Thomas P. Turner's
# Mastery of Flight®

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# *FLYING LESSONS* for September 25, 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*

**I've been away** from my home office much of the last two weeks. Let's take a look of what's happened in the FAA preliminary accident reports in that time.

**Since September 12** through the 25 September postings on the FAA's website there have been 110 reports of accidents and incidents involving noncommercial fixed-wing aircraft. Of these 103 were piston-powered aircraft and seven were turboprops and pure jets. Notably, only four of the 110 were fatal, and another four involved serious injuries.

See https://www.asias.faa.gov/apex/f?p=100:93:::NO:::

**In very general terms,** these are the trends evident over the last two weeks. Remember, these are very preliminary information:

- **22** involved engine failure. One is known to be fuel starvation (fuel on board but not getting to the engine), another fuel exhaustion (running out of gas). Two of the engine failures resulted in "serious" injuries and none were fatal—we do a lot better at getting an airplane down ***wings level, under control at the slowest safe speed*** after power loss than most would think.
- **20** were loss of directional control during the landing or takeoff roll.
- **17** have causes that to date are unknown. All four fata crashes were in this category. We can't learn anything from these events yet, but hopefully will get more details as the NTSB investigation unfolds.
- **10** involved collapse of retractable landing gear—the wheels were down but did not stay down for some reason.
- **9** were collisions with obstacles during takeoff or landing. Most of these were in Alaska on rough fields or intentional off-airport operations.
- **7** were bird strikes.
- **6** incidents were runway overruns, most during landing (excessive speed on approach; delayed go-around) and two during takeoff (delayed abort decision).
- **5** were hard landings resulting in aircraft damage.

**The rest** were a collection of one-, two- or three-off causes.

**We don't have** definitive information from the last two weeks' accident reports. But we can learn a few things from these preliminary trends. Engine failures happen…so be ready for one. Losing control and going off the side of the runway during takeoff or landing happens almost as frequently. Although by some estimates retractable gear airplanes make up only about 20% of the general aviation fleet, gear collapse on the runway in RG airplanes is one of the most common accident scenarios for *all* GA.

**Armed with this snapshot** of only the last two weeks of preliminary accident data, **what can you do** to prepare for and avoid the most common mishap causes? **Let us know** your thoughts and strategies.

Questions? Comments? Supportable opinions? Let us know at mastery.flight.training@cox.net.



# Debrief

Readers write about recent *LESSONS*:

Frequent Debriefer Boyd Spitler writes about recent *LESSONS* on aircraft loading and debunking the **myth of utility**:

> I don't know that it would be helpful to GA pilots except as a categorical truth, but here's my memory of one transport category type's loading ***limitations.*** Each airframe had its own basic weight numbers, but as a type these were limiting.
>
> | | |
> |---|---|
> | Basic (empty) weight: | around 275,000 |
> | Max zero fuel weight: | 450,000 |
> | Resulting max payload: | 175,000 |
> | Max fuel capacity: | 235,000 with full tanks |
> | Max takeoff weight: | 631,000 |
> | Max landing weight: | 481,500 |
>
> Undertaking a maximum range scenario at the Express operator, we could fly Osaka (Kansai) [Japan] to Memphis [Tennessee] with full fuel and about 120,000 payload, or from Paris (CDG) [France] to Subic Bay PI (RPLB) [Philippines] with similar numbers. At CDG we had to push the aircraft from its parking spot back onto more level pavement in order to get both wings full.
>
> The Memphis flight offered three hours of feet dry alternates if fuel on board became an issue short of destination. CDG to RPLB was more sporty, as the last hour and a half was feet wet after Hong Kong outbound. Everybody was interested in the fuel state going wet, especially if weather at Subic was in question.

> For Hong Kong (VHHH) to Anchorage (PANC) [Alaska], I could offer the ramp more or less payload depending on ANC weather, but the bulky payload often prevented getting any more onboard even when there was weight available.
>
> At 450,000 zero [fuel weight] there was only room for about 180,000 [pounds of] fuel at max takeoff weight, 150,000 of which would need to be dumped in a takeoff emergency requiring immediate return to land at the certified weight, (about 24,000 gallons), and took several minutes, if time permitted, to avoid an overweight landing.
>
> As I first mentioned, the only relevance to your discussion is that **flexibility is designed wherever possible to optimize utility**, relying on compliance by the operator.

Even (or especially) crews of large aircraft have to choose their utility too. Thanks, Boyd.

See https://thomaspturner.com/flying-lessons-weekly/flying-lessons-for-august-28-2025/

Reader Tom Stackhouse writes about our September 11 *LESSONS*, in particular a tactic to overpower someone who freezes up on the controls:

> I have read on another aviation forum that if you find yourself with a passenger who freezes on the yoke, **cover his eyes with your hand**. Instinctively, they will let go to move your hands away from their face. I don't know if this is true, but in a desperate moment, it might.

I've heard that too. It's worth a try if the situation arises. Thanks, Tom.

See https://thomaspturner.com/flying-lessons-weekly/flying-lessons-for-september-11-2025/

Instructor Jeff Dill also adds to our September 11 *LESSONS* on briefing front-seat occupants:

> Exchange of aircraft control rules are easily briefed when I am, for example, PIC [pilot in command] and CFI [certificated flight instructor]. There are times that are not so straightforward. **The sticky situations occur when the other pilot is PIC, and/or aircraft owner.** I find other variants of that come up. Once, with Civil Air Patrol flying, I was the new guy who had just passed their little check ride; **I was technically PIC, but the right seater was supposedly qualified and** the **seasoned** CAP pilot. I did not expect him to run the Cessna out of airspeed by flaring 15-20 feet high. He didn't break the airplane mostly because Cessnas are made tough.
>
> Sometimes I am not PIC and seated in an unfamiliar airplane, which might occur during a flight review or just going to get pancakes. Sometimes, when not PIC and participating **in a pre-flight briefing, I verbally acknowledge to the other pilot that he is PIC but I might speak up if I didn't like something**. Part of the positive exchange concept is to prevent opposing inputs but sometimes, after acknowledging that he is PIC I have added, "If I think you might kill me, you might have a fight on your hands." ***I am open to suggestions on how to improve that delivery.***
>
> Fairly recently I was instructing a private pilot friend who doesn't fly enough, in his airplane. I was clearly the CFI asking him to perform Private Pilot maneuvers and, since we had flown together before, I probably skipped the part about relinquishing all flight controls with the magic words "I have the aircraft." It was an engine-out scenario to a runway and the only way he was going to stretch it was a diagonal straight to the numbers. **I let it go as far as I could**, but the last turn to align the heading with the runway was just too much bank with the airspeed that we had. When I said the magic words, **rather than let go, *he fought me***. I managed to get some power in despite his hand still on the throttle. Out of danger and him still flying, I let him fly another pattern to a full stop. After engine was shut down we had unfriendly words. I think we have salvaged our friendship, but he knows that I won't be put in that position again.

I wasn't there and I don't know how the two of you related to each other, but I don't get how anyone could be relationship-ending mad over actions that may have saved both your lives. But it emphasizes the need to brief pilot-in-command, pilot-not-flying and flight instructor responsibilities for the safe outcome of the flight, and to establish, up front, an atmosphere in which comments and actions necessary to achieve that safe outcome. Thank you, Jeff. Readers, do you have input of his request for suggestions to improve his preflight briefing delivery?

Our frequent anonymous Debriefer closes out this week's report by taking us back to the "discovery flight" that prompted this discussion:

> **We do not know** if the discovery flight was a "fun" gift to a *reluctant* recipient or if the passenger wanted to learn to fly and purchased it for themself. If the CFI was heard yelling "Let go! Let go!" the probability is good that it was a gift. **We also don't know** if the CFI was just starting to build hours and was hesitant to upset a potential customer by taking over the controls before it was too late.
>
> I'm not sure what recourses are taught to a CFI when the CFI determines a passenger with access to controls is freezing up and won't "Let go." This CFI must have sensed what was becoming obvious before short final.

I don't recall every discussing the topic of reluctant, frightened or downright dangerous students while I was training to become a flight instructor. I expect this is almost never addressed between instructors and their CFI students. Instructors, we need to fix this. Thank you, anonymous.

More to say? Let us learn from you, at **mastery.flight.training@cox.net**



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