

# Do-it-Yourself Brakes

Pads and rotors, front and rear  
Specific model: 210.065 (E 320)  
Generally applicable to all late-model  
Mercedes vehicles

# OVERVIEW, DISCLAIMER AND SAFETY PRECAUTIONS

- As you review the pictures, be advised that this car started life in NYC, so it's got quite a bit of rust on some components, which looks really scary in some of the shots -- particularly some of those looking down into the vents of the front rotor. :)
- *Disclaimer:* You assume any and all responsibility for your decision to use (or misuse) any or all of the information contained herein. In other words, I'm not in any way at fault or to blame if you die or even just get a hangnail. If you're unhappy in any way, your sole and complete remedy is a full refund of the price you paid me for this information.
- *Overview:* The entire job took about 6 hours, including periodically cleaning up and partial reassembly so I could take certain pics. The single most time consuming task (and the most difficult thing) was removing the old rotors. Three of them were rusted on and it took me between 20-30 minutes each to remove them. If you've never removed frozen rotors before, don't try it unless you have someone handy who can show you how. It may involve hammers, pry bars, a torch and lubricants, and if done improperly the result will be damage to other components which will prove to be expensive and potentially dangerous.
- If you're not changing rotors, the job is much easier all around. Not only do you not have to struggle with rotor removal, but you also don't have to remove the front caliper mounting bracket (18MM bolt heads, very tight). Rather, for the front you just remove the two torx bolts under plastic caps and lift the caliper out of the way. And you don't have to remove the rear caliper at all (in fact if all you're doing is rear pads, it actually takes less time to change the rear pads than it does to get to them and then put the tires back on).
- *Jacking/support precautions:* As with anything related to maintenance, safety must be a primary concern and working partially under a car can be dangerous. Be sure you understand the proper operation of the jack and jackstand(s) you'll be using, and confirm the correct location for raising and supporting the vehicle. If you don't have a lift, then the best surface for jackstands is a flat, smooth concrete driveway. It is most stable to raise one corner at a time, and be sure not to raise the car higher than you need to. Use wheel chocks to provide additional stability, at least one placed opposite to the corner you're working on. Additionally, if I'm removing a wheel, I typically lay it flat behind the jackstand and under the car, so as to provide backup protection should a jackstand fail (I have had that happen) or in the event of some other unforeseen circumstance (if you live in earthquake country, you always have to have that in the back of your mind).

# PARTS LIST

## *Pads*

If you are satisfied with your braking performance and don't mind the dust, then you can purchase OEM pads from any number of on-line sites for a good price. There are also many excellent premium pads available, such as Axxis, EBC and Porterfeld. I selected Axxis Ultimate pads and purchased them through Evobreed on Ebay for about \$130 for both front and rear sets.

## *Rotors*

If your rotors are not warped, damaged or worn beyond minimum thickness then you don't need to replace them. If they are warped, note that Mercedes-Benz does not approve resurfacing rotors, so you should instead replace them. If you do have to replace your rotors, then replacement OEM rotors can be sourced online for a good price. You may also wish to consider premium rotors that are drilled, slotted or both. Be advised, however, that slotted rotors will reduce the longevity of your brake pads and drilled rotors are more susceptible to cracks and breaks than are stock solid rotors. If you decide on aftermarket rotors, you can purchase premium ones that are *manufactured* with slots or drilled holes, or you can select OEM blank rotors that are drilled and/or slotted by a machinist. In my case I went the last route and purchased genuine Brembo blanks that were drilled (no slots for me, thanks) by Night's Auto in Canada. They did an excellent job and also painted the hubs of the rotors (visible in the pictures). I also located them on eBay and with shipping and the monetary conversion they were right at \$250 for all four.

## *Miscellaneous*

Brake paste is applied to the back of the brake pads to reduce noise; some have used aftermarket pastes with good results, the genuine stuff is cheap enough online. If you buy the genuine MB paste, purchase one packet per pair of pads, so if you're doing front and rear you'll need four packets. You will also need new brake wear sensors (if they're not worn, you can re-use them, but they're very inexpensive). Some models only use them on the front wheels, some have them on all four wheels, you'll have to inspect yours to see how many to order. If you anticipate having to bleed your brakes, be sure to have the proper fluid on hand for your vehicle. Brake cleaner will come in handy. Finally, if you're replacing rotors, you may want to purchase new allen-head set screws for the rotors; if you don't, you'll need to have threadlock, such as Loc-tite.

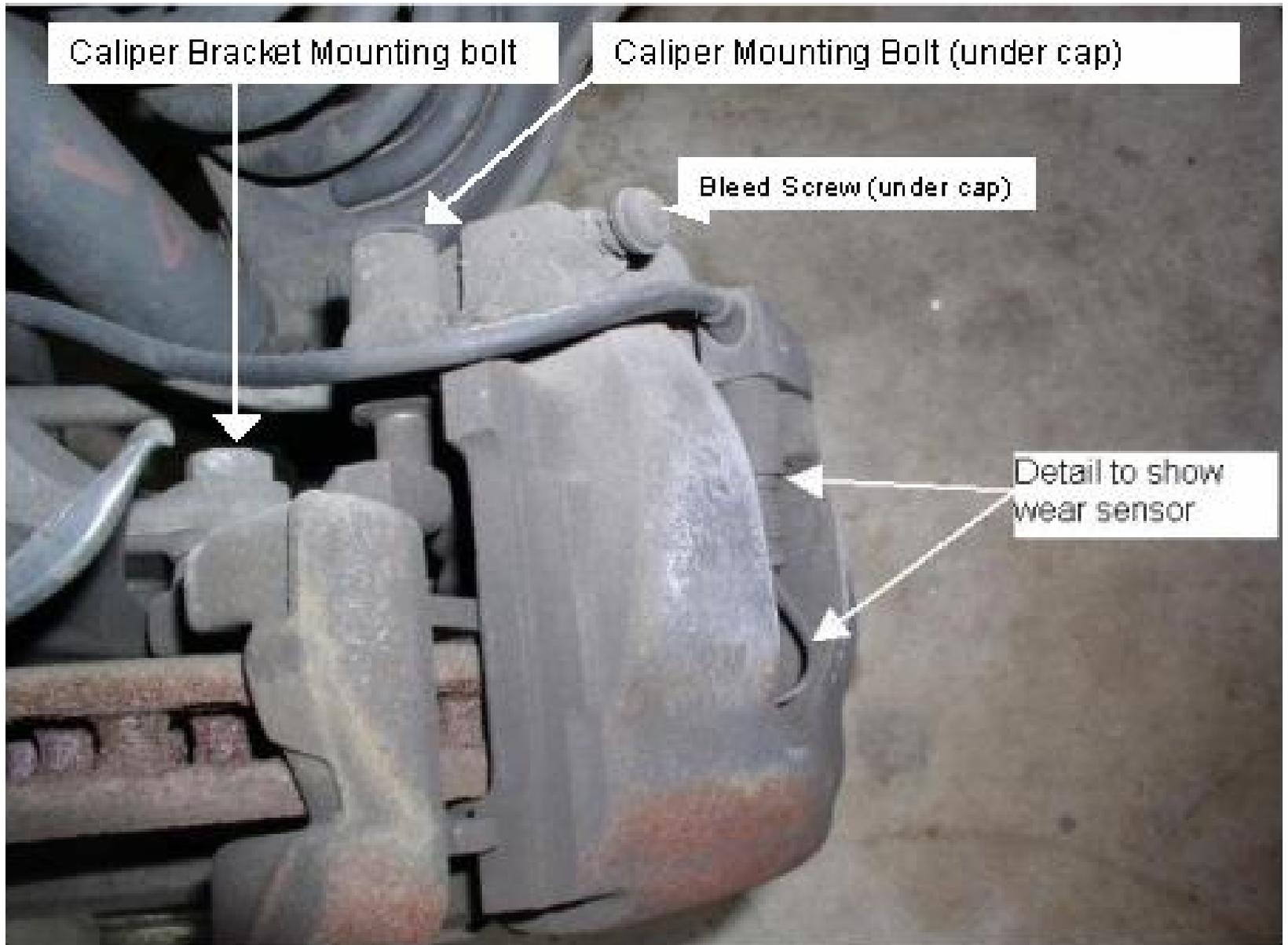
## Front Brake (basics)

1. Inside the blue oval is the set screw that keeps the rotor aligned with the hub. If you are removing the rotors, be sure to replace this screw, or reinstall it with fresh thread-lock.
- The green arrows point to the anti-rattle spring.

*Note:* The area in the red rectangle is the dreaded “spring perch” which is an occasional weakness.



## Front, Detail (top view)

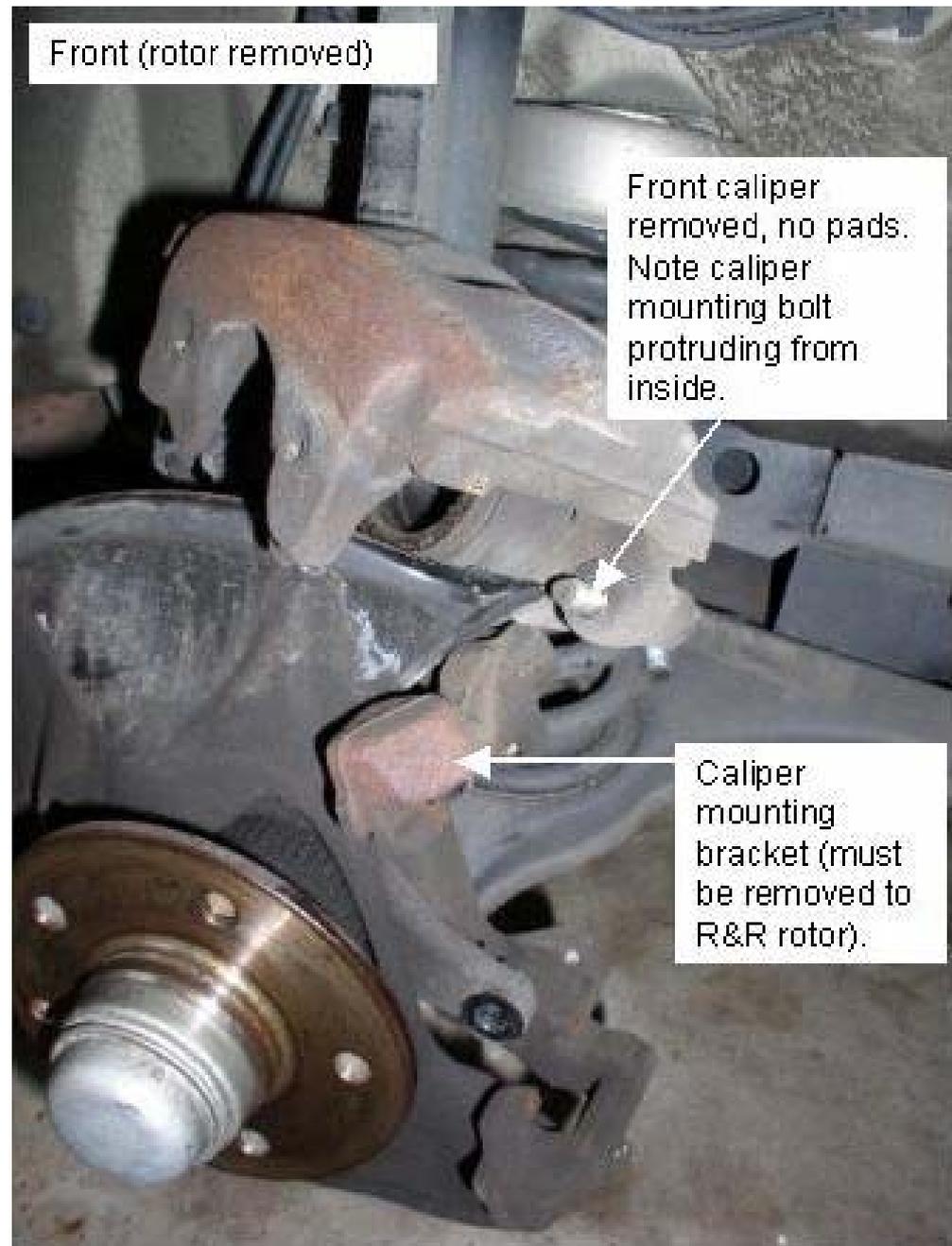


Pry gently against one of the pads to partially press the piston back into the caliper.

Remove the anti-rattle spring. Remove the two plastic caps and *loosen* the two caliper bolts (do not remove them unless you plan on relubricating them). If you are NOT removing the rotors, then do NOT remove the caliper bracket mounting bolts, just loosen (but do not remove) the caliper mounting bolts

Slide the caliper off and remove the pads. Rotate the caliper so the highest point is the bleed screw (pointing up) and then barely crack it (this prevents you from pushing dirty fluid back up into the tiny passages of the ABS system and master cylinder).

Using a hose (clear is best, you can buy it at any hardware store) to catch the fluid and direct it to a container, press the piston back into the caliper until it is seated fully, then close the bleed screw and replace the rubber dust cap. You may wish to use a large C-Clamp to slowly press the piston in.



## **ROTOR REMOVAL AND REPLACEMENT**

If you are removing the rotors, then remove the caliper bracket mounting bolts and remove the caliper mounting bracket.

Unscrew the tapered, allen-head set screw that secures the rotor to the hub. Remove the old rotor.

Clean off any rust from the hub and install the new rotor. If you are installing premium rotors that are slotted, drilled, or both, review the directions closely to insure that you install them with the proper direction of rotation.

Align the rotor on the hub and fit a new set screw (they are cheap and come precoated with thread-lock), or clean the threads on the old one and coat it with thread-lock before reinstallation.

Reinstall the caliper mounting bracket.

**NOTE:** Rotors may be “frozen” to the hub. If you are not very familiar with removing frozen rotors, then the best advice is to seek professional assistance to remove them.

This shot shows the old front pads, with the worn wear-sensor.



This shot shows the installation of the new sensor into the new pad.  
Align the post and press it straight into the pad until it seats.



## REASSEMBLY

Apply Mercedes Benz paste to the back of the pads and insert a new pad wear sensor into the inner pad. You can re-use the old sensor if it is not worn through; refer to the preceding picture.

Fit the new pads into the caliper and carefully slide the caliper back on, align the bolts and tighten to spec using torque wrench.

Reinstall the anti-rattle spring.

Reinstall the wheel and torque the lug bolts to the specification for your vehicle. When you're finished with the job you're ready to bed them in according to the rotor/pad manufacturer's recommended procedure.

Front: After



Tools, left to right: Large Screwdriver, 3/8 flex-head ratchet, large frame-type C-clamp, torx bit (caliper mounting bolts) 3/8 socket (bleed screw), pliers (Anti-rattle spring-clip), torque wrench, Small screwdriver, 1/2" drive 17mm and 18mm sockets, 1/2" socket extension, 1/2" ratchet, Ball-peen hammer. (Yes, I know, but the hammer was absolutely required to convince the rusty old rotors they wanted to head for the recycle factory...)

This is the best shot of the rears I took. Not too much detail, but they're so simple, you'll see what's necessary pretty easily. Note that these are the single-pin pads, double-pin pads are the same procedure, but have two mounting pins and different retaining springs.

First, gently pry against a pad on each side to partially compress the piston. Tap gently on the front end of the retaining pin (it pokes through to the front, circled in red on the inset shot) until you can grab it with pliers in the back. If you have a long awl and can press it further, so much the better. Then press down on the spring pressure clip and remove the pin and pressure clip.

Next, slide the pads out of the caliper and remove the anti-rattle spacers from them. It's tricky to press the pistons back into the calipers with the caliper installed but you can do it. I'd recommend cracking this bleed screw as well, although with the twin-piston calipers it's a bit more difficult to coordinate everything.



## ROTORS AND REASSEMBLY

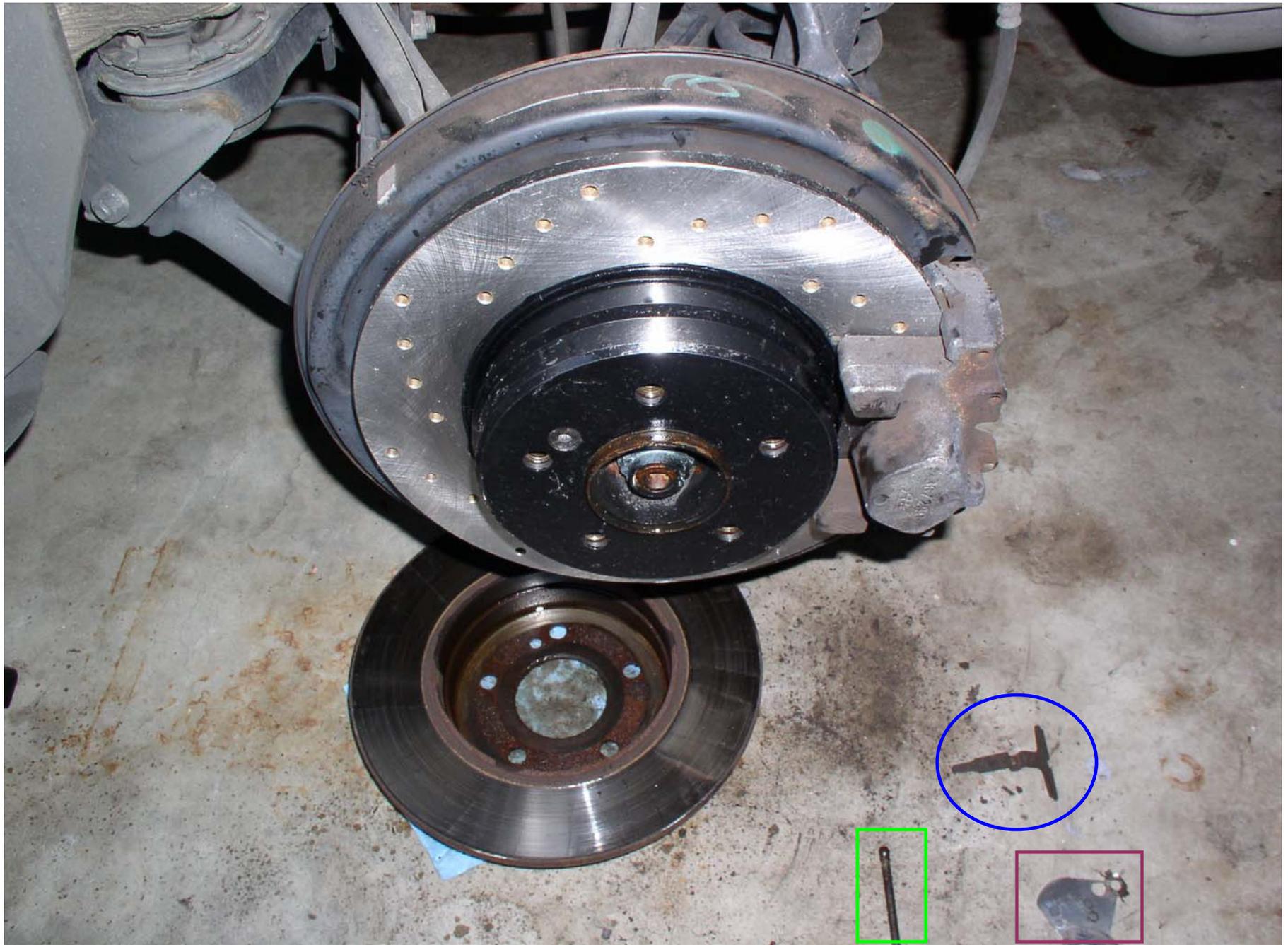
If you are replacing the rotor, remove the rear caliper. *NOTE:* examine the caliper closely and be *very* careful, for if you remove the bolts that hold the caliper together you will lose brake fluid and introduce air into the caliper, and you'll end up spending lots more time on this job than you intended.

Remove the allen-head set screw and remove the rotor. Clean up any rust and dirt on the hub, and then fit the new rotor. If you're installing premium drilled/slotted rotors review the manufacturer's instructions to ensure proper rotational direction. Install a new set screw or clean the threads on the old one and apply thread lock, then reinstall it.

In the next shot, note the new rotor in place. Circled in blue is the spring pressure clip; the retention pin is in the green rectangle, and the anti-rattle spacers are in the purple rectangle. These parts may look different from yours.

Install the wear sensors if your car is equipped with them in the rear. Apply the Mercedes-Benz paste to the back of the new pads, install the anti-rattle spacers and insert them into the caliper. Start the retaining pin and then insert the spring clip and depress it so you can pass the retaining pin through the other pad and out the front as before. Drift the retaining pin fully into the caliper body.

Reinstall the wheel and torque the lug bolts to the specification for your vehicle. When you're finished with the job you're ready to bed them in according to the rotor/pad manufacturer's recommended procedure.



**That's it, you're all through.**

**Congratulate yourself –  
and enjoy your new brakes!**