tech tips

Brake Bleeding Alternatives

At some time in your life you're going to bleed the brakes on your CBX. New brake lines, rebuilding the master cylinder or caliper, or just flushing with new fluid is going to require some form of brake bleeding. The art of bleeding has been explained several times in this magazine and I won't insult you with one more lesson. But what I'm going to tackle is the CBX that just won't respond to normal bleeding methods. You know how it goes: You fill up the reservoirs and begin pumping the lever/pedal and cracking the bleeder screw. Two hours later, you still have a mushy lever. Hopefully, this article will help firm up those brakes.

I. So that I don't have to distinguish between the front (lever) and rear (pedal) systems, I will use only the term "lever," but it will apply to either set of brakes.

II. Let's start by assuming that all the components (master cylinder, calipers, brake lines) are in good working order. This article will concentrate on bleeding of the brakes, not rebuilding them. If you are quite sure that the entire brake system was, or is, in good working condition, we can then center our attention on the bleeding problem.

III. If you simply flushed out old brake fluid and replaced it with new fluid, everything should be OK. But what if the lever is soft, or worse, goes completely back to the handlebar? It was fine until you changed the fluid!

Rule number one when bleeding brakes is to never pull the lever all the way back to the handlebar. Over the years, the rubber seal on the master cylinder piston has been traveling within the cylinder bore over a certain stroke length. This constant movement has smoothed that portion of the bore and created an excellent seal between the bore and the piston seal. But further down the bore, towards the outlet (where the brake hose is attached) no such action has taken place. This area has, in most cases, remained untouched, corroded and possibly built-up with brake fluid residue. When the lever is pulled beyond its normal travel distance, it forces the piston into a rough portion of the bore with the result being a torn or damaged piston seal. And you're unable to bleed the brakes on a bike that was working well before you touched it.

When bleeding the brakes, place something between the lever and handlebar or wrap wire around the pedal and tie it to the foot peg in order to limit their travel.

IV. If normal bleeding doesn't work, and you're sure the components are in good condition, try these two bleeding alternatives:

A. When I first installed my P.M. six piston calipers, I had trouble bleeding them. A call to one of their technicians confirmed that they could be tricky, and that I should stop trying conventional methods and do what P.M. does on all their street and race bikes. He told me to first fill the reservoir with fluid and make sure it remains full during the bleeding process. But that I should not squeeze the lever to force fluid to the calipers. His procedure was so simple, it was genius!

Attach a clear rubber hose (perhaps an extra battery overflow hose) to the bleeder screw and put the other end in a container. Open the bleeder screw about 1/2 turn and leave it open until clear fluid begins to flow out the tube. This may take 15-30 minutes. Close the bleeder screw and pull the lever a couple of times to test for hydraulic pressure. In most cases this will be enough to give you a good hard lever.

B. This bleeding alternative is more common sense than science. Bleeding is using the master cylinder to transfer brake fluid to the calipers while forcing any air out through the bleeder screws. The problem is that the caliper is normally below the master cylinder, but air wants to go up. So sometimes the air gets confused and becomes trapped somewhere in the system. If you're unable to bleed your system, you can also try this:

Remove the caliper(s) and raise it to a level above the master cylinder reservoir. Be careful to not squeeze the lever. Leave the caliper at this height overnight to allow any air bubbles to float up into the caliper. At this point I put a small piece of wood or a wrench between the brake pads to prevent them from coming together. Using normal bleeding procedures, I then squeeze the lever lightly 2-3 times and then release the air by loosening the bleeder screw. (Make sure you have a clear hose over the screw to watch the bubbles and keep the fluid off the painted surfaces.) You may have to refill the reservoir and bleed the caliper one more time in order to evacuate the caliper of all air. Reinstall the caliper on its bracket and proceed to the other calipers.

If all your components are in good condition, you have to try and stay confident that you're going in the right direction and that you can, with a little patience, bleed your brakes.

As always, call any time.

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