



STEVE KROG
COMMENTARY / THE CLASSIC INSTRUCTOR



Safe Flight ... or Not!

Training makes the difference

BY STEVE KROG

WOULD YOU CONSIDER YOURSELF a safe, proficient pilot? Most of us would answer positively if asked that question. But, if you're truly honest with yourself, would you have some doubt? Again, I do believe many of us would.

Quick, what would you do if the engine began to violently shake and was on the verge of quitting 10-15 seconds after takeoff? What if the engine quits immediately after rotating? If after a one-hour pleasure flight you found the wind had significantly increased at your home airport and you were faced with an approach and landing with a 45-degree, 15-knot crosswind with gusts up to 24 knots?

Would you be interested in learning more about safely handling these emergencies? How about a hands-on training session in a simulator?

Recently I had the privilege of attending and participating in the first Startle Effect Workshop held at the newly completed EAA Pilot Proficiency Center. The facility is truly state of the art and equipped with Redbird simulators. If you haven't visited it yet, by all means do so when you are next in Oshkosh.

Approximately 20 prequalified CFIs participated in the daylong event. Another 20 area pilots ranging from students to commercially rated responded to the request for a free session in the Redbird. Before the pilots arrived, the CFIs were briefed on the suggested scenarios they were to follow, each with a different startle effect challenge. The participating pilots were not briefed prior to the challenge.

They were divided into two groups. While the first group was in the simulators, the second group watched a presentation on "The 210-Degree Turn," a detailed explanation on turning back or not turning back to the runway upon engine loss.

After a brief break, the two groups swapped positions. Part of these exercises was to determine if watching the video presentation influenced the performance and decision-making of the pilots. To some extent it did, but not to the level expected.

I've mentioned in previous articles that professional pilots are required to undergo annual training to maintain a level of proficiency needed to safely transport passengers and cargo. Military pilots constantly train to maintain a high level of proficiency. So why don't we GA pilots follow some of these practices?

It's a good question. I'm sure I would get numerous and varied responses if I asked it of a group of GA pleasure flying pilots. Do you think a one-hour flight with an instructor every two years really maintains the proper level of safety and proficiency? Especially if you are only flying 15-20 hours per year?

The first exercise was simple. After firing up the simulator, the student was asked to perform as if they were in their own airplane and giving a ride to an acquaintance. Checklists were readily available as were diagrams of the airport (KOSH). Wind direction and velocity were made known, and the pilot was directed to taxi from the main ramp to Runway 27 via several taxiways.

Many of the pilots neglected to brief their passengers on how to buckle and unbuckle the seat belt. Yes, this is a simple task, but first-time passengers may not know how to use it properly. They also forgot to show them how to open and close the door. Extremely simple, but many airplane doors have been damaged because passengers don't have the knowledge to do so. It is probably the best policy to have the pilot close the door, but then they should brief the passenger on how and when to open it in an emergency.

The second item overlooked was the proper positioning of the ailerons and elevator while taxiing with a moderate surface wind. This inaction shows complacency. I observe it nearly every day when people fly in or out of our airport. I'm never sure if it is due to laziness or because the pilot is busy playing with the newest electronic gadget in the airplane. What it does show, though, is that the pilot does not remain situationally aware of their surroundings. Here at Hartford (KHXF), we have intersecting runways that have to be crossed depending on which runway is to be used for takeoff. We also have a lot of glider activity, so remaining situationally aware is vital.

The third item that pilots often overlook after performing the preflight checklist — assuming they used a checklist — is to brief the passenger about the phases of the takeoff. By that I mean, do you mention to the passenger that if you are not safely and comfortably airborne by a certain reference point on the runway, you will reduce power and abort the takeoff? Most pilots don't do this. In fact, most pilots don't do this even when flying alone.

As the pilot in command, do you advise the passenger that should there be an engine malfunction after lifting off, a landing will be made straight ahead off the runway end? Most do not.

These items as mentioned above were all part of the first exercise. It certainly made the participating pilots aware of how unaware they were when performing safety measures for their flight.

This exercise was an eye-opener for many of the participating pilots. Even though they considered themselves current and safe, the outcome of the exercise proved they needed to spend more time thinking about and ahead of the airplane.

The next exercise again involved taxiing to the runway and performing a normal takeoff following the completion of the pretakeoff checklist. However, unknown to the pilot, the engine would fail at approximately 500 feet AGL. The startle effect was now in full motion.

As I've mentioned in a previous article, it takes a pilot more than eight seconds to respond to this situation. By the time the pilot first recognizes the predicament and then makes control inputs, the aircraft is seconds away from stalling. Several of the participating pilots froze on the controls, doing nothing, and then finally took some action. Some entered a stall before doing so, while others tried to turn back and then entered a stall/spin situation. Few reacted instantly and pushed the nose over to land straight ahead.

The hardest part for the participating instructors was sitting by and not offering directions. Even in simulators, instructors want to instruct rather than observe.

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If I present a student with this situation during ground school, the most common answer is they would make a 180-degree turn and land on the runway from which they departed. Using a model airplane and demonstrating the action as they described, I can show them they would never make it back and will usually end up stalling and spinning.

To impress upon a student what actually happens if doing what they described, I'll have the student align the aircraft with a road simulating a runway. Then we'll establish an imaginary elevation for the runway approximately 2,500 feet AGL. Here at KHXF, that would be an indicated 3,500 feet MSL. Now, while aligned with the simulated runway at 3,500 feet, we'll establish a full-power climb for 500 feet, at which time I'll pull the power to idle.

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The student continues holding the nose in the proper climb attitude while we count off eight seconds. Then I sit back and tell the student to try returning to the runway without going below the indicated 3,500 feet or entering a stall. They never make it.

If they still think they can make it back to the runway by responding more quickly, we'll repeat the exercise again but acting after counting off five seconds. Even knowing that the engine will be pulled and they're ready to take action, we still can't make it back to the runway.

Several recent studies compare the ability of different make and model aircraft to make it back to the runway by making the turn to the runway. One of the studies, as I recall, compared a Super Cub, Cessna 172, Cessna 182, and Cirrus. Under identical circumstances the Super Cub did make it back, the 172 touched down just short, and the others never came close.

The point to remember here is that when flying most any GA airplane from a J-3 Cub to an A36 Bonanza, you only have one option

should you lose the engine on or shortly after takeoff. Land straight ahead or approximately 30 degrees left or right of straight ahead. By executing this plan, you may damage the aircraft but neither you nor your passenger(s) will be harmed.

As a pilot, if you follow the published FAA/NTSB accident and incident reports as they are released, quite often you will find one or more describing an engine failure on takeoff with the pilot attempting to turn back. The result is almost always a stall/spin with harm, or worse, done to the pilot and passenger(s).

We as GA pilots should each do our part to maintain currency, safety, and proficiency by practicing or training more for situations that could occur while flying. If the airline, commercial, and military pilots do it, so should we!

There is a saying I've seen that directly applies to flying safely: *Prior preparation prevents poor performance.*

Don't let complacency or lack of practice get in the way of safe, pleasurable flights. **EM**

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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.