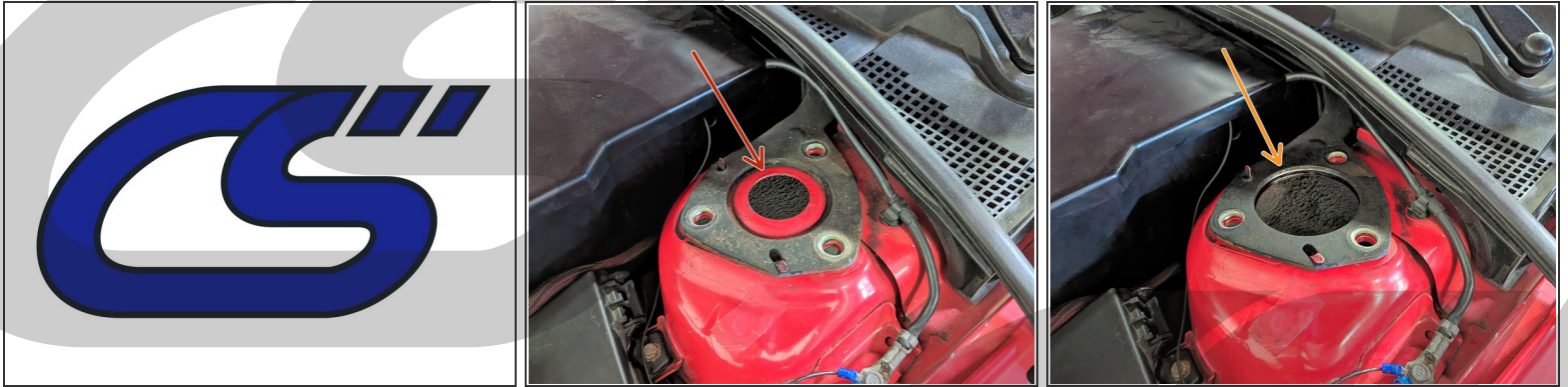
## Step 15 — Installing the CS Camber Plate - Part 2



- Ensure that the bottom of the spring is fully seated in the spring seat as shown.
- Start the provided 19mm nut by hand.
- Tighten to **45-55ft-lbs.** using the method discussed in Step 11.
- ⓘ If tightening with an impact gun, ensure the pressure is turned down to about 60-80psi to prevent damage to the strut.
- Release the spring compressor slowly.
- Check that the top coil of the spring is centered on the top hat and is touching all around.
- Remove the 3 nuts on the studs if still installed on the camber plate.

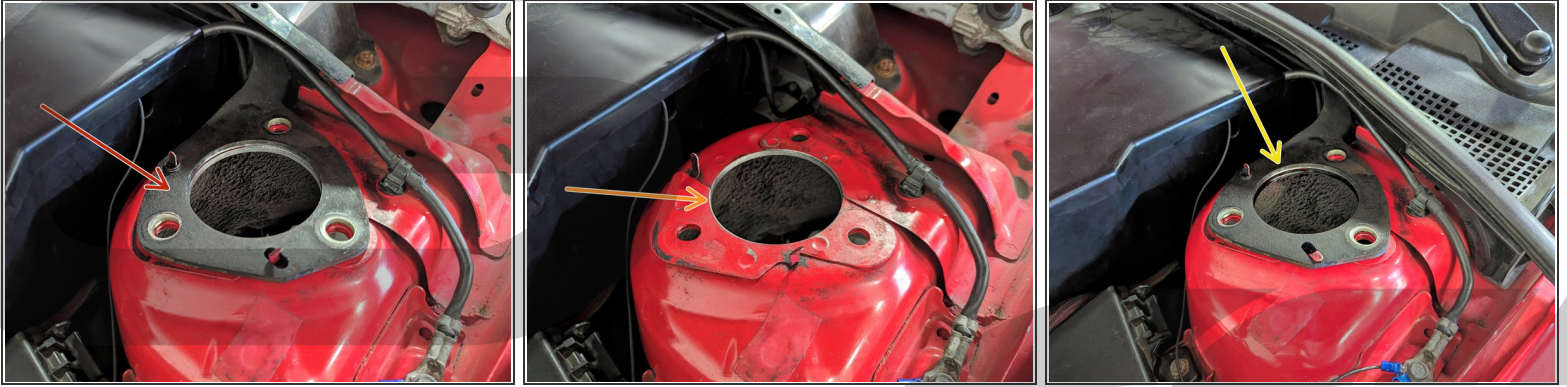


## Step 16 — Optional: Cutting the Strut Tower - Part 1



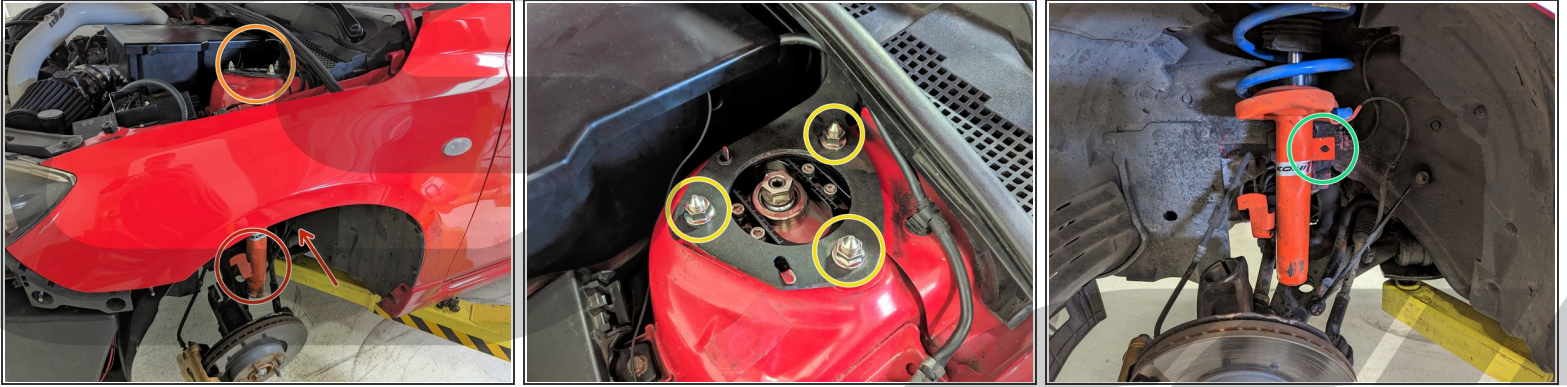
- This step is optional and does not have to be done to install the camber plates, but it allows for adjustment of the camber plates after installation. Skip to Step 18 if you do not want to cut your strut towers.
- The factory strut towers feature a small opening and restrict the access to the camber plates.
- To gain the ability to adjust the camber plates while they are installed, the opening in the strut tower has to be enlarged.
- Continue to the next step if you want to make the modifications to the strut tower

## Step 17 — Optional: Cutting the Strut Towers - Part 2



- To make the cut in the strut tower, a 3-1/8" Bi-Metal Hole Saw is needed along with a drill
- The factory strut tower brace will be used to center the hole saw when cutting
- Mask off the area around the strut tower to reduce the amount of metal shavings entering into your engine bay
- Take your time when cutting the hole and use a lubricant if available
- Once the hole is cut, remove the strut brace to ensure that no metal shavings are left under it
- Now use a file and sandpaper to remove any burrs on the edges to prepare the surface for paint
- Remove any oil from the exposed metal and paint with a paint pen or mask around the hole and use spray paint
- After the metal has been painted, reinstall the strut brace

## Step 18 — Front Suspension Reassembly - Part 1



- ⓘ If you did not enlarge the hole in the strut tower make sure to adjust the camber plates before you install them back into the car. Refer to **Step 25** for details.
  - Lift the assembled strut back into place.
- ⓘ Look in the fender to align the three top strut mounting studs to the three holes in the strut tower.
  - Hold the bottom of the strut with one hand.
- ⓘ Ensure that the camber adjustment slots are pointing towards the other strut tower.
  - Lightly push the strut through the three holes in the strut tower.
  - Use the other hand to install the QTY(3) 14mm nuts and tighten to **37-43 ft-lbs**.
  - Rotate the strut as needed until the sway bar end link mount, points toward the rear of the vehicle as shown.

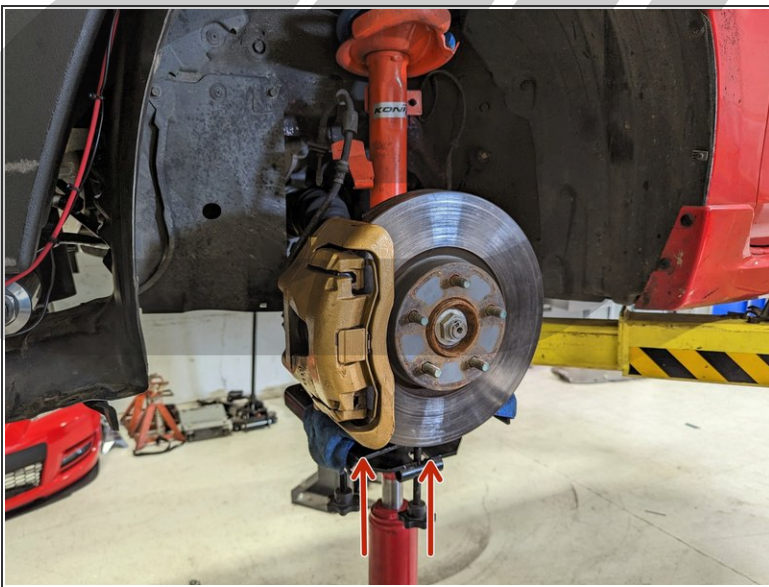


**Step 19 — Front Suspension Reassembly - Part 2**



- Rotate the knuckle until the bottom of the strut aligns with the hole in the knuckle.
- Lift the knuckle upwards and start the bottom of the strut into the knuckle.

**Step 20 — Front Suspension Reassembly - Part 3**



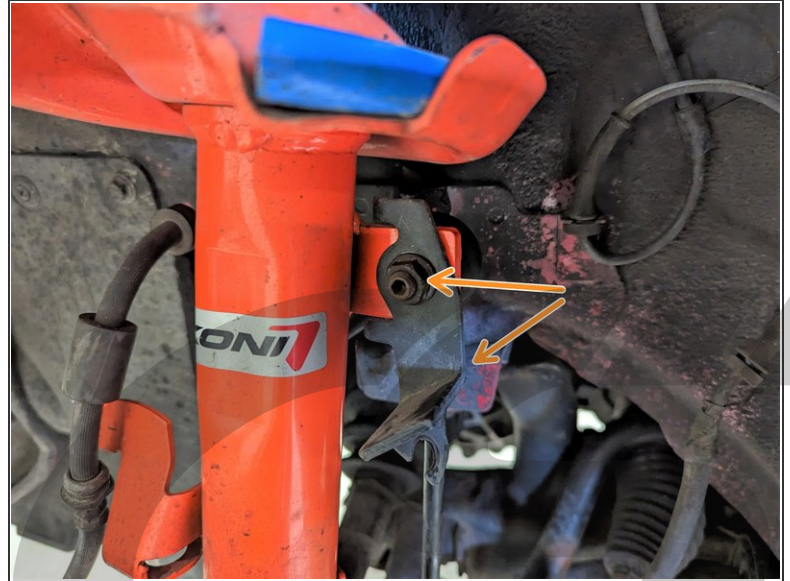
- Using a hydraulic jack, lift the knuckle upwards from the lower control arm as shown.
- ⚠️ Ensure you are lifting from the area shown in the second image and not from the brake rotor or brake dust shield.



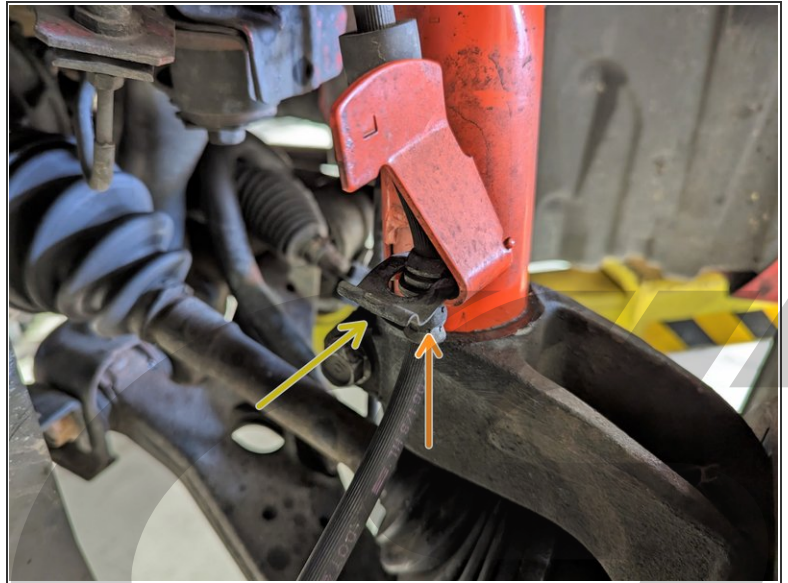
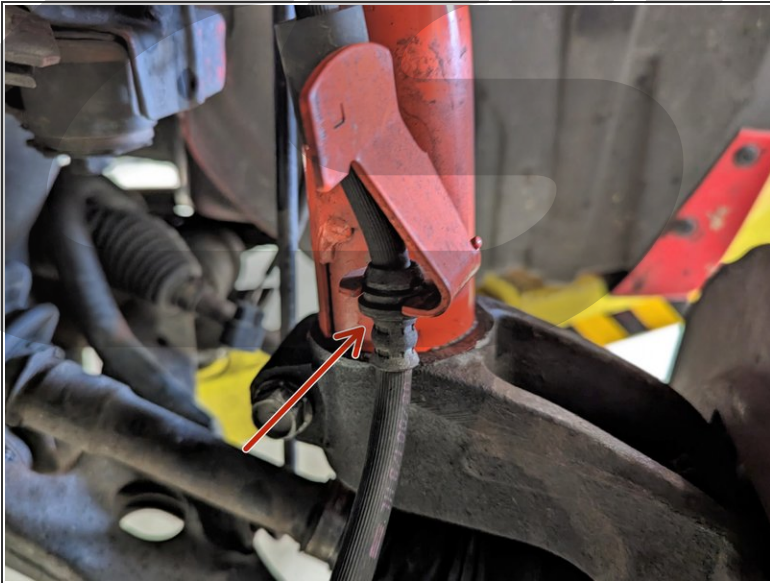
## Step 21 — Front Suspension Reassembly - Part 4



- Lift the suspension upwards until the knuckle hits the stop on the strut as shown.
- Make sure the strut is rotated to fit the alignment tab in between the two sides of the knuckle.
- Once the hub stop is reached, install the 17mm strut pinch bolt and tighten to **45-50ft-lbs.**
- Lower the hydraulic jack once tightening is complete.

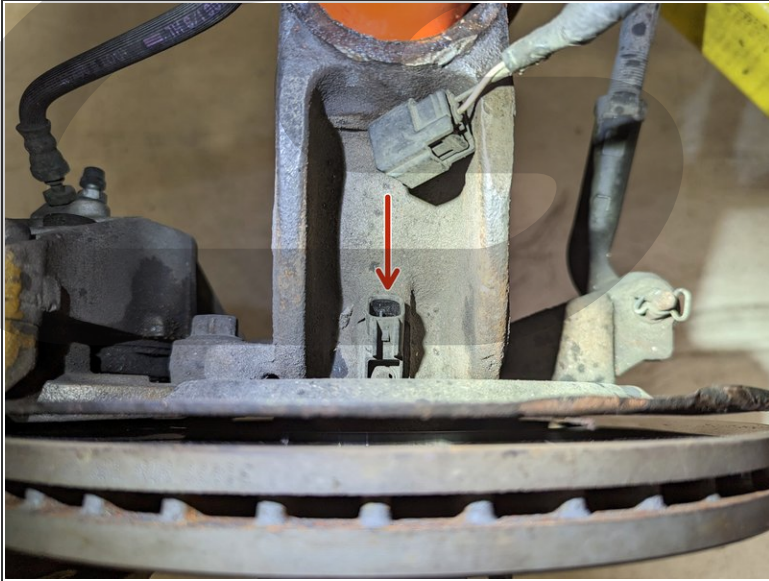
**Step 22 — Front Suspension Reassembly - Part 5**

- Install the front sway bar end link through the mounting bracket on the strut.
- Secure the front sway bar end link by reinstalling the bracket and nut and tightening to **35-40 ft-lbs** with a 14mm socket and ratchet.
- ⓘ If the nut is spinning without tightening, use a 5mm Allen key in the center to keep it secure and a 14mm wrench to tighten.

**Step 23 — Front Suspension Reassembly - Part 6**

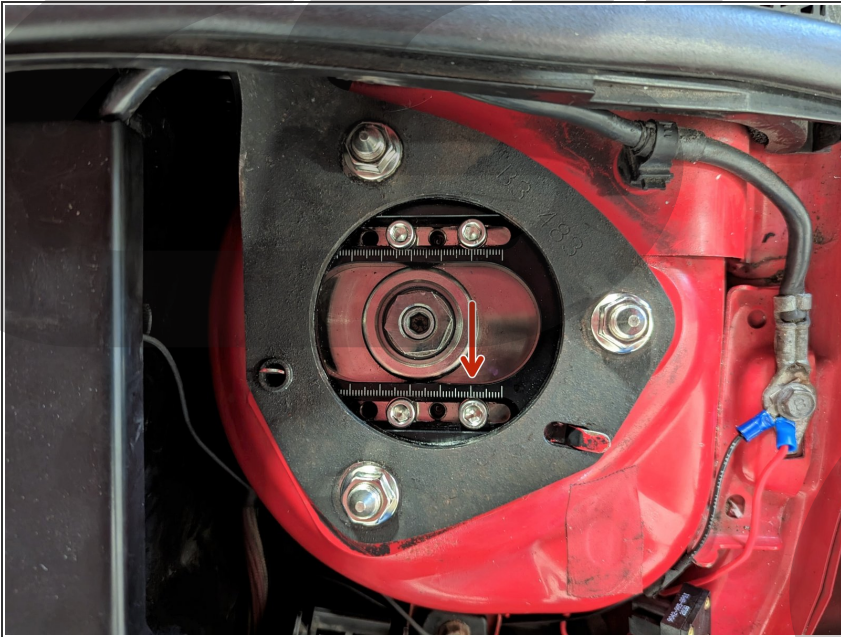
- Insert the brake line into the mounting bracket
- Push up on the line slightly to ensure it is fully seated, then secure the brake line with the retaining clip.
- Ensure the retaining clip is in the orientation shown when installing
- ⓘ You may need to tap the retainer clip gently with a hammer in order to get it fully installed.



**Step 24 — Front Suspension Reassembly - Part 7**

- Reinstall the ABS wiring connector into the sensor
- Secure the ABS wiring in the mounting bracket by pushing the rubber portion into the bracket until it is snug.

## Step 25 — Camber Settings



- Set an initial camber setting
  - If installing with the OEM springs or lowering springs the adjustment of the camber plate will be limited. If adjusted to far, the springs will contact the strut tower.
  - The max negative camber you can get with OEM style springs is roughly -1.5 degrees. On the camber plate this is around 10 hash marks to the center of the outside bolt when it is in the position shown

**⚠ After the camber plate is set, double check that there is clearance between the strut tower and spring**

- Once the camber position is confirmed, tighten the 5mm Allen bolts on the camber plate to **6 ft-lbs.**

**⚠ It is recommended that you have your car aligned after the installation to ensure camber, toe and caster values are correct.**

## Step 26 — Front Suspension Wrap Up



- Repeat steps 2-25 on the right side of the vehicle.
- Reinstall both front wheels using a 19mm socket
  - ⓘ A different socket may be required if you have aftermarket or locking lug nuts
- Lower the front of the car down off the jack stands.
- Torque the lug nuts in a star pattern to **80-90ft-lbs.**

## Step 27 — Installation Complete



- This completes your installation of the CorkSport Performance Camber Plates!
  - ⓘ Listen for any strange noises upon first drive. If any are present, inspect the suspension.
- Contact us with any questions or concerns at [sales@corksport.com](mailto:sales@corksport.com) or (360) 260-2675.
- Please leave a review here: <https://corksport.com/>
- Share your experience using #CorkSport on Instagram, Facebook, and Twitter.