



## STEVE KROG

COMMENTARY / THE CLASSIC INSTRUCTOR



# I Remember When ...

Students learned to fly by feel

BY STEVE KROG

**I REMEMBER WHEN LEARNING** to fly was a true and practical learning experience. It doesn't seem to be that way now.

I chatted with a seasoned airline captain today and asked about his observations of the new crew of first officers with whom he has been flying.

He rolled his eyes and commented that there is a lack of basic flight skills, an inability to think through in-flight situations, and an overall lack of a proper flight attitude, and when the autopilot is turned off, they have a difficult time flying the aircraft in a smooth, coordinated manner.

On a positive note, he did express that he does encounter a good first officer about every third or fourth officer he flies with. For those he goes out of his way to assist, train, answer questions, and help in any way that he can.

After listening to his viewpoint, I gave thought to my early flight training. When I learned to fly, I was taught to “feel and listen” to the airplane. When performing a takeoff, confirm that the airspeed is alive and then focus on the feel of the controls, the sound of the engine and wind noise, keeping the nose aligned with the centerline, and the feel of the load or control pressure on the elevator. This method of teaching and learning to fly is all but lost today.

Position the nose attitude just above the horizon for a positive angle of attack and let the airplane do the rest. When the wings are generating enough lift, the airplane will feel like it levitates.

Once you've lifted off, position the nose in relation to the horizon for the desired rate of climb and add a slight but constant bit of right rudder. Under a no-wind or direct-headwind condition, you should

be able to look back and see that your flight path is still right on the centerline. If it isn't, the airplane is telling you that you didn't do what was needed to keep it there.

Taking off with a crosswind is a bit different, but the airplane is still telling you what it needs you to do for a smooth, safe takeoff. Remember, regardless of the wind velocity, always start with the ailerons fully deflected.

As your speed increases, the ailerons become effective and less deflection is needed. With the nose attitude positioned just above the horizon and rudder application applied as needed to keep the airplane on the centerline, the airplane lifts off when generating enough lift to do so. At the instant you feel the airplane break ground, reposition the ailerons to neutral, preventing the windward wing from doing a rapid dip toward the runway.

Once airborne and at a safe altitude above the runway, lower the nose to a level flight attitude and relax your hands and feet on the controls. If the aircraft is trimmed and rigged properly, it will establish its own crab angle and stabilize.

Once it has done so, resume your climb attitude and maintain the crab angle. You should be able to look back after reaching 500 feet and see that you are still on the extended centerline.

Sadly, this is not taught in many flight schools around the country. Most students are taught to hold the aircraft on the ground until reaching the published liftoff speed plus 5 knots and then to pull on the yoke, forcing the airplane into the air. Thereafter, until reaching 500 feet, the nose bobs up and down as the student chases the air-speed indicator.

Here at Cub Air Flight, we encounter this type of action frequently when students come to earn a tailwheel endorsement. Never once in all their previous training were they taught to feel the airplane. Instead, they were taught to fly only by the numbers.

Learning to fly based on the feel of the airplane, and attitude flying, is an art that all pilots should learn. Why? Because some day that may be all that you have to work with should your full glass panel fail.

I mentioned an incident in a previous article about a former instructor of mine who encountered a full electrical failure moments after takeoff. She had to take control of the aircraft when the pilot in command panicked and just shut down. Her attitude flying skills came into practice that day when she saved the airplane and all the onboard passengers.

There is a reason we teach attitude flying (nose attitude in relation to the horizon) to all our students. We want them to become competent and safe pilots who never become an incident statistic.

Taking the concept of attitude flying one step further, we have a felt cloth that we can affix to the instrument panel to cover all the instruments. Then we will have the students perform a series of takeoffs and landings solely by sight, sound, and feel.

During this exercise we will have the students call out what they think their airspeed and altitude might be. It's amazing how quickly



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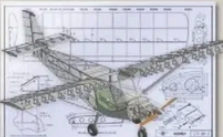




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**There is a reason we teach attitude flying (nose attitude in relation to the horizon) to all our students. We want them to become competent and safe pilots who never become an incident statistic.**

students pick up on the concept of proper and safe attitude flying when having to perform without the benefit of instruments.

Would I recommend that every instructor out there do this exercise with students?

Absolutely not. Many flight instructors today are inexperienced, have minimal flight hours logged, and were never taught some of these attitude flying tasks themselves. Unfortunately, this is a reflection on the quality of instruction today.

Approaching to land is another area of concern and a weak point in the primary flight training curriculum. We all talk about the need for a stabilized approach, yet accident and incident statistics show there continues to be a serious need for better training in this area.

I see it frequently when working with tailwheel transition students. The aircraft's nose is bobbing up and down like we have a largemouth bass playing with the bait. Nose up, nose down, power added, and then reduced. It becomes quite obvious the individual has never been taught to feel the airplane.

When encountering this as an instructor, I will take the student out of the pattern and review a power-off 60-mph descent, emphasizing the nose attitude relative to the horizon. Then we will reenter the pattern for another approach to landing. I'll point out the proposed aim point on the runway and have the student keep the nose on that point.

"If we were a lawn dart and took no corrective action, we would nail our aim point," I'll add.

Then it is time to expand on the sight picture. If the aim point appears to be moving up and away from you, the airplane is telling you that you are too low. If the aim point appears to be getting lower and moving toward you, the airplane is telling you that you are too high.

In either situation the airplane is telling you something, and you need to take some sort of corrective action to stabilize the approach.

I often use a horse analogy when working with students. If they have ever experienced riding a horse, they get the meaning instantly. A good horse will do whatever you tell it to do and do it well. A great horse can and will anticipate what you are going to do and do it for you. The airplane is a machine with no brain. It must be told what to do, and when given the correct inputs, it will perform beautifully for you.

Common sense thinking is also an area of concern. Many students are taught to act or react to a situation without thinking if their actions might cause a problem. The airline pilot I spoke with shared a situation that recently happened to his designated pilot examiner (DPE) friend.

During a checkride he presented the student candidate with a simulated engine-out situation. The aircraft was nearly over the top of a private turf strip approximately 3,000 feet long. The student



performed as required to lose altitude, align with the runway, and check things before landing.

When stopped at about 2,000 feet down the runway, the examiner asked the candidate to next perform a soft-field takeoff. Without giving any thought to the maneuver and what is required, power was applied. At this point the DPE pulled the power, preventing the takeoff.

The examiner pointed out that there were power lines off the departure end and they only had approximately 1,000 feet of runway ahead of them. The candidate may have experienced a lapse of thinking and good judgement, but more realistically they had never been challenged with thinking outside the box.

The young instructor had done all the thinking for the student. Who's at fault? Probably neither. Rather, I would want to talk with the young instructor's instructor.

I am not here to accuse other flight schools and flight instructors of inadequate training. However, this weakness has sorely come to the surface as the interest in learning to fly has increased. As instructors we all need to focus on doing a much better job of teaching. A student does not and will not become a safe, competent pilot simply by checking the boxes and moving on.

Many young instructors focus only on logging hours rather than on doing a good job of teaching. I have the luxury of having five previous students currently enrolled in the big box flight training universities, and I stay in constant communication with them.

Sadly, all of them have encountered having to work with bad instructors. It is and will continue to be a serious problem for these schools until they figure out a method for getting these time-builders to focus on setting a positive example and becoming better instructors for the students with whom they fly.

Until then they will be turning out button pushing, numbers watching, unqualified green pilots who have no concept of flying an airplane by sight, sound, and feel and thus becoming better, safer pilots. **EAA**

**Steve Krog**, EAA 173799, has been flying for more than five 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.