Thomas P. Turner's
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FLYING LESSONS for September 11, 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:

This analysis appeared on Gold Standard Aviation's website:

> A light sport Czech Sport turned final at KSMO [Santa Monica, California] on what was supposed to be a **discovery flight**. The non-certificated occupant in the left seat was flying. On touchdown, the airplane hit hard, bounced, and pitched up steeply. ATC transcripts captured the instructor yelling, ***"Let go! Let go!"*** as the Czech Sport stalled, spun, and crashed beside the runway. **Both occupants were fatally injured**.
>
> Takeaway: the TSA says **discovery flights are not officially instructional flights** towards a pilot certificate. The FAA mandates that before any instructional flight, instructors must review the "***positive exchange of flight controls***" procedure:
>
> • Instructor announces, "I have the flight controls."
> • Student responds, "You have the flight controls."
> • Instructor confirms visually and verbally, "I have the flight controls."
>
> This standard **ensures there's no ambiguity about who is flying** the airplane.
>
> The fact that this was just a 35 minute discovery flight possibly led to an improper briefing to the left seat occupant.

See
https://goldstandardaviation.com/?fbclid=IwRlRTSAMupbBleHRuA2FlbQIxMAABHhMpypS4695IkW3JKmx2yAybCHATp_RWRdKRUsp42x5nJW--HGYX7JHCPM5O_aem_AxZUmuH-O--6Y5Ai5SxBzA

The term "Discovery flight" comes, I believe, from the old Cessna Pilot Centers network of instructional facilities and new aircraft sales outlets. The idea was to offer a short sightseeing flight, usually in a Cessna 150, to introduce a prospective pilot to lightplane flying. Since then, it has come to describe any introductory flight with at least overtones of a "first *FLYING LESSON.*"

The report correctly describes the **positive exchange of flight controls** technique. This dreadful scenario, however, suggests some other briefing items to consider any time you have a passenger in a seat with flight controls or access to the panel, including:

- Positive exchange for flight controls as previously discussed.
- Advisory to keep hands and feet well clear of the flight controls except when you clearly indicate they should do so under your supervision.

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- “Sterile cockpit” rules within 1000 feet of the ground and any other time the Pilot-in-Command deems desirable. Explain that this means no extraneous conversation or actions and all communication should be limited to safety-related items.
- Point out any traffic they see as soon as they see it.
- In retractable gear airplanes, if they see the runway directly ahead and the landing gear down indications are not illuminated, speak up.

It’s possible the pilot of the Czech Sport airplane had told the “discoverer” to “follow me on the controls” and the uncertifcated passenger didn’t let go when done or when told. You should brief passengers about that before you get into the aircraft.

Any time a passenger has access to flight controls it’s vital to set the ground rules in the form of a preflight briefing with occasional reminders in flight.

Readers, what else might you brief a non-pilot front-seat passenger?

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

https://pilotworkshop.com/products/ifr-mastery?utm_source=flyinglessons&utm_medium=emailbanner

Debrief

Readers write about recent *LESSONS*:

Reader Karl Kleiderer writes about recent *LESSONS* about fueling practices and ramp safety:

> On the big show of waving the keys at the FBO line person...my A36 [Bonanza] doesn't have an ignition key, just a key to lock and unlock the doors. I've gotten in the habit of putting my left hand on the starter/mag switch before I pull the mixture to cutoff and I let the engine stop turning completely before I turn the mag switch all the way to the left stop. As an aside, I always tell myself that if I don't lock the doors that pretty much anyone can steal the airplane if they know what they're doing.

Yes, some airplanes—like your 1984 or later A36, the 1946 Cessna 120 I once owned, and many more—do not have a key switch, and therefore a way to signal line crews the magnetos are grounded. They also require techniques like you describe to “safe” the mags for ground handling. Thank you, Karl.

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

Karl Kleiderer also wrote about **The Myth of Utility**, the focus of the August 28 Mastery of Flight® report:

> One more feedback that may apply to the "**Myth of Utility**" though this is more about doing our job as PIC...
>
> In a few weeks' time I'm flying our A36 with my wife and 3 other adults (1 adult male, 2 adult females) up to a music festival in MD [Maryland] from just south of Charlotte, NC [North Carolina]. The trip is only 366nm. I’ve asked for **each person’s actual weight to be sent**

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> **discreetly** instead of in the group text and I was playing with the W&B last night. With realistic baggage and assuming a headwind the **temptation** to add just a few extra gallons to make it one leg with enough buffer is very high. I told my wife last night that **we're going to need a fuel stop** and will break the news to the group later today. **It will add to the adventure** and they'll get to see what a little airport fuel farm is all about and how it's like going to your local gas station!

That's the way to do it. Thanks again, Karl.

Frequent Debriefer Dave Dewhirst, who specializes in instruction and other services for pilots and owners of cabin-class aircraft, writes about the Cessna Conquest crash that was the focus of last week's *LESSONS*:

> A couple of quick questions. Where was the control lock? Did the pilot get the engines off the Start Locks before takeoff? Keep up the good work my friend.

Good questions, I wish I knew. I'm sure the NTSB will look into these sorts of details. Until then we have only preliminary information. I know you know this and are brainstorming more possible *LESSONS* from this tragic crash. Thanks as always, Dave.

See:
https://thomaspturner.com/flying-lessons-weekly/flying-lessons-for-september-4-2025/
https://thomaspturner.com/wp-content/uploads/2025/09/2025.0629-441-OH.pdf

Career factory test pilot, flight instructor and pilot examiner Dale Bleakney provides some great insights. First about aircraft fueling practices:

> I always enjoy reading your newsletters. They make me think and also get me to see different perspectives.
>
> I thought I should share an interesting study I did years ago when the FAA asked for me to provide some remedial training to a pilot who unfortunately had **dual engine failure after takeoff**. Nobody was seriously hurt, but the FAA asked me to do some remedial training for the pilot.
>
> ***Event:*** The pilot of the high-performance multiengine pressurized piston powered airplane **left his fuel order** (40 or 50 gallons per side) with line service **and went home**. The next morning, he came out to the airplane, performed a walk around, checked the fuel (**it was blue**), completed the takeoff checks and departed.
>
> **Shortly after takeoff *both engines began to detonate* and the engines failed**. The line service folks had **put jet fuel in** rather than 100LL. Note: The fuel added was only about half the [aircraft's total] capacity.
>
> Why did the pilot not notice?
>
> I was curious about that so we grabbed a 1/2 gallon glass jar, asked line service to put a couple of inches of avgas in it, then went and filled the rest with jet fuel, expecting a color change at some point. ***The fuel always had a blue tint to it***. **The only way we could tell** that there was jet fuel in the Avgas was by **SMELL**. No other way was apparent. **It always looked blue**. If you put some on your hands, you could feel the greasiness, but no one wants to smell like jet fuel the whole trip.
>
> I think you and I share the same philosophy about **not having the airplane fueled unless we are there**. I swear by that. I have had line service try to put Avgas into a diesel powered airplane and jet fuel into a "turbocharged" airplane thinking that meant turbine. We also know about the [Bombardier Challenger] 604 that had DEF put in the fuel instead of Prist with catastrophic results.

Dale also addresses **The Myth of Utility**:

> One comment about utility. The airplane only needs to meet **2 certification criteria**:
>
> (1) **Full fuel and minimum crew**, *and*
>
> (2) **Full seats** (170 pounds apiece) and enough **fuel for 45 minutes** at cruise

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> The airplane needs to be **within weight and center of gravity** [limits] for those two scenarios. ***The rest is to give owners flexibility***.
>
> Some older [Cessna] 182s could have full fuel and full seats but I don't know of a newer airplane that allows full fuel and full passengers with baggage.
>
> Thanks as always for your newsletters. You do an outstanding job.

Thank you, Dale. That's outstanding information about certification requitements. Thanks also for your kind words about my work—that means a lot coming from you.

See https://www.ainonline.com/aviation-news/business-aviation/2025-04-09/hop-jets-ellis-shares-lessons-learned-crash

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

See https://nafimentor.org/

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