

Changing Brake and Clutch Fluid

My service manual says to change brake fluid every 12,000 miles with no alternate time limit. It should at least be done every two years, although I do it every year as I have been putting at least 12,000 miles on my bike. Once you get this procedure down it will only take an hour or so.

Tools you'll need: a quart of DOT 4 brake fluid (I use Valvoline DOT 3/4 Synthetic); a Phillips screwdriver; from BikeBandit.com Motion Pro Hydraulic Brake Bleeder, part #1739, \$16.95 or BikeMaster Brake Bleeder Tool, part #26761, \$15.95 (Remember to use your AMA discount); 8 mm and 10 mm box or open end wrenches (I prefer box for reasons I'll explain later); a basting syringe (like the one in your kitchen but not the same one) or vacuum pump; a container to collect the expelled fluid (I use the container from my vacuum pump kit as it has a nipple on the lid that connects to the hose from the bleeder tool); rags or towels to clean up and protect the paint on the bike. The brake bleeder tools are one-way valves that prevent air from getting into the system.



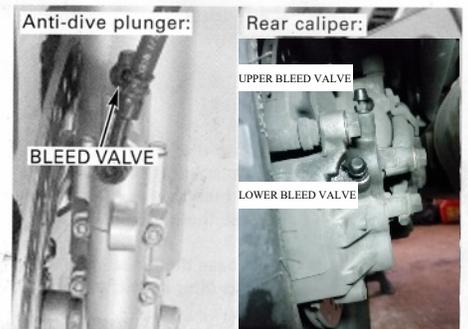
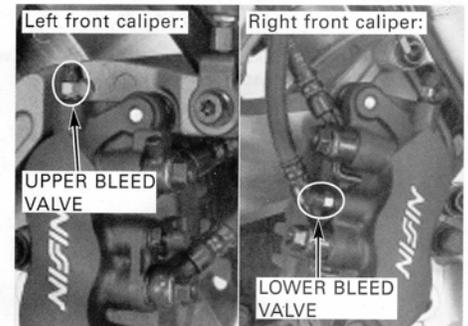
There are seven bleed screws: two for the front brake lever and five for the rear brake pedal. The following is the sequence for each. Stick to this sequence:

Front: RF caliper upper bleed valve, LF caliper lower bleed valve.

Rear: LF caliper upper bleed valve, RF caliper lower, Rear caliper lower, anti-dive bleed valve, Rear caliper upper.

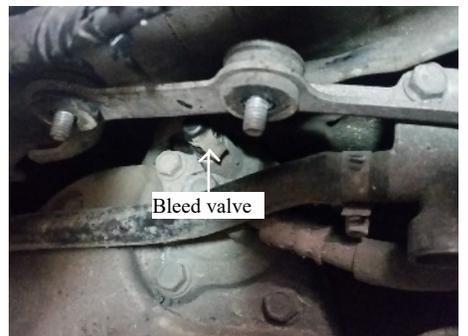
The procedure is the same for both front and back as follows with the exceptions noted:

1. For the front brake, turn the handlebar so the reservoir is as level as possible. Wrap a rag around the reservoir and cover the painted plastic beneath it with towels to catch any fluid you may drip. Remove the cover, rubber seal and the white float and wipe them clean.
2. The rear brake reservoir is behind the right chrome engine cover. Unscrew and remove the cap and wipe the rubber seal clean.
3. Set the appropriate size box wrench onto the bleed valve rotated as far left as you can.
4. Remove most of the fluid from the reservoir with your basting syringe or vacuum pump. LEAVE enough to keep the outlet port covered so that you do not let any air into the system.
5. Refill the reservoir with fresh fluid.
6. Put the hose from the bleeder tool onto the bleed valve and set the clamp in place. Make sure the output end of the tool's hose is in your collection container.
7. Open the bleed valve by rotating the wrench counter-clockwise until fluid flows out.
8. Squeeze the brake lever or pump the brake pedal until most of the fluid in the reservoir is gone. LEAVE enough to keep the outlet port covered so that you do not let any air into the system.
9. Refill the reservoir with fresh fluid.
10. Repeat the previous two steps two more times.
11. Close the bleed valve by rotating the wrench clockwise back to its original position.
12. Move on to the next bleed valve and repeat.
13. When finished, replace the float, rubber seal and cover. You only need enough fluid in the front reservoir to see the level in the sight glass at or above center. The rear has a minimum fill line so fill it to half way from that line to the top to leave room for the seal.



Some tips. The rear brake bleed valves are accessible from the rear of the bike. It is difficult to remove the rear reservoir cap due to the cables that run above it. You can remove the reservoir holding bracket to move it away from those cables. It may be difficult to put the hose onto the RF upper bleed valve due to the ABS wire and fork being in the way. Removing the ABS wire bracket will let you get it out of the way. But you can't get the fork out of the way unless you remove the caliper from the bike. I hold the hose with a pliers to force it onto the bleed valve.

The clutch fluid is replaced using the same procedure as replacing the brake fluid. The clutch bleed valve is behind the charcoal canister, which is behind the front lower fairing (the one to which fog lights would be mounted). The canister bolts are mounted vertically with the bolt heads in a tight place so a ratcheting box end wrench is helpful for removal. The bolts do not have to be removed from the bracket to remove the canister. The bleed valve is mounted horizontally behind the bracket. But you can get the plastic hose over it.



Remember to follow these procedures at your own risk.

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