FLYING LESSONS for December 31, 2009

suggested by this week's aircraft mishap reports

FLYING LESSONS uses the past week's 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 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.

If you wish to receive the free, expanded *FLYING LESSONS* report each week, email "subscribe" to mastery.flight.training@cox.net.

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This week's lessons:

In many airplanes the in-flight amperage of ice protection devices will not register on an ammeter or alternator loadmeter, however. The preflight check in the POH of many multiengine airplanes calls for throttling one engine back to below the alternator/generator operating range in order to see any needle movement when the other engine is at run-up speed.

In an electrically powerful single-engine airplane you may actually have to turn off the alternator before individually turning on the pitot heat for the ammeter/alternator loadmeter movement to be noticeable.

In flight, when the alternator is developing rated power, there may not be any needle movement at all.

What would you do? NASA's latest *Callback* provides several scenarios from the Aviation Safety Reporting System (ASRS), asking readers the question: what would *you* have done? Read *Callback #360* and test your own decision-making skills.

See http://asrs.arc.nasa.gov/docs/cb/cb_360.pdf

In the same way you can learn from any NTSB report. For example, see this accident report and thoughtfully consider, "what would you have done?" Try it with any mishap report you read.

www.ntsb.gov/ntsb/brief.asp?ev_id=20091214X94945&key=1

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

DEBRIEF: Readers comment on past *FLYING LESSONS*

Retired Pan Am captain and frequent *FLYING LESSONS* debriefer Lew Gage writes about last week's discussion of a preflight check of ice protection equipment:

> Regarding your mention of feel-checking the pitot heat function during the preflight, that check only proves the heat may be working at that instant. The only thing you know from the results of that check is that the pitot heat either does or does not work at the moment of the check, not if it is working while in flight. The only practical way to know if the pitot heat is working when we really need it (in flight) is to monitor the current draw with an ammeter installed in the circuit. [The] installation of an ammeter is quite simple and anyone that does flying in clouds with icing conditions present is betting the odds if relying on the preflight feel check. Yes, yes, I know it has been done by feel check for years, but I also know of accidents or near accidents that happened due to an unknown inop pitot heat system.

Thanks, Lew. That's a good reminder to closely monitor electrical output regardless of the inflight circumstances. In many airplanes the in-flight amperage of many ice protection devices will not register on an ammeter or alternator loadmeter, however if the owner installs a dedicated ammeter to each piece of anti- and deice equipment it is possible to attain a higher level of awareness. So you're right—the ground check is not the only way to tell, but it is an essential part of checking and verifying proper operation of ice protection equipment.

QUESTION OF THE WEEK

December's Question of the Week #4:

Michael J. Wolf, president and chief operating officer at Sporty's Pilot Shop, has a feel for how general aviation as a whole is faring in the economic downturn. By studying their sales history, Wolf says the company can spot trends early. One observation they've made for 2009 and what you might expect to see going into 2010 is that because of the economy, "**Pilots are flying 'smarter.' Which means less.**" December's Question of the Week #4, then, is:

> *Take an honest look at your logbook before you answer:* Did you fly more, less or the same number of hours in 2009 as you did in 2008? If there was a difference, how much more or less did you fly in 2009? What caused the difference?

Win your choice of a Mastery Flight Training hat or the instructional DVD *Those Who Won't: Avoiding Gear Up and Gear Collapse Mishaps.* **Answer this Question of the Week to be included in the random drawing for December. Copy and paste the question with your response to MFTsurvey@cox.net…then come back to read the rest of** *FLYING LESSONS.*

December question of the week #3 was: ***What new flying skill do you want to learn in the coming year?*** Here are some of your responses:

- I [earned] my Private Pilot-Helicopter last September. I am going on for the instrument rating and commercial pilot helicopter in 2010. Having been a fixed wing pilot for over 7300 hours and 28 years, learning rotary flight is very difficult, yet rewarding.
- Preventing the Gear Up landing: Determine a point on the landing sequence where the gear must be down. When you lower the gear, keep your hand on the gear switch until you can confirm, by the gear position indicating lights and possibly visually verifying, that the gear is down and locked. From then on don't touch the gear switch, even if you have to go around! You will have confirmed that the gear was down and locked by holding the switch and visually verifying the light. You should always do your GUMP check on final as one last chance.
- I want to learn how to fly confidently in busy airspace such as the many class B airports here on the east coast. I have turned down many Angel Flight missions because they required flying into or out of Philadelphia, Baltimore or Teterboro. I know I have the "flying skills" and I have flown through the Class B airspace on a regular basis but I have never landed at one of these airports. I know an instructor that has experience operating at all of the major airports in this area and I plan to make at least one trip into each airport with him. I will make as many trips as necessary until I feel comfortable dealing with "rapid fire" controllers and handling requests such as "maintain best speed on final". As with all the steps I have taken on this learning journey, I am looking forward to it.
- The coming year I want to train more often, every third month, with IFR skills. I am now attempting to put a program together and fly with a skilled instructor.
- How about an OLD flying skill … that never gets old? NORMAL or STANDARD PROCDURES. I know fewer pilots than I might like who can perform the simple Vx and Vy climb-out and departure. The 'High Speed or Cruise Climb is almost chronic. This type of very 'Standard / Normal Maneuver' ('Vx') leads to many useful things, especially in [single-engine aircraft]. We practice them MEL as well.

  The very ordinary 'Vx Climb Out' leads directly to the safe and rather simple execution of an earlier and safe

'RETURN TO FIELD' [RTF] that is touted as so dangerous and to be avoided at most costs! Crash landing into a local back yard swimming pool is better than a stall/spin from 300 to 500 feet, but worse than a very safe '180 & RTF'. Remember, if your climb gradient is less than your Vbrg Gradient ('Best Rate Of Glide'), regardless of when you make a 180 back to the field you are NOT going to make the departure end of the runway if your turn back!

Pilots, do you need to practice any of these skills? Instructors, will you include these tasks in the training you provide in 2010? Let us know at 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
