



BORN AGAIN

AIRBATIC REROLPXE

Taildragging, axis-twisting fun

BY ALTON K. MARSH

Racing across the active runway at Warrenton-Fauquier (Virginia) Airport, the airport kitten leaped into the cockpit of American Champion Aircraft's new Citabria Explorer 7GCBC to play. Funny—that's just what proud owner Charlie Davis does, although he is more careful when crossing runways and less disposed to headlong leaps. Rolls are okay, though—and loops. In fact, the Citabria is approved for 10 aerobatic maneuvers. ■ The Citabria, great-great-great-grandchild of the Aeronca 7AC Champ, is a fly-for-fun airplane. Not to mention a "what the heck, let's roll it" airplane. Take a scenic flight to a favorite restaurant with a "greenhouse" view from the front cockpit (especially if it has the \$500 sun-

PHOTOGRAPHY BY MIKE FIZER



roof option), and have an aileron roll along the way as an appetizer. The factory calls it a "Champ on steroids with flaps." (And in case you have forgotten where the name Citabria came from, spell our headline backward.)

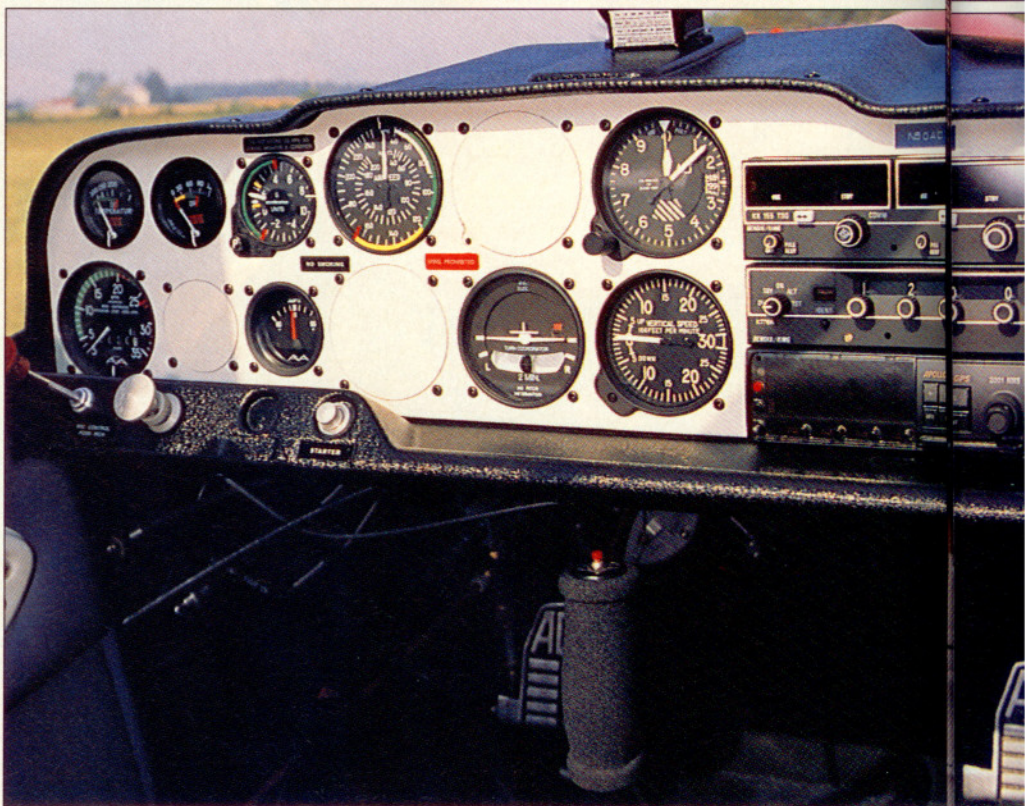
American Champion President Jerry Mehlhaff is banking on the Explorer being much more than a fun machine, of course. Intended as a lower-priced competitor to the Piper Super Cub, Mehlhaff sees it as a utility aircraft, whether it be on floats or skis, and as a glider tug aircraft.

There were 1,214 Citabria 7GCBC aircraft produced before Bellanca Aircraft Corporation ceased production. The first Citabria came off the line in 1964 at Champion Aircraft in Oseola,

■
*The Citabria is
a fly-for-fun,
"what the heck,
let's roll it"
airplane.*

Wisconsin, a company that was later bought by Bellanca. Eventually, the Citabria line expanded to four models. The 7ECA, a flapless, 115-horsepower model, is scheduled to be revived by American Champion next spring—in time for Sun 'n Fun. The 7GCAA was basically the same as the 7ECA, but with a 150-hp engine. American Champion expects to begin building the 7GCAA in a year, but with a 160-hp engine. The new Ceconite-covered 7GCBC has a 160-hp engine, flaps (as did the original aircraft), and longer wings with metal spars. Owners of older 7GCBC aircraft may purchase the metalized wings for \$12,000, increasing the aircraft's maximum gross weight from 1,650 pounds to 1,800 pounds. Older Citabria 7GCBC aircraft produced in the 1960s and 1970s had wood spars that are prone to cracking. In addition, metal ribs were nailed to spars, but the nails would pull out. Further improvements to the 7GCBC include use of the heftier front wing strut from a Decathlon, which is attached to the wing with a beefed-up end fitting.

The fourth model, the 7KCAB, was basically a 7GCAA with an inverted fuel and oil system, but will not be





revived by American Champion. That model was abandoned by aerobatic enthusiasts in favor of the Champion Decathlon 8KCAB because of its better inverted flight performance.

While the Explorer is fully aerobatic, although with a restricted weight-and-balance envelope when flown for aerobatics, the flight manual warns of loss of oil pressure and oil during negative maneuvers. The flight manual, by the way, is printed on four sheets of paper and stapled together. (The Citabria was certified under older CAR 4a regulations, when a more extensive flight manual was not required.) The 180-hp Decathlon, already in production at American Champion, is the company's biggest seller—accounting

■

When it comes to taildraggers, the Citabria is as tame as the airport kitten.

for 16 of the 18 sales made so far this year (see "The New Champion," October 1991 *Pilot*).

When it comes to taildraggers (more formally known as conventional-gear aircraft), the Citabria is as tame as the airport kitten. Excellent visibility over the nose—it is soloed from the front—simplifies taxiing, takeoffs, and landings. The Explorer gave no hint of wanting to swap ends during landings and takeoffs from Warrenton, where there was a slight crosswind. Like the original, it can handle a hefty 17-knot crosswind.

The sporty red, white, and blue urethane paint scheme of N50AC, the company prototype aircraft bought by Davis, signals fun even while sitting on the ramp. Because it was a prototype, there are extra electrical leads tied off in a bundle near the oil filler port that once fed operating temperatures to a thermocouple and meter in the back seat. Testing required recording even the operating temperatures of the magnetos while in flight.

Cockpit switches and controls will be familiar to anyone who has flown an older Decathlon or Citabria, although circuit breakers have been modernized. The magneto, master,

Somehow a grass runway and a Citabria just go together. Both mean fun flying. Superb over-the-nose visibility means no S-turning during taxi. Davis has equipped his panel with a GPS receiver.



and other switches are, like the older models, rather inconveniently located behind the pilot's left shoulder. Operating them while strapped into a parachute and with the front cockpit's five-point harness hooked up requires more than a few grunts. It's easier from the back seat, but that's not where you solo this aircraft. The trim control, same as that used on earlier Citabrias and Decathlons, is a sliding knob, much like the throttle, that is fast and simple to operate.

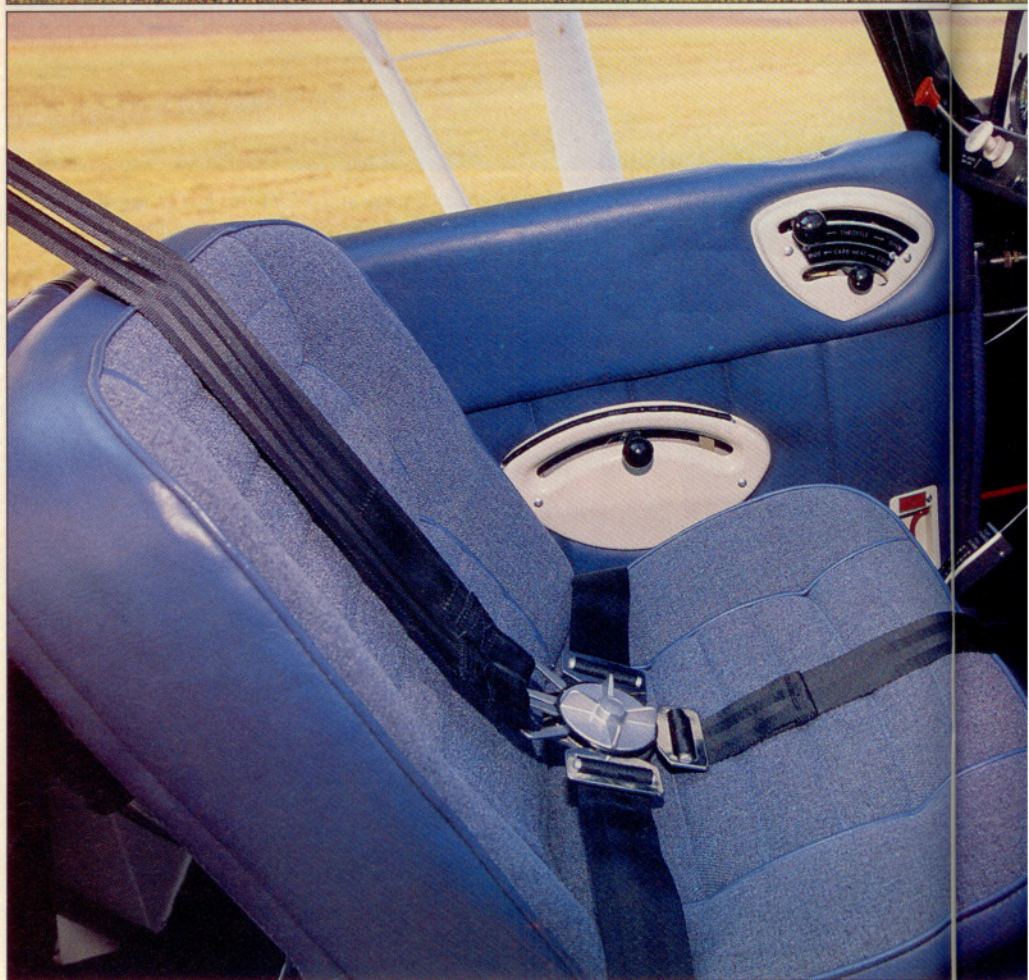
Spend a few seconds savoring the new-airplane smell (the aircraft had only 32 hours on it), punch the shiny electric starter button while holding the toe brakes, and it's time to fly.

Davis elected to have instructor

■
***Using the Explorer
to give tailwheel
transition training to
a nosewheel pilot is
almost cheating.***

Chuck Davis, no relation, ride along on the demonstration flight, because the instructor was more familiar with landings and takeoffs from the rear seat. With less than half tanks, we were still right at the new, higher gross weight of 1,800 pounds. Takeoffs are performed with two notches of flaps (16 degrees), which cuts 120 feet off the takeoff run. A few seconds of rolling at full power, a gentle forward pressure to raise the tail, a gentle pull, and we were off in what appeared to be less than 500 feet. Tracking the runway centerline required little effort. Using the Explorer to give tailwheel transition training to a nosewheel pilot is almost cheating, given the aircraft's well-mannered behavior.

The Explorer is equally docile during stalls, proving its value as a trainer. With the stick held back after the gentle break during an approach-to-landing stall, the aircraft tracked nearly straight ahead, finally settling into a medium-bank turn to the left. Slow flight was performed at 35 to 40 knots with flaps down. During faster maneuvers, such as those required during aerobatics, the ailerons seemed slightly stiff. American Champion Vice President for Engineering Jerry Mehlhaff,





Jr., son of the president, admitted the ailerons in the original design have a “high hinge moment.” Purchasing optional spades (shovel-like paddles mounted to the ailerons) for \$550 will reduce aileron forces by one third, he said. Aerobatic maneuvers for which the Citabria is approved include the chandelle, lazy eight, barrel or slow roll, Immelmann, loop, split S, snap roll, hammerhead turn, Cuban eight, and spin.

The flaps offer an impressive six positions, as did the flaps in the original 7GCBC, but all positions add more lift than drag, Mehlhaff, Jr. said, making them ineffective in controlling the descent during a landing. Additionally, the positioning of the flap handle

■

Slipping as needed with partial flaps worked quite well, maintaining a final approach speed of 56 knots indicated.



Anyone familiar with a Decathlon will feel at home in the Explorer cockpit. The upper left panel switches are difficult to reach from the pilot's front seat. A fully opening left window keeps the cockpit cool on the ground.



offers little leverage advantage. The last two positions, 27 degrees and 35 degrees, are a tough pull.

Each of three approaches required a forward slip because the flaps were of little help. Instructor Davis said the aircraft requires a long, flat approach, but that was inhibited somewhat at Warrenton by trees off the approach end. Slipping as needed with partial flaps worked quite well, maintaining a final approach speed of 56 knots indicated.

Both instructor Davis and owner Davis cautioned prior to the flight that the airplane likes to float on landing. Increased wing rigidity is to blame for the float, Mehlhaff, Jr. said. The wing, downsized from a Champion Scout, was intentionally made more rigid to improve lift and roll rate. It offers the added advantage of increasing wing strength. “It reduces a lot of problems,” Mehlhaff, Jr. said. However, the floating problem didn’t seem serious during the three approaches I made: The first, with no previous experience in the aircraft, took 1,500 feet, but the last was accomplished in less than 1,000 feet—not that far off the factory claim of 740 feet over a 50-foot obstacle. Further practice would reduce the



Steep banks prove the Citabria is a fly-for-fun airplane. The weight and balance envelope is restricted for aerobatic flight.



landing distance still farther.

One point did seem worrisome, however. To aid in getting down, it is recommended that power be reduced to idle opposite the point of intended touchdown. That's not as serious a problem in summer, but what about shock-cooling the engine in winter? Owner Davis plans to carry a little power to touchdown in winter but may need to develop new techniques

to get the aircraft down such as starting the forward slip during base or even on downwind. The Explorer really does like to fly.

This particular Explorer is equipped with a radio, transponder with encoder, intercom, and even a II Morrow GPS.

Overall, the aircraft delivers what it promises: fun. I asked Charlie if I could come back—just to play. □

Citabria Explorer 7GCBC

Base price: \$58,900

Price as tested: \$72,475

Specifications

Powerplant	Textron Lycoming O-320-B2B, 160 hp at 2,700 rpm
Recommended TBO	2,000 hr
Propeller	Sensenich 74DM6S8-1, 73-in dia, 56-pitch climb prop
Length	22.1 ft
Wingspan	34.5 ft
Seats	Two, tandem
Cabin width	28 in
Empty weight	1,250 lb
Gross weight	1,800 lb
Useful load	550 lb
Payload with full fuel	340 lb
Fuel capacity	36 gal (35 gal usable)
Oil capacity	8 qt
Baggage capacity	100 lb
Wheelbase	6.5 ft
Max G loading	+5/-2

Performance

Takeoff distance, ground roll, 16-degree flap setting	412 ft
--	--------

Takeoff distance over 50-ft obstacle, 16-degree flap setting	656 ft
Max demonstrated crosswind component	17 kt
Rate of climb, sea level	1,130 fpm
Cruise speed/endurance w/45-min rsv @ 75% power	110 to 112 kt/3.3 hr
Service ceiling	16,000 ft (estimated)
Landing distance over 50-ft obstacle	740 ft (estimated)
Landing distance, ground roll	360 ft (estimated)

Limiting and Recommended Airspeeds

V _X (best angle of climb)	61 KIAS
V _Y (best rate of climb)	68 KIAS
V _{NO} (max structural cruising)	104 KIAS
V _{S1} (stall, flaps up)	44 KIAS
V _{SO} (stall, flaps down)	41 KIAS

For more information, contact American Champion Aircraft, Post Office Box 37, 32032 Washington Avenue, Highway D, Rochester, Wisconsin 53167; telephone 800/223-9381 or 414/534-6315.

All specifications are based on manufacturer's calculations. All performance figures are based on standard day, standard atmosphere, sea level, gross weight conditions unless otherwise noted.