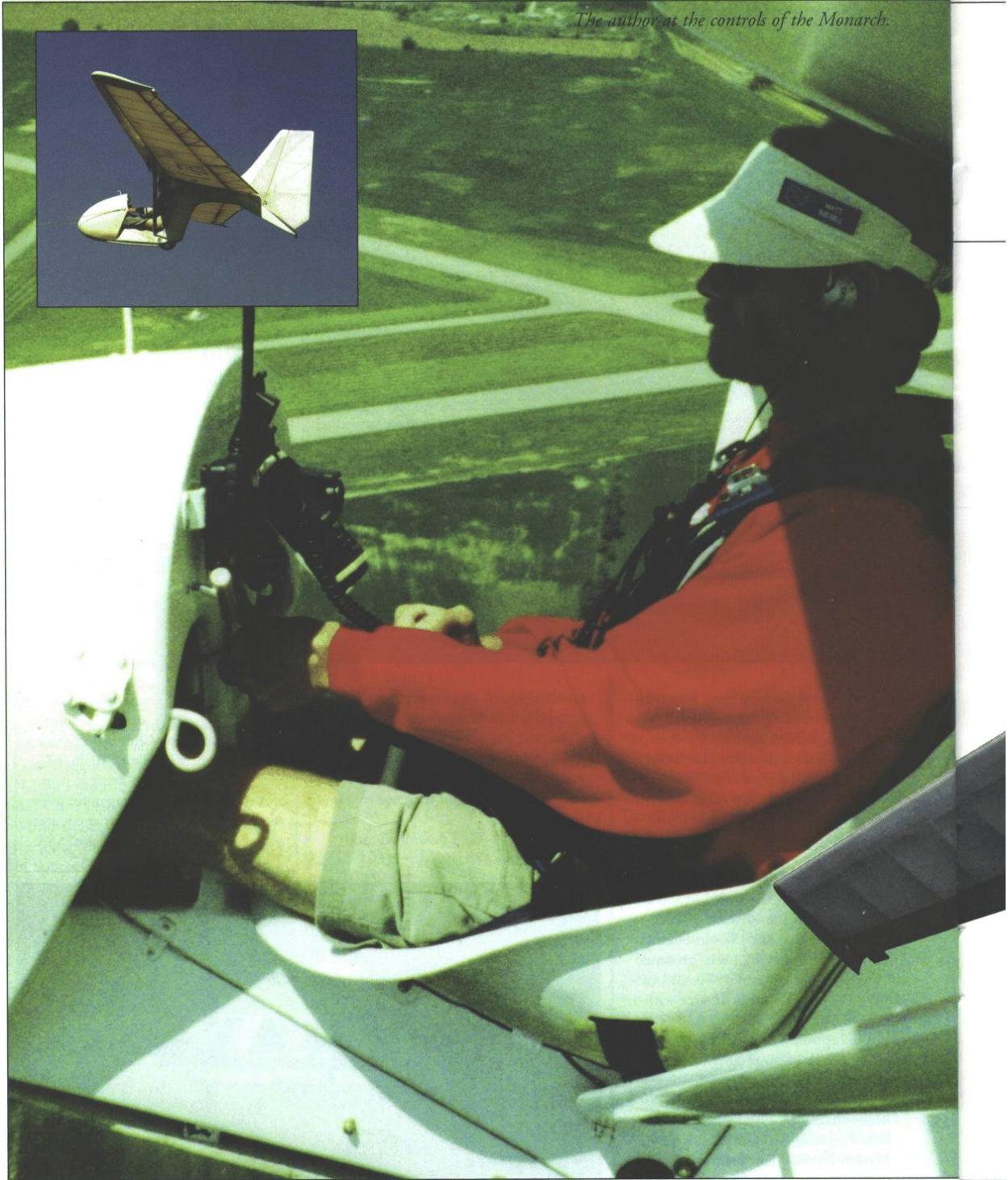


The author at the controls of the Monarch.



The Evening Thermal

Article and photos by Matthew Redsell

A flight in a Marske Monarch flying wing glider.

I was eager to fly that evening, but work lingered on until I finally could get away. It was after 5:30 pm in early May 2000. Shop workers were dispersing but I managed to snag Patrick to give me one tow before he left for home.

After outfitting the old Chevy Blazer with tension meter and radio, I hooked the Marske Monarch to the Blazer and towed it to the runway. The Monarch was ready in a hangar on its tow-out trailer so it was easy to attach it to the truck and drive off to the runway of choice. Winds had been light and variable all day, something unusual for Marion at this time of the year, so I decided to try runway 12, which

was handy.

Patrick and I unloaded the Monarch on the grass runway. He proceeded to pull out the 1000-ft 3/16" line we use for towing. Now the checklist... yes the electric vario was working, and my radio on... and a good set of warm gloves. I put on the parachute (this puts the rudder pedals within reach) checked the instruments, buckled my belts and tucked in the strap ends (an important final step in an open-cockpit glider - there is nothing more annoying than having the loose ends flap in the

breeze!). I then hooked up the tow bridle, easy on the Monarch since release hooks are on each side of the fuselage within easy reach of the seated pilot. We do not need a wing runner - the wing comes up within five feet.

Checking the windsock I realized the takeoff

would be slightly downwind, which limits altitude. I checked for traffic then radioed Patrick to start the tow. "Marion Traffic, glider Bravo Uniform departing runway one-two under auto tow".

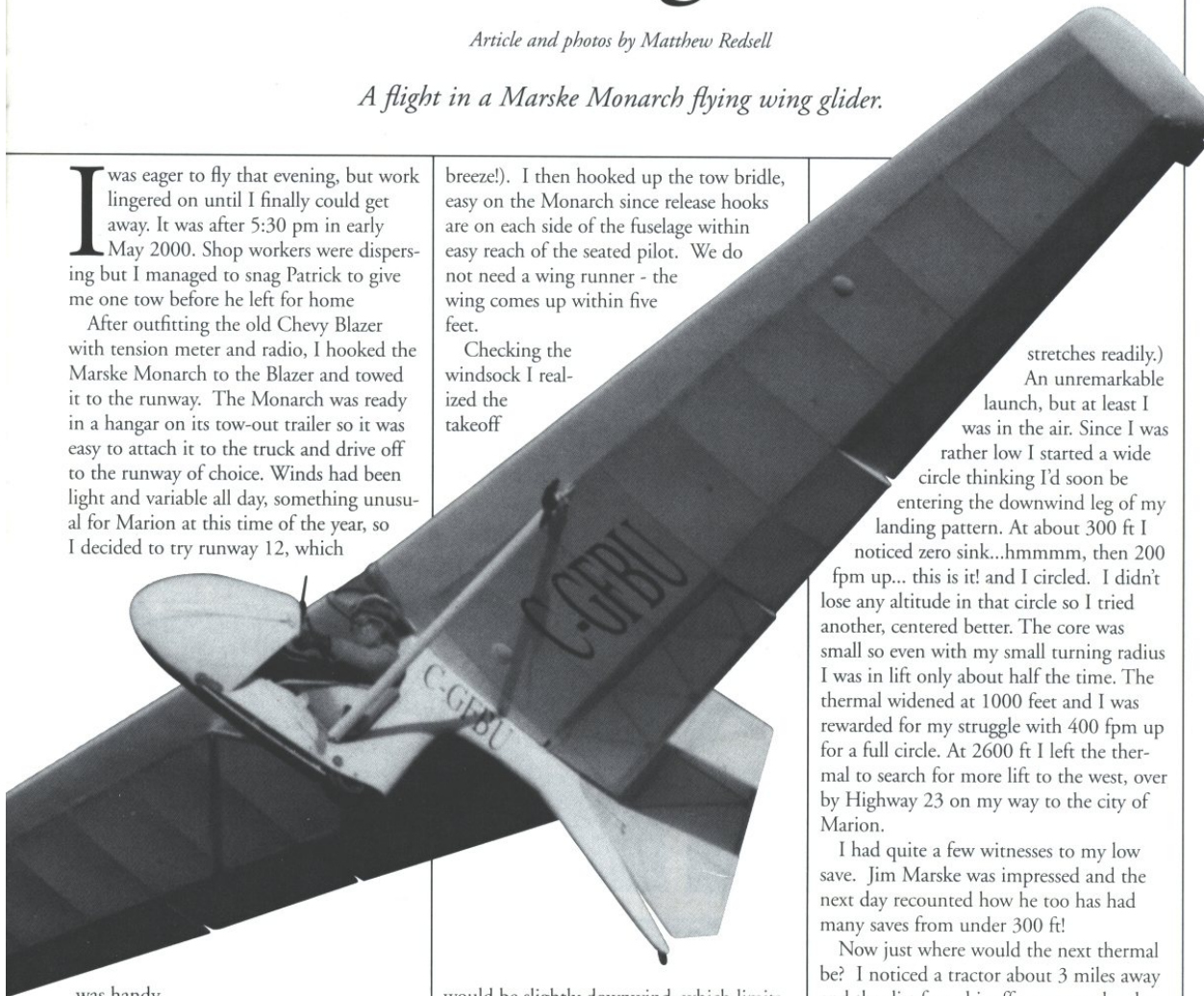
Sure feels like a low tow - the Blazer, which usually gets only to 20 mph, was having to hoof it down the runway at about 30 mph and my ascent was slower than usual. I pulled the stick all the way back and climbed to a disappointing 500 ft. Normally we get over 1000 ft from our 1000-ft rope. (A long, thin towrope

stretches readily.) An unremarkable launch, but at least I was in the air. Since I was rather low I started a wide circle thinking I'd soon be entering the downwind leg of my landing pattern. At about 300 ft I noticed zero sink...hmmmm, then 200 fpm up... this is it! and I circled. I didn't lose any altitude in that circle so I tried another, centered better. The core was small so even with my small turning radius I was in lift only about half the time. The thermal widened at 1000 feet and I was rewarded for my struggle with 400 fpm up for a full circle. At 2600 ft I left the thermal to search for more lift to the west, over by Highway 23 on my way to the city of Marion.

I had quite a few witnesses to my low save. Jim Marske was impressed and the next day recounted how he too has had many saves from under 300 ft!

Now just where would the next thermal be? I noticed a tractor about 3 miles away and the dirt from his efforts seemed to be going straight up... I'll try that. I put the nose of the glider down and picked up my speed to 35 kts... amazing - I was still in light lift... so I followed it out along a serpentine route roughly in the direction of that tractor. I encountered sink finally but pushed on. Suddenly the air felt warm... AHA!... I smelled barnyard and saw a few pieces of straw... then my nose dipped down and I'd found my next thermal.

In a flying wing you immediately notice a difference when encountering a thermal:



Unlike a tailed glider, the nose adjusts downward to meet the rising air, aligning itself with the air and reducing stress on the wings. It is confusing at first but makes perfect sense once understood.

I stayed in this good thermal until I reached 2800' agl, then set out to find another, following the little bands of lift radiating out of the last thermal. In certain areas I could find no lift and resorted to returning to lift encountered previously.

Each new thermal greeted me with the familiar warm air, then the smell and the bits of straw. Occasionally I had the ultimate sign of a thermal - the buzzards and hawks that sometimes are startled to find this large wing above them.

I ventured out 5 miles or so in my easy chair, finding thermals from 200 to 400 fpm. A clear view straight down is exhilarating.

Entering a thermal, there is much more variation in the yaw string than you'd see in a typical glider. You must interpret the

sometimes-abrupt yaw string changes to take advantage of the lift. A cross-controlled aircraft does not respond well to control inputs so keeping that yaw string under control is important in a low-wingloading glider.

From my easy chair at altitudes between 1000' and 2600' the countryside was a master's painting. I could see so clearly the houses, cars and animals and the sense of relaxation was palpable.

But all good things come to an end, and after an hour I elect to return to earth much refreshed. The landing is uneventful and I stretch out on the grass to describe one more special evening flight in my logbook.

FOR MORE INFORMATION

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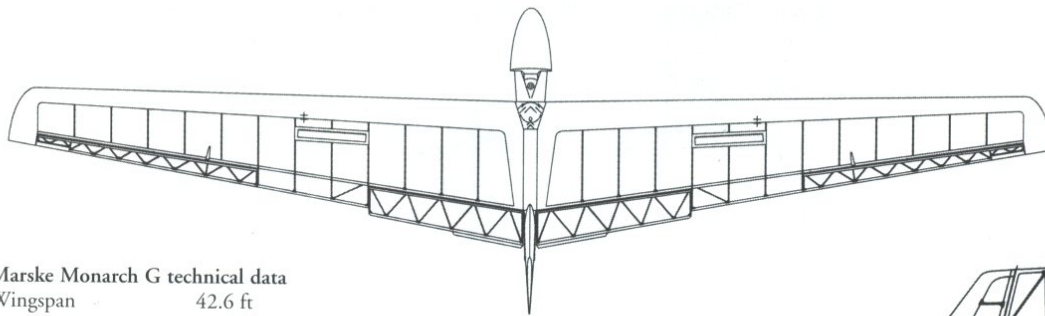
Website: www.continuo.com/marske



About the Author:

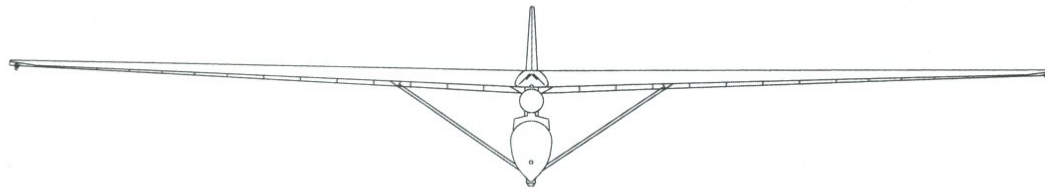
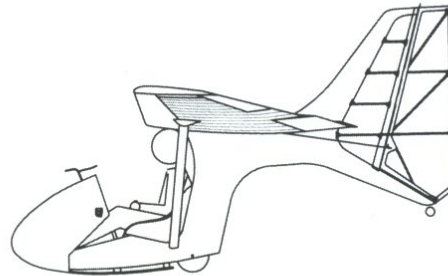
Mat Redsell is particularly interested in slow flight and microlift. To date he has constructed three gliders, with more in progress! Auto

towing is his preferred method of launch, especially at slow tow vehicle speeds and of course he is an avid fan of Jim Marske's flying wings. Currently he is a member of COSA a glider club situated at Marion, OH.



Marske Monarch G technical data

Wingspan	42.6 ft
Empty weight	180-200 lbs
Aspect ratio	11.1
Wing area	163 sq. ft
Pilot weight	120-220 lbs
Best glide	22:1 at 36 mph
Min sink	138 fpm at 30 mph
Speed range	25 to 70 mph





The long process of building.



Mat Redsell preparing for a flight.



Jim Marske with the new Monarch "G" after his first flight on it.



