



STEVE KROG

COMMENTARY / THE CLASSIC INSTRUCTOR



I Want to Be a Better Pilot

Relaxing on takeoffs and landings

BY STEVE KROG

I TOOK A CALL recently from a fellow pilot who had just acquired a tailwheel aircraft. He had earned his tailwheel endorsement but indicated he was not yet comfortable and confident when flying his new taildragger. We discussed his previous flight experience, which included a fair amount of time in light twin aircraft but very little in tailwheel planes.

We agreed to get together and scheduled some flight training. While preparing for the first flight, he asked that I treat him as a first-time tailwheel candidate and start at the very beginning, which we did. The first flight covered the usual basic maneuvers like steep turns, slow flight, and numerous power-on and power-off stalls in various configurations and attitudes. Then it was time to return to the airport and work on takeoffs and landings.

I could sense his apprehension settling in as we turned onto final approach for the first landing. Inputs became stiff and jerky. The landing was adequate in that it was safe, but it was far from smooth.

A tailwheel airplane requires the pilot's attention from the time the prop begins turning until the time when the prop is stopped in front of the hangar.

At the end of that first flight he commented that he felt he had learned more in that hour than in nearly all of his previous tailwheel instruction, even though we had yet to work in the pattern.



We continued working together for the next several days, and by the end of the week he was comfortably and safely doing three-point and wheel landings with and without a crosswind on both turf and hard-surface runways. Confidence was established. Before heading home, he commented that he no longer felt a pit in his stomach when faced with a crosswind landing, regardless of the type of runway.

COMMON MISTAKES AND BUILDING CONFIDENCE

What were some of the things we did to build confidence? First we established and reinforced the sight picture needed for taking off, performing maneuvers, and in the traffic pattern when landing. As mentioned in previous articles, forward visibility is nonexistent in many, but not all, tailwheel airplanes. It is important to develop and get comfortable employing a diagonal line of sight about 30 degrees left or right of the center of the engine cowling.

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Look just enough to either side so that your peripheral vision sees the side of the cowling. Then look forward diagonally about 200 feet (approximately two runway lights ahead). Your line of sight should intersect the runway edge at this point on a normal-width runway. Using this sight picture, your peripheral vision shows left or right movement for directional control, and when landing, the diagonal line of sight provides depth perception needed to level, flare, and smoothly control the airplane to the touchdown.

The second thing we worked on was getting the arm and leg muscles to relax. Relaxed muscles allow for smooth, fluid control inputs, while tight, tense muscles cause jerky control inputs, usually a split-second behind when needed. Many of us unknowingly allow the arm and leg muscles to get stiff and tense when taking off and landing. I've pointed this out to students, and they admitted not realizing they were even doing so.

What I've found to help get relaxed is to remind students to take a deep breath at the point of power reduction in the traffic pattern and, while doing so, wiggle their fingers and toes to help ease the tension. I repeat this exercise again on the base leg and at least twice on the final approach. It seems silly at first, but it really helps. After several repetitions while doing takeoffs and landings, the students begin to relax. Control inputs become fluid, and both the takeoffs and landings become smooth.

A third common mistake is fixating on the airspeed indicator on takeoff and on landing. I once had a newly rated flight instructor almost cause me great bodily harm because of his airspeed fixation. As the tail wheel lifted and we were about one-half second from lifting off, he shrieked and let go of the controls. I stated in a firm voice to "fly the airplane." He replied that it wouldn't fly because the airspeed said zero! I took the controls, made the takeoff, flew the traffic pattern, and then landed with the airspeed stuck at zero. Quite shaken by the event, the new instructor opted not to do any further flying that day.

I prefer teaching people to "feel" the airplane. Begin the takeoff roll with the control stick or yoke all the way aft. As groundspeed increases, the elevator gets heavy and can be felt by the resistance in the control stick. At

that point, ease the stick slightly forward, allowing the tail to come off the ground but remaining within a foot of the ground. The airplane is now in a near perfect angle of attack generating a growing amount of lift. When the lift becomes adequate for flight, the airplane will gracefully lift off and become airborne.

Safely flying a tailwheel does require much more attention from the pilot than a tricycle-gear airplane, especially during taxi, takeoff, and landing. However, once in the air, a tailwheel airplane is almost no different than any other airplane.

A mistake commonly made when first working on takeoffs is to raise the tail high enough to see over the nose. In this configuration the wings are in a neutral, or even negative, angle of attack. One could use 10,000 feet of runway and never get the airplane to fly. Establish a positive angle of attack and let the airplane do what it was designed to do. Here, too, is where that diagonal line of sight pays off. It will help keep the airplane rolling straight down the runway before lifting off.

A fourth common mistake is pushing on the rudder pedals with both feet. This is quite common on both the takeoff and the landing until one can get the leg muscles to relax. When I begin working in the traffic pattern with a student, I'll gently touch a toe to a rudder pedal and see if it moves. If it is rigid, I know the student is tense and pushing on both pedals. It's a common reaction in the early stages of pattern practice. Once I've determined this, I'll have the student take both feet off the rudder pedals and twist and turn his or her toes. Then, I have the student gently place the ball of each foot on the pedals, saying that I should be able to slide a matchbook cover between the shoe and the pedal. After three or four approaches and landings, simultaneously pushing hard on both pedals is gone.

A fifth common mistake is the desire to rock back and forth on the rudder pedals during a takeoff and again on landing. This may be a habit that is a carryover from learning to ride a bicycle. To propel a bicycle, the rider pushes the left pedal down, then the right pedal, and keeps repeating. An airplane is not a bicycle. Pushing on one pedal then applying the same amount of pressure on the opposite pedal is a great way to begin doing S-turns on the runway and can make for an adventurous takeoff or landing. This left pedal, right pedal rocking is most apparent on the landing several seconds after touching down. Rather, we want to tap and release the rudder pedal needed to keep the airplane tracking straight on the runway.

When giving dual instruction in a Cub, I'll sometimes reach down and grab the student's shoes, one in each hand, and then push on the right or left shoe as needed to keep the airplane tracking straight. One or two landings with this method usually breaks the individual from rocking the pedals while taking off or landing.

The sixth common mistake made by students or pilots learning to fly a tailwheel aircraft is the problem of letting go of or relaxing back-pressure on the control stick or yoke immediately after touching down. It seems as if the students are so relieved to get the airplane on the ground, they want to let go of everything. This is not a good idea in a tailwheel airplane, and this is where the tailwheel incidents and accidents are most often occurring — after touching down and while rolling out. A tailwheel airplane requires the pilot's attention from the time the prop begins turning until the time when the prop is stopped in front of the hangar.

There are many myths and tall tales being told by hangar pilots about the "tricky" tailwheel airplanes. Most are not true. Safely flying a tailwheel does require much more attention from the pilot than a tricycle-gear airplane, especially during taxi, takeoff, and landing. However, once in the air, a tailwheel airplane is almost no different than any other airplane. *EAA*

Steve Krog, EAA 173799, has been flying for more than four decades and giving tailwheel instruction for nearly as long. In 2006 he launched Cub Air Flight, a flight training school using tailwheel aircraft for all primary training.