

CorkSport Mazda 3 Lowering Springs

2004+ Mazda 3



Thank you for purchasing the CorkSport Mazda 3 Lowering Springs. Our lowering springs have been vigorously tested to ensure optimal characteristics. Testing showed a lowered center of gravity of 2.25" Front and 1.75" Rear over the stock springs providing you with improved handling, performance appearance and excellent ride quality.

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

Pre-Installation Notes:



You will be removing the front 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:



General Info.

Part #: Axl-3-287
Time Est: 2 hours
Wrench Rating: 3/5



Tooling List

Lift or Floor Jack & Jackstands
Transmission Jack or Floor Jack
3/8" or 1/2" Drive Ratchet or Airgun
Pliers
14mm Deep Socket
17mm Deep Socket
19mm Deep Socket
Penetrating Fluid
Hammer, Mallet (2lb or Similar)
Torque Wrench
Spring Compressor (rent or buy)
6mm Allen Wrench
Flat Head Screwdriver
Prybar
Lithium Grease



Parts List

Two (2) CS Front Lowering Springs
Two (2) CS Rear Lowering Springs

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Checklist

This is an overview of each step in the build. You can use this as a reference and a checklist as you button up the work on your car

1. Support Car on Floor Jack/Jackstands or Lift

- 1a) Use the floor jack and jackstands to gain access to the underside of the vehicle

2. Install the CorkSport Front Lowering Springs

- 2a) Remove the front passenger's side wheel from the vehicle
- 2b) Remove the one (1) 14mm end link nut holding the end link to the sway bar
- 2c) Free the brake line from the strut by removing the metal shim from the brake line mount
- 2d) Remove the one (1) 17mm lower strut bolt

- 2e) Spray penetrating fluid on the suspension upright knuckle

- 2f) Using a 2lb mallet (or similar) pound the knuckle free from the shock upright

 This process can be frustrating and difficult, so take your time

 For video on this, please go to lowering springs installation instructions in our knowledgebase

- 2g) Remove (3) 14mm strut bolts holding the strut to the strut tower

 Be sure to only use a ratcheting wrench or end wrench to avoid shearing the head of the bolt

- 2h) Remove the strut assembly from the vehicle

- 2i) Using the spring clamps, compress the spring until it is no longer tight against the mount

- 2j) Remove the one (1) 17mm nut holding the strut mount to the strut

- 2k) Remove the upper strut mount and boot as one (1) unit

 For video on this, please go to lowering springs installation instructions in our knowledgebase

- 2l) Set the new CorkSport Front Lowering Spring on the strut and insert the upper mount and boot assembly. Transfer the spring compressor to the new spring

- 2m) Line up the upper strut mount tabs with the lowest bracket on the strut. Make sure the bottom of the spring (biggest coil) is seated fully into its perch. Tighten the spring compressor

- 2n) Reinstall the 17mm upper strut bolt

- 2o) Remove the spring clamp and pull the boot over the yellow shaft (now ready to install)

- 2p) Reinstall the strut and hand tighten the three (3) 14mm strut bolts. Tighten to 30ft lbs.

- 2q) Generously lubricate the strut and knuckle with lithium grease

- 2r) Line up the strut knuckle by hand. Then install the wheel into the hub and hand tighten two (2) lug nuts onto the wheel studs (opposing studs)

- 2s) 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

 This process can be difficult. Take your time and make sure everything is lined up correctly. You may need to raise the vehicle and try again if you cannot get it to pop into place

2. Install the CorkSport Front Lowering Springs (continued)

- 2t) Install the 17mm bolt and nut to secure the knuckle to the strut. Tighten to 45 ft lbs
 - The bolt will not install unless the strut is properly inserted into the knuckle
- 2u) Re-secure the brake line using the shim
- 2v) Attach the end link and reinstall the 14mm nut
- 2w) Reinstall the wheel and lug nuts
- 2x) Repeat steps 2a-2w for the driver's side lowering spring

3. Install the CorkSport Rear Lowering Springs

- 3a) Remove the passenger's side rear wheel from the vehicle
- 3b) Remove the 17mm bolt that holds the spindle to the control arm
- 3c) Remove the four(4) 14mm bolts holding the rear sway bar to the vehicle
 - The sway bar will still hang from the end links (leave the bushings on the bar)
- 3d) Free the control arm from the spindle
- 3e) Remove the factory spring from the vehicle
- 3f) Swap the rubber upper spring perch mount from the factory spring to the CorkSport spring
- 3g) Put the CorkSport lowering spring onto the vehicle and set the lower coil into the mount
- 3h) Jack up the control arm and reinstall the 17mm bolt into the control arm and spindle
 - This step is not easy if you have not done it before. Take your time and get an extra set of hands if at all possible (one person jacks up the control arm, the other lines up the bolt)
- 3i) Reinstall the wheel lug nuts
- 3j) Repeat steps 3A-K for the driver's side lowering springs
- 3k) Reconnect the sway bar bushings using the four(4) 14mm bolts that you previously removed
- 3l) Remove the vehicle from the Jackstands (or lift) and take the vehicle for a short drive. If you hear or feel any clunking, inspect and tighten the hardware as necessary



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.** Check out our [knowledgebase](#) for additional install information, tips, and helpful video's

What's Next:



CorkSport Mazda 3 Stainless Brake Lines: Brake deeper into the corner, get onto the accelerator faster and notice improved pedal feel with our stainless steel braided lines: <http://www.corksport.com/corksport-mazda-3-mazdaspeed-3-stainless-brakelines.html>

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.



Figure 2A

2. Install the Front CorkSport Lowering Springs

a) Remove the front passenger wheel from the vehicle using an impact wrench or 1/2" drive ratcheting wrench (or breaker bar) and 19mm socket (or other if using locking lug nuts). Your front wheel wells should now look like Figure 2A to the right.

b) Remove the one (1) 14mm nut (shown in Figure 2B by the green up arrow) holding the front end link to the factory sway bar using a 14 mm wrench.



Figure 2B

c) Free the brake line using pliers to remove the shim from the brake line mount (shown by the red arrow in Figure 2C.)

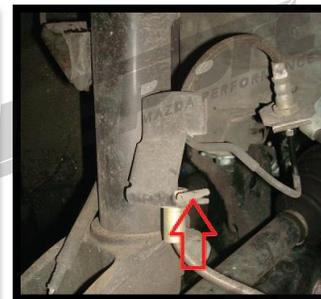


Figure 2C

d) Remove the one (1) 17mm lower strut bolt using a 17mm socket and ratcheting wrench (shown in Figure 2D by the red arrow).



Figure 2D

e) Spray penetrating fluid on the suspension upright knuckle as shown in Figure 2E by the red circle.



Figure 2E

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 2F



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

2. Install the Front CorkSport Lowering Springs (continued)

- g) Remove the three (3) 14mm strut 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.



Figure 2G

- h) Remove the strut assembly from the vehicle
- i) Using the spring clamps, compress the 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)



Figure 2H

- 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).



Figure 2I

- l) Set the new Corksport Front Lowering Spring on the strut. Insert the upper mount & boot assembly. Transfer the spring compressor to the new spring (shown in Figure 2L).



Figure 2L



Figure 2J

- m) Line up the upper strut mount tabs with the lowest bracket on the strut. Make sure the bottom of the spring (biggest coil) is seated fully in its perch. Tighten the spring compressor.



Figure 2K

- n) Reinstall the 17mm upper strut bolt as shown in Figure 2I.

2. Install the Front CorkSport Lowering Springs (continued)

- o) Remove the spring clamp and pull the boot over the yellow shaft (now ready to reinstall).
- p) 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.
- q) Generously lubricate the strut and knuckle with lithium grease as shown in Figure 2M to the right.
- r) 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).
- s) 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 2M

-  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.
- t) 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
- u) Re-secure the brake line using the shim as shown in Figure 2C (bump side up)
- v) Attach the end link and reinstall the 14mm nut (shown in Figure 2B). Tighten to 25 ft lbs.
- w) Reinstall the wheel and lug nuts. Tighten lug nuts to factory specs (vary based upon wheels)
- x) Repeat steps 2a-2w 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 17mm bolt that holds the spindle to the control arm (see Figure 3A) using a 17mm socket and ratcheting wrench
- c) Remove the four (4) 14mm bolts holding the rear sway bar (CS rear sway bar shown in Figure 3B) using a 14mm socket and ratcheting wrench

-  The sway bar will still hang from the end links and you leave the bushings on the bar



Figure 3A



Figure 3B

Need Help With Your Installation?

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3. Install the Rear Lowering Springs (continued)

- d) Free control arm from the spindle as shown in **Figure 3C**
- e) Remove the factory spring from the vehicle
- f) Swap the rubber upper spring perch mount from the factory spring to the CorkSport lowering spring. Be sure to note the orientation of the spring in relation to the rubber mount.
- g) Put the CorkSport lowering spring onto the vehicle. Spin the spring around until the bottom coil is positioned into the lower mount slot as shown in **Figure 3D**.

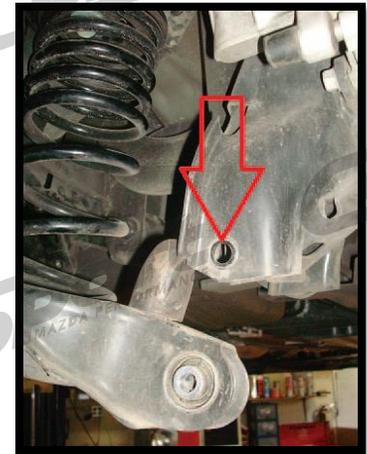


Figure 3C

- h) 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 3C**).



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).

- i) Reinstall the wheel and lug nuts. Tighten lug nuts to factory specs (vary based upon wheels).



Figure 3D

- j) Repeat steps 3A-I for the driver's side lowering spring.
- k) Reconnect the sway bar bushings using the four (4) 14mm bolts that you previously removed (**Figure 3B**). You will want to use a drop of blue threadlock on each of the four (4) bolts.



This would be a good time to re-grease your swaybar bushings if you are running an aftermarket swaybar.

- l) 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 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

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