BAER BIG CLAW PERFORMANCE BRAKE KITS

BIG CLAW PROMO PACKET CONTENTS:

- **ROTOR INSTALLATION AND ROTATION INSTRUCTIONS**
- **ROTOR SEASONING AND PAD BEDDING INSTRUCTIONS**

CONTACT BAER WITH ANY QUESTIONS REGARDING YOUR BRAKE SYSTEM.

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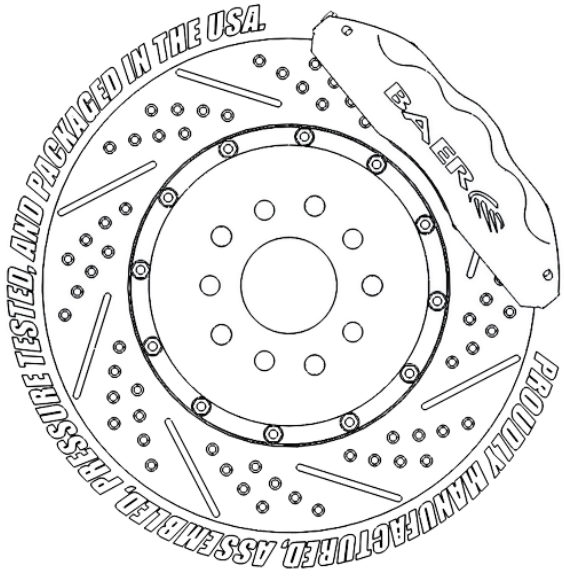
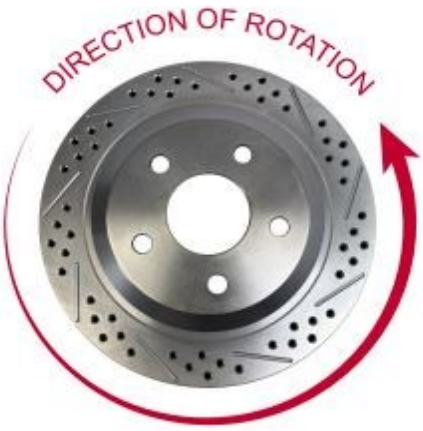


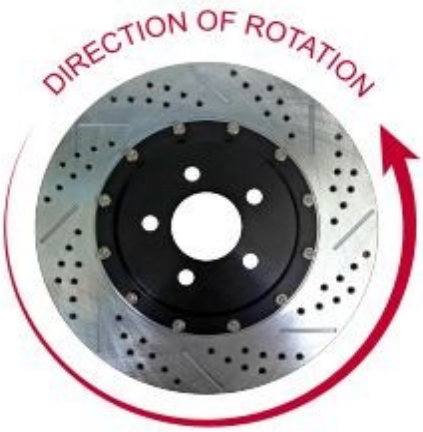
BRAKES WITHOUT LIMITS

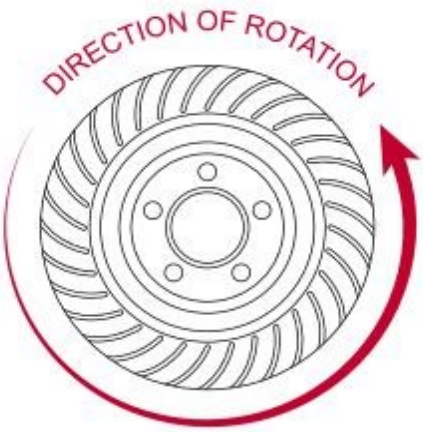
YOUR BAER BRAKES BIG CLAW SYSTEM WAS PROUDLY PACKAGED BY:_____

THANK YOU FOR YOUR PURCHASE

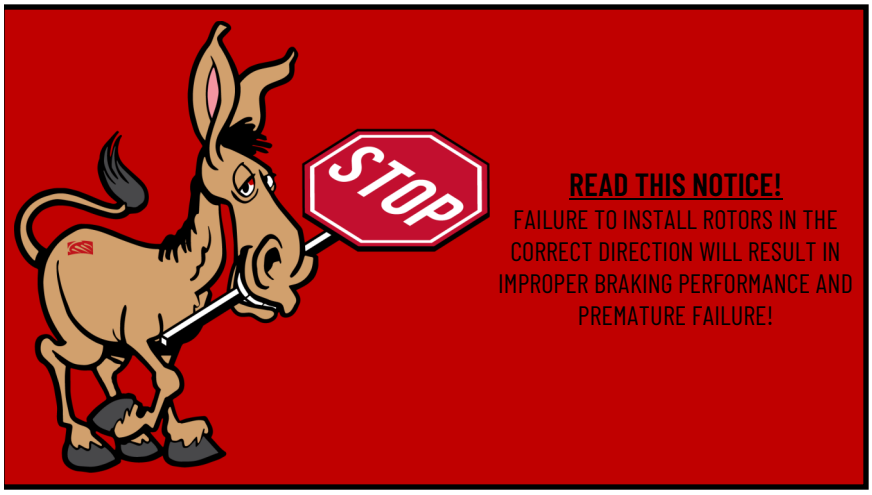
ROTOR DIRECTION & INSTALLATION:







Cross-section of Plain Rotor



Rotors that are directionally ventilated must rotate in the correct direction to allow for adequate airflow and proper cooling of the rotor.

Externally modified rotors employ a **REVERSE SLOT** or a **REVERSE SLOT & DRILL** pattern. These patterns are currently used in most racing and street driving applications. These patterns lower the potential for "carbon smearing" or "transfer" from the pad material to the trailing side of the slots on the rotor. In some cases, "carbon smearing/transfer" can affect the rotational balance of the rotor and cause a 'shake' or 'nibble' while braking.

Baer recommends externally modified rotor patterns pending individual vehicle application.

For racing and drag racing applications: Baer recommends rotors with a **REVERSE SLOT ONLY** or **NON-MODIFIED** pattern (plain rotors). In some cases, rotors with a **REVERSE SLOT & DRILL** pattern can experience cracking under extreme heat and braking conditions.

For street driving: Baer recommends rotors with a **REVERSE SLOT & DRILL** pattern. Rotors with this pattern typically do not encounter issues under ordinary braking conditions. The benefits of the **REVERSE SLOT & DRILL** pattern include, but are not limited to:

- Reduced rotor weight
- Improved rotor cooling

Rotors used in street driving applications can also have **REVERSE SLOT ONLY** or **NON-MODIFIED** patterns.

NON-MODIFIED (plain) rotors that employ a curved vane design must also rotate in a specific direction. The curved vane rotor is designed to draw air into the center of the rotor and force or "pump" the air to exit from the outer edge of the rotor.

ADDITIONAL ROTOR DETAILS:

There are specific break-in procedures, titled *"Rotor Seasoning & Pad Bedding"*, provided in this packet to ensure optimum rotor performance and durability for your brake system.

A removable stick-on label is placed on the rotors to designate which side of the vehicle the rotors are to be installed. Rotors that have a stick-on label with the letter "L" are to be installed on the left (driver) side of the vehicle. Rotors that have a stick-on label with the letter "R" are to be installed on the right (passenger) side of the vehicle.

The rotors shown on this sheet are all left (driver) side rotors. The surface slots on the rotors rotate forward. Always install the rotors in this fashion. **NEVER INSTALL ROTORS IN THE OPPOSITE DIRECTION OF ROTATION**, heat related fatigue and failure will result.

ROTOR SEASONING & PAD BEDDING

STREET OR LIGHT TRACK APPLICATIONS

What proper "Rotor Preparation" is all about

To properly prepare the brake system for duty, the rotors must be subjected to the "Seasoning" process. During the seasoning process, the most visible effects are the burning of machine oils from the surface of the iron and the establishment of a wear pattern between the pad and rotor.

The seasoning process performs another task of relieving the internal stresses within the rotor material. An example of this process is pouring water into a glass of ice. The ice cracks when the water comes in contact. This example demonstrates the effects of internal stresses. The rotor casting and cooling processes leave the rotor with internal stresses like the example of cold ice cracking when contacting the warmer water.

Gradually heating the rotor material allows its crystalline structure to reconfigure, relieving the internal stresses present from the casting process. After these stresses are relieved, the rotor can readily accept the heat of bedding pads. Heating the rotors before they are fully seasoned can result in material deformation due to the unrelieved internal stresses in the material. This deformation may cause vibration when the brakes are applied.
Rotors must be gradually elevated to "race" temperatures before any severe use. A 'nibble', or slight vibration, normally indicates rotors that were heated too quickly.

Following the initial "**Seasoning**" process; when running your car at open track events or serious canyon carving, you should use the first lap of a session (or first couple of miles of open road) to warm the brakes as well as the engine, gearbox, etc.
An engine turns combustion into motion, the brakes then turn that motion into thermal energy through friction...and lots of it! Unlike the enginer, there is no cooling system for the brakes. This means the brakes could use the courtesy of a warm-up lap to allow the rotors to gradually come up to operating temperature.

Remember to **ALWAYS WARM THE BRAKES** before any heavy use! It is also considered mandatory to run air ducts to the eye (center) of the rotor on any car used on track or in actual competition.

ROTOR SEASONING PROCEDURE:

Before beginning, please note:

The following represents the **minimum** recommended "Seasoning" process. If your situation offers any opportunity to perform preliminary "Seasoning" outlined in Step 2, below for a longer period of time, this will generally render even better performance and increase further long term rotor life.

1. Use the vehicle for 5 to 6 days of gentle driving. Use the brakes to the same extent that you used the stock brakes. **DO NOT TEST PERFORMANCE OR ATTEMPT HEAVY USE UNTIL ALL ITEMS OUTLINED HAVE BEEN COMPLETED. It is imperative the rotors are not excessively heated at this stage.** They require temperature-cycling to relieve the internal stresses present from the casting process.

Note: Zinc plated rotors (optional performance upgrade) require a couple extra days of driving to wear through the plating before the "Seasoning" process will begin.

2. After completing 5-6 days of gentle driving, find a safe location where the "Seasoning and Bedding" process can be done. The goal is to gradually increase brake temperatures with progressively faster stops.

A. Start by performing (4) stops from 60 mph to 15 mph, as you would while normally driving.

B. Next, perform (4) medium effort pedal stops (about 50% of maximum stopping force) from 60 mph down to 15 mph. Follow this with (5) minutes of freeway driving with LITTLE to NO BRAKING to allow the rotors to cool.

C. Next, perform (4) medium-hard effort pedal stops (about 75%) from 60 mph down to 15 mph. Follow this with (10) minutes of freeway driving with LITTLE to NO BRAKING to allow the rotors to cool.

D. Park the car and allow the brakes to cool down overnight to ambient temperature. You are now 50% done with the rotor "Seasoning" procedure. Proceed to STEP 4 the following day.

3. Find a safe location where the "Seasoning" process can be continued.

4. Ensure the brakes are warmed to full operating temperature.

A. Perform (4) medium effort pedal stops (about 50%) from 60 mph down to 15 mph. Follow this with (5) minutes of freeway driving with LITTLE to NO BRAKING to allow the rotors to cool.

B. Next, perform (4) medium-hard effort pedal stops (about 75%) from 60 mph down to 15 mph. Follow this with (10) minutes of freeway driving with LITTLE to NO BRAKING to allow the rotors to cool.

C. Now, make (6) HARD pedal stops from 60+ mph down to 15 mph, or until the rotors have reached an operating temperature between 900°F and 1,100°F. Every effort should be made to perform this procedure without locking a wheel. Follow this with (10) minutes of freeway driving with LITTLE to NO BRAKING to allow the rotors to cool.

5. Let the brake system cool overnight to be ready for pad bedding.

PAD BEDDING PROCEDURE:

The Importance of Bedding Brake Pads:

The friction material in semi-metallic pads is held together by an organic binder, usually a type of phenolic material. As brake pads get hot, the binder boils and burns, from the top surface of the pad. Once this burning or "Bedding" takes place, the friction material makes proper contact with the rotor.

Some race/performance pads are designated as "pre-burnished" from the manufacturer. In our experience, these pads still benefit from the "Bedding" procedure. The "Bedding" procedure establishes a wear pattern between the brake pads and rotor. Some pads deposit a layer of carbon on the surface of the rotor. They require that layer of carbon to perform at peak efficiency.

Bedding Metallic or Carbon/Metallic Pads - (NEVER "drag" the brakes) :

Note: Never "Bed" pads on rotors which have not first been "Seasoned". Always allow a substantial coast down zone when bedding pads that will allow you to safely drive the car to a stop in the event of brake fade.

1. Perform (2) repeated light to medium stops, from 65 to 10 mph, to bring the rotors to temperature.

2. Perform (2) heavy stops, back to back, at a point just pending wheel lock or ABS actuation, from 65 mph to about 5 mph.

3. Drive for (5) to (10) minutes to create cooling airflow, without using the brakes if at all possible.

4. Perform (3) light stops in succession.

5. Perform (8) heavy stops, back to back, at a point just pending wheel lock or ABS actuation, from 65 mph to about 5 mph.

6. Drive for (10) minutes to cool the rotors, without using the brakes if at all possible.

Note: Metallic brake pads require high temperatures to keep the pad "Bedded". If the vehicle is being driven for a period without extensive use of the brakes, the pads may require "Bedding" again. This is not a problem. Simply repeat the procedure on the previous page.

When switching from any performance or other Carbon Metallic pads to semi-metallic brake pads (not recommended by Baer), you must wear through the layer of carbon that the performance pads have deposited on the rotor surface. The new pads will **NOT** grip well at all, until this layer of carbon is removed. Racers should "Bed" a few sets of pads at a time.

If brake pads are changed during a race, you MUST use a set of "Bedded" pads. Racing on "non-bedded" pads leads to a type of brake "fade" caused by the binding agents coming out of the pad too quickly. This is called "green fade". These binders may create a gas layer between your pads and rotors. Gases have a very poor coefficient of friction. This condition is one of the reasons for reverse slotting or cross-drilling rotors, as it allows a pathway for the gasses to escape.