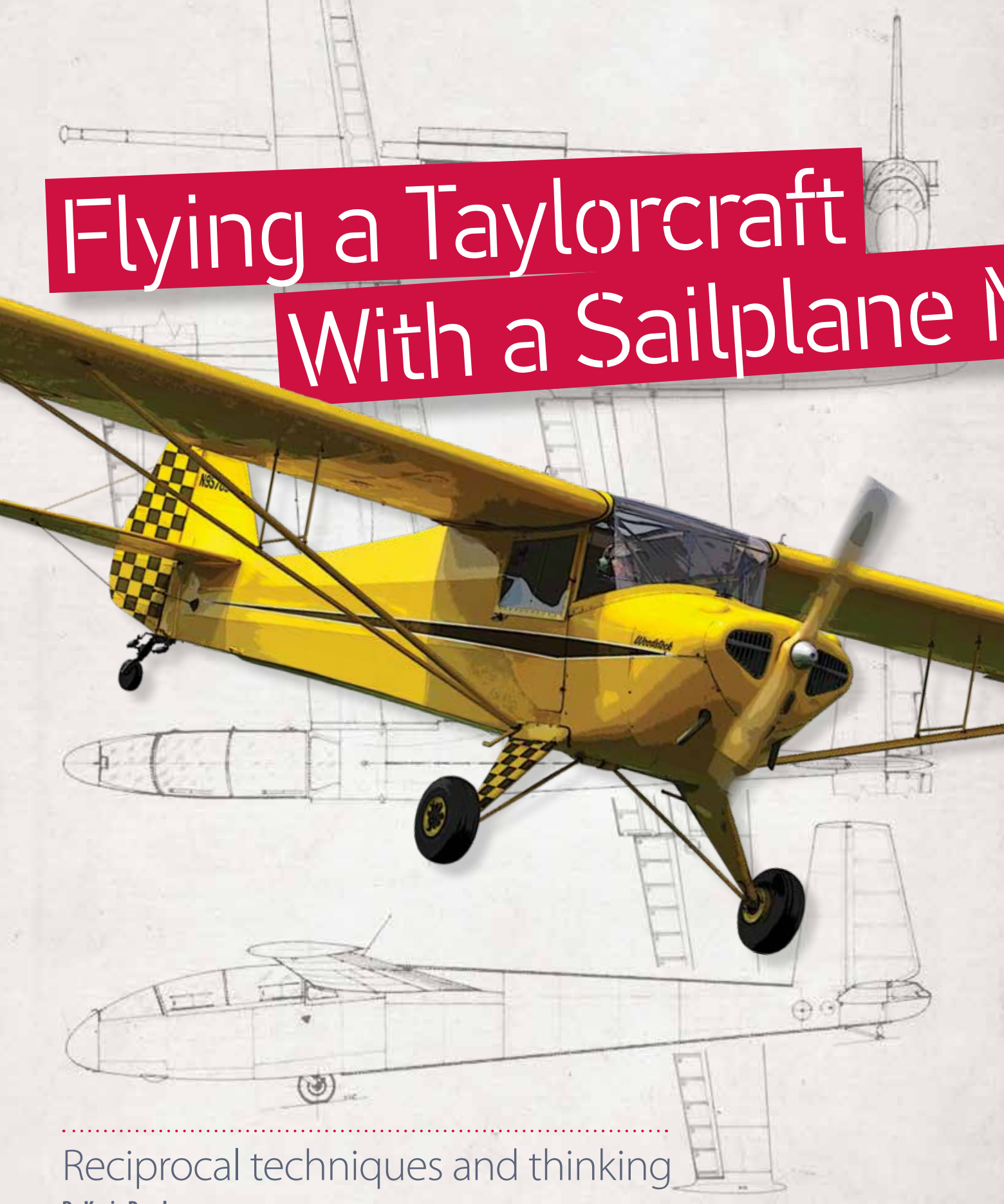
Flying a Taylorcraft With a Sailplane M



Reciprocal techniques and thinking

By Kevin Brooker

Mindset

Blaník L-13

My sailplane career was sandwiched between more intensive periods of power flying. My pilot path was foreshadowed by a first flight with a neighbor in his Cessna Skylane. We flew from Danbury, Connecticut (DXR), to Wurtsboro, New York (N82), to hike the nearby ridge and explore some old uranium and lead mines. Wurtsboro is also a well-known glider port.

Contrary to popular beliefs, a sailplane is not silent. It disturbs the air, which creates some noise. The older fiberglass ships from the '70s and early '80s tended to whistle and had a jet-like sound when passing by us hikers eating lunch sitting on the tailings piles of the mines. Bubble canopy, jet sounds, and the ability to fly solo at 14 years of age had this 11-year-old hooked.

Twenty-one years after this fateful introduction to sailplanes, my glider ticket was finally in hand. Prior to this, my flying was mostly done in a rented Piper Warrior or a friend's Cessna 172RG Cutlass. My wife and I flew all over the place, racking up hundreds of hours behind the iron thermal that pulled these airplanes into the sky.

We moved to Vermont and settled near the Post Mills Airport (2B9), which happened to have a glider club. By comparison to renting airplanes, flying gliders was inexpensive and something I'd always wanted to try. My instructor was Rick Sheppe, who designed one of the first GPS flight recorders used to verify a gliding performance. His co-worker, John Good, held several world distance records and was an avid contest pilot. My training was colored by the idea that gliders were meant to go cross-country, which is how my lessons were organized. We just flew tasks, and much of the learning was by doing. The glider flew in a similar manner to the airplanes I had time in.

The Czech-built, 1973 LET Blaník L-13 is a tandem-seat, all-aluminum, semi-monocoque fuselage glider with a forward-swept wing. Retractable gear, Fowler flaps, and spoilers on both the top and bottom of the wing completed the flight controls. The cockpit layout had familiar instruments minus the engine monitoring. This type was used by the Soviet air force as a primary trainer, and counting all variants, it is estimated there were between 2,600 and 3,000 made between 1958 and 1982. It is the most produced glider in the world.

Besides not having an engine, the L-13 had long tapered wings. At 52 feet, 2 inches, there was lots of adverse yaw to contend with. In the well-harmonized aircraft I was used to flying, adverse yaw was handled by engineering and not the pilot. Actively using the rudder to keep turns coordinated took a little getting used to.

Flying at bank angles of 45 degrees while circling in thermals at minimal sink speeds (just 5 mph above the stall) was a new experience. To counter the adverse yaw, it was not uncommon to fly with a lot of rudder in the direction of the turn while applying opposite aileron to keep the turn coordinated. Cross controlling to achieve coordinated flight in a glider is a normal and accepted procedure. The greater the wingspan, the greater the need to cross the controls to maintain coordinated flight.

One lesson took place in a J-3 Cub. We flew around looking at off-airport options. Rick rated each field like the movies. G was essentially an airport that had length, was flat, and had open approaches. PG was a bit shorter, maybe not as level, and with tighter approaches. Anyone should still be able to land there. R was not for everyone. Short, undulating, or an approach that will test all of your energy and flight-management skills. Do everything correctly and you'll get away with it. X was don't go in there; if you do, damage to both the glider and pilot will most likely happen.

The field selection lesson came in handy on my third solo flight when I landed in a farm field 5 miles from the home airport. After arriving with the trailer, Rick gave me a pat on the back for making a good field selection, a safe landing, and wished me many more land-outs. To date, there are 19 off-airport landings in my logbook.

Soon my logbook was filled with state records for speed and distance, a win in the sport class at the New England Gliding Championships, and earning a Symons Memorial pin using mountain wave for a flight above 25,000 feet (the actual altitude was 27,429 feet MSL). We traveled to central Pennsylvania to fly the Appalachian ridges. Using orographic lift to remain aloft and travel at triple digit speeds just above treetop level for hundreds of kilometers is a unique way to fly.

Life got in the way of living, and flying took a back seat to raising two children who spent many hours at the airport. We didn't fly too much, instead spending our days at soccer games, riding bicycles, and attending school plays. While I did miss aviating, there is no way I'd have traded those days for stick time.

Entering his junior year in high school, my son Nathan told me and his mom he was interested in aviation as a career. By chance or serendipity, a 1946 Taylorcraft BC-12D was for sale at Post Mills. We bought the ship intending for Nate to be able to build time and decide if aviation was truly something he wanted to pursue. It is, and he is currently earning ratings. Until he comes home to fly the T-craft, it is my moral obligation to fly the airplane to keep the cylinders lubed and exercise the airframe.

Sixty-five hp with 800 hours on the 43-year-old engine (it was replaced back in the '80s) put many of the skills used to fly gliders back into play. Here is how I've applied lessons learned flying gliders to flying a 78-year-old vintage airplane.

My faith in reliability of the mill to keep turning is high. Having confessed this faith, a big part of my outside-the-cockpit scan is looking for a place to land should the spinny thing up front stop spinning. This scan is not just seeing what's within gliding distance. What does the route ahead consist of, and should a deviation be taken?

Flying cross-country in a glider is about chasing the energy available in the sky. What a successful cross-country glider pilot quickly learns is a deviation costs almost nothing in terms of speed. Heading off course line 30 or 40 degrees to remain in the lift might cost several minutes. When there is an engine involved, the time cost of deviating is minimal. Upping the odds of a safe landing is a worthwhile expenditure if the flight path remains over a higher percentage of landable terrain. My flight routes are a bit circuitous to remain over the most survivable terrain as reasonably possible.

Checking the power curves for the Continental A65 engine and takeoff rpm (2200), the engine is making a maximum of 50 hp. With no thermal to add to the ascent rate, climb performance of 300-400 fpm makes me smile. Once out of the pattern environment, heading for the best-looking cumulus cloud hoping for a thermal is an efficient way to quickly attain the cruising altitude. The combination of engine and thermal lift has produced climbs in excess of 1,200 feet per minute. Not too shabby for 50 hp.

Thermals are not just for climbing. Running through a thermal at cruise speed might add several hundred feet of altitude, which is taken back as speed by pushing the nose over. Going through a bit of sink, and the next thermal can lift the aircraft back to the cruising altitude while maintaining cruise speed.

When the conditions are right, lines of cumulus clouds will form parallel with the wind. These "cloud streets" provide long stretches of rising air that can be used just like a single thermal. Cloud streets are most helpful maintaining or gaining speed when traveling upwind. When the cloud streets aren't aligned with the direction of travel, the streets can still be helpful by jumping to the next most parallel street closest to the course line.

The aforementioned activities directly use sailplane-specific skills and experiences. Other aspects of sailplane flight transfer to powered flight, and while not as practical, they are still relevant.

Depending upon the day, 40-60 percent of a glider flight might take place while circling in thermals. Flying just above the stall speed for a given bank angle, there are times when the airspeed drops just a little and the wing stalls. This is unplanned, and the pilot's attention is usually outside the cockpit looking for traffic and what the cloud looks like. These unintended and unexpected stalls with a steep bank (typically 40-60 degrees) become a bit routine, which makes the recovery rather routine, too. Sailplanes spend a huge amount of time flying in a realm most power pilots are not familiar with.

Flying cross-country in a sailplane makes the pilot cognizant of height above the ground. This awareness stems from the ever-present truth that an off-airport landing is always on the table. Without radar altimetry, having a relatively good idea of the aircraft height AGL helps keep a sailplane pilot safe. During an off-airport landing, the altimeter in the cockpit is pretty useless, and ground reference is key to a successful (able to do it again tomorrow) landing.

While it might seem a bit fatalistic, most sailplane training is preparing for emergencies. These are usually tow failures close to the ground. The takeoff sequence is broken down into several "what to do now …" sections. These are not just talked about or simulated at altitude. They are practiced first as a known entity and often as a surprise when the instructor pulls the release without warning.

Before initiating the tow, where is the wind coming from and which way will the

pilot turn if there is a failure high enough to get back to the runway? This is usually 200 feet AGL. Yes, the dreaded 180 impossible turn to return to the airport.

Problem when the glider has not yet left the ground? Flying with plenty of runway ahead? Flying and not enough runway to land straight ahead? This one is discussed since the reasoning is usually to land straight ahead and find a way to get on the ground and walk away even if it destroys the glider. Speaking of wrecking an aircraft ...

A competent and realistic instructor will spend time discussing how to safely crash a glider. It's an unpleasant conversation for sure. Occasionally a glider pilot finds themselves unable to climb over unlandable (do it again tomorrow) terrain. If the sailplane can't do it again tomorrow, the pilot and passenger should be able to.

Wires, and not just those strung between power poles, are a huge killer of glider pilots. Wire fences stretched across fields go right through the canopy and can severely injure or decapitate the pilot. Aim for the fence posts to hit with the nose of the glider. There is a good chance the post will break and push the wires down with the glider rolling over them. The glider will most likely be destroyed, and you might break a leg. These are good tradeoffs to keep your head on your shoulders.

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October 2024 was my 34th wedding anniversary. Jill and I loaded the T-craft with camping gear, flew to Wurtsboro, and celebrated the day by hiking up to the old mines. When the first glider went by, it was much quieter than the ships from decades ago. Even without the imagined sound of a jet engine, for a moment I was an 11-year-old boy again, with freshly ignited dreams of flying one of those magical aircraft.

Kevin Brooker began flying at age 11, and 45 years later he's still at it. He holds a private pilot certificate and glider rating and has about 900 hours of total time in a variety of aircraft. He currently lives in Vermont where he owns and flies a 1946 Taylorcraft BC-12D and is in the process of restoring a 1940 Stinson 10A. Brooker has begun working on his CFI-G.