



**CERAMIC-COMPOSITE BRAKES** are exotic, Formula 1-derived technology on your very own street car. How cool is that? I can still remember the day my friend took delivery of his 997-2 Turbo S vividly. He was extremely proud of its standard Porsche Ceramic Composite Brakes. He used his Turbo S for everything: his daily commute, hauling his family, several track days each year, and trips to Lake Tahoe.

He often spoke about his experience at the Porsche Sport Driving School, where representatives highlighted the multiple advantages of PCCB. The point he found most noteworthy was a statement that PCCB rotors on the cars used for Porsche's driving program never had to be replaced.

I mean, what's not to like? Lightweight brake rotors that look great, offer superior fade resistance, put very little brake dust on your wheels, and last "forever?" Based on the information passed on to me, I opted for a Boxster Spyder with PCCB.

Six track days later—life is measured in track days, right?—we were looking at the rear brake rotors on my friend's Turbo S. One rotor was delaminated and the wear indicators were showing. We could hardly believe his rear rotors had lasted only six track days. He brought his car into the dealership, where a technician confirmed that the rear rotors would need to be replaced.

The replacement cost of a single rear rotor was more than \$4,000.

While his front brake rotors still had life in them, they too were showing signs of wear. To replace all four PCCB rotors, my friend would be out roughly \$17,000.

Stunned, I checked the ceramic-composite rotors on my Spyder. It had only done five track days at that point, but—sure enough—the wear indicators on its front rotors were beginning to show. I had followed all of the recommendations to maximize my PCCB rotors' life. I only used factory brake pads and I used proper cool-down procedures. I even replaced my pads after 50% wear on the advice of some folks who recommended doing so as preventive maintenance. To my disappointment, all of my efforts were for naught.

**THERE IS A LOT OF** inconsistent and inaccurate information out there when it comes to PCCB. Let's go back to see what Porsche said about these brakes in the first place.

When PCCB was announced in 2000 as an option for the 2001 996 Turbo, the factory touted unsprung weight reductions of more than 44 pounds per car. Besides superior response and heat management, the rotors were said to offer advantages in inclement weather. Porsche said PCCB rotors and hats wouldn't corrode—and that they should last "the life of the car" if an "appropriate driving style" was used.

Fourteen years later, people are still talking about PCCB. Some say they'll stop a Porsche sooner. Others say PCCB should be optioned if you plan to track your car. Others say PCCB should *not* be ordered if you're going to track your car. Finally, some say PCCBs transform a Porsche's handling and steering. So who is right?

copy to  
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they are about 3 years behind us!





As I dug through internet forums, I came across a subset of Porsche customers who hate PCCB and are actually removing these technological wonders to revert back to cast-iron rotors. Why in the world would someone do this? The main reason appears to be this: When used on track by mere mortals, PCCB rotors can and do wear out—and the cost to replace them is extraordinary.

**FORGET THE MARKETING.** Let's go over the realities of PCCB. First, it's a common misconception that PCCBs will stop your Porsche sooner. When it comes to one-time stopping distances, the limiting factor is usually tire traction, not brakes.

*Perceived* differences in braking power are something else, and they probably stem from the difference in pedal feel between PCCB and standard brakes. The truth is that some like the feel and quicker "initial bite" of PCCB, and some don't. Fade resistance is another matter, and PCCB offers superior heat management. But while PCCB may be state of the art, Porsche's normal brakes are exceptionally good.

As with most performance upgrades, there are advantages and disadvantages to PCCB. I've tried to cover some of them in the sidebar below. As for me, it comes down to this: While I love to take my Porsche to the track, PCCB serves no real purpose *for me*. I'm not a professional racing driver, I'm just a Porsche customer. But I do have enough high-performance driver training to know how to drive a Porsche quickly.

Turning 1:41 laps at Laguna Seca in my relatively stock Boxster Spyder, I found

that my PCCB rotors showed signs of wear after just five track days—and it looked like they only had another five track days in them. Given the replacement cost, I just couldn't see a benefit for my purposes—other than less brake dust to clean off and unique looks out on the street.

I was faced with a decision: Continue to use PCCBs on track and destroy the rotors, or remove the rotors and set them aside for the day I sell the car or retire it from track duty. I decided on the latter. I would set my PCCB rotors aside and replace them with conventional rotors.

There are multiple options when it comes to cast-iron replacements. Brembo, Performance Friction, and Girodisc offer cast-iron rotors for Porsche owners looking to replace their PCCB rotors. Savvy enthusiasts have also discovered that OEM rotors can sometimes be substituted. For example, certain 911 Turbo cast-iron rear rotors are exact replacements for certain 911 GT3 PCCB rear rotors.

What did I sacrifice by removing my PCCB rotors? In my opinion, not much. The car certainly doesn't feel less nimble or any slower on the street or the track. *I have* noticed that hitting potholes feels a bit more harsh, and my wheels do get dirty sooner.

Interestingly, my lap times continued to drop after switching to cast-iron rotors. I attribute this to better braking feel from my preferred type of brake pad as well as continued driver improvement. But the switch to cast-iron brake rotors certainly hasn't slowed me down.

Okay, so all of that is subjective. What about objective changes? I definitely gained

some unsprung mass. After the PCCB rotors were pulled off of the car, I put them on a scale. The front and rear rotors came in at 12.5 pounds each. The Brembo Type III brake rotors I switched to came in at 22 pounds each up front and 16.5 pounds each in the rear—for a total unsprung weight gain of 27 pounds across four corners.

My friend did the same conversion on his 997.2 Turbo S, and the total unsprung mass gain came in at 24 pounds. After eleven track days, my Brembo Type III front rotors are nearly ready to be replaced, though the replacement cost is more palatable: \$2,795 for two front rotors with a set of narrow annulus pads and another \$2,195 to refresh the rear brakes.

**I'VE LEARNED A LOT ABOUT** brakes as a result of my PCCB adventure. Would I order ceramic-composite brakes again? No. The cost/benefit ratio just isn't there for me.

The PCCBs in the latest 981s and 991s have been marketed as a further improvement over prior generations. This may well be true, but until there is objective evidence that this newest generation lasts far longer, I'll stand on the sidelines.

There is nothing like real-world experience from actual owners, and I can only hope my experience adds something of value to the discussion. While my experience is based on the second-generation PCCB rotors used in 987/997-based Porsches, I'd advise anyone looking at a used Porsche equipped with PCCBs to check for signs of wear. Replacing them will be costly, and only you can decide if the benefits of PCCB are worth that much to you. ☉

## PRIMARY ADVANTAGES OF PCCB

- + **Weight:** PCCB rotors are a *lot* lighter than like-sized cast-iron rotors, saving roughly ten pounds in unsprung weight per corner in some applications. Some say they can feel that benefit, while others—Walter Röhrl among them—have said they can't.
- + **Heat management:** PCCB rotors offer better resistance to brake fade.
- + **Less brake dust:** Some call PCCB "no-dust" brakes, and they nearly are.
- + **No corrosion:** Aluminum mounting hats and composite rotors do not corrode over time, another aesthetic advantage over cast-iron rotors.
- + **Longevity:** PCCB rotors may indeed last the life of the Porsche they come on if they aren't damaged and the car is driven on the street. This may hold true with the occasional track day at a novice pace, and PCCBs may very well be a *great* option for autocrossers.

## PRIMARY DISADVANTAGES OF PCCB

- **Cost:** As an option, PCCB adds \$7,400 to \$9,210 to the price of a new Porsche, depending on the model. That's a bargain compared to the replacement cost of PCCB rotors. One discount OEM supplier priced a pair of front PCCB rotors for my Boxster Spyder at \$9,500, with rear PCCB rotors coming in at \$8,300. That's \$17,800—for the parts alone.
- **Fragility:** You must be very careful not to chip the edge of a PCCB rotor while removing or replacing the heavy wheels found on modern Porsches. If one falls and catches the edge of a PCCB rotor, that rotor may be damaged. There have also been rare cases where small rocks and other matter have gotten into the brake calipers and scored the PCCB rotors. The risk of this may be low, but it is there.
- **Brake pad choice:** More aggressive pad compounds are not approved by Porsche, such as those favored by track-day regulars.