BAER ®*Your Complete Performance Brake Supplier!*

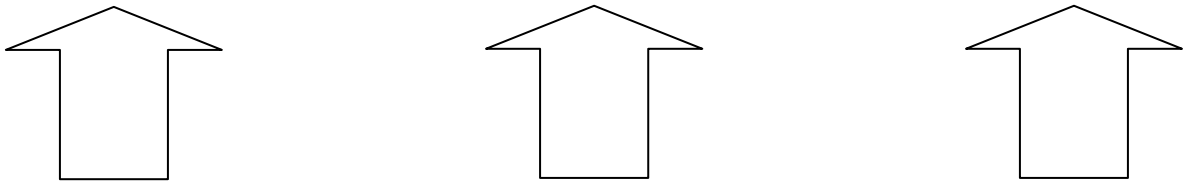
Installation Instructions

Product: Ext+ 15" Rear **Instruction Part Number: 6000471**

Vehicle

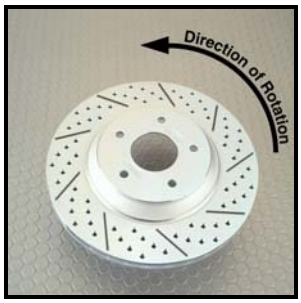
Make: Ford
Model: F-150 4x4 / Raptor
Year(s): 2004-Current

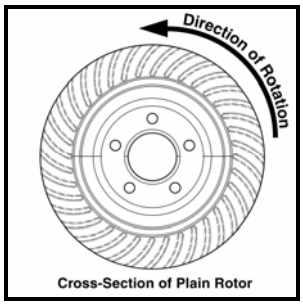
***ATTENTION:* Read this before going any farther! Returns will not be accepted for ANY installed PART or ASSEMBLY. Use great care to prevent cosmetic damage when performing wheel fit check. In the event that a product must be returned, please contact Baer Customer Service for a RMA Number.**



- 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, 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.
- 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 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 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 all times 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 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.

INSTALLATION:

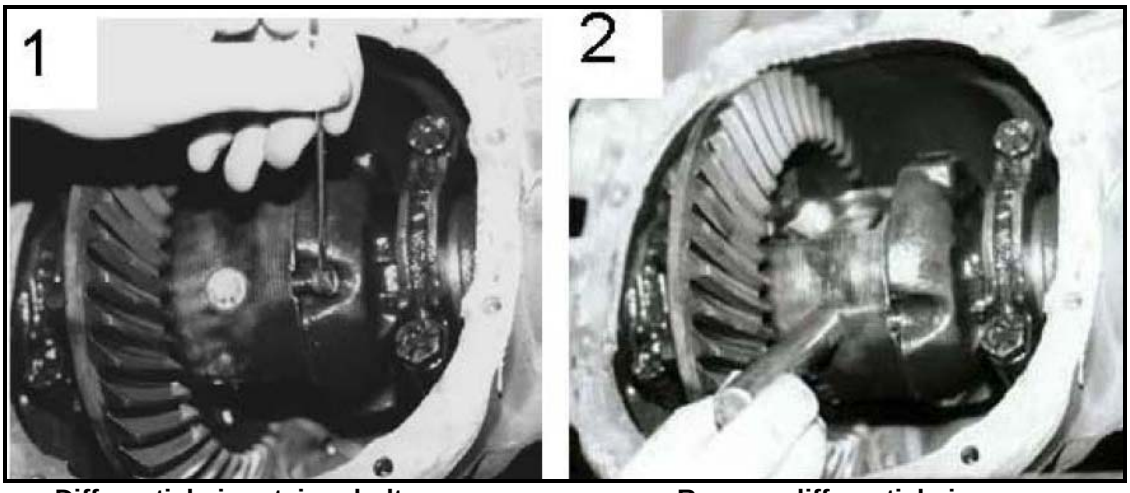
****IMPORTANT:**
2004-2011 F-150 4X4/Raptor models require rear brake brackets to be installed onto the rear axle housing in order to accommodate the Ext+ System. These are included with your Baer Brake System. See the left and right side part numbers below:

CL3Z-2209-B (left or drivers side)
CL3Z-2210-C (right side)

1. Disconnect the brake hose at the caliper, discard the copper washers and save the banjo bolt. **Note:** To prevent dripping brake fluid during installation, a hose crimper can be used to stop the flow. ***Do not*** use vise grip pliers as these may damage the hose.

2. Remove the caliper bolts and remove both the caliper and rotor. Disengage the park cable for removal of the original park assembly. The original cable will attach to the supplied new park assemblies.

3. Remove the differential cover and drain the fluid. Remove the differential pin lock bolt from the carrier (See photos 1 and 2). It is best to use a 6 point 5/16" wrench on this as it may be very tight. Slip the differential pin from the carrier, push each axle inboard and remove the C-clips.



Differential pin retainer bolt **Remove differential pin**

4. Remove the axles, taking care not to damage the seals. This is a good time to inspect the seals, axles and bearings, replacing as necessary.

5. Remove the bolts retaining the original park assembly and remove the assembly. Check the part numbers for the correct side park assembly supplied with your system and install in place of the original using the factory nuts and bolts. Torque the bolts to 45 ft-lbs. Repeat these steps for the other axle.

6. With the new park assemblies in place, the axles can be installed and the C-clips inserted. Install the differential pin and lock bolt. Replace the differential cover and refill to proper level with Ford approved gear lube.

7. Next, the debris shield must either be trimmed or removed altogether. If you choose to trim the shield, it is best to eliminate as much material as possible for both proper fitment of the new rotor and improved rotor cooling. **Note:** Be sure to pay close attention to the areas of the debris shield where the Nylock nuts will reside. Ensure that the debris shield does not interfere with the nuts in any way. See Figures 1 and 2 below for reference.

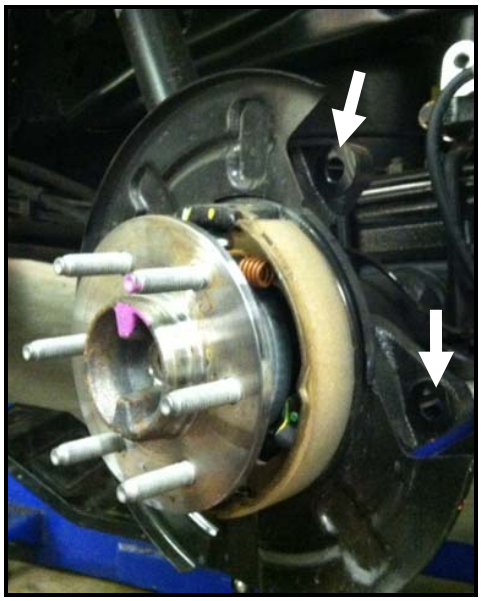


Figure 1: OEM caliper mounts

Figure 2: Arc shown for location to trim

8. Install the caliper bracket using the supplied Nylock nuts, bolts, washers, and slider pins (M14-2.0x60mm bolts with 14mm washers). The bracket will bolt up to the outboard side of the OEM caliper mounts with the part number facing outboard. ****IMPORTANT:** See Figures 5-9 for proper installation of all hardware. Once properly assembled, simply tighten the bolts until snug as shimming will be needed to center the caliper over the rotor.

Figure 5: Photo shown with proper hardware sequence.

Figure 6: Bolts installed with nuts, washers and slider pins.
Bolts enter the inboard side of the park assembly, then the slider pins, bracket, washers and nuts. No washers are required under the bolt heads.

Figure 7: Bracket correctly installed (view from inboard side)
Note: No washers are needed below bolt head

Figure 8: Front view

Figure 9: Top view

8. Next, install the correct side rotor, and secure with three lug nuts and washers to prevent scratching the rotor hat.

9. With pads removed, install the correct side caliper (bleed screws point up) onto the radial studs using the ARP washers and nuts. Simply tighten the bolts snugly for now due to shimming. See Figure 10 for installation reference.

Figure 10: ARP studs, washers, and nuts installed

Shimming Procedure

C-clip style rear axle designs allow the axle to move inboard and outboard from .005” to .030”. The design of the slide pins on the Baer Caliper bracket allow the caliper to follow this movement, but must be adjusted to prevent the caliper body from contacting the rotor surface.

Procedure

1. Pull the axle ouboard until it stops (this may not move much) and slide the caliper and bracket inboard, against the stop.

2. Using a feeler gauge, measure between the outboard side of the rotor and the caliper body. The minimum clearance must be at least .020”. If this measurement is less, shims will be needed to bring this up to at least .020”.

   Before installing shims, check the clearance on the inboard side of the rotor. Push the rotor inboard until it stops and slide the caliper outboard, against the stop. Measure the gap between the inboard side of the rotor and the caliper body. The minimum clearance must be at least .020”. If the difference in inboard to outboard measurements is very different (ie. .020” outboard with .050” inboard), shims can be used to equalize this. Using that example, a .020” shim between each of the slider pins and the park would decrease the inboard measurement to .030” and increase the outboard measurement to .030”, Again, the main goal is not less than .020” clearance between the caliper body and the rotor on both sides. **Figure 11** on the next page indicates proper location of shim placement.

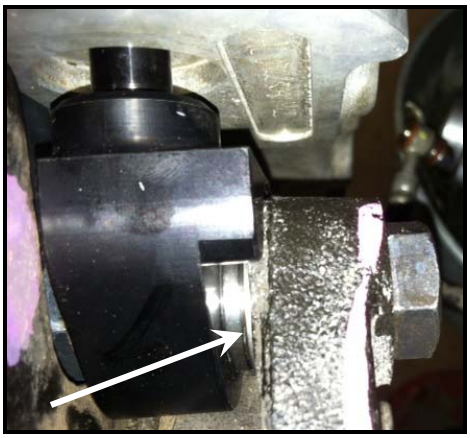
3. Remove the caliper (12 point nuts and washers). Loosen the bolts retaining the caliper bracket slider pins to the park bracket and install the appropriate shims one at a time.

4. Install the caliper again and recheck clearances, the same way described above.

5. When proper clearances are obtained, remove caliper, torque bracket bolts to 110 ft-lbs.

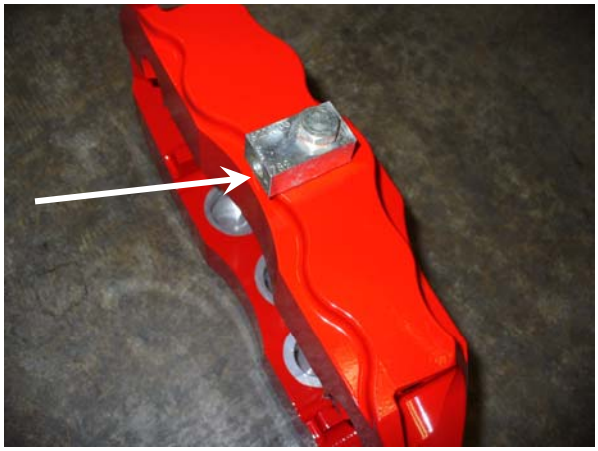
6. Install the pads in the caliper in install the caliper. Torque the 12 point nuts to 75 ft-lbs.

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.



Shim location between slider pin and park assembly.

10. An adaptor will be installed on the caliper when you receive it. This system will reuse the original brake fluid hose to attach to the adaptor. The original hose has an indexing pin for the original caliper. If this interferes with the adaptor, it can be ground off for clearance. The original banjo bolt from the hose will be used to attach the hose to the adaptor. **Always** use the new supplied copper washers on each side of the fitting. These washers are a one time only use item and must be replaced or they are sure to leak. ****IMPORTANT: Ensure to route the brake hose away from suspension and wheels to avoid any interference through full articulation of suspension system.** Torque the banjo bolts on hose and adaptor to 15-20 ft·lbs.



Adaptor attached to caliper. Fluid opening faces inboard.

11. Repeat this process for the opposite side of the vehicle, ensuring to follow each step carefully.

Refer to Bleeding, and Pad Bedding & Rotor Seasoning Procedures contained on a separate sheet.

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