

Creator of the Cozy

From watching airplanes to designing them, here's how Nat Puffer became a plans-maker.

BY DON DOWNIE

Cozy developer Nat Puffer has an almost-storybook aviation background. He grew up in Fond du Lac, Wisconsin, just down the road from Oshkosh, made model airplanes and rode his bike across town to the airport where he watched airplanes and was able to procure an occasional ride. These included flying with the local sheriff in a Stinson and riding in an autogyro. He met Amelia Earhart when she spoke at the high school auditorium. "From then on my ambition was to be a commercial airplane pilot!"

"World War II broke out when I was in high school," Puffer explained. "And when the V5 program was started I enlisted while still in school and 17 years old. We had to go through boot camp (Corpus Christi Naval Air Sta-

tion, Texas), then prep school, then WTS, where we learned to fly in Aeronacas and later the N3N. Primary training was at Glenview (Illinois), and advanced back at Corpus Christi again. When we started winning the war, they started washing a lot of people out of training, but I wanted to be a naval aviator worse than anything else, so I really applied myself and made it to graduation—just when the war ended.

"I went on to operational training where I checked out in SBD (Dauntless), F6F (Hellcat), F4U (Corsair) and the TBM (Avenger). I became carrier qualified aboard the *U.S.S. Ranger* out of Pensacola (nine landings) and put in for carrier duty. Unfortunately, the orders I volunteered for took me to shore duty at NAS Kobler Field on

Saipan. I became badly disillusioned by the conditions in the Pacific after the war and took advantage of an opportunity to get out in 1946.

"After getting out, I enrolled at the University of Minnesota in engineering. Aeronautical was overcrowded, as were the airlines, so a friend of mine talked me into chemical engineering. While in school, I stayed in the active reserve and flew weekends for \$50 per month.

"I graduated *summa cum laude* at the top of my class and accepted a job with duPont working in engineering

Designer Nat Puffer and wife Shirley beside the Cozy. The couple will make the Cozy project a full-time endeavor now that Nat is retired.





PUFFER

continued

research. They put me on an AEC (Atomic Energy Commission) project because the Navy wanted to call me back in for the Korean War and I helped to design and start up facilities to make heavy water.

"After four years, we got tired of living out east, so I took a job at 3M, again in engineering research. I was assigned to a secret project investigating and testing some secret coatings the Germans had developed which allegedly had zero friction."

During his career with 3M, Puffer did engineering work on duplication and photographic products. He was in charge of building a research photo lab in Harlow, England, and then returned to the United States to work with microfilm X-rays, research for which he was given a patent.

"It was at this time that I liked working in the model shop and decided to build an airplane as a hobby," explained Puffer. "I was attracted to the BD-5 for a number of reasons. It was like a fighter. Also, the plans were very complete and you could buy a complete kit all from one source. Little did I know that the kit would never be completed. I had the airframe almost all finished when the handwriting was on the wall—Bede didn't have an engine and was going under trying to develop one. I never did finish it. I gave it to the Winona Area Technical College, claiming a gift to charity on my income tax."

About this time, Puffer first saw the design of the VariEze in *Popular Mechanics*. "I was entranced by the simplicity of the design and the wonderful performance. I told my wife Shirley that I was going to drop the BD-5 and start a VariEze as soon as the plans were available. She thought I had lost my marbles. As soon as I learned plans were available, I rushed down to the post office and sent in my money. I also ordered a kit right away from Wicks and I got their last one (No. 13). That was in '76, and in '78 we flew our VariEze to Oshkosh."

Years later, Puffer sold his VariEze to an F-16 pilot, Lt. Col. William Looke. "It was a fantastic airplane and has had a very interesting history," said Puffer.

"All the while I was building, I sent in suggestions to Burt (design and procedure improvements), so we got to know each other pretty well. We also helped to man his booth at Oshkosh the first couple of years, which he deeply appreciated. I was the first person he asked, according to Burt, when he started hiring people for Scaled Composites."

The Cozy developer's entire career has involved high technology, trying to improve processes, to invent things, to do things better. During his final tenure at 3M, he had the technical responsibility for filament tape, which is a composite construction involving polyester backing, glass (fiberglass) yarn, and rubber or synthetic adhesives.

"Across the hall from me was the Industrial Specialties Laboratory, where they work with composite pre-preg

Nat Puffer shows the Cozy to onlookers at the Oshkosh fly-in. Puffer says he plans to attend more airshows with the Cozy now that he's moved to Arizona.

materials using glass, Kevlar, graphite and boron fibers in an epoxy matrix," said Puffer. He carpooled to work with a Ph.D. chemist, a Ph.D. chemical engineer, and an electrical engineer. "We discussed the shelf life of epoxies, how to alter viscosities, wiring airplanes and other fascinating subjects."

We asked Puffer for a picture of the shop he had in Minnesota, but the builder begged off. "I would be very embarrassed to send you a photo of my shop because the truth is I don't have one. For 31 years we lived in a split-level house with a half basement and a tuck-under single-car garage. I have built the better part of four airplanes in this half basement and one-car garage." Now that he is in Mesa, Arizona, he plans to build his first shop.

Nat and Shirley have four children: two are doctors, one working at the Mayo Clinic; one is a dentist, and the youngest is in dental school.

Shirley is an accomplished artist; she works in watercolors, charcoal and pastels and there's an art studio for her in the new house. Nat told us his wife is not a rated pilot, but loves to fly as a passenger. "She is willing to fly straight and level, but she has no desire to do more than that. [However,] I am going to insist on her taking lessons when we are established in Mesa." □