

# BAER

## BRAKE SYSTEMS



### Installation Manual

**Part Number: 6000264**

**Product: SS4+, Pro+, Extreme+ Rear**

**Vehicle Make: FORD and General Motors vehicles**

**Model: All BOA applications**

**Years: All**

**Date: March 20 2019**

#### **READ THIS BEFORE STARTING**

Returns will not be accepted for ANY installed PART or ASSEMBLY.  
Use great care in preventing cosmetic damage when performing  
wheel fit check.

The recipient indemnifies Baer Inc. for all liabilities or losses  
incurred in connection with the recipient modifying or alter-  
ing Baer Inc. product during installation.

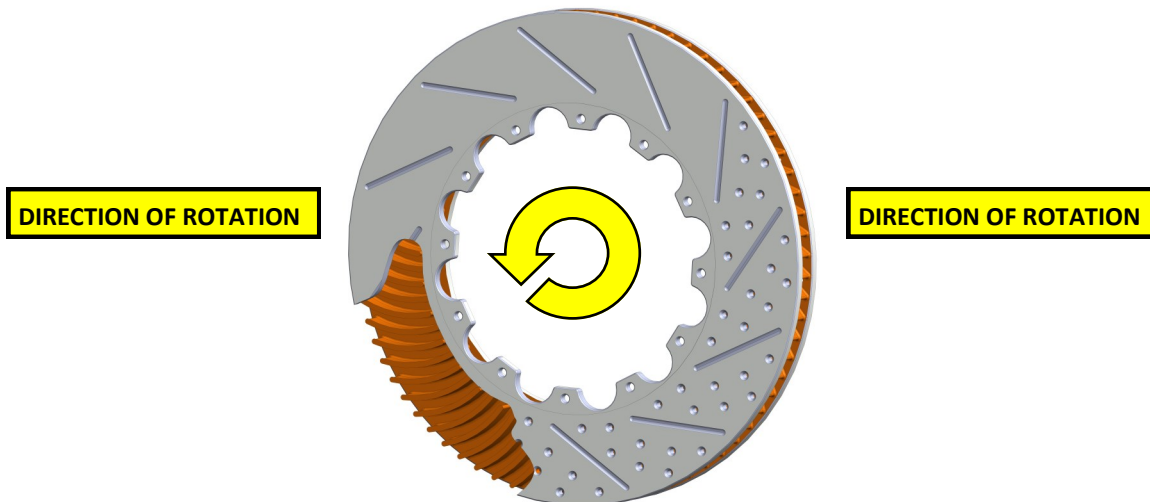


#### Read and Follow BEFORE ATTEMPTING INSTALLATION

- ◆ **All installations require proper safety procedures and protective eyewear.**
- ◆ **All installations should be performed by qualified personnel using a factory service manual for the vehicle on which the installation is to be performed.**
- ◆ **All references to LEFT side of vehicle always refer to the Driver's side of the vehicle.**
- ◆ **Any installation requiring you to remove a wheel or gain access under the vehicle requires use of jack stands appropriate to the weight of the vehicle. In all cases recommended ratings for jack stands should be at least 2-tons.**
- ◆ **A selection of hand tools sufficient to engage in the installation of these products is assumed and is the responsibility of the installer to have in his/her possession prior to beginning this installation. All installations, which require removal of hydraulic hoses and/or bleeding of the brakes, require appropriate fitting/line wrenches, as well as a safety catch can and protective eyewear. Other than these items, if unique or special tools are required they are listed in the section for that step.**
- ◆ **Returns will not be accepted for systems that have been partially or completely installed. Use extreme care when performing wheel fit check to prevent cosmetic damage.**



- ◆ ALWAYS PERFORM A COMPATABILITY TEST PRIOR TO BEGINNING THE INSTALLATION OF ANY BRAKE SYSTEM OR “UPSIZED” ROTOR UPGRADE .
- ◆ In addition to already having checked fit using the Baer Brake Fit Templates available online at [www.baer.com](http://www.baer.com), always place the actual corner assembly or a combination of the caliper assembly fit onto the rotor into the actual wheel to confirm proper clearance is available between the caliper and the wheel before proceeding with the actual installation.



- ◆ When installing rotors on any Baer Products be sure to follow the direction of rotation indicated on the rotor hat area with either an arrow, or an “L” for left, or an “R” for right, or both. “L” or left always indicates the driver’s side of U.S. spec vehicles. Image above is of a “L” left rotor. NOTE: Slots and drill patterns sweep forward and internal vanes sweep rearward.
- ◆ A professional wheel alignment is mandatory following the installation of any system requiring replacement of the front spindles, or tie rod ends. Return the vehicle to factory specifications unless otherwise indicated.
- ◆ Stop the installation if seems unclear or the parts require force to install. Consult directly with Baer Technical Staff in such instances to confirm details. Please have these instructions, as well as the part number machined on the component that is proving difficult to install, as well as the make, model, and year (date of vehicle production is preferred) of your vehicle available when you call. Baer’s Tech Staff is available from 8:30-am to 5-pm Mountain Standard Time (Arizona does not observe Daylight Savings Time) at 602 233-1411 Monday through Friday.

**NOTE:** This system is designed for Ford applications with an axle stand off measuring 2.375" to 2.50" and GM applications with an axle stand off of 2.75".

Maximum axle flange diameter for SS4+ systems is 5.75" in. and approximately 6.25" in. for Pro+ and Ext+ systems.

## INSTALLATION

Disconnect the hardline from the drum brake slave cylinder and cap the line with the vinyl caps provided to prevent brake fluid from dripping through the installation process.

Disconnect the park cable from attachment points on the frame and primary cable. There is no need to disengage from the backing plate.

Remove the bolts securing the drum brake backing plate to the housing. Retain the "T" bolts and nuts to use on the new Baer park brake assembly.

Remove the axle from the housing. Inspect the condition of the bearings and seals, replace if necessary. If your axles have the old style bearing retainers, these **MUST** be removed for proper installation of this system.

Prior to installing the park brake brackets, it is important to know that each bracket is engraved with a specific part number. Part number beginning with 671 denotes the left side or driver's side and 672, the right side. With the axle in place, install the first park brake bracket over the axle bearing. Install this using the original "T" bolts. 3/8" bolts torque to 45 ft-lbs. and 1/2" bolts torque to 85 ft-lbs. See, Figure 1 for reference.

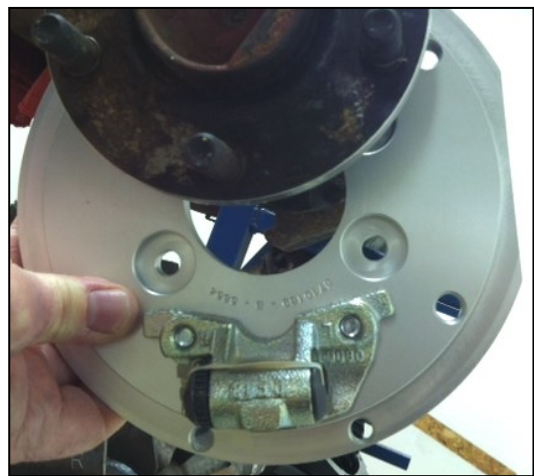
**Pro+, Ext+ Systems:** The park brake bracket is designed with the actuator below the axle. The caliper can be mounted in front of the axle or behind. Mounting the park actuator above is possible. Contact your Baer Service Tech for assistance.

**SS4 Systems:** The park brake bracket is designed to mount the caliper behind the centerline of the axle. The park brake actuator will be located below the axle centerline, towards the ground.

**Note:** Whether you purchased an SS4, Pro+, or Ext+ System, each will install in the same manner described in this manual but will contain different brackets due to their design.

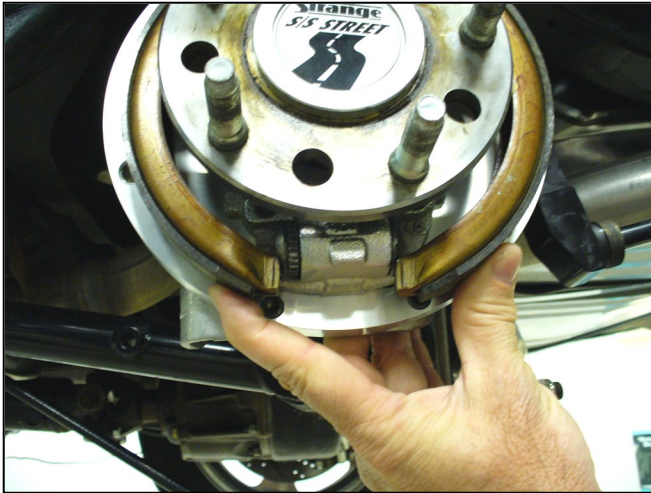


**Figure 1A:** Park brake bracket (Pro+, Ext+)

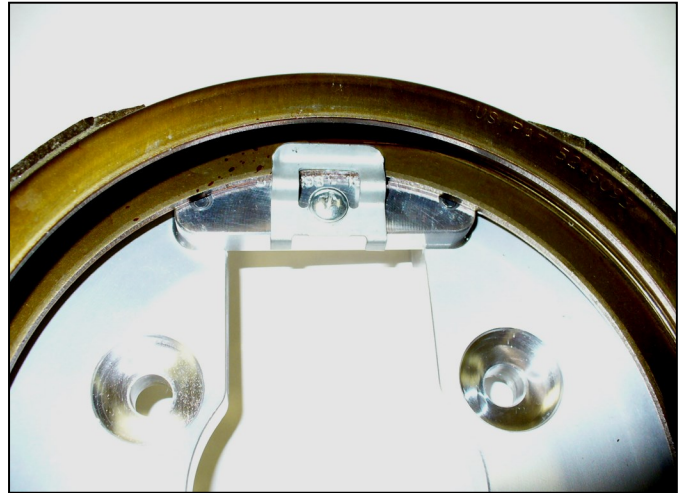


**Figure 1B:** Park brake bracket (SS4)-Driver's

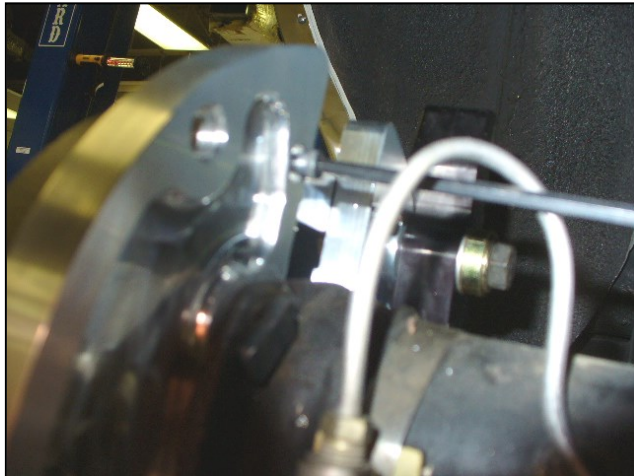




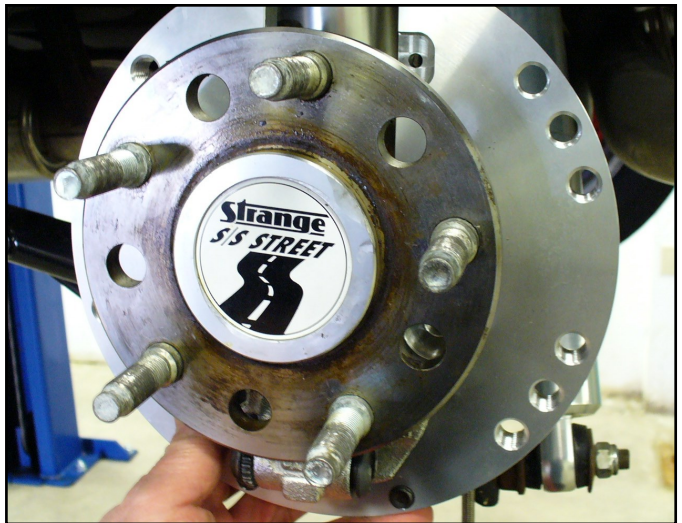
Install the parking brake shoe over the axle flange. Once over the flange, slip the shoe onto the actuator from the bottom up. Figure 2 shows the installation of the parking brake shoe for the Pro+ and Ext+ Systems.



Slip the flats on the park shoe onto the actuator and slide them up into position. Place the retainer brace in the rim of the shoe and slip it onto the shoe. This procedure is similar for all SS4, Pro+, and Ext+ Systems. See, Figure 3, for reference.



Secure the park brake shoe with the provided socket head cap screws. Torque each bolt to 10-12 ft·lbs. This procedure is similar for all SS4, Pro+, and Ext+ Systems.



**Pro+, Ext+ Systems:** The caliper can be located in one position ahead of the axle, and three positions behind, the bracket is held on by two bolts with washers, the mounting positions are the threaded holes in the park bracket. Choose the best position for your vehicle.

**SS4 Systems:** The caliper will mount in only one position behind the axle centerline.

The caliper bracket is offset to allow centering the caliper. The engraved part number will face inboard for the proper position of the bracket. Using the 12mm bolts, attach the radial mount bracket and tighten snugly with a small wrench. These will be removed later for shim installation to accurately center the caliper. If applicable, install the centric ring onto the center of the axle. The ring will allow the rotor to seat properly when mounted. Next, install the rotor, securing it with three lug nuts and washers to avoid marring the hat finish.

## Shimming Procedure

Measure the gap from the rotor to caliper body at 4 points, top inside and outside, bottom inside and outside. Write down all measurements. Subtract the top inside measurement from top outside. This will require a shim at the top bracket bolt equal to half of this difference to center the caliper. For instance, inside measurement of .865", outside of .905" has a difference of .040 which would require a .020" shim installed to center. Do the same with the bottom measurements to center this also. Getting these gaps as close as possible within .005" will keep the possibility of excessive noise to a minimum. This may require different thickness shims top and bottom.

**\*\*Note:** The purpose of shimming is due to axle play or movement, along its centerline. This movement is minimal but requires the use of shims in order to properly center the caliper onto the rotor.

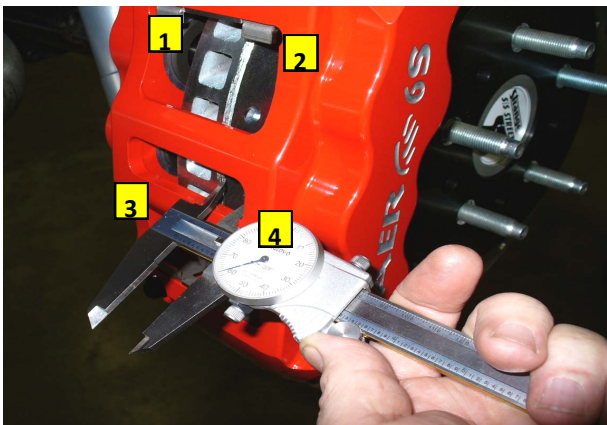
### Procedure

1. Select the required shims from the kit provided.
2. Remove the caliper.
3. Loosen the bolts from the radial mount bracket that is connected to the park bracket.
4. Install the appropriate shims (between the radial mount bracket and park brake bracket), removing one bolt at a time, and snug the same bolts for fit check. See photos below for reference.
5. Reinstall the caliper and recheck gap measurements.

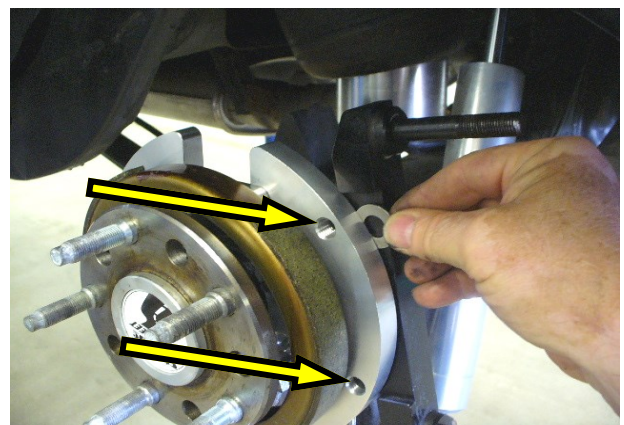
**SS4, Pro+ Systems:** Re-shim if necessary. When proper shimming has been achieved, torque the radial mount bracket bolts to 85 ft-lbs. Finally, remove the caliper to install the brake pads. Re-install the caliper and torque the caliper bolts to 75 ft-lbs.

**Ext+ Systems:** Re-shim if necessary. When proper shimming has been achieved, torque the radial mount bracket bolts to 85 ft-lbs. Finally, remove the caliper to install the brake pads. Re-install the caliper and torque the 12-point nuts to 75 ft-lbs.

If you do not have access to a dial caliper, these measurements can be made with pads installed using a feeler gauge between the rotor and pad. Take measurements from top inside and outside, then bottom inside and outside. Minimum clearance is .010" between pad and rotor, but gaps as close to equal as possible at all four locations is best.



**Measuring Points**



**Shim Locations**



10. Install the steel braid hose with one copper washer on each side of the banjo fitting. Finger tighten the banjo bolt. Connect the hose to the hardline and install the hose lock. **IMPORTANT:** Position the hose to avoid interference with the wheel and suspension components. Tighten fitting and banjo bolt to 15-20 ft·lbs.



Repeat these steps for the other side and recheck all attachment points and fittings.

Refer to Bleeding and Rotor Seasoning procedures contained on a separate sheet.

For service components and replacement parts contact your Baer Brake Systems Tech Representative.

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