

CorkSport Mazda 3 Suspension Kit

2014-2018 Mazda 3



This Package should contain:

- 1. Two CorkSport Assembled Front Adjustable Struts
- 2. Two CorkSport Rear Adjustable Shocks
- 3. Two CorkSport Rear Springs

CorkSport Mazda 3 Suspension Kit

2014-2018 Mazda 3



Thank you for purchasing the CorkSport Mazda 3 Suspension Kit. Designed for the driving enthusiasts that desire quality handling and comfort. The kit combines the CorkSport 15-position adjustable performance struts and shocks with the CorkSport lowering springs and camber plates to provide you with the freedom to tailor the ride quality and handling to your characteristics and suspension setup. Let us know your thoughts about the CorkSport Suspension Kit by submitting a review at: <https://corksport.com/2014-2018-mazda-3-adjustable-shock-strut-assembled.html>

Pre-Installation Notes:



Use extreme caution while working under the vehicle. Use adequate load rated jack and jack stands to support the vehicle on a level surface. Please reference vehicle owners manuals for proper jacking locations.



Make sure your vehicle is completely cooled down prior to starting installation. If you are going to work on your car within an hour or two of having driven it, use a fan to cool off the car.



Camber Plate Adjustments: The camber plates must be adjusted off the car if the shock tower opening is NOT cut larger. The shock tower opening can be cut larger with a 3" hole saw for on car adjustability. Refer to Page 4 for further details.



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



These in car installation photos were produced using a 2018 Mazda 3 hatchback. 2014-2018 Mazda 3 hatchback and sedan will be similar.

Materials and Time:



General Info.
 Part #: AXM-3-295-10
 Time Est: 2 hours
 Wrench Rating: 3/5



Tooling List

10mm Wrench
 12mm Wrench
 14mm Wrench
 17mm Wrench
 18mm Wrench
 19mm Wrench
 21mm Lug Nut Socket
 14mm 3/8 or 1/2 Drive Deep Socket
 3/8 and 1/2 Ratchet
 3/8 and 1/2 Torque Wrench
 Flat Heat Screwdriver

5mm Allen
 6mm Allen
 Small Vise Grips
 Jack Stands
 Hydraulic Jack
 1/2 Drive Breaker Bar









Parts List

1. Two CorkSport Assembled Front Adjustable Struts
2. Two CorkSport Rear Adjustable Shocks
3. Two CorkSport Rear Lowering Springs

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Order of Operations & Table of Contents

| | | |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|---------------------|
|  | Front Disassembly Section 1: Front Strut Removal Section 2: (OPTIONAL) Cut Strut Tower for Easy Adjustments | Pg. 2-3 Pg. 4 |
|  | Front Installation Section 3: CorkSport Assembled Front Strut Installation | Pg. 5 |
|  | Rear Disassembly Section 4: Rear Shock & Spring Removal | Pg. 6-7 |
|  | Rear Assembly Section 5: Rear Shock Disassembly/Assembly | Pg. 8 |
|  | Rear Installation Section 6: CorkSport Rear Shock & Spring Installation | Pg. 9 |
|  | Damping & Camber Adjustment Section 7: Damping Adjustment Section 8: Camber Adjustment | Pg. 10 Pg. 10-11 |

Detailed Instructions

1. Front Strut Removal

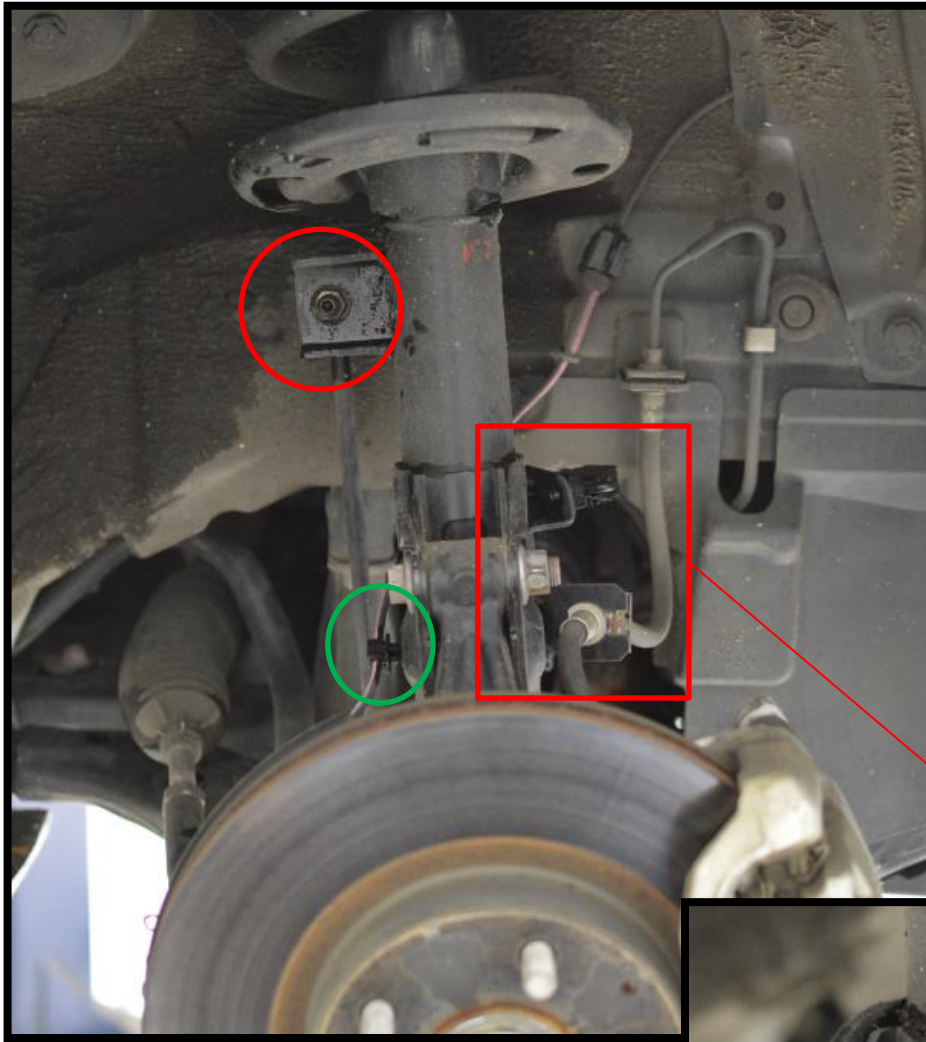


Figure 1a

- a) Position the vehicle on a level surface.
- b) Raise the vehicle with a hydraulic jack and support the vehicle with jack stands in the OE recommended locations.
- c) Remove the front and rear wheels from the vehicle using an impact wrench or 1/2" drive breaker bar and 21mm socket.
- d) Disconnect the sway bar endlink with a 14mm wrench and 5mm allen wrench shown with the red circle in Figure 1a.

- d) Remove the ABS sensor wire shown with the green circle in Figure 1a.
- e) Remove the brake line clip & brake line as shown in Figure 1b.
- f) Remove the ABS sensor wire shown with the green circle in Figure 1b.

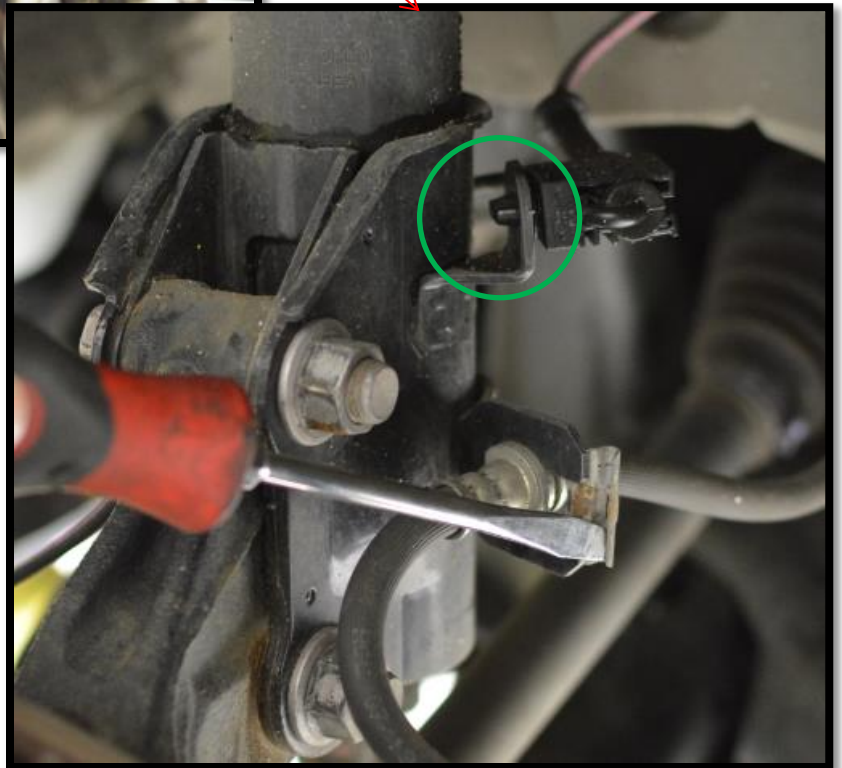


Figure 1b

1. Front Strut Removal (continued)

- g) Use a 17mm wrench on the bolt head circled in red in Figure 1c.
- h) Use a 19mm wrench on the bolt nut circled in green in Figure 1c.
- i) Push the strut towards the engine as you pull the suspension upright down and out of the strut.
- j) Let the suspension hang.
- k) Use a 14mm to loosen the three strut top nuts circled in red in Figure 1d.
- l) Remove two of the nuts leaving one to hold the strut in the vehicle.
- m) Use one hand to hold the strut through the wheel well then remove the last nut from the strut top.
- n) Route the strut out of the wheel well.



Be cautious of the brake line and ABS wire when removing the strut from the vehicle.

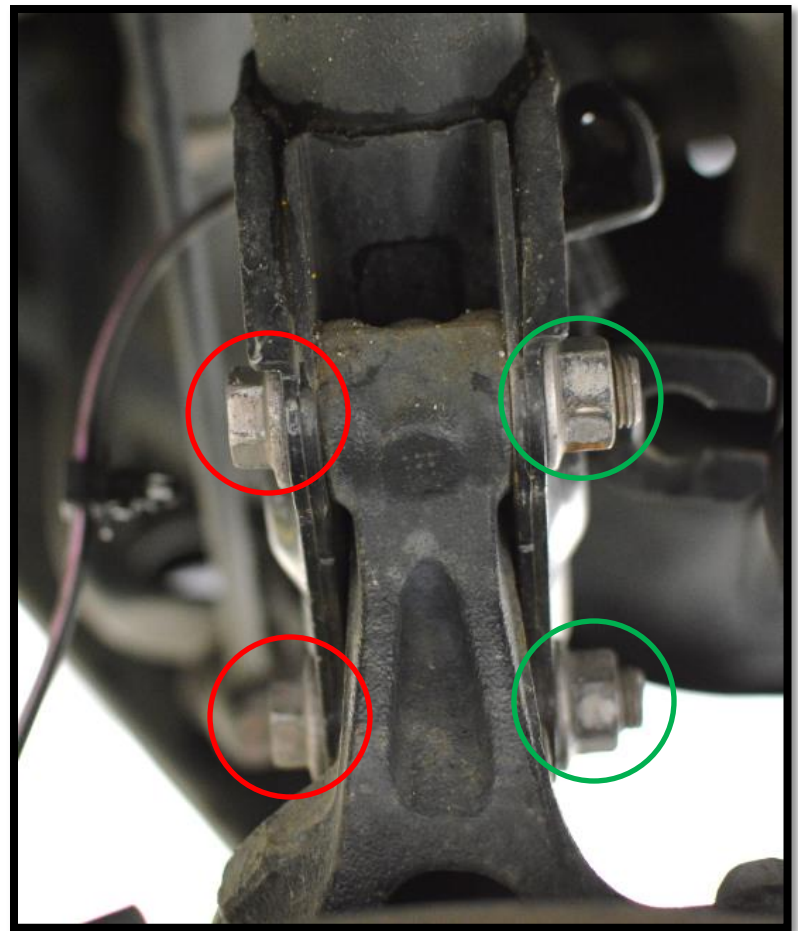


Figure 1c

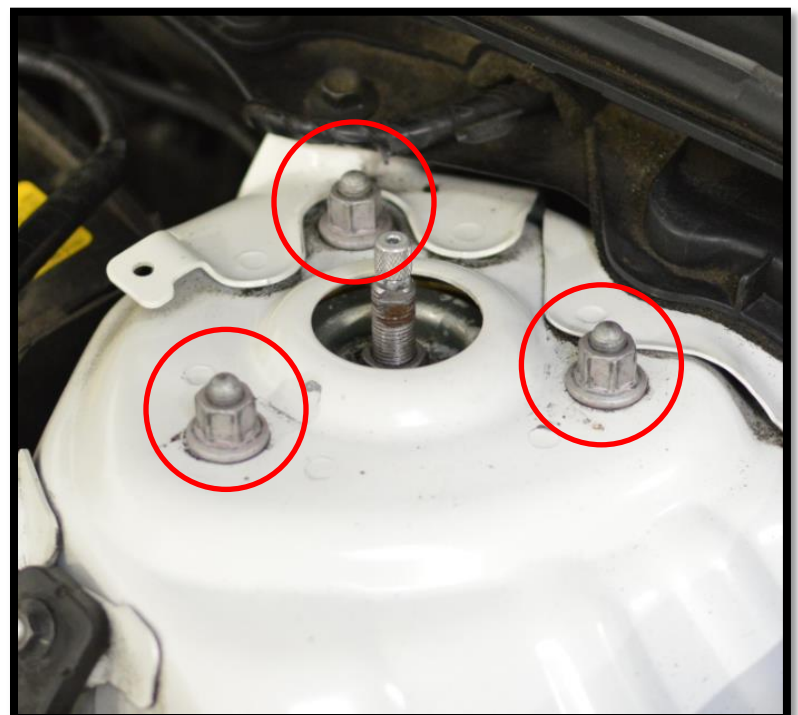


Figure 1d

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



To adjust camber without pulling the strut assembly, cutting of the strut tower is required.



Pictures shown are of 2010 Mazda 3. 2014+ Mazda 3 will be similar.

- a) **Skip To Step 3 if you don't want to cut your strut towers.**



Skipping this step will require removal of the strut assembly for camber plate adjustments.

- b) **Drill out the center of the strut tower.** Use a 3" bi-Metal hole saw and drill. Take your time as you do this step to make sure you make the hole as clean as possible. (Figure 2a shows an uncut strut tower. Figure 2b shows how the strut tower should look once it has been cut.)



Figure 2a

- c) **Clean the burs on the edge of the cut** to smooth it out with a round file or similar.

- d) **Prepare the surface for proper paint adhesion** and surface finish with sand paper.

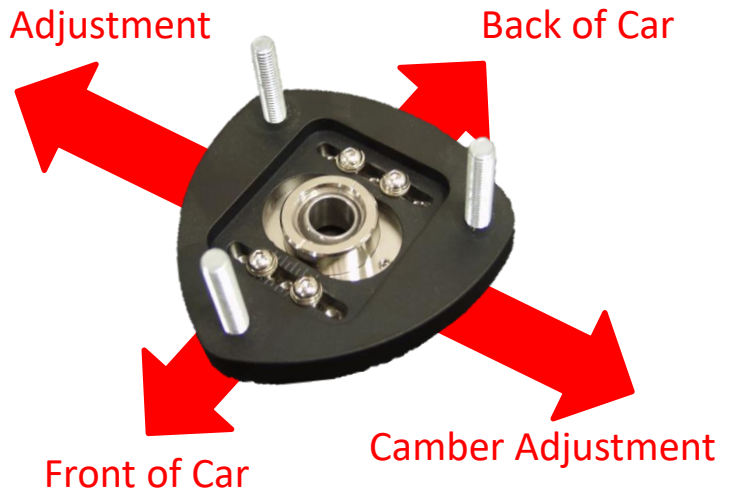
- e) **Mask off the strut tower and spray paint the exposed bare metal** to help prevent corrosion.



Figure 2b

3. Install the CorkSport Assembled Front Struts

- a) Place the strut assembly back up into the strut tower. Thread on the three (3) supplied nuts and tighten to 37-43ft-lbs (Figure 5a).



Verify the Camber plate is installed into the strut tower as shown to the right.

- b) Pull the spindle up into the strut and line up the holes. Insert the 17mm bolts and 19mm nuts. Torque to 107-117ft-lbs (red arrows in Figure 3b).
- c) Re-install the sway bar end link. Thread on the 14mm nut and torque to 34-40ft-lbs (red circle in Figure 3b).



Figure 3a

- d) Place the brake line back into the strut bracket and replace the clip (green arrow in Figure 3b).
- e) Replace the ABS sensor clips removed in Figures 1a and 1b.
- f) Repeat Steps 1-3 for the opposite side.

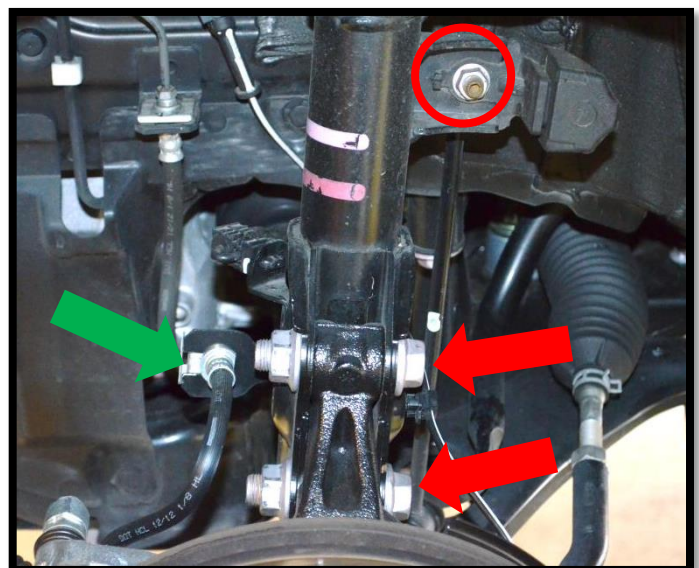


Figure 3b

4. Rear Shock & Spring Removal

- a) Use a 14mm wrench and 5mm allen to remove the sway bar endlink circled in red in Figure 4a.
- b) Use a hydraulic jack at the position of the red arrow in Figure 4a to support the lower control arm.
- c) Use a 19mm wrench to remove the nut and washer circled in green in Figure 4a.
- d) Apply a small amount of pressure with the hydraulic jack.



Figure 4a

- e) Remove the 17mm bolt that holds the spindle to the control arm (Blue circle in Figure 4a) using a 17mm socket and ratcheting wrench.

4. Rear Shock & Spring Removal (continued)

- g) Use a 14mm to remove the two nuts holding the rear shock top hat. Red circles in Figure 4b.
- h) Pull the sway bar endlink from the lower control arm.
- i) Remove the brake line clip shown with a red circle in Figure 4c to prevent tension on brake line while lowering suspension.



Figure 4b

- j) Slowly lower the hydraulic jack enough to remove the rear spring.
- k) With the spring removed, remove the rear shock from the vehicle.

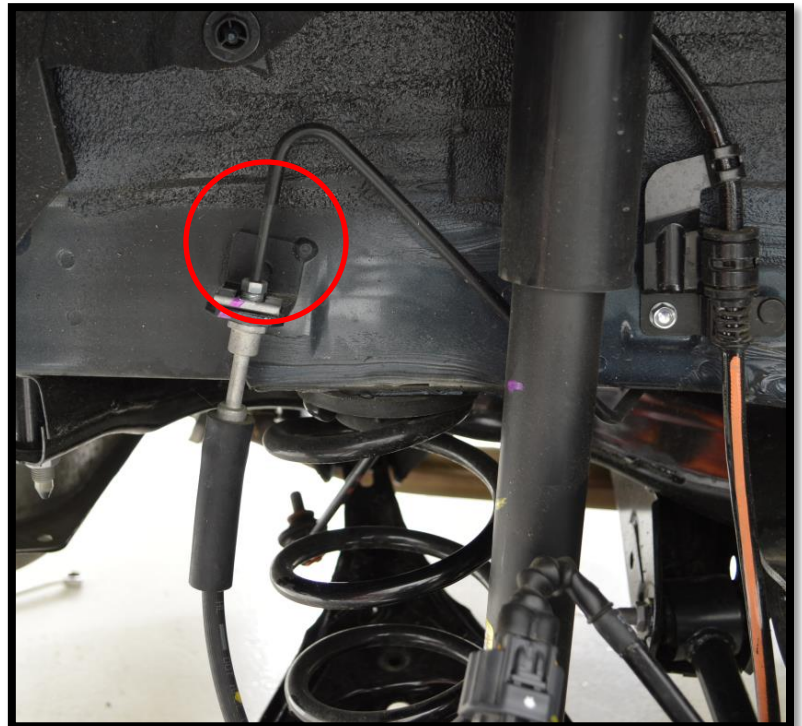


Figure 4c

Part # AXM-3-295-10

5. Rear Shock Disassembly/Assembly

- 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**.
- 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**.
- e) Tighten the nut until snug then adjust so the top hat orientation matches **Figure 5d**.
- f) **Torque the nut to 9-12 ft.lbs**

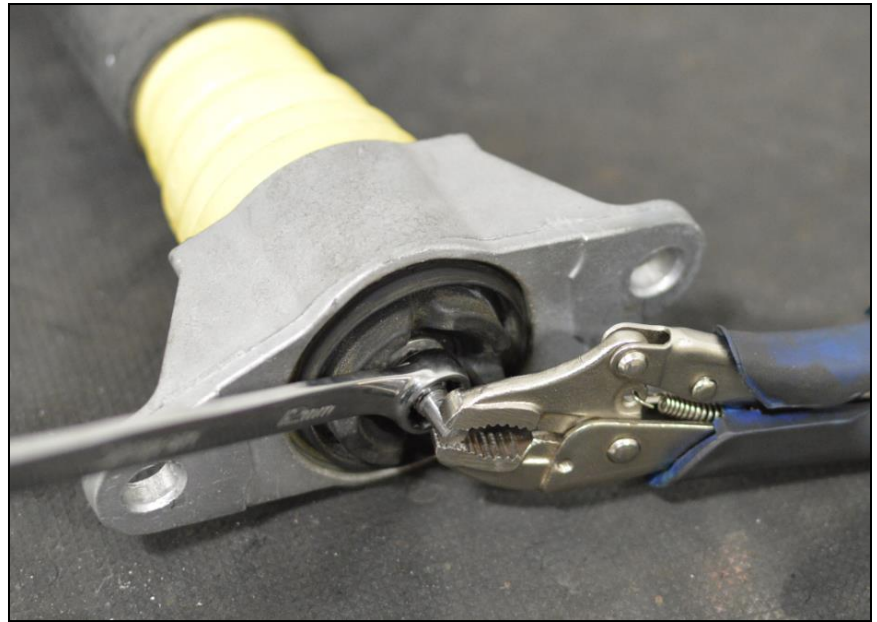


Figure 5a

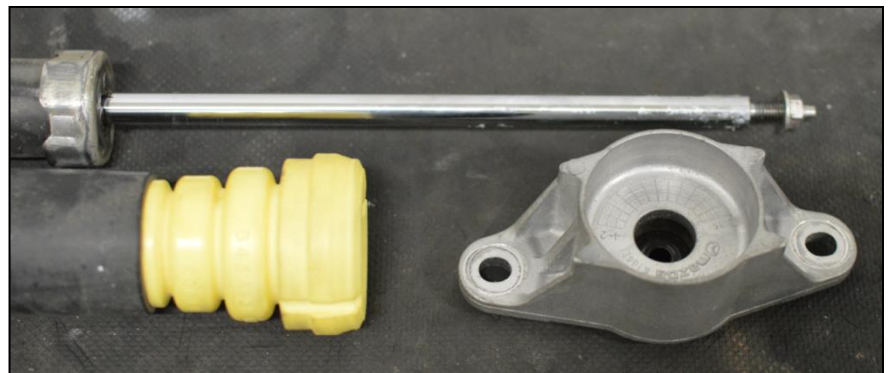


Figure 5b

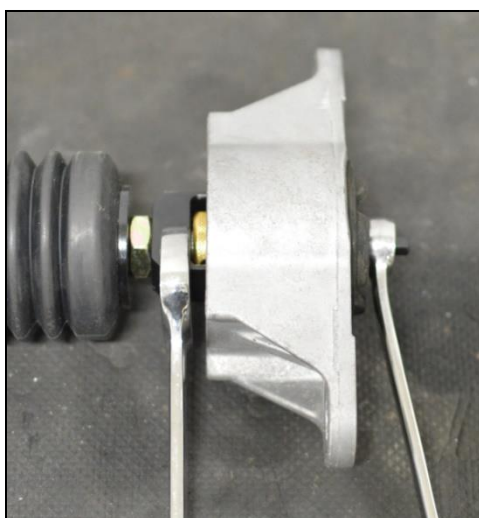


Figure 5c



Figure 5d

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6. Install the CorkSport Rear Lowering Springs & Shocks

- a) Locate the CorkSport rear shock onto the lower shock stud. Shown with blue circle in figure 6a. Loosely attach washer and nut removed in step 4c.
- b) Transfer the upper rubber spring perch to the CorkSport spring (green arrow) and place the spring back up into the car (Figure 6b).
- c) Seat the bottom of the spring into the lower control arm perch.

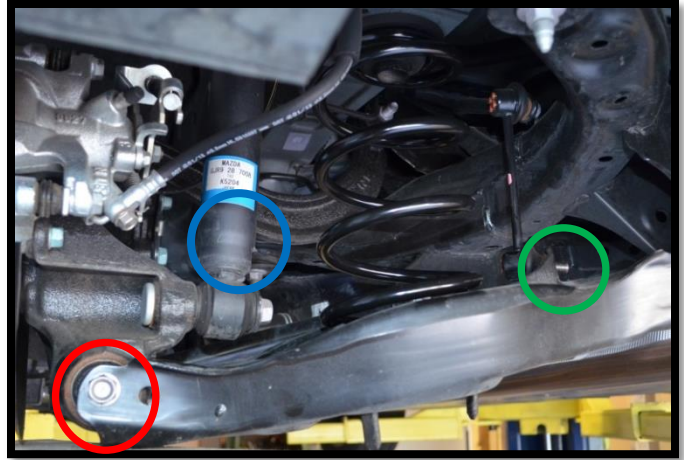


Figure 6a



Verify that the spring is correctly seated in the lower control arm and against the chassis. Rotate the spring clockwise until the spring wire end hits the stop in the lower control arm (red arrow in Figure 6c). Center the top of the spring on the protrusion in the chassis.

- d) Place the jack back under the control arm and slowly raise the control arm compressing the spring.
- e) Line up the bolt holes at the end of the control arm and the spindle. Insert the 17mm bolt and tighten to 64-77ft-lbs (red circle in Figure 6a). The jack can now be removed.
- f) Line up and install the shock top hat using the 2 14mm nuts. (red circle in Figure 4b). Torque to 26-30ft-lbs.
- g) Tighten 19mm lower shock mount nut to 62-73ft-lbs. (blue circle in figure 6a).
- h) Re-connect the sway bar end link and tighten the 14mm nut to 34-40ft-lbs (green circle in Figure 6a).
- i) Repeat steps 4-6 for opposite side.

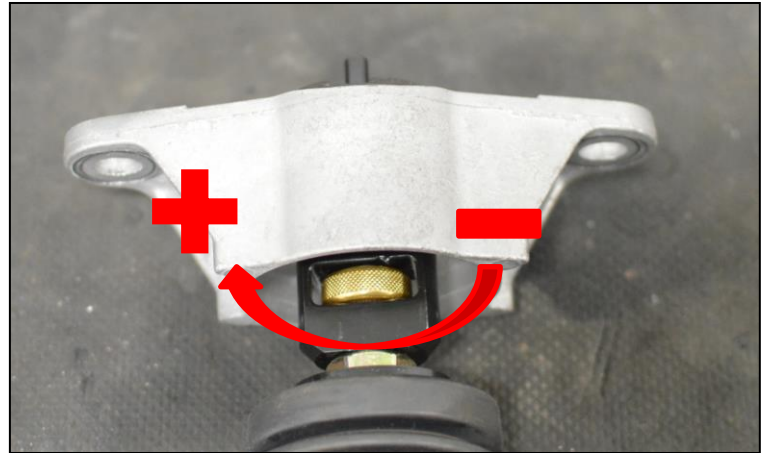
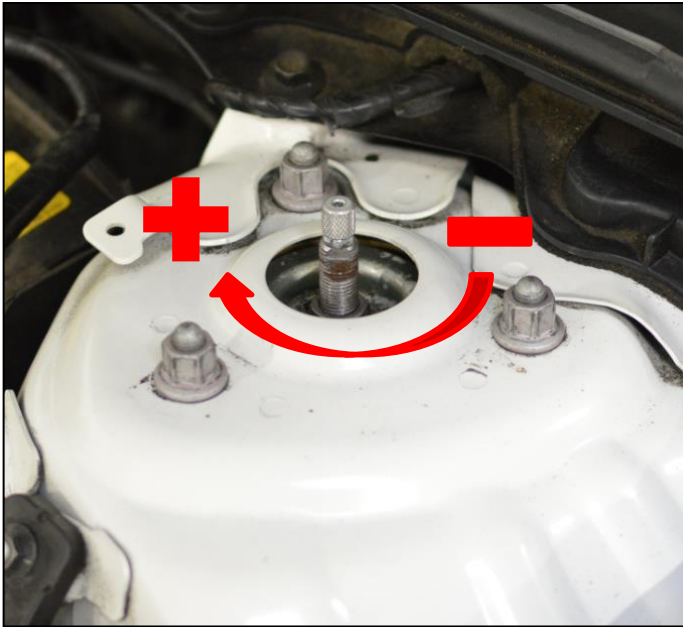


Figure 6b



Figure 6c

7. Adjusting Front and Rear Dampening



8. Adjusting Front Camber



If you opted to go without cutting the strut tower you will need to remove the strut in order to access the adjustment bolts each time you want to adjust the camber.

- a) **Loosen the four (4) bolts on the top of the camber plate** to adjust camber (Shown on next page).
- b) **Raise and support the vehicle on jack stands.**
- c) **Move the strut toward the engine** for more negative camber and move it outward for more positive camber.
- d) **After camber is set** tighten the (4) Allen head bolts to **9 Ft-lbs.**

8. Adjusting Front Camber (continued)



Passenger side adjustment of the camber plates shown below.

2014+ Mazda 3:



+0.3 Camber



-0.8/Stock Camber



-1.6 Camber



This completes the installation of your CorkSport 2014+ Mazda 3 Suspension Kit. 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 suspension noise is heard after driving, recheck that the springs are seated fully against the spring locks and all hardware is appropriately tightened.

What's Next:



CorkSport 2014+ Mazda 3 SkyActiv Power Series Short Ram Intake 2.0 & 2.5

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.



CorkSport Big Brake Kit

CorkSport Big Brake Kit provides the ultimate in stopping power for your Mazda. Crafted from extremely lightweight billet aluminum, the CorkSport calipers use an opposed piston design that is fixed to provide greatly improved pad wear, and caliper rigidity over the OEM design.

CorkSport Rear Camber Arms

Get your camber back in spec with the CorkSport Adjustable camber arms. Whether you are correcting the added camber from lowering springs or search for the perfect style; the CorkSport rear camber arms will give you the adjustability you need



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