Oil or grease on the surfaces of brake discs or linings will cause a significant loss of braking friction; if either is present, remove it with solvent. While you are checking the linings, make sure the surfaces are evenly worn and they are greater than 0.10 inch in thickness. Anything less requires replacement.

With brake system problems, like anything else, you want to give the mechanic as much information as possible. Dragging brakes are indicated during taxi by a squeaking or scraping sound from the brake and if serious enough may show a tendency for the airplane to pull to one side. When describing problems of insufficient braking, things to note would include whether or not the brake pedal feels "spongy" (indicating possible air in the hydraulic fluid) or if the pedal is flat (indicating no fluid). If you apply even pressure on the brakes and the airplane tends to pull toward one side, you have differential braking, which indicates that only one of the two brake systems is malfunctioning.

If there is little or no response to the pedal, the mechanic will want to know what the surface conditions were when you experienced the problem. I recall some years ago giving a Grumman Tiger checkout to a CFI who had never flown one. It was a typical Illinois early winter night with a wet ramp and low freezing level. We taxied out, took off, and conducted an uneventful flight. I remember thinking to myself as we entered the pattern, there was a slight crosswind and the pilot had no experience in a caster gear airplane (the Tiger does not have a steerable nosewheel). Because I knew he was a very competent pilot and instructor, I decided to remain relatively docile during the early stage of the landing to allow him plenty of time for self-discovery (not to mention recovery). Immediately upon touchdown the airplane began to veer toward the right, but I remained cool because it was the educationally sound thing to do. I could feel the learning taking place; so much for educational theory. About the time he yelled, "You got it," we hit it—the runway light, that is.

I learned something very important that night. When you taxi through water on the ground, then fly above the freezing level, the wet brakes can freeze up solid. The cost of that little educational experience was one runway light, a tire so squared off it would stand upright in a hurricane, and one chief flight instructor with egg all over his face. The end result was rather drastic, but surface conditions can also contribute to brake problems, so they are worth noting.

Low fluid indicates a leak, but not where the leak is located. Puddles of hydraulic fluid discovered during a preflight should be carefully noted with respect to where they are relative to the aircraft. This can lead the mechanic directly to the source of the leak—something that may not be easily found otherwise.

Finally, you should keep track of the condition of the discs. Any of the following irregularities of the disc faces should be reported to the mechanic: warpage, irregular wear, scouring, grooves, pitting, rusting, or corrosion. The brakes—perhaps more than any other system—are directly related to the treatment they receive by the pilot. If used correctly, preflighted routinely, and cared for properly, they will give years of useful, surprise-free life.