

# CorkSport Performance

## AXL-3-469-1X Rear Big Brake Kit

Installation Instructions for the CorkSport Performance Rear Big Brake Kit for the MazdaSpeed3/Mazda 3 MPS

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## INTRODUCTION

In this installation guide we have provided step by step instructions to remove the OEM rear brakes and install the CorkSport Performance Big Brake Kit.

### Advisory:

- Working under the vehicle requires a safe and sturdy location for the vehicle to sit on jackstands.
- Brake bleeding & pad bedding must be done properly to prevent braking issues. Follow the instructions carefully to prevent vehicle damage or personal injury.
- Proper inspection of the wheel clearance to the brake caliper must be performed to prevent damage to the caliper and/or wheel

The following brake pads series may operate with the CorkSport Rear BBK. Other brake pad manufacturers may have pad designs for this configuration that is not listed here:

Hawk – HB107

Alcon - 1749

AP Racing – CP23400D40, CP23400D38, CP23400D43

Ferodo - FRP3091

 **TOOLS:**

- Hydraulic Jack (1)
- Jack Stand (2)
- 3/8" Drive Ratchet (1)
- 1/2" Drive Breaker Bar (1)
- 1/2" Torque Wrench (1)
- 14mm Socket - Deep (1)
- 17mm Socket - Deep (1)
- 21mm Socket - Deep (1)
- 7mm Allen Key Socket (1)
- 10mm Allen Key Socket (1)
- 12mm Allen Key Socket (1)
- Wrench, 10mm (1)
- Wrench, 14mm (1)
- Wrench, 17mm (1)
- 10mm Line Wrench (1)
- Small Needle Nose Pliers (1)
- Flathead Screwdriver (1)
- Shop Towels/Rags (1)
- Drip Pan (1)
- Gloves (1)
- Blue Threadlocker (1)
- Plastic Bottle (1)
- 5/32" Hose (1)
- Brake Fluid - DOT3 (1)
- Friend (1)

 **PARTS:**

- CorkSport Left Side 330mm Brake Rotor (1)
- CorkSport Right Side 330mm Brake Rotor (1)
- CorkSport Left Side Brake Caliper (1)
- CorkSport Right Side Brake Caliper (1)
- CorkSport Brake Caliper Bracket and Manual Parking Brake (2)
- CorkSport Short Stainless Steel Brake Lines (2)
- CorkSport Long Stainless Steel Brake Lines (2)
- M10 Banjo Bolt (4)
- M10 Crush Washer (8)
- M14x35mm Socket Head Cap Screw (4)
- M12x60mm Socket Head Cap Screw (4)
- M12 Washers (4)
- M14 Washers (4)
- Touch Up Paint (1)

## Step 1 — Getting Started



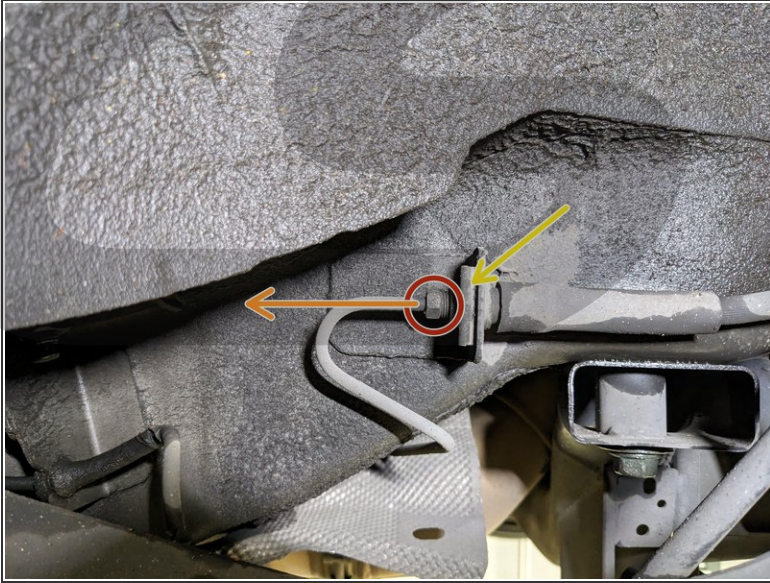
- First and foremost; **THANK YOU** for becoming a part of the CorkSport Family. We hope to bring you the highest level of Parts, Customer Service, & Support
- ⓘ How To Use These Instructions
  - The instruction format will relate colored marking in the image to the color dot in the text to the right of the image
- ⓘ **A wheel fitment template can be found at the end of this document if you want to check wheel fitment with the rear big brake kit before beginning the install**

## Step 2 — Lifting the Car & Removing the Rear Wheels



- ⚠ **Ensure the vehicle is parked on a level surface before proceeding.**
- Start by lifting up the rear of the car using the hydraulic jack and jack stands.
- ⚠ **Be sure to reference your owners manual for jack points and the jack manufacturer's instructions for proper practices.**
- Remove the rear wheels from the vehicle

### Step 3 — Disconnect the Brake Line

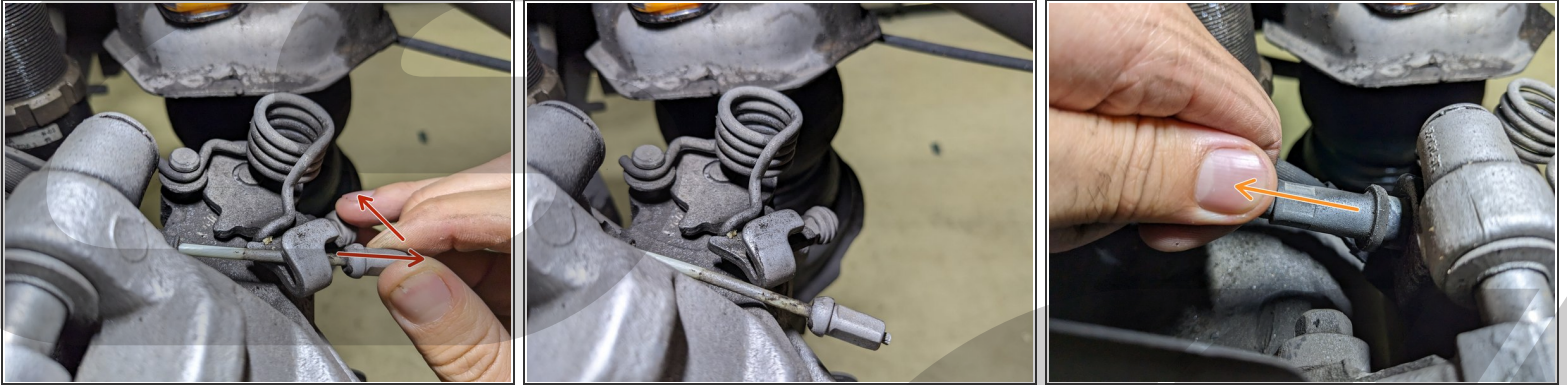


**i** Ensure the parking brake is released

- Using a 10mm Flare Nut wrench, unscrew the flare nut from the brake line
- Free the rear brake line from the mounting bracket by pulling it towards the front of the vehicle
- With a pair of pliers or a flathead screwdriver, remove the retaining clip shown
- Push the other side of the brake line out of the bracket

**⚠** Ensure to catch brake fluid with a drip pan once the line is loosened. Brake fluid can remove paint and coatings, and damage clothing. Be cautious if fluid is spilled. Using a small vacuum cap or a pinched hose to block the end of the hardline will prevent any unnecessary fluid leakage

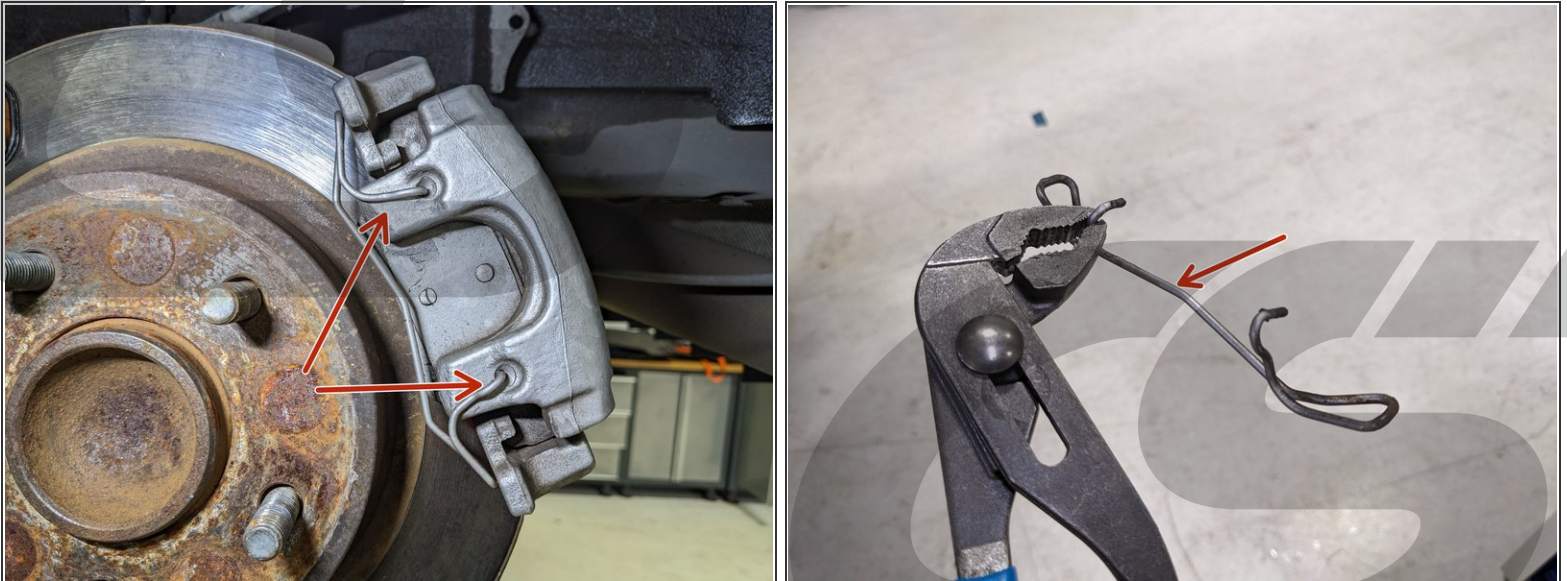
### Step 4 — Disconnect the Parking Brake Cable



**i** Ensure the parking brake is released

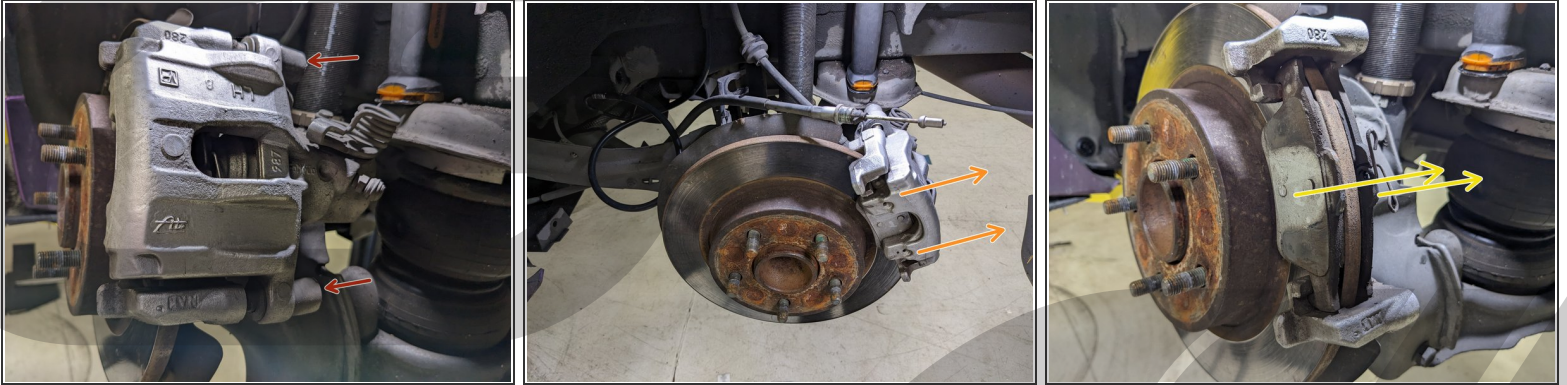
- Pull the end of the Parking Brake Cable toward the rear of the car, then push it around its housing until it is freed
- On the backside of the Brake Caliper, firmly pull on the Parking Brake Cable until it is released from its housing
- Place in a position that is clear and out of the way

### Step 5 — Removing the OEM Rear Brake Caliper & Rotor - Part 1



- Remove the Spring Clip from the Brake Caliper with a pair of pliers. Pull outward, away from the vehicle

### Step 6 — Removing the OEM Rear Brake Caliper & Rotor - Part 2



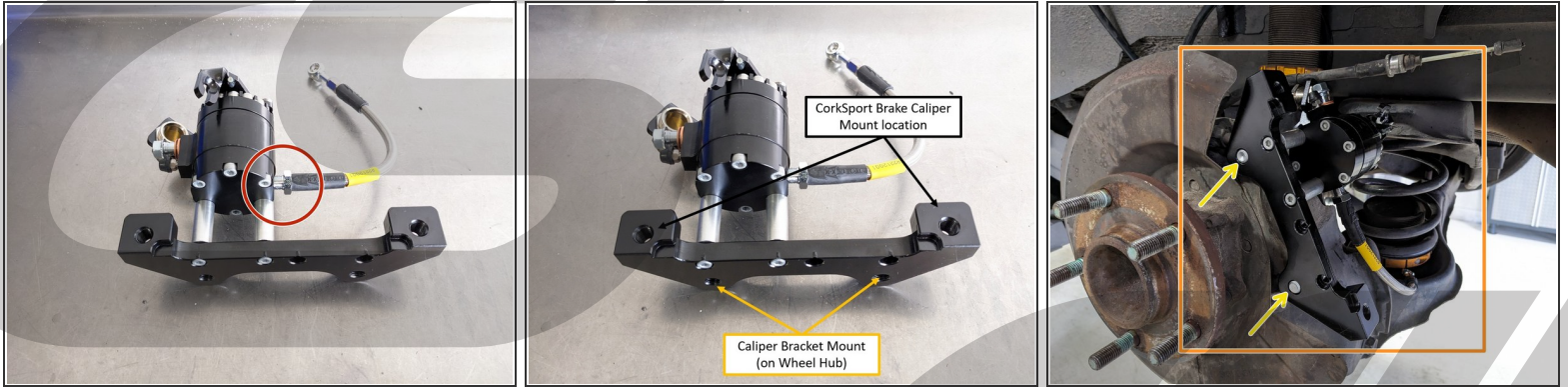
- Remove the Dust Caps covering the Two(2) Brake Caliper Bolts
  - With a 7mm Allen Key or Allen Key socket, remove the Two(2) Brake Caliper Bolts
- Remove the Brake Caliper from the vehicle by pulling away from the brake rotor
  - ⓘ Ensure to have a firm grip on the caliper to prevent dropping it
- Remove the Brake Pads by grabbing the tabs and pulling away from the brake rotor

### Step 7 — Removing the OEM Rear Brake Caliper & Rotor - Part 3



- With a 14mm Socket and Ratchet, remove the bolts securing the Brake Caliper Bracket
  - Remove the bracket from the vehicle
- Remove the Brake Rotor from the vehicle
  - ⓘ The Brake Rotor should just slide off of the studs

## Step 8 — CorkSport Caliper Bracket and Parking Brake Installation



- Locate two of the shorter M14 bolts and ensure they each have an M14 washer
- Apply blue threadlocker to the two M14 bolts
- On a workbench, install the shorter CS Brake Line into the Parking Brake Mechanism as shown and tighten with a 14mm Wrench until snug
- Install the Brake Caliper Bracket and Parking Brake assembly in the OEM bracket location, as shown
  - ⓘ The bracket must be oriented so the Parking Brake Mechanism is on the inside of the vehicle
  - ⓘ The orientation of the Parking Brake mechanism may vary from the image shown. The same principles apply for installation on your specific vehicle
- Secure the caliper bracket from the backside with the M14 bolts and using a 8mm Allen socket, torque to **64-71ft-lbs**



## Step 9 — CorkSport Brake Rotor Installation



- Locate the driver's side (left side) brake rotor
  - ⚠️ The orientation of the slots in the brake rotor changes for driver and passenger side. Ensure you get the correct rotor.
- Install the CorkSport brake rotor onto the vehicle
  - ⓘ If needed to help keep the brake rotor in position for the next step, you can loosely install a few lug nuts against the brake rotor
  - If the Brake Rotor cannot be seated fully and is contacting the Rotor Splash shield, simply push on the Splash Shield to gain enough clearance for the Brake Rotor
  - ⓘ Test clearance by spinning the rotor several times until there is no contact
  - ⚠️ If the brake rotor is hitting the caliper bracket installed earlier, the caliper bracket was installed in the incorrect orientation

## Step 10 — CorkSport Brake Caliper Installation



- Locate the driver's side (left side) CorkSport brake caliper
- Notice that the Brake Caliper will have a "direction of rotation" sticker
  - ⚠ Ensure the caliper is installed with the arrow on this sticker pointing in the direction of forward wheel rotation
- Locate two of the longer M12 bolts. If not already present, install one M12 washer on each bolt
- Apply blue threadlocker to the two M12 bolts
- Lift the driver's side caliper into position with the installed Caliper Bracket and secure with the two M12 bolts using a 8mm Allen socket
  - Torque to **64-71 ft-lbs**

## Step 11 — Brake Caliper Alignment



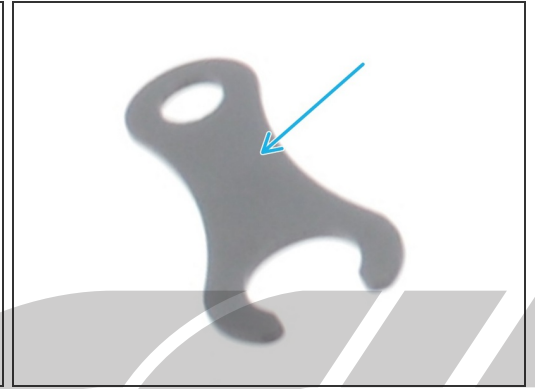
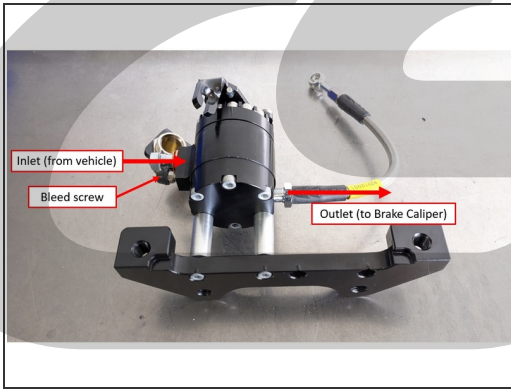
- ① Your kit is specifically designed to center the brake rotor exactly in the middle of the caliper
- ① The kit also is designed to position the brake pad very slightly inboard from the edge of the brake rotor
- Shims are supplied in your kit if needed for repositioning the brake caliper to fit correctly, however, we have never needed to use shims when installing this kit. Do not use **any** unless 100% necessary

## Step 12 — Parking Brake Cable Installation



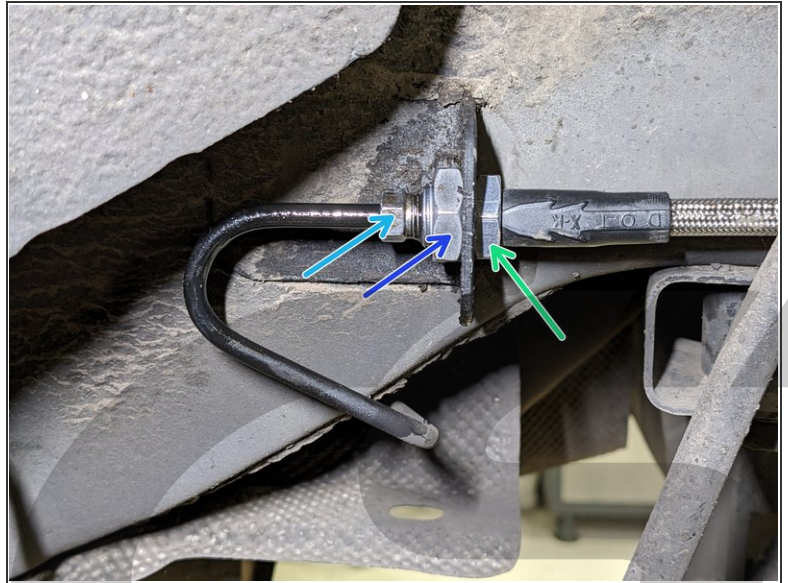
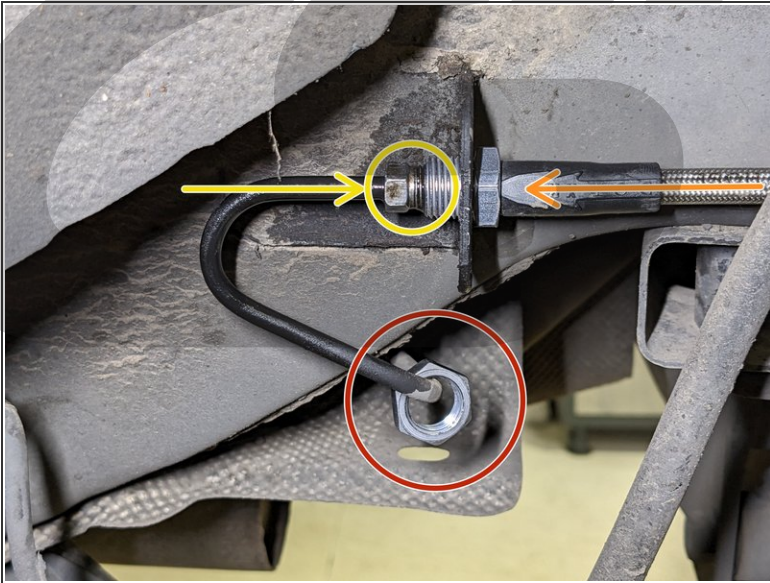
- Slide the Parking Brake Cable through the hole in the Parking Brake mechanism bracket, in front of the spring loaded actuating arm
- Attach the end of the cable to the end of the arm as shown
- ⓘ Your parking cable end style may vary, but the principle remains the same

## Step 13 — Brake Line Installation - Part 1



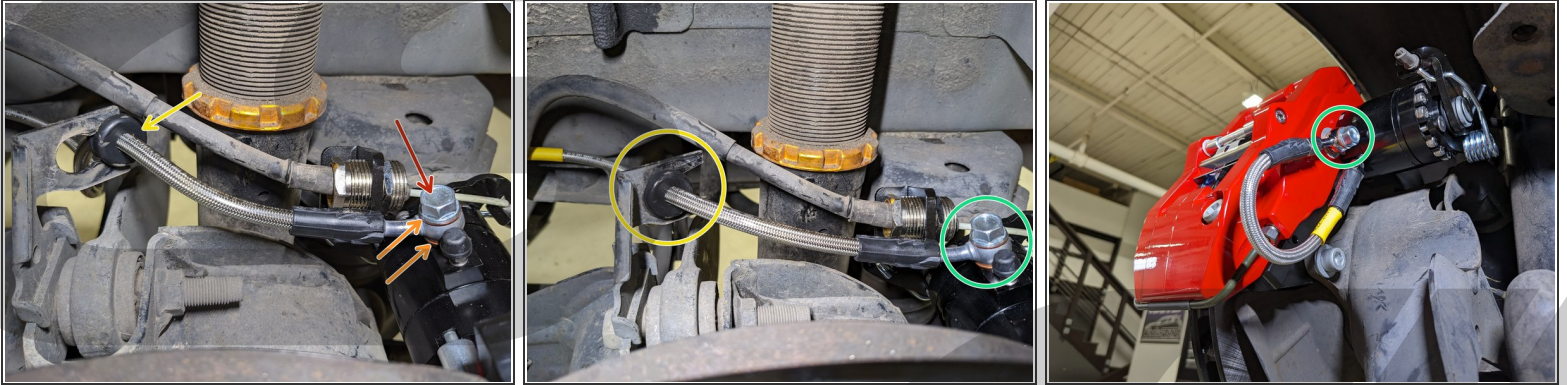
- Remove the dust cover from the backside of the CorkSport Brake caliper
- Install the brake line attached to the Parking Brake mechanism Outlet onto the CorkSport caliper as shown
  - Secure the brake line with one of the supplied M10 banjo bolts
    - ⓘ Ensure there is one copper washer on either side of the brake line fitting
  - Ensure the CorkSport brake line is orientated to eliminate stresses at the ends of the brake line
  - Once happy with Brake Line routing and fitting orientation, tighten the Hex fitting underneath the Brake Caliper Banjo Bolt with a 12mm wrench until snug
- ⓘ Only hand tighten the banjo bolt for now
  - If your kit was shipped with Brake Line Mounting Brackets, these are not used and may be discarded

## Step 14 — Brake Line Installation - Part 2



- Remove the 19mm nut from the end of the CorkSport brake line and slide it over the OEM hardline on the inner fender. Slide it down along the hardline to keep it out of the way
- Slide the end of the CS brake line through the brake line bracket, in place of the OEM rubber line
- Position the OEM hardline into the CS brake line. Thread in the small nut until hand tight
- Hold the CS brake line with a 17mm wrench
- Using a 10mm line wrench, tighten the OEM hardline to the CS brake line until snug
- Bring the 19mm nut down the hardline and hand tighten it to the CS brake line.
- Again, hold the CS brake line with a 17mm wrench
- Using a 19mm wrench tighten the 19mm nut to secure the CS brake line to the bracket.

### Step 15 — Brake Line Installation - Part 3



- Install the other end of the brake line into the inlet of the Parking Brake Mechanism, as shown in the diagram
  - Secure the brake line with one of the supplied M10 banjo bolts
  - Ensure there is one copper washer on either side of the brake line fitting
- Move the Installed Rubber Bushing on the Brake Line to meet the OEM retaining socket and install as shown
  - ⓘ Silicone lubricant spray is recommended
- Tighten both Banjo Bolts to **15-19ft-lbs**
- ⓘ While tightening, ensure the brake line retains good clearances to all suspension components and is free from kinks or snags

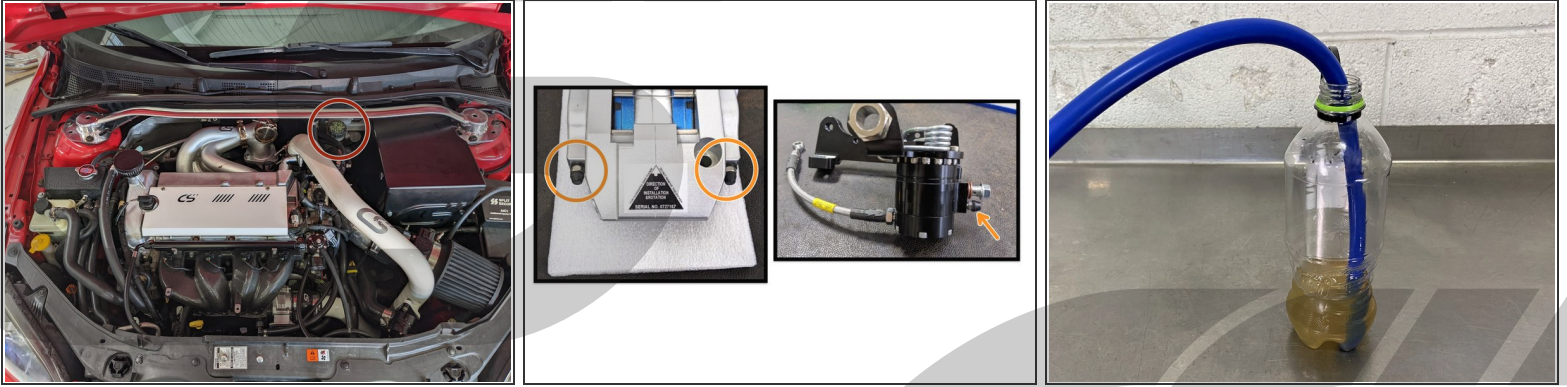
## Step 16 — Passenger's Side Brake Installation



- Repeat steps 8-15 for the passenger's side (right hand side) of the vehicle



## Step 17 — Brake Bleeding - Part 1



- ⓘ "Bleeding" the brakes is the final step before you're ready to drive the car. It removes all air bubbles from the braking system that were introduced during installation
- ⓘ We strongly recommend getting a friend to help you bleed your brakes. It makes the whole process much faster & easier
- Locate the Brake Fluid Reservoir under the hood of your vehicle
- ⓘ Throughout the bleeding process we will reference this unit
- Locate the two bleed screws at the top of each of your calipers, and the bleed screw on the Parking Brake Mechanism. These will be covered with black rubber dust boots
- Instead of buying a fancy brake bleeder, we recommend getting a plastic bottle and a short section of 5/32" (4mm) hose. Pour some brake fluid in the bottle and place the hose in the bottle like shown in the third image. Ensure the hose is sticking into the brake fluid
- ⓘ This bottle will catch excess brake fluid during the bleeding process

## Step 18 — Brake Bleeding - Part 2

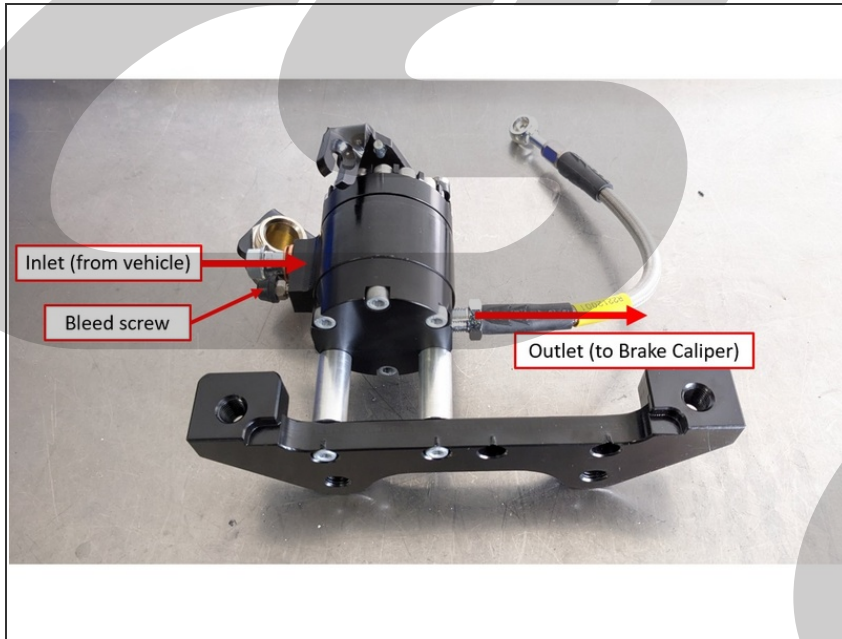


**i** For proper brake bleeding, always start with the bleed screw **furthest** from the master cylinder. In this case we start with the **outer** bleed screw on the **passenger** side, then work your way inward going to the inside Caliper Bleed Screw, then the Parking Brake bleed screw

**!** Take care when loosening & tightening the bleed screws to not scratch your fresh calipers!

- Lift the rubber dust boot from each bleed screw and then, using a 10mm wrench, tighten each bleed screw until snug
- Place a 10mm wrench onto the hex of the outer passenger bleed screw.
- Place the other end of your 5/32" hose onto the outer passenger bleed screw. The setup will look like the second image
- Have your friend pump the brakes hard 3-5 times, then hold the brake pedal down
- While your friend holds the pedal, loosen the outer passenger bleed screw. Fluid and air will come out of the bleed screw and the pedal will travel to the floor
- While the brake pedal is still on the floor, re-tighten the bleed screw. Once tight, your friend can lift their foot from the pedal.

## Step 19 — Brake Bleeding - Part 3



- The Parking Brake Mechanism Bleed Screw requires an 8mm wrench. Bleed the Parking Brake Mechanism by repeating the previous step
- Repeat the pumping & holding procedure from the previous step 3-5 times or until no more air bubbles are coming out of the bleeder hose
- Check fluid level in the master cylinder. Top off with SAE J1703 DOT3 fluid as needed. **DOT4 is highly recommended for Track Use**

**⚠ Top off brake fluid as needed between each bleed screw. DO NOT let the reservoir run dry**

- Once complete with all bleed screws, complete one final pumping & holding procedure on all bleed screws. Use the same order as before
- By this stage, there should be no air coming from the brake bleed screws and the brake pedal should be firm
- Verify there are no brake fluid leaks and top off your fluid one final time before moving on
- Clean your brake rotors with brake parts cleaner

## Step 20 — Wheel Clearance Inspection



**i** A wheel fitment template can be found at the end of this document to further help you check wheel fitment with the rear big brake kit

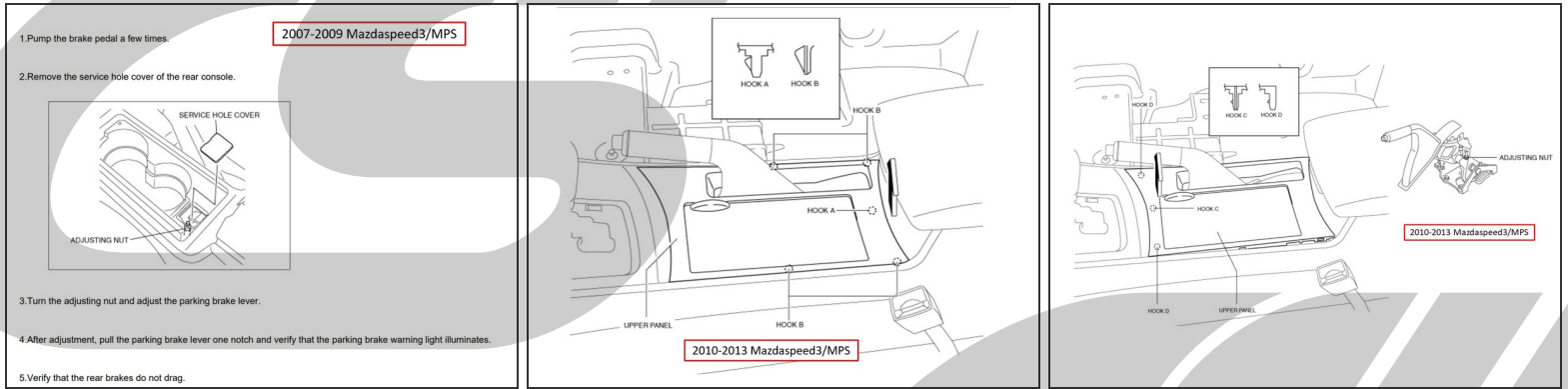
**!** This step must be performed prior to driving the vehicle. Failure to do so can result in severe damage to your CorkSport brakes

**i** Throughout this step, pay close attention to the back of the wheel and your brake caliper. We recommend about 1/8" of clearance for safe operation.

**!** For use with OEM wheels, you will need a ~12mm spacer. We strongly recommend extended wheel studs for this large of a spacer for safety

- Gently position a wheel onto the wheel studs. Be careful as some wheels can easily hit the brakes
- If your wheel appears to be clearing, tighten 3 lug nuts until snug. Inspect clearance again after lugs are tightened
- Finally, very slowly rotate the wheel. Verify that you can rotate it with no contact to the brake caliper

## Step 21 — Parking Brake Cable Adjustment and Operation




**⚠️ Your new parking brake now functions slightly different than OEM. Follow these instructions to operate the new Parking Brake**

- Test the parking brake by firmly pressing on the brakes, then pulling up on the Parking Brake handle
  - If the parking brake does not fully engage (feels loose), OR if the handle is extremely tight upon initial movement (too tight), adjust the cable by following the directions in the images
    - For 2007-09 MazdaSpeed3/MPS, remove the access panel and adjust the Parking Cable nut
    - For 2010-13 MazdaSpeed3/MPS, remove the center cover panel by pulling upwards, as indicated by the two images. Then adjust the cable adjustment nut
- ⓘ Tightening the nut tightens the cable, loosening the nut loosens the cable
- ⓘ There should be little to no play in the cable when the Parking Brake is released
- ⓘ You can no longer simply pull on the handle and the brake will hold. The new parking brake mechanism is in-line with the foot-actuated braking system. The parking brake will "lock" however much pressure is in the system. So the harder you push on the brakes, the stronger the Parking Brake will be

## Step 22 — Final Reassembly



- Once happy with wheel clearance and Parking Brake tightness, install your wheels onto the vehicle and lower your car to the ground
- Torque your wheels in a star pattern to **80-90ft-lbs**
-  The OEM wheel pictured has a 12mm Spacer installed

## Step 23 — Brake Pad Bedding



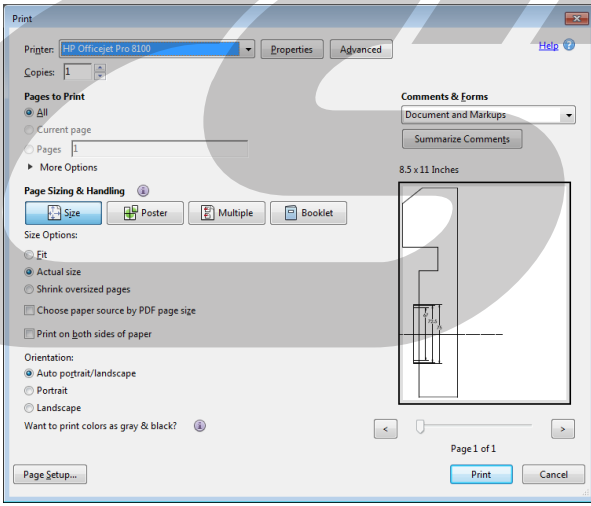
- ① In order for your brake pads & rotors to wear evenly, you must complete the following procedure to "bed" in the pads & rotors
- ① Carefully drive to an open road with no cars around. You will be performing many accelerations & stops. Do not attempt to stomp on the brakes right after install
- ① You may notice a brake smell and/or some smoke during this operation. This is normal as the brakes will get very hot during bedding
  - Accelerate until ~30MPH. Brake smoothly and evenly until almost stopped and then again accelerate to ~30MPH
  - Repeat the previous step ~10 times
  - Accelerate to ~45MPH. Brake much more aggressively until almost stopped. Then accelerate again until ~45MPH
  - Repeat the previous step ~3 times
  - Drive the car around for 15 minutes to let the brake system cool. The less you use the brakes the better

## Step 24 — Installation Complete

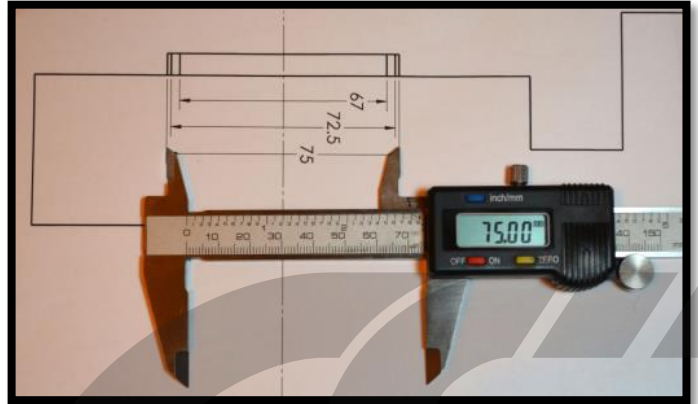


- After bedding, you are now able to drive normally! Some brake squeaking is normal with the CorkSport BBK
- This completes your installation of the CorkSport Performance Rear Big Brake Kit!
- Contact us with any questions or concerns at [sales@corksport.com](mailto:sales@corksport.com) or (360) 260-2675.
- Please leave a review here: <https://corksport.com>
- Share your experience using #CorkSport on Instagram, Facebook, and Twitter.

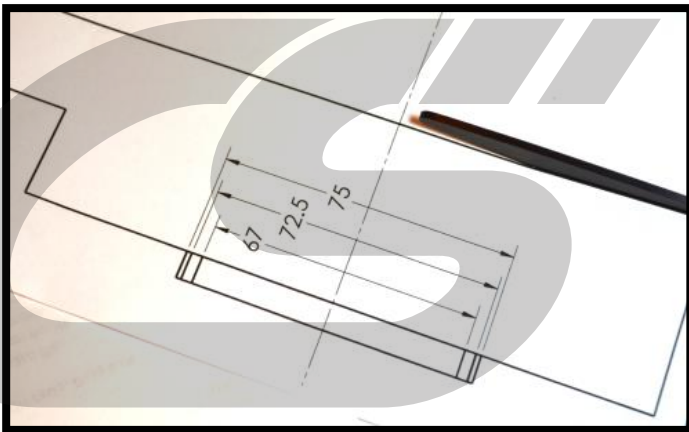




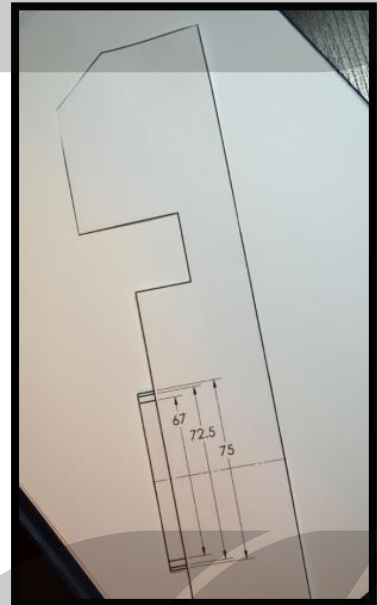
1. Print a copy of the drawing, making sure that the "Size Options" is set at "Actual Size" (or make sure "Scale" is at "100%")



2. Check dimensions to confirm it has been printed to scale.



3. Cut the drawing just outside the line. Cut down to hub size of wheel.



4. Glue the drawing to a stiffer piece of material such as a manila folder to make the template easier to use. Finish by cutting directly along the line.

**PART #: AXL-3-469**

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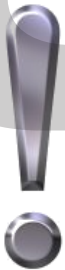


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deliver - every time.*

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5. Lay the template inside the wheel as shown. Verify that the edge of the caliper does not touch the rim or the wheel spokes. A minimum clearance of 2mm (0.080") is recommended.



If there is interference, different wheels or a spacer will be necessary. Use of a wheel spacer is at the discretion of the vehicle owner. Typically a properly made spacer of 2-3mm will not adversely affect the vehicle. Issues that must be addressed before utilizing a wheel spacer include, but are not limited to, fender clearance, proper wheel bolt or stud length, effect on vehicle handling, and centering of the wheel. Wheel fitment and the use of wheel spacers with our brake caliper upgrade is the responsibility of the customer.

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