



FLYING LESSONS for May 25, 2017

FLYING LESSONS uses recent mishap reports to consider what *might* have contributed to accidents, so you can make better decisions if you face similar circumstances. In almost all cases design characteristics of a specific airplane have little direct bearing on the possible causes of aircraft accidents—but knowing how your airplane's systems respond can make the difference as a scenario unfolds. So apply these *FLYING LESSONS* to the specific airplane you fly. Verify all technical information before applying it to your aircraft or operation, with manufacturers' data and recommendations taking precedence. **You are pilot in command, and are ultimately responsible for the decisions you make.**

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This week's LESSONS:

Boring holes in the sky

Flying is exhilarating. The rush of takeoff, the precision of navigation, the artistry of landing...and the view!

Flying is focusing. Strangely, the more I aim for precision in my flying the most I'm able to take in the full environment. Focus is not fixation. With focus I am not controlling a mechanic device, I am *in the flight environment*.

Flying is satisfying. Sensing that my flight is but a small part of a great movement of airplanes throughout the sky...Knowing how I want the airplane to perform, and making it do precisely what I want.

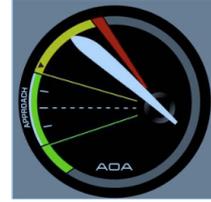
I don't understand why some pilots say they become bored flying airplanes. I have flown many airplanes with music systems aboard, but have never turned one on. I want to be enjoying my flight, not finding ways to distract me from it. If I *do* sense myself becoming less than involved or losing my focus, I find ways to sharpen it with the flying itself. Click off the autopilot and hand-fly for 20 minutes. Quiz myself on an emergency procedure, and go through the motions (without actually changing anything vital) to reinforce muscle memory. Be dissatisfied with flying 20 feet below my assigned altitude, and fix the discrepancy. Mentally crosscheck my fuel calculations and reserve at destination, and compare them to my fuel totalizer...and if there's a discrepancy, finding out why. Get out the E6B "whiz wheel" and figure my ground speed and true airspeed, then compare those results to what the GPS says. Just like my mother used to say while I was a kid home on summer break, there's always something to do. There's no reason to be bored.

And yet every now and then there's an aircraft crash report where a highly qualified pilot does an unreasonably unqualified thing, while others around him say he should have known better and "everyone knows" about the trap that did him in. Ultimately I conclude that more than anything else, the pilot must have become bored with flying...because it appears he intentionally did something to make his flight more exciting.

Take for instance the recent, well-publicized crash of an Icon A5 amphibian along a lake in California. The extremely qualified flight test engineer and chief designer of the Icon and the passenger with which he was flying died. The [NTSB preliminary report](#) includes:

...the pilot was conducting a new employee familiarization flight with the passenger, who was recently hired by the company. A witness, who was in a boat on Lake Berryessa, reported observing the accident airplane flying over the lake about 30 to 50 feet above the water, at what seemed to be a low speed. The witness stated that the airplane passed by their position and entered a nearby cove, traveling in a northerly direction. The

witness heard the engine "rev up" as the airplane drifted to the right side of the cove. Subsequently, the airplane pitched upward and entered a left turn, just before it traveled beyond the witness's field of view. The witness stated that he heard the sound of impact shortly after losing visual site of the airplane.



Numerous pilots who fly seaplanes along that lake report online that “everyone knows” not to fly around that cove, because of wires and other obstructions. New photographs, in fact, make it appear as if the airplane may have been somewhat entangled with a wire after impact. Even if the Icon had not hit a wire, that might also explain why an airplane featuring such a prominent and intuitive Angle of Attack indicator as a primary flight instrument (a specific product [I praised in a 2013 FLYING LESSONS Weekly](#)) might have ended up in what appears to be a stall-related event...AoA devices are of no help if the pilot is reacting to sudden surprise.

Icon's huge and intuitive AoA display

See:

<https://app.nts.gov/pdfgenerator/ReportGeneratorFile.ashx?EventID=20170508X45426&AKey=1&RTtype=Prelim&IType=FA>
http://www.mastery-flight-training.com/20130725flying_lessons.pdf

Why would a highly experienced pilot risk flying so low in an obstructed area, especially when not doing so for the purpose of takeoff or landing? I suspect it was a matter of “showing off” the rush of the water and the shoreline from down low, a search to make the flight more exciting, more interesting...perhaps, just perhaps, because flying around at 500 feet Above Ground Level to be, well, *boring*.

Tragically, the pilot and his passenger are not the only ones affected by this crash. Their families, their friends and their co-workers will suffer personal and financial loss. An airplane with great promise on the recreational market, the Icon A5 may not be able to survive the business impact of the publicity of this crash, even though the airplane itself appear to have not failed in any way. The recreational airplane industry as a whole takes a big hit—the Icon received several awards last year, including nominations for the prestigious [Collier Trophy](#). Someone who does not understand the nature of this crash may infer the airplane itself is unsafe, when in fact it appears to meet its design criteria.

See <https://naa.aero/awards/awards-and-trophies/collier-trophy>.

I don't mean to pick on the poor pilot in this crash. His is just the most recent case, the one that prompted me to think about this *LESSON*. Any number of other events come to mind—buzzing, aerobatics in nonaerobatic airplanes, intentional flight too close to other airplanes by pilots who have never the training or experience to do so, only to collide. All of these have a common theme: pilots are consciously accepting a heightened level of risk for no other apparent reason but to make what should be exciting enough already—*flying an airplane!*—even more so, presumably because they get bored when flying at more acceptable levels of risk.

Don't seek out ways to feel a “rush” flying. A couple years ago I wrote [this](#) in *FLYING LESSONS*:

I've had the honor of meeting Red Bull Air Racer and former Royal Australian Air Force F/A-18 pilot Matt Hall on a couple of occasions. Recently I attended a presentation he made to the Australian Bonanza Society and one thing Matt said struck me. Throughout his Air Force career including combat operations over Iraq as an exchange officer flying USAF F-15E Strike Eagles, and in his current career as a low-altitude aerobatics pilot and air racer, Matt says he has often been called an “adrenalin junkie” and a “thrill seeker.”

Matt say that honestly he does not feel an adrenalin rush when he flew fighters and does not now when he flies in Red Bull Air Races and other air show routines. Adrenalin is a physical reaction to fear and surprise, Matt explained, and a properly planned flight—even in combat and low-altitude aerobatics—will only very rarely present something unexpected for which the pilot had not already planned and considered his options and actions. ***An adrenalin rush, Matt concludes, is a sign of poor flight planning.***

See:

<http://www.mastery-flight-training.com/20150507-flying-lessons.pdf>

<http://matthallracing.com>

www.redbullairrace.com/en_US

If you feel you're getting bored with flying, don't take unnecessary risks to crank up the level of excitement. Focus instead on sharpening your skills to fly under more acceptable more precisely. At one time that excited you; most people who fly airplanes like to learn, so re-learning and advancing these skills should make you feel more engaged and excited to fly.

You can add or refresh new skills while remaining at reasonable risk levels. Get a tailwheel checkout or a seaplane rating. Get some aerobatics instruction in an aerobatic-certified airplane with a qualified instructor. Get some dual instruction in mountain flying or fly with an expert into a grass airstrip. You can do much more than straight-and-level, but do so under controlled, acceptable conditions.

I don't get bored by flying; I prevent boredom by focusing on the things that made flying exciting for me from the beginning. I hope the same is true for you.

Comments? Questions? Let us learn from you, at mastery.flight.training@cox.net



Lost Comm in IMC Watch This Video...



See www.pilotworkshop.com/blog/lost-comm?ad-tracking=lost-comm-turn

Debrief: Readers write about recent *FLYING LESSONS*:

My workload this week has been phenomenal, so I'll report just a couple recent Debrief items. I'll get to more of your excellent comments and discussions in future *LESSONS*.

Reader Michael Lepore comments on [last week's report](#), which focused on the hazards of flying over densely populated areas and how they are at least as hazardous as flying over water or mountains:

Enjoyed the *FLYING LESSONS*, and the discussion re flight over populated areas. And I also enjoyed the photo of Midway airport and Chicago's southwest side, especially since I grew up there. A close look at that photo will indicate a green area southeast of MDW, rectangular shaped, and slightly right of the approach paths to runways 31. That area is Marquette Park. At 1 mile by 1/2 mile in size, it is the second largest park in Chicago. I have a vivid memory from the 1960s of a Cessna making an emergency landing on the 3rd fairway of its 9 hole golf course. The pilot, a local pastor, walked away, and the plane was not damaged. Since it was surrounded by thousands of densely packed residences, the local papers had a field day with 'divine intervention' stories. I don't remember what caused him to need to land there, but unless it was fuel starvation, I'll just attribute the safe outcome to his *knowing his options*, and doing a great job of *flying the plane all the way to touchdown*.

See <http://www.mastery-flight-training.com/20170518-flying-lessons.pdf>

Thank you, Mike.

Reader Ben Sorensen writes about last week's Debrief:

A comment on your discussion of tail wind takeoffs: Your discussion of a higher ground speed is fine. But, you are in error when you state that the climb rate is the same as a no wind condition. It is worse. The

reason is that the wind almost always increases with altitude. Therefore, it takes energy to accelerate as well as climb. This can be easily demonstrated by doing reciprocal heading climbs into and with the wind. The more wind the greater delta in climb rate.

Your articles are great.

That was not my comment, I was relating a Debrief item from a reader. Understood correctly you're right: the climb rate (feet per minute) does not change much, but the climb *gradient* (feet per nautical mile) is much lower in a tailwind, and often gets even worse in climb for the reason you state. This can throw your obstacle-avoidance flight planning out the window, and it can also introduce visual cues that cause us all-too-human pilots to pull back on the controls to try to force the airplane to climb faster...slowing it down, increasing drag, decreasing speed, increasing angle of attack, and doing everything *except* making the airplane perform better. Thank you, Ben.

Comments? Questions? Let us learn from you, at mastery.flight.training@cox.net.

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**I'll be offline getting some seriously needed (whether deserved or not) time away next week. Don't get any ideas: my son and some very attentive neighbors are watching our house, and we have a perpetually hungry attack cat on premises.
I'll be back with more *FLYING LESSONS* in June.**

Share safer skies. [Forward *FLYING LESSONS* to a friend](#)



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Thomas P. Turner, M.S. Aviation Safety
Flight Instructor Hall of Fame
2010 National FAA Safety Team Representative of the Year
2008 FAA Central Region CFI of the Year
Three-time Master CFI

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