**Replacing a Brake Line**
**by UCLA-Vstar, April 2007**

Replacing a brake line may seem intimidating if you've never bled brakes before, and especially if you cannot find a step-by-step how-to. Here's a crude writeup of my first brakeline replacement with pictures. Nothing to it!

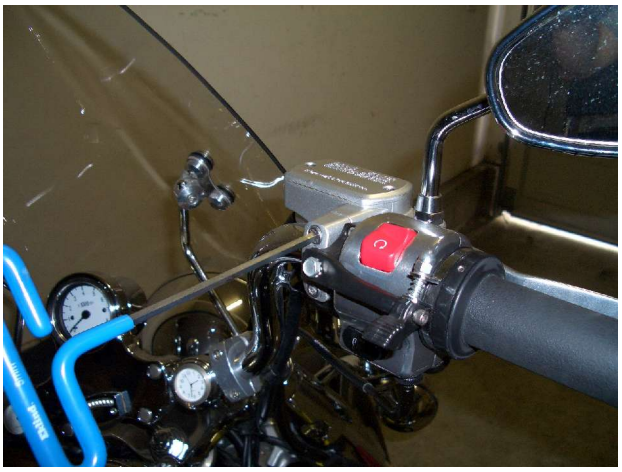
**The procedure in brief:**
1. Drain fluid out of the brake system
2. Remove old line
3. Install new line
4. Add new fluid
5. Bleed the system (this is technical jargon for "getting air bubbles out of the line")

**Detailed procedure**

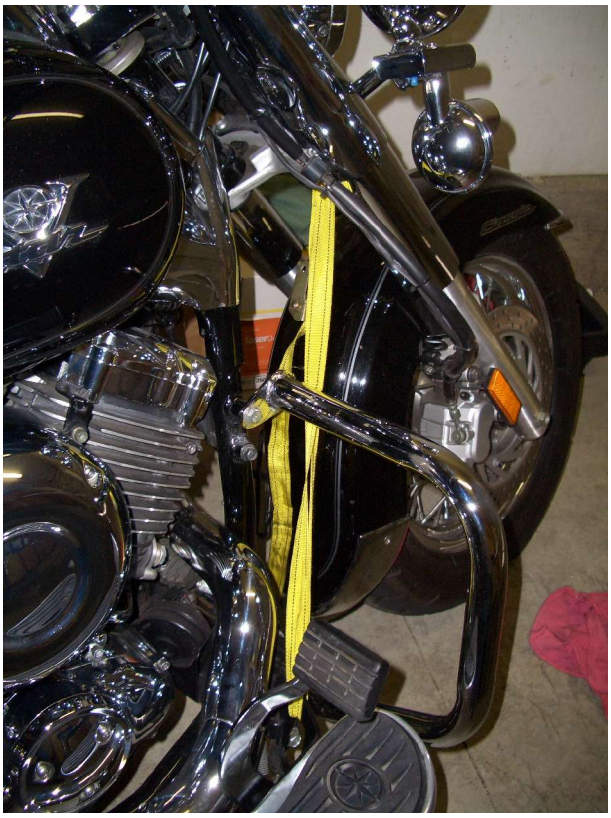
1. Get all the tools and supplies you'll need


I bought a stainless steel Goodridge brakeline and a MityVac from PhatPerformanceParts.com. Some people just use a hose and a container, but the MityVac wasn't very expensive and can be used for other things. You can get a new bottle of DOT4 brake fluid from any auto supply store. You'll also need:
- plenty of shop rags and/or old towels to cover your bike
- paper towels to mop up spills
- Open/box end wrenches: 8mm, 12mm, 14mm (may vary depending on the brakeline you buy)
- Allen wrench: 5mm
- Phillips screwdriver
- Torque driver and 14mm socket

2. Turn your handlebars so that the brake reservoir is almost level. Use the 5mm allen wrench to adjust the reservoir up or down as necessary.

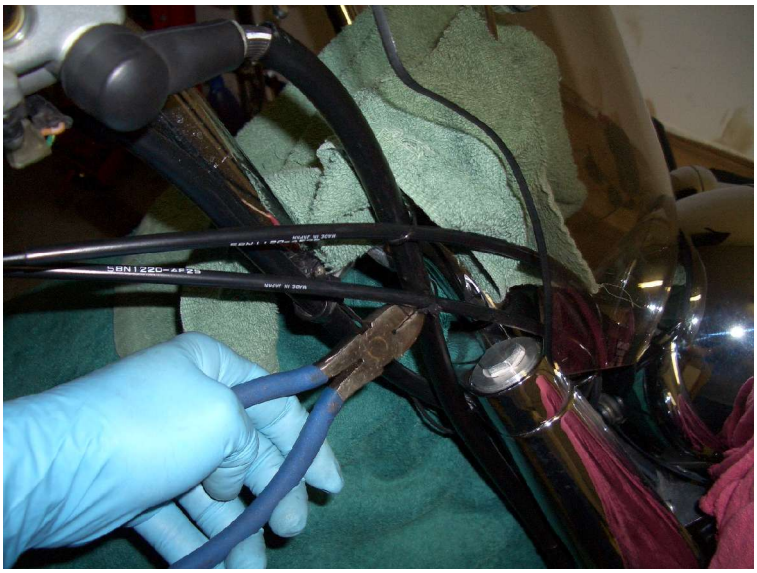


3. Tie down your front fork so that it cannot suddenly turn and spill brake fluid out of the reservoir when you have it open.



4. Cover **everything**. Brake fluid can damage paint and chrome.

5. Cut any zip ties that are connected to your old brake line



6. Crack the bleeder valve on the caliper with an 8mm wrench, then lightly close it again.

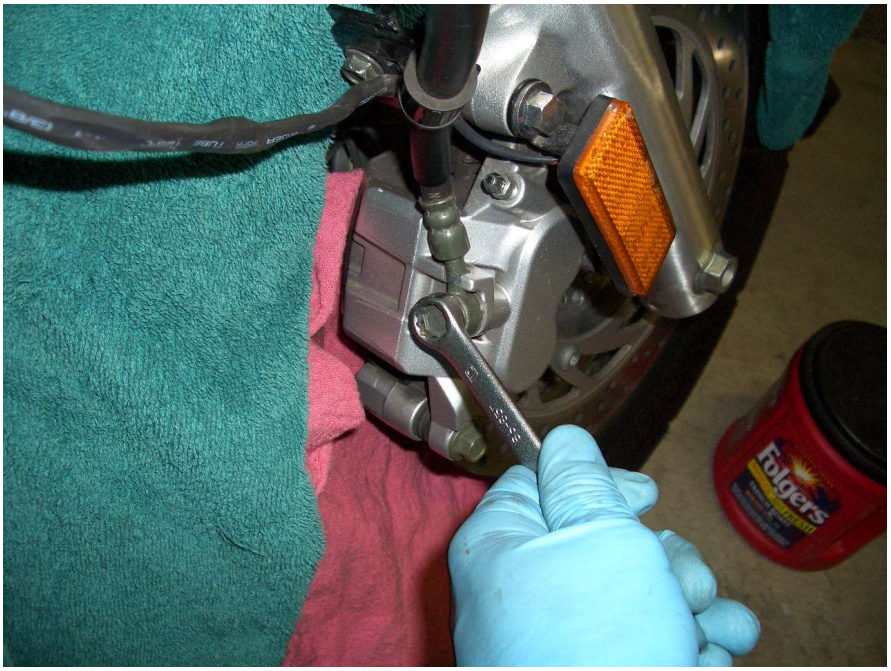
7. Remove the black rubber tip from the bleeder valve and attach the hose from the MityVac.

8. Pump the MityVac a few times to create vacuum, then open the bleeder valve again. Fluid will start to flow.

9. Surround the brake fluid reservoir with rags and open it. You should see the level of fluid fall until there is none left. Keep pumping the MityVac as necessary. Should take no more than 5 minutes to get most of the old fluid out.

10. Once the fluid is out, it's time to remove the old line.

11. Use a 12mm wrench to loosen the lower banjo bolt (technical term for a bolt with a hole in it). Have a container nearby in case there is still some fluid left in the line.




12. Now peel back the rubber boot at the top end of the line and remove it in the same way. (I put a couple of rags over the throttle cables after I took the next picture to catch the few drops of fluid that dripped out of the reservoir.)


13. Now remove the old line from the clips holding it to the bike. You can just pull it straight up out of the lower clip next to the caliper.

14. Remove the clip that is attached to the lower part of the triple tree with an 8mm wrench.

15. If you want, you can peel off the thick rubber gaskets that fit in the clips and re-use them on your new line.

16. The Goodridge line has nice chrome fittings, and it comes with the necessary copper washers. Note that you'll need two washers on both top and bottom.

17. Route the brakeline up through the clips, reusing the thick gaskets if necessary. Attach the top end of the brake line in the same way as the bottom, using the two copper washers.

18. Once you're sure the brakeline is properly routed, torque both ends to 22 ft-lbs with a 14mm socket.

19. Now you're ready to add new brake fluid. Pour slowly. You may see a few bubbles pop up. Fill almost to the top of the reservoir, but not so much that you might spill it if you bump the handlebars.

20. Now reattach the MityVac to the bleeder valve, and pump it a few times.

21. Open the bleeder valve and you will see mostly bubbles with a little fluid at first. Eventually you start to see more fluid and fewer bubbles. Pump the MityVac as necessary. Should take about 5-7 minutes to get most of the air out. Keep an eye on the reservoir and add more fluid as the level goes down. You don't want the level to go down completely because this will let more air into the line.

22. Put the lid back on the reservoir and close the bleeder valve.

23. Pump the brakes. If you don't feel any resistance, there is still air in the line. No problem. This is easy to deal with.

24. If necessary, open the bleeder valve again and pump the brakes until you start to feel resistance. Once the brakes feel right. You can close the bleeder valve with the 8mm wrench and put the black rubber cap back on.

25. Using the 5mm allen wrench, readjust the level of the reservoir to the way it was before. (This affects the placement of your right hand mirror.)

26. Push the bike back and forth to test the brakes. If they're grabbing the rotor, you're ready for a test ride. Enjoy!