BILL BARDIN'S

SEABEE

Is there something about the Republic Seabee that attracts persons involved in certain occupations . . . even generations apart? Consider this:

• In our Winter 1988 issue, I featured an article on Jim Sorensen of Ceres, California and his 295 hp Lycoming GO-480 powered Seabee. It was his second Seabee, the first having been a stock Franklin powered model. Jim and his wife, Dete, loved to go camping in their Seabee, frequently flying north to Canada to land on their favorite lakes. Jim had been in the commercial construction business most of his adult life, but had retired a couple of years earlier and was working - whenever he pleased - as a construction consultant.

• Last May - 18 years later - at the Mid-Atlantic Fly-In at Lumberton, NC, I met Bill Bardin of Brockport, New York who had his 295 hp Lycoming GO-480 powered Seabee on display. It was his second Seabee, the first having been a stock Franklin powered model. Bill and his family frequently use their Seabee to go fishing and camping on lakes in the Adirondacks and in Canada. Bill was in the commercial construction business but recently retired and now serves as a consultant.

Go figure!!

Bill Bardin

Bill Bardin was born in Cambridge, NY in 1953 and, except for his military service, has lived in the Empire State his entire life. He attended school in Granville, NY and graduated from high school there. Immediately afterwards, he joined the Army and became a paratrooper - stationed for a time at Fort Bragg, NC.

While he was in the Army, Bill saved his money and bought a Piper Colt. After receiving his discharge in April of 1975, he began taking flying lessons on the G.I. Bill and got his Private ticket that October. Next came college in Albany, NY, then a teaching job in Saratoga Springs, NY. Eventually, however, he worked his way back to his family's construction business.

"My family has been in the construction business for three generations. We do mechanical construction - hospitals, military bases, large scale industrial projects. I retired two years ago, and started a construction consulting business. It has actually been keeping me busier than I want to be. I wanted to spend most of my time going to all these fly-ins around the country."

The Piper Colt in which he learned to fly was Bill's first airplane, but there would be many more as the years went by.

"Next, I bought a 180 Comanche. That was a great airplane - flew it all over the place. I've also owned a Cessna 172, a Cessna 206 on wheels and another on floats, a Piper 235, Piper Aztec, Cherokee 140 and a Piper PA-12. I became a flight instructor and bought the Cherokee 140 specifically to teach my three kids to fly. I bought the PA-12 for their tailwheel transition before they start moving to the Seabee. My daughter Jolynn has a business degree from Buffalo State; my son, Thomas, is a Marine stationed in Okinawa and is interested in becoming a Marine Corps aviator; and my youngest son, Tyler, has received a scholarship to the University of North Dakota for helicopter training."

Then there are Bill's two Seabees. He bought his first one in the early 1980s.

"That was the one with the Franklin engine. I spent a lot of time restoring that airplane, but I just never could get that engine to perform for me. I never felt safe with my family in it, although I did fly it quite a bit and did learn to fly the Seabee in it.

"Unfortunately, the 215 hp Franklin 6A8 was only used in the Seabee. It was in production for just a short time, so it was never fully developed. The problem was that most Seabees were put up every winter and not flown until spring. This allowed the cast iron valve guides to rust and weld themselves right to the valves. When the engines were started up for the first time in the spring, they would either bend a push rod or, at least, have a sticky valve that kept the engine from developing full power. This is why the Seabee was viewed as an underpowered airplane - this and the fact that with such a large cabin, there was a tendency to overload them.

"Today, there are some people who have learned how to rebuild the Franklins so that they develop full power. They replace the cast iron valve guides with bronze guides, they replace the original valves with Lycoming valves and make a few other modifications that make the Franklin a good engine. The Seabee's Franklin was a 500 cubic inch engine developing 215 hp. It was really a derated engine compared to a 480 cubic inch Lycoming GO-480 developing 295 hp. You'd think they would last forever, but, as I've said, with the short production run, it just didn't work out originally.

"I finally decided to buy a Lycoming powered Seabee and in 1994 I found the one I have here at the fly-in. I kept my Franklin powered Seabee while I was restoring this one and finally sold it to a guy in Canada in the late 1990s. He has had the Franklin upgraded and it's serving him well now."

BILL'S LYCOMING POWERED SEABEE

The Seabee Bill had at Lumberton last spring was N6386K, Serial Number 615. It was completed at the Republic Aviation Corporation plant on Long Island on April 3, 1947 and was powered by a 215 hp Franklin 6A8-B9F pusher engine.

The airplane's first registered owner was Seabee distributor Clara A. Livingston of Dorado, Puerto Rico - who sold it the same day, April 5, 1947, to Carlos Garcia Quevedo of San Juan, Puerto Rico. Apparently, Mr. Quevedo owned a company named Trade Winds Aviation, which operated the Seabee for the next three years.

On September 26, 1950, N6386K was sold to Robert M. Black of St. Thomas, Virgin Islands, for $200 down and a contract specifying 13 monthly payments of $100 each. The contract further specified that Trade Winds Aviation would have the first option to buy the Seabee back should it be put up for sale by Mr. Black.

Sure enough, on September 20, 1951, Trade Winds Aviation Company of Santurce, Puerto Rico bought 86K for $1,300. The airplane had been in Trade Winds' shop for some time being rebuilt and was signed back into service the day of the sale. According to existing repair forms, the airframe had been completely stripped to bare metal, treated to stop corrosion, zinc chromated and painted in "white synthetic enamel." All new control cables were installed and the landing gear was re-rigged. Significantly, the rear seat and upholstery were removed, which probably indicates that the airplane was being used to haul cargo of some sort. The work was signed off by A&E Maximo J. Garcia, who, with partner Emilio Q. Santaella, both of Santurce, Puerto Rico, would buy the Seabee on May 28, 1953 for $1,200.

For the next 40 years, ol' 86K would pass through the hands of 11 additional owners, who were, by date of purchase, as follows:

June 3, 1954 - W. H. Baston, Ozell Hewlett and W.H. Wright of Santurce, Puerto Rico - who paid $1,100 for the airplane.

October 20, 1954 - Homer O. Rich of Hartford, Connecticut

November 3, 1954 - David E. James, Jr. of Port-au-Prince, Haiti

February 1, 1958 - John R. Brons of South Miami, Florida

March 15, 1958 - Kiefer G. Tucker, Jr. of Coral Gables, Florida

August 7, 1961 - Marine International Diving and Salvage Company of Erie, Pennsylvania. 9-28-61 - Oil cooler and factory steerable tailwheel installed. 3-2-64 - Aero Products Engineering spray rails installed.

April 25, 1967 - Stevens Oldsmobile, Cortland, New York

May 16, 1967 - L. Pugh Contractors, Inc., Plattsburgh, New York

March 11, 1969 - Alfred E. Neidhardt of Morrisville, New York.

September 28, 1969 - Albert B. Miller, East Aurora, New York. 4-14-82 - Electric/hydraulic pump system, Stewart Warner heater and a Lycoming GO-480-G2D6 engine and Hartzell propeller installed by STOL Aircraft Corporation of Norwood, Massachusetts.

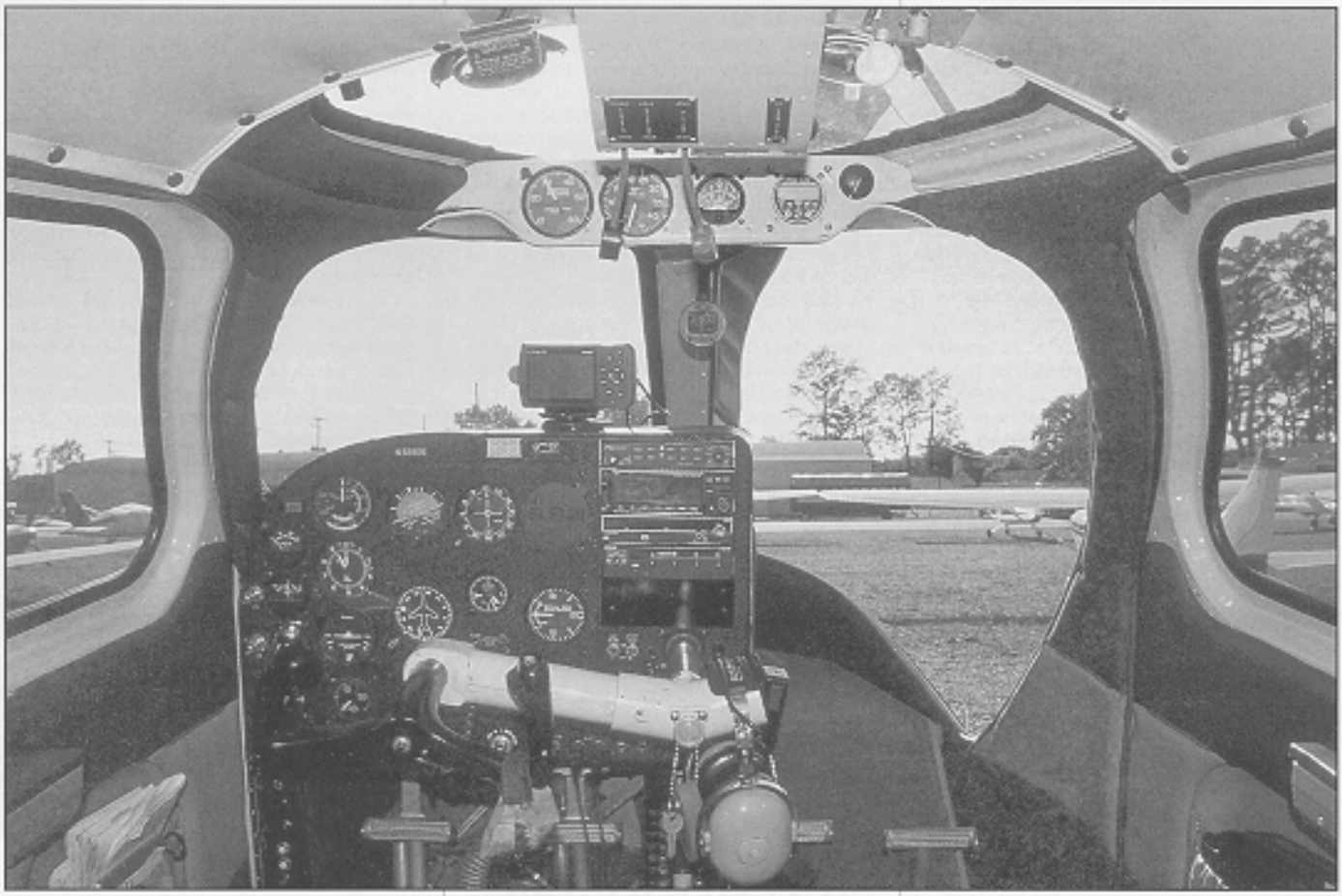
May 7, 1994 - G. William "Bill" Bardin of Brockport, New York

Bill says that Albert Miller flew the re-engined Seabee home from Norwood, MA and started to restore it. He stripped off the paint, removed the upholstery and most of the instruments. Unfortunately, however, he developed cancer and eventually died from the disease.

"The airplane sat in a hangar for 17 years before I bought it from his estate in an auction at Bradford, Pennsylvania. I spent a couple of weeks down there with a mechanic going through the engine, replacing the tires and several other things before finally determining the airplane was airworthy enough for me to fly it home on a ferry permit.

"I got it back there and started the process of going completely through the airplane. Because it had been sitting for so long, there was a lot of light surface corrosion, so I cleaned that up, then took the plane up to Canada, to Sky Harbor at Goderich, Ontario and had them do the paint job for me. It's Imron and they did a fantastic job. I was really pleased with it.

"Then I brought it home and started go-



ing through the interior. I made all the patterns, sent them to Air Tech and had them make an all new cabin interior."

Bill has actually had the avionics array re-done twice in the 13 years he has owned 86K. In 1994 he built up a deeper instrument panel and had Jar-Tech Avionics of Albion, NY install a King audio panel and transponder, an ACK altitude encoder, Sigtronics intercom and an auxiliary power jack. Then, in 2002, he had Boshart Enterprises of Batavia, NY remove most of the old equipment and install a PS Engineering audio panel, Garmin GNC300XL GPS/COM, Garmin GI-102A CDI, and a King KY196 com.

Other modifications and additions along the way included . . .

- An upgraded tailwheel tire and wheel rim assembly.
- A Lake and Air landing gear position indicating system.
- An Air Wolfe spin-on oil filter.
- Cleveland wheels and brakes - replacing the original BF Goodrich expander tube brakes.
- Fiberglass droop wing tips, weighing 21 pounds each. Later replaced with carbon fiber droop tips weighing only four pounds each.
- A new Hartzell fully reversing propeller. Bill says the prop started off with a 93 inch diameter, but had seven inches cut off and the ends Q tipped. The airplane gets up on the step quicker with this prop, he says.
- Bilge pumps. Bill says, "I was always scared to death to leave the plane on a mooring in deep water at night - afraid I'd popped a rivet or something in a rough water landing and the thing would sink to the bottom. There are seven water-tight compartments in a Seabee, five in the hull and one in each float. Any one of these compartments can be flooded without sinking the aircraft. I have automatic bilge pumps in the larger compartments - so I can sleep at night when the Seabee is lying on anchor!

"When I was first thinking about buying a Seabee, I heard people say they 'climb at 80 and cruise at 80.' This particular plane, with the 295 hp Lycoming, climbs out at about 650 fpm and cruises at 113 to 115 mph. To make it easier to get the Lycoming engines approved, the gross weight was not increased. That means the loading numbers are still the same for the Franklin and Lycoming powered versions. Obviously, though, the higher powered versions are the best performers.

"My kids literally grew up in the back seat of this Seabee. From the time they were small, my wife, Donnalee, and I would load them and camping gear for a week into the cabin and head out for a lake in the Adirondacks. The airplane is a great airborne camper. It's a very rugged airplane you can land on runways or on water. On water, you drop your gear and taxi up a boat ramp or up onto a beach. I've flown it all over - from the Bahamas to Canada, and it has really served me well."

THE SEABEE

The Seabee amphibian was Republic

Aviation Corporation's attempt to gain a foothold in the post-World War II civilian lightplane market and thereby keep its wartime factories open and its skilled workers employed. Republic had never built lightplanes, so extensive market surveys were undertaken to determine what kind of aircraft should be built and how much could be charged for each of them. Price was extremely important because the higher the cost per unit, the smaller the market would be - and the company needed to crank out a lot of airplanes to keep its factories in operation.

Ultimately Republic determined their best chance for success would be to design and produce a four place amphibian they could profitably sell for $3,500 - a little under $50,000 in today's inflated currency. Early in the conceptual design stage, a pusher configuration was considered best - which reminded someone that one of the company's production test pilots, one Percival H. Spencer, had designed and built such an aircraft just prior to World War II and had it stored nearby. As events transpired, Spencer's design was so close to Republic's proposed configuration that the company bought the rights to it in December of 1943 for $17,000 - some $226,000 today.

P.H. Spencer, known to his friends as "Spence," was the son of the inventor of the Civil War era Spencer repeating rifle . . . sired in 1897 when his father was 63. Spence devoted his life and efforts to aviation and designed numerous airplanes, most of which were amphibians. Best known to the present generation for his Seabee-like AirCar homebuilt, which he designed while in his 70s, Spence's greatest financial success was his earlier Wham-O-Bird, a toy ornithopter that was sold by the hundreds of thousands. Spence died in 1995 at 97 years of age.

Spence's 1941 wood and steel tube homebuilt amphibian was redesigned as an all-metal airplane and a prototype, the RC-1, was built and tested - with the flight work by Spence, himself. It was a good airplane, but its structure was typical of the metal aircraft of the 1930s - with thin outer skins and a lot of bulkheads, ribs and stringers inside. When Republic's manufacturing experts evaluated the design, they quickly determined it would be much too labor intensive to produce, costing as much as $12,000 each, rather than the hoped for $3,500!

As a result, a complete structural re-design was ordered, the results of which were nothing short of amazing. The RC-1 airframe consisted of some 1,800 individual parts and required 2,500 hours to assemble. The re-designed airframe had just 450 parts and took just 200 manhours to assemble! The genius behind this re-design, according to Spence, was Al Boyajian, who made a switch to thick outer skins, beaded and stamped in compound shapes for rigidity so that far fewer internal parts were needed.

Initially named the Thunderbolt Amphibian, the new simplified aircraft was rechristened the Seabee and the first one was completed on November 22, 1945. The CAA gave Republic the O.K. to start production in May of 1946 - even though it would take another five months, until October 15, before the agency caught up on its paperwork and issued the Seabee's type certificate, number 769.

Republic never met its goal of turning a profit on Seabees selling for $3,500 apiece. As had been feared, there was a huge inflationary spiral after the war's end, so that the first few Seabees had to be repriced at $3,995. By the end of 1946 the tab had been progressively raised to $5,995 - and the company was still losing money on every one sold. Production was halted on October 4, 1947 after 1,060 Seabees had been built . . . a production run of just 18 months. Every Seabee sold for under $6,000, but, it has been estimated, each of them cost the company about $13,000 to build!

Shutting down the Seabee production line was probably inevitable, even if the business had been profitable. By that time, Republic had big government contracts to build F-84s, so the civilian lightplane market was no longer attractive or needed.

The Seabee went through a long period of decline in popularity among pilots and too many of them were allowed to deteriorate beyond saving as the years rolled by. However, what goes around eventually comes around, as the saying goes, and today, with the Lycoming and Chevy V-8 engine conversions available, the 315 or so Seabees that remain have a new lease on life as pampered showplanes.

Showplanes like Bill Bardin's beautifully restored 86K.