

AMPHIBIOUS FLOATS: The Best of Both Worlds?

Fresh trout frying over an open fire as wary deer linger in nearby woods, ...it's a vision that compels many pilots to consider float-flying. And there's no doubt: flying a floatplane IS FUN!

Floats offer pilots tremendous freedom, excitement, and access to remote places. Whether flying from lakes or rivers, when a pilot docks, beaches, moors, or ramps his airplane at the end of a day's flying, he's enjoyed a world that is very different from the world experienced by landplane pilots.

Although float flying is very different in Florida than it is in Minnesota, Seattle, Maine, Canada, or Alaska, we've always enjoyed installing floats on our airplanes.

Many people mistakenly think that "amphibious" capability (i.e. retractable wheels for land operations) offers the "best of both worlds". We've noticed that pilots who install retractable wheels in their floats for that reason are usually disappointed with the results. Instead, we recommend that people who want to enjoy the fantastic world of float flying should give up land-based operations, and become "real" float pilots (straight floats). This can be done permanently, or on a seasonal basis, with changeover to landplane configuration taking less than a day.

Here are a number of issues that need to be addressed by a pilot wanting to install retractable wheels in a water-borne airplane (float-equipped or flying-hull design):

1) Increased Difficulty and Expense Obtaining Insurance

The insurance companies have noticed that seaplanes with retractable wheels statistically show an increased number of accidents and fatalities. As a result, insurance on amphibious aircraft tends to be more expensive (if it's available at all).

2) Higher Risk

The most common accident during amphibious airplane operations is landing in the water with the wheels extended. This is often fatal. With most amphibious designs, the airplane will capsize instantly when it is landed in the water with the wheels extended. Pilots always think, "I won't let it happen to me," ...but it keeps happening anyway. On at least two occasions, airplanes fitted with Aerocomp's SuperFloats have been inadvertently landed in the water "wheels-down". On both occasions, the airplanes stayed upright, and didn't sink or capsize. In fact, damage was minimal. They *could* have capsized, however, and most likely would have if they had been configured in a "nosewheel" instead of a "tailwheel" configuration.

3) High Maintenance

Soaking brakes and wheel bearings in water does not improve their reliability. Retractable wheels typically need "gear doors" that open and close over the wheel wells. Moving parts need regular lubrication and maintenance, and are at risk of malfunctioning. It is not uncommon for weeds or other flotsam to jam moving parts.

4) Difficulty Handling on Land

Installing retractable wheels on a water-borne aircraft does NOT turn the airplane into a well-behaved landplane. Any tendency to depend on the brakes will likely lead to an accident eventually, because brakes that are regularly immersed in water will probably fail some day. When that happens, not only will the airplane be difficult to stop, it will also be difficult to steer, and as a result may leave the runway and end up as a pile of scraps on the side. The brakes on amphibious designs are often marginal, at best.

5) Poor Crosswind Capability

Retractable "amphibious" landing gear often will not be able to withstand as much side loading as conventional land

gear. If this is the case, the gear will then be more likely to fail during poorly executed crosswind landings. And poorly executed crosswind landings are more likely with a floatplane, because the floats on an airplane reduce its roll responsiveness, making it more difficult to land in a crosswind. (The floats act like a pendulum underneath the airplane). The high center of gravity of a floatplane also increases its susceptibility to ground mishaps in windy conditions.

6) Shock-absorbing Capabilities

Many amphibious designs do not incorporate shocks or springs into the system. Even if some kind of shock or spring is present, it usually does not offer as much shock-absorbing capability as conventional landplane gear. Hard landings must be avoided with amphibious designs. Wheels and tires on amphibious designs are also typically smaller than those commonly used on landplanes. If this is the case, the smaller wheels and tires offer less shock absorbing, and are also more susceptible to problems with wheel bearings, brakes, tire wear, etc.

In summary, we feel that a pilot who installs retractable wheels on a water-borne aircraft, in an effort to gain "amphibious" capability, must accept that doing so increases the risk of an accident occurring. While he may gain the ability to land and takeoff from runways with his seaplane, doing so will be more difficult and risky than it is with a conventional landplane.

Yes - Aerocomp, Inc. offers "retractable wheel" packages for our smaller float packages. But we do so reluctantly, and we only sell them to select individuals whom we are convinced fully understand and accept these compromises. Instead, we recommend that pilots consider seasonal changeovers, if needed, from straight floats to wheels. It's a simple process, and can easily be accomplished in less than a day.

See Aerocomp's Amazing Airplanes in Action



— New Video Footage Now Available —

Rotor/Wing Sports TV (of Macon, GA) invested several days last fall filming at Aerocomp, Inc.'s Merritt Island, Florida facilities. Host Dan Leslie and his crew of professional filmmakers put together a couple 1/2-hour television shows featuring both Aerocomp, Inc. and the Skybuild Builders Assistance Center. Aerocomp, Inc. manufactures the Comp Air family of kit-built airplanes and Skybuild is a builder assistance center dedicated to helping Comp Air owners complete their airplanes in a safe and timely manner.

The 1/2 hour TV segments are part of Rotor/Wing Sports TV's aviation series, broadcast weekly in the US on the Outdoor Channel.

The first show (#11 in the series) consists of a tour of the Skybuild Builders Center facilities, and interviews with Comp Air builders and with Skybuild's president, Mr. Steve Darrow. The show focuses on Skybuild's unique educational program for Comp Air kit builders, shows aircraft under various stages of construction, and describes how Skybuild can enable a builder to complete the major structural fiberglass portion of his project in only 12 to 20 days. Skybuild's program helps speed along the initial assembly of the wings, fuselage, landing gear, empennage, and control surfaces, and helps to ensure that primary structural components are correctly assembled.

The second show (#12 in the series) features some great air-to-air video footage of the Comp Air 6, Comp Air 7, Comp Air 8, and Comp Air 10 flying over Florida's popular Cocoa Beach (a few miles south of Kennedy Space Center and Cape Canaveral). Numerous takeoffs and landings, high speed passes, slow flight, climbs, descents, and cruise flight are shown. The 1/2 hour show provides a lot of details about these airplanes, including interior close-ups, startup and taxiing scenes, ground handling, interviews with company personnel and builder/pilot interviews. Excerpts from these professionally produced TV shows have now been included in Aerocomp's \$25 literature and video "Information Package" (order below).

"The only way to learn more about these airplanes is to visit the factory and fly one." Demo flights and factory tours are available most weekdays (during normal business hours) at Aerocomp, Inc.'s Merritt Island, Florida airport facilities. Visitors are welcome.

Order Your Aerocomp, Inc. Video and Literature Package Today
 ... only **\$25** (U.S. orders)



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