

# BAER<sup>®</sup> Your Complete Performance Brake Supplier!



## Installation Instructions

Product: SS4+ Front

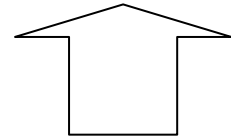
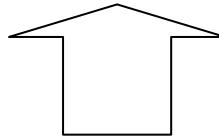
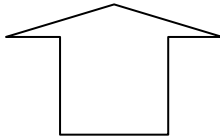
Instruction Part Number: 6000520

Revision Date: 09 December 2015

### Vehicle

Make: GM  
Model: A, F, X Bodies  
Year(s): A: 64-72 / F: 67-69 / X: 68-74

**ATTENTION: Read this before going any farther! Returns will not be accepted for ANY installed PART or ASSEMBLY. Use great care to prevent cosmetic damage when performing wheel fit check. In the event that a product must be returned, please contact Baer Customer Service for a RMA Number.**



### Notices – Read and Follow BEFORE ATTEMPTING INSTALLATION

- All installations require proper safety procedures and protective eyewear.
- All installations assume basic mechanical skill and a factory service manual for the vehicle on which the installation is to be performed.
- All references to the “left” side of the vehicle correlate 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, jack stands rated for a minimum of 2-tons is recommended.
- 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, safety catch can, and protective eyewear. Other than these items, if unique or special tools are required they will be stated appropriately in the installation step.
- ALWAYS CONFIRM WHEEL FIT PRIOR TO BEGINNING INSTALLATION OF ANY BRAKE SYSTEM OR “UPSIZED” ROTOR UPGRADE! In addition to checking wheel fitment (available online at [www.baer.com](http://www.baer.com)), always place the actual corner assembly or a combination of the caliper assembly onto the rotor, and into the actual wheel. This procedure will reconfirm proper clearance between the caliper and the wheel before proceeding with the actual installation.

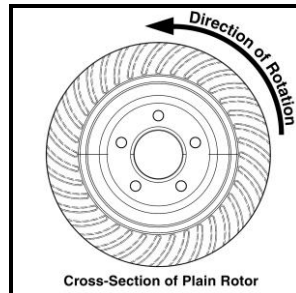
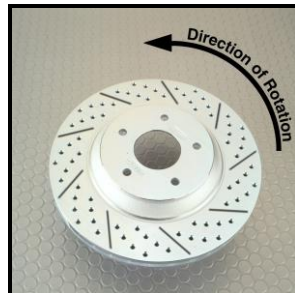
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- Returns will **not** be accepted for systems that have been partially or completely installed. Use extreme care when checking wheel fitment to prevent any cosmetic damage.



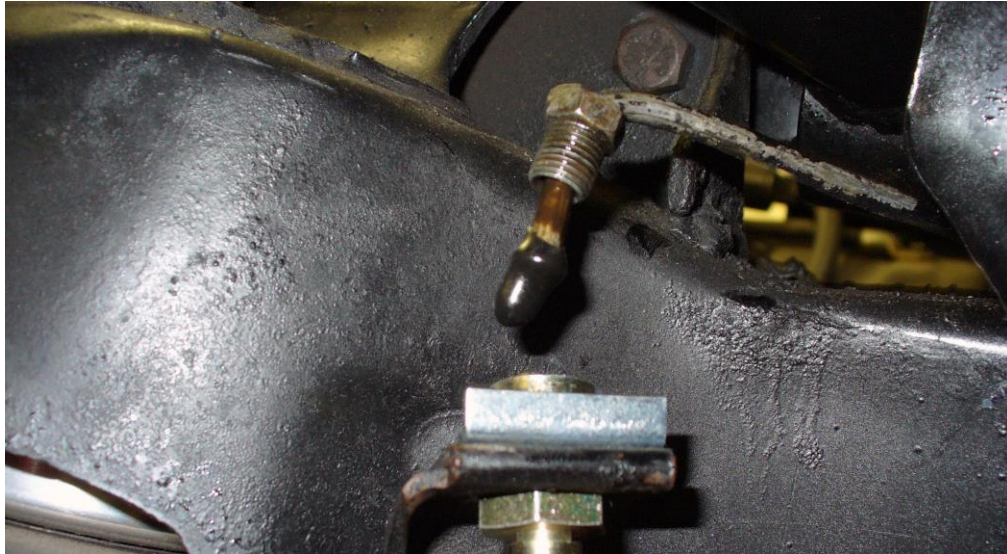
- When installing new Baer rotors, be sure to follow the direction of rotation indicated on the rotor hat area with either an arrow, or an "L" for left, or an "R" for right, or both. "L" or left always indicates the driver's side of US spec vehicles. Images shown are "L" left rotors:



- A proper professional wheel alignment is required for any system requiring replacement of the front spindles, or tie rod ends. Follow factory prescribed procedures and specifications unless otherwise indicated.
- At any point, stop the installation if anything is 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 of the component (part numbers are machined into the brackets) 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 Technical Staff is available from 8:30a.m. - 5:00p.m. Mountain Standard Time (Arizona does not observe Daylight Savings Time) by phone: (602)-233-1411 Monday through Friday.

## INSTALLATION:

1. Disconnect the brake hose from the hardline at the frame using a line wrench. Cap the hardline with the supplied vinyl cap to avoid brake fluid dripping. See Figure 1 for reference.
2. Remove the hose lock and disengage the hose from the bracket.



**Figure 1: Hose lock location and vinyl cap installed**

**Disc Brake Removal:** Remove the allen bolts retaining the caliper and remove the caliper from the rotor. Remove the dust cap, cotter pin, retainer nut and rotor. Unbolt the caliper bracket from the spindle. Do not remove the spindle. Remove the remaining bolt securing the steer arm to the spindle. This will be replaced with a new bracket retaining bolt supplied with your system.

**Drum Removal:** Remove the dust cap, cotter pin, retainer nut and drum. Unbolt the drum backing plate from the spindle leaving all components intact.

3. Thoroughly clean all attachment points and the spindle pin to ensure proper installation of the new Baer components.
4. The caliper position will be behind the spindle pin centerline. Install the base bracket to the spindle using the supplied  $\frac{1}{2}$ -20x2.75" and  $\frac{1}{2}$ -20x3.0" bolts and locking nuts. The longer (3") will be inserted in the steering arm hole closest to the tie rod attaching point. Torque both bolts to 95 ft-lbs. See Figure 2 for reference.

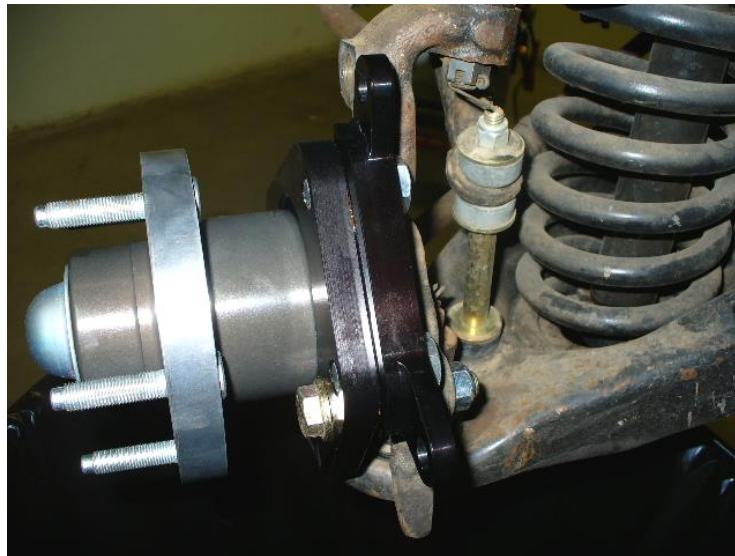
**\*\*Note:** Most early 2-piece spindle vehicles come with 1/2" bolts. If your vehicles came equipped with 7/16" bolts, the holes will need to be opened up to 1/2". A Unibit with the major diameter works best.

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**Figure 2: Left bracket installed, caliper to rear of spindle pin**

5. Install the new billet aluminum hub. The new Timken bearings are pre-packed with Red Line synthetic grease. Do not add more grease. Apply a small amount of grease to the hub seal surface and install the hub. Tighten the nut to 5-10 ft-lbs and spin the hub to seat the bearings. Loosen and re-tighten the nut while spinning the hub several times. Loosen the nut, tighten to remove all play, tighten approximately 1/16<sup>th</sup> turn or more to align cotter pin holes, to give a small amount of pre-load. Install nut retainer, cotter pin and dust cap.
6. Install the intermediate bracket to the base bracket using the supplied 9/16 x 1.5" (Non-VT) bolts and washers. Simply tighten the bolts for now as shimming will need to be accomplished. See Figure 3 for reference.



**Figure 3: Intermediate bracket installed-part number engraved on bracket faces outward.**

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7. Install the correct side rotor and secure with three lug nuts and washers to avoid scratching the rotor hat, and provide proper force distribution which will allow for accurate shimming.
8. With pads in place, install the correct caliper and secure with the supplied 12mm bolts. Just snug these bolts, as they may need to be removed.

\*\*Note that all or most S4 Calipers are made with dual bleeders for orientation depending on the brake setup.

9. Perform the Shimming Procedure on the last page. When the procedure is complete continue with Step 10.
10. Install the steel braided 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 through the entire range of motion.** Tighten banjo bolt to 15-20 ft-lbs.
11. 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, or on [www.baer.com](http://www.baer.com)

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

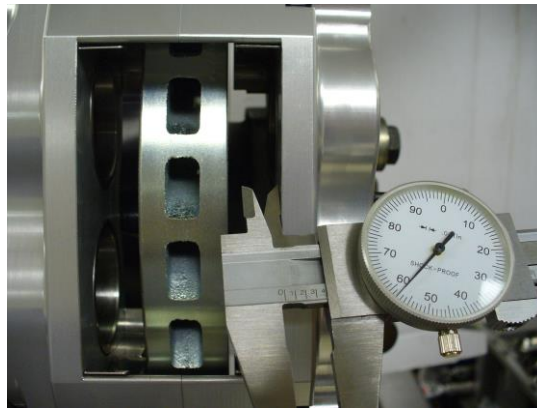
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### Shimming Procedure

#### **Procedure**

1. 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.

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 caliper clearance for centering**

2. Select the required shims from the kit provided.
3. Remove the caliper.
4. Loosen the bolts from the intermediate bracket that are bolted to the base bracket.
5. Install the appropriate shims, removing one bolt at a time, and snug the same bolts for fit check.
6. Reinstall the caliper and recheck gap measurements.
7. Re-shim if necessary. When proper shimming has been achieved, remove the caliper and take the bolts from the intermediate bracket keeping the shims in place, one at a time, and replace the bolts with the supplied 9/16 x 2.0" VT bolts and washers. Torque bolts to 100 ft·lbs. Finally, reinstall the caliper with pads, and torque the last two bolts to 75 ft·lbs. The purpose of shimming is so that the caliper will sit center atop the rotor. This compensates the variances in spindles due to machining processes.