# *FLYING LESSONS* for January 11, 2018

*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:*

## Decision Points

**Flight planning** is something we are taught to complete before boarding the aircraft. Weather, airport information, fuel requirements...all things we look up or compute in the comfort of an office or general aviation terminal. For pilots flying under the U.S. regulations, 14 CFR 91.109 notably includes (with my emphasis added):

> *For a flight under IFR or a flight not in the vicinity of an airport*, weather reports and forecasts, fuel requirements, [and] **alternatives available if the planned flight cannot be completed….**

See https://www.ecfr.gov/cgi-bin/text-idx?node=14:2.0.1.3.10#se14.2.91_1103

**It's much less** commonly stressed, that flight planning is only the beginning of the process. At least as important is **active flight *monitoring*** for the entire duration of the flight.

**Every flight** presents the pilot with a series of decision points. At these points in the flight, you must use the information you uncovered in your preflight planning, and the data that support or refute that information as a result of active monitoring, to make a revised go/deviate/no-go decision. This is when you **exercise the "alternatives available,"** as described in the regulation.

**To illustrate,** let's look at excerpts from an NTSB preliminary report posted this week. Realize that despite the depth of detail in this report, this is still preliminary information. A final account of all known factors contributing to this particular crash, and determination of a *probable cause* and possibly additional contributing factors, is likely to be a year or more away. But as it says at the top of every issue, *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. With that in mind, as you read from this report think in terms of when the pilot *might* have been presented with inflight decision points.

See https://app.ntsb.gov/pdfgenerator/ReportGeneratorFile.ashx?EventID=20171222X05541&AKey=1&RType=Prelim&IType=FA

> On December 20, 2017, about 1900 eastern standard time, a Beech G35, N354WD, was destroyed when it impacted wooded terrain while maneuvering near Cross City, Florida. The commercial pilot was fatally injured. Night instrument meteorological conditions prevailed, and no flight plan was filed for the planned flight to Melbourne International Airport (MLB), Melbourne, Florida. The flight originated from Guntersville Municipal Airport (8A1), Guntersville, Alabama, about 1530 eastern standard time.
>
> The pilot's family reported the airplane overdue and it was subsequently located in marshy wooded terrain on December 22, 2017. Review of preliminary radar data provided by the Federal Aviation Administration (FAA) revealed a target with a 1200 transponder code that was consistent with the accident airplane. During cruise flight, as the target proceeded over Florida, it ***climbed from 3,400 ft mean sea level (msl) to 7,100 ft msl***. It then made ***two left 360° turns***, followed by a ***rapid descent to 1,400 ft msl***. The target then flew east at

 

> ***alternating altitudes below 2,500 ft msl***, and ***then turned south*** toward Tallahassee, Florida, ***flying s-turns and descending to 1,400 ft***. The target proceeded south at 1,100 ft msl until 1849, when it flew near a cold front boundary. At that time, the target completed ***numerous course deviations***, including ***three complete left circuits and two right circuits***, before disappearing from radar coverage about 0.4 mile east of the accident site.
>
> The pilot, age 78, held a commercial pilot certificate with ratings for airplane single-engine land and instrument airplane. His most recent FAA second-class medical certificate was issued on August 6, 2015. At that time, he reported a total flight experience of 4,405 hours. The pilot applied for BasicMed privileges on September 1, 2017.
>
> Cross City Airport (CTY), Cross City, Florida, was located about 11 miles southeast of the accident site. The recorded weather at CTY, at 1855, was: wind from 210° at 9 knots, gusting to 15 knots; visibility 10 miles; overcast ceiling at 600 ft; temperature 21°C; dew point 21°C, altimeter 30.05 inches of mercury.

**Notice that** the although he was flying under visual flight rules, the pilot held an instrument rating. History tells us that about half of all attempted visual flight into instrument meteorological conditions ("VFR into IMC") crashes involve an instrument-rated pilot. There's nothing (at least yet) to indicate the accident pilot's instrument experience or currency. But ***it's a fallacy to think a VFR into IMC can't happen to you*** because you hold an instrument rating.

**As I fly** I'm always asking myself ***which way I'll go*** if conditions begin getting worse than expected. For example, if I'm approaching a line of clouds, one with conditions that suggest it's safe to penetrate, I will still actively consider that direction—***left, right, back from where I came, up and/or down***—will quickly return me to better air. Even when in the clouds I still think about an escape path.

**Flying visually,** especially at night, requires active monitoring and an immediate response to worsening conditions. It's almost impossible to see clouds at night except in bright moonlight conditions. In warm temperatures (it was 21°C, close to 70° Fahrenheit, at the surface at the time of the crash), it's not unusual in the southeastern United States for haze to make night flight essentially instrument flight. In any event it would have been very hard to "remain VFR."

**If you *do*** have flight visibility at night, any encounter with clouds that requires you to maneuver to remain in visual meteorological conditions (VMC) strongly suggests you implement your escape plan right away, and get the airplane quickly on the ground.

**We don't yet know** what happened in this particular crash. We *do* know the pilot was en route to visiting family for the Christmas holiday, pressure and a powerful temptation to press on when conditions worsen.

**But say *you* were flying** VFR at night. Finding yourself compelled to do these maneuvers, which would you accept—and permit yourself to continue to your destination—and which is the first that would prompt *you* to deviate and land at a nearby airport?

- ***climbed from 3,400 ft mean sea level (msl) to 7,100 ft msl***
- ***two left 360° turns***
- ***rapid descent to 1,400 ft msl***
- ***alternating altitudes below 2,500 ft msl***
- ***then turned south***
- ***flying s-turns and descending to 1,400 ft***
- ***numerous course deviations***
- ***three complete left circuits and two right circuits***

**What will it take** for ***you*** to resist pressure and temptation, and decide *not* to continue to your original destination?

Comments? Questions? Let us learn from you, at mastery.flight.training@cox.net

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I read *every word you write*, and learn from each *LESSON*, even though I've been flying for 60 years. – Doug Barritt

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## NTSB 2017 Aviation Safety-Related Reports, Studies & Alerts: End-of-Year Roundup

*In case you missed them*... In 2017, the NTSB posted to its website the following reports and alerts--all lessons learned from accident investigations. **Each Safety Alert can be an excellent topic of discussion at flying club and other pilot gatherings:**

- **Safety Alert (SA-060)**: Stay Centered: Preventing Loss of Control During Landing (https://www.ntsb.gov/safety/safety-alerts/Documents/SA_060.pdf)
- **Safety Alert (SA-068)**: Flight Helmet Chords Can Impede Egress (https://www.ntsb.gov/safety/safety-alerts/Documents/SA-068.pdf)
- **Safety Alert (SA-064)**: PIREP Weather Reports - Pay it Forward (https://www.ntsb.gov/safety/safety-alerts/Documents/SA_064.pdf)
- **Safety Alert (SA-069)**: Pilots: Prevent Carbon Monoxide Poisoning (https://www.ntsb.gov/safety/safety-alerts/Documents/SA-069.pdf)
- **Safety Alert (SA-070)**: Mechanics: Prevent Carbon Monoxide Poisoning (https://www.ntsb.gov/safety/safety-alerts/Documents/SA-070.pdf)
- **Safety Alert (SA-071)**: Do Your Takeoff Homework: Runway Length Matters (https://www.ntsb.gov/safety/safety-alerts/Documents/SA-071.pdf)
- **Safety Alert (SA-062)**: Loss of Tail Rotor Effectiveness in Helicopters (https://www.ntsb.gov/safety/safety-alerts/Documents/SA_062.pdf)
- **Safety Recommendation Report**: Unsafe Wiring Conditions in Piper Model PA-31T-Series Airplane Floor-Mounted Circuit Breaker Panels (https://www.ntsb.gov/investigations/AccidentReports/Pages/ASR1701.aspx)
- **Special Investigation Report**: Special Investigation Report: Improving Pilot Weather Report Submission and Dissemination to Benefit Safety in the National Airspace System (https://www.ntsb.gov/safety/safety-studies/Pages/SIR1702.aspx)

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