



# FLYING LESSONS for October 1, 2020

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 almost all 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 a 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:***

**Let's go** right to the Debrief.

Questions? Comments? Experiences of your own to relate? Send them to [mastery.flight.training@cox.net](mailto:mastery.flight.training@cox.net).

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## **Debrief:** Readers write about recent FLYING LESSONS:

Reader Ed Livermore writes about [last week's LESSONS](#):

Wow! Your report of the Ely accident was so perfectly reminding of the crash in January 1979 in which my brother-in-law, Mike, was killed. So almost perfectly similar.

After a long and intense day, Mike and a hired pilot flew (Frontier Airlines) to Hot Springs [Arkansas] from OKC [Oklahoma City, Oklahoma] to retrieve his Twin Commander (580?). Previously, while returning from Florida, he had been weathered into the Arkansas airport. Late airline flight back to Arkansas. **They departed Hot Springs in the Commander about 1:30 a.m. for OKC, which was zero/zero fogged in.** There were some intense personal pressures on Mike to return to OKC. Related issue was that Mike was a private pilot qualified to fly the Commander VFR. **He was not instrument rated.** The hired pilot had an instrument ticket but wasn't qualified in the Commander. So, the brainless idea was to split duties and skills. You can see where this is going.

They arrived over fogged in OKC, and to cut a long story short, buried the plane into a runway at Tinker Air Force Base after several ILS attempts at Will Rogers Airport. They then requested the military ground controlled approach (GCA) at Tinker where it ended. Neither were GCA trained. **They had plenty of fuel to proceed to a VFR alternate, but as said Mike was under pressure to get home.**

The nature of the "pressure" is a story in itself. Suffice it to say, for various reasons he should not have been flying that night...at all.

Both were killed.

Through a check in Mike's pocket, he was identified and somehow the military figured out he and I were related. So, I was called about 4 a.m. and immediately attempted to drive to my sister's home in OKC to break the news. The fog was so thick I could not see past 25 feet. We had a long driveway, and I couldn't see the pavement. Solid, opaque fog. Never seen fog that impenetrable before or since while living up there. No way could they have made a successful landing. I awaited first light in order to be able to drive at all.

It was a classic scenario for a disaster...just like Ely. Your report tonight was so bloody similar.

Thank you, Ed. I could feel your emotion, your regret, and your exasperation as I read your words. Why do I spend so very much time preparing *FLYING LESSONS* each week, and sending them around the world absolutely free? Because we keep doing the same things over and over, for essentially the same reasons, and all it will take to phenomenally lower the accident record is for each all to recognize when we start down one of these familiar, dangerous paths.

See <https://www.mastery-flight-training.com/20200924-flying-lessons.pdf>

Reader, instructor and air crash investigator Jeff Edwards adds more insights into the subject of last week's *LESSONS*:

Great piece Tom! The pilot of the Lancair was a dentist. It was told to us that he was flying to his cabin to meet his son. He was not a [LOBO](#) member and had not taken type specific training with us. Poor decisions.

Folks, if there exists a type-specific pilot training program for the airplane(s) you fly, and you've not yet received type-specific training, vow now to complete such training for your next required Flight Review, if not before. You may have the best flight instructor in the world, but if she or he is not an expert on your aircraft you owe it to yourself, and your family, to supplement your experience. Thanks, Jeff.

Reader Andy Moffat muses:

I think a good design to deal with a regular schedule is to **have enough rest**, also I find it fit for me to **have extras** for any reason within when involved in my activities concerning flights. I could hold my breath and gasp for the pilot surviving in the crash. Also, I agree with the METARs and TAFs resolution as it's commonly known to be of use to pilots. For me, I reason it out that to be aware of the issues that needs a fix and to get ready for any situations which may arise. If anything I am afraid of and don't like is accidents, moreso those ones which can be avoided should be avoided completely. **I am that person who likes to take and keep precautions**. Thanks so much for your enlightenment with issues on flights. I wish one day I will gain enough experience to work with analysing the developments in the air as you do.

We all start at the same place, Andy: compare the actual and expected conditions and stresses to your ability and that of the airplane, then make choices that stay within the bounds of those abilities at all time. Keep at it!

Reader Steve Thompson adds:

Tom, as an 800-hour pilot who follows accident reports as a learning tool, **nothing here is "new."** The story is sadly similar to so many other stories over the years. However, each time I read a new account, the dangers are reinforced and I still learn something.

I don't understand how any serious pilot can allow such a chain of events to occur, and continue to press on. **The pilot had plenty of opportunities to avoid tragedy.**

Most of my flight hours are local, stick-and-rudder type of flying. With my recent acquisition of a [Beech] Bonanza, I'm now logging more XC [cross country] hours. **It was a bit of a wake-up call to me to read what you said about checking METARs. I recognize that I need to learn better weather self-briefing skills.**

Weather evaluation and managing our personal aviation expectations are probably the two biggest gaps in non-commercial aviation. Seek out weather training and decision-making scenarios like [those presented by AOPA's Air Safety Institute](#). Plan a cross-country flight on a day you do not intend to actually fly, with a planned takeoff time and times crossing weather reporting points along the way. Then check back to those waypoints at the time you would be passing overhead, had you actually flown, to see how accurate (or inaccurate) those preflight predictions turn out to be. Thank you as well, Steve.

See <https://www.aopa.org/training-and-safety/online-learning/online-courses>

Going back a week further to the [September 17 report](#) and **Taking On Taking Off**, reader and high-elevation pilot Stanley Stewart writes:

There is a reason why many FBOs and Flight Schools in the west require a high density altitude checkout (training) prior to a pilot flying to a high airport. High density altitude takeoff training can be performed at lower elevations with 50% to 60% power takeoffs, but **the proper leaning techniques for a high density altitude takeoff must be also taught.**

Comments on [that] week's situation follow:

One of the primary problems with this high density altitude take off situation was to let a one-week-new Private Pilot perform the takeoff without being briefed that **a high density altitude take off is very different from, and nothing like, a sea level takeoff in several very important ways**, bulleted below. At least the engine was leaned to best power prior to takeoff during the run up, but I prefer to fine-tune that very early during the takeoff roll (lean for maximum RPM with carbureted engines with fixed pitch propellers, fuel injected engines should be leaned to sea level takeoff EGT, typically 1250 to 1300 degrees [Fahrenheit], early during the takeoff roll). With two qualified pilots, the pilot not flying could lean the engine during the takeoff roll to maximum RPM (carbureted engines with fixed pitch propellers) or proper EGT (fuel injected engines with appropriate engine instrumentation).

- The airplane must not be rotated beyond a shallow climb attitude and allowed to lift off on its own, when ready to fly in a shallow climb attitude, at a higher indicated airspeed than a sea level takeoff, to avoid a high drag producing high angle of attack that could prevent the airplane from being able to climb out of ground effect.
- After liftoff the airplane must be flown in level flight (not climbed at all) in or just above ground effect until the maximum rate of climb speed is attained, then the maximum rate of climb speed must be strictly maintained.
- Do not expect to see, and do not pitch up to, a climb attitude as steep as at sea level, and do not expect a rate of climb as high as the POH states you should get at that density altitude. The POH figures were developed with professional test pilots flying new, clean airplanes.
- Never perform a high density altitude takeoff towards any obstacles or rising terrain.
- Avoid intersection takeoffs. **Full-length takeoffs provide more margin** for wind shear, etc. Don't be tempted to expect POH takeoff distances. Add a minimum of 10% because that data, as I wrote above, was developed with professional pilots flying new, clean airplanes.

I have successfully performed many very high density altitude takeoffs on the way to and from Oshkosh from Northern California every summer for decades, making fuel stops at airports in western Wyoming above 7,000 MSL in summer heat, at gross weight with my [Beech] Debonair when it had only 225 horsepower, using the above procedures. The Deb is a little better now with an engine upgrade to a 260 horsepower engine but the above procedures must be adhered to with any normally aspirated piston engine airplane. Not writing here anything you do not already know!

I enjoy and get great value from your *FLYING LESSONS Weekly*.

Thank you, Stan. Your personal experiences at high density altitudes is valuable guidance, although I add at least 50% to runway and obstacle clearance distances. You're right—even reduced-power takeoff practice does not adequately prepare a pilot for a real-world high density altitude.

Reader and Piper Archer owner Rick Baron states:

I live in the Midwest so I've never taken off from a high elevation high density altitude airport. However, I've watched videos and read many articles regarding same plus my commercial training and testing addressed this as well. That being said, I believe there is no reason for not using all available runway. That extra 25, 50, 100, 200 feet could mean the difference between life and death. **It makes no sense to me not have that extra buffer** in case there is a wind shift, a temperature change, a miscalculation, etc.

I agree, Rick. Use all available resources, including runway.

Reader Jim Hausch adds:

Though provoking scenario from Sedona. The only contribution to this discussion that came to mind: I might **add wording to my radio calls to make it obvious as to what I'm doing**. "Sedona Traffic, Cessna 1234 taxiing for a downslope departure from runway 3 due to calm winds and high density altitude. Aircraft on

downwind, I'll wait for you to land and clear. Aircraft 2 miles out, did you copy? Sedona." After all, it is a "Pilot Controlled" airport, right?

**I don't think pilots in crowded airspace at non-towered fields do this enough.** I'm always hyper vigilant when I see an airplane holding short when I am on downwind. I'll often offer to extend downwind if they want to get out ahead of me. I'd say I get a reply *of any kind* about half of the time. The lack of reply turns up the vigilance another notch. And, of course, keep watching for Nordo [no radio] airplanes, too.

Good advice, Jim. Make it completely obvious what you're doing—describe your intentions *exactly* and *completely*—to add another layer to cooperation and safety.

See <https://www.mastery-flight-training.com/20200917-flying-lessons.pdf>

Questions? Comments? Send them to [mastery.flight.training@cox.net](mailto:mastery.flight.training@cox.net).

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## A Couple of Webinars

Tune in to a couple of webinars I'll be presenting next week:

### Single-Pilot Safety Standdown

We know safety is a core value when operating an aircraft, which is why I'm part of the NBAA virtual 2020 Single-Pilot Safety Standdown with my presentation "**Options for Success**." I'm honored to be part of that program, and I hope you'll join me and my colleagues from the National Business Aviation Association Safety Committee.

From **1:00 – 2:30 PM ET (1800Z – 1930Z) on October 6** I'll describe a real-world, stress-filled flight to highlight the importance of standard operating procedures, managing passenger expectations, and preflight and contingency planning. Sign up for this free session [here](#).

That same link allows you to register for other sessions in [NBAA's Single Pilot Standdown](#), part of a broader week of free safety programming to help you with your personal **Quest for Mastery**.

For example, an Oct. 7, a live, virtual town hall will feature John and Martha King, AOPA Safety Institute Executive Director Richard McSpadden and journalist Miles O'Brien. They're going to discuss a dual-engine flameout in a CJ, with the pilots who worked the situation and brought the plane down successfully. At the end of the week, on October 8-9, an NBAA National Safety Forum will feature in-depth discussions on the shared responsibility of fitness for duty for individuals and organizations performing a safety-sensitive function.

Spend some time with me and these others next week to promote **mastery** and safety.

See:

[https://www.bigmarker.com/series/virtual-safety-week/series\\_summit?utm\\_bmcr\\_source=ABS](https://www.bigmarker.com/series/virtual-safety-week/series_summit?utm_bmcr_source=ABS)

### From Proficiency to Mastery

I'll present one of my signature topics, "**From Proficiency to Mastery**," on Tuesday, October 6<sup>th</sup> at 7 pm U.S. Eastern Time (2300Z), as the guest of the [Smokehouse Pilots Club](#) of Leesburg, Virginia. This program is provided for FAA WINGS credit; [register here](#) or see [www.smokehousepilots.com](http://www.smokehousepilots.com).



See:

[www.smokehousepilots.com](http://www.smokehousepilots.com)

<https://springboardag.zoom.us/meeting/register/tJAldOCopzkvGNOZT2fzXcUMk-bdWu6FuQby>

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2010 National FAA Safety Team Representative of the Year  
2008 FAA Central Region CFI of the Year  
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