

# Thomas P. Turner's Mastery of Flight™

www.thomaspturner.com

## FLYING LESSONS for April 17, 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:

**Six died** when a sightseeing helicopter carrying a family of five broke up in flight and plunged into the Hudson River. There's discussion of [mast bumping](#) and NTSB is investigating the [inflight separation of the engine transmission and main rotor system](#). Here's [a YouTube video](#) that reviews the facts as they were known at the time the video was recorded, shortly after the crash. The video creator doesn't try to infer **too** much from the limited information available—although he does speculate briefly about causes—but he explains what the radio calls mean for someone not familiar with ATC procedures or the aviation safety record. The value of this particular video, in my view, is that includes the ATC audio.

**No doubt** there is much to be discovered during the investigation, and *LESSONS* to learn once the investigation is done.

See:

<https://youtu.be/FSziTtqEYxA>

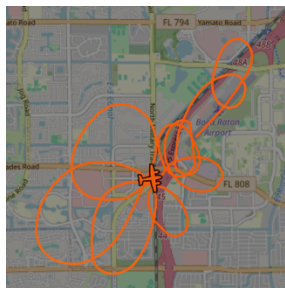
<https://www.news18.com/explainers/what-is-mast-bumping-and-did-it-cause-hudson-river-helicopter-crash-9296108.html>

<https://www.nts.gov/news/press-releases/Pages/NR20250412.aspx>

**All three** aboard a Cessna 310R were killed when it crashed onto a road in Boca Raton, Florida. The aircraft was totally destroyed. [The Aviation Safety Network \(ASN\) reports](#):

ADS-B data suggest that the aircraft took off from runway 05 at Boca Raton Airport, FL (KBCT) at 10:12 [local time]. After becoming airborne, the aircraft began flying a series of left-hand turns in the vicinity of the airport at varying altitudes. The aircraft crashed about 3500 feet to the southwest of the threshold of runway 05, about 11 minutes after takeoff.

**The Cessna twin's** flight track—eight left-hand circles, all at 500 feet above ground level or less—suggests a wild ride: [radio calls from the pilot](#) report a stuck rudder and video showing a jammed, fully deflected rudder. [One unverified report](#) is that:

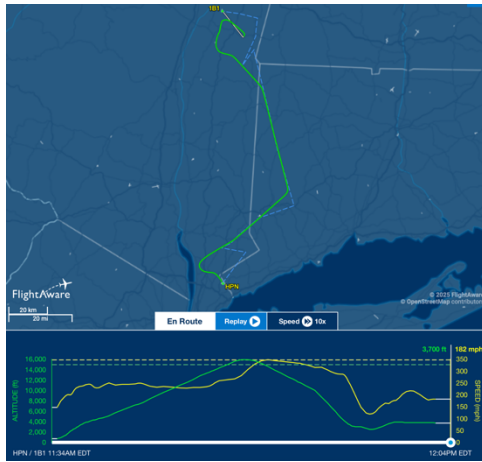


...the pilot reported that his rudder was stuck fully deflected to the left and he could only turn left. when he got slow enough to land the plane would go straight. Pilot was an accomplished aerobatic pilot.

[A YouTube video](#) traces the video with commentary. There'll undoubtedly be *LESSONS* from the facts that emerge here as well.

See:

<https://asn.flightsafety.org/wikibase/496232>  
<https://www.avweb.com/aviation-news/rudder-problem-reported-before-three-killed-in-fiery-cessna-310-crash/>  
<https://www.beechtalk.com/forums/viewtopic.php?f=41&t=237617>  
<https://youtu.be/0eU4MefN8kY>



**A family of six** aboard an MU-2 perished when, [according to the ASN](#):

The NTSB reported that the aircraft crashed at a high rate of descent in a flat agricultural field following a missed approach to Columbia County Airport (1B1), Hudson, New York.

**Weather** may have been a factor, with low clouds and icing conditions near the surface reported at the time of the crash. The [Flightaware track and altitude log](#) shows a quick climb to 16,000 feet then a descent for the approach...possibly a low, visual approach or a circling approach before altitude went down as speed went up...until impact.

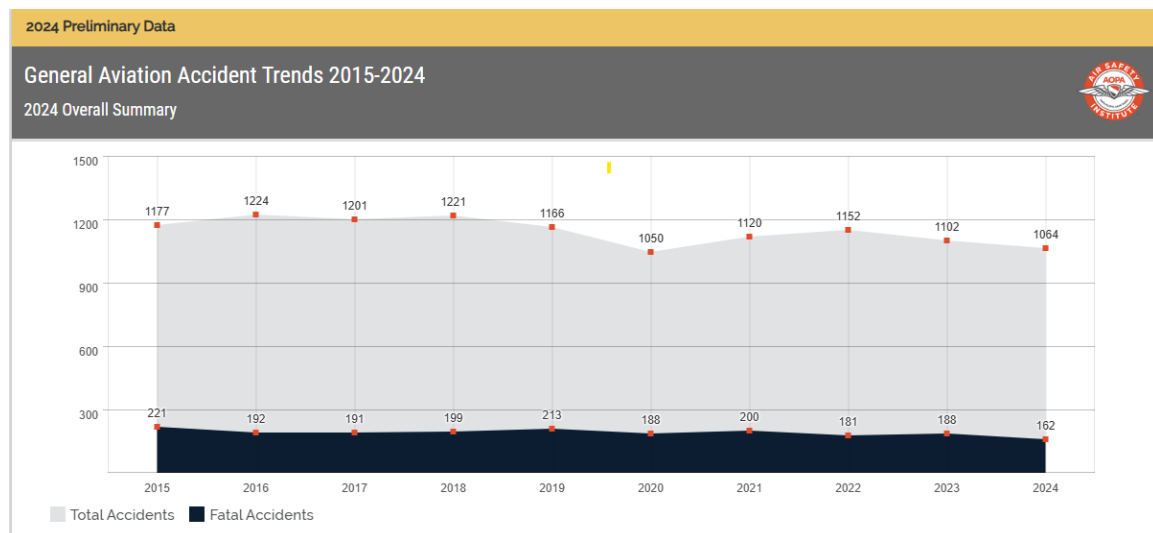
**More details** are available in this YouTube video, which focuses on the publicly available factual evidence. Here, too, are *LESSONS* waiting to be learned.

See:

<https://asn.flightsafety.org/wikibase/497772>  
<https://www.flightaware.com/live/flight/N635TA/history/20250412/1450Z/KHPN/1B1>  
[https://youtu.be/kHt\\_w3Msksk](https://youtu.be/kHt_w3Msksk)

**I was struggling** with what to write in this week's *LESSONS*, with all these fatalities in so short a time...plus two in a Cessna T210 in Louisiana, the solo pilot of a Cassutt III in Oklahoma, an Aeronca Champ pilot in Missouri (whose passenger suffered "serious" injuries), the Texas pilot of a Saberwing, and two aboard a Mooney in Tennessee—eight fatal accidents and **22 dead** in the last two weeks.

**The most recent** AOPA ASI [Richard McSpadden Report](#) reveals **162** fatal general aviation crashes in all of 2024 (preliminary data, but that number shouldn't change). I know the last two weeks have been an anomaly. But if it were indicative of a consistent trend there would be 208 fatal accidents in 2025...28% more than the 2024 rate.



See <https://www.aopa.org/training-and-safety/air-safety-institute/accident-analysis/richard-g-mcspadden-report/mcspadden-report-figure-view/?category=all&year=2022&condition=all&report=true>

**Fatal accidents** of all sorts, including airlines, have been widely reported this year. Preliminary 2025 data suggest the total number of aircraft accidents this year is actually lower than last. But ***is the number of fatal accidents trending upward?***

**So with all this tragedy**, what do I write? What *LESSONS* can we learn? Suddenly I had the opportunity to choose a different accident as our focus this week:

**The pilot and his passenger** were taking off in an A36 Bonanza. Here are the initial facts from the FAA preliminary report:

AIRCRAFT DEPARTED AND CRASHED IN A FIELD DUE TO ENGINE ISSUES.

**The FAA notes** that the pilot was unhurt and the passenger suffered “minor” injuries. Airplane damage, according to the FAA’s initial report, is “minor.”

**Here’s** what the [Aviation Safety Network](https://asn.flightsafety.org/asndb/year/2024) reports:

A Beechcraft A36 Bonanza sustained substantial damage following a forced landing.... The pilot was not injured, and [the] passenger sustained minor injuries.

Preliminary information indicates that the airplane departed runway 26...and climbed to an altitude of 2000 ft when it experienced a loss of engine power. The pilot conducted a 180 turn and attempted to land back on runway 8, but ended up landing in a field roughly 1.6 miles from the approach end of runway 8.

See <https://asn.flightsafety.org/asndb/year/2024>

**While I stewed** over what to write this week I received a phone call that changed the direction of this edition of **Mastery of Flight™**. A *FLYING LESSONS* reader called to thank the organization for which I work, the [American Bonanza Society](#), and me personally ([Mastery Flight Training, Inc.](#), being my personal, after-hours craft), for helping save his wife’s life, and his. He was the pilot of that A36, and described his experience (paraphrased from my notes taken during the call):

I have a turbonormalized A36. Everything looked normal during the takeoff roll. It was the first flight of the day and the oil was cool, so manifold pressure was about 33 inches as I expected.

**A turbonormalizer** is a conventional turbocharger rigged so it develops sea level manifold pressure to a high altitude. The “normal” in turbonormalization is about 30 inches of manifold pressure at full throttle, what is standard at sea level in non-turbocharged engines (conventional turbocharging boosts pressure the higher than is natural at sea level). Like many turbocharging systems, turbonormalizer output is automatically controlled by a wastegate system that itself is controlled by oil pressure—more oil pressure creates more manifold pressure and vice versa. When oil is cool the oil pressure is higher than normal, so it’s not unusual for a little extra manifold pressure on the first takeoff of the day until engine heat raises the oil temperature. Ten percent extra manifold pressure as reported by the caller is a bit much, but again, it’s not outside of expectations in this type of modification under these conditions.

**The reader continued** (again, paraphrased from my notes):

Climbing away from the airport the airplane felt sluggish. I looked down and the manifold pressure was down to 27 inches—not good. I started a turn back toward the airport and suddenly it sounded like two rapid shotgun blasts in the cockpit: **Bang! Bang!** We later found two large holes in the crankcase. I knew power was gone and there was no chance of a restart.

**My training kicked in** and I knew from what you’ve written that getting back to the runway wasn’t going to happen. I have taken all the [ABS](#) online classes and flown with your instructors. I read everything you write and everything on your [**Mastery of Flight™**] website. **I pushed the nose down for airspeed** and looked for a place to put it down.

There were three fields in range. One was surrounded by trees and wasn’t going to work. I chose the third as the best option. I lined up, wings level. Thank goodness this is a 28-volt airplane [which means its landing gear extends in about 4.5 seconds –tt]. I put the gear down just before

touchdown. But we've had a lot of rain the last several days and the ground was muddy. As soon as the main gear touched it dug in. Then the nose gear collapsed. We stopped in about 150 feet. My wife's injuries are from where **the shoulder harness kept her safe.**

**The reader said** he has a friend who is a former Naval aviator and who "flies Falcon jets around the world" with whom he flies "every month or so" to practice approaches and other things to keep his skills sharp. He credits this, along with the training he has taken and the reading he continues to do as part of his habit of "**continual training**" that made him ready when he and his wife needed him to be.

See:

<http://www.bonanza.org>  
[www.thomaspturner.com](http://www.thomaspturner.com)

**There's evidence** to support that best results come from keeping the landing gear up for off-airport landings—it allows a smoother slide-on without the hazard of being slammed forward if the nose gear collapses, or in a worst case, the airplane cartwheeling. Gear up is my standard procedure for an off-airport landing.

**But you can't argue with success:** a catastrophic engine failure close to the ground in which the pilot maintains control all the way to touchdown on what may have been the best surface available, and the worst that happens is bruising from seat belts and shoulder harnesses. **Well done,** reader.

**I will likely** focus on one or more of the three tragedies above (not to dismiss the others) once more information is publicly available. But despite their severity, at least in some cases **success is possible.** I'm glad we had the opportunity to learn from success this week—accidents are far better documented and survivor stories are hard to find. It's a great reminder that, as written by the 7<sup>th</sup> century BCE lyric poet (an early term for historian) [Archilochus](#):



**"We don't rise to the level of our expectations, we fall to the level of our training."**

See <https://en.wikipedia.org/wiki/Archilochus>


**Readers,** be ready for **your personal success story** with a habit of continual training.

**Thank you,** reader, for your call, for crediting my work (day *and* night) as part of your successful life-saving response, for reinforcing that success is possible, and for making this week's *LESSONS* easy to write.

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

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See [https://pilotworkshop.com/products/ifr-procedures-pfm/?utm\\_source=abs&utm\\_medium=bnr&ad=abs-bnr](https://pilotworkshop.com/products/ifr-procedures-pfm/?utm_source=abs&utm_medium=bnr&ad=abs-bnr)




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– Andrew Urban, Sun River, Wisconsin

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Flight Instructor Hall of Fame Inductee  
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