

# **FLYING LESSONS** for December 11, 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:***

**What might drive pilots** to attempt aerobatics in airplanes clearly not designed for aerobatic flight? What justification is there for such an audacious display, especially at low altitude? Why would a pilot purposely expose unknowing passengers, their families and friends, to this homicidal act?

**Airplanes (and pilots) have limitations** for valid reasons. If you want to fly aerobatics, rent or buy an airplane certificated and maintained for aerobatics, obtain quality instruction in that airplane with an aerobatics instructor, and fly maneuvers within airplane and legal limitations including the need for low-altitude waivers as necessary. I'll say it again: *Fly the plane you're flying, not like it was the airplane you wish it to be.*

**Because the ingrained tendency of pilots** is to move the throttle fully forward when needing a quick increase in power (go-around, missed approach, drifting below altitude in an approach, etc.) I teach moving the mixture from whatever cruise position it was in to a **full rich (or as required by field elevation)** position outside the final approach fix inbound, or prior to arriving at pattern altitude for a visual approach.

**This is especially important** if you cruise lean of peak EGT ("LOP"). When LOP, power output drops dramatically with any further leaning of the mixture. Advance the throttle to full with the mixture unchanged and power will diminish, perhaps to the point the airplane cannot maintain altitude...let alone turn a descent into a climb. Return the mixture to well rich of peak EGT any time workload becomes a pilot attention factor, such as during an approach.

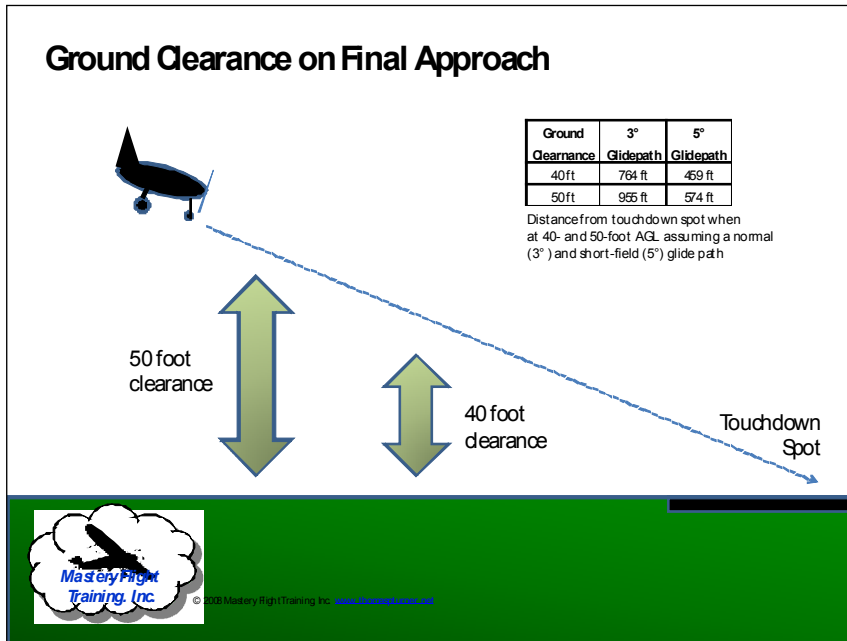
**The runway touchdown zone** is usually defined as 1000 feet from the runway threshold or 1/3 the total available landing distance. This provides runway "underrun" in case the pilot comes up short of his/her aim point, as well as increased obstacle clearance while on final approach.

**Sometimes a short runway** requires the pilot to aim for landing "on the numbers." We often train for an "on the numbers" landing and are frequently evaluated on hitting this spot in the context of a short-field landing during a pilot certificate Practical Test ("checkride"). If you're aiming for the numbers, you should be descending at a steeper glide angle than normal *precisely* to avoid close-in obstacles, seen or unseen.

**Visual glidepath indicators** are often available to help pilots avoid known obstacles. Most describe 3° to 3.5° glide paths, providing obstacle clearance to 4 nautical miles from the runway threshold when within 10° either side of runway centerline.

See [www.faa.gov/airports/airtraffic/airtraffic/publications/atpubs/aim/Chap2/aim0201.html](http://www.faa.gov/airports/airtraffic/airtraffic/publications/atpubs/aim/Chap2/aim0201.html).

**At all times** the pilot must clear the area ahead when on final approach. An airplane recently struck the mast of a sailboat about 40 feet above water level while that boat passed the approach end of the runway. A *FLYING LESSONS* reader in Ohio reports the need to watch for approaching trains along tracks immediately off the end of his home airport. Some time ago I based a Cessna 120 at a small airport in Kansas where I needed to look for large trucks on a highway that passed just short of the runway threshold—and I remember going around more than once because an 18-wheeler was coming too close.



**In my opinion** anything on the ground has the right over me when I'm on final approach. This is consistent with FAR [91.113](#), which describes aircraft right-of-way, and other FARs concerning minimum altitude requirements under various conditions. FAA (and good operating sense) requires the pilot to ensure the approach course is clear, and to use glidepath indicators where available. If the

airplane's final approach attitude blocks the pilot's forward visibility the airplane should be slipped both ways as needed to assure the area ahead may be cleared.

(Note: The oft-cited [91.129](#) requirement to maintain visual glidepath when such aids exist applies only to flight in Class D airspace.)

See:

[http://edocket.access.gpo.gov/cfr\\_2001/janqtr/14cfr91.113.htm](http://edocket.access.gpo.gov/cfr_2001/janqtr/14cfr91.113.htm).

[http://edocket.access.gpo.gov/cfr\\_2001/janqtr/pdf/14cfr91.129.pdf](http://edocket.access.gpo.gov/cfr_2001/janqtr/pdf/14cfr91.129.pdf)

## Debrief: Reader comments on past *FLYING LESSONS*

Regarding last week's discussion AOPA's David Kenny writes:

While I certainly agree that go-arounds and missed approaches should be second nature, I'm a little curious about the order in which you listed their components, specifically about listing "positive rate of climb" before "Flaps up (begin retracting as appropriate)".

Perhaps this is specific to the more capable Beech models. I'm sure you're well aware that a lot of lower-performance aircraft (including my own 1967 PA28-R) can't be counted on to climb at all with full flaps, even when lightly loaded. (I have inadvertently verified this firsthand, but was lucky enough to notice my mistake before any harm actually resulted.)

As a matter of fact, the [AOPA] ASF has a specific accident cause code for "Attempted go-around with full flaps." The memory checklist I was taught was "Power, flaps, climb, gear."

Thanks! I always enjoy your newsletter.

Thank you, David, you're right. In many airplanes the POH calls for partial flap retraction regardless of whether the airplane has achieved a positive rate of climb in a go-around. Review and follow the manufacturer's guidance. If flying an RG airplane, be extra careful to retract flaps, not landing gear, because the airplane may still settle onto the runway as the flaps retract before attaining positive climb.

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

## New from NASA's Aviation Safety Reporting System

With the approach of the winter season, weather becomes a more prominent factor in aviation incidents. [General Aviation Weather Encounters](#) offers timely lessons from light aircraft weather encounters, including VFR flight into marginal visibility, unexpected conditions while IFR and weather-related surprises during landing and takeoff.

See [http://asrs.arc.nasa.gov/publications/callback/cb\\_347.htm](http://asrs.arc.nasa.gov/publications/callback/cb_347.htm).

## Risk Management from FAASTeam

2008 FAA CFI of the Year (and *FLYING LESSONS* reader) Max Trescott has begun a series of risk management tips on [www.faasafety.gov](http://www.faasafety.gov). [Safety Tip #1](#) addresses plans for the unique risks faced on each flight.

See <http://faasafety.gov/hottopics.aspx?id=63>.

***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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