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HOW-TO

How-To: Brown Eye Be Gone

It's been a couple of years, maybe, and the fluid in the eye of the clutch-side reservoir looks more like mocha java than peachy chardonnay. Time for a flush-and-bleed job on the old hydraulic-clutch system?

By Marc Cook

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Relax. It's a closed hydraulic system, just like the front and rear brakes. But why is the fluid brown (1)? The petroleum-based goo labeled DOT 3 or DOT 4 is hygroscopic, which means it absorbs water. That water eventually turns the fluid brown in a sort of plain-to-see maintenance check. Flat beer means replace the keg. Same deal here.

There are other reasons to give a hydraulic clutch some attention. Is the level in the reservoir going down quickly? Check the seal around the actuator. This guy lives in a tough environment--with the rubber O-ring that seals the slave cylinder contending with engine heat, road grime, excess chain lube and myriad other evils. Maybe the engagement point of the clutch moves erratically, or according to changes in the weather. Before you buy new clutch plates, check the actuating system.

Let's get on with it, then. You don't want more crummy DOT 3 or DOT 4 running through the system, so carefully evacuate the reservoir (2). We use those cheap nasal aspirators--parents know to look for these between the tippy cups and the Bag Balm--to suck out the goop. Then refill the reservoir with fresh fluid (3). Check the condition of the brake fluid you're using, too. Fluid left sitting in a previously opened container can be as contaminated as what you're trying to replace. So splurge: buy a new bottle.

Shift your attention to the slave cylinder. Sling your box-end wrench over the bleeder nipple and attach a length of clear plastic hose (4). Drop the free end of the hose in a suitable container (5).

Reach up and pump the clutch lever two or three times



Step (1)



Step (2)



Step (3)



Step (4)



Step (5)

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and then hold it to the bar (6). Crack the fitting (7); open it just enough to allow the fluid to move into the hose. It may take some time to know when to close the bleeder screw again. Unlike a brake system, there'll be no feedback at the lever to let you know when line pressure drops. Watch the hose carefully and close the bleeder an instant before you think the fluid will stop moving. If you don't, air bubbles and assorted grunge can be dragged back into the system through the bleeder.

Continue watching the hose until you see a change in the color of the fluid (8). Sometimes it's subtle--at least it will be if you haven't let this job go for too long. Keep bleeding the system in steps. Grip the clutch lever and pump two or three times, crack the bleeder screw, watch the line for bubbles, then close. Rinse and repeat for a healthy, shiny coat.

Track fluid level in the reservoir throughout the procedure. Suck air into the system now and you've got to start all over again. Once all the old fluid and air bubbles are gone, fill the reservoir according to the markings (9). Because it's possible for the clutch lever to feel firm with air in the system, which will not allow the clutch to fully disengage, test your work by putting the bike in gear with the engine off. See if the clutch disengages enough to let the bike roll slightly. Wet clutches are grippy until the engine is running, but you should still be able to feel the difference. Finally, make double-sure the bleeder fitting is tight and you've cleaned up any spilled fluid because DOT 3 and DOT 4 are corrosive.



Step (6)



Step (7)



Step (8)



Step (9)

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