



STEVE KROG

COMMENTARY / THE CLASSIC INSTRUCTOR



Crosswind Landings

A common fear

BY STEVE KROG

IT ALL BEGAN THE night before. The wind and weather outlook for the next day looked good, maybe a bit of a breeze late in the day but nothing of concern, at least at this moment. Plans were finalized for a sunrise launch. The fly-in breakfast was only an hour away.

Sunday morning and all is ready. The plane has been pre-flighted, and the weather checked one last time. The expected wind conditions have changed but not by a lot. It appears the later-day winds will be a bit stronger than originally forecast but should be no problem. You'll be back on the ground with your plane safely in the hangar before the winds increase. Still, a slight bit of uneasiness is felt.

The sunrise launch off a turf runway is uneventful. Looking back over your left shoulder you can see your tire tracks in the dew-covered grass and the effects of the prop blast having washed the dew from the turf. It's a beautiful morning, and the one-hour flight is smooth, not a bump to be found during the entire flight.

Approaching your destination airport, the windsock hangs limp while one aircraft rolls out on turf Runway 09. "This will be a piece of cake," you think while entering a left downwind leg in preparation for landing. Fuel checked, carb heat on, and power reduced as you plan a tight left turn onto the base leg. All is well.

Wow! What was that? Another airplane just passed below you on short final, seemingly out of nowhere. You apply power and execute a go-around. This time vigilance is a virtue, and the approach and landing are uneventful.

After the typical fly-in breakfast of pancakes, you spend time talking with fellow pilots, looking at airplanes, and hoping to meet the pilot of the airplane who flew under you. Before you know it, it's time to think about heading home. A quick check of ForeFlight on your phone and you frown. The wind at home has

changed direction by 30 degrees, and the velocity is now 17 knots with gusts to 20. That means a crosswind landing back at the home airport. A small knot in your stomach begins to form.

Once in the air and comfortably headed for home, you begin thinking about the crosswind landing you're going to have to execute. The stomach knot seems to be getting bigger. You've handled crosswind landings before, but not recently and never with this much wind. Apprehension begins taking over.

Approaching the airport, a flyover seems like a good idea to get a firsthand look at the windsock. There is a crosswind, and judging by the windsock movement, it seems to be gusting with the direction variable. That stomach knot is growing, and your heart rate seems to have picked up a few beats.

The downwind leg of the traffic pattern is entered after a slow 270-degree turn. The wind seems to be stronger at pattern altitude as it is pushing you away from the runway. A 15-degree left crab angle is established to counter the wind. Completing the pre-landing checklist, you ask yourself if a crab-angle approach or a wing-down opposite-rudder approach should be used on final as power is reduced.

STRATUS

by APPAREO

Turning left onto the base leg it feels like you've hit an imaginary wall. Groundspeed appears to be significantly slower, and altitude is decreasing more rapidly than anticipated. The stomach knot continues to grow, and your palms feel clammy. This wind is quite a bit more than anticipated. After taking a deep breath, power adjustments are made, and altitude control is stabilized. The thermals are really kicking into high gear as the altitude approaches 500 AGL.

The turn to final feels as if it is being executed in slow motion. Rolling out, the nose is left of the runway centerline, and without even thinking, aileron is applied, lowering the right wing while attempting a side slip to the right. The gusts and low-level turbulence aren't helping the stomach knot, but the airplane is now aligned with the centerline. Altitude control is erratic; power is added and then reduced. Sweaty hands and an increased heart rate aren't helping. Not liking the way this approach is developing, you recall something your flight instructor once shared: "Never try to salvage a landing from a lousy approach." It's time to add power, go around, take a few deep relaxing breaths, and give it a second try. "When in doubt, go around," my instructor always said.

Turning downwind, a 15-degree crab angle is added offsetting the crosswind. Landing checklist repeated, it's time to reduce power, but not nearly as much as in the previous approach. Allowing for the headwind on the base leg, the altitude is now stable. The turn to final is very shallow and less than 90 degrees. Rolling out, a crab angle seems to look and feel better in the gusts and thermals of the approach. This time you remember to pick an aim point several hundred feet beyond the approach end of the runway. Power is gradually reduced, controlling altitude, but never brought to idle at this point in the landing. You take a deep relaxing breath and wiggle your fingers and toes to relax your tense muscles.



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Approaching the runway end, light left rudder is applied while simultaneously lowering the right wing. Power remains fixed as the nose is aligned with the runway centerline. Now that lateral directional control is stabilized, power is slowly reduced to idle and back pressure applied, dissipating all excess energy until the right main and tail wheel touch down. Following through with steady but increasing back pressure, the left main wheel touches, and more right aileron is applied, offsetting the gusty crosswind from the right.

The landing is far from over. Continued control inputs are needed as well as line of sight vigilance to ensure the airplane continues rolling along a straight line. Relaxing at this point is an invitation to a quick trip through the runway lights and whatever else might lie beyond.

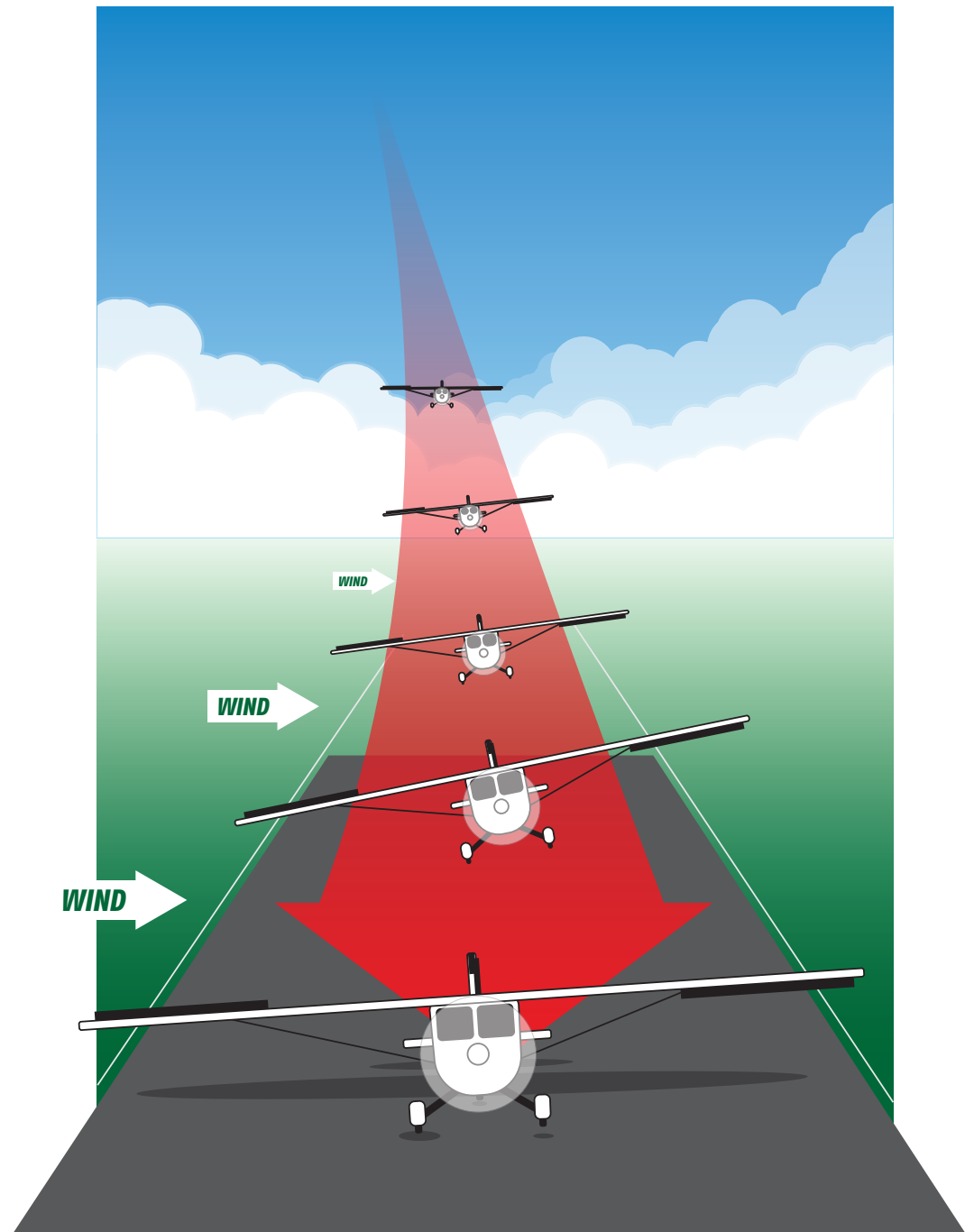
Exiting the runway and taxiing toward the hangar with elevator and aileron controls positioned for taxiing in a crosswind, the crosswind landing wasn't nearly as difficult as you initially perceived. Much of the stomach acid generated was for naught, as were the sweaty palms and rapid heartbeat. Your confidence in handling your airplane is back. When the propeller has stopped turning and your plane is safely back in the hangar, then and only then, you can relax and dwell on the pleasure of the day's flight. *EAA*

Author's note: Having instructed in tailwheel aircraft for more than four decades, it has been my experience that if tailwheel pilots get in trouble, it is after touching down in a crosswind landing. It seems that the apprehension felt during the approach to land immediately dissipates upon touchdown, and the pilot, so happy to be on the ground, forgets to keep flying the airplane. A flight in a tailwheel airplane, regardless of the surface wind, is never completed until the prop is stopped and the wheels are chocked.

Another issue I've observed with individuals learning to land a tailwheel aircraft is the tension the pilot experiences beginning at about the midpoint of the downwind leg. I stress breathing practice with all. In addition to the breathing practice, I also remind the pilot trainee to wiggle their fingers and toes several times while on the final approach to land. Relaxed arm and calf muscles aid in more relaxed, fluid control inputs and ultimately help make a smooth, safe landing.

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.

CROSSWIND LANDING



On final approach, several deep relaxing breaths followed by correct aileron and opposite rudder inputs to keep the airplane aligned with the centerline are key. Continue following through with aileron, elevator, and rudder inputs after touchdown. This is where most incidents occur as a result of the pilot relaxing once the airplane is on the ground. A crosswind tailwheel landing is never over until the airplane is parked.