

George Stage stands with his Long-EZ after receiving the airworthiness certificate this past November. George began building the plane in 1985.

# No Detail Too Small to Matter

Stage's Coach Long-EZ

BY STEVE ELLS

**GEORGE STAGE, EAA 245334**, was visibly nervous. "I hope it passes," George told another of the EAA Chapter 5 members who had gathered around to witness the momentous event. George believed that N946GS, his Long-EZ, was finally airworthy.

FAA inspectors David Lindsey (airworthiness) and John Drago (operations) had arrived at the EAA Chapter 5 hangar just after 6 p.m. on a cold November night. Fall was definitely in the air.

The FAA inspectors had driven to the Geauga County Airport (7G8)—located 35 miles east of Cleveland—to conduct the final inspection before presenting George with the airworthiness certificate for his Long-EZ. George had been building for 25 years. He needn't have worried. David had been watching the progress on *Stage's Coach* for years, and he knew George to be a builder who could be trusted to seek advice when he had questions, and cleave closely to tried and true building and modification schemes.

That's not to say that he hadn't tweaked the design a little since purchasing his plans in 1985. George chose to boost the power from the original 108 hp to 150 hp by installing a used Lycoming O-320-E2D he bought from Wentworth Aviation. He also chose to install downdraft engine cooling, a steel tube rollover bar, capacitance fuel quantity gauges, high performance rudders, a four-pipe stainless steel exhaust system, and a Roncz canard.

Drag reduction changes included installing main gear strut 4-to-1 aspect ratio shells, and then aligning the shells to zero-degree cruise

incidence; installing strake to fuselage fairings; reducing the lower cowl frontal area; and adding a nose strut cover door.

The inspection went smoothly, and by 8:20 George was at last holding the airworthiness certificate and operations specifications (ops specs) while standing in front of *Stage's Coach* for photos. He was smiling.

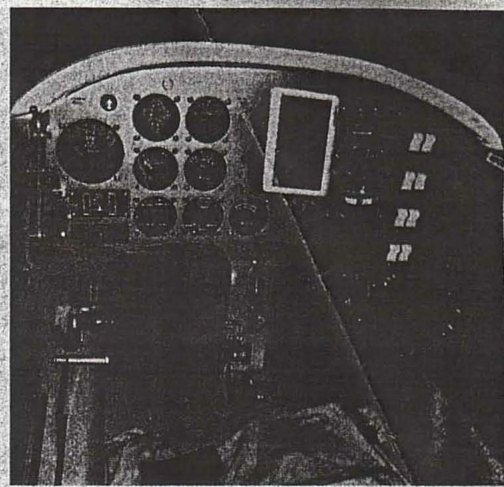
George first saw a flying example of a Rutan canard while attending a fly-in at Burke Lakefront Airport in the late 1970s.

"In those days the air shows were a lot freer than they are today, and there were three or four airplanes flying during the air show," George said. One was a VariEze. It caught George's attention.

According to George a friend who also got excited when seeing the Rutan canard that day said, "Let's build one." The friend never got involved, but George did.

"The more I get interested in the Long-EZ, the more help I got," George said. "Terry Schubert of Central States





**Left:** To reduce drag, George installed main gear strut 4-to-1 aspect ratio shells.

**Center:** George's son sits in the fuselage tub early in the building process. That son is now 28 years old!

**Above:** George modified his X Plane flight simulator so the instrument panel on his computer looks exactly like the one in his cockpit.

ation (CSA) is a super guy and was a p every step of the way. heard about the turnout (of canard-ured airplanes) Schubert got at the y-ins at Rough Rider State Park in cky, and that convinced me. I ordered uns and started building in 1985," e said.

#### IENT TO GARAGE TO HANGAR

ge, educated as an electrical engineer, know anything about composite on- ion at the start of the project. But he t daunted because he grew up in a fam- at tackled projects. "My family and s were all hands-on project-oriented," he said. Construction started in the nent of his home in Kirtland, Ohio. didn't build the airplane in order; I it as the space allowed," George said. i time to time George would recruit ons to carry parts up to the garage to k the fit of different components. e's a picture in his build log of son ge sitting in the tub, which is on a cou- f sawhorses in front of the garage. That s now 28 years old and working as a anical engineer.

When he needed more room he took off from building to turn his two-car ge into a build space. I added heat and a dehumidifier," ge said. One example of his resourceful- came when it was time to apply paint. George—a patient, data-driven, engineer—read a lot on painting.

When he felt he was ready he bought a age in a box," set it up, and added some s. He attended a painting seminar by Alexander of Alexander Aircraft oles, hoping to learn how to lay on a r smooth wet-look paint job. After a few —which didn't turn out well—George lled Ron saying to spray on a lot of paint

and finish it by sanding and rubbing it out. The flood and rub method resulted in a very smooth and true finish. The only accents are the N number on the outside of each winglet, a small stylized—and speedy-looking—stage coach on the left side of the fuselage below the pilot's seat, and the builder's name and residence on the left side of the engine cowl.

It took two years to finish the paint, noting that the ambient temperatures and local humidity dictated the schedule.

George completed the assembly and engine and propeller installation at the EAA Chapter 5 hangar at the Geauga County Airport.

George won't fly his Long-EZ until he feels he and the airplane are ready, but he has been practicing Long-EZ flying—on the X Plane flight simulator program on his computer. "Curt Boyll wrote a program for the Long-EZ on X Plane," he said. George, no stranger to software, said he wasn't satisfied with the program at first, but it's now more realistic. "I hacked the program so the instrument panel looks exactly like my instrument panel," George said. "I've been flying that for years."

Stage's Coach weighs in at 1,009 pounds empty. The avionics "suite" consists of a Microair T2000 transponder, a Flightline FL-760 comm, and a Vertex VXA-710 hand-held backup. "I'm going to add a data-logging engine monitor, but that's my only planned upgrade," George said.

George was asked where he planned to go on his first unrestricted cross-country flight after he flies off the mandatory hours in Phase 1. "I think I'll fly to Nemocolin," he said. Nemocolin is a woodlands resort in Farmington, Pennsylvania. There's a private airport (PA88) on-site. That's a very conservative goal since it's 121 nautical miles from 7G8 to Nemocolin. There's no doubt that George Stage will eventually venture far and wide in his Long-EZ, but for right now he's very happy with his achievement. George will probably have to wait until the snow melts and the days warm up before he actually logs stick time in his Long-EZ. Through the winter George will be spending time at the EAA Chapter 5 hangar fine-tuning this and that as he awaits the next stage of his airplane-building saga—the first flight. **EAA**

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