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Removed very old flexible brake lines from the rear spar fitting to the wheel cylinder, retained end fittings, installed original end fittings to new Aeroquip hose 303-4, using Aeroquip assembly mandrels, after the hose were repaired, I suspended them with a piece of safety wire, so they hung straight up and down, then I put a AN806-4D plug on the bottom fitting of both hoses, then filled both hoses with 5606 hydraulic fluid. I left them hanging for about 2 weeks and on occasion I would top of the hydraulic fluid until I was certain there was no air in the lines, I have done this job many times over the years and I am very acquainted with the difficulties with the single hand pump brake system found on the Piper Cherokee aircraft. I first took the lines off the hand pump in the cockpit and capped the fittings on the pump, made sure the lines were full of hydraulic fluid, then took the made up lines and installed the open end to the rear spar fitting, it is a tough job getting the fitting on hose to screw onto the fitting on the rear spar with the hydraulic fluid running out of the fitting while installing the line from below, after both hoses were installed, I put the lines at the hand pump in a container, then shoved hydraulic fluid up through the wheel cylinder until I was certain there was no air in the lines, this was done by attaching a clear vinyl tubing to the fitting on the hose nearest the hand pump, then wire the hose in a way so it has a hump facing up before going into a container, then as the fluid is shoved out I can look and see if any air bubbles have stopped in the highest part of the hose. After being positive there was no air there, I filled the hydraulic reservoir full, the let the fluid run through the hand pump, after I was certain there was no air in the lines or pump, I connected the lines to the hand pump, then made sure there was some room in the reservoir and shoved some fluid up through the wheel cylinders into the reservoir and checked for leaks. The aircraft was in a hangar with a concrete floor, so any leaks were easily spotted, no leaks were found and the hand pump made good pressure. After the plane was ready to take out of the hangar, I started the engine for a leak/performance check after the annual inspection, the brakes held fine, I taxied the aircraft and the brakes worked very well. The flight instructor bought a hangar at the opposite end of the runway, so he taxied the plane to the new hangar, and he told me there were no problems with the brakes. After the annual inspection was signed off, the instructor and owner flew the plane and the owner texted me and said if flew great with no squawks. During one of our conversations I told him it was easy to cross-thread a fitting when hydraulic fluid is running down your arm and it's in a tough place to get to, it's one of those conversation I which would never have happened, caused he has used that as an excuse for the instructor running the plane off the end of the runway. Its strange how there were skid marks a couple hundred feet to the end of the runway and yet the FAA IIC listened to the instructor and blamed me.

Gary Austin