



# FLYING LESSONS for July 20, 2018

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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.**

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## ***This week's LESSONS:***

I got behind this week preparing to fly up to Oshkosh (I'm finishing this in a hotel weathered in an hour short of that goal). So I'll go straight to the reader mail in this week's Debrief.

I'll be working in the American Bonanza Society test across the street from Theater in the Woods, and I'm presenting "From Proficiency to Mastery" in the FAA Safety Center on Friday at 1 pm.

I hope to see you at Oshkosh.

Comments? Questions? Let us learn from you, at [mastery.flight.training@cox.net](mailto:mastery.flight.training@cox.net)



## **How Much Flight Risk Should You Accept?**

[Watch this video](#) for a thought-provoking answer to this important question.



See [https://www.pilotworkshop.com/how-much-risk?utm\\_source=flying-lessons&utm\\_medium=banner&utm\\_term=&utm\\_content=&utm\\_campaign=risk&ad-tracking=fl-risk](https://www.pilotworkshop.com/how-much-risk?utm_source=flying-lessons&utm_medium=banner&utm_term=&utm_content=&utm_campaign=risk&ad-tracking=fl-risk)

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## **Debrief:** Readers write about recent *FLYING LESSONS*:

Reader Doug White writes about [last week's LESSONS](#) that result from the first-person account of an engine failure and off-airport landing:

Great article... When the Florida pilot said, "I didn't mess around and declared [an emergency] within seconds," he did right! An "emergency" in an airplane is "whatever the PIC *thinks* is an emergency."

Problem is, so many folks in trouble resist/delay the emergency call, for various reasons, and the end result is not good, in a lot of cases. Declare the emergency [and] you immediately move to the head of the class, front

of the line, and get priority help from tremendous ATC folks. Worry about the paperwork or embarrassment later. You'll be glad you did.

See <http://www.mastery-flight-training.com/20180712-flying-lessons.pdf>

Thank you, Doug. There is very little down side to declaring an emergency...and that down side (fear of some sort of punitive regulator response) almost never happens, according to persons who survive an emergency or crash. Declaring an emergency won't solve all your problems—you still need to fly the airplane—but as Doug said, it *can* make it a lot easier for you.

Reader Alistair Moon adds:

A line in Randy Bartel's account and reflections struck a chord with me: Returning from Morocco to France, over Spain, roughly abeam Valencia, out of contact with Valencia - too low, 2-3000ft AGL over high-ish ground - in a Dynaero MCR4S/Rotax 912S with water-cooled heads. A smell of burnt rubber and a rise in head temperature announces a problem. COMM 2 is a GNC-250XL, an old Garmin GPS/COM which cost a fortune to update, and therefore never updated. BUT, it was on "Nearest Airport." Albacete: 240°, 20 nm.

Change of frequency to Albacete: "Can you hear me?" "Yes." I declare PAN (1st time ever!), land safely without exceeding limits on head temp - just! The extra time that we might have taken to work out what was nearest might have been too much. The problem: a cooling-water pipe 2 cm too short, therefore too close to the exhaust pipe, compounded by the insulating wrap slipping down, allowing the coolant pipe to touch the exhaust and eventually to burn through.

So yes, we were very glad to have that old, semi-useless GPS giving us just the information we needed at the crucial moment. May others learn about flying from our and Randy' experience.

PS: Old age and poverty forces me to convert to ULM/microlight but your *LESSONS* still hold it for me!

Any back-up in a storm, eh Alistair? Thanks for letting us learn from your experience, and for continuing to read as you change the focus of your flying activities.

My friend Keith Duce in Australian lets me know these *FLYING LESSONS* are indeed making pilots think, writing:

I have been planning a trip to the Kimberlies, and one fuel leg is marginal but within legal reserves providing there is not a stronger than normal headwind once airborne. I have been trying to decide if I should stop at a whistle stop about one hour short of our planned destination. Thanks to your inspiring story I will be making that stop.

Thank you, Keith. I've been following your exciting trip on FaceBook.

Reader and instructor Mike Freidman responds to the [June 28 LESSONS](#) about personal minimums. Mike writes:

Much has been said about personal minimums, but I think you are leaving major factor out of the discussion. Having minimums is a good thing, but the real question is **when do you make the decision to stop for fuel?** If you decide your minimums are 1 hour and you wait until you have 1:15 on board and you are 25 minutes from your destination, *you are setting yourself up for making a bad decision* to continue. Also, **it is easy to rationalize** that stopping will take you as far into your reserve as will continuing as you scramble to find an unplanned place to land for fuel.

I know you don't subscribe to the run a tank dry club, but I think you will follow the logic. I know from having timed the tanks in my Bonanza that I have 15 minutes less fuel in my take-off/climb out tank than I do in my cruise tank. For a long flight, I take off on the left tank, climb to altitude, and change to the right tank at 30 minutes. I then run the right tank dry. (I'm sure you can stop with 5 min of fuel left if you prefer). I then go back to my left tank. If the right one took 3:15 that day, I know my left one started with 3:00 and I've used up 00:30, leaving 02:30. If, at that point, I have more than 1:30 to go to my destination, I change plans from a non-stop and plan a fuel stop. At that point, there is no stress since I have 2:30 on board and plenty of time to find a suitable place with low fuel prices within the 1:30 of flight time. Obviously, if it looks ok to continue when I switch back to the take-off tank, I continue to monitor the flight and watch the remaining fuel. I can always change my mind to stop if things start looking iffy for a non-stop, but once having made the decision to stop with 2:30 on board, I don't allow myself to revert back to the original plan of a non-stop.

The other advantage of this method of fuel management is that when I arrive at my destination, my one hour of fuel is located in the one tank I am flying on, not split between two tanks so I no longer have to worry

about fuel management – only being on the ground before I run out of time. After all, if the circumstances are such that you are into your emergency fuel, things haven't gone right and eliminating a possible source of screw up (like having to change tanks half way through your emergency hour of fuel- probably half way down your approach) – is a good thing.

See <http://www.mastery-flight-training.com/20180628-flying-lessons.pdf>

Jeff Edwards, a credentialed aviation safety investigator and researcher, flight instructor, and director of a major Type Club for high-performance amateur-built aircraft, also writes:

Great piece on the P210 accident in Detroit. People who have been away from aviation for a long time and are now getting back in to it is good for the industry as long as they do it wisely. Preliminary information on the Detroit P210 accident reported on here does not indicate the pilot got the necessary training. I have trained pilots who have been away from aviation for long periods of time and for many it often is a repeat of the private pilot syllabus often taking 25- 40 hours of training, maybe more if they are transitioning to an unfamiliar airplane. This P210 pilot who stopped flying in the 1990s was not around to see the introduction of GPS, airspace changes, post 9/11 TFRs, glass cockpits, etc. As instructors **we have got to set realistic expectations** for our customers, including letting them know how much effort it will take to make them the masters of their aircraft.

Indeed, Jeff. I helped one reader return from “only” two years away from flying. In the same airplane he's owned and flown for two decades, he was only just beginning to feel the same level of comfort he'd enjoyed before when we had flown over 11 hours and logged as much time in ground study and review as well—and this was for VFR-only operations. It is good to get “rusty pilots” back in the skies, as long as both the returning pilot and his/her flight instructor do as you say: we set realistic expectations.

Discussing a reader comment in that same issue of *FLYING LESSONS*, retired U.S. Air Force colonel John Scherer adds:

Hi Tom, great issue! You got me going with the reader's response on the Bonanza formation flight. I can't believe a leader would chew out a wingman for declaring bingo fuel. I taught formation flying in the T-37 and T-38 for a number of years. The flight leader's responsibility is for the entire flight. Also, doing unbriefed maneuvers etc. on a formation flight is highly unprofessional. Plus, a wingman will burn more fuel than the leader due to more maneuvering than the flight lead.

I do not participate in formation flights in civil aircraft because I know how much training it takes to learn formation flying correctly. A properly trained formation flight is a thing of beauty, but it takes more than a briefing and a couple flights to get to this level. I'm disappointed in that flight lead, especially in that he exceeded the briefed flight time. When you hear a wingman declare bingo, you call knock it off for the formation and you go home. Thanks for hearing me out.

Thank you, John. I personally don't participate in recreational formation flight because pilots that do often make statements or take actions that suggest to me they do not consider themselves responsible for their aircraft. As I noted in that edition of *FLYING LESSONS*, the Federal Air Regulations covering civilian flight have no provision for delegating Pilot-in-Command responsibility to someone outside of your airplane. That, a sometimes exaggerated sense of “mission”, and formation flight in civil airplanes that usually have significant limits to visibility for close-proximity flight, make me personally quite wary of the practice.

All that said, many formation pilots would probably question my wisdom in flying single-pilot IFR. The beauty is that we each have the authority to make our own choices, as long as we deal with the responsibilities that go with them. That brings us to the item I posted on the Fourth of July, which many, many readers told me they enjoyed greatly. Some went a little deeper....

Gold Seal Instructor Alan Davis opines about the [July 4 FLYING LESSONS](#) that address the freedom and independence of flight:

A great collection of ideas about the joy of flying. I especially liked that last section from Steven Coonts which reinforces something I have said about flying for many years: Flying is never "FUN". It is, in fact, **one of the most rewarding, enriching, and satisfying experiences** one can have, and is the result, as Coonts suggests, of "professionalism and attention to detail," even in the beginning student. If we as instructors act and teach that way so we get those ideas across to our students from the start, professionalism and attention to

detail, they will be safer pilots and will truly enjoy the experiences. Those having "fun" never see what is about to bite them!

Thanks, Alan. I get what you're saying. I add, at least for me, that I indeed *do* have fun flying *because* I am exercising care, professionalism and attention to detail. I find the ability to attain precision and to stay ahead of the airplane to be very fun. For me, and I suspect for many pilots most likely including you, it is fun to fly *well*. You're right: the guy or gal who "flies for fun" without focusing on flying precisely is the one who will inadvertently or intentionally deviate from good operating practices and be at a much higher risk of mishap.

See <http://www.mastery-flight-training.com/20180704-flying-lessons.pdf>

Aerobatics instructor Anthony Johnstone adds:

Your newsletter today is timely for me. I was just trying to explain this to my wife (she didn't get it, despite being married to me for 45 years!). I spent several hours today in a Piper Pawnee towing gliders from one airport in Delaware to their home base in Eastern Pennsylvania. Not particularly challenging, really hot day, basically a 40 minute trip each way, returned to the grass strip in Delaware and launched another glider, rinse and repeat. Three hours at 80 mph in the PHL Bravo [airspace] (I think they were happy when I told them I was full stop at the PA airfield!). But, bottom line, I love to fly, and even if it is just sitting in a crop duster dragging a glider cross country it is better than anything I could be doing on the ground.

Antoine De St Exupery understood. Richard Bach understood. Ernest Gann understood. Chuck Yeager understands. Stephen Coonts understands. Wolfgang Langewische understood. I know you understand, and I sure do.

Thanks to you too, Tony.

I have so much more reader mail...I'll get to more as I can. Whether I print your comments or not, thank you very much for writing. I will do my best to let readers learn from you.

Questions? Comments? Suggestions? Let us know, at [mastery.flight.training@cox.net](mailto:mastery.flight.training@cox.net)

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**Pursue *Mastery of Flight*.**

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