



FLYING LESSONS for August 22, 2019

by **Thomas P. Turner**, Mastery Flight Training, Inc.
National Flight Instructor Hall of Fame inductee

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.**

FLYING LESSONS is an independent product of MASTERY FLIGHT TRAINING, INC. www.mastery-flight-training.com

Pursue ***Mastery of Flight***

This week's LESSONS:

I've been training flight instructors and pilots for the eight straight days, and traveling to receive two days of training myself...so taking some writing time off this week, here are some insights from some people I greatly respect:

A turnback [to the runway after loss of thrust immediately after takeoff] *should be attempted only when it is more hazardous not to.* – Brian Schiff in a [National Association of Flight Instructors webinar](#), May 2019

See <https://www.mentorlive.site/program/20.html>

Loss of Control in Flight is not on the NTSB's most wanted list "because we can't seem to move the needle," according to the NTSB. [The Society of Aviation and Flight Educators is] *targeting Loss of Control in Flight with Maneuver training—getting to the edges of the approved envelope* [with the] [CFI Pro program](#). – David St. George, in a press conference at Sun n Fun 2019

See www.cfipro.com

And your *FLYING LESSONS* homework for this week is to follow the link and read this:

Airmanship is a behaviour, rather than a learned set of rules. - Kreisha Ballentyne-Dickes, in [an outstanding article](#) about airmanship and the general aviation safety culture, in *Flight Safety Australia*

See <https://www.flightsafetyaustralia.com/2019/08/when-pigs-fly-manners-airmanship-and-safety/>

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

FLYING LESSONS Weekly is sponsored by:



See <https://pilotworkshop.com>

Debrief: Readers write about recent *FLYING LESSONS*:

Reader and monthly [FLYING LESSONS donor](#) Randy Carmichael writes about last week's report about [instrument takeoffs](#):

Your message about the two tragic IMC departure accidents in the 8/15 issue was, as always, thought provoking. Never having really considered the fact that IMC arrivals and approaches consume such a disproportionate amount of our instrument training focus as compared to departures, I quickly found myself wondering why that might be. My initial answer, even if somewhat simplistic, still seems to have some validity.

Basically, it occurred to me that *instrument approaches have the possibility of being much less voluntary than instrument departures*. Obviously, being airborne and needing to get down carries an inherent urgency that eclipses any possible scenario when ground-bound and "needing" to get aloft. So doesn't that send the whole departure vs. arrival question back to a more fundamental Aeronautical Decision Making level?

When do personal minimums first become relevant, in the pre-flight or the in-flight phase?

You mentioned that practicing "zero-zero takeoffs" often serves as a confidence builder. I agree. Is it also possible however that an increased training emphasis on such procedures could possibly contribute to a false sense of confidence which could lead to setting unrealistic and dangerous personal minimums by pilots who might be tempted to try something at best unnecessary?

Just a couple thoughts that I'm sure you've already considered.

Thanks again for your ongoing efforts to keep us all thinking about aviation safety. You're making a big difference in a positive direction for the GA community.

You're absolutely right, Randy. We are *supposed* to know better. Real-world pressures, however, tempt us to try things we might not have otherwise. This is not in any way disputing what you say, just a description of the human factor. The NTSB's preliminary report on the fateful crash that prompted last week's *LESSONS*, for instance, recounts that the accident pilot chose to depart earlier than originally planned because of the threat of thunderstorms later in the day. Although the early morning departure may have not had anything to do with the final outcome, the dark, low IMC (instrument meteorological conditions) certainly would not have been helpful if other factors started the sad chain of events.

As for the practice zero-zero takeoff you're right as well. Familiarity probably could create complacency with the extreme risk. The real skill needing practice (in addition to the risk/reward decision itself) is the transition from visual to instrument flight when climbing into IMC. Making the transition to visual flight is one of the hardest skills to teach about approach procedures, one that's not addressed very well in a training world where we fly with a view limiting device until the instructor tells us to take it off. We don't do that at all for instrument departures. That's the physical skills nut to crack.

You wisely ask:

When do personal minimums first become relevant, in the pre-flight or the in-flight phase?

Preflight, of course. And as I've written here many times before, personal minimums are worthless if you choose to violate them when they become inconvenient. How important is it really, to fly to your planned destination within a few hours' time, or even on a particular day? If it's *that* important then make plans for an alternate means of transportation, and make your go/no-go decision early enough to use that alternative if needed. Thanks, Randy.

See:

http://www.mastery-flight-training.com/be_a_master_pilot.html

<http://www.mastery-flight-training.com/20190815-flying-lessons.pdf>

Well-known Cirrus instructor Edward Watters writes:

Just enjoyed your email about zero/zero takeoffs. [I] was teaching them today and here is one of mine back in March. Notice the Flight Director. I teach zero/zero on almost every departure.



Thanks, Ed. I also teach the use of the flight director for takeoff in airplanes so equipped. If the airplane has a flight director go-around mode it will indicate a wings level, V_y attitude when activated (see Dave Dewhurst's Debrief item below). This provides a great reference for an instrument takeoff (or night, or even day VFR, for that matter)—safe if the pilot's attention focuses outside of the airplane as well. I recognize your ability to depart in conditions like this; however, I'm a bit risk adverse for a true zero/zero takeoff myself. Please read on.

Instructor and business-twin instructional firm owner Dave Dewhurst adds:

Great article. We do low visibility takeoffs routinely and teach them. Here is a recent experience.

The pilot had about 1200 hours, had a commercial multiengine rating, flew regularly, and was instrument proficient. He was well familiar with the Cessna 421 we were flying. He had never done a low visibility takeoff and we needed to do one that morning. Here is the way it went.

First brief: *Most problems occur within the first 60 seconds of the takeoff because the pilot gets distracted and allows the airplane to descend.* Therefore, we teach that the pilot should only keep the wings level and assure a positive rate of climb. Use the flight director and the altimeter. Nothing else. Do not raise the gear. Do not change power. Do not change navigation. Do not communicate with ATC. Just wings level and climb.

Second brief, [done] after engine start and leaving the ramp: Remember, wings level and verify climb, just two things.

Third brief, during pre-takeoff check: Wings level, climb.

Fourth brief, on [the] runway: Wings level, climb.

We had about 1500 ft. of visibility and a 100 foot. ceiling. We entered the clouds almost immediately. *At about 200 feet, the pilot allowed the airplane to gradually roll into a 20 degree left bank and the altimeter stopped going up.* He did this *while staring at the attitude indicator* with the flight director bars set at 5 degrees up and commanding a right bank. This pilot had previously demonstrated considerable instrument skills.

What happened? Brain fade? Maybe, but within 30 seconds and with only two things to worry about? I corrected the airplane without comment. We discussed it later. The cold reality sunk in that **in that situation he would have likely crashed.** At least he had a chance to experience that situation in a controlled setting. ***There is just something about doing a low visibility takeoff that is special. One looks at all the low visibility takeoff accidents and just wonders . . .***

Keep up the good work, Tom.

That story reinforces even more for me the wisdom of calling no-go on any departure when the ceiling and visibility are less than circling minimums for the airport from which I'm departing. The usual reason for that rule is to provide the possibility of a return to the airport if something goes wrong early in the flight. On reflection I think an even more compelling reason to follow this personal minimum is to give time to establish in climb before entering the clouds. Thanks, Dave.

Reader John Lamb states:

Great newsletter this time. You were spot on, about the 340 accident. **Your taxi instrument check is what we are trained to do in commercial flying, and what is taught in the USAF initial flight training.** Keep up the evangelism, it is making a difference, one non-accident at a time!!

Thank you as well, John.

Readers, [what do you think?](#) What is your personal minimum for takeoff weather?

Email to mftsurvey@cox.net

Reader Dwain Camp makes this worth it to me this week, as many of you have done many times. Dwain writes:

Tom, you rock. I'm a rookie student pilot, 69 years old, 140+ hours and hope to get my [Private certificate] this fall. I look forward to your weekly email every time it comes out and I learn so much. The forum where others can weigh in is also very helpful and insightful.

One thing that I've picked up is that **the simple, the often repeated and the mundane are all so very important**. Not skipping over things, taking the time to be thorough, not getting rushed. Really good for us rookies to be schooled by you weathered veterans. To show you how serious I am, I'm actually going to send you some \$\$\$ (!) to keep these excellent emails coming. God bless you, my friend. you are greatly appreciated.

Thanks very much, Dwain. You're right—the repeated patterns seem so easy to break if only we all learn from others' experiences. Best of luck as you continue your flying adventure, and thank you for your help covering the expenses of hosting and delivering *FLYING LESSONS*.

Questions? Comments? Suggestions? Let us know, at mastery.flight.training@cox.net

Readers, please help cover the costs of providing *FLYING LESSONS* through the secure **PayPal donations button** at www.mastery-flight-training.com. Or send a check to **Mastery Flight Training, Inc.** 247 Tiffany Street, Rose Hill, Kansas USA 67133. Thank you, [generous supporters](#).

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



Pursue Mastery of Flight.

Thomas P. Turner, M.S. Aviation Safety
Flight Instructor Hall of Fame 2015 Inductee
2010 National FAA Safety Team Representative of the Year
2008 FAA Central Region CFI of the Year
Three-time Master CFI

FLYING LESSONS is ©2019 Mastery Flight Training, Inc. For more information see www.mastery-flight-training.com, or contact mastery.flight.training@cox.net.