



JEFF SKILES

COMMENTARY / CONTRAILS



A Carbon Cub SS in its natural environment.

The Ultimate Cub

Carbon Cub SS leads the crowd

BY JEFF SKILES

I HAVE NEVER FLOWN a Cub. Hard to imagine that this legendary aircraft and I have never crossed paths, but it is true, never a J-3, or J-4, not a J-5 Cruiser, never even a Super Cruiser or the ultimate variation of line, a Super Cub. I can identify them all from a distance, I know every model to have sprung from the original common ancestry, but I have never had the experience of flight in a high-wing taildragger manufactured by Mr. Piper.

I have some time in a CUBy as I wrote about last month, a plans-built, sort-of Cub replica. People tell me the CUBy is only marginally representative of the Piper line, but it is the sum total of my experience with the breed.

Cubs seem to make people wax nostalgic about a summer's eve with the sun low in the sky. Green pastures sliding below at a pedestrian speed. The smell of hot oil and the open door displaying a world that seems almost touchable from above. Maybe that's the great secret of the Cub, that wonderful portal allowing one an almost tactile feel of the landscape passing below.

BUGS IN YOUR TEETH

Open-cockpit biplanes have a different feel than the Cub, although I also have only limited experience with those. Most open-cockpit fliers seem to stride toward their steeds berobed in much open-cockpit flier regalia, including leather jackets, helmets, goggles, and scarves. It would seem that to fly with the wind in your face requires prodigious protective equipment.

The one photo that I have of myself in the front cockpit of a Pietenpol is positively scary. Goggles make my eyes resemble the multi-faceted countenance of an insect, what few hairs I have left are madly trailing horizontal in the slipstream, my increasingly wrinkled and flaccid skin is contorted

into what looks like a Mayan mask of death, sort of an aeronautical version of *Mr. Toad's Wild Ride*. It doesn't look as if I'm having fun at all. Maybe I'm just thinking of the upcoming extraction process from this ever so tiny cockpit, every move, step, and handhold must be carefully coached by the builder to keep both the structure and the passenger intact after its accomplishment.

The Cub, however, with that wonderful two-piece door open in the breeze allows you just enough of communing with the natural elements to satisfy your need for adventure, yet you can fly in street clothes. Barnstorming for the aesthete, a step in the right direction.

A CUB EXPLOSION

Certainly the appeal of the J-3 Cub cannot be denied. In fact with the modern-day resurgence of Cubs, it's hard to imagine the day ever came when Piper chose to cease production. It would seem it had a gold mine that would never end, but obviously thinking was different back then and pilot's fancies were enticed by new shiny metal airplanes like Bonanzas and Navions, not out of place relics like the J-3. Even Piper had moved on to other designs, although it continued to build the Super Cub for a specialty market as late as the 1990s. In its 10-year production run ending in 1947 close to 20,000 of the little yellow J-3s passed through the doors of Piper's Lock Haven manufacturing facility, and Super Cub production added another 15,000 to the total.

TODAY'S CUB

The modern-day Cub resurgence began with experimental-built Cub plans being made available for almost-Cubs like the CUBy. Reverse engineering of the iconic Cub design was probably not difficult, and homebuilders embraced the challenge.

Then, a man known as the designer of the Christen Eagle, Frank Christensen, attempted to purchase the type certificate for the Cub but was rebuffed. So he went on to design what in some circles is thought of as a better Cub, the Aviat Husky.

Today a veritable cornucopia of Cub clones peppers the new and kit-built

landscape. You can select from Legend Cubs, Zlin Cubs, Javron Cubs, Backcountry Cubs, Dakota Cubs, and many more. Excuse me for omitting a few; there are so many who have taken up the Cub banner to produce fun to fly enchantment.

In fact the term Cub really doesn't refer to a specific aircraft anymore; now it points to an entire market sector, an industry. The granddaddy in the new Cub market is CubCrafters. It produces as many new Cubs in a year as all the others combined. When I decided to investigate the Cub craze and add to the lone CUBy notation in my logbook I went right to the top, the CubCrafters Carbon Cub SS.

Like an oak growing skyward the original roots of the Piper Cub have spawned an almost infinite universe of variants with Piper and other manufacturers expanding on the original form. No other aircraft has brought about such mimicry, such legend, and such devotion.

CARBON CUB SS

CubCrafters produces certified Cubs, LSA Cubs, and amateur-built kit Cubs, and within that lays the secret of how the company has created a performance backcountry aircraft with its unique approach to addressing the light-sport aircraft rulebook.

While CubCrafters produces three different basic aircraft, they really make only two airframes, the Top Cub airframe and the airframe used for the Carbon Cub SS, the Sport Cub S2, and the kit-built E-AB Cub. Like many LSA manufacturers that produce a product for both LSA and experimental markets, the difference in the LSA version is artificial. While regulations limit the LSA gross weight to the magical 1,320 pounds, the very same airframe is structurally tested to 1,865 pounds in the E-AB kit version.

Even more innovative is CubCrafters' treatment of the powerplant up front. The Carbon Cub SS is pulled through the air by a specially designed CC340 180-hp engine. That 180 hp is only allowed for takeoff, and for five minutes thereafter, then the throttle must be pulled way back to approximate an 80-hp cruise. There's a little chart conveniently placed next to the throttle to help you accomplish this.

All that available takeoff power makes the Carbon Cub a short-field champ, but with a 932-pound empty weight...well, you can do the math as well as I. The Carbon Cub SS can carry two medium-sized American adults and no gas, a medium and a small person with some gas, or one person, large, medium, or small, take your pick, and full tanks.

The Carbon Cub also occupies the top end of the price range for Cub clones. This is due to the high quality of the components and CNC manufactured parts. A bedecked Carbon Cub SS can approach \$200K, hardly the \$50K price envisioned 10 years ago when the LSA rules were first adopted. But then again, the Carbon Cub is not your grandfather's LSA either.

The Carbon Cub occupies a niche market among backcountry flying enthusiasts. Where a J-3 might be at home on a luxuriant expanse of grass, a Carbon Cub craves a gravel bar or a desert mesa. Watch on YouTube where the STOL videos are usually either of a Carbon Cub or a Maule. The airplane is capable of amazing things.

FLYING A MODERN CUB

I headed down to the CubCrafters booth at AirVenture this year and signed up for a test flight. Many manufacturers fly demo flights right out of Wittman field, but CubCrafters has secured access to a grass runway on the north side of Oshkosh. Where else would you fly a Cub but off grass? For this test flight I flew with Randy Lervold, general manager of CubCrafters.

CubCrafters made half a dozen Carbon Cubs available for the test flights, all in the beautiful, multi-hued paint that CubCrafters is known for. CubCrafters could have shot a promotional video right

Millennium Cylinders®

THE NUMBER ONE AFTERMARKET CYLINDER IN THE WORLD.

10 REASONS WHY

more aircraft owners put their trust
in our cylinders.



- 1 ADVANCED ALUMINUM ALLOY HEADS
- 2 INCREASED PORT WALL THICKNESS
- 3 COMPUTER-GENERATED HEAD FIN CONFIGURATION
- 4 IMPROVED COOLING
- 5 VERY HIGH QUALITY CASTING
- 6 THROUGH HARDENED STEEL BARRELS
- 7 AMS6382 STEEL BARRELS
- 8 ADVANCED CYLINDER BARREL CHOKE
- 9 VOLUMETRICALLY MATCHED PORTS
- 10 THEY'RE IN-STOCK AND READY FOR DELIVERY FROM YOUR NEAREST DISTRIBUTOR

For more information about Millennium Cylinders, please contact an authorized distributor. For a complete list, visit our website or call:

+1.800.277.5168 or +1.972.829.4600

SUPERIOR
AIR PARTS

superiorairparts.com

Millennium Cylinders is a registered trademark of Superior Air Parts, Inc.

JEFF SKILES

there with all the colors of the rainbow displayed against a backdrop of rich green grass. For our flight Randy selected a white and silver Cub on 26-inch Alaskan Bushwheels.

The Carbon Cub SS is not a Cub-clone, but rather a clean sheet design that only resembles the Cub line. The Carbon Cub SS has half the parts count of a Super Cub and weighs 300 pounds less. Weight reduction was a key design criterion for CubCrafters, nothing was left untouched in the effort to lighten the load. Today an aircraft structure can be designed stronger and lighter than in the Super Cub's time. The engine is designed to be lighter, and even the paint scheme is crafted to save weight.

Climbing in is much easier, and once ensconced in the front seat the additional room is evident; the cabin is 4 inches wider than a standard Cub, and that wonderful door is 50 percent larger as well. The left window opens too, and both windows and the door can be left open in flight, creating an almost open-cockpit feel.

The first thing that you notice inside is the quality of the components; this ain't the CUBy by any means. Also unlike the CUBy, the Carbon Cub SS has a large rear baggage area. You wouldn't be able to carry much more than a toothbrush and a change of clothes in most Cubs, but the Carbon Cub's baggage area makes my 185's look small.

Randy instructs me on his preferred takeoff technique. Select 20 degrees of flaps, hold the stick slightly aft of neutral, add power, and after a count of two we're in the air. Keep in mind that this is at gross weight.

As you might imagine with 180 hp pulling only 1,320 pounds, the climb-out is elevator like, CubCrafters advertises 2,100 fpm, and I can't argue their veracity. We make a quick turn to avoid flying over the prison north of the runway and head out over Lake Butte des Morts to the northwest.

A couple thousand feet comes quickly as we watch for all the other

Carbon Cubs inbound and outbound from the demo strip. After pushing the nose way over to level out, I consult the chart next to the throttle and bring the power back to 2150 rpm, 80 hp; remember, this is an LSA.

The visibility is incredible with the large side windows and low dash. Clearing airspace for steep turns is made easy because the roof is clear Plexiglas as well. The aircraft is quite maneuverable with light control forces.

Slow flight and stalls are Cub-like with the advertised stall speed of 32 mph. Yes, the Carbon Cub still uses mph, not knots. The Carbon Cub SS is quite controllable at its 55-mph approach speed. Wheel landings or full stall both bring the Carbon Cub to a stop in record short field distance for me.

The Carbon Cub's market is a pilot who is simply looking for adventure as the CubCrafters slogan *adventure included* would illustrate. CubCrafters doesn't sell an aircraft—it sells a lifestyle, and the Carbon Cub SS is the perfect machine to do so; it's a truly amazing aircraft. I could see where after five or 10 hours of landing practice anybody could be wowing us with their own YouTube videos.

In a flying world where pavement is the norm, a Carbon Cub SS can transport you to off-airport experiences beyond your imagination, a portal to a new experience.

Like an oak growing skyward, the original roots of the Piper Cub have spawned an almost infinite universe of variants with Piper and other manufacturers expanding on the original form. No other aircraft has brought about such mimicry, such legend, and such devotion. The Taylor E-2 Cub first appeared in 1930, and here 84 years later Cubs are still the choice of pilots today! **EAA**

Jeff Skiles, EAA Lifetime 336120, is an ATP and CFII-ME who has been flying as an airline and light airplane pilot for 38 years. He has owned a Cessna 140 and a Waco YOC and currently flies a Cessna 185. Jeff can be reached at JeffreyBSkiles@gmail.com.