

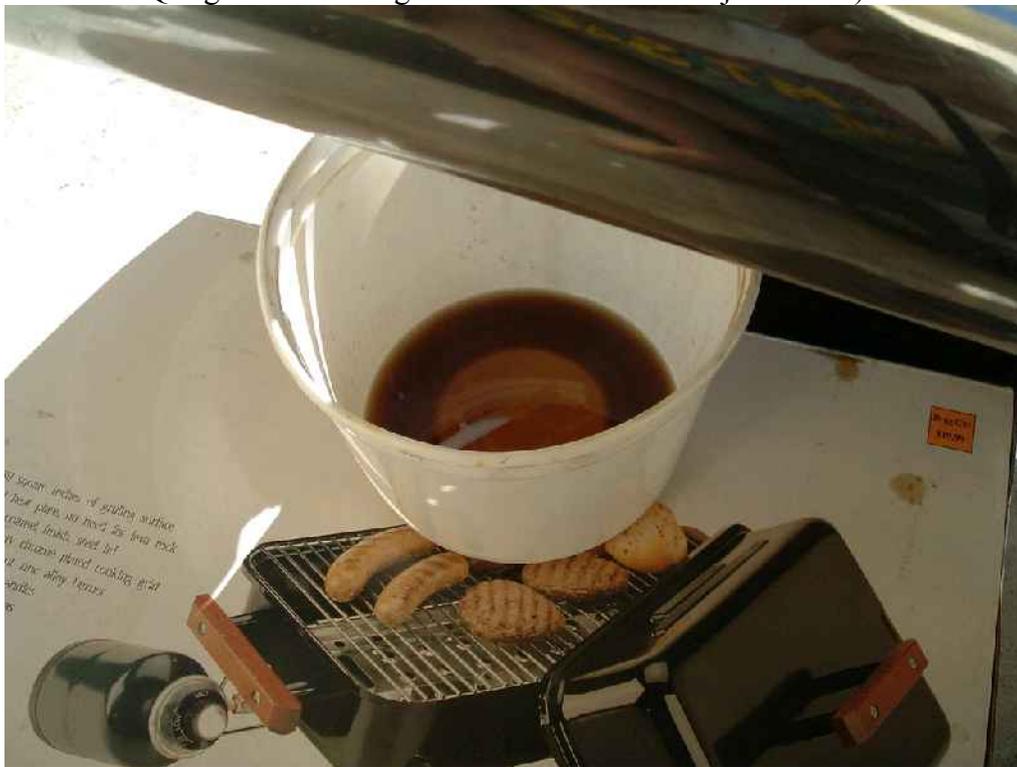
Hello all you GS-riding motorcycle buddies,

I just wanted to post a few pictures and explain a little about bleeding your hydraulic brake system. It's not difficult at all, the trickiest part being pumping the brakes yourself then holding the pedal down while you loosen then tighten the bleeder screw.

Pump the brake a few times to build up pressure then hold it tight. With your hand or foot still holding the pedal, loosen the bleeder screw to let out the fluid and any air that may be trapped in your system. Push/pull the pedal all the way down as you release the pressure with the bleeder screw. Now hold the pedal until you tighten the bleeder screw. Repeat the process until all of the air bubbles are out of the system or until all of the fluid has been replaced, whichever is your goal.

NOTE: Mr. Steve suggests that it works best if you actuate the brake only once, hold it, then loosen the bleeder screw, bleed, squeeze the pedal, tighten the bleeder screw, repeat. He says pumping the brakes compresses the air bubbles and that you can move more fluid/air through and out of the system if you don't "pump a few times" before you bleed. I'll give it a try next time. Be sure to check the other tips in the thread too.

In my case, I wanted to replace all of the old fluid with new brake fluid. Here's a picture of the old fluid. Yuck! (No, I'm not BBQ-ing brats and burgers with brake fluid! It's just a box.)



To get that old fluid out, I attached a hose to the first bleeder screw (there are two on the rear brake calipers) and used a little wrench to loosen and tighten the screw while pumping with my foot. It's kind of an awkward dance, but it can be done.

Below you see my little open-end wrench (8mm, I think) but it would be better to use a box-end wrench so that you don't booger up the bleeder screw.



I pump the rear brake pedal to build up pressure and then hold it while I loosen the screw. The pedal goes down, the old fluid and bubbles come out, I hold the pedal down until I tighten the screw so as not to suck any air back into the system.



I remove the hose with a shop rag so as to catch any drips before they fall on the rotor. A well-lubricated rotor does not stop as well as a dry one.



And here you see nice, clean, fresh fluid in the rear brake cylinder. Just top it off, put the lid back on, and we're done. (This is under the right side cover.)



The procedure is basically the same for the front brakes. Below is the left caliper. Attach one end of your hose to the bleeder screw and put the other end in your waste receptacle:



Then do the "pump/hold/loosen/squeeze/tighten" dance until all of the bubbles are gone or the fluid is replaced. This is what I started with:



You just keep pumping, loosening, bleeding, tightening, refilling, repeating as necessary, until you're done. Here's a picture of the right caliper:



That's it. Pretty easy, eh? You could tell my brake fluid was rather old. One of the bleeder screws was stuck pretty good. Rather than booger it up with my open-end wrench, I hit it with some WD40 then used a socket wrench (with a little more torque) to get it loose. After that it was smooth sailing.

It make take a couple of bleeding sessions to get your brake system tightened up as well as you like it. My rear brake is working great now. The front brake is much better but still a little soft for my taste. I think I'll bleed it again next weekend to see if it helps. Braided brake lines are in my future too. That will help a lot.

Here's a few notes from Mr. highmileage:

A few points for the newbies:

1 - keep an eye on the fluid level in your master cylinders as you bleed - you want to get as much of the old stuff out as possible before you top it off w/ new fluid but you never want to let it get completely empty.

2 - Use DOT 4 fluid. It is the same as DOT 3 and is compatible, but it has a higher boiling point.

3 - If you are bleeding a system that has been opened (such as to replace a hose or a caliper, etc.), you absolutely must get every bit of air out of the system. You want to make sure that the hose on the front brakes exits the master cylinder in either a horizontal or, preferably a slightly downward position (see how the hose is coming off of the master in the photo above). It is much more difficult to bleed brakes where the fluid is fighting gravity (and air pockets stay in the high spots). Then, you just keep on bleeding until there are absolutely no bubbles at all (any air left in the system will not only make things feel spongy, but the air will expand when it gets hot and lock up your brakes)!

and finally...

4 - Sometimes it seems like no matter how much you bleed the system (especially the front brakes), the brake lever just doesn't feel right when you are done. When this happens, pull the lever all the way in and tie it in that position (using a piece of string, a shoelace, whatever) and leave it like that overnight. Most every time, when you come back to it the next day and undo your tied string or shoelace and release the lever, your brakes will feel excellent!

Thank you for your indulgence,

BassCliff