

CorkSport Mazdaspeed 3 Lowering Springs

2007-2013 Mazdaspeed 3

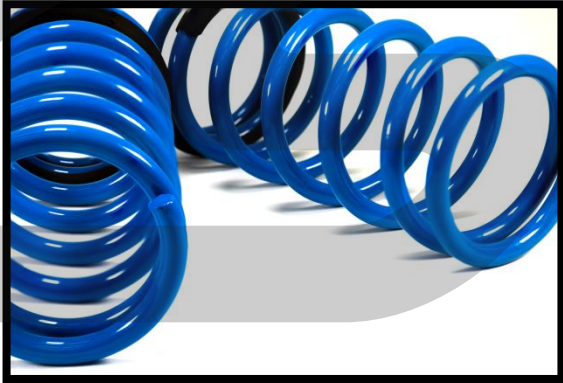


This Package should contain:

- 1. Two (2) Front Springs**
- 2. Two (2) Rear Springs**

CorkSport Mazdaspeed 3 Lowering Springs

2007-2013 Mazdaspeed 3



Thank you for purchasing the CorkSport Mazdaspeed 3 Lowering Springs. The CS lowering springs have been extensively tested to ensure optimal characteristics. Lowering your car ~1.1" front and ~1.2" rear compared to the stock springs provides you with improved handling and appearance without compromising ride quality.

Please let us know your feedback by submitting a review at: <http://www.corksport.com/corksport-mazdaspeed-3-lowering-spring-set.html>

Pre-Installation Notes:



You will be removing the suspension of your vehicle. If you are not comfortable with this or do not have the proper tools, please do not proceed.



Thoroughly read the precautions and instructions that come with your Floor Jack and Jack Stands as well as your vehicle's owners manual for appropriate jacking methods and jacking/support points. Always double up support on a vehicle – Jack Stands and Floor Jack etc.



When under your car, you should always wear mechanics gloves or other form of hand protection as well as ANSI Approved Safety Glasses



How our instructions work: To best cover all of our customers experience levels, we have included an overview checklist for the more technically advanced users along with step-by-step instructions for customers that require additional detail.



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

Materials and Time:



Tooling List

- Lift or Floor Jack & Jackstands
- Transmission Jack or Floor Jack
- 3/8" or 1/2" Drive Ratchet or Airgun
- Pliers & Locking Pliers
- 12mm Long Socket & Wrench
- 14mm Long Socket & Wrench
- 17mm Long Socket & Wrench
- 21mm Socket
- Penetrating Fluid
- Hammer, Mallet (2lb or Similar)
- Torque Wrench
- Spring Compressor (rent or buy)
- 6mm Allen Wrench
- Flat Head Screwdriver
- Prybar
- Razor Knife



Parts List

- 2x CS Front Lowering Springs
- 2x CS Rear Lowering Springs



General Info.

Part #: AXL-3-289-10
Time Est: 3 Hours
Wrench Rating: 3/5


Need Help With Your Installation?

Call (360) 260-CORK

Detailed Instructions

1. Support the Car on Floor Jack/Jackstands or Lift

Use a floor jack and jackstands to gain access to the underside of the vehicle

 Always refer to the floor jack and jackstand manufacturers instructions as well as the factory owners manual for your vehicle to determine jacking points and support points. Alternately, use an automotive lift to gain access to the underside of the vehicle. Redundant support mechanisms are recommended.

2. Install the Front CorkSport Lowering Springs

- a) 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 2A** to the right.
- b) Start with the passenger side of the vehicle and remove the one (1) 14mm nut (shown in **Figure 2B** by the **green up arrow**) holding the front end link to the factory strut using a 14 mm wrench.
- c) Free the brake line using pliers to remove the shim from the brake line mount (shown by the red arrow in **Figure 2C**.)
- d) Remove the one (1) 17mm lower strut bolt using a 17mm socket and ratchet (shown in **Figure 2D** by the **red arrow**).
- e) Spray penetrating fluid on the suspension upright knuckle as shown in **Figure 2E** by the **red circle**.
- f) Using the 2lb mallet (or similar) carefully, but forcefully pound the knuckle until it comes free from the shock upright. You will need to be patient as the knuckle will need to slide down roughly 2-3" before it releases from the shock. Your suspension should now look like **Figure 2F**.



Figure 2A

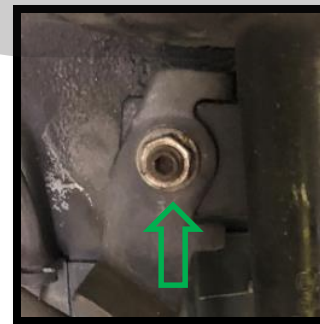


Figure 2B

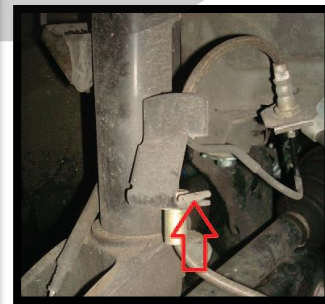


Figure 2C



Figure 2D



Figure 2E



Figure 2F



Please check our knowledgebase online for additional video on how to complete this step

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2. Install the Front CorkSport Lowering Springs (continued)

- g) Remove the three (3) 14mm bolts holding the strut to the strut tower (shown by the red circles in Figure 2G)



Be sure to only use a ratcheting wrench or end wrench, or you could shear off the bolt head. Also, be sure to brace the strut as the last bolt is removed or it will fall.

- h) Remove the strut assembly from the vehicle
- i) Using spring compressors, compress the OEM spring (evenly on both sides) until it is no longer tight against the upper mount as shown in Figure 2H

- j) Remove the one (1) 17mm nut (shown in the red arrow in Figure 2I) holding the upper strut mount to the strut (if the stud spins, you will need to use a 6mm Allen wrench to hold the stud in place)

- k) Remove the upper strut mount and boot as one unit (see the video guide on our knowledgebase if you have trouble or need additional assistance). The aim is to free the boot from the yellow part of the strut. Once that is complete, the assembly will come out together. (shown in Figures 2J & 2K).

- l) Remove the dust boot from the upper strut mount using a flathead screwdriver.

- m) Remove the gray bump stop from the upper strut mount. Shown removed in Figure 2L. A flathead screwdriver may be required to pop the bump stop out of position.

- n) Using a razor knife, cut the bottom "bulb" off of the bump stop. Cut line shown with dotted red line in Figure 2L. After cutting, the bump stop should look like Figure 2M.

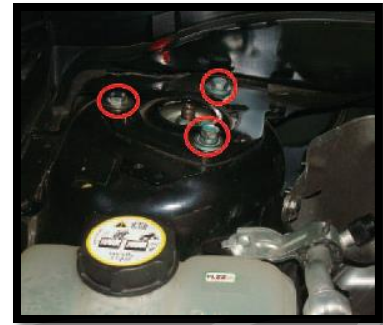


Figure 2G



Figure 2H



Figure 2I



Figure 2J



Figure 2L



Figure 2M

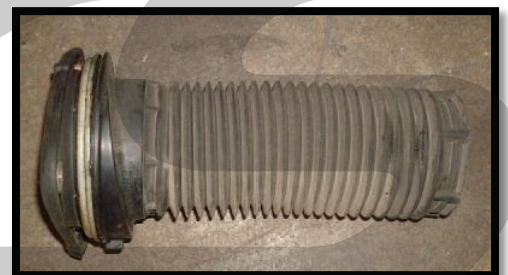


Figure 2K

2. Install the Front CorkSport Lowering Springs (continued)

- o) Install the larger portion of the cut bump stop back into the upper strut mount. It will pop into place with a little force.
- p) Reinstall the dust boot onto the upper strut mount. It will fit tightly within a groove on the upper strut mount. Show installed in [Figure 2N](#).



Figure 2N



The images of installation show early prototype springs that are black in color. Your springs will be powdercoated blue.

- q) Set the new CorkSport Front Lowering Spring onto the strut. The bottom of the spring is the larger end as shown in [Figure 2O](#). Rotate the spring until the end of the spring sits against the metal stop on the strut. Shown in [Figure 2P](#).

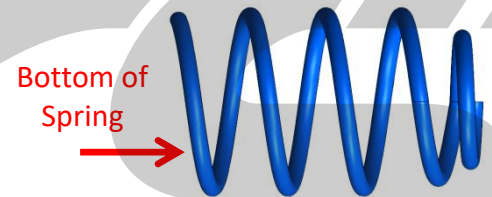


Figure 2O



Figure 2P

- r) Insert the upper mount & boot assembly. You should not need spring compressors for the CS springs, but if needed, transfer the spring compressors to the new spring (shown in [Figure 2Q](#)).
- s) Line up the upper strut mount tabs with the lowest bracket on the strut. Double check that the bottom of the spring (biggest coil) is seated fully in its perch. Tighten the spring compressors (if installed)
- t) Reinstall the 17mm upper strut nut as shown in [Figure 2I](#). Tighten to 45-55ft-lbs.



Figure 2Q

2. Install the Front CorkSport Lowering Springs (continued)

- u) Remove the spring compressors (if installed) and pull the boot over the yellow shaft. The strut assembly is now ready to reinstall).
- v) Reinstall the strut and hand tighten the three (3) 14mm strut mount bolts (Figure 2G). Using a torque wrench and 14mm socket, tighten bolts to 30 ft lbs.
- w) Generously lubricate the strut and knuckle with lithium grease as shown in **Figure 2R** to the right.
- x) Line up the strut and knuckle by hand as best you can. Then install the wheel into the hub and hand tighten two (2) lug nuts onto the wheel studs (opposing studs).
- y) Verify that the strut and knuckle are lined up. Lower the car slowly until the strut slides back into the knuckle. You should hear a popping sound when the strut fully seats into the knuckle.



Figure 2R



This process can be rather difficult if you have not done it before. Take your time and make sure the two parts are lined up correctly. If it does not work on your first try, raise the vehicle, ensure that the strut and knuckle are lined up, and lower the vehicle until you have successfully seated the strut into the knuckle.

- z) Install the 17mm bolt and nut to secure the knuckle to the strut (Figure 2D). Tighten to 45ft. lbs.



The bolt will not install unless the strut is properly inserted into the knuckle

- aa) Re-secure the brake line using the shim as shown in Figure 2C (bump side up)
- bb) Attach the end link and reinstall the 14mm nut (shown in Figure 2B). Tighten to 25 ft lbs.
- cc) Reinstall the wheel and lug nuts. Tighten lug nuts to factory specs (vary based upon wheels). Typical is 85ft-lbs.
- dd) Repeat steps 2a-2cc for the driver's side lowering spring

3. Install the Rear CorkSport Lowering Springs


- a) Remove the passenger's side rear wheel from the vehicle using the same method as you did for the front wheels
- b) Remove the 14mm nut that holds the endlink to the control arm (see **Figure 3A**) using a 14mm socket and ratchet. Repeat for the other side of the vehicle.



Figure 3A

3. Install the Rear Lowering Springs (continued)

c) Swing your rear swaybar downward/forward to free the endlinks from the control arms.

 If you have an OEM swaybar or your swaybar does not easily rotate, you will need to remove the swaybar completely. Do this by removing the four 14mm bolts circled in blue in [Figure 3B](#).

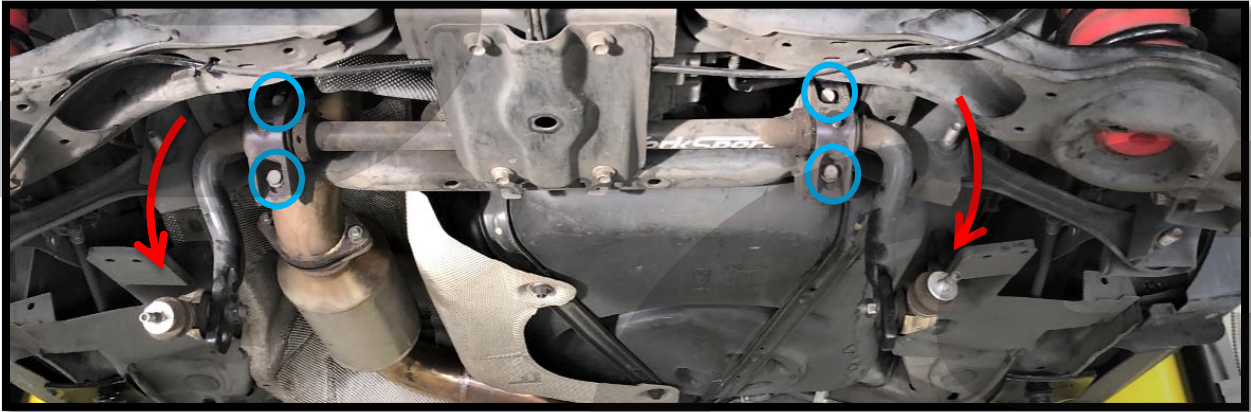


Figure 3B

- d) Use a jack to apply some upward pressure on the bottom of the control arm. See [blue arrow](#) in [Figure 3C](#).
- e) Remove the 17mm bolt that holds the knuckle to the control arm (see [Figure 3C](#)) using a 17mm socket and ratchet.
- f) Lower the jack to free the control arm from the knuckle as shown in [Figure 3D](#).
- g) Remove the factory spring from the vehicle
- h) Remove the lower shock mounting bolt using a 17mm socket and ratchet. Shown in [Figure 3E](#).
- i) Trace the shock upwards into the fender. Remove the two 14mm upper shock mounting bolts. Shown in [Figure 3F](#). Then remove the shock from the vehicle.

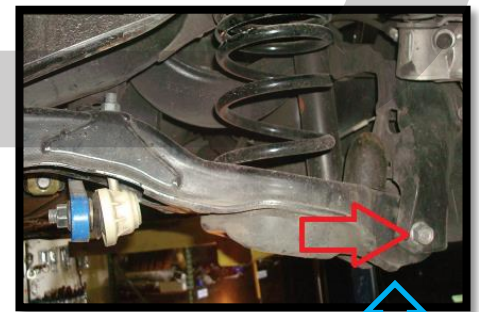


Figure 3C

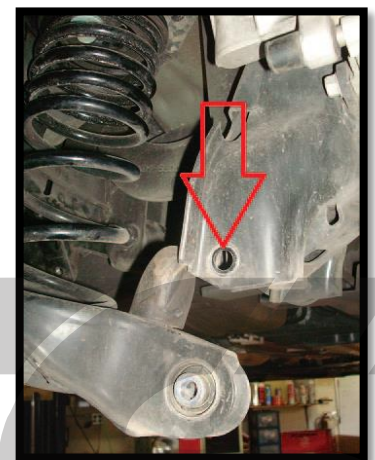


Figure 3D



Figure 3E



Figure 3F

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3. Install the Rear Lowering Springs (continued)

- j) Using a 12mm wrench and locking pliers, remove the top nut from the rear shocks as shown in **Figure 3G**.
- k) Remove the top hat and dust boot assembly from the shock.
- l) Remove the dust boot from the bump stop & remove the bump stop from the top hat. The bump stop will look like **Figure 3H**.
- m) Using a razor knife, cut the bottom three "bulbs" off of the bump stop. Cut line shown with dotted red line in **Figure 3H**. After cutting, the bump stop should look like **Figure 3I**.
- n) Install the larger portion of the cut bump stop into the shock top hat. Install the dust boot back onto the bump stop.
- o) Install the top hat assembly back onto the shock and secure with the 12mm nut removed earlier. Tighten to 18ft-lbs.
- p) Reinstall the shock into the vehicle. Secure the top with the 12mm nuts removed earlier (**Figure 3F**) & tighten to 18ft-lbs. Secure the bottom with the 17mm bolt removed earlier (**Figure 3E**). Tighten to 50ft-lbs.
- q) Swap the factory rubber upper spring perch onto the top of the new CorkSport lowering spring. The top of the CS spring is the side opposite the black noise isolator. Top of spring shown in **Figure 3J**.



The images of installation show early prototype springs that are black in color. Your springs will be powdercoated blue.

- r) Put the CorkSport lowering spring into the control arm. Spin the spring around until the bottom coil is positioned into the lower mount slot as shown in **Figure 3K**.



Figure 3G

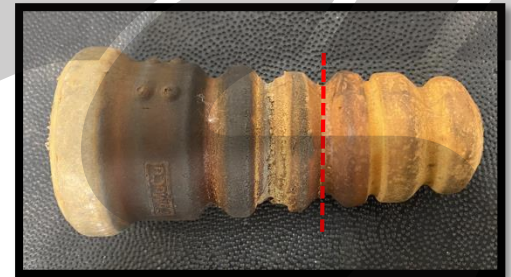


Figure 3H



Figure 3I

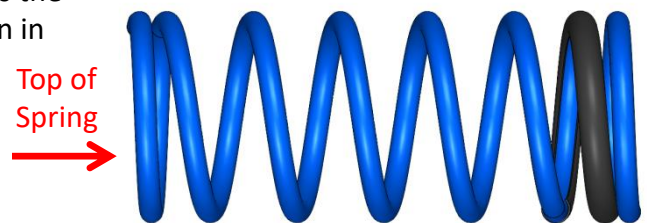



Figure 3J




Figure 3K

3. Install the Rear Lowering Springs (continued)

- s) Jack up the control arm using a floor jack or transmission jack (depending on if your vehicle is on a lift or jackstands) and reinstall the 17mm bolt into the control arm and spindle (**Figure 3D**). Tighten to 50ft-lbs.

 This step is not easy if you have not done it before. Take your time and ask for an extra set of hands (one person jacks up the control arm and one person lines up the control arm and bolt).

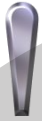
- t) Repeat steps 3d-3s for the opposite side of the vehicle.

 If you completely removed your swaybar in an earlier step, reinstall the four bolts circled blue in Figure 3C and tighten to 50ft-lbs.

- u) Swing your swaybar back into position and insert the endlinks into the control arms. Secure with the OEM nuts and tighten to 40ft-lbs.

- v) Reinstall the wheels and lug nuts. Tighten lug nuts to factory specs (vary based upon wheels). Typical is ~85ft-lbs.

- w) Remove the vehicle from jackstands (or lift) and take the vehicle for a short drive. If you hear or feel any clunking, inspect all hardware and ensure everything is tight and properly installed.

 **This completes the installation of your CorkSport 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.** Check out our [knowledgebase](#) for additional install information , tips, and helpful video's!**

What's Next:



Remove the tendency to overpower the front tires under hard cornering and minimize traction robbing body lean with the CorkSport Mazdaspeed 3 Rear Adjustable Sway Bar. Compressing inside suspension, the CorkSport Mazdaspeed 3 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 Mazdaspeed3 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.