

# **FLYING LESSONS** for December 4, 2008

suggested by this week's aircraft mishap reports

*FLYING LESSONS* uses the past week's mishap reports as the jumping-off point 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 make and model airplane have little direct bearing on the possible causes of aircraft accidents, so apply these *FLYING LESSONS* to any airplane you fly. Verify all technical information before applying it to your aircraft or operation, with manufacturers' data and recommendations taking precedence.

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## ***This week's lessons:***

**Loss of control happens rapidly**, even for a professional pilot, if primary instruments fail and the pilot is not proficient at identifying the failure and transitioning to partial panel flight.

**In 2002 FAA and AOPA published** *General Aviation Pilot Performance Following Unannounced In-Flight Loss of Vacuum System and Associated Instruments in Simulated Instrument Meteorological Conditions*. The [full report](#) should be required reading for all instrument-rated pilots and students, and all practicing instrument flight instructors.

See [www.thomaspturner.net/FAA%20Partial%20Panel%20Performance%20Study.pdf](http://www.thomaspturner.net/FAA%20Partial%20Panel%20Performance%20Study.pdf)

**Fog can develop rapidly**, especially at night and/or near rising terrain as air lifts and cools. At night lights on the ground may be visible through fog, but as you descend and look horizontally through the fog those lights may quickly disappear. Be prepared to divert at the first sign of "haziness" or flickering of ground lights when descending at night or in fog. AOPA's Air Safety Foundation free online course [Weatherwise: Ceiling and Visibility](#) is a good review.

See [http://flash.aopa.org/asf/wxwise\\_ceilingvis/html/weatherSafety.cfm?](http://flash.aopa.org/asf/wxwise_ceilingvis/html/weatherSafety.cfm?)

**Missed approaches and go-arounds** are not emergency maneuvers. You should practice missed approaches and go-arounds the same way you practice instrument approaches or crosswind landings...frequently enough that the technique is second nature when you need it. Remember, in this order:

- Power
- Pitch (attitude)
- Positive rate (of climb)
- Flaps up (begin retracting as appropriate)
- Gear up (as appropriate)
- Cowl flaps open (as appropriate)
- GPS OBS/suspend mode (as appropriate)
- Radio call

In other words, as in all flight operations, *aviate*, *navigate*, then *communicate*.

**High-elevation areas** are more conducive to formation of large supercooled water droplets that support heavy, clear icing—the generally pollution-free skies have fewer particles to act as condensation nuclei, necessary for ice droplets to freeze, and mountainous terrain lifts moisture high into the atmosphere to present an airframe icing hazard. The airplane’s skin itself becomes the condensation nuclei when the droplet is hit, turning abundant supercooled water almost instantly into a quickly growing layer of ice.

**Even “known ice” airplanes have icing limits.** In fact, the certified range of conditions for which flight-in-ice certification is valid is fairly limited.

**FAA recently released** a [General Aviation Safety Challenges](#) report on the hazards of airframe ice, and AOPA’s Air Safety Foundation followed with an [interactive program](#) to teach about ice formation and escape. Probably the best online training for pilots of ice-certified airplanes is the [Cessna Caravan Cold Weather Operation](#) course, which I’ve taken and highly recommend. In fact the pilot-in-command of any Cessna Caravan is required to have passed this course within the previous 12 months for that airplane’s ice certification to be valid--perhaps the first marriage of recurrent pilot training requirements to specific weather-related aircraft operations. Although the Cessna course is not free and is naturally oriented toward C208 operation, it contains a wealth of information not readily available elsewhere detailing what “known ice” certification means...and what it does *not*.

See:

<http://www.faasafety.gov/files/notices/2008/Nov/GAIcing.pdf>

[http://flash.aopa.org/asf/wxwise\\_precip/](http://flash.aopa.org/asf/wxwise_precip/)

<https://www.cessnaelearning.com/index.aspx>

Questions? Comments? Email me at [mastery.flight.training@cox.net](mailto:mastery.flight.training@cox.net)

***Fly safe, and have fun!***

Thomas P. Turner, M.S. Aviation Safety, MCFI  
2008 FAA Central Region CFI of the Year



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