Thomas P. Turner's
Mastery of Flight®

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FLYING LESSONS for November 20, 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

Entering Argument

In my Air Force missileer days we were trained and evaluated mercilessly on checklists and procedures. Everything had to be done precisely by the book without deviation. Any detection of new and unexpected system status was what we called an ***entering argument*** that prompted completing the appropriate checklist. Let's look at a situation where a pilot may not have followed through once detecting an **entering argument** scenario, and what we can learn from it to apply to all our flights.

USAF Missile Operator Badge (Senior)…the "*pocket rocket*"

From an NTSB preliminary report:

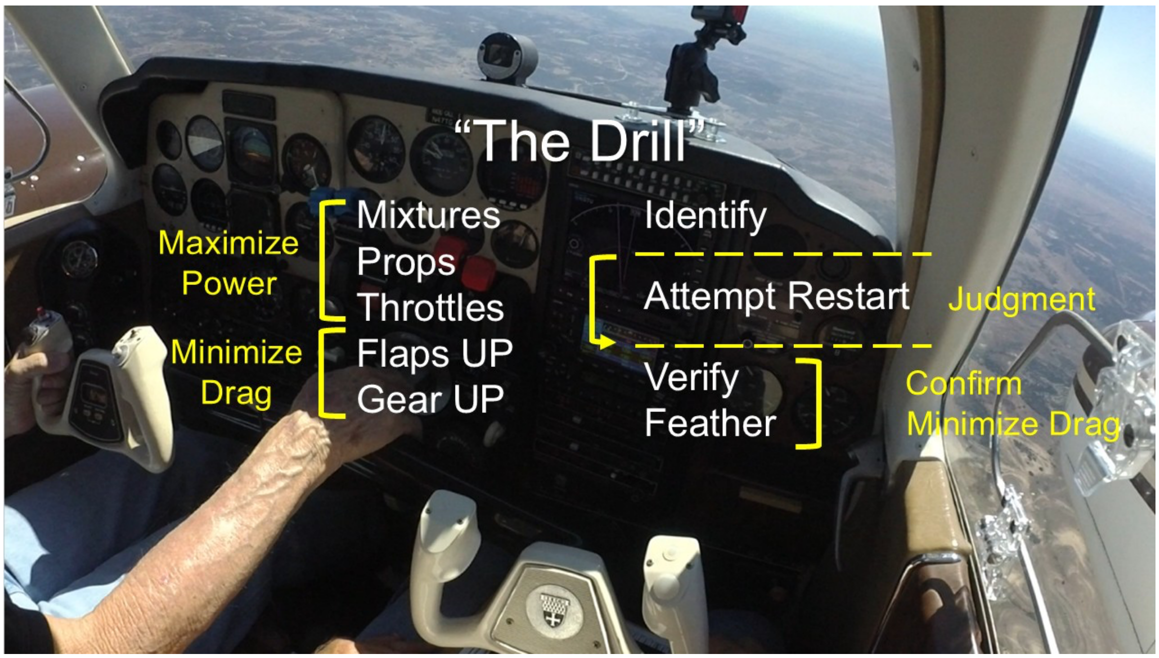
> A Raytheon Aircraft Company G58 [Baron]…was destroyed…[and its] commercial pilot and two passengers sustained fatal injuries. The airplane was operated …as a Part 91 business flight.
>
> The flight departed from David Wayne Hooks Memorial Airport [KDWH], Houston, Texas, and was en route to Lafayette Regional Airport/Paul Fournet Field (KLFT), Lafayette, Louisiana. About 9 nautical miles northwest of KLFT and 1,300 ft mean sea level, the flight transmitted to air traffic control (ATC) of an **unspecified engine issue** and requested direct to KLFT. ATC provided instructions to proceed direct to runway 11 at KLFT after which there were no further transmissions from the airplane. Surveillance video recorded the airplane in a right spin, with a sound consistent with an engine operating, when it impacted terrain. The airplane was destroyed by impact forces.
>
> Postaccident examination of the airplane revealed **the left engine propeller blades exhibited torsional bending and twisting consistent with engine operation. The right engine propeller blades were relatively straight and not feathered.** The left and right **cockpit propeller controls were in similar and unfeathered positions.** The landing gear and wing flaps were retracted. Examination of the flight control system and both engines revealed no mechanical anomalies that would have precluded normal operation.

About one hour into the flight, while descending apparently normally into its intended destination, the flight record shows the airplane turning direct to the destination…from the NTSB report, shortly after announcing an unspecified engine problem. **Video of the crash** shows the aircraft in a descent consistent with a flat spin, a condition that correlates to a single-engine stall, often unrecoverable in piston twins. Preliminary NTSB data suggest the right engine was not producing power…but initial propeller damage analysis and the post-crash position of cockpit engine controls agree that the propeller had not been feathered.

See:
https://thomaspturner.com/wp-content/uploads/2025/11/2025.1021-G58-LA.pdf
https://www.flightaware.com/live/flight/N16PV/history/20251021/1446Z/KDWH/0LS5
https://www.facebook.com/groups/cessnatwin/posts/1382400097228906/

The pilot of this Baron radioed he had an engine problem. He did not specify the nature or extent of the failure to Air Traffic Control, but it was enough he requested to fly direct to the airport and more or less straight-in to Runway 11. Granted clearance direct to his destination, the pilot turned toward it while continuing his descent but made no further contact with ATC. Initial information suggests the pilot recognized an **entering argument** for engine failure and propeller feathering, but that **he did not follow through** and complete the checklist, a complication that contributed to subsequent loss of control.

"The drill" is the standard trained response to engine failure in flight in twin-engine airplanes (I make the case that "the drill" applies to singles as well, but that's a *LESSON* for another day). The engine failure drill in twins is:



1. Maximize available power (Mixtures, propellers, throttles fully forward)
2. Minimize drag (gear up, flaps up)
3. Identify the failed engine ("dead foot, dead engine" confirmed by exhaust gas temperature)
4. Verify you've identified the correct engine (retard throttle, if no change in control input required you've identified correctly)
5. Feather (pull the correct propeller control to the feathering detent as one last verification, and if no change in control input pull it fully into feather)

Do not attempt to identify a failed engine using tachometers, manifold pressure gauges or even fuel flow gauges. Propeller speed will remain close to normal early in an engine failure scenario as airflow spins the prop like a pinwheel. Manifold pressure will indicate close to the same as full throttle as the gauge senses ambient air pressure—in some scenarios at reduced power even turbocharged engines may not show a substantial change in pressure. If the engine dies because of fuel contamination there may still be *some* liquid flowing to indicate normally on the fuel flow gauge. **Aerodynamic response** (“dead foot, dead engine”) and **EGT** (the closest we have to a near-instantaneous power output trend gauge) are the only reliable ways to identify engine failure.

After “identify,” if you have ***no*** trouble maintaining airplane control and you have enough altitude…and therefore in your judgement you have sufficient time, you can “troubleshoot”—follow the checklist procedure to attempt to restart the failed engine. If your handbook does not have specific troubleshooting steps in the Engine Failure in Flight checklist (the G58 Baron does not), look for a separate Air Start checklist.

Barring that, think in terms of what an engine needs to develop power—fuel, air and a source of ignition—and the controls you can manipulate in the cockpit that affect each of those variables. Check the fuel selector points usable fuel toward the engine, try an auxiliary fuel pump if installed, and adjust the mixture (it should already be at FULL RICH from “the drill”) as applicable to the type. Check that the ignition is turned on (the switch has not been bumped out of position) and do anything your POH suggests can restore combustion airflow to the engine (carb heat as applicable, alternate air, etc.).

There’s a difference, however, between *troubleshooting* and “trying to figure it out.” **Troubleshooting** is a quick, efficient confirmation that the engine is getting what it needs to create power and adjusting any that are not correctly positioned. This procedure is POH-based, either a specific checklist in the Abnormal or Emergency Procedures section or as a result of systems knowledge gleaned from POH Section VII and other materials that explain systems design and operation.

By contrast “figuring it out” is more random and hope-based: do *this* and hope the engine starts; if not, try *that* and hope it works. It might not follow established POH guidance and may not be based entirely on systems knowledge. It may be trying to apply what works in one model of engine and airframe to another when the designs are different.

Whether you run through “the drill” all the way to propeller feathering or you judge you have control and time enough to troubleshoot for a possible restart, follow the checklist. Checklists are written by someone with type-specific systems knowledge who is ***not*** under the pressure of an engine failure, extremely increased demands for aircraft control, and the added pressure of survival of your passengers—often family—and yourself. **Checklists** are designed to ***guide*** you efficiently through decisions to maximize your chances of survival using **decisions pre-made** by someone who was **under very little stress** at the time.

If you’re performing actions described in an Emergency Procedures checklist **then you’re in an emergency condition** (whether or not you’re actually looking at the checklist). Complete checklist actions, ***not*** trying to randomly “figure it out” and **not trying to “be a hero”** by attempting to bring it in without completing all checklist actions.

In addition to priority handling, authority to violate regulations if needed to meet the needs of your emergency, and added Air Traffic Control attention that results from declaring an emergency, ***by declaring an emergency you are psychologically committing yourself to complete Emergency procedures and getting the airplane on the ground as soon as safely possible.*** Making the declaration focuses your mind on **doing things right** and **doing the right thing** to maximize chances of survival.

We don’t know much about what happened that led to that G58 Baron’s fatal flat spin. But the pilot knew there was an engine problem (because he reported it to controllers), that the right engine does not appear to have been making power at impact, and that the engine controls were found by investigators to be set for normal operation. **If the pilot had followed through** with the Engine Failure in Flight checklist (“the drill”) and feathered the right propeller, maintaining airspeed and control authority, reducing asymmetric thrust and prop drag that contributed yaw to a single-engine stall, the chances of avoiding entering a flat spin may have been far less.

Study and practice emergency procedures (as sponsor Pilot Workshops says in its ad, "exercise your pilot brain"), so you'll be ready for any likely **entering argument** that indicates your need to ***commit*** to and ***complete*** emergency actions.

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

Debrief

Readers write about recent *LESSONS*:

Reader and *FLYING LESSONS* supporter Boyd Spitler relates some personal experiences prompted by recent reports:

> Two recollections today...
>
> My first [Part] 135 passenger operations were in Twin Otters with no autopilot, about 1500 hours in a stable airframe, some with flight directors and some without. With growth in market opportunity we acquired DHC-7 aircraft and for the first time I had a Part 25 quality autopilot...another stable aircraft with all the magic available in 1980.
>
> I discovered pretty early that I was reluctant to disengage for landing because I knew I was about to screw up something with the quite sensitive flight controls. **My solution was to hand fly below 10,000 feet both in climb and descent** in order to maintain tactile skills and proficiency through 5500 hours in that aircraft.
>
> In later days with transport aircraft the same challenges were present and the same solution was helpful. I must concede that these were all two pilot crew operations and single pilot workload may be the highest of all. Even with two pilots, profile departures and arrivals are best flown using the automation.
>
> As an aside, **I always called "auto flight" when turning the A/P [autopilot] on or off** to keep the other crew members in the cockpit aware of status, (and for the voice recorder).
>
> With regard to turbulence, **Pilot Reports include type of aircraft reporting the condition**. **This allows some qualification of the probability of the report being relevant to your aircraft** both by type and location/altitude. Encounters with expected turbulence of expected intensity are manageable. Operators of all types tend to overreport if they are taken by surprise and subject to an adrenalin burst. Still, PIREPs are usually more informative than area forecasts.
>
> My first 135 work was moving freight in Part 23 aircraft up and down mid America in the summer. In those days there was no requirement for (even monochrome) radar for these operations, so I became rather proficient in interpreting shades of grey in stratus layers and cumulous formations.
>
> During this period a DC-9 crew in the south misinterpreted their radar and chose to penetrate a squall line in north Alabama at the densest spot due to attenuation showing only a thin line. As has generally been the case, *LESSONS* learned improved training on the use of ground returns behind

> observed phenomena to recognize attenuated returns. Development of digital radars has greatly improved safety in all aircraft so equipped, but the goal remains avoidance rather than "safe" penetration of questionable areas.
>
> Thanks again for your dissemination of useful information in pursuit of safe operations by all players.

I think you are referring to the Southern Airways DC-9 crash that occurred after the crew flew into hail and a severe thunderstorm. Many *LESSONS* indeed were learned from that tragedy.

You make a point I've stated often but did not in the *LESSONS* that prompted your email. Pilot Reports include the airplane type to assist pilots in determining what affect the same conditions might have on their aircraft. This is most relevant regarding turbulence, because airplane weight, speed and wing loading have a lot to do with how much it will be displaced by a given turbulence driver (gust, wind shear, etc.). Taking that a step further, if the PIREP comes from a larger aircraft then it's likely the impact on your aircraft will be even greater than what's reported—what feels like "moderate" turbulence to a Regional Jet will likely feel "severe" in a Baron or Meridian.

Similarly, if an airliner reports "moderate" ice accumulation in climb remember it climbs much faster that most lighter airplanes, so you will likely experience greater ice accumulations because you're exposed to the condition longer. Fly fast enough and the jet also has a skin temperature rise from air friction that can lessen ice accumulation.

PIREPs, when they're available, are indeed better than forecasts. First, they report actual conditions at that location at that particular time, and if accurately reported by the pilot (turbulence or ice accumulation rates aren't overstated, etc.) they provide excellent insights into that moment and place. Use your weather knowledge to predict how those conditions might move and evolve to make safety-of-flight decisions.

Further, forecast intensities make an assumption about the type of aircraft that experiences the forecast condition. Many years ago (about 30) I toured the FAA's Aviation Weather Center, then located on the top floor of the Federal building in downtown Kansas City, Missouri (I found that vaguely humorous in the heart of the tornado belt). The AWC makes what were then the Area Forecasts, among many other products. I learned two things: **(1)** forecasts were modeled using a Saab 340 30-passenger commuter turboprop, so forecast turbulence effects would likely be greater than reported for lighter aircraft, and **(2)** the AWC actively used PIREPs to modify forecasts, including the lateral and vertical extent of hazards as well as intensity. Perhaps a reader can update us on the current assumptions. Thank you, Boyd.

See https://en.wikipedia.org/wiki/Southern_Airways_Flight_242

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NEW THIS WEEK: Boyd Spitler

Two 2025 donations: John Teipen, John Whitehead, Denny Southard, Wayne Colburn

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