

Flying the SeaRey

The Progressive Aerodyne SeaRey takes the homebuilt amphibian to the next level.

By Don Krite

Some years ago I saw a group of homebuilt amphibians perform a mock battle in an airshow at Walt Disney World's Epcot Center. The good guys were in white amphibians, trailing white streamers and were chasing the bad guys flying, of course, black planes. I had never seen such performance using homebuilts before, much less homebuilt amphibians.

Later at Sun 'n Fun I saw this little amphibian again and learned it was called a Buccaneer. At Epcot I had been impressed with its aerial performance, but on Lake Parker at Sun 'n Fun I had a chance to see it perform off the water. It was even more impressive.

Having followed amphibian aircraft for more years than I like to think about, I know a good amphib when I see one. Besides its surprisingly short water takeoff and landing runs, the most impressive thing the Buccaneer did at Lake Parker was taxi from the water up onto the shore in a crosswind that would have given fits to a Seabee.



The Progressive Aerodyne SeaRey kit amphibian is registered in the experimental category.

PHOTOS: HOWARD LEVY

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The SeaRey uses a shallow-V hull, which enables it to get on the step almost immediately and be off the water in 10-12 seconds.

The SeaRey can use a range of engines, including this Rotax 582 installed on the original prototype.

Dual controls allow for some amphib training—unpaid, of course, due to experimental category restrictions.

SeaRey
continued

At the time I thought the Buccaneer was the ultimate. But two years ago at Sun 'n Fun I saw another little homebuilt amphibian that seemed to outperform the sprightly Buccaneer. Not only did it perform well, it was better looking than the Buccaneer, in my opinion.

Recently I came across one of the first builder-completed SeaReys. The smart-looking craft is owned by Reg and Maureen Jaworski, SeaRey dealers at New Smyrna Beach, Florida. Reg spotted my press pass at Sun 'n Fun '95 and invited me to do a story on his little amphib. Reg didn't know that I had been a fan of the airplane for more than a year. Scheduling difficulties prevented me from flying it at Sun 'n Fun, but I did meet the gracious young man who was flying the demos in it at Lake Parker: Kerry Richter.

Meeting the Designer

Two weeks later I visited the Progressive Aerodyne factory in Orlando where I learned that Kerry not only demonstrates the SeaRey, he also designed it. I told Kerry that I had a two-fold purpose for being there. One was to do this story, but I was also very interested in owning a high-performance homebuilt amphibian myself. I told him that until I saw the SeaRey, the Buccaneer had my eye. At that point in my visit, my more cynical half expected a sales pitch for the SeaRey and some negative comments about the Buccaneer, but instead, Richter just smiled and said that he had helped designed that airplane, too.

Actually, Bobby Bailey did most of the design work on the Buccaneer II—with help from Richter and John Greuner—but Kerry had done the design work for the Buccaneer SX single-place amphib. In fact, Richter has designed 13 different aircraft including the Cobra, and the Explorer.



He and his father, Wayne, have been manufacturing aircraft since 1977 as part of Advanced Aviation. Kerry started six years before that when in the ninth grade, he designed and flew his own hang gliders. If you really want to get technical, his very first aircraft design was one he and some friends built while in grade school. It used bed sheets for fabric and assorted parts scrounged from go karts. It had a Briggs & Stratton engine and a propeller whittled out of a 2x4. The contraption was able to move under its own power at 12-14 mph.

Kerry's latest design, with help from business partner and codesigner Paige Lynette, is the new Sting Ray single-seat amphib. It wasn't completed at the time of my SeaRey flight, but by the time you read this it will have flown. (We've included specs on this one, and we'll have a flight report on it in a future issue.—Ed.)

Checking Out the SeaRey

As Kerry pointed out, the SeaRey is what he calls a light aircraft, not an ultralight, since it is heavier and faster than that category allows. Thus it is available only as a homebuilt aircraft registered in the experimental category.

At Progressive Aerodyne's factory, I found that the aircraft was as beautiful inside as it was on the surface. The experience that the Richter family had building aircraft for the past 18 years shows in the professional quality of construction and

well-organized plant.

Progressive Aerodyne is very much a family business. Besides Wayne, Kerry's mother, Nita, and wife, Michelle, also work there. I also had the opportunity to meet Gean Fabre. As his name might imply, Fabre is a Frenchman who is the Progressive Aerodyne dealer in the Turks and Caicos Islands. What better way to learn about the product than work in the factory?

"We have employed basic ultralight construction in the SeaRey," Wayne said. "The basic airframe can be built in a week or less. Usually the covering, wiring and avionics are what takes the majority of the time. You've got a bolt-together tubular aircraft, and you put it all inside the hull. When a person gets it, there is no welding or fiberglass work to do at all."

The kit comes complete with everything needed to build the aircraft. This includes airframe, engine, basic instruments, hardware and finishing materials. It all fits neatly into one long box that weighs about 1200 pounds.

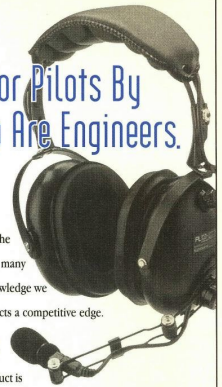
The engine is shipped in a separate box. They recommend one of three: the two-stroke 65-hp Rotax 582, a two-stroke 74-hp Rotax 618, or the four-stroke 80-hp Rotax 912. The kit can be supplied without an engine, but the engine you install must be approved by Progressive Aerodyne to complete the sale.

Kerry said the 80-hp 912 doesn't perform much better than the 65-hp 582 because it weighs about 80 pounds more. It also costs nearly twice as much. The list price as of May 12, 1995, was \$9411 for the 912 and \$4349 for the 582. On the other hand, the 912 only burns 3.5 gph while the 582 burns 4.5 gph with the added requirement of premixed fuel. The big difference is that the recommended overhaul time (TBO) for the 582 is 700 hours while the 912 has a TBO of 1500 hours and is expected to go to 2000 hours soon. Kerry feels the 912 would be the most cost effective by the time you put 1500 hours on it. In the meantime you do enjoy a slightly higher rate of climb and cruise speed.

Flying It

The company keeps its demo aircraft at Florida Flying Gators Airpark, about 20 miles away. We picked up some fuel at a gas station on the way to the field. Rotax recommends supreme unleaded auto fuel, 93 octane. The demo aircraft has a 912 engine. (The photo subject

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SeaKey for this article was the original prototype photographed by Howard Levy at Sun 'n Fun '93. It is flying with a Rotax 582. — Ed.)

I found the SeaKey easier to get into and out of than I had expected. Its 44-inch-wide cockpit has a lot to do with that. I also liked the sliding canopy. Besides the extra fun of being out in the open like a convertible, we were more comfortable taxiing around in the Florida heat. You can also fly with it open or closed, although there is some buffeting with it fully open. We flew with it about three-quarters open with no apparent change in performance.

Flaps can be set at 10°, 20° or 30° by moving a handle above the pilot's right shoulder. The setup is straightforward and can be operated by feel, with no need to look up to see which position you have selected. Kerry uses 20° for takeoff and landing and sometimes 10° for climb. He rarely uses the 30° position.

Braking is done by squeezing on a metal rod mounted on the front of the throttle lever between the pilot and pas-



Sliding canopy doors can be opened in flight.

Steering is provided by the Maule tailwheel, which releases to full caster.



senger. It brakes both mainwheels at the same time. Steering is provided by the fully steerable Maule tailwheel, which releases to full caster.

Our takeoff roll was 200-300 feet, like the brochure said, and the climb rate was an impressive 700-800 fpm. The temperature and humidity were in the high eighties. This may not seem all that impressive, reading about it, but when you are going just 65-70 mph in a small aircraft with the canopy open, the climb angle is steep. There is definitely nothing slugging about the SeaKey.

Getting Wet

We dropped into one of the nearby lakes for some water work. There was just a light breeze of less than 10 mph with a slight chop on the water. Kerry said they recommend an approach speed of 65-70 mph. When a person becomes familiar with the airplane, you can drag it in slower, but he trains them to come in at 70; if you have some gusts there is a margin.

The flair and landing can be startling if you haven't flown in a small homebuilt amphibian. I had been flying a Beaver on amphib floats for the past six months where the pilot sits about 8 feet above the water. In the SeaKey you are less than 1 foot. I was sure Kerry was going to dive into the water like a pelican, but he flared a foot or so off for a perfect landing.

There was about a 5-inch chop on the lake, which gave the SeaKey some pretty good jolts during takeoff and landing. All hulls are a compromise between a smooth ride on the water and performance. A deep V-bottom design gives a soft ride in rough water but requires a much longer takeoff run. A shallow V provides more planing surface for quicker takeoffs. Kerry opted for more planing surface with a shallower V. This allows the SeaKey to get on the step almost immediately, and it is off the water in 10-12 seconds. But while the SeaKey has been flown in rougher water, the company doesn't recommend operating in waves over 1 foot. "When a lake starts developing white caps, you're going to have a pretty rough ride," Kerry said.

I was surprised when Kerry told me that SeaKeys, Buccaners and other hull-type light amphibians in these speed ranges don't flip when landed in the water with the gear down. "At normal landing speeds, it just results in a quick stop. If you touch down at more than 60 mph, though, you're probably gonna go swimming."

the Rotax 912 engine. Also, electric flaps are now offered for an additional \$200 and electrically operated landing gear for an extra \$400, and a hydraulic package for the gear and flaps is in the works.

Choices, Choices

While the performance of the Buccaneer II and the SeaKey are almost the same, the SeaKey does outclimb it and is considerably faster, especially with the new fiberglass wingtips and prop. The Buccaneer II cruises at 60-65 mph with a top speed of 85-90 while the SeaKey cruises at 85 with a redline of 115.

I found the SeaKey to be a well-designed and well-built aircraft with excellent water and flight performance. Progressive Aerodyne is a successful company with a good track record. Product support should be excellent. Besides all that, I think it is a beautiful airplane. I can't wait to own and fly one. **KP**

FOR MORE INFORMATION contact Progressive Aerodyne Inc., 520 Clifton St., Orlando, FL 32808; call 407/292-3700, fax 407/292-5555.

Kerry said. "It doesn't actually flip, but it drives the nose in so hard that it has actually broken up the bottom of the nose."

The Business Angle

With 18 years of experience behind them, the Richters have built a good business around good airplanes. They have dealerships in much of the country but could use more on the West Coast, they say. They prefer prospective buyers to go through a dealer but will sell direct. In that case, the dealer still gets his cut, as they do not want to undermine their dealers.

Progressive Aerodyne is constantly improving its product, and during the summer following my demo flight the company added fiberglass wingtips and a newly designed propeller. This increased performance by approximately 20%. Kerry feels they get off the water about 75 feet earlier and it has increased the rate of climb by 100-150 fpm with

Progressive Aerodyne, Inc.

SeaKey	Sting Ray
Top Speed, mph.....110	Top Speed, mph.....85
Cruise, mph.....85	Cruise, mph.....65
Range, s.m.....300	Range, s.m.....100
Stall, mph.....42	Stall, mph.....27
Rate of Climb, fpm.....700	Rate of Climb, fpm.....600
Takeoff Distance, ft.....300	Takeoff Distance, ft.....175
Landing Distance, ft.....300	Landing Distance, ft.....200
Service Ceiling, ft.....12,000	Service Ceiling, ft.....9,000
Engine Used.....Rotax 912	Engine Used.....Rotax 447
HPI/HP Range.....80/65-100	HPI/HP Range.....40/40-65
Fuel Capacity, gal.....18	Fuel Capacity, gal.....6
Empty Weight, lbs.....750	Empty Weight, lbs.....470
Gross Weight, lbs.....1250	Gross Weight, lbs.....800
Height, ft.....6.42	Height, ft.....6.2
Length, ft.....22.42	Length, ft.....21.4
Wing span, ft.....30.83	Wing span, ft.....30.83
Wing area, sq.ft.....157	Wing area, sq.ft.....150.0
No. of Seats.....2	No. of Seats.....1
Landing Gear.....tailwheel/R	Landing Gear.....tailwheel/R
Bldg. Materials.....C,M,T,F	Bldg. Materials.....C,M,T,F
Bldg. Time, man hours.....400	Bldg. Time, man hours.....300
No. Completed/Flown.....90	No. Completed/Flown.....4
Info Package.....\$2	Info Package.....\$2
Plans Cost.....none	Plans Cost.....none
Kit Cost.....18,900	Kit Cost.....\$13,900

Notes: Specs provided by manufacturer for KITPLANES annual December manufacturer's directory. Kit includes all parts necessary to build aircraft, including silver coat. Engine options are Rotax 447, 503, and 582. Video \$15.

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