

Thomas P. Turner's Mastery of Flight

www.thomaspturner.com

FLYING LESSONS for October 5, 2023

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.**

FLYING LESSONS is an independent product of MASTERY FLIGHT TRAINING, INC. www.thomaspturner.com

Pursue **Mastery of Flight™**

This week's LESSONS: Early Analysis

Thomas P Turner's

Mastery of Flight

A brand new web experience, coming soon!

www.thomaspturner.com

I was shocked and saddened Sunday evening to learn my good friend and colleague [Richard McSpadden](#) of AOPA's Air Safety Institute had passed away in the right seat of a Cessna Cardinal in upstate New York. [Russ Francis](#), a retired NFL player and aviation business owner (and coincidentally, star quarterback at the same high school I attended in Hawaii a few years before me) was in the left seat. It's not known yet who was pilot-in-command for what has been reported as an air-to-air photo flight, or what role Richard was filling (instructor, PIC, pilot flying, formation coach or simply passenger) at the time of the crash.



“Spad” took the ASI leadership role in 2017 and quickly became *the* powerhouse in general aviation safety. His “[Early Analysis](#)” videos set the standard for informed and measured learning from the initial data on high-profile aircraft accidents. He was a past commander of the USAF Thunderbirds and a tireless advocate of personal aviation. RIP, Richard and Russ.

See:

https://en.wikipedia.org/wiki/Richard_McSpadden

https://en.wikipedia.org/wiki/Russ_Francis

<https://www.aopa.org/training-and-safety/online-learning/early-analysis>

AVWeb's Russ Niles provided [an update](#) the day after this tragic event:

AOPA spokesman Eric Blinderman told *AVweb* early reports indicate the Cardinal had “an emergency on takeoff” from Lake Placid shortly before 5 p.m. “They tried to get back but didn’t make the runway,” said Blinderman. The nature of the emergency wasn’t immediately known.

See <https://www.avweb.com/aviation-news/air-safety-institutes-richard-mcspadden-dies-in-crash/>

Richard telephoned me in his first days at AOPA. I was honored he asked me to meet him at Sun n Fun, where we found a mutual passion for aviation safety and training. He wanted to bounce an idea off me, what became AOPA's Focused Flight Review program—we brainstormed

how such a program might work at a picnic table on the airshow grounds. Richard always took my phone calls and we often caught up at airshows. His columns in *AOPA Pilot* were must-read for me. Later I worked with him several times at [Pilot Workshops](#), learning even more.

See www.pilotworkshops.com

He and I had several discussions and respectful debate as AOPA ASI was writing and preparing to shoot “[Reality Check: The Runway Behind You](#),” as well as a follow-up phone call after the video was released. I told him ASI’s conclusions about Beech Bonanza performance in the “turnback maneuver” confirmed what I have been teaching for over 30 years as a result of presenting this scenario to pilots in a Bonanza-specific simulator. Being asked my opinion as an equal by someone with the experience and resume of Richard McSpadden still amazes me, and highlights Richard’s humility and zest for learning from anyone’s experiences that added even more to his effectiveness and authority as a teacher of flight.

I’m a big fan of Richard’s “[Early Analysis](#)” videos. I often called or emailed after viewing to congratulate him on walking that tightrope to create valuable, insightful and respectful analyses. He even called me to discuss a couple of them before he recorded.

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

Through it all Richard never lost sight of the full tragedy behind what he taught, and the responsibility we assume as pilots. From his article “The Decisions We Make” (June 2023):

When a pilot perishes in an aircraft accident, suddenly—in an instant—they’re gone. They blast a hole in the lives of spouses, children, grandchildren, and close friends that can never be filled by anyone else. The mourners learn to cope with the loss, but they never get over it. Our lives are just one of many influenced by the decisions we make in the cockpit, even when we fly solo.

Like many, I’ll (impatiently) wait the time it takes for a thorough NTSB investigation in the hope we’ll learn Richard’s final *LESSON* that will make us all safer. He told me several times he liked my *FLYING LESSONS* style. Whatever horrible things happened Sunday evening at Lake Placid, my **early analysis** will stick to that style. What little we know at this point suggests **for all flights** we should reinforce our focus on:

- **Evaluating and briefing** takeoff hazards, what you’ll do and where you’ll go in the event of power loss or total power failure—or any other reason to land ASAP—before every takeoff.
- **Deciding not only what airport to use, but whether it’s a good idea to use a particular one** or if there are better airports available with more options in the event of an engine failure. The area around an airport often has more to do with safety than the runway surface itself.
- When flying with two pilots at the controls, **briefing beforehand your roles and responsibilities**—who will do what, how you’ll communicate any change in pilot flying status—in the event of an emergency.
- **Preparing how to overpower a physically strong pilot** if he/she is deviating from the emergency plan...what to say and perhaps do to ensure the best possible outcome. Early in my instructional career I flew with a former football player (a lineman), who at a critical point near the ground hauled back on the Cessna trainer’s controls with all his might. Yelling at him worked and he eased up to allow us to recover. I’ve heard that covering the pilot’s eyes with your hand will trigger a response to release the controls. I don’t know about that, but I’ll sure try it if I have to.
- **Working to become and remain highly proficient**, because regardless of experience we need to be ready if the time comes.

- **Remembering no one is immune** from the risks of flying light airplanes, regardless of experience. **We all need to be at the top of our game** from the beginning to the end of every flight.

Richard was a friend, colleague, mentor, and aviation safety sounding board. I'll miss him. We'll all miss him. The cause of flying safety was enhanced by having Richard lead us. That cause will be harder now that he is gone.


Very fortunately, Richard leaves us a large body of amazing work from which we may continue learn. One of many [great tributes to Richard](#) is on the AOPA website.

See <https://www.aopa.org/news-and-media/all-news/2023/october/04/aopas-mcspadden-lived-his-passion>

I send my most sincere condolences to Richard's family, his friends who knew him far better than I, and everyone at AOPA.

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


My friends and sponsors at Pilot Workshops extend this offer to all *FLYING LESSONS* readers in all aircraft types:



Free Access to 140+ Scenarios

Guaranteed to challenge & improve your ADM and hone your IFR knowledge.

[Click here for ABS member details](#)



Debrief: Readers write about recent *FLYING LESSONS*:

Reader and flight instructor Barbara Reed continues our conversation about fuel planning:

Fuel planning has always been one thing I tried to get my students thinking hard about. I've been known to **let them plan "optimistically"** when there has been a sensible diversion available and **then let them sweat** as the gauges get closer to the red than desirable. **It's not that often that they initiate the diversion.** Mostly I have to do some prompting.

I've actually had to prompt myself, too. On ferry flight with my new toy, an autogyro with a very sophisticated (for me, I'm a Cub pilot) system, **I just didn't quite believe the numbers** the fuel management system was giving me and landed at a strip only 20 minutes from destination. Turned out I would have arrived with 25 minutes cruise fuel remaining. Still don't regret the landing or the three-hour wait to get the extra fuel.

It's a lot easier to divert (this was VFR) **than refuel in a field.**

Thank you for the reminders about airmanship.

It sounds like you must be an awesome instructor, Barbara. It's amazing how many fuel exhaustion accidents occur within a very few miles of the planned destination airport. The closer you get the less likely to land for fuel most pilots seem to be. Thank you.

Reader Rick B. adds:

I like the idea of **basin VFR fuel reserves on gallons rather than time.** It's easier and has a more precise end point. And to play it safe **adding some extra gallons just in case of a headwind**, when deciding this critical number. I would like a further explanation of how this would be done when deciding fuel reserve for a filed IFR flight, however. Are you adding your VFR minimum to your already IFR calculated minimum to your alternate + 45 minutes? Thanks!

For IFR flight in a fixed wing aircraft under U.S. rules, [14 CFR 91.67](#) tells us we must **plan** to have

...enough fuel (considering weather reports and forecasts and weather conditions) to—

- (1) Complete the flight to the first airport of intended landing;
- (2) Except as provided in [paragraph \(b\)](#) of this section, fly from that airport to the alternate airport; and
- (3) Fly after that for 45 minutes at normal cruising speed

If forecast weather at destination \pm 1 hour of your planned estimated time of arrival is better than 2000 feet above field elevation and 3 statute miles visibility then the alternate fuel planning is not required. But, **if there's even a chance you might have to fly an approach** (2000 and 3 is VFR weather), **you have to plan to divert to an alternate**. From a fuel standpoint, that plan must include enough fuel to fly to the alternate and an additional 45 minutes in level flight at normal cruising speed (and fuel flow).

In practice here's how I do it: In the airplane I normally fly, which cruises at about 160 knots at roughly 13 gallons per hour, I estimate in the first hour I'll burn 20 gallons. For each subsequent hour aloft I plan 15 gallons. This provides a little extra margin over actual fuel burn.

If I need an alternate, the next hour (which includes the climb) is estimated again at 20 gallons and each subsequent hour—including the 45-minute reserve part—is at 15 gallons. Since my personal minimum is one full hour of fuel in the tanks when I land, I need to have at least 15 gallons on board when I reach the alternate. This allows me to back up and find out how far I can fly to my destination, and how far away from that my alternate can be, in terms of time.

Plan is the operative word. Once in the air you have freedom to exercise options that may result from using lower power settings and/or leaner mixtures, to take advantage of winds, etc. You're not required to go to your declared alternate. *That's* the time to be watching your fuel gauges, and the clock. Yes (because someone's going to suggest it), adding tip tanks available for this particular aircraft type substantially increases flexibility when the weather's down. Thanks, Rick.

Reader Dean Brown, a flight instructor and Air Traffic Controller from whom we've read here several times on his efforts to teach controllers to better help the pilots of aircraft in distress, expounds on the engine-out glide—suggested to be a fuel starvation event—that resulted in a controlled, gear-up, off-runway landing:

While I agree wholeheartedly with your comments about the need to seriously consider landing gear-up in some emergency situations, I want to sound a word of caution about the pilot's decision to overfly the 5500-foot runway so as to enter a left downwind for the landing. The last ADS-B data point appears to show a midfield downwind at only 80 knots and at a mere 500 feet above the approximate 800-foot field elevation, which is **a very low-energy point to attempt a turn back to align with the runway**. By contrast, the data points at about 14:31 Zulu show that the airplane was about 2 miles north of the airport and at about 1700 feet above the runway. From this point, the airplane's energy should have dictated a decision to either enter a left base for runway 7 or a right base for runway 25, rather than an attempt to overfly the field and make a somewhat normal pattern.

Assuming that the data is correct about the low-energy midfield downwind point, it appears that **the pilot probably came very close to a stall/spin scenario while making the final turn back to the runway**, and so while I agree that we should perhaps applaud the decision to leave the gear up, **it is arguably more important to both constructively learn from the apparent mistake** about the navigation decision made while 2 miles north of the airport and about the apparently good airmanship to not stall/spin the airplane during the final turn once the earlier navigation mistake had put the pilot in a precarious low-energy situation.

Thank you, Dan. I'm glad you dove deeper into the record so we can learn from it even more. I was contrasting the landing of this airplane gear up against a similar airplane that landed off-

airport gear down only to flip over. You're right, there is much to learn from what happened before the airplane touched down.

What do you think? Let us learn from you, at mastery.flight.training@cox.net.



I'll be at [NAFI Summit](#). Will you? I'm presenting "[Delivering Effective and Meaningful Flight Reviews and IPCs](#)" on Wednesday, October 25 at 1 pm. [The full schedule of presentations and events is here](#). See you at Lakeland!

See:

<https://nafisummit2023.org>

<https://nafisummit2023.org/schedule/conducting-effective-flight-reviews-and-ipc/>

<https://nafisummit2023.org/schedule/>

Share safer skies. [Forward FLYING LESSONS to a friend](#)



Please help cover the ongoing costs of providing **FLYING LESSONS** through this secure PayPal [donations link](#).

Or send a check made out to **Mastery Flight Training, Inc.** at 247 Tiffany Street, Rose Hill, Kansas USA 67133.

Thank you, generous supporters.

Special thanks to these donors for helping with the Mastery Flight Training Website Phoenix rebuild:

Karl Kleiderer, Jeffery Scherer, Ken Newbury, William Eilberg, Wallace Moran, Lawrence Peck, Lauren McGavran, Stanley Stewart, Stu and Barbara Spindel, Danny Kao, Mark Sanz, Wayne Mudge, David Peterson, Craig Simmons, John and Betty Foose, Kendall Kelly, Sidney Smith, Ben Sclair, Timothy Schryer, Bruce Dickerson, Lew Gage, Martin Pauly, Theodore Bastian, Howard Greenberg, William Webber, Marc Delude, Ian O'Connell, Michael Morrow, David Meece, Mike Gonce, Gianmarco Armellini, Mark Davis, Jason Ennis, William Moore, Gilbert Buettner, Don Denny, John Kolmos, LeRoy Cook, Mark Finklestein, Rick Lugash, Tom Carr, John Zimmerman, Lee Perrin, Bill Farrell, Kenneth Hoeg, William Jordan Jr., Mark Rudo, Boyd Spitler, Michael Brown, Gary Biba, Meaghan Cohen, Robert Chatterton, Lee Gerstein, Peter Tracy, Dan Drew, David Larson, Joseph McLaughlin, Nick Camacho, Paul Uhlig, Paul Schafer, Gary Mondry, Bruce Douglass, Joseph Orlando, Ron Horton, George Stromeyer, Sidney Smith, William Roper, Louis Olberding, George Mulligan, David Laste, Ron Horton, John Kinyon, Doug Olson, Bill Compton, Ray Chatelain, Rick McCraw, David Yost

NEW THIS WEEK: Johannes Ascherl, Rod Partio

Thanks to our regular monthly financial contributors:

Steven Bernstein, Montclair, NJ. Robert Carhart, Jr., Odentown, MD. Randy Carmichael, Kissimmee, FL. James Cear, South Jamesport, NY. Greg Cohen, Gaithersburg, MD. John Collins, Martinsburg, WV. Paul Damiano, Port Orange, FL. Dan Drew. Rob Finrock, Rio Rancho, NM. Norman Gallagher. Bill Griffith, Indianapolis, IN. Steven Hefner, Corinth, MS; Ellen Herr, Ft Myers, FL. Erik Hoel, Redlands, CA. Ron Horton. Robert Hoffman, Sanders, KY. David Karalunas, Anchorage, AK. Steve Kelly, Appleton, WI. Karl Kleiderer. Greg Long, Johnston, IA. Rick Lugash, Los Angeles, CA. Richard McCraw, Hinesburg, VT. David Ovad, Resiertown, MD. Brian Schiff, Keller, TX. Paul Sergeant, Allen, TX. Ed Stack, Prospect Heights, IL; Robert Thorson, Reeders, PA. Paul Uhlig, Wichita, KS. Richard Whitney, Warrenton, VA.



Pursue Mastery of Flight™

Thomas P. Turner, M.S. Aviation Safety
Flight Instructor Hall of Fame Inductee
2021 Jack Eggspuehler Service Award winner
2010 National FAA Safety Team Representative of the Year
2008 FAA Central Region CFI of the Year

Three-time Master CFI

FLYING LESSONS is ©2023 Mastery Flight Training, Inc. For more information see www.thomaspturner.com. For reprint permission or other questions contact mastery.flight.training@cox.net.