Chapter One

CONDUCTING THE EXTERIOR PREFLIGHT

When doing an exterior airframe preflight inspection, establish a pattern. Start at the same place every time and move in the same direction around the aircraft. In lieu of using a structured checklist, a pattern will help reduce the possibility of missing something. Typically, if you get a "funny feeling" something is wrong when you use a pattern, you're subconscious is telling you that you have missed something. Trust your feelings; go back and take another look.

First, as you approach the aircraft, look at it from a distance. Does anything look unusual? I know of two instances where pilots have attempted to start an aircraft engine when there was no prop. How can you miss a prop on a preflight inspection? And I once watched a student pilot conduct an exterior preflight on an Aeronca Champ that had one wing's angle of incidence (the angle between the chord of the wing and the centerline of the aircraft) significantly greater than the other. Up close to the aircraft, the student couldn't see both wings at the same time, so the difference was not readily observable. The airplane would have had a potentially uncontrollable rolling tendency in flight. The problem was a fuel truck had accidentally pushed against one wing, causing its leading edge to shift upward. The lesson learned is to look at the aircraft from a distance and see if everything appears proper.

Three Areas of Consideration

When you arrive at the aircraft there are three areas of consideration during an exterior preflight: on the ground, on the surface, and under the surface. On the ground relates to things you see directly below or around the aircraft. On the surface is about covering normal preflight items—things that are visible even if you have to open engine access doors to find them. Finally, under the surface refers to those things that may affect the health of your aircraft that sometimes occur out of sight or are not so easily determined—such as rust and corrosion.

On the Ground

Before beginning the actual walkaround inspection, observe what's on the ground underneath and around the aircraft. Are there loose parts? If so, did they come from the airplane or are they just foreign objects? Always keep the ramp clean, as foreign object damage (FOD) can easily result to your aircraft, other aircraft on the ramp, or airport facilities when a turning prop hurls them.

Is there a pool of liquid underneath the aircraft? Is it fuel, oil, or hydraulic fluid? Look directly above the pool and see if there are telltale traces on the underside of the aircraft. Overfueling an aircraft can cause spillage. Also, fuel will expand on a hot day and run out of the fuel tank vents if the tank has been filled to the top. It is important to determine if the fuel on the ground represents a leak. Except for spillage while trying to replenish oil or hydraulic fluid, there is no reason for either to be under an aircraft. Don't take any leaks for granted.

On the Surface

When reviewing "on-the-surface" issues, there are two primary considerations: aircraft security and attrition. Aircraft security relates to the status of the aircraft's physical con-