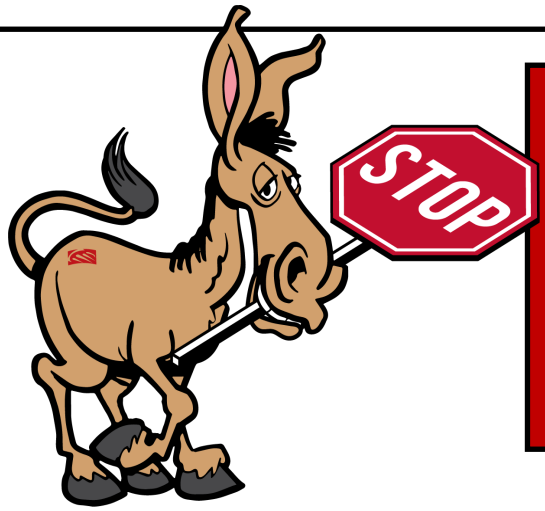
INSTALLATION INSTRUCTIONS

PART NUMBER: 6000371
VEHICLE MAKE: GM
MODEL: 10/12 BOLT AXLE WITH BEARINGS ON AXLE
YEARS: ALL

PRODUCT: PRO+ / EXT+ REAR
REVISION: REVISION D
REVISION DATE: 4 SEPTEMBER, 2024

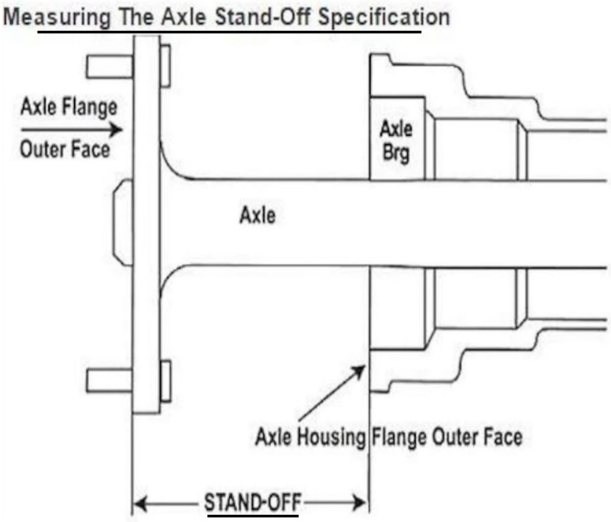


READ BEFORE CONTINUING!
Returns will not be accepted for ANY installed PART or ASSEMBLY. Use great care in preventing cosmetic damage when performing wheel fit check. If a product must be returned, please contact Baer customer service for an RMA number.
The recipient of this product indemnifies Baer Inc. for all liabilities or losses incurred in connection with the recipient modifying or altering Baer Inc. product during installation.

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 BEFORE BEGINNING INSTALLATION OF ANY BRAKE SYSTEM OR "UPSIZED" ROTOR UPGRADE! In addition to checking wheel fitment of this system with the wheel fitment template (available online at www.Baer.com), always place the actual corner assembly or a combination of the caliper assembly on the rotor, and into the actual wheel with great care to prevent cosmetic damage. This procedure will reconfirm proper clearance between the caliper and the wheel before proceeding with the actual installation.
- 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 of brake components.** Wheel fitment should be verified before installation using a wheel fitment template supplied at www.Baer.com
- When installing new Baer rotor, be sure to follow the direction of rotation indicated on the rotor hat area with either an arrow, an "L" for left, or an "R" for right, or both. "L" always indicates the rotor for the driver side of US spec vehicles. Follow the rotor installation and rotation instructions included in the promo pack (P/N 6020502) included with your system when installing rotors. Failure to properly install rotors will not allow for proper function of the brake system and will cause heat related fatigue and failure.
- A professional wheel alignment is required for any system requiring the replacement of the front spindles or tie rod ends. Follow factory prescribed procedures and specifications unless otherwise indicated.

- **All rear Baer brake systems are designed for vehicles with a factory axle standoff.** Axle standoff determines how the caliper lines up over the rotor once installed. **Axle standoff MUST be measured and confirmed to match the axle standoff required for the brake system before installing any rear brake components to ensure a proper fit.**



- Visit the following link on the official Baer YouTube channel for a video demonstrating how to measure axle standoff: **https://www.youtube.com/watch?v=l7Za0Ys-_ZU**
- Contact Baer technical support at 602.233.1411 if you are unsure that the brake system you ordered will work for your application based on the axle standoff you measured.
- **Note: Baer recommends taking photos of the brake system before disassembly and during each step of the disassembly process. Photos may allow technical support to better assist given any necessary troubleshooting.**
- If anything becomes unclear or any parts require force to install at any point during the installation, stop immediately and consult directly with Baer technical staff. Please have these instructions and the part number of the components that is/are proving difficult to install. Please provide technical staff with the make, model, and year (date of vehicle production is preferred) of your vehicle. Baer's technical staff is available by phone (602.233.1411) or email (ContactUs@Baer.com) from 8:30 AM - 5:00 PM MST (Mountain Standard Time) Monday - Friday (Arizona does not observe Daylight Savings Time).

Exploded Pro+ Assembly Diagrams

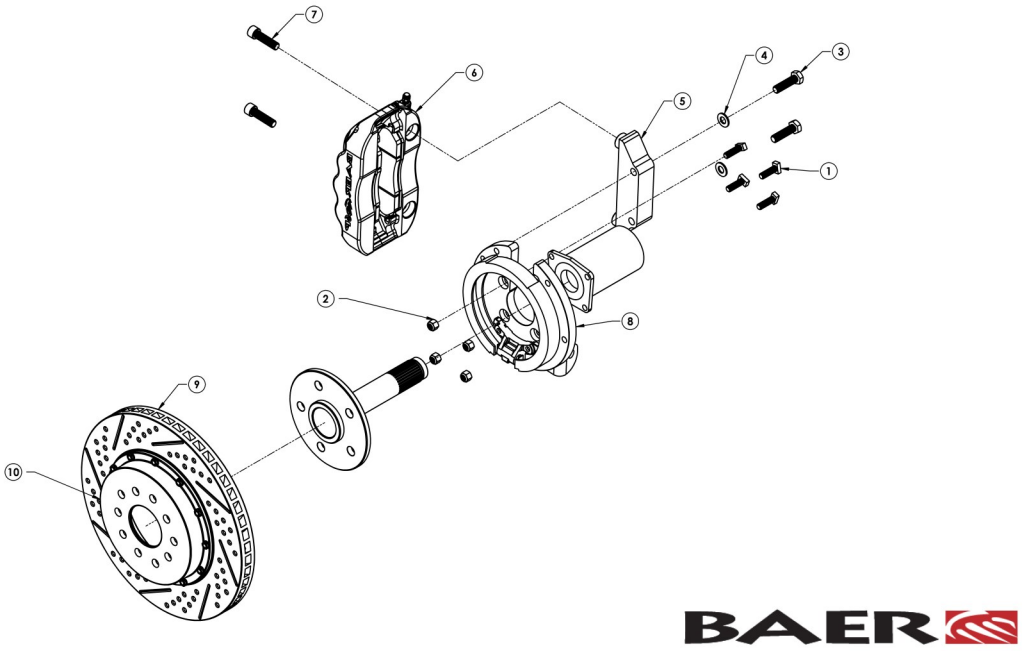


Figure 1. Exploded Isometric View of Pro+ Installation Configuration

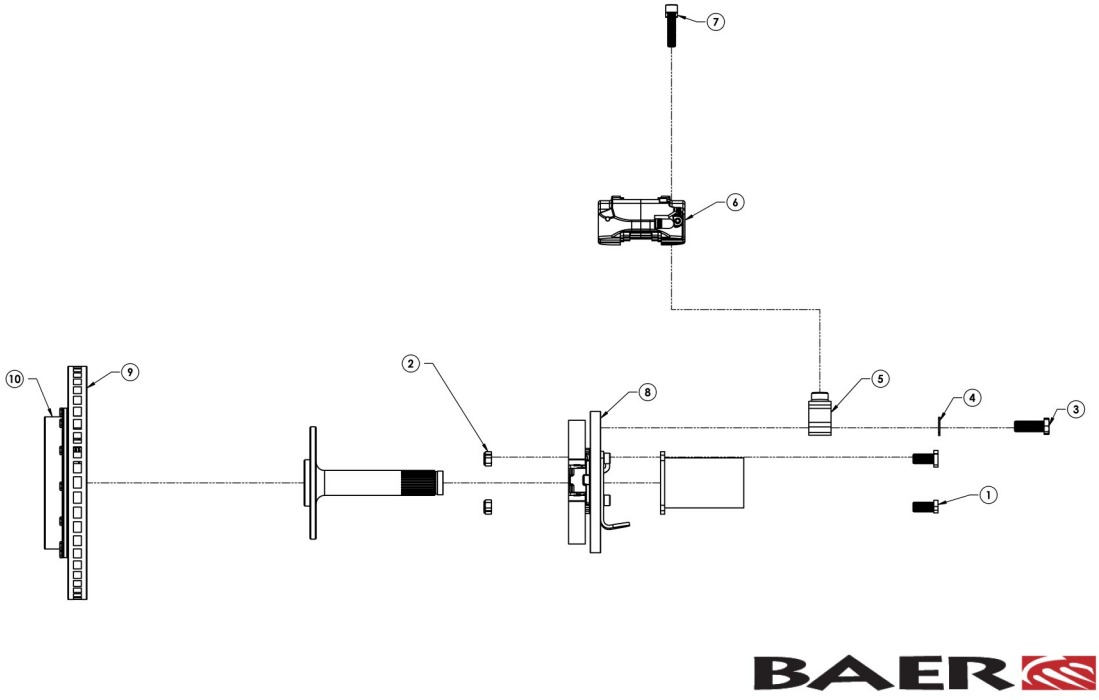


Figure 2. Exploded Top View of Pro+ Installation Configuration

Table 1. Pro+ Parts List

PARTS LIST			
ITEM NO.	**PART NO.**	**DESCRIPTION**	**QTY**
1	N/A	EXISTING 3/8-16 T-BOLT	4
2	N/A	EXISTING 3/8-16 LOCK NUT	4
3	6060072	BOLT, M12-1.75 X 50 HEX HEAD	4
4	6310013	WASHER, M12	4
5	6700235	BRACKET, INTERMEDIATE CALIPER MOUNTING BRACKET	2
6	87X0000TR, 87X0001TR, 87X0002TR (B,R,S)	REAR BAER 6P ASSEMBLY W/ PADS	2
7	6060161	M12-1.75 RADIAL CALIPER MOUNTING BOLTS	4
8	N/A	PARKING BRAKE ASSEMBLY (1 LEFT AND 1 RIGHT)	2
9	69X0222	14" ROTOR RING	2
10	N/A	ROTOR HAT	2

Exploded Ext+ Assembly Diagrams

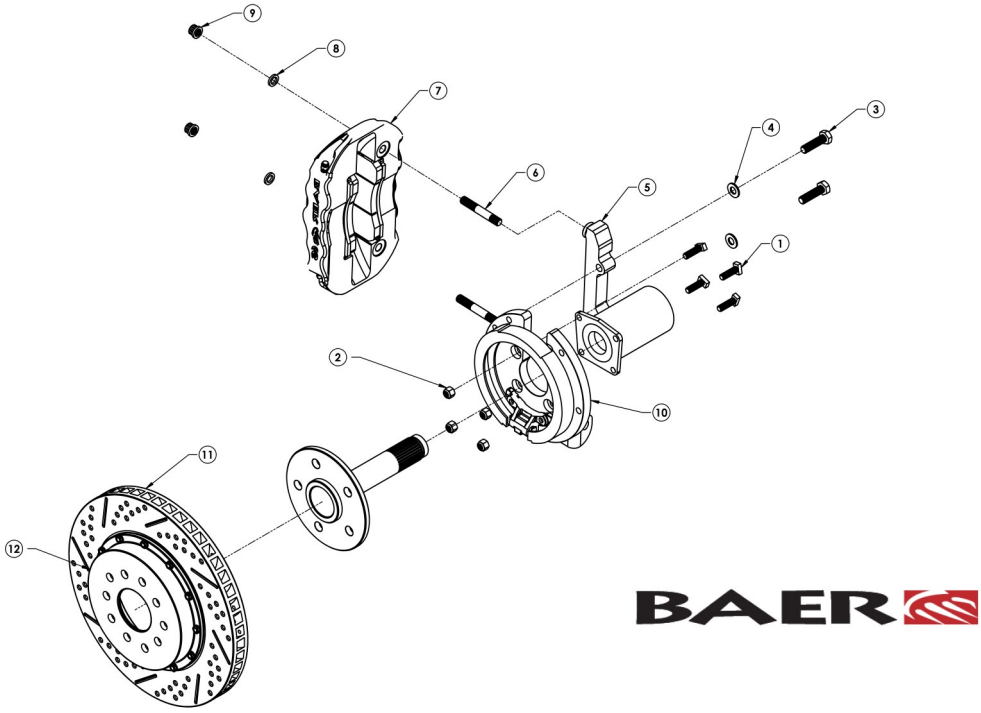


Figure 3. Exploded Isometric View of Ext+ Installation Configuration

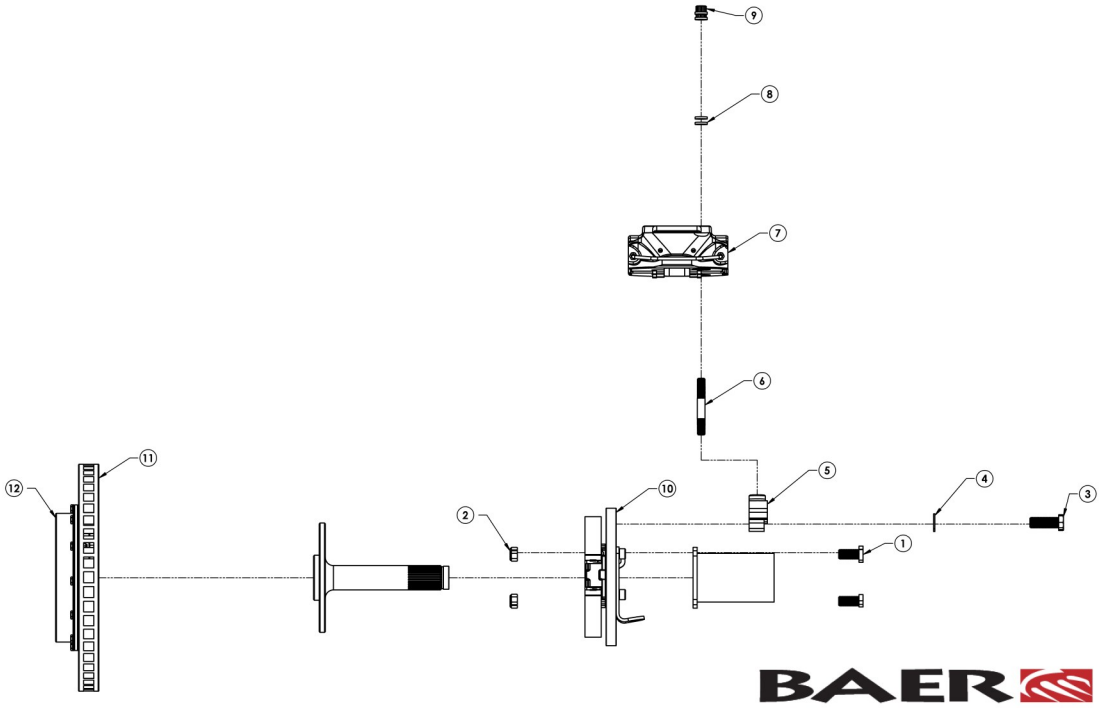


Figure 4. Exploded Top View of Ext+ Installation Configuration

Table 2. Ext+ Parts List

PARTS LIST			
ITEM NO.	**PART NO.**	**DESCRIPTION**	**QTY**
1	N/A	EXISTING 3/8-16 T-BOLT	4
2	N/A	EXISTING 3/8-16 LOCK NUT	4
3	6060072	BOLT, M12-1.75 X 50 HEX HEAD	4
4	6310013	WASHER, M12	4
5	6700164	BRACKET, INTERMEDIATE CALIPER MOUNTING BRACKET	2
6	6280007	ARP M12 RADIAL STUD 80MM	4
7	87X0028TR, 87X0029TR, 87X0030TR (B,R,S)	REAR BAER 6S ASSEMBLY W/ PADS	2
8	6310018	WASHER, ARP AN WASHER 12MM	4
9	6160037	NUT, ARP M12-1.25 NUT 12-POINT	4
10	N/A	PARKING BRAKE ASSEMBLY	2
11	69X0264	ROTOR RING	2
12	N/A	ROTOR HAT	2

INSTALLATION:

IMPORTANT, READ BEFORE ATTEMPTING INSTALLATION: These instructions detail the installation of a rear Baer brake system for different GM 10/12 bearing in housing rear end applications. Refer to the information below for factory axle standoff requirements and select the axle standoff specific to your application. ALWAYS measure the axle standoff of your vehicle BEFORE attempting to install any rear Baer brake system to ensure a proper fit. If your axle standoff does not match the requirements listed below, contact Baer technical support at 602.233.1411 before beginning installation. RETURNS WILL NOT BE ACCEPTED FOR SYSTEMS THAT HAVE BEEN PARTIALLY OR COMPLETELY INSTALLED.

Axle Standoff Requirement: 2.750"

ALWAYS MEASURE YOUR AXLE STANDOFF AND COMPARE IT TO THE STANDOFF FOR WHICH THE SYSTEM WAS DESIGNED BEFORE BEGINNING INSTALLATION.

Baer cannot be held reliable to make exceedingly drastic modifications to system components to ensure a proper fit.

If your axle standoff measurement does not match the requirements listed above, contact Baer technical support before attempting installation.

The rotor hat provided in this kit is drilled for 1/2" diameter wheel studs. Some OEM axles have 7/16" wheel studs. Baer recommends upgrading to 1/2" studs. The modification is dependent on the type of axle and can require a simple stud swap or may require the assistance of a machine shop to complete.

You must also measure the diameter of your axle flange to ensure that the rotor hats provided with this system will fit over the axle flange. THE MAXIMUM ALLOWABLE AXLE FLANGE DIAMETER FOR THIS SYSTEM IS 6.25".

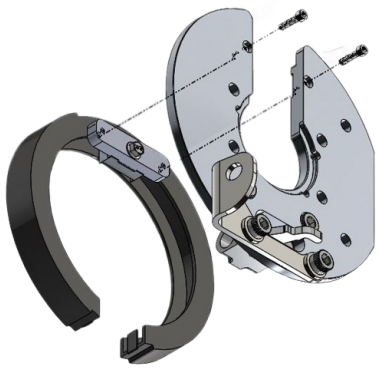
BRAKE DISASSEMBLY INSTRUCTIONS

1. Place wheel chocks behind the front wheels to prevent the vehicle from rolling during installation. This step is only necessary if the front of the vehicle is not being lifted at the same time as the rear during the installation.
2. Support the vehicle with properly rated jack stands and remove the rear wheels. Place a drain pan under the differential and remove the cover.
3. Remove the rear wheels to gain access to the existing brake assembly.
4. Using a line wrench, disconnect the hard line from the master cylinder on the backing plate. Cap the hard line with the supplied vinyl caps to prevent brake fluid from leaking during installation.
5. Remove the brake drum assembly from the axle housing. If corrosion is present, the brake drum assembly must be shocked loose using a small sledge hammer. Remove the four bolts holding the axle inside the housing and remove the axle.
6. Disconnect the park brake cable and remove the entire brake drum assembly from the axle housing. Check axle bearings and seals for any debris or damage and replace if necessary.
7. Thoroughly clean the axle flange and the axle housing mounting faces.
8. Install the axle back into the axle housing. The original bearing retainer will not be re-used. The new parking brake assembly will act as a bearing retainer.

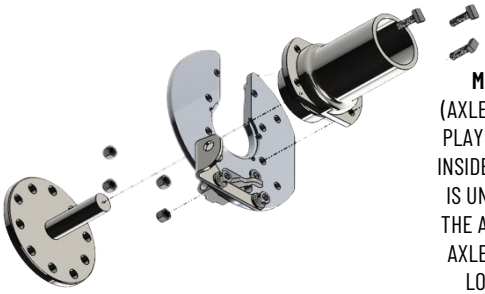
PARK BRAKE ASSEMBLY INSTALLATION

NOTE: Baer park brake assemblies are left and right specific. The backing plate of the left park brake assembly has a part number beginning with 671 machined into its face near the park brake actuator. The backing plate of the right park brake assembly has a part number beginning with 672 machined into its face near the park brake actuator. The park brake assembly with the backing plate containing the part number beginning with 671 is designed to install on the left side of the vehicle.

1. After verifying the axle flange diameter and inspecting the seals, axles, and bearings, reinstall the axles taking care not to damage any seals. Measure the axle standoff for your application to ensure the bearing is fully seated inside of the axle housing. Refer to the axle standoff requirements for your application mentioned near the top of page 9 before attempting to install the park brake assembly.
2. Carefully remove the brake shoe and brake shoe retainer from the new park brake assembly supplied with this system. Install the new bracket/park brake assembly to the axle housing. The park brake actuator should be oriented toward the six o'clock position.

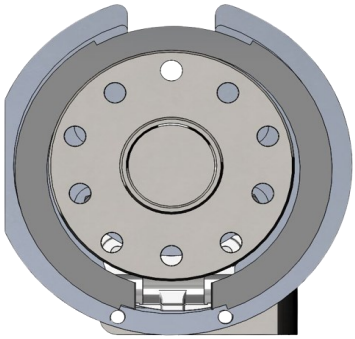


3. Align the machined relief cut on the backing plate with the axle bearing. This machined relief cut is designed to retain the axle bearing when the park brake assembly is installed to the axle housing. Use the existing T-bolts and locking nuts to secure the bracket/park brake assembly to the axle housing, applying Loctite® 243 to the threads of the T-bolts. Torque the T-bolts and locking nuts to OEM specifications to secure the park brake assembly and axle bearing to the axle housing. For axles with flush bearings, there will not be a relief cut in the backing plate, the plate itself will simply be the bearing retainer.



MACHINED RELIEF CUT TO RETAIN AXLE BEARING. (AXLE BEARING NOT INSTALLED ON AXLE IN PHOTO TO DISPLAY THAT PARK BRAKE ASSEMBLY RETAINS THE BEARING INSIDE THE AXLE HOUSING, REMOVAL OF THE AXLE BEARING IS UNECESSARY. SLIDE THE PARK BRAKE ASSEMBLY OVER THE AXLE, IN FRONT OF THE BEARING, AND SECURE TO THE AXLE HOUSING FLANGE WITH THE EXISTING T-BOLTS AND LOCKING NUTS. APPLY LOCTITE® 243 TO THE T-BOLT

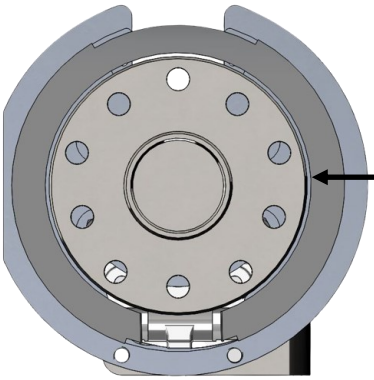
4. Install the park brake shoe over the axle flange. This step may be difficult for applications with axle flanges larger than 6" in diameter.



INSTALL THE PARK BRAKE SHOE OVER THE AXLE FLANGE. THIS STEP MAY BE DIFFICULT FOR APPLICATIONS WITH AXLE FLANGES LARGER THAN 6" IN DIAMETER. SLIDE THE FLATS OF THE BRAKE SHOE INTO THE SLOTS ON THE GRAY PISTONS INSTALLED IN THE PARK BRAKE ACTUATOR.

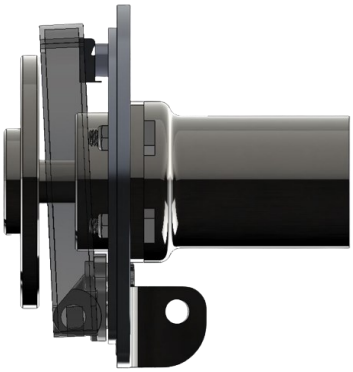
PARK BRAKE ASSEMBLY INSTALLATION CONTINUED

5. Slip the park brake shoe onto the actuator from the bottom. Position the park brake shoe to be concentric with the backing plate.
6. Place the park brake shoe retainer in the cutout of the backing plate at an angle and slip it onto the inner lip of the brake shoe.

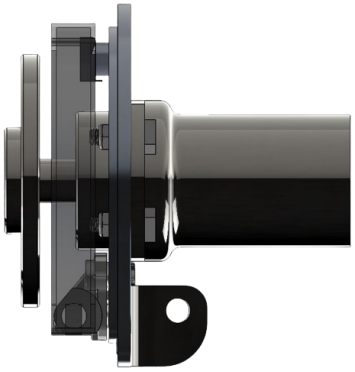


POSITION THE BRAKE SHOE TO BE CONCENTRIC WITH THE BACKING PLATE.
AIM TO CREATE AN EVEN GAP ALL THE WAY AROUND THE OUTER EDGE OF THE AXLE FLANGE AND BRAKE SHOE, THIS WILL HELP LATER WHEN INSTALLING THE ROTOR.

7. Secure the park brake shoe retainer with the provided socket head cap screws (2 supplied per park brake assembly). Apply Loctite® 243 to the threads of the socket head cap screws and torque them to 10 ft-lbs.



PLACE THE BRAKE SHOE RETAINER IN THE CUTOUT OF THE BACKING PLATE AT AN ANGLE AND SLIP IT ONTO THE INNER LIP OF THE SHOE. PUSH DOWN ON THE SHOE TO ALLOW THE RETAINER TO SNAP INTO PLACE.



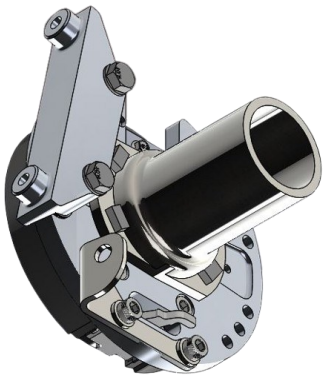
INTERMEDIATE BRACKET INSTALLATION

Pro+ & Ext+ Systems:

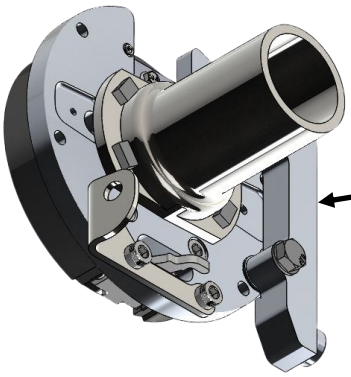
The intermediate bracket can be installed via the mounting holes in the backing plate to place the caliper in the following orientations:

- One position ahead of the axle (LEADING)
- Two different positions behind the axle (TRAILING, this orientation will place the caliper at different angles behind the centerline of the axle)

1. Install the intermediate bracket to the backing plate with the supplied M12-1.75 hex head cap screws and washers. The intermediate bracket is offset to allow centering the caliper with the shimming procedure outlined on page 16. **REFER TO THE FIGURES BELOW TO DETERMINE THE ORIENTATION WHICH THE INTERMEDIATE BRACKET IS INSTALLED FOR YOUR APPLICATION. DO NOT APPLY THREAD LOCKER OF ANY KIND TO THE HEX HEAD CAP SCREWS.** Do not torque the mounting hardware, tighten snugly with a small wrench until the shimming procedure is completed at a later step.



PRO+ SYSTEMS
INSTALL THE INTERMEDIATE BRACKET TO THE BACKING PLATE AS SHOWN. THE BRACKET CAN BE MOUNTED WITH **EITHER** FACE AGAINST THE BACKING PLATE IN EITHER THE LEADING POSITION OR ONE OF THE THREE TRAILING POSITIONS (LEADING POSITION SHOWN IN PHOTO).



EXT+ SYSTEMS
INSTALL THE INTERMEDIATE BRACKET TO THE BACKING PLATE AS SHOWN. THE FLAT FACE OF THE INTERMEDIATE BRACKET SHOULD BE FACING **AWAY** FROM THE BACKING PLATE. THE BRACKET CAN BE MOUNTED IN THE LEADING POSITION OR ONE OF THE THREE TRAILING POSITIONS (MIDDLE TRAILING POSITION SHOWN IN PHOTO).

ROTOR INSTALLATION

IMPORTANT: The rotors supplied with this system are equipped with the following:

- Dual bolt circle pattern (5x4.5" & 5x4.75"), drilled for 1/2" wheel studs and suitable for **MOST** GM and aftermarket applications. Bolt circle pattern and/or wheel stud diameter **MUST** be specified at the time of purchase of the system for applications with axles containing a different pattern and/or wheel stud diameter than the two mentioned above.
- Center register measuring 2.780", suitable for **MOST** applications.

1. Align the correct bolt circle pattern in the rotor hat with the bolt circle pattern for your application and slide the correct rotor into place on the axle flange. **REFER TO THE ROTOR INSTALLATION AND ROTATION INSTRUCTION INCLUDED IN THE PROMO PACKET (P/N 6020502) SUPPLIED WITH THIS SYSTEM TO ENSURE THE CORRECT ROTOR IS INSTALLED.** Ensure the inside of the rotor hat sits flush against the mounting face of the axle flange to prevent excessive rotor run out.
2. Temporarily secure the rotor to the axle flange with three lug nuts and washers to prevent scratching the rotor hat face. Some OEM and after market axles come equipped with wheel studs larger than 1/2" in diameter. Wheel stud size should be specified at the time of purchase of the system. If not, verify the stud size for your application and request a qualified machine shop to drill the bolt circle of the rotor hat to accept the wheel stud diameter for your application if necessary.

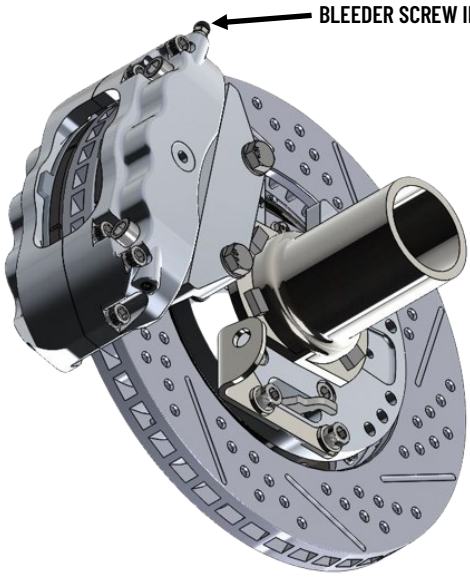
CENTRIC RING INSTALLATION FOR APPLICATIONS WITH AXLE CENTER REGISTER DIAMETER MEASURING 2.430".
INSTALL THE CENTRIC RING SUPPLIED WITH THIS SYSTEM TO THE CENTER REGISTER OF THE AXLE FLANGE WITH THE SMALLER O.D. FACING AWAY FROM THE AXLE FLANGE AND TOWARD THE ROTOR HAT.

ROTORS COME EQUIPPED WITH A DUAL BOLT CIRCLE PATTERN (5X4.5 & 5X4.75), DRILLED FOR 1/2" WHEEL STUDS
ALIGN THE CORRECT BOLT CIRCLE PATTERN WITH THE BOLT CIRCLE PATTERN FOR YOUR APPLICATION AND SLIDE THE CORRECT ROTOR INTO PLACE ON THE AXLE.
REFER TO THE ROTOR INSTALLATION AND ROTATION INSTRUCTION INCLUDED IN THE PROMO PACK SUPPLIED WITH THIS SYSTEM (P/N 6020502).
TEMPORARILY SECURE THE ROTOR TO THE AXLE FLANGE WITH THREE LUG NUTS AND WASHERS.

BRAKE CALIPER INSTALLATION

Pro+ Systems:

1. Remove the brake pads from the brake caliper if you have access to a dial caliper, these will be re-installed following the shimming procedure. **If you do not have access to a dial caliper, do not remove the brake pads from the brake caliper as measurements during the shimming procedure can be take with the pads installed using a feeler gauge.**
2. Install the correct side brake caliper with the bleeder screw in the upright position to the intermediate bracket with the supplied M12-1.75 socket head cap screws.
3. Tighten the supplied M12-1.75 socket head cap screws with a 10mm drive socket. **DO NOT** torque the socket head cap screws until the shimming procedure has been completed.



PRO+ SYSTEMS
INSTALL THE CORRECT SIDE BRAKE CALIPER WITH THE BLEEDER SCREW IN THE UPRIGHT POSITON WITH THE SUPPLIED M12-1.75 SOCKET HEAD CAP SCREWS. **DO NOT** TORQUE THE SOCKET HEAD CAP SCREWS UNTIL THE SHIMMING PROCEDURE HAS BEEN COMPLETED.

SHIMMING PROCEDURE

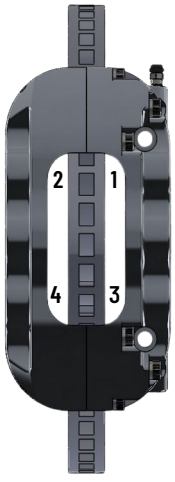
All Systems:

1. Measure the gap between the rotor and the caliper body at the 4 points listed below using a dial caliper and write down each measurement (measurements can be taken using a feeler gauge between the rotor and brake pad if you do not have access to a dial caliper).
2. Subtract the top inside measurement from the top outside measurement. Split the difference in half to determine the amount of shimming required to center the top of the caliper. Write down the required amount of shimming. For instance, a top inside measurement of .865" and a top outside measurement of .905" has a difference of .040" and would require a .020" shim at the top of the intermediate bracket to center the top of the caliper.

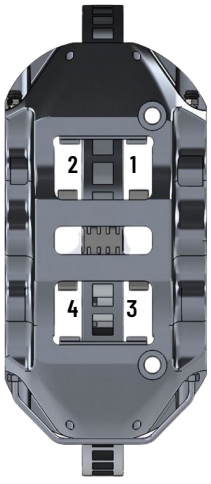
    - TOP INSIDE
    - TOP OUTSIDE
    - BOTTOM INSIDE
    - BOTTOM OUTSIDE

3. Repeat step 2 for the bottom measurements to center the bottom of the caliper. Aiming for gaps between the caliper body and rotor as close to equal within .005" will keep excessive noise to a minimum and prolong brake pad duration.
4. Select the required shims from the kit provided. The shim kit provided with this system contains 12 shims, each measuring .015". Create a stack of shims equal to the measurement obtained in step 2.
5. Remove the caliper from the intermediate bracket. Retain the fasteners to secure the caliper to the intermediate bracket following completion of the shimming procedure.
6. Loosen the bolts connecting the intermediate bracket to the backing plate.
7. Install the appropriate shims **between the intermediate bracket and the backing plate**, removing one bolt at a time. Snug the bolts for a fitment check.
8. Reinstall the caliper, **DO NOT** torque the fasteners until a fitment check has been completed.
9. Repeat step 1 with the appropriate shims installed between the intermediate bracket and backing plate to perform a fitment check.
10. Re-shim as necessary until all gaps between the caliper body and the rotor are within .005".
11. Verify there is full thread engagement of the intermediate bracket bolts into the backing plate. If there is not full thread engagement, longer bolts must be used to prevent stripping the threads inside the backing plate.
12. Remove the caliper from the intermediate bracket one last time to install the brake pads, if applicable.
13. **Torque the intermediate bracket bolts to 85 ft-lbs. to secure the intermediate bracket to the backing plate.**
14. **Re-install the caliper, if applicable, and torque the fasteners to 75 ft-lbs. to secure the caliper to the intermediate bracket.**

PRO+ SYSTEMS:
MEASUREMENT LOCATIONS
(SYSTEM COMPONENTS NOT INCLUDED FOR PHOTO CLARITY)



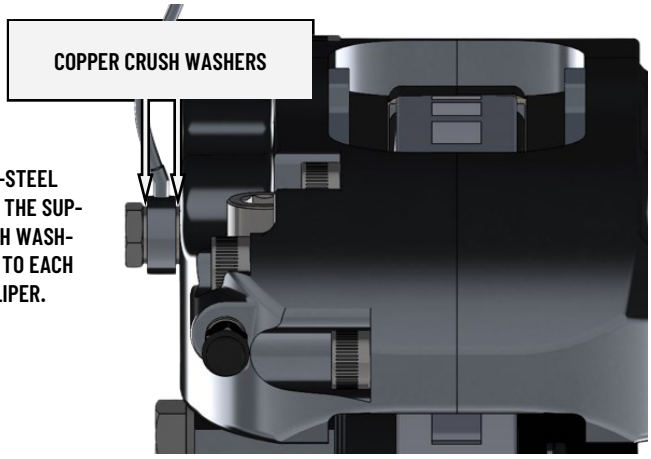
EXT+ SYSTEMS:
MEASUREMENT LOCATIONS
(SYSTEM COMPONENTS NOT INCLUDED FOR PHOTO CLARITY)



BRAKE HOSE / HARDLINE RETAINER INSTALLATION

All Systems:

1. The hardline must be re-secured with the stainless-steel brake hoses supplied with this system. Depending on the system ordered, a Hardline Retainer set has been provided. Installation instructions for the Hardline Retainer set are contained within its packaging. Complete the installation of the Hardline Retainer set before continuing.
2. Connect the new supplied stainless-steel braided brake hose to the caliper with the supplied banjo bolt and new copper crush washers. Install one copper crush washer to each side of the banjo fitting on the hose (2 per caliper). Finger-tighten the banjo bolt.
3. Position the brake hose to avoid interference with the wheel and suspension components through their entire range of motion.
4. Connect the opposite end of the hose with the adapter fitting to the hardline and install the hose lock.
5. Tighten the adapter fitting at the hardline and the banjo bolt connected to the caliper to 15-20 ft-lbs.
6. Repeat steps 1-5 for the other side of the vehicle and re-check all attachment points and fittings.



PARK BRAKE CABLE INSTALLATION AND INFORMATION

1. If park brake cables were ordered with this system, install first into the bracket and actuator on the park brake assembly, then to the frame bracket. Finally, connect to the lever actuator in the driveshaft tunnel.

- Custom park brake cables and lengths may be required, depending on the application. If custom cables are required for your application, contact Baer technical support for park brake cable sources.
- Park brake cables MUST be routed as straight as possible, bends in the cable dramatically reduce park brake efficiency. Tight bends should be avoided. Baer recommends cable bends to have a minimum radius of 6" to 8".
- Cables must be properly restrained with cable clamps at various points (especially bends) on the vehicle chassis / body to prevent the straightening of any bends in the cable under tension. It is important to restrain the cable sheath tightly without crushing or causing interference of the inner cable.
- Pre-stretch the park brake cable through multiple applications of the park brake (while the vehicle is not moving) and readjust accordingly to provide adequate tension to the park brake.

ENSURE ALL FASTENERS HAVE BEEN TORQUED TO THEIR SPECIFIED VALUES BEFORE OPERATING THE VEHICLE.

Baer recommends using **"Baer Street/Race DOT4 Brake Fluid"** for all Baer brake systems. The link to order the recommended brake fluid is below. Refer to Bleeding, Pad Bedding, and Rotor Seasoning Procedures contained within the promo pack (P/N 6020502) provided with this system. For service components and replacement parts, contact a Baer Systems Technical Representative or visit the link below.
https://baer.com/System-Parts-Tools/.

We at Baer understand there are many options when it comes to performance brake suppliers and appreciate your business. Great pride and care were taken in designing, assembling, and packaging all components of this brake system.

Thank you for your purchase.