

CorkSport Lowering Springs

2016+ Cx3



Thank you for purchasing the CorkSport Lowering Springs. It is time to get rid of the excessive wheel gap on your Cx3 and CorkSport provides the solution for you. You get the best of both worlds with the better looks and center of gravity for improved handling and the OEM ride quality.

Please let us know what you think about these lowering spring by leaving a review here:

<http://corksport.com/cx3-lowering-springs.html>

Pre-Installation Notes:



Make sure your vehicle is on a level surface and supported by jack stands (not a hydraulic jack) prior to starting installation. Refer to service manual for lifting and jack stand locations.



These instructions were written for reference only and the use of a factory service manual is recommended. Please read these instructions thoroughly prior to starting installation



These installation instructions were written using a 2016 Cx3 AWD. Other models will be similar.



Alignment Check: It is recommended to have a professional alignment performed on the vehicle after any suspension changes are performed. This will help the vehicle maintain peak driving performance and increase the lifespan of the tires.

Materials and Time:



General Info.

Part #: CX3-3-288-10

Time Est: 3 hours

Wrench Rating: 3/5



Tooling List

14mm Wrench
17mm Wrench
19mm Wrench
10mm Socket
12mm Socket
14mm Socket
17mm Socket ½" Drive



Parts List

Two (2) Front Springs
Two (2) Rear Springs

5mm Allen Wrench
6mm Allen Wrench
3/8" Drive Ratchet
1/2" Drive Ratchet
Flat Head Screwdriver
Spring Compressor
Razor Knife
Jack Stands

Need Help With Your Installation?

Call (360) 260-CORK



Order of Operations & Table of Contents



It is recommended to complete the front or back first before starting the other end of the vehicle to reduce the chance of mixing front and rear suspension components.

Front Springs:



Disassembly

Section 1: Front Strut Removal
Section 2: Front Strut Disassembly

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Assembly

Section 3: Front Strut Assembly
Section 4: Front Strut Installation

Pg. 5
Pg. 6

Rear Springs:



Disassembly

Section 5: Rear Spring Removal
Section 6: Rear Damper Setup

Pg. 6-7
Pg. 8



Assembly

Section 7: Rear Spring Installation

Pg. 9-10

Spring Identification



Detailed Instructions

1. Front Strut Removal

- a) Use a hydraulic jack to raise the vehicle then place it on appropriate jack stands. Please reference the factory service manual for jacking locations.
- b) Remove all four wheels/tires using a 21mm socket.
- c) Remove the 14mm/5mm Allen nut holding the front sway bar end link, then remove end link from the strut body. **Red circle in Figure 1a.**
- d) Remove the ABS sensor wire. Pull the ABS wire from the metal bracket then open the plastic clip. **Blue circles in Figure 1a.**
- e) Remove the brake line from the strut. Use a flathead screwdriver to remove the brake line clip. **Blue circles in Figure 1b & 1c.**

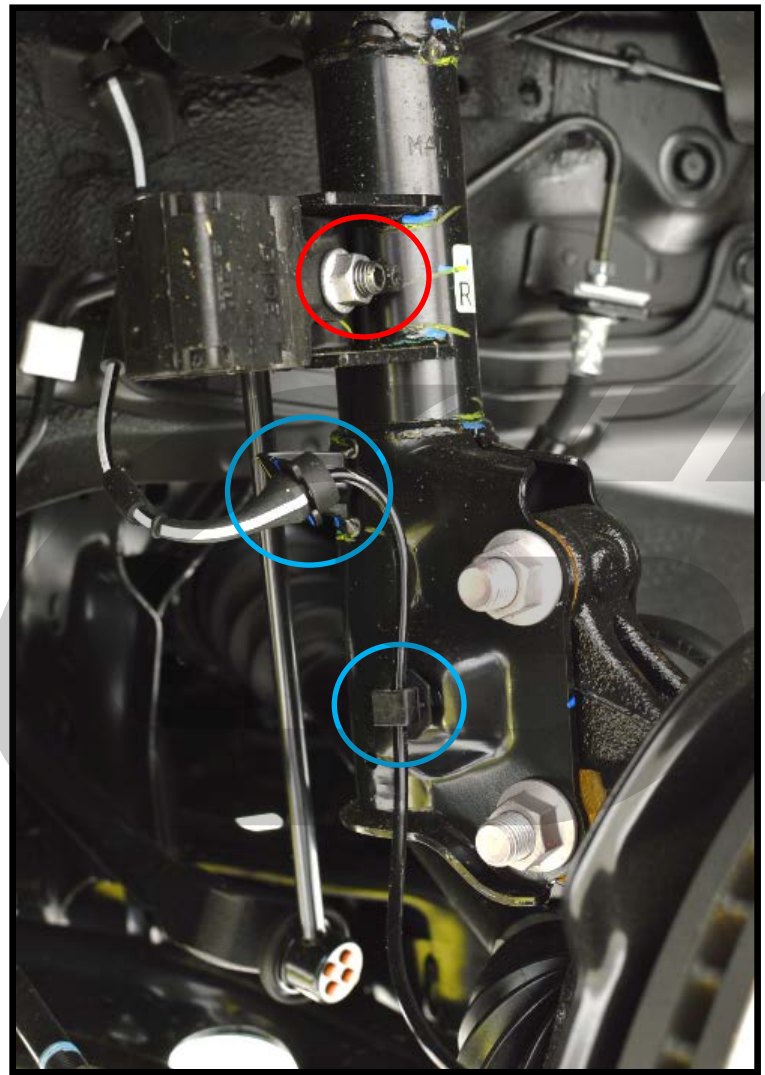


Figure 1a

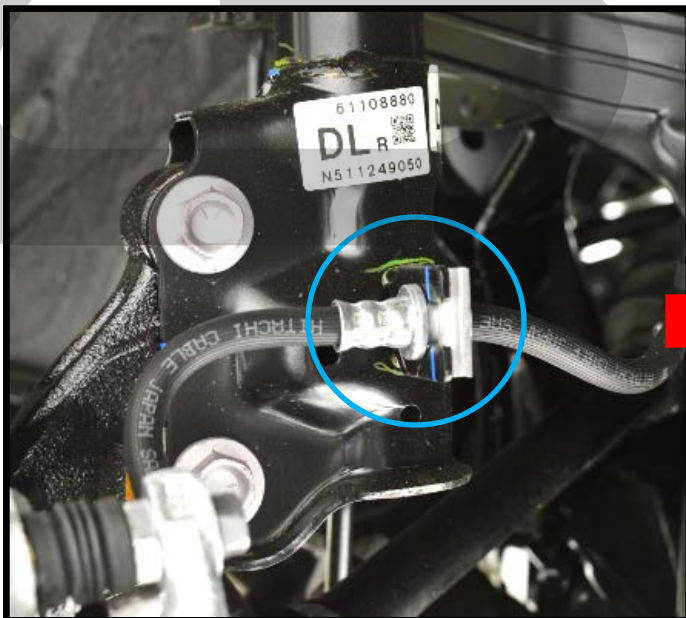


Figure 1b

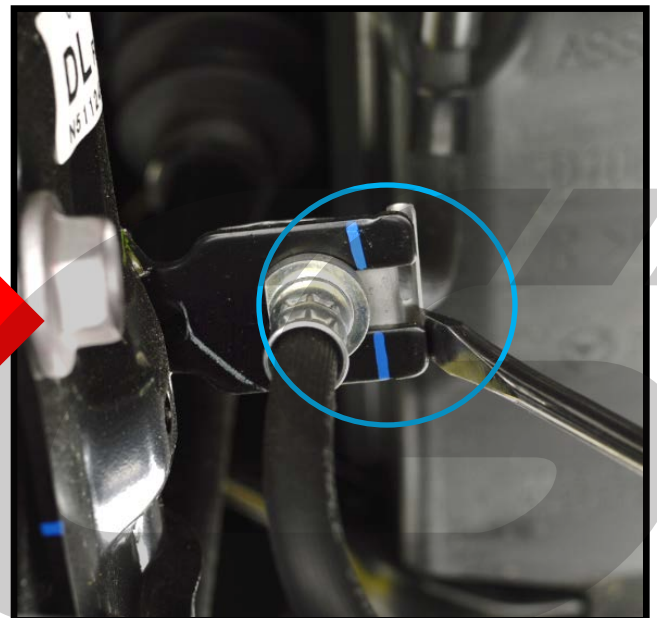


Figure 1c

Detailed Instructions

1. Front Strut Removal (continued)

- d) Remove the strut to upright bolts. Use a 17mm and 19mm to loosen and remove the two bolts. **Blue circles in Figure 1c.**
- e) With the bolts removed the lower suspension components will slide out of the strut. Let them hang in place. If needed use a large flathead screwdriver to pry the upright out of the strut. **Shown in Figure 1e.**
- f) Loosen, but do not remove, the three 14mm nuts holding the strut top. **Red circles in Figure 1f.**
- g) While holding the strut body through the wheel well, remove the three 14mm nuts, then remove the strut from the vehicle.

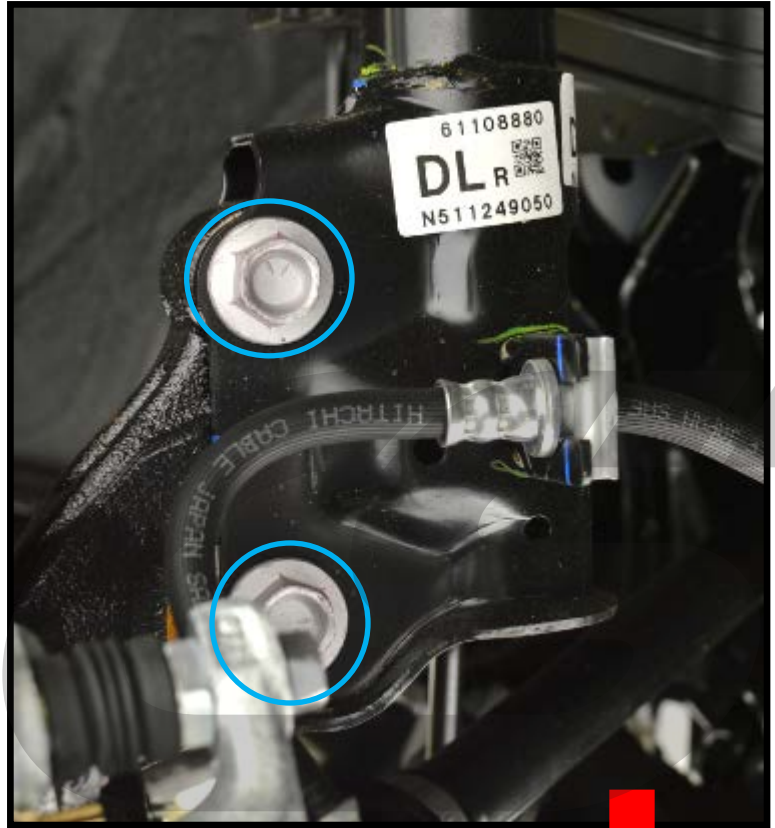


Figure 1d

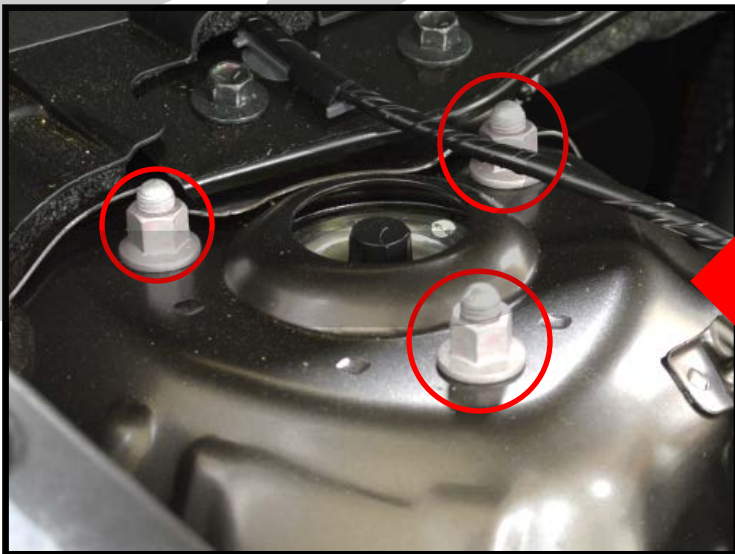


Figure 1f

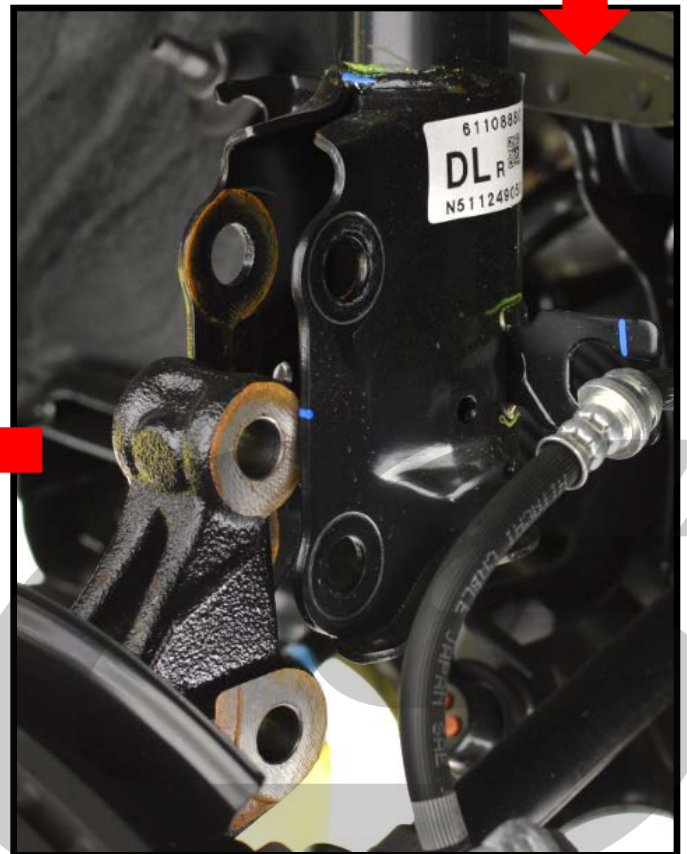


Figure 1e

Detailed Instructions

2. Front Strut Disassembly



The use of a spring compressor is recommend to compress the spring before removing the strut top. Failure to do so will result in the strut top shooting off the spring in a potentially dangerous manner. Please refer to the spring compressor instructions for proper use.

- a) **Remove the 14mm nut holding the strut top hat.** Use the 6mm allen wrench to keep the shaft from rotating. **Red circle in Figure 2a.**

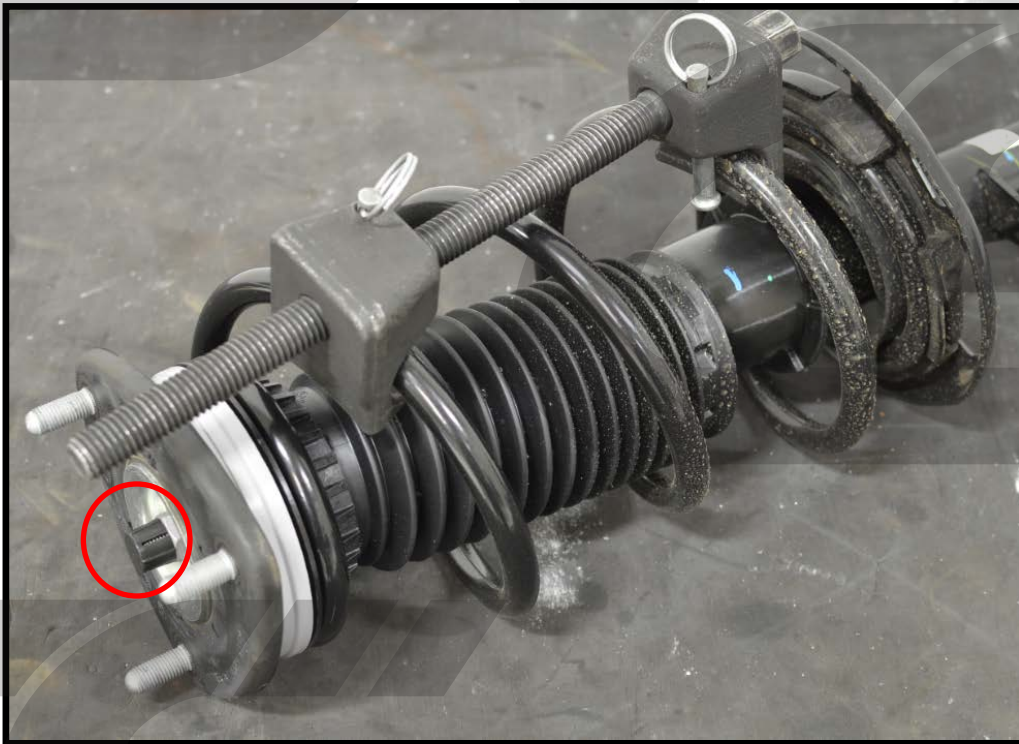


Figure 2a

- b) **Disassembled strut shown in Figure 2b.**



Figure 2b

Detailed Instructions

3. Front Strut Assembly

- a) **Trim bump stop height.** Using a new razor blade, cut the bump stop along the **red line shown in Figure 3a**. The remaining portion on the right side of the image is used.
- b) **Locate the front springs.** The front springs are overall taller and have a larger diameter than the rear springs.
- c) **Install the cut bump stop onto the strut shaft.** Install the strut shaft boot over the bump stop.
- d) **Install the top hat onto the new CorkSport front spring.** The top hat should fit semi-loose in the top coil. If not then the spring is upside down. (The bottom coil will let the top hat nearly fall through) **Shown in Figure 3b**.
- e) **Install the spring and top hat onto the strut.** Align the bottom coil in the strut spring perch as **shown in Figure 3c**.
- f) **Compress the spring and align the shaft through the top hat.** Install the 17mm nut while using the 6mm allen wrench to hold the shaft from rotating. **Torque to 45-50 ft-lbf**

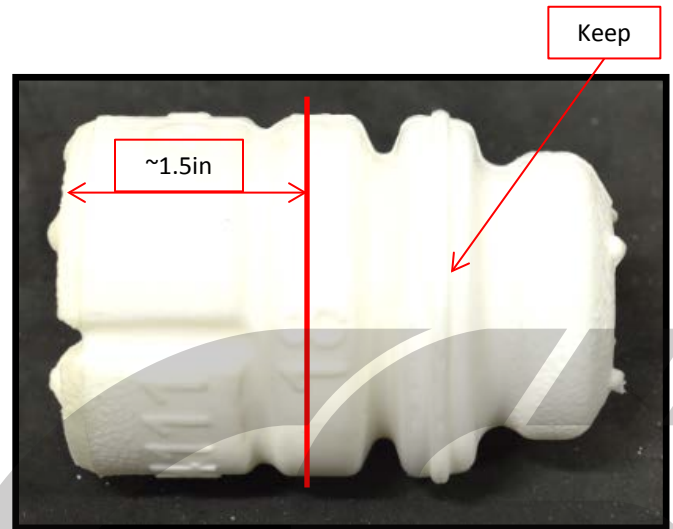


Figure 3a



Figure 3b



Figure 3c

Part # CX3-3-288-10

Detailed Instructions

4. Front Strut Installation

- a) Following the steps 1a through 1g in reverse order, re-install the front strut into the vehicle.
- b) 14mm Top Hat Nuts. Torque to 28-32 ft-lbf.
- c) 17mm/19mm Strut to Upright Bolts. Torque to 70-75 ft-lbf.
- d) 14mm/5mm Allen Front Swaybar Endlink. Torque to 23-26 ft-lbf.
- e) Complete steps 1 – 4 for driver's side front strut to complete the front suspension.

5. Rear Spring Removal

- a) Remove the brake line clips from both the passenger and driver sides. Red circle in Figure 5a.
- b) Disconnect the headlight leveling arm on the passenger side. Use two 10mm wrenches or a socket and wrench to remove. Red Circle in Figure 5b.



Figure 5b

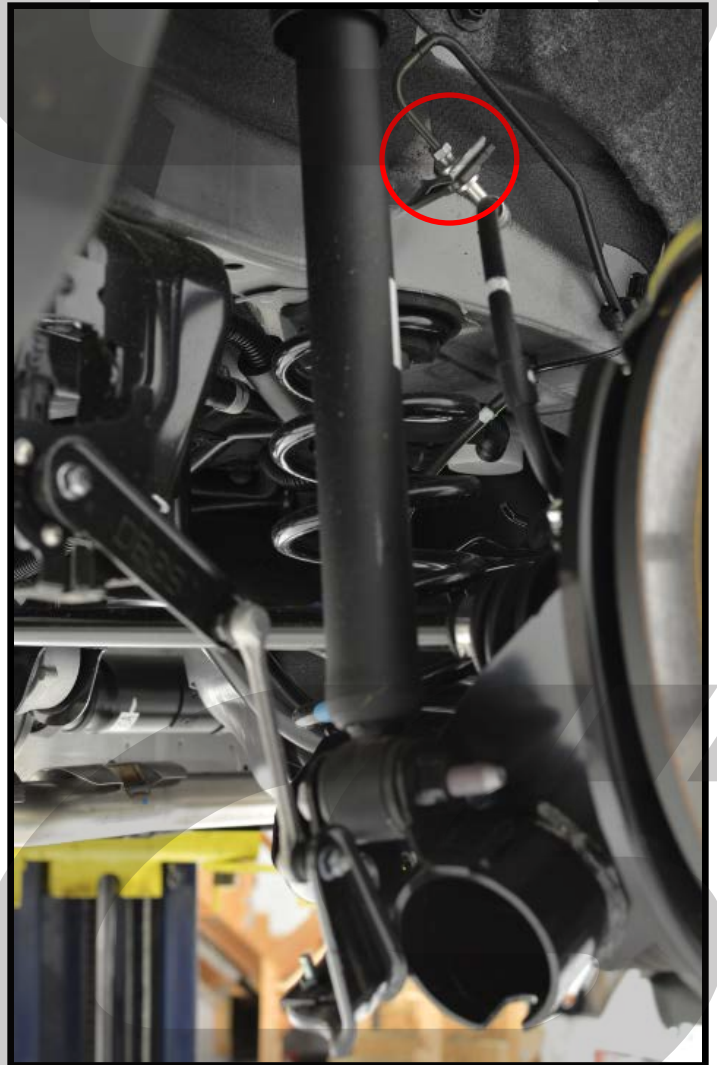


Figure 5a

5. Rear Spring Removal (continued)

- c) Support the end of the passenger side lower control arm with a hydraulic jack then raise the control arm ~1 inch.
- d) Remove the 17mm bolt from the control arm. Red circle in Figure 5c.
- e) Remove the two 14mm nuts holding the rear damper top. Red circles in Figure 5d. Remove the damper from the vehicle.
- f) Lower the hydraulic jack then move to the driver's side of the vehicle and repeat steps 5c – 5e to remove the driver side damper.

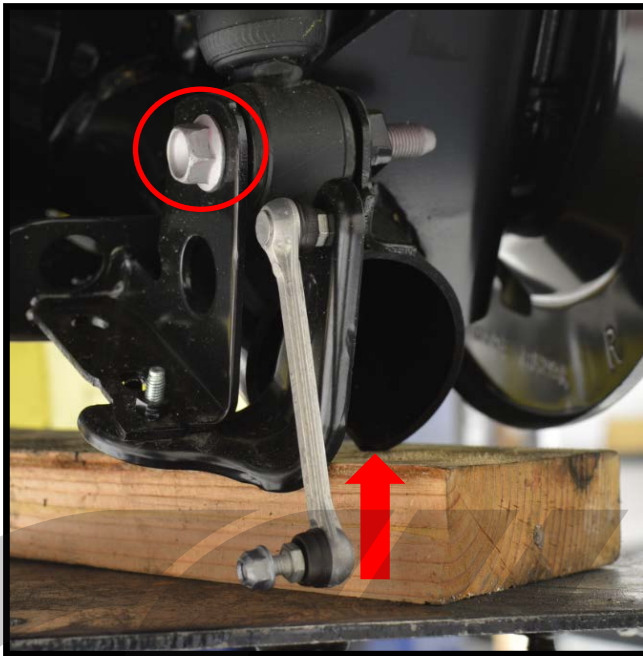


Figure 5c

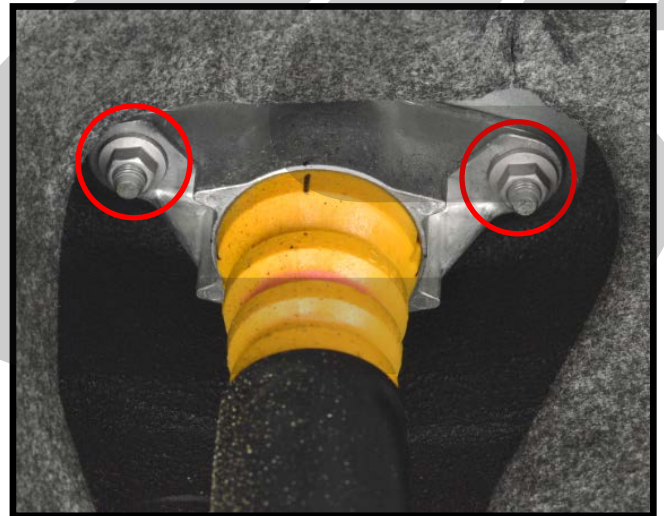


Figure 5d

- g) With the hydraulic jack still supporting the driver side lower control arm; slowly lower the control arm to relieve seat pressure on the springs. A small gap at the top of the spring is enough.



Lower the control arm only enough to remove the springs. Watch the tension on the brake lines as you lower the control arm. Some tension is ok, but not a lot. Pulling the brake line loose from the bracket it sits in will help.

- h) Rotate the spring counter-clockwise to “unscrew” the spring from the seat position, then pull the bottom of the spring loose and remove from the vehicle. Repeat for the passenger side.



Figure 5e

6. Rear Damper Setup

- a) **Disassemble the rear strut.** Using a 12mm wrench and vise grips, remove the top hat, bump stop, and dust cover from the strut. **Shown in Figures 6a & 6b.**
- b) **Remove the dust cover from the bump stop.** Bend and pull the bump stop out of the dust cover similar to breaking an ear of corn in half. You will not tear the bump stop, it is very durable.

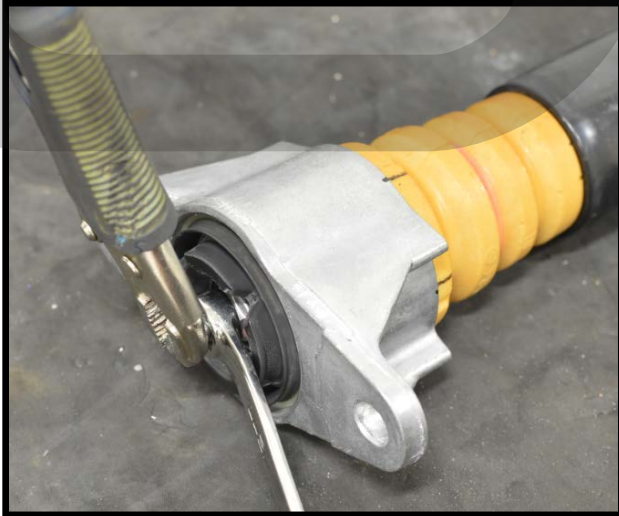


Figure 6a

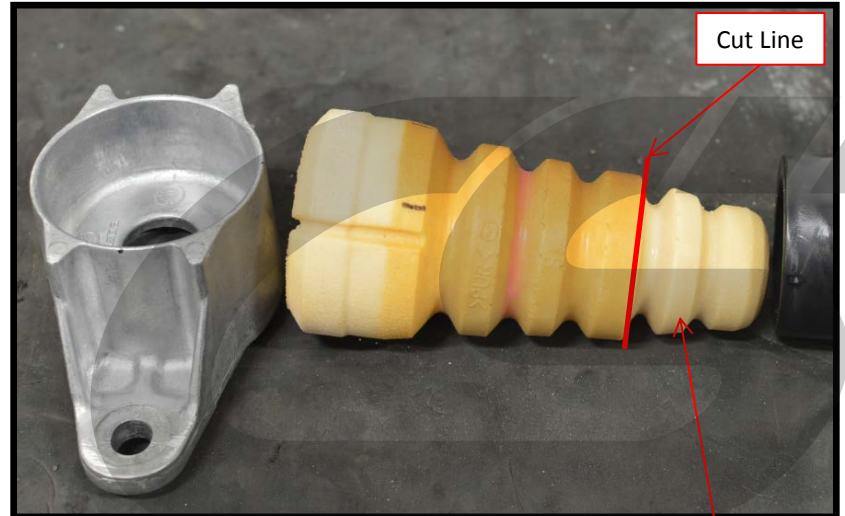


Figure 6b

- c) **Removing the bump stop from the top hat is not necessary, but is helpful.**
- d) **Using a new razor blade, cut the bump stop at the red line in Figure 6b.**
- e) **Trim the diameter** of the now smallest bump stop rib to match that of the rib you just cut off.
- f) **Cut the trough deeper** just above the rib you trimmed smaller.
- g) **Re-install the dust cover just over the trimmed rib.**
- h) **Re-assemble the damper and tighten the 12mm nut.**
- i) **Repeat above steps for other rear damper**

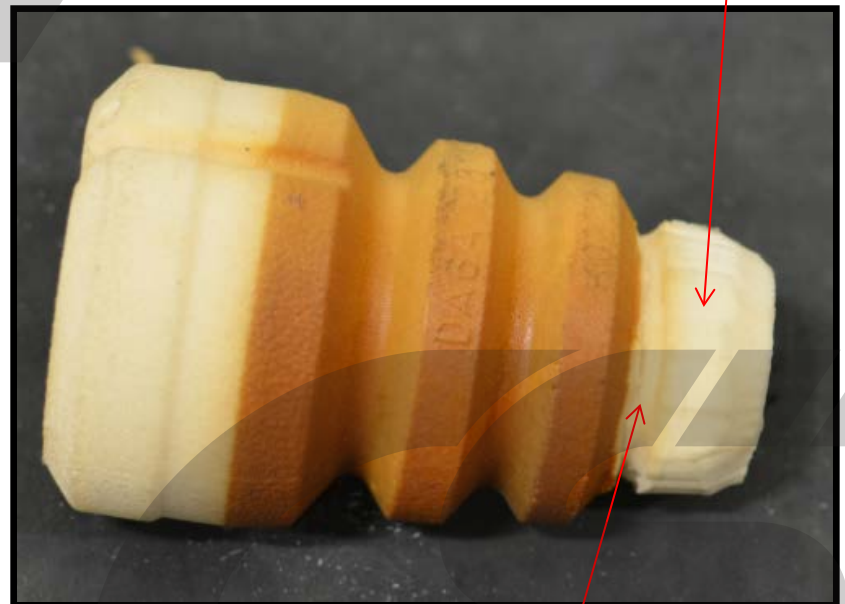


Figure 6c

7. Rear Spring Installation

- a) Cut off the alignment peg on the OEM spring isolator. Shown in Figure 7a.
- b) Install the isolator onto the CorkSport rear spring. The isolator should fit tight and secure, if not try the other end of the spring.
- c) Install the spring into the driver's side suspension. Align the top of the spring w/isolator onto the frame protrusion then mount the bottom of the spring onto the perch. Shown in Figure 7b.
- d) Rotate the spring clockwise until the spring locks into place and/or aligns with the spring perch as shown in Figure 7c.
- e) Figure 7c: The red dot shows the end of the coil that should butt against the spring perch edge shown with the red line.
- f) Complete for the passenger side next.

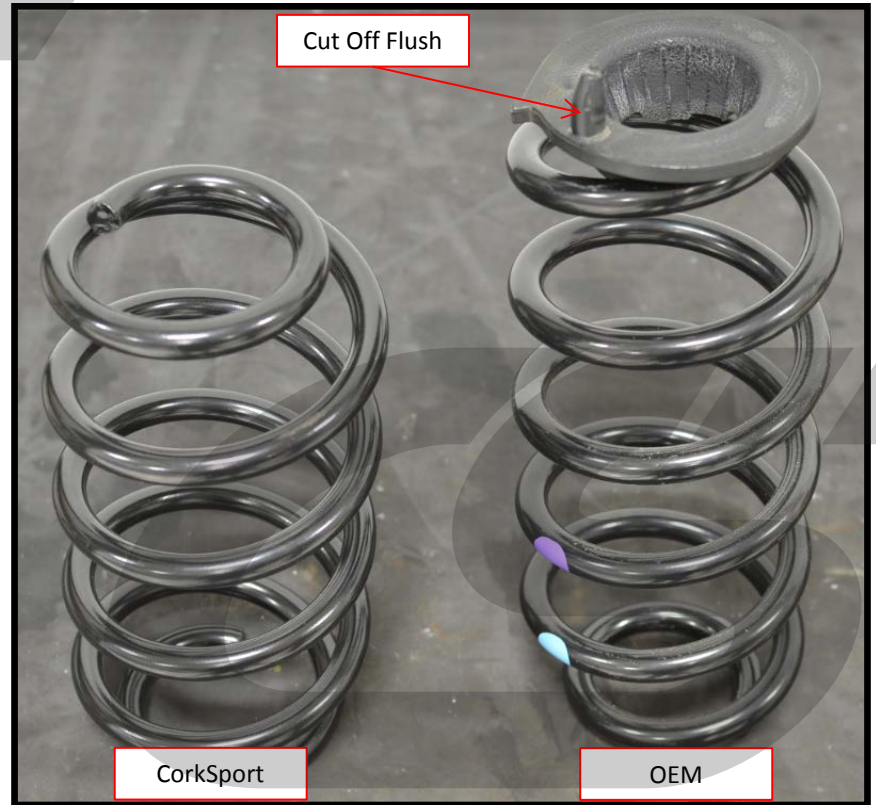


Figure 7a



Figure 7c

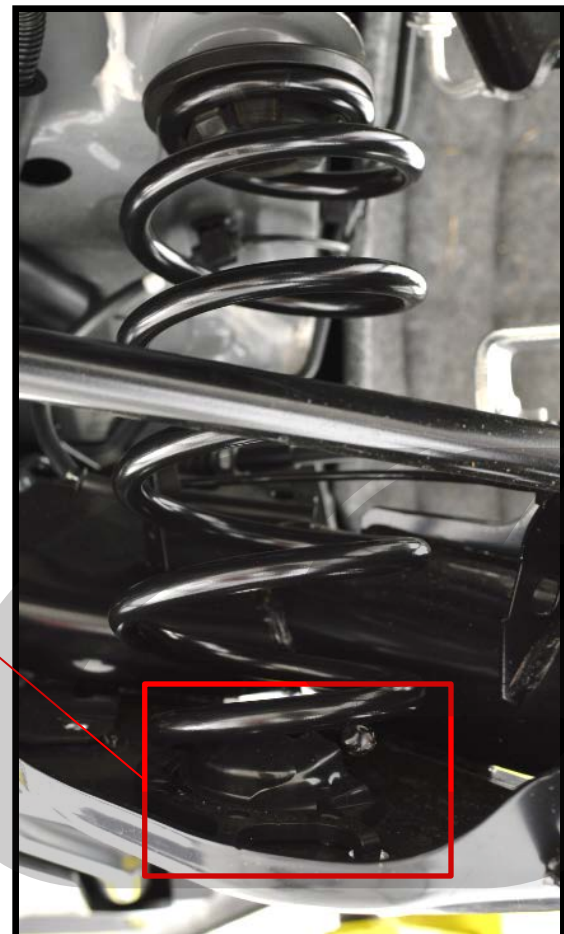


Figure 7b

7. Rear Spring Installation (continued)

- g) Install the driver's side rear damper. Install the top into the vehicle. **Torque the 14mm nuts to 28 – 32 ft-lbf.**
- h) Raise the driver's side control arm up until the 17mm bolt for the damper can be installed. **Torque to 45 – 50 ft-lbf.**
- i) Move the hydraulic jack to the passenger side. Repeat steps 7g & 7h.
- j) Reconnect the headlight level arm.
- k) Reinstall the brake line clips for both passenger and driver sides.
- l) Re-install the wheels/tires to OEM or wheel manufacturer's torque specs.



This completes the installation of your lowering springs. Your vehicle will settle slightly over the next few days to achieve the final ride height. **CorkSport recommends a wheel/tire alignment check once installation is complete. Failure to do so could result in premature tire wear.** If spring noise is heard after driving, recheck that the springs are seated fully against the spring locks.

What's Next:

CORKSPORT 2016+ Mazda CX-3 SkyActiv Power Series Short Ram Intake 2.0



One of the easiest and most beneficial performance enhancements you can do for your vehicle, the CorkSport Power Series Short Ram Intake replaces your factory airbox with an open intake system allowing more air into the intake chamber. Engineered with exacting tolerances, the CorkSport SkyActiv Short Ram Intake includes our precision machined MAF housing made from billet aluminum, a durable dry flow air filter and custom reinforced silicone connector.