

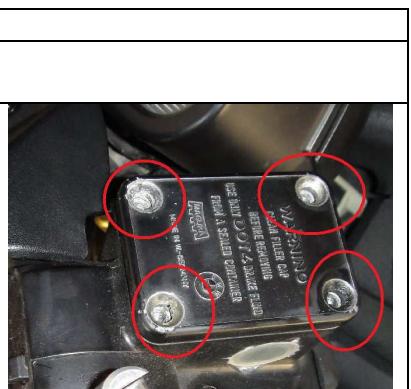
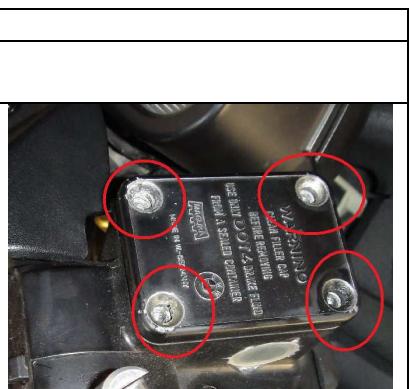
Clean/Rebuild The Front Master Cylinder on a K100RS4V, K1 or K1100

Disclaimer: These are just some notes on how I do this. If you choose to follow these instructions then you do so AT YOUR OWN RISK and I accept no responsibility if anything goes wrong. Since brakes are critical to your safety when riding, if you're not comfortable working on brake systems then you might want to consider having a qualified mechanic do this. Also, brake fluid likes to eat paint so if you get any brake fluid on a painted surface then clean it off immediately.

The purpose of this activity to stop the front master cylinder from leaking. If you've already purchased a rebuild kit then **don't open it yet** because, at least in my experience, many times a leaky master cylinder can be cured merely by cleaning it without the need for a rebuild kit.

What you'll need:

- 3, 4 & 5mm Allen wrenches (and maybe an 8mm)
- Phillips screwdriver
- Fine grade (0000) steel wool
- A fresh bottle of DOT 4 brake fluid
- A roll of paper towels
- A master cylinder rebuild kit – BMW part number 32722332037 (maybe)

1. Put the bike on the center stand.	
2. Place some folded paper towels on the knee panel and front right of the gas tank just in case you spill any brake fluid.	
3. Remove the four screws the hold the master cylinder on. Be sure to use a good screwdriver and adequate downward pressure so as not to strip the heads of the screws.	
4. Use some paper towels to soak up and remove all of the brake fluid from the master cylinder reservoir.	
5. Remove the screw at the base of the right combination switch. Again, use a good screwdriver and pressure to avoid stripping the head of the screw.	
6. Loosen the countersunk Allen bolt that holds the right perch in position on the handlebars.	
7. Rotate the top of the master cylinder up towards the rear of the bike.	

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8. Remove the screw that holds the plastic cover on the front of the master cylinder.	
9. Remove the 5mm Allen bolt that the brake lever pivots on.	
10. Remove the brake lever and rubber boot.	
11. Remove the 3mm set screw (retaining screw) that holds the piston in the master cylinder. It's a good idea to keep your thumb over the master cylinder piston. It has a spring behind it and it may fly across the room if you don't.	
12. In my case there was enough old crystallized brake fluid at the front of the master cylinder bore that the piston didn't just pop right out. What I've found works to get it out is to insert an 8mm Allen wrench and apply some angular pressure while turning it to get the piston to rotate and come out. (Have some paper towels handy to clean up any brake fluid that might spill.)	
13. You'll probably see some dried up crystallized brake fluid near the front of the bore. This is the crap that gets in the piston's front rubber seal and causes leakage.	
14. Using some steel wool, clean out all of the dried up brake fluid. Some very small remnants of the steel wool will fall into the master cylinder when you do this. Once you've finished using the steel wool, use some paper towels to clean that out of the master cylinder.	
15. Clean any brake fluid crud off of the rubber seals on the piston. (Don't use steel wool for this, use paper towels or a microfiber cloth.)	

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16. Inspect the lips of the seals on the piston. If those have any nicks or cuts in them then you'll need a master cylinder rebuild kit.	
17. Inspect the bore (master cylinder wall) for any pitting. If enough water has sat in the master cylinder long enough to cause pitting then a rebuild won't work and you'll need to replace the whole master cylinder.	
18. Put the spring and piston back into the master cylinder and, while holding the piston in, replace the set screw.	
19. Reinstall the rubber boot.	
20. Reinstall the brake lever and it's pivot bolt, making sure that the brake switch lever is in the right position between the brake lever and switch.	
21. Reinstall the back plastic cover.	
22. Rotate the master cylinder back into position (I sit on the seat and eyeball it so that it's at the same angle as the clutch lever) and tighten the countersunk Allen bolt that holds the right perch in position on the handlebars. <u>Do not overtighten this bolt</u> or it will break the clamp off of the master cylinder and you'll need to buy a whole new master cylinder for \$350+. Just get it nice and snug.	
23. Turn the handlebars all of the way to the left so that the master cylinder is level.	
24. Put enough brake fluid in the master cylinder reservoir so that it comes about half of the way up the view window on the right side of the reservoir.	
25. S-L-O-W-L-Y and repeatedly squeeze the brake lever until you stop seeing little tiny bubbles come up from the hole inside the reservoir near the rear.	
26. Fill the master cylinder reservoir until it's about halfway up the view window in the right side.	
27. Replace the cover with the rubber boot and reinstall the four screws that hold it down. You want to get those screws fairly tight to prevent brake fluid from leaking out of the top of the reservoir.	
28. Go for a cautious test ride to make sure that your brakes are working properly.	