

FLYING LESSONS for April 8, 2010

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.

FLYING LESSONS is an independent product of MASTERY FLIGHT TRAINING, INC. www.mastery-flight.training.com

This week's lessons:

Landing long is a function of two things: the pilot's aim point, and airspeed control.

Visualize a spot on the runway where you want to touch down. As you glide down final approach your aim point should remain fixed in your windscreen—it's the point you'd collide with the ground if you do nothing to alter your trajectory.

Except your actual touchdown point will be further down the runway because you'll ease the airplane into a flare to bleed off that last bit of airspeed. Even pilots who "drive it on" (necessary in some airplanes or under some conditions) will drift a little past the aim point, so choose your target accordingly.

Checkride tip: for that "aim point plus 200 feet (100 for the Commercial)" tolerance, pick a spot about 50 feet short of the identified touchdown spot. Remember you can't come up short at all and pass the checkride, so practice to see what works for you.



The real checkride is in the real world. You can't afford to undershoot by much; the Practical Test Standards demand a level of precision just in case you need it some day.

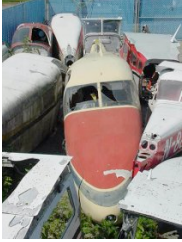
See www.airliners.net

Aiming for the right spot won't help much if you're too fast on the approach. You've got to slow it down to land it; if you're "coming in hot," as soon as you try to arrest your descent you'll begin to float further and further past your aim point. You'll bust your checkride and, if you're doing this for real, you'll bust your airplane (or worse).

Look at [this approach](#). The pilot is aiming for the right spot on a short runway. But an experienced airplane-watcher can tell it's too fast before it even crosses the threshold. The pilot begins to flare and the Aztec floats, and floats...and by the time it touches down even maximum braking (the plane skids toward the end) can't prevent a hard impact into the water.

See www.youtube.com/watch?v=loDns1Umsy8.

If you're not in *landing configuration* and on the *correct speed* and *glidepath* as you cross the runway threshold, go around and set up for another try. If you begin your flare and the plane floats until you pass the first half of the runway or you do not have enough runway remaining from where you will touch down to safely stop, go around and do it right the next time.



Don't try to "salvage" a bad approach, because that's exactly what might result. Practice bailed landings (go-arounds) so you'll be ready, and make the decision *before* you touch down if you aren't going to be able to land and safely stop in time.

Comments? Questions? Tell us what you think at mastery.flight.training@cox.net.

Supported by fliers like you: Is *FLYING LESSONS* valuable to you? I gladly donate my time and expertise, but hardware, software, hosting and other costs add up. \$5, \$10, the cost of an hour of dual instruction...any support is greatly appreciated. If you wish to donate to help *FLYING LESSONS* get even better you may do so through a secure Paypal button at www.mastery.flight.training.com.

Thank you!

Debrief: Readers write about recent *FLYING LESSONS*

Reader John Townsley writes about recent *LESSONS* on amateur-built airplane safety:

I've watched the preliminary accident reports for years. Long ago I noticed the number of accidents (of all severities) involving experimental aircraft compared to the fleet as a whole. The recent findings that high-end homebuilts are builder killers is no surprise. Not only are there piloting skill differences, there are vast disparities in builder skill. For example, I know of an RV4 built by an airline captain where the fuel line fittings were loose, and the result was a fire one morning as he taxied for takeoff. One amazing aspect of this story was his complaints before the fire about constantly smelling fuel. In another case a Kitfox builder/owner had serious inflight fuel problems. In his situation it was only by the grace of God that he didn't do the classic stall/spin after takeoff on three separate flights when his engine lost serious power because of fuel starvation. You hit it on the head when you noted that pilots are not about to "allow" their pride and joy to be dinged should a malfunction occur in the air. It's human nature to make heroic, though foolish, efforts to preserve the fruits of years of labor. Another factor you haven't considered in this behavior is the possibly large number of homebuilt aircraft that are sans insurance. I know the lack of hull insurance was a significant factor in the Kitfox pilot's decision-making. Thanks again for your excellent newsletter.

Thank you, John.

Reader and retired airline captain Larry Olson comments on practicing for crosswind landings:

A comment on the mention of teaching crosswind landings with the "one wheel on the runway" routine: I've done similar, but teach the student to never let the wheel touch. Keep it 2 inches above the runway while maintaining flying speed, barely, and [holding] directional control. A 5 or 10kt crosswind is perfect for this. Less wear and tear on the tires, and [it] teaches the same concepts.

Thank you, Larry. You don't have to sacrifice rubber for crosswind practice.

And Dr. Lorne Sheren comments about a recent *LESSON* on personal minimums:

A good friend who flies a Navajo has a personal minimum calculation that is- if there are two factors that cause "concern" the flight is over. And IFR or night count as one. So if on instruments or at night, any mechanical or weather concern is cause to scrub the flight. Oh- he doesn't fly night IFR for the most part. Knew you'd ask.

Thanks, Lorne, and everyone who reads *FLYING LESSONS*.

Going to Sun-n-Fun? Come hear *FLYING LESSONS: How Not to Crash Your Airplane*. Tuesday, April 13 at 12 pm in Forum Tent #7. See you there!

Personal Aviation Safety Stand-down

The FAA Safety Team is holding a nationwide Safety Stand-down on Saturday, April 17th. Programs beamed live from the FAA at Sun-n-Fun add to live seminars at FSDOs and other locations across the country. Contact your local FAA office or FAASTeam representative or check www.faa.gov/atsa for the schedule in your area.

More on glass cockpit safety

Following up on recent *FLYING LESSONS* citing an NTSB study on the record of “glass cockpit” piston airplanes compared to traditionally instrumented aircraft, NTSB has issued a set of [recommendations](#) (to the FAA) for rules to improve glass cockpit safety. The Safety Board calls for FAA to:

Revise airman knowledge tests [“writtens”] to include questions regarding electronic flight and navigation displays, including normal operations, limitations, and the interpretation of malfunctions and aircraft attitudes.

Require all manufacturers of certified electronic primary flight displays to include information in their pilot's operating handbook supplements regarding abnormal equipment operation or malfunction due to subsystem and input malfunctions, including but not limited to pitot and/or static system blockages, magnetic sensor malfunctions, and attitude-heading reference system alignment failures.

Incorporate training elements regarding electronic primary flight displays into training materials and aeronautical knowledge requirements for all pilots.

Incorporate training on electronic primary flight displays into initial and recurrent flight proficiency requirements that address variations in equipment design and operations of such displays.

Develop and publish guidance for the use of equipment-specific electronic avionics display simulators and procedural trainers to support equipment-specific pilot training requirements.

Inform aircraft and avionics maintenance technicians about the critical role of voluntary service difficulty reporting system reports involving malfunctions or defects associated with electronic primary flight, navigation, and control systems.

FAA is under no obligation to act on NTSB recommendations. Whether it does or not, if you fly (or teach) with glass cockpit systems, this gives you a list of areas to address, based on the recommendation of experts who have developed their recommendations from fatal accidents in glass cockpit airplanes. *Sounds like advice you'd want to take!*

See www.nts.gov/Recs/letters/2010/A10_36_41.pdf

AOPA Safety Spotlight on IFR flight

AOPA Air Safety Foundation's [Safety Spotlight](#) on instrument flight rules has courses, quizzes, presentations, and publications about instrument flying. “Learn about everything from weather systems to the regulations...and listen to one Real Pilot Story of how a pilot with clouds above, clouds below, and thunderstorms on either side lost her vacuum pump and landed safely.”

See www.aopa.org/asf/hotspot/ifr.html?WT.mc_id=100402epilot&WT.mc_sect=saploug

New England Aviation Expo

If you're lucky enough to live in New England you'll want to attend the [New England Aviation Expo](#), May 8, 2010 in Nashua, New Hampshire. I found this conference Googling for some aviation convention ideas [at work](#)...and wish I could attend some of the 22 great-sounding (and FREE) seminars. Turns out *FLYING LESSONS* reader and good friend Jim Lauerman of

Avemco Insurance is keynote speaker to boot. If you're within a tank of fuel (with safe reserves, of course), you're in range for the New England Aviation Expo. (It's probably even worth it if you need to make a fuel stop).

See www.faa.gov/news/conferences_events/aviation_expo/

Question of the Week

No one answered last week's question:

How do you introduce the concept of go/no-go decision-making and personal minimums with your students? Do you have formalized personal minimums procedures you present, and when in the syllabus do you introduce and begin to use them?

I'll leave that question open for discussion, but add this simpler one this week as well:

Do you actively mentor another pilot or pilots toward being a safer pilot? How do you establish the mentorship arrangement?

Send your response to mfitsurvey@cox.net.

Become a pilot mentor. Help pilots benefit from your experience, and the experiences of others. Forward *FLYING LESSONS* to at least two flying friends who want (or need) to be better pilots.

Fly safe, and have fun!

Thomas P. Turner, M.S. Aviation Safety, MCFI
2010 National FAA Safety Team Representative of the Year
2008 FAA Central Region CFI of the Year



FLYING LESSONS is ©2010 Mastery Flight Training, Inc. Copyright holder provides permission for *FLYING LESSONS* to be posted on FAASafety.gov. For more information see www.mastery-flight-training.com, or contact mastery.flight.training@cox.net or your FAASTeam representative.