

Chapter Ten



Fig. 10-9. *Brake pads sandwich disk in between.* (Photo by author, courtesy of Frasca Air Services)

Brake Fluid

The prime mover of the brake system is its hydraulic fluid. Without it, there's no stopping you. While it is fairly obvious that brake fluid is responsible for transmitting pressure and energy, it does serve other functions, too. It lubricates the moving portions of the system it comes in contact with, and it aids in cooling the working parts.

While there are several types of hydraulic fluid, most light aircraft use a mineral-based fluid, which consists of a high-quality petroleum oil. A common type is MIL-H-5606, which is less corrosive than some of the others and can be identified by its reddish color. However, due to its petroleum base it is flammable and caution should be exercised in using and storing it. It is very important that you check your owner's manual to find out exactly which type your aircraft uses, since mixing different fluids may render the system useless. Some hydraulic fluids can actually eat the rubber seals of incompatible systems! Therefore, it is a good idea to mark the system's filler cap with the type of fluid to be used so no one will accidentally add a different kind. When storing fluid, be particularly careful to protect it from possible contamination by dirt. Particles of dirt can render a system inoperative almost immediately. Try to pick a time to replenish the system when there isn't a dust storm looming up at the edge of the airport; dust and dirt in the fluid are a significant cause of hydraulic system failure!

Even before you start the engine you can learn whether or not you have sufficient fluid in the system. If you step on the brakes and there is pedal movement, you have fluid.