

# CorkSport Performance

## AXM-3-469-1x Rear Big Brake Kit

Installation Instructions for the CorkSport Performance Rear Big Brake Kit for the 2014-2016 Mazda3 with the Manual Parking Brake

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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)
- 10mm Allen Key Socket (1)
- 12mm Allen Key Socket (1)
- Wrench, 10mm (1)
- Wrench, 14mm (1)
- Wrench, 17mm (1)
- Wrench, 19mm (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

### **i** 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

- i** **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



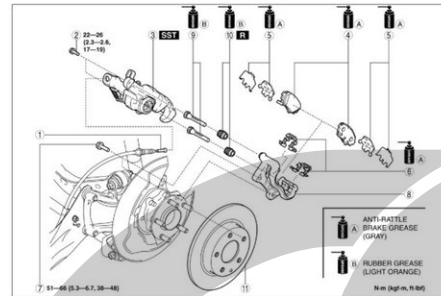
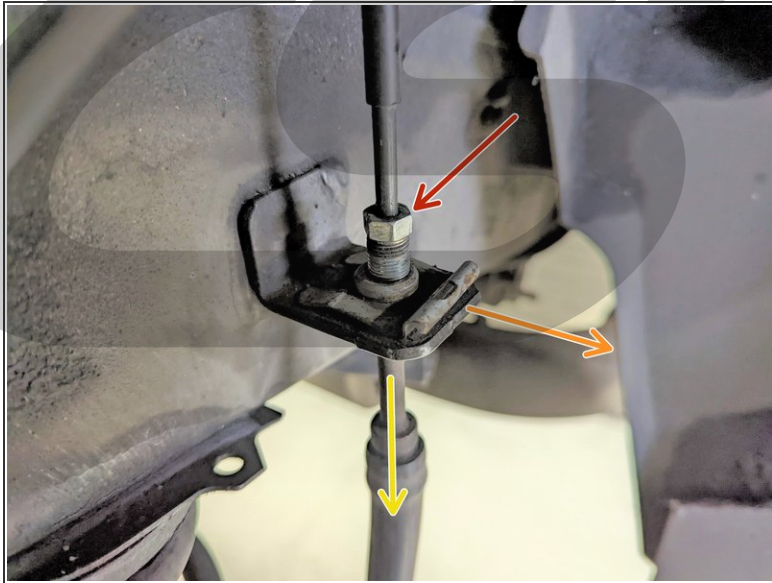
**⚠️ Ensure the vehicle is parked on a level surface before proceeding.**

- Start by lifting up the rear of the car using a 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 — Disassemble the OEM Brake Assembly



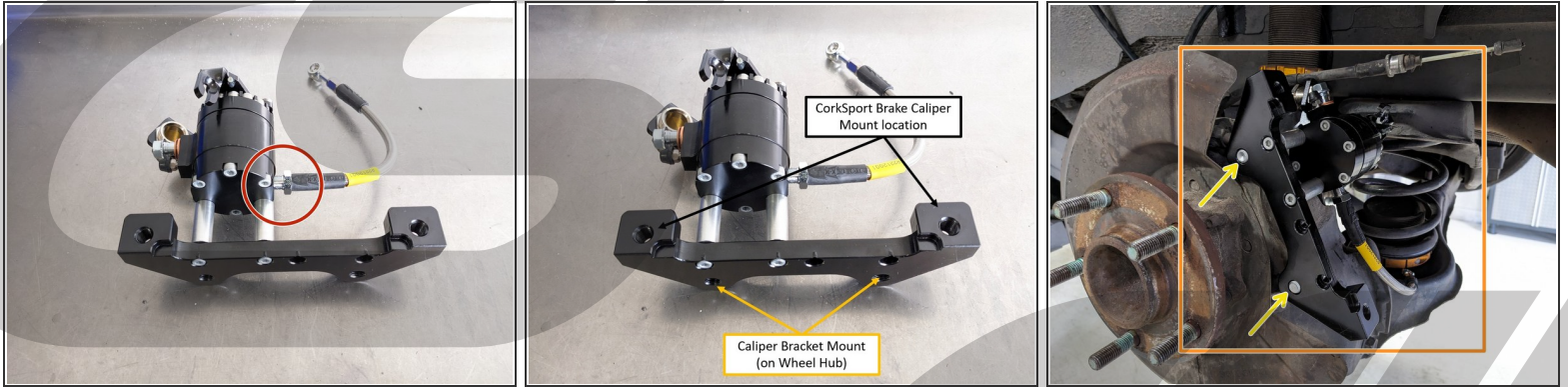
1	Rear parking brake cable
2	Bolt
3	Caliper
4	Disc pad
5	Shim
6	Guide plate
7	Bolt
8	Mounting support
9	Slide pin
10	Quilt boot
11	Disc plate

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

**i** Ensure the parking brake is released

- With a 10mm Flare Nut wrench, remove the nut securing the Brake Line
- Remove the silver brake line retaining clip using either needle nose pliers or a flat blade screwdriver
  - Free the Brake Line by pulling the rubber hose downward and drain the brake fluid into a container or drip pan
- Remove the OEM Brake Assembly in the order shown in the table and diagram shown

## Step 4 — CorkSport Caliper Bracket and Parking Brake Installation



**⚠** The following installation steps are performed on a Mazdaspeed3. Installation on other vehicles equipped with a Manual Parking Brake will be similar. The Caliper Bracket and orientation of the Parking Brake mechanism may vary from the images shown. The same principles apply for installation on your specific vehicle

- 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 5 — 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 tighten a lug nut 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 6 — 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 in 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 10mm Allen socket
  - Torque to **64-71 ft-lbs**

## Step 7 — 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 8 — Parking Brake Cable Installation



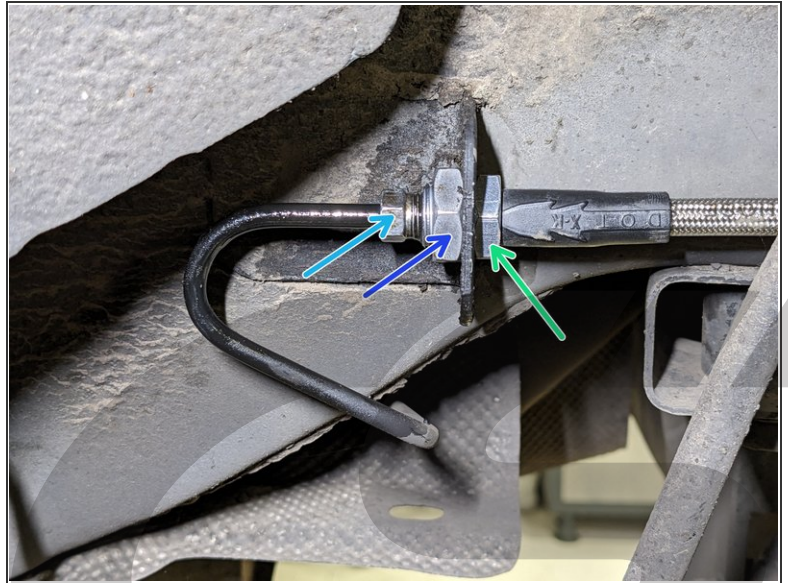
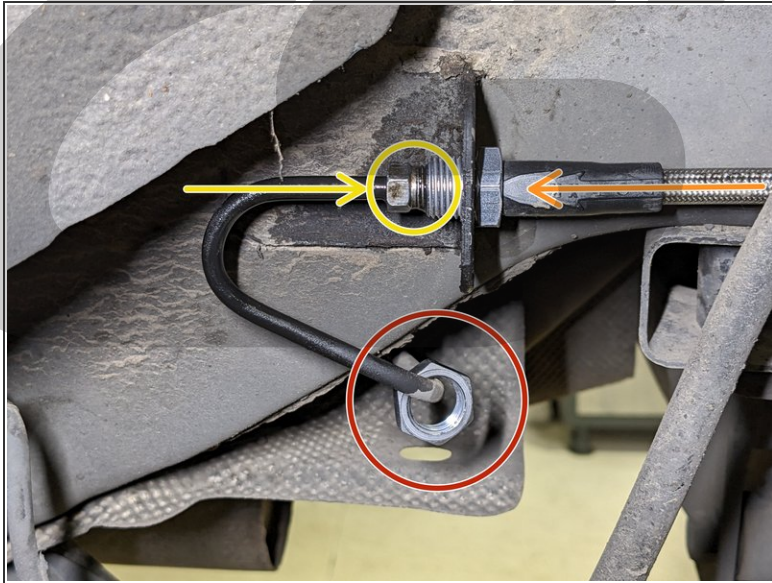
- Slide the Parking Brake Cable through the hole in the Parking Brake mechanism bracket, in front of the spring loaded actuating arm
- Attach the end of the cable to the end of the arm as shown
- ① Your parking cable end style may vary, but the principle remains the same

## Step 9 — Brake Line Installation - Part 1



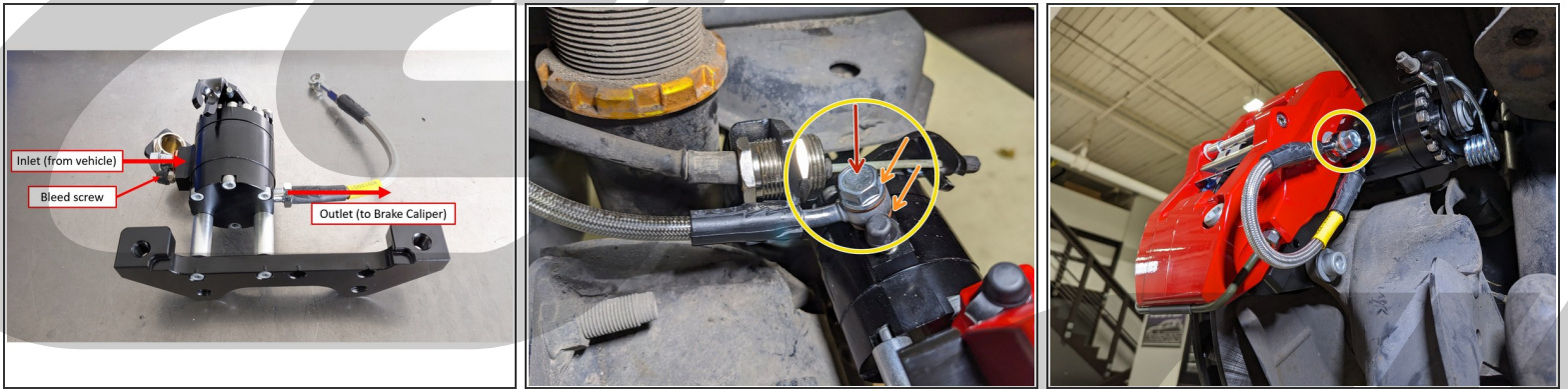
- Remove the dust cover from the backside of the CorkSport Brake caliper
- Install the shorter brake line attached to the Parking Brake mechanism **Outlet** onto the CorkSport caliper as shown
  - Secure the brake line with one of the supplied M10 banjo bolts
  - Ensure there is one copper washer on 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

## Step 10 — 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 bottom of the brake line bracket on inner fender
- Position the OEM hardline into the CS brake line. Thread in the 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 inner fender bracket.

## Step 11 — Brake Line Installation - Part 3



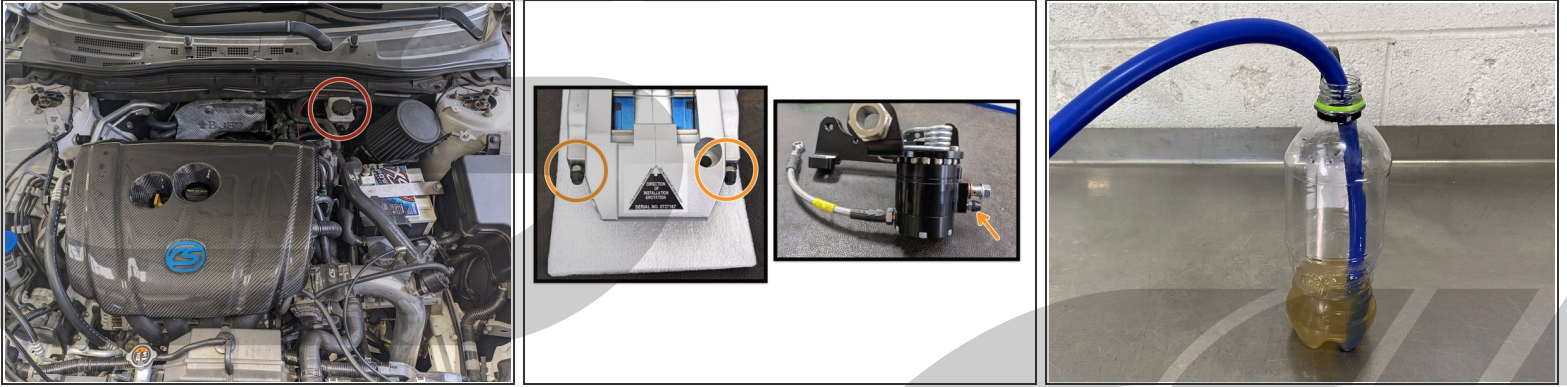
- Install the other end of the brake line into the **inlet** of the Parking Brake Mechanism, as shown in the diagram
  - Secure the brake line with the supplied M10 banjo bolt
  - Ensure there is one copper washer on either side of the brake line fitting
  - Orientate the fitting to allow for wheel movement without snagging the line
- 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 12 — Passenger's Side Brake Installation



- Repeat steps 4-11 for the passenger's side (right hand side) of the vehicle
- If your kit was shipped with Brake Line Mounting Brackets, these are not used and may be discarded

## Step 13 — Brake Bleeding - Part 1



- i** "Bleeding" the brakes is the final step before you're ready to drive the car. It removes all air bubbles from braking system that were introduced during installation
- i** We strongly recommend getting a friend to help you bleed your brakes. It makes the whole process much faster & easier
- Locate the brake master cylinder under the hood of your vehicle
- i** 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
- i** The bottle will catch excess brake fluid during the bleeding process

## Step 14 — Brake Bleeding - Part 2



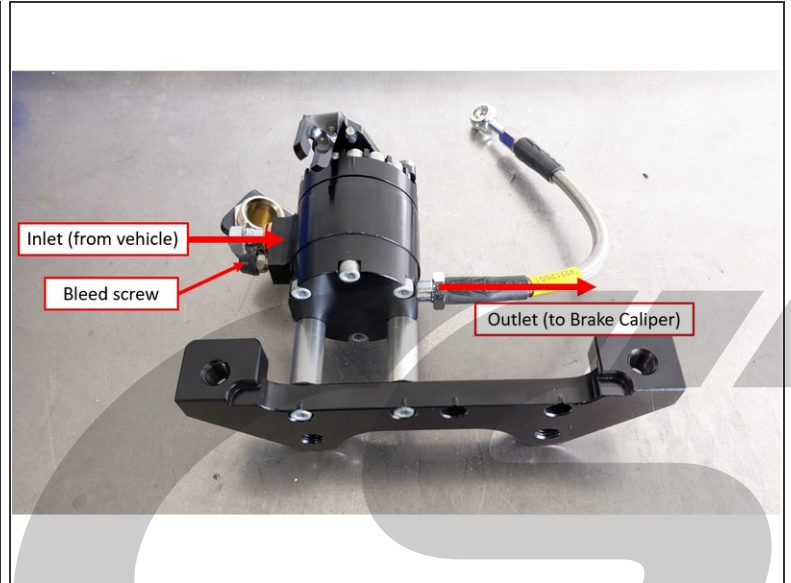
**i** For proper brake bleeding, always start with the bleed screw **furthest** from the master cylinder. In this case we start with the **outer** bleed screw on the **passenger** side, then work your way inward going to the inside Caliper Bleed Screw, then the Parking Brake bleed screw

**!** 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 15 — Brake Bleeding - Part 3



**i** The Parking Brake Mechanism Bleed Screw requires an 8mm wrench

- 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 16 — 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

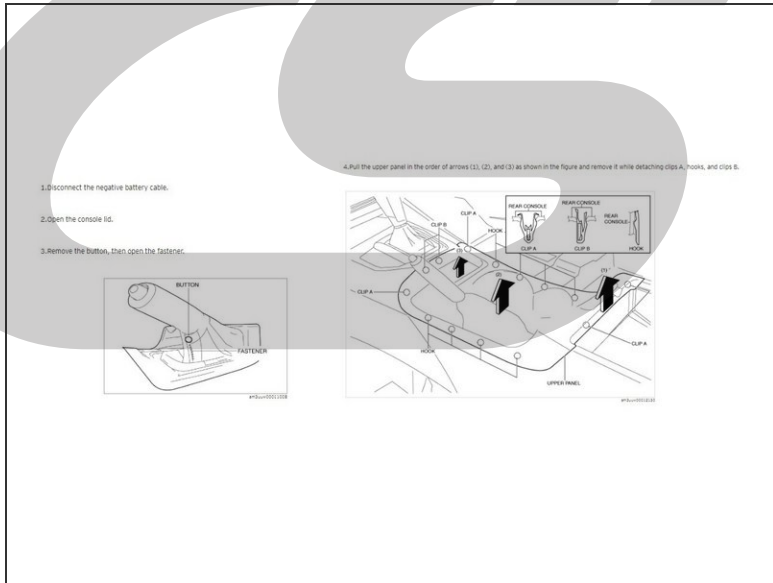
**!** This step must be performed prior to driving the vehicle. Failure to do so can result in severe damage to your CorkSport brakes

**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.

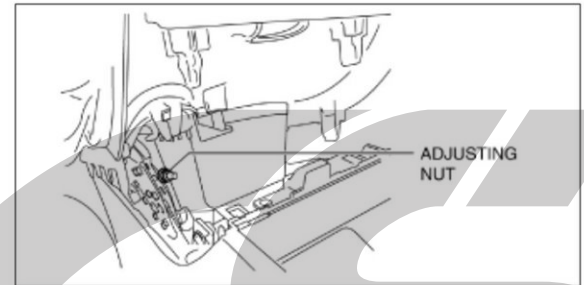
**!** For use with OEM wheels, you will need a ~20mm spacer. Extended wheel studs or a "bolt-on" style spacer will be required for a spacer this large

- 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 17 — Parking Brake Cable Adjustment and Operation



Turn the adjusting nut and adjust the parking brake lever.



**⚠️ 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
  - ⓘ 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 18 — 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**

## Step 19 — Brake Pad Bedding

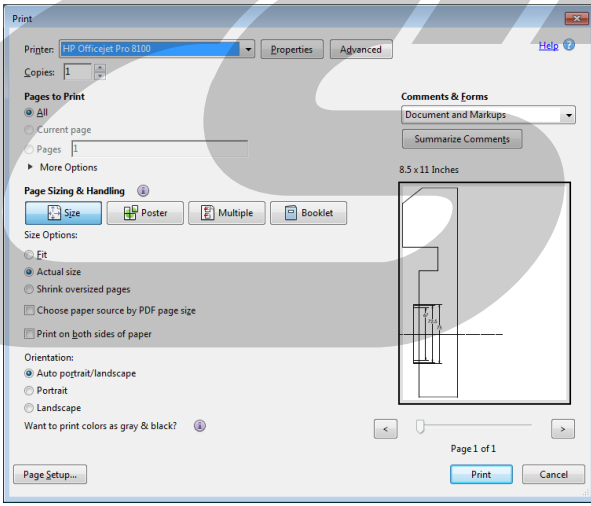


- ❗ In order for your brake pads & rotors to wear evenly, you must complete the following procedure to "bed" in the pads & rotors
  - ❗ Carefully drive to an open road with no cars around. You will be performing many accelerations & stops. **Do not** attempt to stomp on the brakes right after install
  - ❗ 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

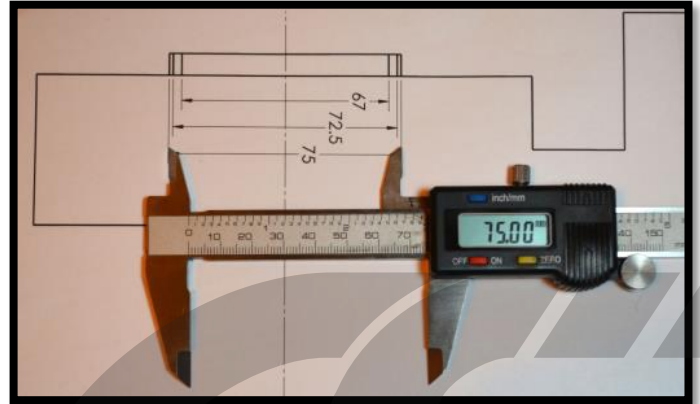
## Step 20 — Installation Complete



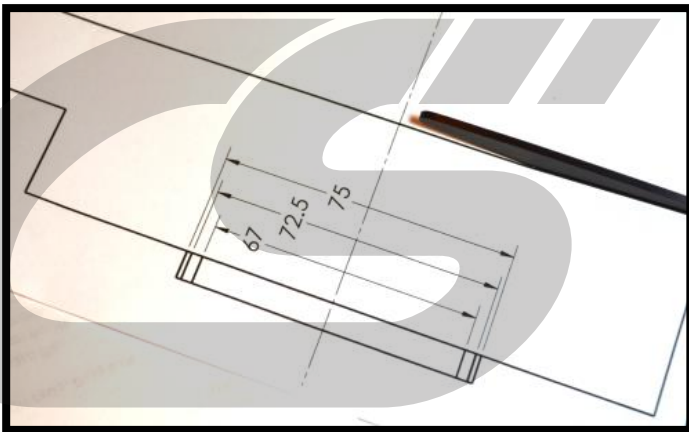
- After bedding, you are now able to drive normally! Some brake squeaking is normal with the CorkSport BBK
- This completes your installation of the CorkSport Performance Rear Big Brake Kit!
- Contact us with any questions or concerns at [sales@corksport.com](mailto:sales@corksport.com) or (360) 260-2675.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



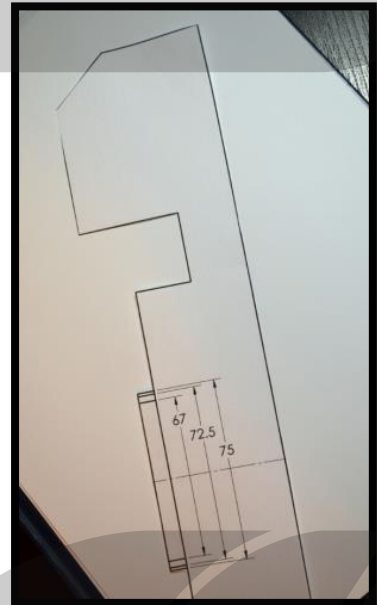
1. Print a copy of the drawing, making sure that the "Size Options" is set at "Actual Size" (or make sure "Scale" is at "100%")



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.

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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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