Clutch Bleeding – Big Healey

It started easy enough. All I wanted to do was bleed the clutch and brakes prior to Encounter. Nothing was wrong, but the clutch felt a little soft and it has been five years since I rebuilt the whole hydraulic system and switched to Silicon brake fluid. So why not?

Well I did not have much time and I just ran into the auto parts store and grabbed brake fluid—what I thought was silicon, but it was synthetic regular brake fluid. It was about a month before Encounter. Not good! As I poured the fluid into the reservoir I wondered why it was not purple in color. But I had Lynn helping me by pumping the brakes so why not put it in. Well that was mistake number one.

On Thursday of Encounter I jumped in the car drove up my driveway and guess what, no brakes. Nothing, right to the floor. Well back into the garage the car went until I came back loaded it on the trailer and took it to Encounter. It was not going to miss Encounter 30.

All the brake fluid was out of the reservoir and none was leaking, so we all know where it is, in the servo. The white smoke from the exhaust was a dead give away. Time to rebuild the whole system, including the servo. Off to Moss for all the rebuild kits and a lot of work on the calipers, master and servo, including the clutch.

That's the reason for the article, the Clutch slave. About time I got to it. For years everyone who owns a Healey curses the English and designers who put the slave cylinder in such an inaccessible position. The bleed valve points up and is very hard to reach and you're lying on your back under the car and slave cylinder, and you have a hose a jar to catch the fluid and a wrench and you can not really see what you are doing. Sounds familiar? It is really hard to get all that stuff in that area and not have brake fluid all over you and in your eyes. For years somehow I was able to bleed the clutch slave, but I guess age has made it more difficult for me to get into that area or I am not as patient as I used to be.

While on the phone complaining to Dennis Meehan about bleeding the slave, it came to me, a whole new way to bleed the clutch slave in a gentlemanly fashion. How you may ask? Well read on. I started with the idea if the bleed valve was pointed down it would be easier to bleed. So why not remove the slave's two bolts and disconnect the push rod and cotter.

With the unit hanging by the flexible hose, or sitting on a case of Rolling Rock beer, there it is a lot of room to open the bleed valve, attach the bleed hose and get the job done. Plus you get to drink the beer.

Clutch Disk Stuck?

Is your clutch disk stuck to your flywheel after a long storage? Does your car remain in gear even with the clutch pedal pushed in? First check to make sure your slave cylinder is pushing 1/2" to 3/4". If so then your clutch disk may be stuck.

A. Try turning the ignition with the clutch pedal pushed in, the car in gear and the e-brake off. The car will roll a bit, so be careful! If it doesn't let loose then go to plan B.

B. With a helper (in my case my wife) and plenty of run off room, jack the rear end of the car under the rear end just off the ground and with the e-brake off. Start the car in fourth gear and rev it up to about 2500 RPM's. Very important: push in the clutch pedal and give the signal to your helper to release the jack FULLY. Maybe a good idea to practice prior, so that the jack clears the underneath of the car as it moves forward. Either the clutch will let loose or it will stall the car. If it stalls the car, then most likely you will have to separate the engine and gearbox to free it.

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Clutch Pilot Bushing

When you are rebuilding your engine or replacing your clutch, it is wise to replace the pilot bushing (or sometimes called spigot bushing) that is pressed into the rear of the engine crank. Most have the machine shop replace it during the engine rebuild, but what do you do when you are replacing the clutch? There are tools out there to do it, but like me, you probably don't have one. Here is two trick ways to do it at home.

A) if you have a spare input shaft (gearbox) laying around, pack the back of the crank with wheel bearing grease. Wrap the input shaft with a rag (so the grease doesn't shoot out all over you) and give the input shaft a hit with a large hammer. The hydraulic pressure will force the bushing out. Also keep in mind that hitting the old input shaft with a hammer (even with a block of wood for protection) may damage the input shaft, so use a old one.

B) most of us don't have extra input shafts laying around so another way is to find a socket the same size as the input shaft. Use a socket extension on the socket to fill the square hole in the socket and make sure to pack the socket with grease as well. Give the socket extension a good solid hit with a hammer and it should come out.

I recently did this on my MGB and it took three hits with the bushing moving out a little bit more with each try.
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Pedal Assembly

The stock pedal assembly was modified by drilling both the clutch and brake levers and dal pads. I have added 1.5-inch pedal pad tensions so I can comfortably reach the brake and clutch with the seat all the way back. The accelerator pedal lever was modified to accept a brake pedal pad which has been machined to reduce its size.

The clutch master cylinder was increased from 5/8-inch to 3/4-inch to reduce the travel required to release the clutch. This change results in a slight but acceptable increase in the operating pressure required. A clutch lever stop was fitted to the foot well to prevent over-travel.

Both the clutch and brake master cylinders are fitted with adjustable length push rods to facilitate fine tuning of the pedal locations. HM