

# Thomas P. Turner's Mastery of Flight™

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## FLYING LESSONS for January 9, 2025

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 most 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 in your success as the 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:***

#### **Two Collisions, Two Days Apart**

From NTSB preliminary reports:

##### **9 December 2024 Pahokee, Florida:**

...about 1630 eastern standard time, a Piper PA-28-181, N90874, and a Cessna 172S, N497SJ, were **substantially damaged** when they were involved in a **midair collision** near Pahokee, Florida. **The flight instructor and student pilot in the Piper were not injured. The flight instructor, private pilot receiving instruction, and student pilot observer in the Cessna were also not injured.** The airplanes were operated as Title 14 *Code of Federal Regulations* Part 91 instructional flights.

Both airplanes had previously completed multiple landings uneventfully on runway 18 at Palm Beach County Glades Airport (PHK), Pahokee, Florida. **The flight instructor in the Piper reported that during final approach for a third landing, about 300 to 350 ft above ground level, he heard a “crunching metal noise” and realized another airplane had collided with the cabin roof from above.** He was able to continue and land on the runway. **The flight instructor added that he had been making radio transmission position reports in the traffic pattern. He remembered a pilot in the Cessna making a “short approach” report during their previous circuit, but he did not hear anything during the accident circuit.**

**The private pilot and flight instructor in the Cessna reported that they had completed one full-stop and two touch-and-go landings. During the fourth approach, the student pilot in the rear seat yelled as he saw “something big” on the left side of the airplane. The private pilot pulled back on the control yoke, but it was too late as contact was already made.** The flight instructor took over control and landed uneventfully. **The private pilot and flight instructor also stated that they had made radio transmission position reports during all four approaches. They heard a transmission from a different airplane on the ground at PHK, but never heard from another airplane in the traffic pattern.**

**What are the facts** as reported so far that fit the mold of what you might expect in a midair collision?

- Contact occurred in the traffic pattern on final approach within 400 feet of the ground (where most collisions occur, according to [AOPA's Air Safety Institute](#)).
- Dual instructional flight (students may be fixated on learning the task to the detriment of looking outside the airplane; instructor may be fixated on teaching and monitoring the student).
- High wing vs. low wing airplane.
- Nontowered airport.
- Two-way radio communication not effective.
- Nonstandard operation (“short approach”).
- Discrepancy between the facts as reported by one pilot and the other.

**What about this** preliminary report might be surprising?

- All five persons aboard the two airplanes escaped uninjured.
- Both airplanes were landed under control despite each receiving “substantial” damage.
- Although this was the collision of a high wing vs. a low wing airplane, the high wing airplane was above the low wing and reportedly descended into the collision. In other words, as this event is reported the “blind spot” created by wing location did not exist on the collision path.

See:

<https://thomaspturner.com/wp-content/uploads/2025/01/2024.1209-PA28-C172-FL.pdf>

<https://www.aopa.org/training-and-safety/air-safety-institute/safety-centers/collision-avoidance>

### **11 December 2024 Pearland, Texas:**

... about 1412 central standard time, a Cessna 182T, N127SL, and a Grumman American AA-5, N5450L, were **substantially damaged** when they were involved in an accident at Pearland Regional Airport (LVJ), Pearland, Texas. **The pilot of the 182T and the pilot and two passengers of the AA-5 were not injured.** The 182T was operated as a Title 14 *Code of Federal Regulations* Part 91 aerial observation flight and the AA-5 was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

According to the pilot of the 182T, he was landing on runway 32 after completing aerial observation work. He was **alerted over the common traffic advisory frequency (CTAF) to an airplane following close behind him** by a pilot holding short of the runway. **The pilot of the 182T attempted to expedite his exit from the runway at taxiway A3 but was impacted by the AA-5.**

According to the pilot of the **AA-5**, the airplane **had to be jump started** before departing from Sholes International Airport (GLS), Galveston, Texas. **About five minutes after departure from GLS, the airplane lost all electrical power.** As a result of the electrical failure, **the pilot was not able to communicate over CTAF or extend the airplane’s flaps.** The pilot reported that he was able to navigate to LVJ using an iPad and ForeFlight connected to a Sentry Automatic Dependent Surveillance – Broadcast (ADS-B) receiver, all powered by independent battery power. While **approaching LVJ, the pilot made visual contact with the 182T and followed it to runway 32.** The pilot estimated that he was about 1/4 to 1/2 mile behind the 182T while in the traffic pattern. The pilot reported that **as he crossed the runway threshold, the 182T was slowing more than he had expected and with the closure rate, he did not feel like a go-around could be safely completed. The pilot attempted to avoid colliding with the 182T by veering toward taxiway A3.**

**The AA-5 impacted the left side of the 182T resulting in substantial damage to both airplanes.**

A witness pilot who was holding short of runway 32 stated that he observed **the AA-5 following about 100 yards behind the 182T. The witness made a radio call over the CTAF to alert the pilot of the 182T about the AA-5's proximity. He stated that the pilot of the AA-5 flew an unstable final approach, bounced on the runway, and veered left of the runway centerline before impacting the 182T. In addition, he stated that the pilot of the AA-5 did not appear to make an attempt to perform a go-around or avoid the 182T while rolling on the runway.**

**What are the facts** as reported so far that fit the mold of what you might expect in a runway collision?

- Nontowered airport.
- Two-way radio communication not effective.
- Nonstandard operation (electrical failure, no-flap landing, following closely [1/4 to 1/2 mile] behind another airplane in the pattern).
- Discrepancy between the facts as reported by pilots and witnesses.

**What about this** preliminary report might be surprising?

- Collision was not an airplane taxiing onto an active runway, it was one airplane landing closely behind another.
- Both pilots were aware of the other airplane in close proximity. The Grumman pilot had the Cessna in sight, and the 182 pilot acknowledged knowing the AA5 was close behind on the basis of the witness' radio advisory.

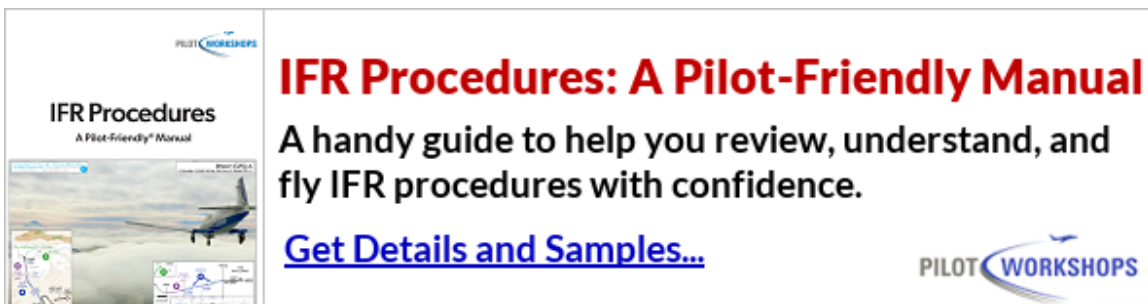
See <https://thomaspturner.com/wp-content/uploads/2025/01/2024.1211-AA5-C182-TX.pdf>

**Midair and on-runway collisions** often follow predictable patterns, but they also sometimes turn out differently than you'd think. For example, many more midairs result in successful landings than most pilots would guess. This suggests putting some thought into **how to safely land an airplane after an inflight collision**, if your attempts at collision avoidance are unsuccessful.

**Both mishaps** are a reminder that **radio calls or lack of radio calls does not mean there is no chance of a collision**. It challenges notions that **having the other airplane in sight or hearing the report from (or about) another is itself enough to avoid a collision**. It raises questions about reliance on ADS-B—which most likely all four airplanes had on board—when collision avoidance still depends primarily on **actively scanning** for other airplanes to see and avoid them, and **flying predictably in standard patterns** to give other pilots the best chance of seeing, and avoiding, you.

**Readers**, what **LESSONS** do **you** draw from these preliminary reports that might not apply directly to these accidents, but help us all avoid collisions on the runway and in flight?

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



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## Debrief

Readers write about previous *LESSONS*

Readers responded to [last week's Debrief](#), especially my comments about fuel management mishaps. A reader who wishes to remain anonymous wrote the week previously but the comment synchs well with something I said last week. The reader writes:

As a student pilot I always request the tanks on the Piper Archer II to be topped off, even if fuel "looks" like it is just above the tabs. Why? Learning to drive a car in NYC was not a problem for fuel, there were garages everywhere (except midtown) and people always around to lend a hand.

After moving to Cleveland, [Ohio] my mom would visit in the winter and insisted I always maintain at least 1/2 tank of fuel in the winter, a pound of shelled almonds in the car and a plumber's candle/matches in the glove compartment. Getting stuck in winter snow or on I-80 between CLE and NYC is dangerous and she believed these precautions would improve my chances of being ok until rescue.

That is the mindset I brought to fuel on the Piper. Full tanks before every lesson. My CFIs did not think it necessary and only caused the line guys more work than needed. But **my preflight, my call.**

My concern is not fuel exhaustion, but fuel starvation. What happens if one line gets clogged? At least the other line should be OK and get me back down.

If my thinking is incorrect, please let me know

First, I commend you for (1) accepting pilot-in-command responsibility ("my preflight, my call") even while still a student pilot, and (2) for risk management related to fuel starvation, something the record suggests might not get the thought it deserves even from experienced pilots.

Here's what I wrote last week:

**Here's something that I think plays a major part in fuel management mishaps:** Almost all flight training, especially cross-country flying, begins with an airplane full of fuel with a trip that can be completed without having to refuel along the way. The system turns out pilots who never learn how to refuel an airplane (or even request fuel), and who are never challenged to truly manage the fuel system to ensure success including experience making an unexpected diversion when the fuel plan doesn't work out as expected.... **Flight instructors:** Are you intentionally creating scenarios where your student must decide to add fuel during a training flight? Are you creating real-world fuel management scenarios...

Is it possible your CFIs were less concerned about the line guys' workload and more about teaching you fuel management skills? I agree that there are few times when you want to take off with less than full tanks (high density altitudes, when payload requires reduced fuel weight, to improve single-engine performance in piston twins), **always** taking off with full fuel and **never** having to depend on your fuel management skills may be a reason for the number of fuel starvation and fuel exhaustion mishaps. Insisting on full tanks for every flight is not wrong, at least until you have an operational need to reduce the fuel load. Just be sure you gain experience with enroute fuel monitoring and management to develop fuel judgment for the times full fuel isn't an option or is not optimal, and get practice in fuel decision-making. Thanks, anonymous reader.

See <https://thomaspturner.com/flying-lessons-weekly/flying-lessons-for-january-2-2025/>

Reader Ed Stack relates one technique:

I programmed a message into my 530 that says "Check Fuel" every 30 minutes. It pops up as a "MSG" and serves as a nice reminder every 30 minutes I fly the airplane. The nice thing is that the message stays programmed after shut-down, so it pops up every single flight at 30-minute intervals. I'm sure there are other options to set reminders, but the "MSG" is hard to ignore on the 530.

That's a nice feature of GPS-era avionics. It's a good reminder for persons who don't have a technique, and for pilots new to the concept. Thanks, Ed.

Reader and aviation safety author Richard Benson adds:

I really enjoyed reading *FLYING LESSONS* last [time], particularly your closing comments, including:

*"The system turns out pilots who never learn how to refuel an airplane (or even request fuel)".....*

I apologize if I have sent you this article before however it exemplifies your last three paragraphs. It's about a 31-hour student (me) doing my long cross country solo from Salem to John Day [Oregon] back in 1978: "I almost ran the tanks dry"

I do remember you sending that me to before, and it's a great example of what we're talking about. You encapsulate the problem with this statement:

...all the emphasis during my initial 30 hours of training was on passing the written test and checkride, versus "real world, practical concepts...."

Thank you, Richard, for sharing your experience and the *LESSONS* you learned in *Air Facts*, and for reminding me to include it here as well.

See <https://airfactsjournal.com/2019/06/i-almost-ran-the-tanks-dry/>

Wrapping up the fuel discussion for this week (and more), Jeff Wofford, a growing force in the world of business aviation and adoption of Safety Management Systems (SMS) by small flight departments, writes:

As always, I enjoy your *FLYING LESSONS* newsletter. Also, it was great to see you at the Bombardier Safety Standdown in November.

I was working on a presentation I'm doing for the FAA Safety Team, and I downloaded the latest (2024) McSpadden Report. **Each year I'm disappointed that we really don't seem to be improving very much.** The sad part is that *it's not the airplanes that are failing us, it's us failing the airplanes.* Most of the issues revolve around a "short between the headset." In other words, **poor aviation decision making.** Loss of Control Inflight (LOC-I), Runway Excursions (REs), Controlled Flight Into Terrain (CFIT) and fuel related issues remain a major problem. Each one of these problems can be mitigated by the pilot making **better decisions** and **following standard operating procedures (SOPs).**

I think we have a systemic problem. We've allowed complacency to cloud our judgement. **Our airplanes, even the legacy aircraft** (nice name for old airplanes), **are dependable.** Many have advanced systems with GPS and moving maps and electronic engine and fuel management systems that practically make decisions for us. **We can get complacent** when we head out for a flight, we don't check the weather or winds aloft, we assume the numbers we plugged into the fuel totalizer are correct (like Mark said garbage in, garbage out). ***We have given ourselves over to technology and have neglected to have backups!***

**People complain about fuel quantity indicators, yet they don't take time to get them calibrated** during an inspection. Even the old C172 and 182 fuel quantity indicators can be calibrated and be accurate. Sporty's and Aircraft Spruce sell fuel dip sticks for most aircraft models. **There's really no excuse for not taking time to figure out how fuel you will need for a particular flight and then making sure that the aircraft is fueled properly** for the flight.

Over my career, I've flown over 100 different types of airplanes. Some had very simple fuel systems like a C172 or a Stearman, some were complicated as hell like the T-33 and yes, the Cessna 300-series twins could be complicated. The key to it is to **know the system in your airplane** and be able to use it and **understand how to use it when there is a problem** in the system. The T-33 only had a quantity gauge for the center tank. You had to know how much was in the tips, the leading edge and wing tanks. When the center tank (90 gallon max) started decreasing, you had better be close to an airport. The 20 and 30 series Learjets required attention to fuel management. The key to flying these airplanes was to understand the systems (including the fuel system) and know what your fuel burn was going to be for your flight, then determining

the appropriate reserves for that flight and then to **pay attention and look for any anomalies and correct them early.**

I think part of our problem is that flight instructors are not focusing on Aviation Decision Making and Risk Identification and Mitigation strategies. While we have many great instructors, we have quite a few that are merely instructing to build time for the next job and do not putting the appropriate focus on planning. **I learned to fly in Hawaii** while I was in the Navy. **From day one, a tremendous focus was placed on planning your flight. Island hopping in a Cherokee 140 could be disastrous if you didn't plan your flight well.**

Due to my training, **this instilled a sense of how important flight preparation and planning is and I passed that along to my students** when I became a CFI. Later in my career, as a corporate and business aviation pilot, I continued to stress the need for a thorough preflight (airplane, airport, weather, fuel, etc.) checklist usage, and planning (weight & balance, takeoff and landing performance) for every flight. *I always joked that if I ever crashed an airplane, there would be a fire, because it was not going to be from running out of gas!*

As we start out this new year, **let's make a resolution to plan better and pay more attention to the way we prepare and fly our aircraft.** This doesn't add a lot of time to getting ready. There are apps for everything. Using [FltPlan.com](http://FltPlan.com) or ForeFlight will go a long way to helping you do a better job of preparing. There are aircraft specific apps to help with aircraft performance figures. This is one way we can **use technology to our advantage.** Remember, this extra time spent on preparation does not take away from the fun in flying, it ensures that you will be around to continue to have fun flying!

Thanks for continuing to pass along what you've learned, Jeff.

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Several readers commented about a recent webinar I presented for the Experimental Aircraft Association titled "[IFR Departures: From Planning to the Enroute Environment.](#)" Reader Rick Stegehuis writes:

Hi Tom. Just wanted to say a quick thanks for your IFR departures presentation given in the November EAA webinar. I was not able to watch it live and just finished watching it out of the EAA archives. I learned more about IFR departures from your presentation than I ever did while training for the rating or since. As you discussed, there is little emphasis on proficiency in planning and executing IFR departures, and it can be a high risk phase of flight if not given the attention it deserves.

Reader/ instructor John "Grumpy" Miller adds:

I missed the live presentation, but just watched it recorded at EAA. ***Outstanding!*** A whole lot I have "forgotten" but great reminder and now I'll include it in the IPCs I give.

I'll be doing a follow-up webinar with EAA, "From Cruise to Approach: Let Yourself Down Easy," in late May. I'll post log-in information in the **Mastery of Flight™** report before that event. Thank you, all who wrote.

See <https://www.eaa.org/videos/6364996508112>. You must be logged in as an EAA member to view the webinar.

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