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FLYING LESSONS for December 4, 2008

suggested by this week's 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.

Feel free to forward this message for the purpose of pilot education. *FLYING LESSONS* is also available in PDF through a link in the left column at www.thomaspturner.net.

FLYING LESSONS is an independent product of Mastery Flight Training, Inc.

FLYING LESSONS is now [featured](#) on the FAA's safety website!

See www.faa.gov/gslac/ALC/lib_categoryview.aspx?categoryid=21.

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

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?

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.faa.gov/air_traffic/flight_info/aviation_safety/aviation_safety_challenges/2008/Nov/GAicing.pdf

http://flash.aopa.org/asf/wxwise_precip/

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

Questions? Comments? Email me at mastery.flight.training@cox.net

A Day at the Beech

Mastery Flight Training presents ***A Day at the Beech: Systems, Techniques and Procedures for Flying your Beechcraft*** at the Denton, TX airport (KDTO) **this Saturday, Dec. 6th**, from 9 am - 5pm. It's recognized by the FAA WINGS program and hosted by Aircraft Precision Maintenance, Inc. Your tuition to APM for the full day includes lunch. For more information and to enroll see [here](#).

Turbo Talk transcript

Thanks to all who participated in Mastery Flight Training's recent presentation, “Turbo Troubles,” the inaugural Turbo Talk bimonthly turbo owners teleconference. If you missed it, or if you'd like to review:

- Download an [audio recording](#) of "Turbo Troubles".

- Download the [presentation PowerPoint diagrams](#) to follow along during the audio.

See:

http://bonanza.org/documents/Turbo_Troubles.mp3
http://bonanza.org/documents/Turbocharger_Simplified.ppt
www.bonanzapilots.com

For piston Beech pilots

The December 4, 2008 Weekly Accident Update is now posted at www.thomaspturner.net, including these reports:

- An F33A's engine failed catastrophically at 800 feet AGL on takeoff....
- A Debonair went down in strong thunderstorms and two are presumed lost....
- A G36 appears to have spun out of an attempted missed approach....
- A Duke entered icing conditions, could not maintain altitude and impacted a light pole attempting an off-airport landing....
- A Baron 55 landed gear up....
- An A36's engine failed in flight, with fatal results....

For more information, commentary and analysis see the Beech Weekly Accident Update link at www.thomaspturner.net/WAU_2008.htm.

Fly safe, and have fun!

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

I welcome your comments and suggestions. Contact mastery.flight.training@cox.net.

If someone has forwarded this message to you and you want to have *FLYING LESSONS* sent directly to you each week, [tell me](#). If you received this message directly (as opposed to through a digest or chat room) and wish to be removed from the *FLYING LESSONS* list, [tell me](#).

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Holder of an ATP certificate with instructor, CFII and MEI ratings and a Masters Degree in Aviation Safety, and **2008 FAA Central Region CFI of the Year**, Master CFI Thomas P. Turner ([resume](#)) has been Lead Instructor for FlightSafety International's Bonanza pilot training program at the Beechcraft factory; production test pilot for engine modifications; aviation insurance underwriter; corporate pilot and safety expert; Captain in the United States Air Force; and contract course developer for Embry-Riddle Aeronautical University. He is now the Manager of Technical Services for the [American Bonanza Society](#). With over 3600 hours logged, including more than 2200 as an instructor, Tom writes, lectures and instructs extensively from his home at THE AIR CAPITAL--Wichita, Kansas.



See www.thomaspturner.net/Resume.htm