



FLYING LESSONS for March 7, 2019

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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 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:

The alarm sounded continuously for a full 51 seconds before the Socata Trinidad landed gear up on a pretty mountain airstrip. In [this video](#), taken from by a rear-seat passenger and now something of a staple on aviation circles, the pilot and at least two passengers are descending into a picturesque paved field nestled between lush green hills. The steep terrain perhaps contributed to the pilot's decision to approach the field high and pull the power to idle (engine noise gets very quiet, especially on short final) to accommodate the high-angle descent.

See www.youtube.com/watch?v=sD13LmYRQ4s

Despite the reduced engine noise, however, the pilot does not appear to notice the high-pitched scream of the landing gear warning horn, which comes on and stays on for almost a full minute before impact. Like most retractable gear airplanes, the Gear Unsafe warning blares if the throttle is reduced to near idle power while the gear is down but the landing gear struts are not compressed (as they are under the airplane's weight on the ground).

He may have begun his approach knowing he would have to pull the power way back to make his steep descent. He may have been focused on the descent angle, expecting to need near-idle power to achieve his goal.

Still, he should have been able to detect a discrepancy between the power setting, the pitch attitude, the airspeed and the rate of descent...if the gear had been down he should have been descending much more steeply than he was.

Seven seconds before "tying the world's low altitude flying record" the stall warning began to sound as well, a slightly different tone, blaring intermittently (as opposed to the steady gear warning). The pilot does not appear to adjust attitude or power in response to this warning, either, although he may have been purposely planning a minimum-speed touchdown, knowing that most stall warnings sound five to seven knots above the stall speed (more correctly, a few degrees before reaching the critical angle of attack).

After the Socata slides to a stop and the pilot overcomes the typical period of denial before choosing to act, he begins to exit...still not having turned off the electrical system. As he deplanes a very bright red light, perhaps a Gear Unsafe annunciator (I've not been able to confirm this online—any TB20 or -21 pilots out there?) is visible just to the left of the attitude indicator, clearly in the pilot's line of sight. If this is indeed a gear warning light, the pilot missed it as well.

We've seen Internet video like this before, and we'll likely see it again. The scenario is not limited to Landing Gear-Related Mishaps (LGRMs). I've seen it time and again as a simulator instructor, when I put the pilot in a fairly simple scenario then "failed" the airplane's alternator. In the type of airplanes I taught in "the sim," this triggers a flashing, red light almost directly at eye level, on the lip of the glareshield in front of the attitude instrument. Yet, on average, pilots took over two minutes to notice the flashing red light, then confirm a loss of electrical power with the electrical gauges.

We called it "task saturation" in the U.S. Air Force, the very real mental state of selective receipt of stimuli, or even complete mental shutdown, when presented with too much information at one time. Have you ever found yourself with so much to do you can't get anything done at all? Under slightly less stress your brain copes by admitting and processing only that information that confirms your world view or desired outcome...you only see what you want to see, and hear what you want to hear. Disparate information—landing gear warning horns, for instance—don't even register in your brain as it seeks to make sense of a nonsensical world.

We all know a little stress is a good motivator...but too much stress makes us completely ineffective. The stress tipping point is different for different people (you may be able to handle more stress than me), and will vary with our fatigue state, our health, and even our motivation to achieve our goal—the foundation of "get home-itis" and other classic scenarios that contribute to poor decision-making.

One-time fighter pilot Jim "Murph" Murphy applies the concept of task saturation he learned in the cockpit of a 600-mph jet to business decision-making in an [online article](#). In doing so he comes full-circle to his aviation roots, and provides these ideas for "flawless execution" of business plans by overcoming task saturation. "Task saturated people rarely know the damage they're doing until it's too late," Murphy writes. "There's one thing that always gets in the way of Flawless Execution. We call it the silent killer -- task saturation." Murphy tells us how to recognize and overcome the symptoms of task saturation, whether in the pilot's seat or behind the bosses' desk, including:

- Shutting down
- Compartmentalizing
- Channelizing

[Murph's hints](#) for combating these coping mechanisms and achieving "execution without task saturation" are a quick but vital read for any pilot.

See www.myarticlearchive.com/articles/5/071.htm

Way back in the November 2011 issue of [AOPA PILOT magazine](#), *FLYING LESSONS* reader Dr. Lorne Sheren and I co-authored an article titled "Pilots Are Optimists...and Pessimists." One thrust of the article is that pilots tend to be on the lookout for trouble in training situations, expecting things to go wrong, and unless distracted are quick to detect abnormal and emergency indications. Once confronted with the scenario, in training, pilots tend to make good decisions about rerouting or diverting to an early landing, at least if they've had the basics of aeronautical decision-making (ADM) presented before the indications are presented "in the box." In short, in training scenarios pilots tend to be pessimists, looking for trouble.

See www.nxtbook.com/nxtbooks/aopa/pilot_201111/

But in our day-to-day flying we tend to be focused, goal-oriented individuals, believing in the soundness and capability not only of the aircraft, but of ourselves as well. We are instilled with the "can do," blue-sky attitudes of Sky King and old-fashioned airplane movies. We are optimists—nothing can go wrong, and even if it does, we can handle it and still make it to destination in time. Perhaps in this regard we really need to "fly like we train." Sometimes flying's not about stick-and-rudder at all.

Questions? Ideas? Opinions? Send them to mastery.flight.training@cox.net



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See <https://www.pilotworkshop.com/botched-go-around?ad=turner-goaround-botch>

The [February 21 FLYING LESSONS Weekly](#) focused on crosswind landings and the need to consciously evaluate winds against your own currency and the capability of the aircraft. A Debrief item in that same report asked about accepting a tailwind landing in lieu of a circling maneuver to avoid the hazards of the spiral tendency of stable airplanes. Our friends at the Australian Transport Safety Bureau (ATSB) recently published a Final Report further warning about the need to deliberately consider winds before landing, and the risk of tailwind landings. From the ATSB:

The ATSB's final report into a fatal aircraft accident at Tomahawk, Tasmania shows the importance of understanding wind strength and direction before commencing an approach to land. The Cessna 182, VH-TSA, collided with a tree beyond the runway after attempting to conduct a go-around with a significant tailwind.

Report summary

On arrival at a private airfield at Tomahawk, the pilot conducted a number of orbits prior to approaching the runway. The aircraft **touched down more than halfway along the runway** before **bouncing several times**. In response, the pilot commenced a go-around but the aircraft collided with a tree beyond the end of the runway and impacted the ground. The passenger was fatally injured and the pilot sustained serious injuries.

The ATSB investigation identified that the selected approach direction had exposed the aircraft to a tailwind that significantly increased the groundspeed on final approach and resulted in insufficient landing distance available. Additionally, the final approach path was not stable. In combination with the tailwind, that resulted in the aircraft being **too high and fast** with a bounced landing **well beyond the runway threshold**.

The ATSB reminds pilots of the importance of obtaining all relevant information about the local conditions, including wind direction and strength, prior to commencing an approach to an aerodrome. While a windsock is not required for all aircraft landing areas, it provides a simple visual means for pilots to assess the wind direction and strength.

This accident highlights the importance of conducting a standard approach to an aerodrome. This enables assessment of the environmental and runway conditions and allows checks to be completed in a predictable manner. If a safe landing cannot be assured, a pilot should initiate a go-around early, and ensure the aircraft is configured in accordance with the operating handbook.

Final report: [Collision with terrain involving Cessna 182, VH-TSA, at Tomahawk, Tasmania, on 20 January 2018](#)

News: [Know the wind conditions before commencing an approach to land](#)

See:

<http://www.mastery-flight-training.com/20190221-flying-lessons.pdf>

http://www.atsb.gov.au/publications/investigation_reports/2018/air/ao-2018-008/

<http://www.atsb.gov.au/newsroom/news-items/2019/a-fatal-collision-with-terrain/>

Questions? Comments? Suggestions? Let us know, at mastery.flight.training@cox.net

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