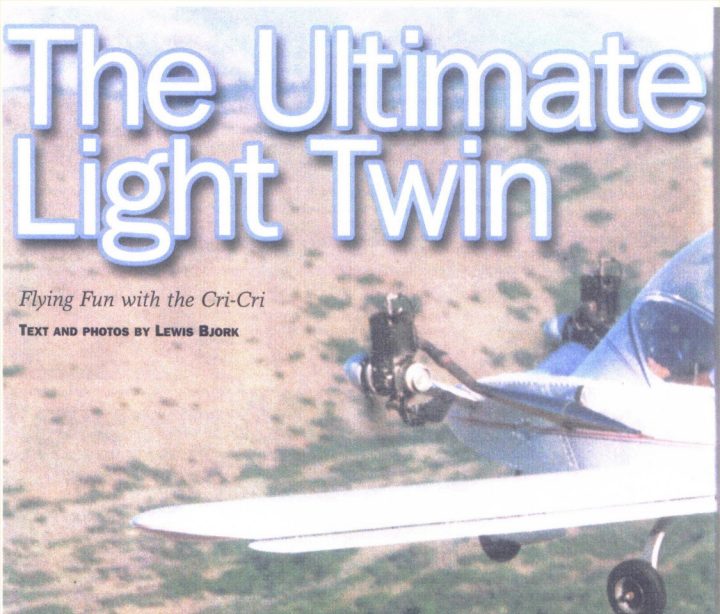
The Ultimate Light Twin

Flying Fun with the Cri-Cri

TEXT AND PHOTOS BY LEWIS BJORK



THE PROBLEM OF gaining multi-engine experience plagues nearly every budding pilot. Most of my colleagues simply borrowed the money. Although admittedly quick, the thought of starting a low-paying job with large, high-interest debt sent me down other paths.

I read much about a French design in the mid-1980s that made quite a sensation when it debuted in this country. Since then, I hadn't heard a thing about it until noticing an MC-15 Cri-Cri for sale in *Trade-a-Plane*. The ad began with "Cheap multi-time...," described the airplane, and ended with a price of $9,500. My curiosity peaked, I talked to its owner and learned that he used the airplane for the same purposes I had in mind, and that he wanted to sell the airplane because he had recently been hired by Ameriflight.

The promotional literature to sell the little plane described flight of a delightful nature. The controls perfectly harmonized and light as a feather, the Cri-Cri reacts to control inputs instantly, but in a perfectly controlled manner; it can span a hundred miles on mere teacups of fuel; visibility is perhaps the best of any airplane—a flying fishbowl; its engines are reliable and smooth.

Quest for Partners

Hoping to share the costs with a few interested partners, I presented the idea to my fellow CFIs. Multi-engine experience at $10/hour was very appealing until I showed them a picture of the airplane. It is only 12½ feet long, about the same as a compact car, and with a wingspan of just 16 feet, could easily taxi into the average two-car garage. Furthermore, despite its aluminum construction, it weighed much less than 200 pounds and

The first Cri-Cri owned by the author used the original JPX single-cylinder, two-stroke engines of about 15 horsepower each.

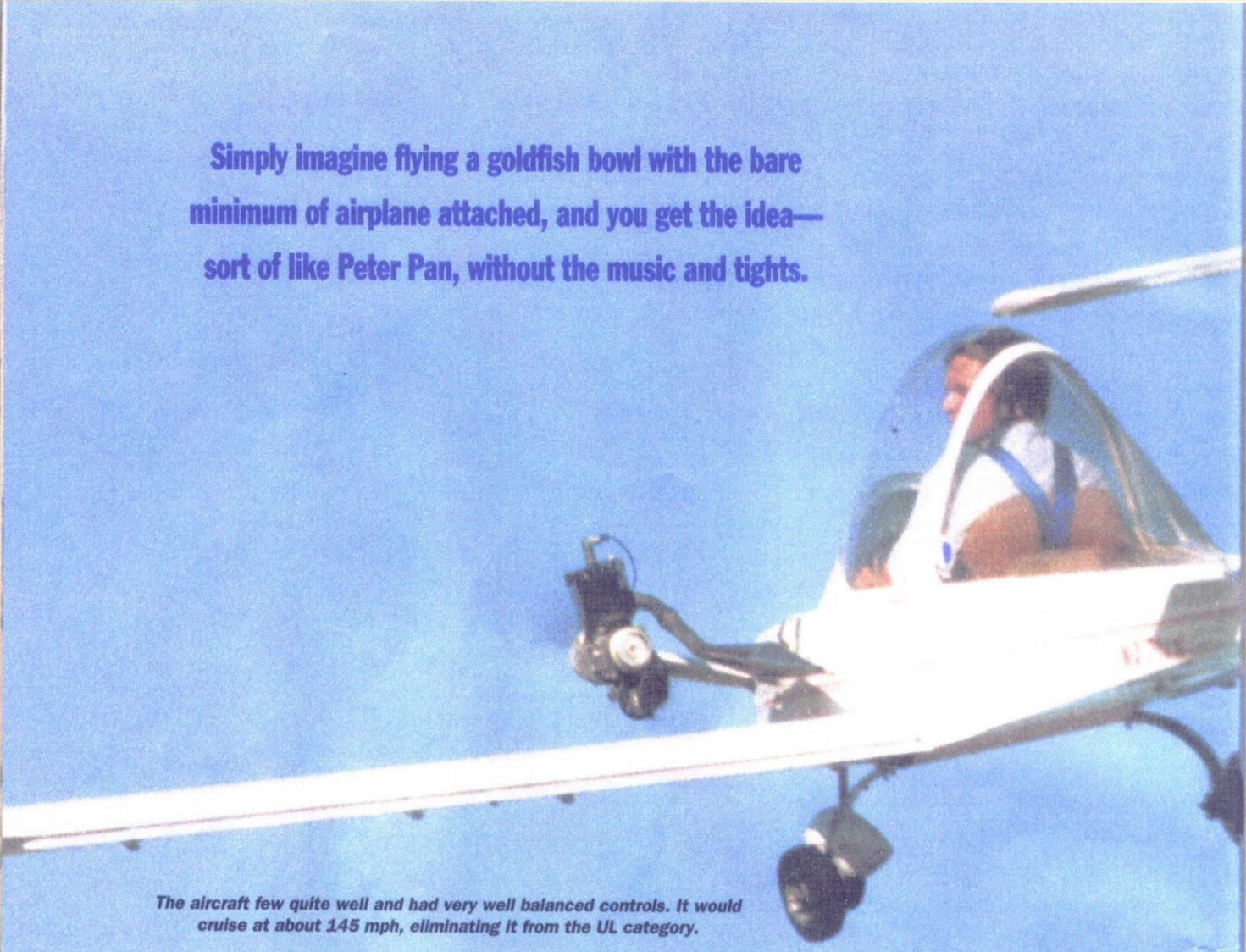
looked a little like a crash between George Jetson's space car and a kid's pedal plane. Every potential partner would invariably gawk for a minute and then leave, shaking his head. Eventually I did find two brave and willing partners. We bought the plane and the adventures began.

The Cri-Cri made its U.S. debut at Oshkosh in the early 1980s.

Preflight

Preflight is short and simple. There are no access panels to be removed. No oil to be checked. Simply make sure the wings are pinned in place, the flaperons well connected, check the engine mounts by physically moving the engines around, and look at the usual hinge points and mechanical equipment. Verify the tank is full (5 gallons, positioned under the

Simply imagine flying a goldfish bowl with the bare minimum of airplane attached, and you get the idea—sort of like Peter Pan, without the music and tights.



The aircraft few quite well and had very well balanced controls. It would cruise at about 145 mph, eliminating it from the UL category.

pilot's knees) and get ready to start. If using airport fuel, two-cycle oil goes directly in the tank—we then shake the plane to ensure a good mix.

Cover the carburetor intake with your hand and spin the propeller a couple of times to prime the engine. Reach into the cockpit—this could easily be done with one hand still on the engine—and flip the mag to on, wind the pull-rope around the magneto and pull firmly. The engine idles noisily and bounces a little in its mount as it sputters and pops very much like a large model airplane. We made mixture adjustments with a screwdriver on the carburetor until things sounded about right.

With both engines running, and standing in front of the wing, we could reach under the plane and pull the chocks. That's when the plane would roll forward into my shins, as though anxious to get going. Reach into the cockpit and grab the brake, which was a bicycle brake handle positioned on the stick. It pulled a cable that actuated a simple brake mechanism squeezing discs made from saw blades with their teeth removed. The brakes weren't particularly effective, in fact barely adequate to keep the airplane from rolling around while the pilot climbed in. The trickiest part was connecting seat belts with one hand continuously occupied on the stick.

After all of that, simply release the brake and go. The

The cockpit has all the engine and flight instruments needed for twin-engine VFR flight. Note the two throttles on the left and the twin-needle multi-engine gauges on the top.

attached, and you get the idea—sort of like Peter Pan, without the music and tights.

Pulling the canopy closed, things became remarkably noisy. I suppose the closeness of the Plexiglas® to my ears and the nearness of the engine exhaust contributed well to the overall effect of living inside a drum. If you put your head right next to your lawnmower exhaust, triple its rpm, multiply the noise by two, and put the whole thing, including yourself, inside a metal garbage can—that's how loud the Cri-Cri is. If not for earplugs and headphones together, your eyeballs shake to the point of losing focus.

Even wearing headphones could not reduce the high-frequency vibration that coursed through the airplane. It felt alive. Control response was lightning quick, fluid and smooth—perhaps the best, and certainly the lightest feeling airplane I have ever flown. Put this crazy sound, delicious visibility and fun handling into a single package, and it feels like riding the back of a living, breathing, overgrown insect. Incidentally, the name Cri-Cri, in French, means "cricket."

Flight by Insect

I spent a lot of time in the traffic pattern. Flybys looked super fast at 120 mph indicated—something to do with the small size—and the plane seemed to climb at a good angle, averaging 1000 fpm. Accordingly, we zipped around the pattern during one local fly-in to the

The side view shows the huge canopy needed to house a human-size pilot in a model airplane-size aircraft.

fuselage sides came up just above my hips as I sat in the cockpit. With the canopy open to the right, I could keep my elbows outside and feel the wind in my hair. The propeller blast moved along either side, bypassing the cockpit very comfortably.

I could see perhaps 20 to 30 degrees down over the nose. The engines popped and chortled in view at 11 and one o'clock. Visibility everywhere else, except for the wing, was completely unrestricted. Simply imagine flying a goldfish bowl with the bare minimum of airplane amazement of all observers—the little airplane wasn't exactly the ultralight everyone had come to expect.

Indeed not. The airplane debuted at Oshkosh in 1983, during the height of the ultralight movement. A French airshow team began their performance with a head-to-head inverted pass, and followed that with several minutes of mirror-image formation work that soon had everyone, even the skeptics, wondering what it would be like to fly around like that. Ultralight rules dictated empty weights and fuel capacity, which the Cri-

Cri met handily, but declared the airplane glaringly out of place in one aspect—it was way too fast. The French team actually set a world speed record for airplanes of its weight class—149 mph. Our airplane cruised about 120, but we had no maingear fairings, and left the engines completely uncowled.

It was sensitive to weight. At 6'2" and 200 lbs., my dimensions taxed the limits of the plane. I would keep the plane relatively high, and remain near the airport, or suitable landing terrain. When an engine quit, I could just maintain altitude with skillful handling and a little luck. The literature claimed these engines run reliably—I suppose that meant relative to the other airplane-adapted chainsaw motors in use at the time.

We constantly tweaked the engines. The first engine problems were miscarburation difficulties. I actually lost one just after pulling up on a low pass down the runway. The remaining engine at full throttle and a quick turnaround brought me back to land the opposite direction on the runway, pretty ticked that the engine would pick that moment to quit. In later flights, one engine or another would quit at every opportunity. We averaged an engine failure about every third flight.

Several hours into our experience with the airplane, another persistent problem emerged—the exhaust pipes kept falling off. This is a far bigger headache than you might think. Our engines only developed 12 horsepower by themselves, but 15 with the tuned exhaust—a 20 percent improvement. Every time a pipe came loose, there was a subsequent loss of power.

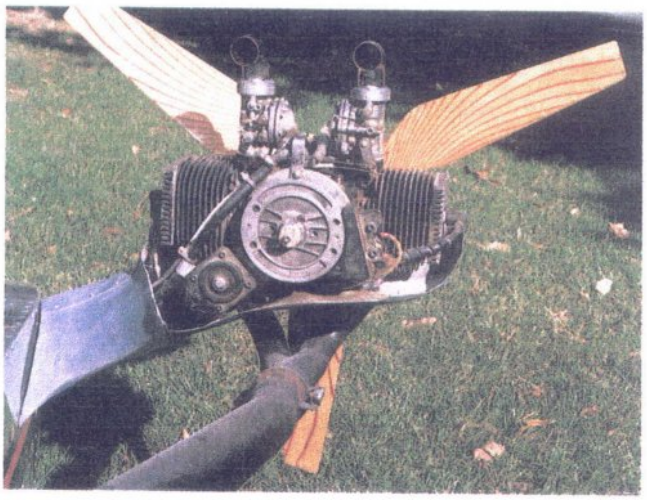
Engine-mount piano wire broke frequently as well, but remained easy and inexpensive to fix. We solved this problem by drilling out the wire mounts and replacing all mounting wire with some of larger diameter—we could get 10 or 15 flights between breaks after that.

Inspection Surprises

During one careful inspection, I pulled off the nose cone and several number 64 rubber bands fell on the floor, many of them broken. The wooden vibration dampener came out in pieces, too. We made a couple of new ones without much difficulty and bought bags of rubber bands. This became yet another system requiring frequent replacement.

From the engines back, the Cri-Cri offered no trouble at all. Everything worked beautifully. It is a marvel of creative engineering. The flaperons, for example, run the full span of the wing, suspended below and behind the trailing edge, Junkers style. The wing has no internal moving parts. When deflected downwards, aileron authority increases, with just the slightest amount of adverse yaw.

The second Cri-Cri had larger Limbach 275E engines capable of about 20 horsepower each.



The Limbach engines were developed for the Israel Air Force drone program and were reported to be more reliable than the JPX engines.

The actuator mechanism is an aluminum torque tube that lives below the pilot's knees, just under the seat. The pilot repositions a lever to one of several detents, thereby rotating the torque tube, which in turn moves both aileron bell cranks aft, extending the flaperons. A really nifty feature of this mechanical contrivance results from the aileron pushrod attachment location at the control stick—with the flaps extended, they interact with elevator movement and increase pitch response at low flight speeds.

Marketing the Cri-Cri

When Michael Colomban endeavored to market his clever design worldwide, a Canadian businessman stepped up for the business. This person was already a prolific designer of his own line of airplanes, and a Canadian with French sympathies, obtained the rights to market the newly christened Cricket in the United States. Development of a kit product to accompany superbly drawn plans soon followed.

Single-engine climb ability was governed on the weight of the pilot. A lightweight pilot actually could climb on one engine; a heavy one like the author had negative single-engine climb ability.

Unfortunately, the kit product diverged from the original design in a few critical areas, notably, the now infamous flaperon torque tube. The new company elected to replace the aluminum tube with a steel one of smaller diameter. The steel tube had some torsional flexibility that harmonized well with the flaperons themselves and a few crashes resulted from severe flutter problems.

One crash, in particular, killed an experienced airline pilot as he played with his new airplane in the traffic pattern near Colorado Springs. It seems the flutter in the flaperons shook the little airplane until the tail fell off—which, incidentally, was the point of another questionable modification. The pilot's widow sued everybody.

Pulled from the Western Market

Unaccustomed to the huge damages sought in U.S. lawsuits ($10,000,000) Mr. Colomban, whose relationship with the Canadian company had cooled considerably, pulled the airplane from all markets in the western hemisphere. The company was forbidden to sell kits for the Cri-Cri, and spare parts suddenly disappeared.

All of this boils down to a couple of gospel rules: First, the Cri-Cri is well designed as originally drawn (there are no cases of flutter among those flying in Europe) and is resistant to even small design changes. Last, if you find a Cricket kit in the United States, it's best to modify the parts until they conform exactly with the plans—and you are completely on your own in doing so. I tried to write Mr. Colomban a few times but could get no reply. Needless to say, we made our small changes to the airplane with great caution and respect for the original design intent.

This version also had wheelpants and electric starters. Its small size made storage in an occupied hangar easy.

Life After

Eventually, I did get the hours of multi-time required for an interview with an airline for a pilot position. I had instructed some 3,000 hours and flown a grand total of 200 hours in multi-engine airplanes, perhaps 120 of that in the Cri-Cri. Wanting to be up front about everything, I brought a picture of the airplane to the interview. The other pilots' eyes bulged a little, and they laughed. The picture was passed around the table, and they kidded each other about whether they could still fly something like that. There was a bit of head shaking, but nobody told me to go home. After the usual battery of tests and simulator evaluation, I got the job, sold the little airplane and moved on, but my adventures with the Cri-Cri have enriched my life in legendary fashion.