Lifelong Dream

Dave Thatcher's CX4 blends simplicity and performance

Over a 53-year span as an airplane mechanic and inspector, Dave Thatcher owned a few airplanes and rebuilt a few more. But that didn't begin to satisfy his aviation hunger. "I have been attracted to the beauty and graceful lines of airplanes since I was a boy," Dave says. "And it has been my lifelong dream to design and build my own airplane."

Dave's first complete design was a two-seat, tube-and-fabric taildragger with a low cantilever wing. He's sketched many others. But until now, he hadn't built any of them. "I have felt there was a need, and a market, for a good looking, good-performing, easy-to-build airplane," he says. He thinks the CX4 has achieved those goals.

The single-seat aluminum airplane has a maximum gross weight of 860 pounds, 340 of which is useful load. Dave calculates the maximum pilot weight is 230 pounds, and the baggage compartment is limited to 10 pounds. That means filling the 9-gallon fuel tank still keeps you under max gross.

Dave says he kept a few things in mind when he developed the design. He wanted it to be inexpensive and simple to build. He chose the 1700 cc VW engine because it doesn't require the airframe builder to do any machine work and it delivers decent power for the money. The fact that it's also smooth and reliable added to the appeal.

Cowling was made from wire cloth, which was then taped and fiberglassed.

"The airplane is quite simple and easy to make," Dave says. The main center section and wing spars are made first, and the wing attach points are drilled together to set the dihedral. The spars are then separated and the wings constructed. The completed wings then get attached to the center section spar, and the center section is built up to ensure the wings will fit the airframe. Then the wings are removed and the fuselage built around the center section. Dave says he was able to build the complete airplane by himself, except for a few operations that required another set of hands.

The bulk of the airplane is made of 6061-T6 aluminum, assembled on a 16-foot table with a steel edge that is used to make most of the bends. The cowling is formed of wire hardware cloth that is then fiberglassed. The wings are calculated to have a 5g load limit and have been tested to 3g's. To test the landing gear, Dave hoisted the airplane to 15 inches and dropped it without damage.

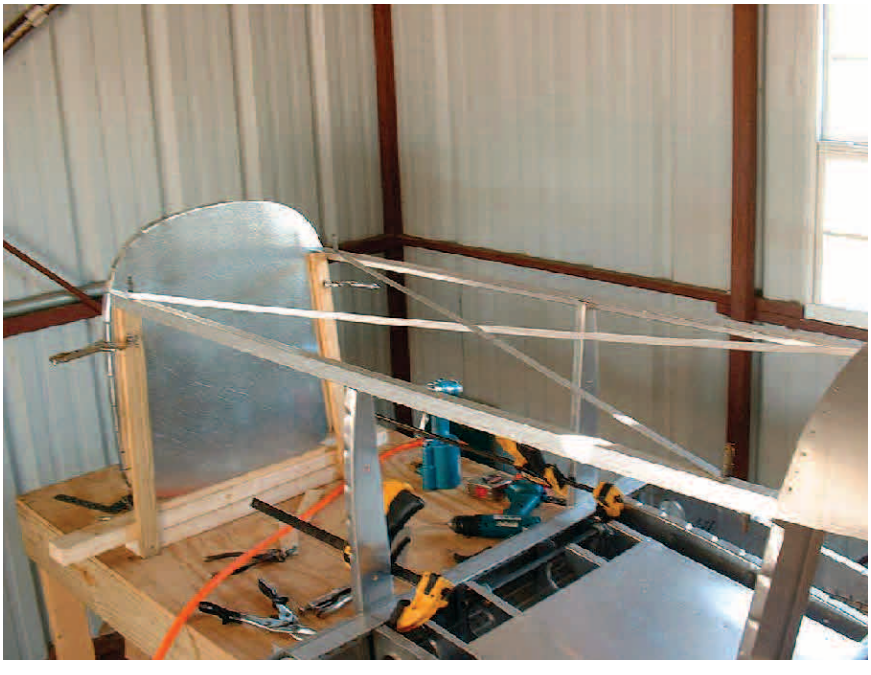
After a year of labor, Dave had completed N3058W in about 850 hours of labor and $8,600 in materials, including the engine. During the process, he ran into hitches getting the sliding canopy to work right and changed the brake design of the mechanical brakes three times before finally switching to hydraulic brakes. He also got assistance from EAA Technical Counselor John E. Stewart. After the first few test flights, he found the rudder was too sensitive, leading him to increase the size of the fin and decrease the rudder size.

When he was done, Dave found himself with an airplane that cruises at 125 mph and stalls at 40. The airplane climbs at about 825 fpm at 75 mph.

"The real delight is in how it feels," he says. "It is responsive, it is light on the controls, and it is stable. It's just fun to fly. It feels perfectly safe at all attitudes, and it lands smoothly."

Dave says he designed the airplane with the intent to fly it—and to sell the plans to other builders who want an airplane that's easy and cheap to build. He's gratified, he says, by the response others have had, but also by the satisfaction of having achieved a lifelong dream. Contact him at *ThatcherCX4@cox.net*.

"As I fly over Pensacola beach and look down at the people, I wonder if they have any idea how happy this 72-year-old man is to be flying his airplane, which has been so well accepted by all who have seen it."



Front fuselage is squared and ready for assembly. Firewall is at left.

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