



The Seawind Flyer

Fall 2013

"The evolution of an intelligent design."™

Seawind LLC

P. O. Box 1041
Kimberton, PA 19442-1041

Ph: 610-917-1120
Fax: 610-933-3335
www.seawind.net

Copyright Seawind LLC 2013

CERTIFYING AN AIRCRAFT

The old saying is, "If you want to make a small fortune in aviation start out with a large fortune." I am living proof of that adage. People have said to me, you are too optimistic. I say, if you're not optimistic stay home and don't start. We have had a number of dark days and significant setbacks. Without optimism the setbacks would have been fatal. We somewhat followed the path that Cirrus

Never ever give up!



took by having to raise funding as we went along. However, Cirrus was much better at it than I was. Everybody forgets how long it took them and how much it cost. They were very successful until they decided to certify a small jet. Diamond Aircraft was also very successful until they decided to build the D Jet.

I promise you, Seawind will not try to certify a jet.

The worst part of certifying an aircraft is raising the money to pay for it. For those of you who are long followers of the Seawind, you will be happy to know that this is the last fund raising campaign we plan to have. After we raise the funding for production to support a rate of 60 Seawinds a year, we will increase production rates up to what the market demands, which could be as much as 200 Seawinds a year, by using profits to pay for the additional tooling. We have kicked off our final campaign with an updated business plan and a seven year production projection. The equity we are offering is in non-dilutable stock, so your percent of ownership never shrinks. Although we consider our plan as moderately conservative, it is a forward looking plan that may not be fully realized. Production is what it is all about. This campaign is not for certification funding, it is for building aircraft and customer options and making the company viable.

Thoughts on buying a seaplane

by Captain Jim Gross



As you read this evaluation, it might be helpful for you to know about my unusual perspective. I've been a pilot for over 45 years, a professional pilot for 34 years, and an airline pilot for 25 years, including Captain and Check Airman for American Airlines. During this time, I also became a "ratings collector," collecting ratings just for the fun of it. Now I have every civilian category and class licensed by the FAA. Needless to say, I have flown a wide variety of equipment, from lighter-than-air hot air balloons and blimps to 650,000 pound B-777s. I also am an FAA Gold Seal instructor with 5 of the 7 possible instructor ratings.

So what does a guy with that background want to buy? All airplanes are trade-offs of price, performance, comfort, and everything else you can think of. But I wanted something FUN with decent performance (I don't want to fly anything that's slower than the cars below when I'm in a headwind). For me one of the most fun things you can do in aviation is take off and land on water.

So what is there in the seaplane category that I might want? I got my single engine seaplane rating in a Super Cub on floats and my multi-engine seaplane rating in a twin Seabee (no floats). So to float or not to float, that is the question. The only advantage I can think of for float planes is that they are easier to dock. Also, maybe it's an advantage that there are more of

them out there. But all of them are slow and all of them burn a lot more gas per mile than airplanes without floats. The only U.S. certified flying boat airplanes (with boat-type hulls and no floats) are very old designs, like the Lake or the Seabee. There are some kit planes out there, but I'm not the builder type of person and I would rather have a certified airplane.

During the time I was debating what to get, I had never flown a Lake, but a close friend of mine, a high time general aviation pilot and airplane owner, had a chance to fly one. I asked him to report back to me what he thought after he flew it and his exact words were "you don't want one!"

Another friend owned a Cessna 185 on floats and let me fly it. I knew it would be slow, but I was surprised at how poorly it handled with those big floats on it. You had to be on the rudders a lot to try to maintain coordinated flight, and it felt very "wishy washy" to me. He later sold the airplane because he got tired of it. He said it took almost an hour to preflight since you had to climb up on a very tall ladder just to check the oil and the fuel caps. I personally found that just climbing up to get into it was kind of a drag. After I flew the airplane one time, I thought it was fun to land on water, but I would never want to own one.

I have had a chance to fly a couple of different kit (experimental) Seawinds and I think nothing comes close to them in several respects:

- Performance (which is obvious),
- Comfort (a surprisingly nice wide cabin with lots of elbow room), and
- Visibility (with the wing behind all 4 occupants, the full wrap around windshield, and the slope down nose with no engine out there).

Comparing the Seawind design to float designs, the following table shows how the Seawind design is more "pilot friendly". I know the certified Seawind will be even better than the kits because of several design improvements. I think it is the only airplane out there with the combination of "tradeoffs" that is unmatched, and that's without even considering the significant advantages of composite over metal.

Float Planes	Seawind Boat Hull
Each compartment has to be pumped out	Seawinds have one hull drain plug and one drain plug on each sponson
Step taxi is tricky and should not be done cross wind or down wind	Seawinds step taxi cross wind or downwind easily, even with cross wind takeoffs
Stability and control requires frequent attention and is a work load	Seawinds have 3 axis trim and can be flown or step taxied hands free when trimmed
Floating objects can cause cuts in the floats Aluminum aircraft can sink	Seawinds won't sink due to 4 sealed floatation compartments and encapsulated foam
It is impractical to have an auxiliary maneuvering motor on float planes	Seawinds have an optional factory built in outboard motor



QUESTIONS

As we try to present the big picture, we may be forgetting some details that are important to your understanding. Please don't hesitate to ask questions. The following questions were raised and we would like to share them with you.

Q1) Is the stall speed officially the pusher activation speed, or is it the aerodynamic stall speed?

A1) The Pilot Operating Handbook (POH) will list the flaps down and gear down as the official V_{so} at the Pusher Speed. Our intent is to list both Pusher and Aerodynamic stall. TCCA will have the last word. However, remember that the 61 knot stall pusher is at 150 feet above ground level (AGL) and the Seawind has a tremendous ground effect. The wing transducers measure the flow of air over the wing. We should soon find out what the pusher stall and the aerodynamic stall speed

is when just above the runway or water. My guess is that the pusher will be about 57 knots and the aerodynamic about 54 knots.

Q2) Is the system computers logic different if the gear is up or down?

A2) My understanding is that it computes off the signal of the wing transducers sensing the air flow across the wing. If the gear is down or up it does not sense the position, it does however, sense the angle of attack (AoA) and the flap position. The system also has a throttle position sensor which inputs whether the power level is above or below 40%, i.e. power on or idle power.

Q3) Does the Pusher system know the weight of the aircraft or does the pilot have to input the weight?

A3) The SPS system receives its information from the two wing transducers, which measure the AoA and the air flow at the leading edge of the wing. That airflow characteristic changes with the angle of attack (AoA), which is effected by the weight and CG.

Q4) What is the 61 knot rule?

A4) Somebody came up with 61 knots or below as being a stall speed to which there was no need

to add on an additional load factor for landing or emergencies. For each knot above 61 at 150 feet AGL the factor increases exponentially on the crash worthy seat, seat restraints, and structural crash loads. I, like most people, thought it was for emergency landing touch down speed at ground level. At 150 AGL there is no ground effect so the stall speed is quite a few knots higher.

Q5) Is there an override switch or circuit breaker to turn off the Pusher in the event of a malfunction?

A5) Yes there is a momentary contact interrupt switch on each yoke for immediate reaction and a circuit breaker to disarm the pusher. Neither of these disarms the shaker so you always have a shaker stall warning. In addition, there is a torque limiter slip clutch which a pilot can over-power with fifty pounds of force. This will all be part of the Seawind Transitional Training Program.

Q6) As a pilot I want the ability to recognize, take corrective action, and recover.

A6) It is our understanding that the pilot always has the right to take whatever corrective

action as he deems is required. We are all trained to do that. If things are beyond the pilots' ability or control, then it is recommend that the pilot rely on the SPS.

Q7) During a flight review, how do we demonstrate approach to and recovery from a low speed stall?

A7) I am not sure what the official answer will be, I will check with them. As long as the engine is operable, the Seawind stall is slow to develop and the application of power will immediately end the stall.

Your questions are always welcomed.



We are nearing the end of flight testing in Ottawa.



REFLECTIONS ON 2013

It has been a challenging year with an upbeat end of the year. We have made good progress and the New Year is looking bright if we can get some more flying weather.

We are blessed with 50 investors who have joined us on this rollercoaster ride. We are doubly blessed to have investors who have stood with us when other people thought we would not make it.

All of the folks at Seawind hope that you and yours find the peace and joy of Christmas and the Holiday Season, and have a happy, healthy, and prosperous New Year.

Dick Silva

