



Safety Hot Spot: Spring Preflight Checkup

General Inspection

- ✓ **The big picture** — Be sure to give the airplane a good once-over as you first approach it. Look for obvious problems—flat tires, compressed struts, hangar rash, puddles of oil or fuel—and note anything else that doesn't seem "right."
- ✓ **Outdoor storage** — Airplanes can deteriorate quickly when stored outside. Exposure to rain, snow, frost and temperature extremes is hard on paint and plexiglass, and (under certain conditions) can lead to airframe corrosion. Rubber gaskets and seals grow brittle, plugged drain holes trap moisture in the fuselage, water gets into fuel tanks, animals move in and upholstery wears out. Be more cautious with an airplane that "lives" on the ramp.
- ✓ **Take your time** — If the aircraft hasn't flown in months, give yourself plenty of time to perform the preflight inspection. In many cases, the maintenance chores necessary to get it airworthy can take hours or days—and may require the assistance of an A&P mechanic. Don't rush the process, don't forget to remove pitot tube covers and air intake plugs, and don't plan to carry passengers on your first flight or two.
- ✓ **Nice and legal** — Verify that required aircraft paperwork is aboard. The **AROW** checklist works well: **A**irworthiness Certificate; **R**egistration; **O**perating Limitations; **W**eight and Balance Information.

Wings and fuselage

- ✓ **Wild kingdom** — An airplane's various nooks and crannies can be irresistible to small animals, and there's a good chance that some friendly (or not so friendly) creatures took up residence while you were away. During preflight, look closely at control surface gaps, cabin air intakes, static ports and pitot tubes. Also check for evidence of animals (droppings, nesting materials, etc.) on and around the airplane.
- ✓ **Fuel tanks** — Fuel contamination is a serious concern, particularly if the airplane's been sitting outside and the fuel cap gaskets haven't been replaced in years. Thoroughly drain all the sumps to get any water out of the system. Also be aware that fuel has a shelf-life: Given enough time, gasoline (particularly auto gas) will distill down to a gummy residue with a varnish-like odor.
- ✓ **Control surfaces** — Be sure that any control locks are removed, and check that the control surfaces move freely through their full range of motion. Also be on guard for damage caused by "hangar rash," high winds or heavy loads of snow and ice. Check the tops **and** bottoms.
- ✓ **Landing gear and tires** — Check oleo struts for proper inflation, and use a gauge to verify that tire pressure is within limits. While you're at it, look for dry rot (lots of little cracks on the sidewalls) and flat spots on the tires. If you can see fabric around the edges of a spot, the tire is worn out. Likewise, bulges and bumps are evidence of structural damage: The tire should be replaced before flight.

Engine and propeller

- ✓ **Don't fly over the cuckoo's nest** — Engine compartments offer attractive quarters for our avian friends, and an undetected nest can be a fire hazard. Look carefully for evidence of birds, and be prepared to dig deeper if you see any. On some airplanes, it may be necessary to remove the upper portion of the cowling to do an adequate inspection.
- ✓ **Oil** — Verify that the engine oil level is within limits. Pilots often forget that the useful life of oil is measured in both engine hours *and* calendar months. Because oil's protective qualities degrade over time, an airplane that's been sitting for several months probably needs an oil change.
- ✓ **Propeller** — Check for nicks in the leading edges of propeller blades: Anything you can catch a fingernail on should be inspected by a mechanic. Also be on the lookout for evidence of corrosion, or fluid leakage on constant-speed props.
- ✓ **Alternator belt** — While you're checking the prop, take a minute to inspect the alternator belt. It should be tight, but still have some "give." Any cracking or dry rot means that the belt should be replaced.

Other tips

- ✓ **Underway** —As you taxi out, perform a brake check and verify that primary flight instruments are working properly. Take note of any abnormal noises, smells or instrument indications, and be prepared to taxi back if necessary.
- ✓ **Storage** — Proper storage protects your aircraft and makes preflight easier and quicker. Hangars are great, if available (or affordable). If not, canopy covers and heat shields protect plexiglass and keep summer heat from frying expensive avionics. Regular washing and waxing preserves paint, and covers for air intakes and pitot tubes can prevent animals from moving in. If the airplane will be stored for a long period of time, talk to your mechanic about more extensive measures.