



INSTALLATION INSTRUCTIONS

PART NUMBER: 6000427

VEHICLE MAKE: GM

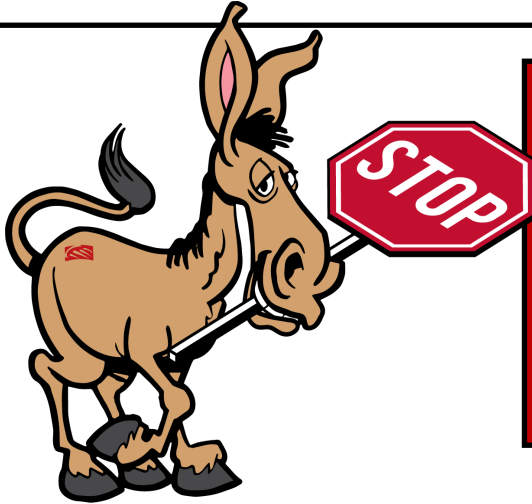
MODEL: 10/12 BOLT GM AXLE WITH BEARINGS IN HOUSING

YEARS: ALL C-CLIP REARS

PRODUCT: SS4+ 13" REAR

REVISION: REVISION D

REVISION DATE: 18 JULY, 2023



READ BEFORE CONTINUING!

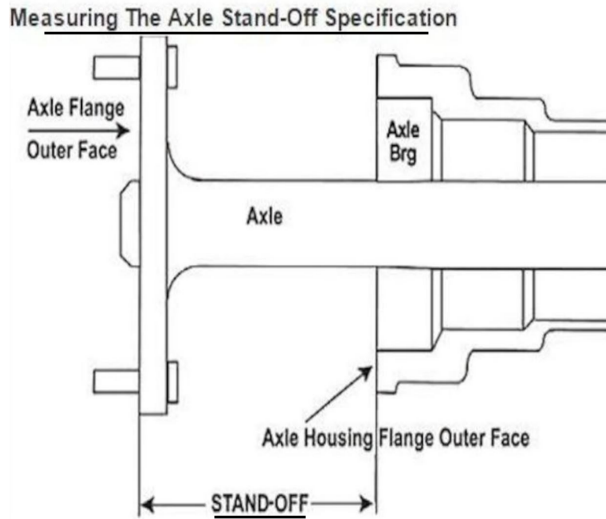
Returns will not be accepted for ANY installed PART or ASSEMBLY. Use great care in preventing cosmetic damage when performing wheel fit check. If a product must be returned, please contact Baer customer service for an RMA number.

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).

SS4+ 13" Exploded Assembly Diagram

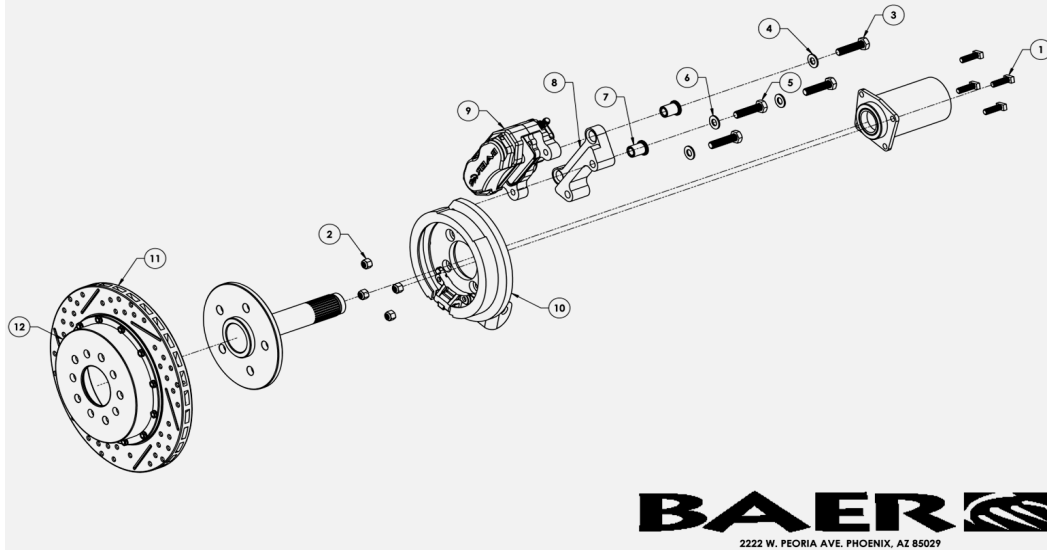


Figure 1. Exploded Isometric View of SS4+ 13" Installation Configuration

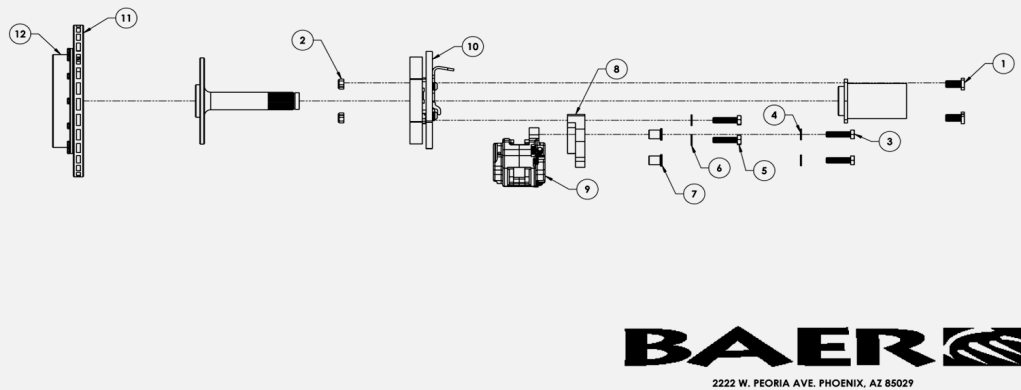


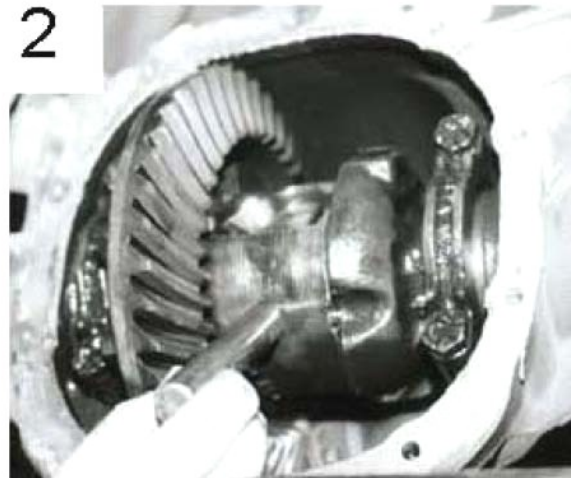
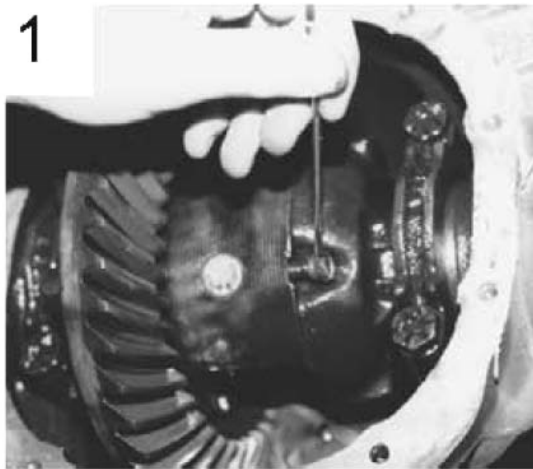
Figure 2. Exploded Top View of SS4+ 13" Installation Configuration

INSTALLATION:

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.
3. Place a drain pan under the differential and remove the cover.
4. Remove the rear wheel to gain access to the drum brake assembly.
5. Remove the brake drums. Sometimes the drums will adhere to the axles from rust. If this happens, tap on the outer edge of the drum with a mallet to shock the drum loose.
6. Remove the differential pin lock bolt from the carrier. Ford uses a 5/16" bolt, **most** GM vehicles use a 5/16" or 1/2" bolt head. Baer recommends using a 6-point wrench on this pin lock bolt as it may be very tight.
7. Remove the pin and slide the axles inward to remove the c-clips.

Remove the pin (photo 2) and slide axles inward to remove c-clips.

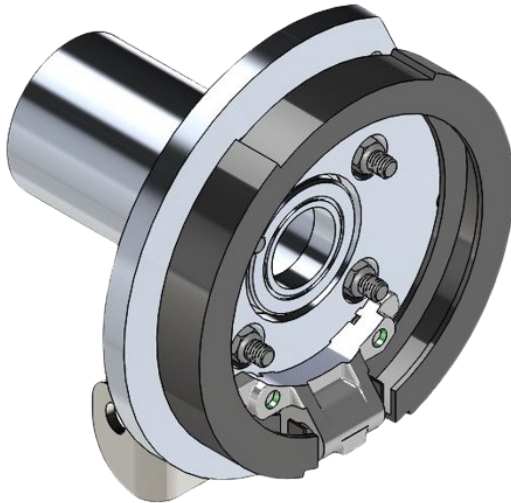


8. Remove the rear axles from the housing, taking care not to damage any seals.
9. Inspect the seals, axles, and bearings, replacing any damaged components as necessary.
10. Measure the outside diameter of the axle flange, this must not exceed 7.350" to allow the new brake rotor to fit properly. If yours is larger, a machine shop can turn them down for you.
11. Disconnect the hardline from the drum brake slave cylinder and cap the end of the hardline with the vinyl caps provided with the system.
12. Disconnect the park brake cable from the attachment points on the frame and primary cable. It is not necessary to disengage the park brake cable from the factory backing plate.
13. Remove the brake drum backing plate from the vehicle with all drum brake components attached, retain the backing plate fasteners to secure the new park brake assembly to the axle housing flange.
14. Carefully remove any nicks or burrs present on the axle housing flange and axle flange to allow for proper installation of the new brake components.
15. Clean any debris present on the axle and axle housing flange.

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. Install the new park brake assembly with the existing T-bolts and locking nuts. The park brake actuator should be oriented toward the six o'clock position.



INSTALL THE NEW PARK BRAKE ASSEMBLY WITH THE EXISTING T-BOLTS AND LOCKING NUTS. THE PARK BRAKE ACTUATOR SHOULD BE ORIENTED TOWARD THE SIX O'CLOCK POSITION.

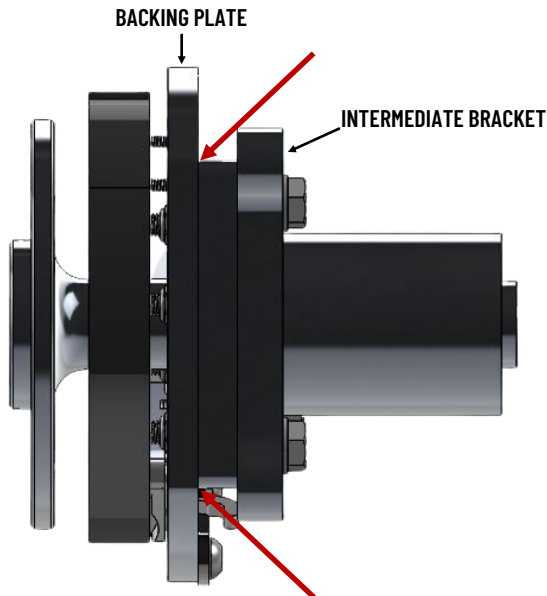
2. Apply a small amount of LOCTITE® 271 to the T-bolt threads and torque to OEM specifications to secure the park brake assembly to the axle housing flange.
3. Repeat the first two steps for the other side of the vehicle.
4. Re-install the axles, c-clips, differential pin, and retaining bolts.
5. Re-install the differential cover and refill with proper gear lubricant per manufacturer specifications.



RE-INSTALL THE AXLES, C-CLIPS, DIFFERENTIAL PIN, AND RETAINING BOLTS. RE-INSTALL THE DIFFERENTIAL COVER AND REFILL WITH PROPER GEAR LUBRICANT.

INTERMEDIATE BRACKET INSTALLATION

NOTE: The park brake assembly for this system ships with the intermediate bracket pre-installed. Verify the bracket is installed in the correct orientation and snug the bolts with a small wrench. **DO NOT** torque the bolts until the shimming procedure has been completed in a later step.



VERIFY THE INTERMEDIATE BRACKET IS INSTALLED AS SHOWN IN THE PHOTO, WITH THE **STEP AGAINST THE BACKING PLATE.**



VERIFY THE INTERMEDIATE BRACKET IS INSTALLED IN THE CORRECT ORIENTATION AND SNUG THE BOLTS WITH A SMALL WRENCH. **DO NOT** TORQUE THE BOLTS UNTIL THE SHIMMING PROCEDURE HAS BEEN COMPLETED IN A LATER STEP.

ROTOR INSTALLATION

SS4+ Systems:

This system features 2-piece rotors assembled with aircraft grade NAS stainless steel hardware. Rotors for this system are shipped ready for installation.

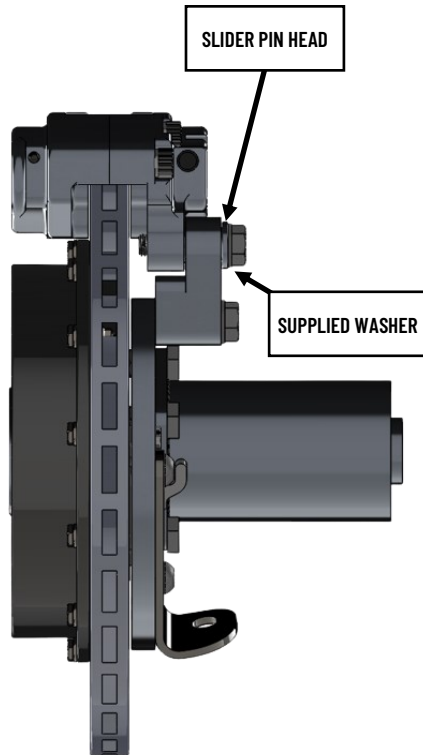
1. Align the correct bolt circle pattern in the rotor hat with the bolt circle pattern for your application and slide the correct rotor into place on the axle flange. **REFER TO THE ROTOR INSTALLATION AND ROTATION INSTRUCTION INCLUDED IN THE PROMO PACKET (P/N 6020502) SUPPLIED WITH THIS SYSTEM TO ENSURE 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.



ALIGN THE CORRECT BOLT CIRCLE PATTERN IN THE ROTOR HAT WITH THE BOLT CIRCLE PATTERN FOR YOUR APPLICATION AND SLIDE THE ROTOR INTO PLACE ON THE AXLE FLANGE. ENSURE THE INSIDE OF THE ROTOR HAT SITS FLUSH AGAINST THE MOUNTING FACE OF THE AXLE FLANGE TO PREVENT EXCESSIVE ROTOR RUN OUT. ROTOR TEMPORARILY SECURED TO AXLE FLANGE WITH THREE LUG NUTS AND WASHERS NOT SHOWN IN PHOTO (NECESSARY STEP FOR SHIMMING PROCEDURE FOLLOWING CALIPER INSTALLATION).

BRAKE CALIPER INSTALLATION

1. Install the caliper to the intermediate bracket with the stainless steel slide pins in place. The head of the slide pins should install against the bracket, with the bolt running through the slide pin and threading into the caliper. Ensure the supplied washers are in place under the bolt head before snugging the caliper to the intermediate bracket. **DO NOT** torque the caliper mounting bolts until the shimming procedure is completed at a later step.



INSTALL THE CALIPER TO THE INTERMEDIATE BRACKET WITH THE STAINLESS STEEL SLIDE PINS IN PLACE. THE HEAD OF THE SLIDE PINS SHOULD INSTALL AGAINST THE BRACKET, WITH THE BOLT RUNNING THROUGH THE SLIDE PIN AND THREADING INTO THE CALIPER. ENSURE THE SUPPLIED WASHERS ARE IN PLACE UNDER THE BOLT HEAD BEFORE SNUGGING THE CALIPER TO THE INTERMEDIATE BRACKET. **DO NOT** TORQUE THE CALIPER MOUNTING BOLTS UNTIL THE SHIMMING PROCEDURE IS COMPLETED AT A LATER STEP.

SHIMMING PROCEDURE

Separate shimming instructions are also included with this system if necessary (Part Number: 6000690)

All Systems:

1. Ensure the rotor is temporarily secure to the axle flange with three lug nuts and washers.
2. Push the axle and rotor all the way in, while pulling the caliper all the way outboard on the slide pins.
3. Measure the gap between the rotor and the inboard brake pad at both the leading and trailing edges of the caliper using a dial caliper and write down the 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).
4. Pull the axle and rotor all the way out, while pushing the caliper all the way inboard on the slide pins.
5. Measure the gap between the rotor and the outboard brake pad at both the leading and trailing edges of the caliper using a dial caliper and write down the 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).
6. Compare both inner and outer measurements at both the leading and trailing edges of the caliper. There should be a minimum of .020" clearance between the caliper and rotor at any location. If there is not any location without at least .020" clearance, the bracket will require shimming to achieve the proper clearance. (For example, if the difference between the inboard and outboard measurements at the leading edge of the caliper vary greatly (.050" outboard and .010" inboard, difference of .040") shims equal to half the difference must be placed between the intermediate bracket and backing plate at the top bolt. Using this example, a .020" shim must be placed between the intermediate bracket and the backing plate at the top bolt to equalize the outboard and inboard measurements to .030". In addition to having adequate clearance between the pads and rotor, the caliper must be as square as possible to the rotor. This may require different shim thicknesses on each bracket mounting bolt.
7. 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 half the difference between each measurement.
8. Remove the caliper from the intermediate bracket. Retain the fasteners to secure the caliper to the intermediate bracket following completion of the shimming procedure.
9. Loosen the bolts connecting the intermediate bracket to the backing plate.
10. 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.
11. Reinstall the caliper, **DO NOT** torque the fasteners until a fitment check has been completed.
12. Repeat steps 1-6 with the appropriate shims installed between the intermediate bracket and backing plate to perform a fitment check.
13. Re-shim as necessary, following the steps above until there is at least .020" clearance between the caliper and rotor at all 4 points shown in the image below.
14. **Torque the intermediate bracket bolts to 85 ft-lbs. to secure the intermediate bracket to the backing plate.**
15. **Re-install the caliper, if applicable, and torque the fasteners to 85 ft-lbs. to secure the caliper to the intermediate bracket.**

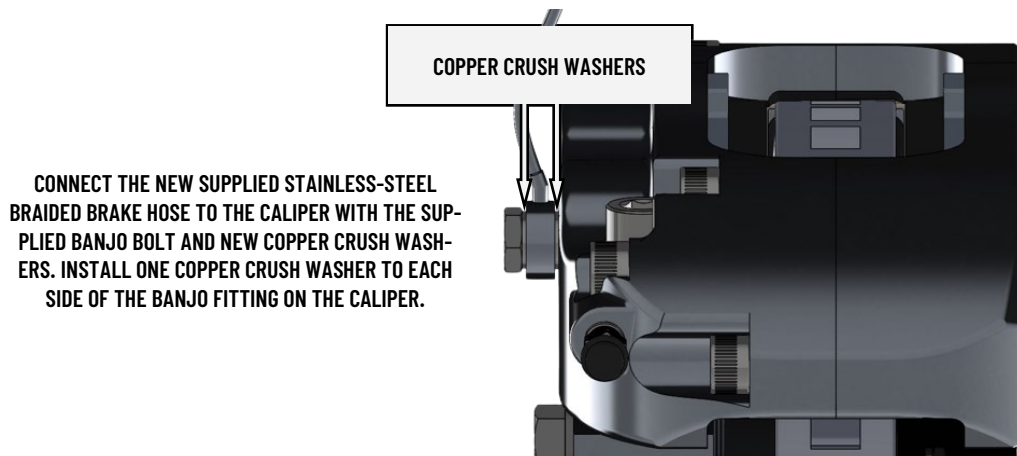
SS4+ SYSTEMS:
MEASUREMENT LOCATIONS
(SYSTEM COMPONENTS NOT INCLUDED FOR
PHOTO CLARITY)



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 caliper (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 this brake system.

Thank you for your purchase.