



FLYING LESSONS for January 14, 2021

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:

Let's go straight to the Debrief to catch up on the great volume of your reader mail. For the many new readers who've come aboard in the past two weeks this is a good way to catch up on some of what we've been talking about in FLYING LESSONS.

Questions? Comments? Experiences to relate? Send them to mastery.flight.training@cox.net.

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Debrief: Readers write about recent FLYING LESSONS:

Readers wrote about **The Dangers of the Air**, **the Opportunity in the Air**, the [FLYING LESSONS for December 31, 2020](#): Career flight instructor, aviation author and my past editor for *Twin and Turbine* and the late *Private Pilot* magazine LeRoy Cook observes:

This week's column is a classic. It needs to be required reading for every pilot and student. May we all do better in every category in the coming New Year. We sure don't want a repeat of 2020.

Thank you, LeRoy.

See <https://www.mastery-flight-training.com/20201231-flying-lessons.pdf>

Repeating my quote of Leighton Collins' guest-author chapter in the 1944 edition of [Stick and Rudder](#), Henry Fiorintini adds:

A great part of a pilot's pride in his skill is that he is able to fly safely mainly because of this skill. He doesn't want [flying to be] made safe for him; he wants to make it safe for himself. A considerable part of flying accidents are not related to lack of piloting technique but to a plain *lack of judgment*.

Amen! It is easy to be safe. It is even *easier* to be careless. And as a corollary, I submit that many of these pilots push the envelope for the 'atta boy, what a pilot' they get for pushing said envelope, instead of the 'whatta meathead' they deserve for getting lucky and getting away with risky behavior.

Absolutely, Henry. The YouTube and chat line bravado and reinforcement of bad judgment. The problem goes even deeper than that, however. As I wrote last week,

We attract new pilots with air shows and aerobatics and tales of bravado, but then have to impress upon the student not to do the things we showed and that made him/her want to fly in the first place.

See https://en.wikipedia.org/wiki/Stick_and_Rudder

Reader Steven Weintraub disagrees:

I strongly disagree with the views expressed in this column:

"A part of the zest of flying is its potential danger."

and

"Once on his own [after training], there surges in a pilot a powerful impulse to break the bonds of every restraint that has followed him into the free air."

That may be true for some pilots, but as a blanket generalization I think it is completely false.

Very good point, Steven. Both those statements are direct quotes of Collins' 1944 chapter. I agree, that this is not true of all pilots. It appears to be common in the popular culture as expressed even from some commonly considered "educational" video bloggers. I suspect it *is* far from true for most *FLYING LESSONS* readers, regular FAA WINGS participants, those who frequent AOPA's online courses, EAA's webinars and more, most flight instructors, and a great many pilots. Somehow you, and I, and many thousands of us, at some point got the message.

I expect, though, that such thinking is prevalent in the minority of pilots who end up in the majority of accident reports. This is the target audience for my campaign to do just a few things differently to make personal aviation far, far safer. And we've also discussed, of course, that I'm preaching to the choir.

How can we change this type of thinking among pilots who *do* feel the zest and *do* give in to the impulses? I think the answer has to be:

1. Providing respectful and technically correct counterpoint to examples of bad judgment we see online; and longer term
2. Figuring out how to teach the concept of wise decision making not because it limits what we can do in airplanes, but because it is **in the very best interest of those pilots and their families**—as demonstrated with great regularity, for essentially the same reasons again and again.

Frequent Debriefer Paul Sergeant continues:

Once again reading your latest article incites thought and the wish to respond. As an active (independent) instructor, I think **we have made some incremental progress**. We now teach accelerated stalls to address the "stall in an abrupt turn" scenario, but just like all other stall, *the student knows it's coming*, and has to induce the stall – so **recovery is simply a matter of undoing the unnatural control movement**.

At the risk of parochialism, I will once again point to gliders as a solution. While gliding, we operate at either V_y (to lose the least altitude per mile) or V_x (the gain the most altitude in a short distance, such as in an area of lift). That means we operate near the 1G stall speed for long periods of time, and the training reflects that by doing many stalls and spins, as well as spiral dives, with the appropriate recovery. Of course, this sounds like the typical "I'm a better pilot than you because I learned to fly in gliders" chest-puffing pilot talk, but as I haven't flown in a glider since 2003 I can't do claim that. I've been too busy getting into the flight levels and Mach numbers.

So this several-thousand-hour ATP/CFII/MEI plans to go back to unpowered flight this summer once the covid-19 virus is contained, and relearn the joy of silent flight.

If airspeed and angle of attack control are import in powered airplanes (and they are), then we can stress airspeed/AoA precision in any aircraft. Similarly, we often talk about how tailwheel airplanes teach better rudder control—but if rudder control is important in a tricycle gear airplane (and it is), then we can learn—and instructors can teach and demand—good rudder coordination in whatever airplane is being flown.

That said, like gliders and tailwheel airplanes are less forgiving of imperfection. The margins are smaller. So learning and practicing in those airplanes can fine-tune responses that apply to other airplanes—for example, I commonly tell pilots of multiengine airplanes that a tailwheel endorsement will provide plenty of extended experience that will help with an engine out in the twin.

Importantly, a glider rating or tailwheel endorsement is something new and exciting to most pilots. **Training is more exciting and rewarding when you learn something new.** Pilots who would not take extra training in their own airplane (stressing, perhaps, airspeed/AoA control or rudder coordination) can easily be talked into spending time and money on training if it teaches something new. That's a big part of the appeal of tailwheel endorsements, glider ratings, and seaplane ratings that the pilot may never use again—they are **new**, and they are **fun**. Heck, I still want to get my seaplane rating, and I'm always "up" for getting in a tailwheel airplane again.

The challenge is for instructors to make training exciting and rewarding in more familiar airplanes too—creating valuable *LESSONS* disguised as fun and new. My experience is that **pilots who do and learn new things in Flight Reviews**, as opposed to simple repetition of tired Practical Test maneuvers presented with no context, **tend to want to train more frequently** than the regulations require. **If you are an instructor and have the same response from your students, or you're a pilot who seeks out new experiences that reinforce safe flying, then you are part of the solution.** Thanks, Paul.

Reader Rick Baron writes:

Regarding your [Dangers of the Air](#) article dated 12.31.20: There is one item that is critical with respect to safety training which is being ignored. When I brought up this very simple and yet lifesaving concept to the attention of a senior flight instructor, whom I've known for years, he quickly dismissed the idea. I believe lives can be saved if pilots understand and use this concept religiously. What I'm talking about is what is termed "**Minimum Maneuvering Speed**". To boil this down the MMS is 1.4 Vs. This simply means that below this speed there should be no maneuvering/turning of the aircraft unless on final approach. As an example, Vs for my Archer III is 50 kts. Therefore, my MMS is 70 kts which further means no maneuvering/turning of any amount if below this 70 kt airspeed, unless on final approach. Those fatal spins you were referring to could all have been prevented if each and every pilot knew, understood, and adhered to their own particular MMS. Lives can be saved and knowledge is the key.

Far more stalls occur during takeoff than on final approach, and final approach and landing flare stalls are far more common than stalls anywhere besides that (see [FLYING LESSONS for October 29, 2020, Where We Lose It](#)). I suspect rudder coordination is a factor in many of them. Heighted awareness of airspeed is important. But **even more critical is knowing and flying the correct airspeed for the phase of flight, with proper rudder control**, especially when close to the ground. If feeling triggered for this awareness by entering a speed range helps a pilot, all the better. Thanks, Rick.

See <https://www.mastery-flight-training.com/20201029-flying-lessons.pdf>

Regarding [last week's report](#): Writing about the Piper Comanche crash in icy IMC at New Hudson, Ohio, I took what is for me the unusual step of looking up the name of the pilot and then checking the FAA pilot database to determine that pilot's qualifications. I did this because there were reports the pilot was not instrument rated, and other reports that he had higher qualifications. For whatever reason I found a pilot in the same state with the same name (but later I learned, a different middle initial) who holds an Airline Transport Pilot (ATP) certificate, which of course includes instrument privileges. For whatever reason my search did *not* produce a record of the actual accident pilot, who appears to have been a visual-only pilot. I apologize for making this mistake; thanks to those who pointed it out. This serves as a reminder to me not to "investigate" specific accidents, but to follow my mission statement to use recent reports to discuss *LESSONS* that we may learn whether or not they apply specifically to the cited case.

See <https://www.mastery-flight-training.com/20210107-flying-lessons.pdf>

Reader Stu Spindel comments on the tragic Cirrus "VFR into IMC" crash in the AOPA online course discussed last week:

I wonder if the Cirrus pilot was properly trained in the use of the ballistic chute. Glass cockpit with synthetic vision might lure a pilot to take steps beyond his ability. Perhaps those videos should be seen by more spouses.

I thought that as well, Stu. Once lost in the clouds, losing control of the airplane without the training to saved his family, why didn't the pilot "pull the red handle?" Friends who were military instructor pilots tell me one of the hardest things to teach is when to stop being the hero and to punch out of the aircraft. As Collins put it nearly 80 years ago, "**He doesn't want [flying to be] made safe for him....**"

Reader Ed Livermore agrees:

Both scenarios [from last week] recall to my mind what we discussed recently: both pilots allowed their "**compulsion to perform**" overwhelm their reasoned thinking.

Indeed, Ed. Thank you.

Reader Mark Sletten wraps it up with his comments about the greater theme last week, how we can learn from **what goes right** instead of having to focus on what goes wrong:

I've tried for YEARS on the various online forums I haunt to get pilots to talk about their experiences where their decisions resulted in a successful outcome. The problem is it's hard to generate any excitement or spur discussion with many of those stories. "I checked the weather. It was bad, so I decided not to fly." Ho hum.

At the other end you get pilots who "confess" to making dumb decisions with the hope of helping others learn from their mistake(s). Often, these discussions devolve into bash sessions where the pilot gest absolutely EVISCERATED by the online "experts." Who wants that?

I think a forum like yours offers a good possibility for these kinds of discussions. A pilot can share their story with you with the understanding their anonymity will be protected. You can offer your observations on what happened, and your readers can comment. You get to choose which comments offer the best chance at helping others learn without the personal attacks on the pilot's intelligence or common sense.

Thanks very much, Mark. I hope with readers' help to attain that worthy goal. Earlier this week I read a Facebook post from an airline pilot who fairly recently found and purchased the Cessna 150 in which he first learned to fly, and writes about flying the "nifty 150" frequently on his days off. That reminded me of a *FLYING LESSONS* item I wrote several years ago I called **The Bugsmasher Chronicles**. Looking back (he said immodestly), this narrative of my Atlanta-to-Wichita Cessna 150 odyssey is an example of what I'm looking for and Mark has been trying to elicit. [Take a look](#). If you have a similar set of positive *LESSONS* you learned from a flying experience I'm sure we'd all love to read them.

See www.mastery-flight-training.com/20150827-flying-lessons.pdf

I'll continue to get into the significant backlog of reader mail next week. Debriefers, thanks for your input, and your patience.

Questions? Comments? Send them to mastery.flight.training@cox.net.

"The great success of *FLYING LESSONS Weekly* is rooted in how often you do the right thing in encouraging all of us to fly safely and showing us ways to do so." – Bruce Dickerson

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How the B-17 Influenced Apple Computers...and Us

I saw [an interesting article](#) this week with this tagline: **At first, pilots took the blame for crashes. The true cause, however, lay with the design. That lesson led us into our user-friendly age—but there's peril to come.** From *Wired* magazine, the focus is on computer design philosophy. In a world where inadvertent gear up landings continue to appear frequently

in the mishap record, we may want to reflect on the World War II record. Was addressing the issue of “designer error” in the Boeing B-17 effective?

See https://www.wired.com/story/how-dumb-design-wwii-plane-led-macintosh/?fbclid=IwAR363dWYc7YD7s0JFrFb25lFxgrTn7ZZ7EqZp0AVba5cKSXJwalxe1ll7fg&mbid=social_facebook&utm_brand=wired&utm_campaign=falcon&utm_medium=social&utm_social-type=owned&utm_source=facebook

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