

SCA Brake Rotor Installation and Use Instruction

The SCA brake rotor installation procedure includes the process used to install regular cast iron rotors and the SCA brake rotor specific instructions.

SCA Rotor Instructions

Installation by an experienced brake repair shop is highly recommended. **The SCA rotors requires the use of aluminum rims. Steel rims cannot be used.** The SCA rotors should be paired with ceramic pads to achieve optimum performance. **Semi metallic pads cannot be used.** The dimensions of the SCA rotors are slightly different from their cast iron rotor counterparts. **The brake pads purchased may need resizing by sanding down the outer edge.**

Aluminum Alloy Wheel

The aluminum alloy wheel is a part of the SCA brake system. The contact surface with the SCA rotor mounting hat should be flat and clean of rust.

Ceramic Pads

Tests with various pads show that ceramic pads (such as Adaptive One brand) are best suited for SCA rotors. The pads can be purchased from local stores such as NAPA.

Dimension Fitness Check

The dimensions of the SCA rotors are slightly different from that of their cast iron brake rotor counterparts. Although we have carefully designed our rotors to fit the corresponding bearing hubs, caliper mounting brackets, and calipers, we strongly recommend you to check with a slow test drive in making sure that the rotor is free turning and void of any unnecessary contact (usually identifiable by an irregular noise) after installation. If any irregular noise is heard, please stop the car gently and check for the source of the disturbance. Your SCA rotor comes with a new layer of protective paint to maximize the life of the rotor. This paint may cause some ambient noise during the first few stops. The noise is normal and should diminish after the excess paint is removed by the brake pads.

Pad Resizing

The SCA rotors have an aluminum lip a few millimeters wide on the outer diameter as shown in Figure 1. To avoid contact between the aluminum lip and the brake pads, the pad's outer edge may need a small reduction adjustment. This can be achieved by grinding with a tool as shown in Figure 2. The inner diameter of the pad's backing plate may need slight grinding as shown in Figure 3 if this inner diameter touches the brake rotor hat.

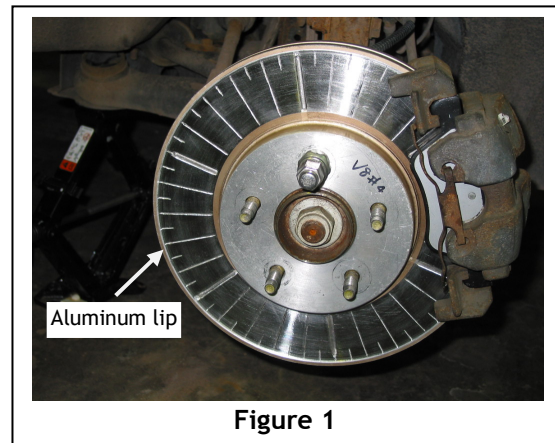


Figure 1

Teflon Gasket

A greater noise reduction can be achieved on your SCA brake rotor by inserting a thin Teflon gasket between the SCA rotor mounting hat and the bearing hub contact surfaces. The Teflon gaskets are available upon request with an additional charge.

Tighten Right

SCA rotor bodies are made of an aluminum alloy and thus is softer than their regular cast iron counterparts. Additional care should be taken to tighten a SCA rotor temporarily on the bearing hub and tighten the aluminum wheel against the SCA rotor. Even and proper wheel nut torque should be applied. Over-tightening of wheel nuts can cause undue stress and warping of the brake rotor. A torque wrench should be used for best results.

Caliper Removal

The SCA rotors have aluminum slips stepped. The calipers cannot be slid out freely. The inboard pad has to be pushed back using some tools such as a pliers against the backing metal plate to increase inboard pad and outboard pad distance as shown in Figures 4 and 5.

Regular Brake Rotor Installation Example

1. Park the vehicle on hard level ground, set the parking brake, place wheel chocks behind and in front of the wheels to prevent the vehicle from moving, and loosen wheel lug nuts slightly using the lug wrench.
2. Jack the vehicle up following the vehicle manual until the tire is off the ground and then remove the lug nuts and the tires completely.
3. Loosen the caliper bolts out of the caliper bracket completely with a proper wrench.
4. Take out the caliper and hang it with a temporary hanger from the suspension arm or the frame.
5. Remove the caliper bracket bolts and then the caliper bracket.
6. Take out the brake rotor. A small amount of force may be needed for its removal. A rubber hammer



Figure 2



Figure 3



Figure 4



Figure 5

could be used to loosen the rotor using small taps, but with care to avoid damage to the rotor and the wheel bearings. (If the rotor still cannot be removed, it is recommended to put everything back and contract a brake repair shop to do the brake replacement for you.)

7. Completely clean the hub contact surface with a steel brush for removal of any existing rust, wipe off any dust, spray a thin layer of rust inhibitor liquid or anti-seize compound on the hub, and install the new rotor. Screw one or two lug nuts on by hand without using a tool to hold the rotor in place.

8. Lubricate caliper bracket bolts, pins, slides, bushings, and the contact points where the pads slide within the caliper housing with a high temperature brake grease and mount the caliper bracket with the bolts adjusted tightly.

9. Set the new outboard brake pad in the caliper bracket and attach the new inboard brake pad to the caliper by inserting the pad expansion spring into the hole of the caliper piston.

10. Press the piston back into the caliper with a brake pad spreader until enough space is created.

11. Slide the caliper down over the pads and replace the caliper bolts. Tighten securely. Reinstall the wheel and tighten the lug nuts slightly.

12. Release the Jack to set the vehicle down, remove the jack, and evenly tighten the lug nuts with recommended torque according to the vehicle manual.

13. Continue to work on the installation of the next brake rotor following the above procedure.

14. Remove wheel chocks, release parking brake, start engine, and step on the brake pedal repeatedly until a hard stroke resistance is apparent. Remove the car from park, drive out VERY slowly and braking several times to ensure safety.

Use

Bed-in Process

The new SCA brake rotors require the bed-in process. This process may take over hundreds of stops to completely remove the surface machining traces. No hard and continuous hot braking should be applied during the bed-in process. Braking may seem slightly harsh and rough along with a little excess noise during this process. After complete bed-in of the pad and rotor contact surfaces, much smoother braking will result.

Normal Street Uses

The SCA brake rotors are designed for normal street uses only. Racing and the towing of trailers are prohibited. Use in conditions beyond normal street uses may cause the SCA brake rotor to overheat if regular aluminum wheel rims are used.

Allowable Brake Rotor Wear

It is expected that the SCA brake rotor can last over 10 years and 100,000 miles under normal driving conditions. It allows maximum 2 mm wear on the rotor disc thickness. **No rotor resurfacing is allowed.**

Indication of Brake Rotor Replacement

Excessive lateral runout, warping , vibration and abnormal noise during braking are indications of replacement.

Noise Reduction

As with all slotted brake rotors, SCA rotors reduce stopping distance in trade of a slight noise increase. This noise increase in comparison to a non-slotted brake rotor is normal. The noise can be reduced by adding a thin Teflon sound barrier gasket between the SCA rotor and wheel contact surfaces. The Teflon gasket additions are available and can be acquired by contacting LiteBrake.

Careful use of your SCA brake rotors will provide you with great gas savings, less brake maintenance costs, and shorter stop distances.