

INSTALLATION INSTRUCTIONS



CORKSPORT Coilovers

2014-2018 Mazda 3, 2013-2017 & 2018+ Mazda 6

PART #: AXM-3-305-10

Need Help With Your Installation? Call (360)260-CORK



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deliver - every time.*

CORKSPORT.COM



CORKSPORT Coilovers

2014-2018 Mazda 3
2013-2017 & 2018+ Mazda 6

PRODUCT DESCRIPTION:

Thank you for purchasing the new CorkSport Coilovers. We took everything we learned from making the Mazdaspeed 3 coilovers and adapted the knowledge to GEN3 Mazda 3 and 6! With 2 inches of ride height adjustability, optimized spring rates, rebound damping adjustability, and front camber adjustability, the CS coilovers are ready for whatever you throw at them. Lots of design and testing has gone into making the CorkSport coilovers the best they can be for your GEN3.

Please let us know your feedback of the by submitting a review at: <https://corksport.com/2014-2018-mazda-3-and-2013-2017-mazda-6-coilover-suspension.html>

PRE-INSTALLATION NOTES:



You will be removing major suspension components of your vehicle to install this kit. If you are not comfortable with this or lack the proper tools to do so, please do not proceed.



Verify that the car is on a level surface before proceeding. Use appropriate load rated jack stands to support the vehicle.



These instructions were written for reference only and the use of a factory service manual is recommended.



How our instructions work: To best cover all of our customers experience levels, we have included a table of contents/order of operations along with step-by-step instructions.



For front camber adjustment without removal of the coilovers, the strut towers must be cut. This is an optional step but the coilover will have to be removed to adjust camber if not cut.

MATERIALS & TIME:

GENERAL INFO:



Time Est:
4hr



Difficulty:
3/5



CEL:
No



Warranty:
1-Year

TOOLING LIST:

- 10mm Socket
- 12mm Socket
- 14mm Socket
- 17mm Socket
- 19mm Socket
- 21mm Socket
- 32mm Deep Socket
- 3/8" Drive Ratchet
- 6" Extension
- 1/2" Drive Ratchet
- Breaker Bar
- 10mm Wrench
- 12mm Wrench
- 14mm Wrench
- 17mm Wrench
- 23mm Wrench
- 4mm Allen Wrench or Socket
- 5mm Allen Wrench or Socket
- Flathead Screwdriver
- Jack Stands
- Floor Jack
- Needle Nose Pliers
- Spanner Wrench
- 1/2" Drive Torque Wrench
- Dead Blow Hammer
- Pointed Pry Bar
- Locking Pliers




OPTIONAL:

- Electric Drill
- 3 1/8" Hole Saw
- File or Deburring Tool
- Spray Paint

PARTS LIST:

- One (1) CorkSport Front Left Coilover
- One (1) CorkSport Front Right Coilover
- Two (2) CorkSport Adjustable Rear Shocks
- Two (2) CorkSport Rear Springs
- Two (2) CorkSport Adjustable Height Spring Perches
- Eight (8) CorkSport Mazda 3 Front Centering Spacers
- Two (2) CorkSport Mazda 3 Rear Centering Sleeves

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DETAILED INSTRUCTIONS:

1. Removing the OEM Front Strut Assembly



Verify that the car is on a level surface before proceeding. Use appropriate load rated hydraulic jack and jack stands to support the vehicle.

- a) Engage the parking brake and raise the front of the vehicle with a hydraulic floor jack, then support with jack stands.



Please refer to the owners manual for proper jack stand location.

- b) Raise the rear of the vehicle with a hydraulic floor jack, then support with jack stands.
- c) Remove the front passenger wheel from the vehicle using an impact wrench or 1/2" drive ratchet (or breaker bar) and 21mm socket (or other if using locking lug nuts). Your front wheel well should now look like **Figure 1a**.
- d) Remove the one (1) 14mm nut (shown in **Figure 1a** circled in red) that holds the front endlink to the factory swaybar using a 14 mm wrench. If the stud spins, insert a 5mm Allen Wrench into the center of the stud to hold it while you loosen the nut. Then push the endlink free from the strut.
- e) Remove the ABS sensor wire shown with the green circle in **Figure 1a** by squeezing the base with needle nose pliers.
- f) Remove the brake line clip using a flathead screwdriver as shown in **Figure 1b**. Then free the brake line from the strut.
- g) Remove the ABS sensor wire shown with the green circle in **Figure 1b** by squeezing the tabs with needle nose pliers.

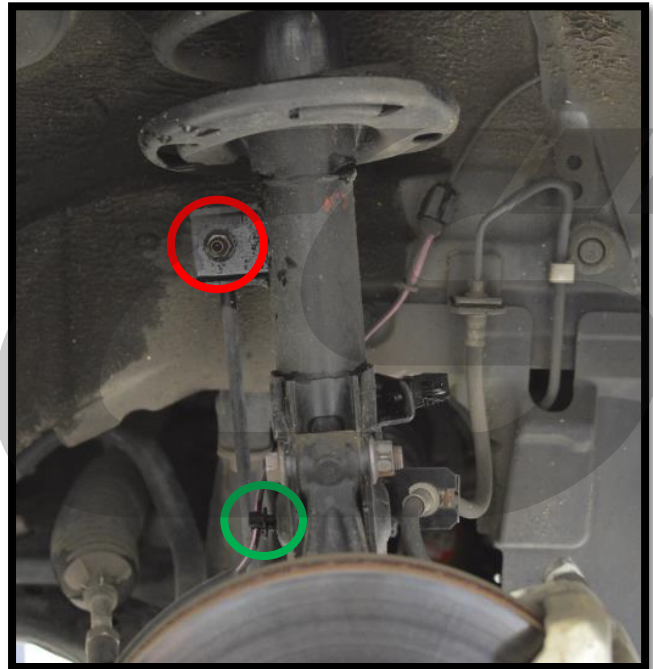


Figure 1a

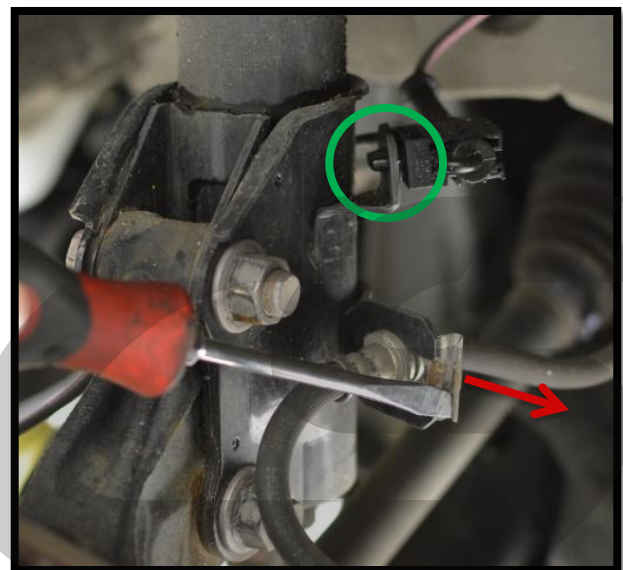


Figure 1b

DETAILED INSTRUCTIONS:

1. Removing the OEM Front Strut Assembly (cont.)

- g) Position a 17mm wrench or socket on one of the bolt heads **circled in red** in **Figure 1c**. Use a 21mm wrench/socket on Mazda 6.
- h) Position a 19mm wrench or socket on one of the nuts **circled in green** in **Figure 1c**. Use a 23mm wrench/socket on Mazda 6
- i) Loosen the two nuts/bolts and remove them from the vehicle.
- j) Push the strut towards the engine as you push the suspension knuckle down and out of the strut.
- k) Let the suspension hang.
- l) Use a 14mm wrench or socket to loosen the three strut top nuts **circled in red** in **Figure 1d**.
- m) Remove two of the nuts leaving one to hold the strut in the vehicle.
- n) Use one hand to hold the strut through the wheel well then remove the last nut from the strut top.
- o) Carefully route the strut out of the wheel well.
- p) Repeat steps 1a-1o for the other side of the vehicle.

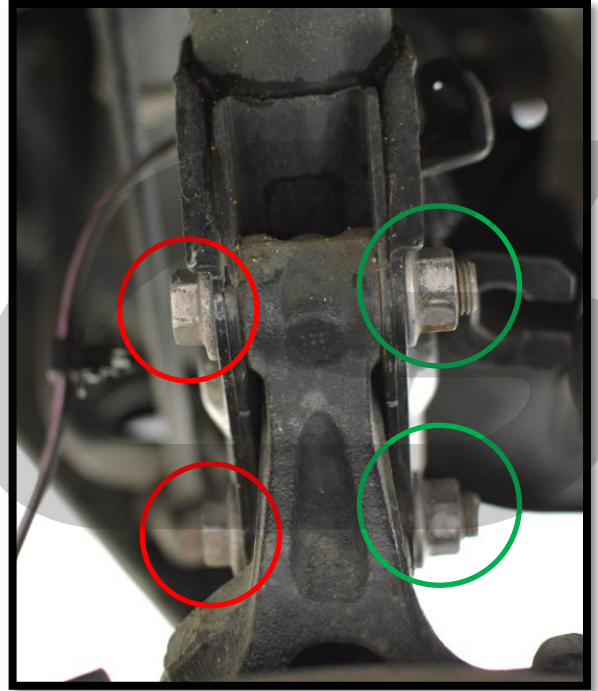


Figure 1c

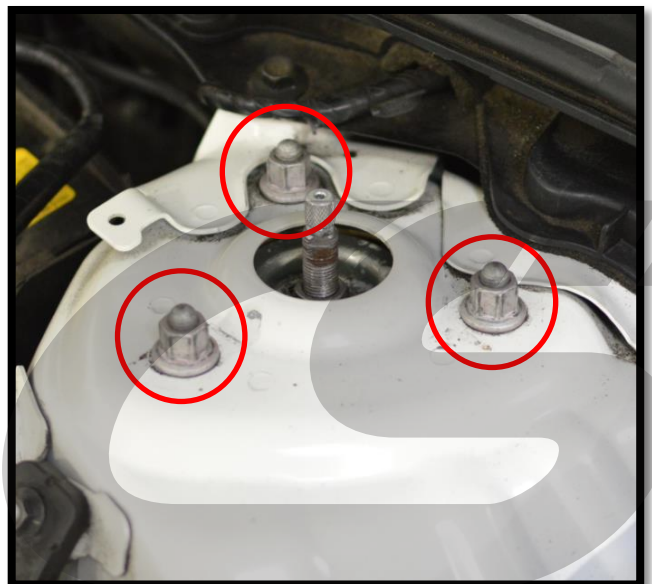


Figure 1d



Use caution when removing the strut from the vehicle to prevent damage to the ABS wiring or brake line.

DETAILED INSTRUCTIONS:

2. (OPTIONAL) Cutting Strut Tower for Easy Camber Adjustment

NOTE

In order to adjust camber without removing the strut assembly from the vehicle, the strut tower must be cut. This modification does not affect the strength of the shock towers and has been tested and proven to function without issue. If you do not want to cut your strut towers, please skip to Section 3.

NOTE

The images shown are from a 2010 Mazda 3. Procedure on 2014-2018 Mazda 3 or 2014-2017 Mazda 6 are identical.

- a) **Drill out the center of the strut tower.** Use a 3 1/8" bi-metal hole saw and use the factory strut top "dimple" guide. Take your time as you do this step to ensure a clean and even cut. Figure 2a shows an uncut strut tower while Figure 2b shows a cut strut tower.



Figure 2a



Figure 2b

- b) **Clean up any burrs or sharp edges from the cuts using a round file or similar..**
- c) **Prepare the surface for proper paint adhesion.** Ensure the surface is clean of dirt and grease. Also ensure the surface has been sanded slightly so the paint will stick well.
- d) **Mask off the strut tower and surrounding area to prevent overspray.**
- e) **Paint the exposed bare metal that resulted from cutting the hole in the strut.** This protects the metal from rusting.
- f) **Repeat Steps 2a-2e for the other strut tower.**

DETAILED INSTRUCTIONS:

3. Installing the CorkSport Front Coilovers



If you are installing without cutting the strut towers, please reference Section 9 to setup your front camber before moving on with the front coilover installation.

- a) Install the front left CorkSport coilover onto the left (driver's) side of the vehicle. Lift the coilover into position, and hand tighten the three supplied upper strut nuts (circled in red in Figure 3a). Then tighten these nuts to 30-35ft-lbs.



Ensure the camber plate is installed into the strut tower as shown in Figure 3b.

- b) Lift the knuckle upwards and into position between the tabs of the coilover. Lift in the direction shown in Figure 3c. Line up the holes and temporarily insert one of the bolts removed in Steps 1g-1i. This will hold the knuckle in position.
- c) MAZDA 3 OWNERS: Skip to step 3e on the next page.
- d) MAZDA 6 OWNERS: Insert the other bolt removed in Steps 1g-1i. Secure with the two OEM 23mm nuts. Torque to 164-180ft-lbs. Then, skip to Step 3g on the next page.

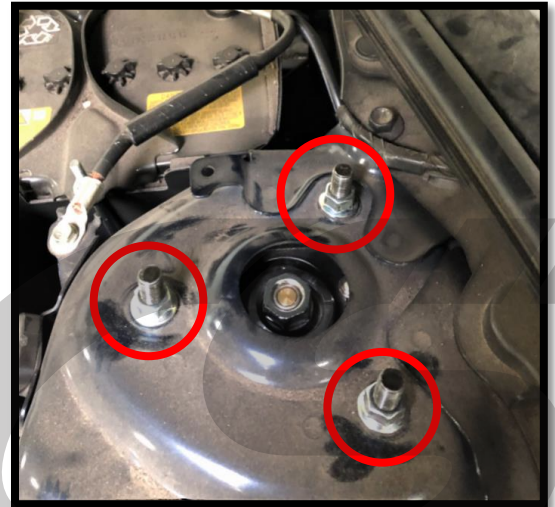


Figure 3a

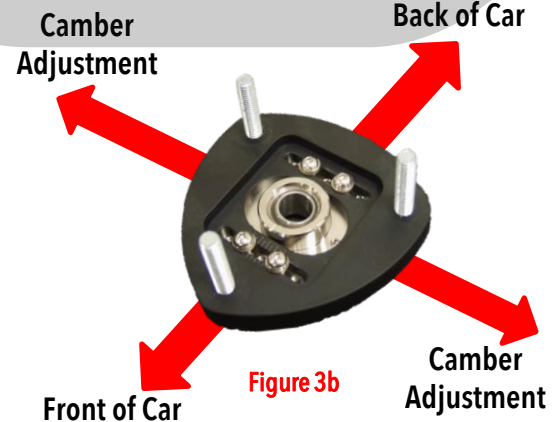


Figure 3b

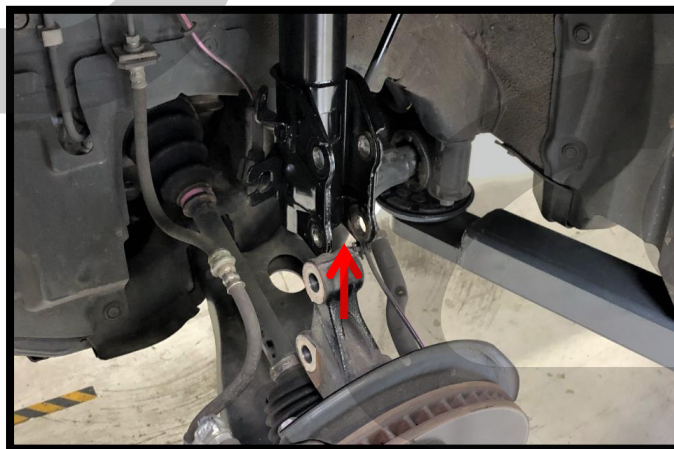
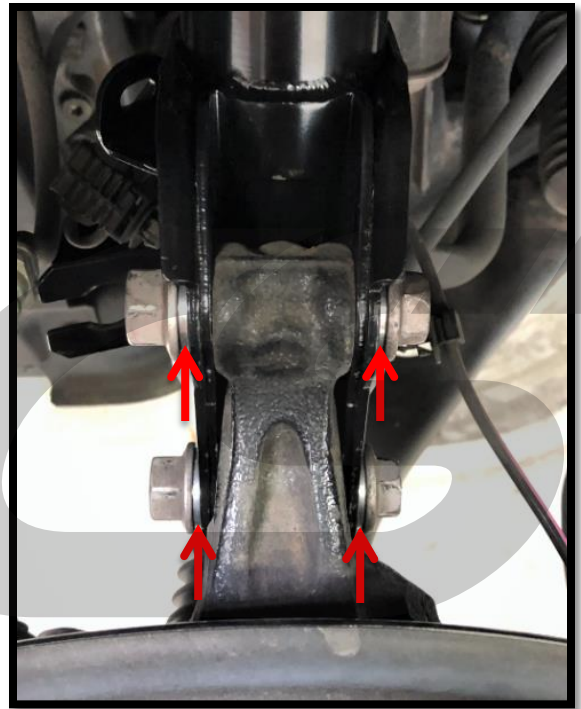


Figure 3c

DETAILED INSTRUCTIONS:

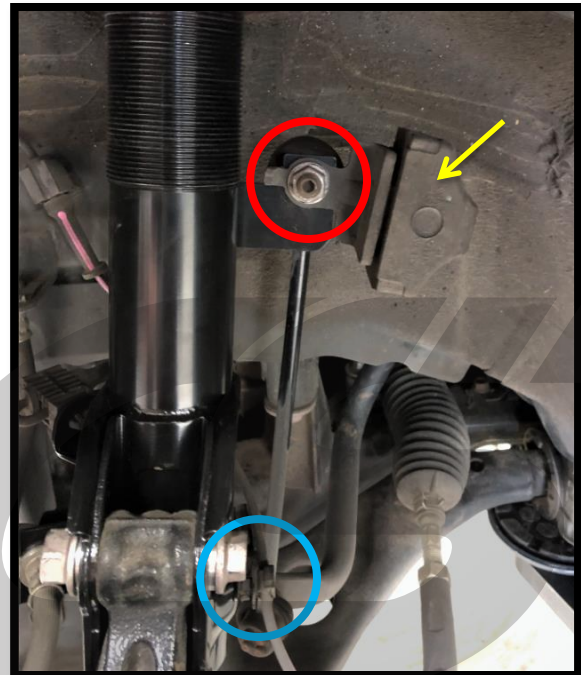
3. Installing the CorkSport Front Coilovers (cont.)

- e) **MAZDA 3 OWNERS:** Position four of the supplied spacers into the CS coilover as shown with **red arrows** in **Figure 3d**. The small end of the spacer will fit snug into the body of the coilover. You may need to shift the coilover/knuckle around to get the spacers & bolt holes to line up. Ensure both OEM 19mm bolts are inserted and spacers are secure before moving on.
- f) **MAZDA 3 OWNERS:** Install the OEM 21mm nuts removed earlier and torque to 107-117ft-lbs.
- g) Reinstall the swaybar endlink by inserting it through the bracket on the coilover. Secure it using the OEM 14mm nut as shown with **red circle** in **Figure 3e**. Tighten this nut to 34-40ft-lbs.

**Figure 3d**

- NOTE** Some vehicles will have an OEM noise/vibration isolator (like in **Figure 3e**) that mounts with the swaybar endlink. If equipped, you may reinstall it, however it may interfere with the vehicle if very low or if more negative camber is setup desired. **We recommend removing the isolator completely.**

- h) Reinstall the ABS wiring clip that was removed earlier. **Circled in blue** in **Figure 3e**.

**Figure 3e**

DETAILED INSTRUCTIONS:

3. Installing the CorkSport Front Coilovers (cont.)

- i) Place the brake line into the bracket on the CS coilover, then secure with the clip removed earlier in Step 1f. Brake line shown installed and clip shown partially installed with **red circle** in **Figure 3f**.
- j) Reinstall the ABS sensor wiring clip that was removed earlier. Insert in the slotted hole on the coilover **circled in blue** in **Figure 3f**.
- k) Repeat steps 3a-3j on the opposite side of the vehicle.
- l) This completes the installation of the front coilovers. Please reference Sections 7-9 for coilover setup.

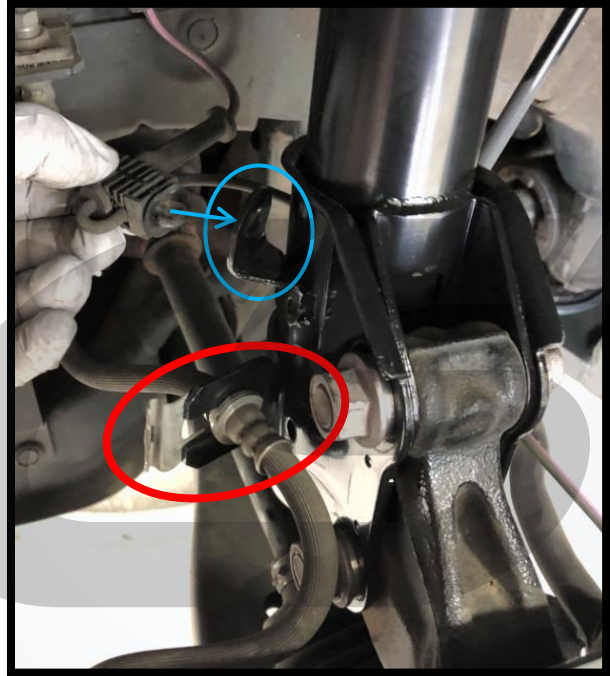


Figure 3d

4. Removing the OEM Rear Springs & Shocks

- a) Remove the rear wheels from the vehicle using an impact wrench or 1/2" drive ratchet (or breaker bar) and 21mm socket (or other if using locking lug nuts).
- b) On the passenger's side, remove the 14mm nut holding the rear sway bar endlink to the control arm using a 14mm wrench. This nut is located on top of the control arm near the rear spring. Nut shown **circled in red** in **Figure 4a** on the next page. Then push the endlink out of the control arm.

NOTE If the nut is not coming loose, hold the center of the endlink with a 5mm Allen wrench to prevent it from spinning.

DETAILED INSTRUCTIONS:

4. Removing the OEM Rear Springs & Shocks

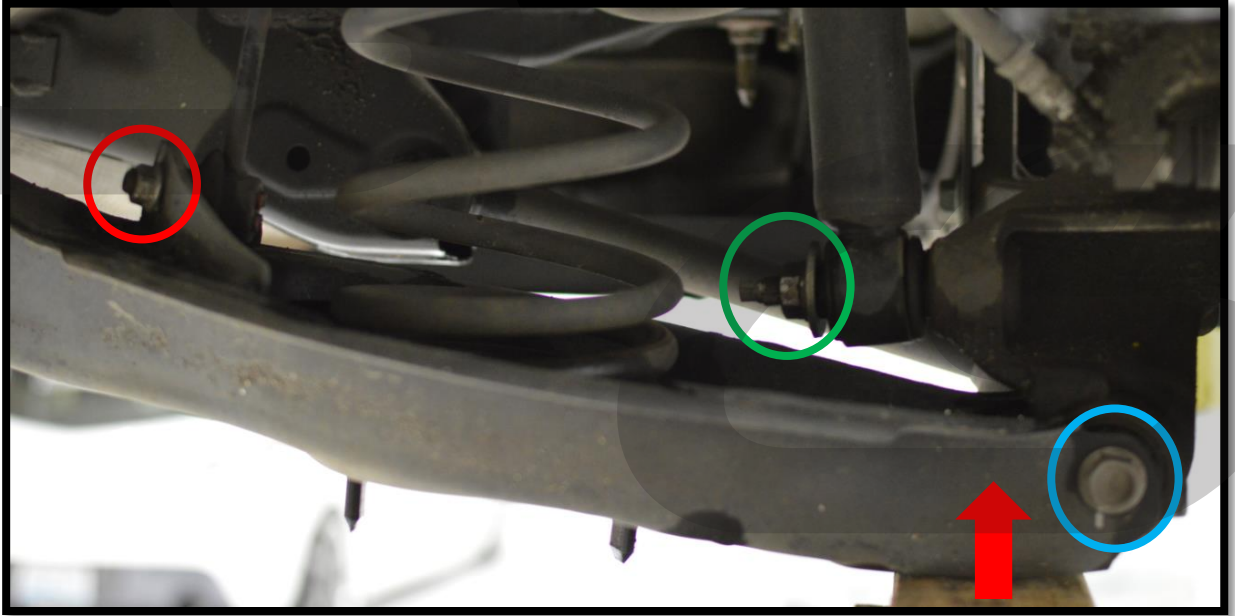


Figure 4a

- c) Use a hydraulic jack at the position of the **red arrow** in **Figure 4a** to support the lower control arm. Apply light pressure to ensure the jack is secure.
- d) Remove the 17mm bolt that holds the spindle to the control arm (**blue circle** in **Figure 4a**) using a 17mm socket and ratchet.
- e) Lower the hydraulic jack slowly until the spring is no longer compressed. Then remove the rear spring from the vehicle.
- f) Using a 19mm wrench or socket and ratchet, remove the lower shock mounting nut. **Circled in green** in **Figure 4a**.

DETAILED INSTRUCTIONS:

4. Removing the OEM Rear Springs & Shocks (cont.)

- g) Trace the shock body up into the fender of the vehicle.
- h) Use a 14mm socket and extension to remove the two shock top nuts. **Circled in red in Figure 4b.**
- i) Then remove the shock from the vehicle.
- j) Repeat steps 4a-4i for the other side of the vehicle.

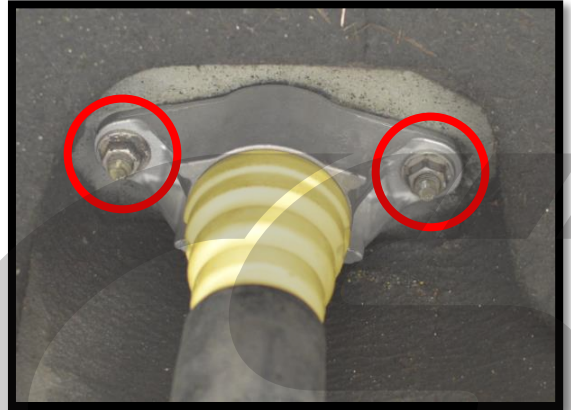


Figure 4b

5. Installing the CorkSport Rear Shocks

- a) Use a 12mm wrench and vise grips to remove the top hat from the OE rear shock as shown in **Figure 5a.**
- b) Remove the OE dust boot and bump stop from the OE top hat as shown in **Figure 5b.** It simply pulls free from the OEM rear shock top hat with some force.
- c) Install the OE top hat onto the CorkSport rear shock with the provided nut.
- d) Use an 18mm wrench to hold the shock and a 12mm wrench on the nut as shown in **Figure 5c.**

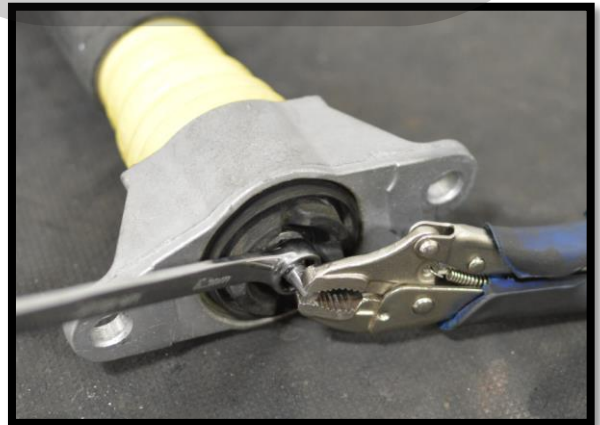


Figure 5a

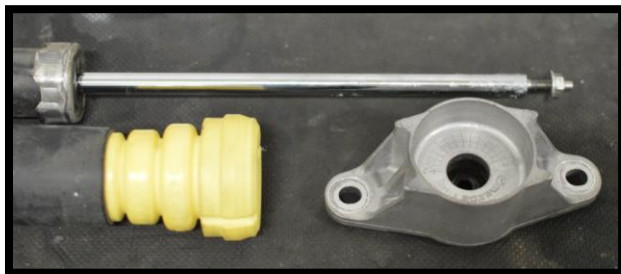


Figure 5b

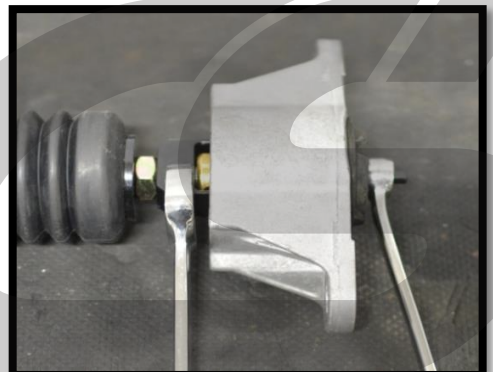


Figure 5c

DETAILED INSTRUCTIONS:

5. Installing the CorkSport Rear Shocks (cont.)

- e) Tighten the top nut until snug then adjust so the top hat orientation matches **Figure 5d**.
- f) **Torque the top hat nut to 9-12 ft.lbs**
- g) Insert the CorkSport shock into position and onto the top hat mounting studs and the lower shock mounting stud.
- h) Secure the top of the shock using the OEM 14mm nuts removed earlier. Tighten to **26-30ft-lbs**. Shown **circled in red** in **Figure 5e**.
- i) **MAZDA 6 OWNERS:** Install the lower shock mount washer and nut. Tighten this 21 mm nut to **96-115ft-lbs**. Then skip to Section 6. Shown installed in **Figure 5g**.
- j) **MAZDA 3 OWNERS:** Install the provided centering sleeve in between the CS shock and the lower shock mounting stud as shown partially installed in **Figure 5f**.
- k) **MAZDA 3 OWNERS:** Install the lower shock mount washer and nut. Tighten this 19mm nut to **62-73ft-lbs**. Shown installed in **Figure 5g**.
- l) Repeat steps 5a-5k for the other side of the vehicle.



Figure 5d



Figure 5e

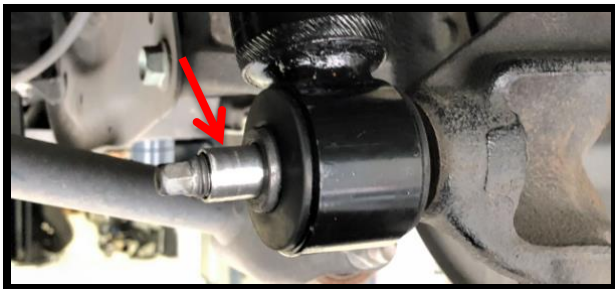


Figure 5f



Figure 5g

DETAILED INSTRUCTIONS:**6. Installing the CorkSport Rear Springs and Perches**

- a) **Begin by disassembling the rear spring perch.** The main perch will unscrew from the sandwich plates while the sandwich plates can be separated by removing the three socket head cap screws. See **Figure 6a** for final disassembly. Note the names in **Figure 6a**, these will be used to reference the correct parts later in the instructions.

**Figure 6a**

- b) **Remove the lower spring perch from the rear control arm.** It will easily lift out of the control arm.

- c) **Place the upper sandwich plate on top of the one of the rear control arms.** The "steps" will fit down into the hole in the control arm to center the sandwich plate. This orientation is shown in **Figure 6b**.

**Figure 6b**

- d) **Attach the lower sandwich plate to the bottom of the control arm.** Secure with the sandwich plate hardware. Tighten using a 5mm Allen wrench/socket to **12-15ft-lbs**. Shown completed in **Figure 6c**.

**Figure 6c**

DETAILED INSTRUCTIONS:

6. Installing the CorkSport Rear Springs and Perches (cont.)

- d) Thread the adjustable spring perch into the upper sandwich plate. This is shown in **Figure 6d**.
- e) Place the lower spring ring on top of the spring perch as shown in **Figure 6e**.
- f) Swap the OEM rubber upper spring seat onto the CorkSport spring. The upper portion of the CS spring is not ground flat. See **Figure 6f**.

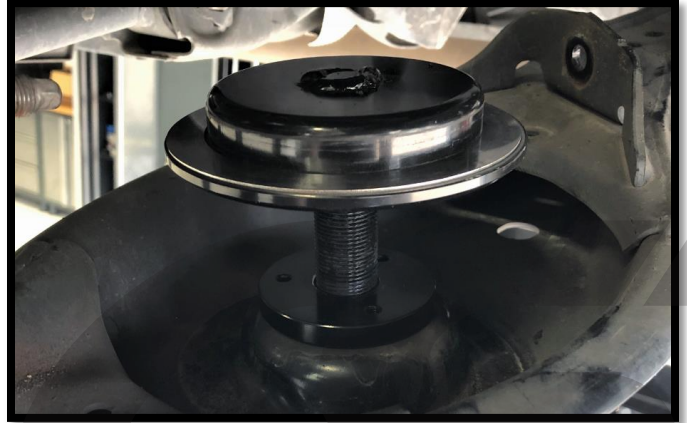


Figure 6d



Figure 6e



Figure 6f

DETAILED INSTRUCTIONS:**6. Installing the CorkSport Rear Springs and Perches (cont.)**

- g) Place the CS spring on the CS Spring perch. Align the top of the spring (with rubber seat) onto the OEM spring location. There is a protrusion from the chassis that keeps the spring in position. Shown in **Figure 6g**.
- h) Using a hydraulic jack, lift the rear control arm back into position and secure using the OEM 17mm bolt removed earlier. Tighten this bolt to **64-77ft-lbs** using a 17mm socket and ratchet. Shown completed in **Figure 6h**.

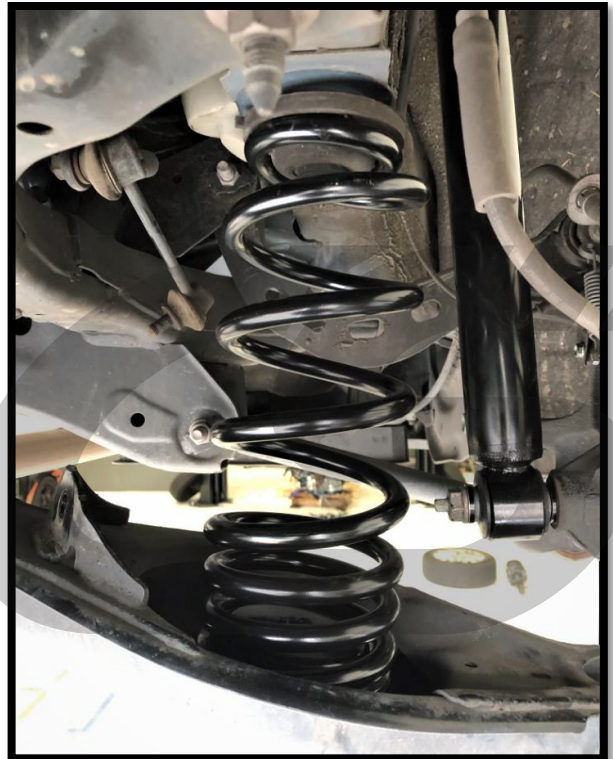
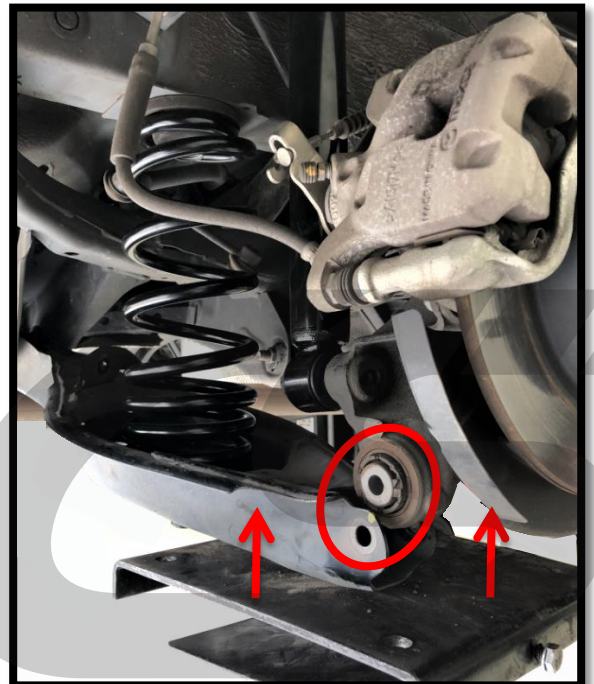


Realigning and securing the rear control arm is not easy, especially if you have not done it before. We recommend using a friend to slowly lift the control arm into position while you align and install the bolt. Be careful to not cross thread the 17mm bolt.

- i) Reinstall the swaybar endlink through the hole it was removed from in **Step 4b**. Secure with the OEM 14mm nut and tighten to **34-40ft-lbs**.
- j) Repeat steps 6a-6i on the other side of the vehicle.



Please note, the locking nut has not been attached to secure the height of the rear coilovers. Please see Section 7 for instructions on changing the ride height of the vehicle.

**Figure 6g****Figure 6h**

DETAILED INSTRUCTIONS:

7. Adjusting Ride Height on CorkSport Coilovers

- a) Starting with the front coilovers, begin by loosening the Allen bolt that locks the front lower spring perch. This can be loosened using a 5mm Allen wrench/socket. Bolt shown in **Figure 7a**.
- b) Rotate the lower spring perch upwards or downwards using a spanner wrench to set your desired height. Repeat as needed until desired height reached. Ensure both sides of the vehicle have the same ride height.
- c) Once happy with your front ride height, tighten the locking bolt to 12-15ft-lbs with a 5mm Allen wrench/socket.
- d) Moving to the rear of the vehicle, the height is adjusted by rotating the spring perch upwards or downwards. Rotate the spring perch using a 10mm Allen wrench/socket. The hole for the 10mm Allen is shown with red arrow in **Figure 7b**.
- e) The more thread is showing below the control arm, the lower your vehicle will sit. Adjust as needed until desired height is reached. Ensure both sides of the vehicle have the same ride height.
- f) Once happy with your rear ride height, attach the supplied locking nut to the bottom of the adjustable spring perch. Tighten against the bottom of the sandwich plate using a 32mm or 1 1/4" deep socket and ratchet or wrench. Locking nut shown with **blue arrow** in **Figure 7b**.

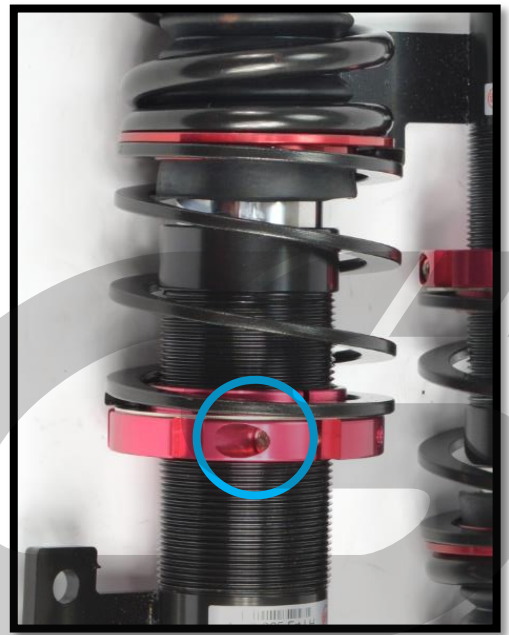


Figure 7a

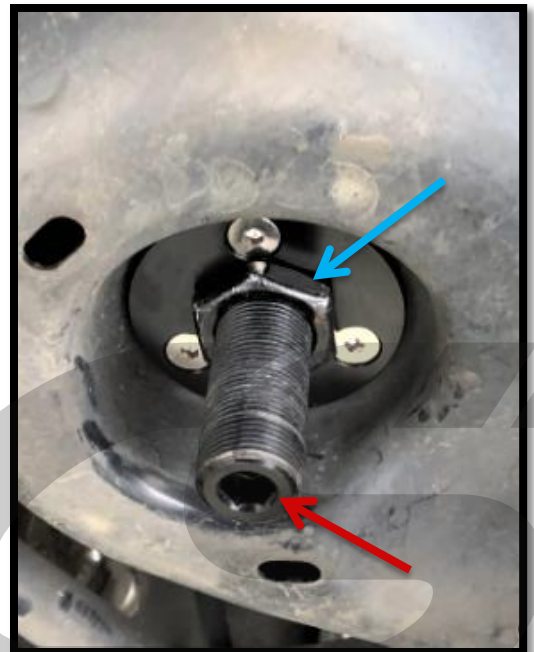


Figure 7b

DETAILED INSTRUCTIONS:

8. Adjusting Dampening on CorkSport Coilovers



Starting soft and moving up is typically the best way to determine what ride you prefer on your CS coilovers. Typically, 6-8 clicks from full soft is what most prefer in terms of ride and handling.

- a) The dampening adjuster for the front coilovers is located on the bottom of the coilover body. **Figure 8a** shows stiffer vs. softer settings on the CS front coilovers. You will feel the adjuster "click" at each different setting. We recommend going to the full soft direction, and establishing your base setup. Then driving the car, and adjusting both sides of the vehicle simultaneously until you are happy with ride.

- b) The dampening adjuster for the rear coilovers is located at the top of the shock body with the gold colored knob. **Figure 8b** shows stiffer vs. softer settings on the CS rear coilovers. Follow the same steps as the front of the car to set the dampening at the rear of the car.

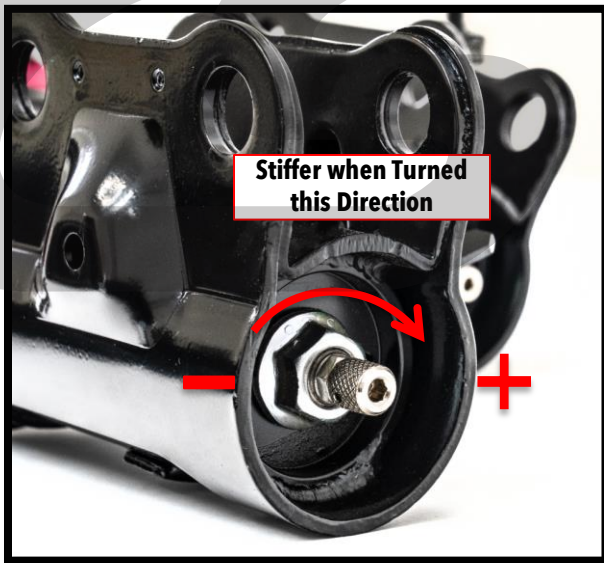


Figure 8a



Figure 8b

DETAILED INSTRUCTIONS:

9. Adjusting Front Camber on CorkSport Coilovers

NOTE For easy camber adjustment, ensure the front of the vehicle lifted and supported correctly by jack stands.

- a) To adjust front camber, start by loosening the four socket head bolts at the top of the camber plate. These can be loosened using a 4mm Allen wrench/socket. Bolts shown in **Figure 9a**.

NOTE These bolts do not need to be removed unless you plan on maxing out the camber adjustment. If this is the case, see **Figure 9a** for our recommended bolt placement. Only remove and replace two bolts at a time to ensure the camber plate does not become misaligned.

- b) Slide the top of the coilover forward or backward to adjust your camber. The top of the coilover toward the center of the car allows for more negative camber, while the towards the outside of the car allows for more positive camber. **Figure 9a** shows approximate camber readings. These are not exact numbers as your car will have more negative camber the lower it is. Once happy with your camber setting, tighten the four Allen bolts to **12-15ft-lbs**.

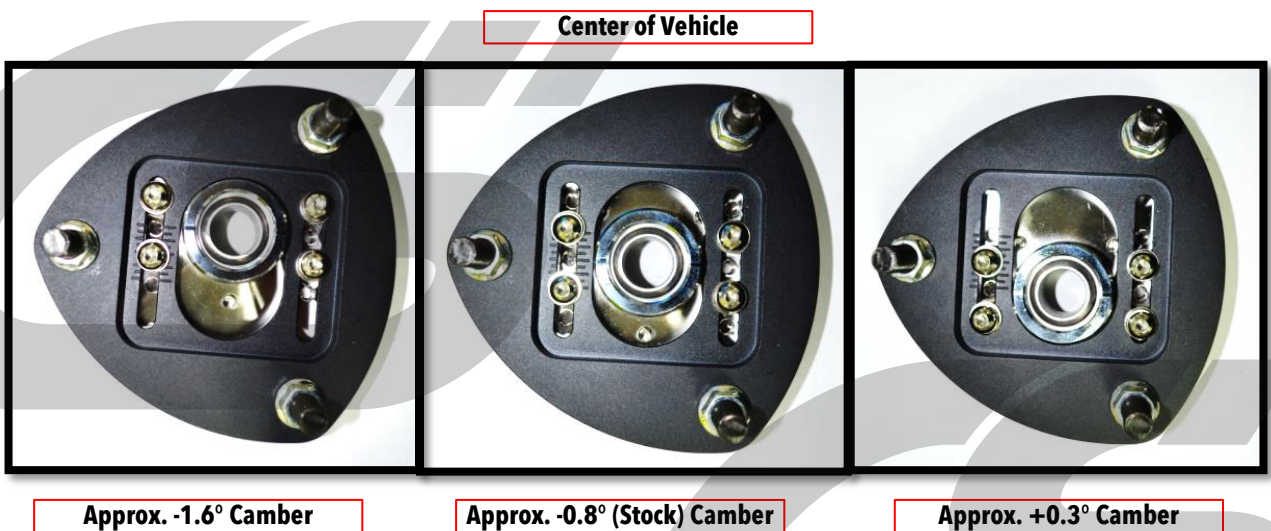


Figure 9a



This completes the installation of your CorkSport Coilovers. Listen for any strange noises during the first few drives. We also recommend a professional alignment performed after installation. Enjoy the improved handling and stylish new look!

WHAT'S NEXT?

CorkSport 80mm Exhaust

Wake up your 2014-2018 Mazda 3 with the CorkSport 80mm Cat Back Exhaust. The next step up in volume from the existing 60.5mm CorkSport exhaust; the 80mm variant offers a great sounding, loud exhaust that doesn't ruin the daily drivability of the MZ3. More power, better looks, and a sound that changes a boring daily driver into a fun backroads car all come in an easy to install package. Plus, the large diameter piping future-proofs your ride for upcoming CorkSport parts!



CorkSport Adjustable Rear Swaybar

Remove the tendency to overpower the front tires under hard cornering and minimize traction robbing body lean with the CorkSport Mazda 3 Rear Adjustable Sway Bar. Compressing inside suspension, the CorkSport Mazda3 Rear Sway Bar effectively increases the spring rate on side of the suspension which is compressed most and its adjustability allows you to fine tune the handling. Each Mazda 3 swaybar includes machined 6061-T6 aluminum swaybar brackets which are more durable than the stamped steel design common with other swaybars and look sharp with an anodized black finish.

CorkSport Big Brake Kit

At just over 7lbs, the aluminum CorkSport Mazda Big Brake Kit shaves almost 7lbs of unsprung weight off of each corner of your Mazda, all while adding more stopping power and a much better pedal feel. Crafted from lightweight billet aluminum, the CorkSport calipers use an opposed piston design that is fixed to provide greatly improved pad wear and caliper rigidity compared to the OEM design. Available in 3 anodized colors, this brake system includes everything you need to easily upgrade your stock braking system and includes high strength steel brackets, calipers, stainless steel braided front brake lines, brake pads, all necessary hardware, and one-piece 325mm rotors. Just install and go, no searching for extra parts or ordering additional items.

