



FLYING LESSONS for August 27, 2020

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:

Last week I quoted a recent NTSB Preliminary Report and asked readers to answer just one question that I'll get back to shortly. If you've not read the report completely go back and [take a look](#) for the full impact, then return here. For those familiar with the event, here is a summary of the salient discussion points.

- On August 1, 2020, a Grumman American AA-5 [stock photo at right] impacted terrain less than a mile west of the airport. The private pilot was fatally injured.
- The pilot said he was going to "fly a couple laps" around the traffic pattern.
- The airplane had not flown in 14 years and the airplane was "in pieces" when it was purchased. The unassembled airplane was transported to the pilot's home where it was partially assembled by the pilot and then moved to the airport.
- The pilot did not hold an FAA-issued mechanic certificate but was known to restore, build and repair vehicles and boats.
- The pilot performed a test-flight of the newly assembled airplane on July 14, 2020 and reported that some of the gauges were not working. The nonpilot co-owner thought one of the gauges was a fuel gauge.
- The airport manager said the pilot liked to "tinker" with things. His goal was to get the airplane to a point where he could have a certificated Airframe & Powerplant mechanic perform an annual inspection.
- The pilot had flown the airplane a few times before the accident flight. On one flight the engine sputtered and lost power, but the pilot was able to land safely back at the airport. The pilot told the airport manager he had a problem with vapor lock and some of the gauges were "acting up." The airport manager said that on the July 14th flight, the pilot was taking off and landing numerous times on the 5,000-ft-long runway. During this flight, the airplane struck a runway light and had a tail strike.
- The pilot's last FAA third-class medical was issued on November 21, 2017 and expired at the end of November 2019. He did not report his flight hours at the time the medical certificate was issued.



See <https://app.nts.gov/pdfgenerator/ReportGeneratorFile.aspx?EventID=20200802X53946&AKey=1&RTYPE=Prelim&IType=LA>

Last week I asked:

Undoubtedly the accident pilot felt he was being reasonable and right in doing the things he did. Yet the implication of this NTSB preliminary report is that his choices cost the pilot his life. ***If you were that pilot, how would you rationalize or justify these actions?***

A great many of you replied with statements that amount to the same thing: ***there is no justification*** for what the pilot did. Thank you for your responses; I agree with you. But that's not what I was getting at.

I wanted to collectively try to get into the mind of the pilot to see how *he* might have justified his decisions and his actions, to perhaps learn some *LESSONS* beyond **“I wouldn’t do that!”** that might positively affect our own decision making on a less obvious (after the fact) level.

Several of you did attack it from this direction. Here’s a compilation of possible rationalizations readers sent:

- Everybody does it.
- It’s not a big deal.
- It really doesn’t make any difference.
- I’ve always done things this way.
- This is plenty good enough.
- Nobody can tell.
- Rules don’t make anything safer.
- Books are unrealistic.
- This is cheaper.
- If this doesn’t work, I’ll try something else.
- It’s never caused problems before.
- They don’t know what they’re talking about.
- I don’t need a medical, I feel great.
- Regulations are “operational guidelines” that really aren’t relevant to the real world.
- An airplane is just a mechanical thing. I can fix cars and boats. How different could an airplane be? It’s all just parts, much like those in cars.
- Even though I’m not an A&P nor have had formal training on airplanes, I’m very careful and very mechanically oriented.
- I’m sure I’ll be more careful than some random A&P who doesn’t care about this project as much as I do.
- Anything I’m not sure about, well, that’s what YouTube and internet forums were created for.
- I’m a great pilot.
- It’s a long runway. I’m not planning to leave the traffic pattern. If anything goes wrong on takeoff, I can land on the runway.
- I’ve already gotten this far in the project without killing myself. The hard part is done. Now it’s just figuring out the gauges and that little vapor lock issue. A couple of times around the patch should help me diagnose those problems.
- I put this thing together. I know what the problems are and I know what works properly.
- I’ll stay in the pattern so if it plays up I’ll land directly, just like last time.
- It’s only the gauges acting up, I know what’s actually happening though. I know there’s plenty of fuel.
- I got a checkup from the doc when I got that rash looked at. She said I’m in good shape for my age. I don’t need another medical.
- This stuff is simple! I know what I’m doing.
- I’m flying by myself, nobody else will get hurt if I have an issue.

This particular accident seems to have resulted from a long series of bad decisions. At least that’s the implication of the NTSB’s preliminary information. When we read it afterward it’s easy for us to conclude that the crash was inevitable. The regulatory and safety culture transgressions are just too blatant and great. We shake our heads in disbelief, then dismiss it as something we would never allow ourselves to do.

But what about less obvious transgressions? What about real-world situations like these I’ve personally heard or read (usually described after the fact)?

- My oil temperature gauge (required for flight in most engines) isn't working. I'll make sure the oil sump is filled and watch the oil pressure closely as I fly it to my mechanic's shop to get it fixed.
- I taxied my airplane into a runway light exiting into the grass at Oshkosh and damaged the left flap. Now it has a six-inch gash and won't extend or retract normally. We managed to get it most of the way up and taped up the gash, and I pulled the flap motor circuit breaker so I won't forget and try to extend them again on my way back home after the show.
- I'm not night current but my family and I got started a little later than planned. Now we'll land about 40 minutes after sunset if the winds don't change. It'll still be twilight when we get there, so we'll be fine.
- Most airplane accident happen during takeoff and landing. It's safer for me to take off a couple of hundred pounds over the airplane's maximum gross weight and fly nonstop than it is to reduce the fuel level to take off within limits and have to make a fuel stop along the way.
- Weight isn't really important as long as the center of gravity is within limits.
- I've flown approaches but haven't been put in a holding pattern in the last six months. That's not really important for instrument currency. After all, ATC never assigns real-world holds.
- I should stop for fuel, but it's so much cheaper at home.
- I'm not really comfortable with the weather, but I've waited it out all day and it's only going to be worse tomorrow.
- Flying under a bridge is no big deal. Seaplane pilots "taxi" under bridges all the time.

I've heard a lot more like these. I've talked myself out a few. Maybe you have, too.

The normalization of deviance

Sociologist Diane Vaughn investigated the underlying causes of the space shuttle Challenger accident. As a result she developed a concept she called [the normalization of deviance](#) that is the thesis of her 1996 book [The Challenger Launch Decision](#). This concept describes a situation where what was once considered unacceptable gradually becomes the norm because there were no adverse consequences of choosing the "unacceptable" path. As described in a 2017 [Flight Safety Australia](#) article,



The lack of bad outcomes can reinforce the "rightness" of trusting past practices instead of objectively assessing the risk, resulting in a cultural drift in which circumstances classified as "not okay slowly come to be reclassified as "okay."

Strategies to recognize and combat the normalization of deviance have become a staple in many industries far beyond just the aviation and aerospace world. They are just as applicable to flying light aircraft. Ultimately it comes down to this: **do the right thing**.

See:

https://en.wikibooks.org/wiki/Professionalism/Diane_Vaughan_and_the_normalization_of_deviance

<https://www.amazon.com/Challenger-Launch-Decision-Technology-Deviance/dp/0226851761>

<https://www.flightsafetyaustralia.com/2017/05/safety-in-mind-normalisation-of-deviance/>

The real *LESSON*

Somewhere between where each of us is individually now and where that Grumman pilot was mentally on August 1 is the limit of what is acceptable. The *LESSON* from this accident discussion is for each of us to consider this question for ourselves: "Where do I draw the line?"

Where do you draw that line?

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

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Debrief: Readers write about recent *FLYING LESSONS*:

As part of their “justifications” response to the one question about the Grumman AA-5 crash, readers added these insights. Since my query last week promised to keep responses anonymous, I’ll not identify readers by name in these Debrief items either (although none are incriminating). Readers, please accept my thanks for your “anonymous” comments.

In my world Tom I cannot justify any of this pilot’s flight since his medical expired and I wonder when his last Flight Review was completed as well. His work on the AA-5 was also outside of the allowable work for a pilot/owner. Even the reassembling of the aircraft that was “purchased in parts” is so far out of my thoughts on aircraft maintenance as to be off the charts. I now wonder who was his CFI and how long ago was he rated? His work outside of the legal bounds of what he was allowed to do is unthinkable to me.

I have plenty of flying of light general aviation aircraft from Stewart Headwinds, J3s, Cassatt Formula 1 racer, Rutan Vari-Eze that I helped my Dad (a certified A&P and IA) build in college, everything Cessna had from C150, C172, C182, C177RG, C207 flying freight for a 135 operation back in 1978-79 to King Air 90s as well as my military flight time both in the Army and the Air Force (TH-55, UH-1H, AH-1G, OH-58, T-37, A-37B, T-38, and F-16s from Blk 15 through Blk 52). The ***lack of professionalism and disregard for proper maintenance and flight itself is one of the things that causes those that don't fly to see some of aviation as irresponsible.***

What troubles me even more is that **many, it appears, knew of his habits.** Why did the airport manager, another pilot, or someone not talk with him? This is very sad and reinforces why **we must always approach the flying we do with professionalism**, even as a Private Pilot.

In thinking about this situation, I was impressed with how much poor attitudes towards maintenance resembled poor attitudes towards flight safety.

I read this [NTSB report] previously. I don’t know where to start. This guy bought an airplane in pieces, put it together (sort of), and thought it would be a good idea to fly it a few times in preparation for an annual inspection which would then make it legal to fly. Not to mention the lack of a current medical. No information as to whether he had completed anything to satisfy 61.56 either. **There are actually good reasons why we stress qualifications for legal flight on the part of the pilot and the aircraft.** He had neither. God rest his soul.

This is a very tough *LESSON* because the first reaction is: no way in hell would I do what this guy did. but I can see how he might rationalize this in his own mind. It is just something I hope to never do and strive, with your teachings, to remember every day. Classic victim to ***multiple hazardous attitudes and lack of self-awareness.***

These kinds of things anger me. I have seen in the past where people look upon planes as toys or like they would a boat, and this is not the case. **There is no way to justify this pilot's actions.** He didn't have a current medical but was flying. The plane was out of license but he was flying it. He assembled it without proper supervision from an A&P and was flying the plane. The engine exhibited issues that he did not know the cause of yet he flew it. It is apparent the pilot had blatant disregard for the regulations and lacked common sense. Taking a boat or a car out for a spin to see why it wasn't working right is okay but not an airplane. We don't know how current he was or proficient. He had an incident prior to the accident so that should be questioned. The engine may have quit and he panicked and stalled/spun it in. We should know from the NTSB report.

An arrogant sense of entitlement emboldened by flush financial resources. Or simply: *more \$\$\$ than ¢.*

I find it very simple: **never ever take off with an airplane which you are not 100% sure it is serviceable.** Never! I tell you that after 30 years of flying, most of it as a military pilot and seven years as an airliner. (The last 6 months as a captain, before the COVID-19). The only situation I might decide somehow differently was due [to] military operational reasons, and even that with deep thought and risk management. Airplanes from that family, I mean single engine “simple” airplanes, usually with very basic redundancy and poor alerting systems, as well as nonscheduled/professional maintenance, require a lot of responsibility and self-discipline from the private pilot. Therefore it is very sad that pilots attempt to fly that way.

This strikes me in so many areas as I have seen an increase in this kind of rationale for bad behavior in the aviation world. This, even in students that I have taught better, who leave me after earning their rating, take the bit in their mouth and decide to do half-brained things that they know I do not appreciate or endorse.

One student went on and got his multiengine [rating] and immediately started doing work on the engines of those airplanes because “he works on his trucks all the time.” They have a AI [Authorized Inspector] certify the work, in this case an AI who is marginally safe in his practices and has been repeatedly investigated by the FAA.

Recently an ignorant purchaser of an airplane was determined to buy an airplane in another state and needed a CFI to fly with him home because his medical was not in effect. Inspection of the logbooks showed an inspection in 2001, 2002, and the next inspection on the next page 2020. So for 18 years that airplane was not inspected, yet the owner told me that he flew it regularly. I knew that because he told me that he “didn’t know what the radios were like because [he] never use them.” Darn right! The guy was out there flying around not using the radio because it was totally illegal. No prebuy inspection was done. There is no indication whether there is corrosion in the cylinders or airframe.

Where does this all come from? To some extent it is ***a culture of safety that accepts shoddy practices.*** To some extent it is plain (plane) ignorance by the nonflying public who decides to get into it but does not want “advice.” But it is this kind of thing that is going to get someone killed, as evidenced in your NTSB report.

First, assuming he was not suicidal (as there is no indication that he was and his last text to his girlfriend was friendly and light) he obviously justified this in his mind as **not being a big deal.** He had flown the plane prior without major incident although he struck a runway light and had a tail strike - that should have alerted him that he was “rusty” at best. He must have felt confident in his repairs up to that point and in his flying ability. Looking at Google Earth, he may have rationalized that there were plenty of good emergency options (especially north of the field) and that were anything to go wrong he would either be able to land at the field, like last time, or make an open field for an emergency landing. He may have even thought that despite a crash in the trees he could bring the plane down slow enough and with enough control to survive that crash. He apparently had **a feeling of invincibility** which would not appear to be backed up by his experience level.

For me, everything has to be 100%. My medical current, my license current for the operation (current flight review, landings in last three months and night takeoffs and landings if carrying passengers, instrument currency *and proficiency* for instrument flight, etc.). And the airplane has to be 100%, I don’t fly with unsafe maintenance issues, wouldn’t take off with one fouled plug, would not take off with any needed instrument inoperative, cord showing on a tire, inadequate fuel in a main tank for takeoff. I would abort a takeoff if the fuel flow was not correct, oil pressure not normal, RPM not normal, etc.

Bottom line, I don’t think there is any way for the pilot in this instance to rationalize or justify flying that airplane that day. He had to have known his medical had expired, and that the airplane was not safe, as well as not legal to fly, being out of annual. This ***lack of judgment makes an accident inevitable.***

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

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What have I been telling you?

What have I been telling you in over 20 years of ***FLYING LESSONS Weekly*** and its predecessor blogs about accident trends, and repeatedly addressed with specific prevention techniques for the

general aviation fleet? See AOPA Air Safety Institute's new video [Reality Check: What Are the Costliest Insurance Claims?](#) "Costly" is not necessarily "deadly," but the top three of AOPA's four causes probably sound **very** familiar to *FLYING LESSONS* readers. Watch the [five-minute video](#) to see what most frequently results in insurance claims...the greatest threat to the flying fleet and a major factor in the increasing challenge of affording and insuring a light aircraft.

See https://www.aopa.org/training-and-safety/online-learning/reality-check/reality-check-costliest-claims?utm_source=epilot&utm_medium=email&utm_campaign=asi%20products

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