

FLYING LESSONS for May 10, 2012

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. You are pilot in command, and are ultimately responsible for the decisions you make.

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This week's lessons:

I can see the scenario unfold. The pilot shows up to the airplane hours before anyone will be in the FBO or the shop, and the battery is dead or the starter won't work. He got to the airport at 4 AM because he is on a schedule: either starting on a very long trip, trying to get out ahead of incoming weather, or stressed to get somewhere by the beginning of the business day.

Realizing the engine won't start and rationalizing that he knows the systems well enough to get the engine going, he decides to try to "prop" the airplane. But he's alone, so he can't follow the standard precaution of having a trained pilot at the controls during a hand start.

He may try to start a couple of times with no success, and decide it may start more easily with the throttle further forward. He doesn't tie down the tail out of lack of familiarity with the hand-start process, or because he doesn't think he can untie the aircraft and then climb aboard. He doesn't chock the wheels, or the throttle is so far forward that when the engine starts the airplane jumps the blocks.

When the engine fires, the propeller miraculously misses the pilot. He isn't permanently maimed, disabled or killed, which only means he was luckier than many who have attempted this before. He falls to the ground as the airplane surges out of the tiedowns and across the dark ramp, and into the pride and joy of some other owner/pilot. And then he's *really* going to be late to wherever he was going.

The Type Certificate Data Sheet [TCDS] for most aircraft types makes an operable starter a requirement for airworthiness. The Limitations section of the Pilot's Operating Handbook [POH] probably requires an operable battery and alternator/generator for the airplane to be airworthy.

Consequently there's no scenario that makes hand-propping an airplane originally equipped with a starter legal as a preparation for flight...whether the cause be a dead battery, a broken starter, or a failed alternator or generator that failed to charge the battery on the last flight.

Here's an Internet discussion on [how to hand-prop an airplane](#). I copy it here not to encourage pilots to try to hand-start an unairworthy airplane. Instead, I hope the long lists of precautions from persons who regularly hand-start propeller airplanes should convince all pilots that hand-propping is something that should only be attempted after training, and then only with numerous, redundant safety considerations...and only then if the airplane does not require an operable battery, alternator/generator and starter in order to be airworthy.

See www.eaa1000.av.org/safety/handprop/handprop.htm

There's an old saying that the rule of aviation are written in blood. In this case, the airworthiness rule was at least written in broken metal.

Much must happen quickly during the short, on-ground phase of a touch-and-go in a high-performance airplane. Flaps must be reconfigured, power added, and trim reset, all while focusing on runway alignment and crosswind control.

There is a high correlation between touch-and-goes and gear collapse, usually from inadvertent pilot movement of the gear handle during the on-ground reconfiguration, or side-load on the main landing gear as a result of inattention to crosswind control in strong, gusty winds, when the pilot focuses his/her attention on reconfiguration to the detriment of aircraft control.

My personal recommendation and instructional policy is to avoid touch-and-goes in all retractable gear airplanes, and in all airplanes in gusty winds or anything more than 50% of the airplane's published maximum demonstrated crosswind component.

Make these landings to a full stop to provide necessary practice in airplane control during all phases of landing and takeoff, especially the slow parts, when control surfaces are less effective.

This also provides time to properly reconfigure the aircraft after bringing it to a stop; and to allow for a quick debrief (or self-brief) of performance and brief for the next takeoff.

Questions? Comments? Let us know, at mastery.flight.training@cox.net



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Extreme Weather

The [new issue of FAA Safety Briefing](#) focuses on extreme weather: how to detect, prepare for, and avoid some of the more extreme varieties of weather conditions pilots may encounter, including thunderstorms, tornadoes, hurricanes, icing, fog, freezing rain and more. Hear from weather experts on how to be prepared, and updates on helpful tools and resources now available to pilots.

See <http://1.usa.gov/IHfCA6>.

Runway Excursions More Common...

...according to USAIG Safety Programs Director Paul Ratte. As reported in [AIN Safety](#), "more than 650 runway-excursion accidents occurred from 2006 to 2011. Sixty-five of these were fatal crashes, which claimed the lives of 1,121 people. USAIG alone paid out more than \$178 million in claims related to runway-excursion accidents from 2006 and 2011.... While the causes for such accidents vary, [USAIG] identified "failure to go around" as one of the leading culprits. A recent [Flight Safety Foundation](#) study...found that out of some 35,000 unstable approaches, 98.6 percent of the crews continued with the landing. 'This is the aviation equivalent of texting while driving,' Ratté said. 'We know it's dangerous, we've got policies that say don't do it, but everybody is doing it anyway.'"

See:

www.ainalerts.com/AINsafety/050712.html

www.flightsafety.org

NTSB General Aviation Safety Forum

The National Transportation Safety Board (NTSB) will hold a two-day forum on safety issues related to general aviation on June 19-20, 2012 in Washington, DC. The event, "General Aviation Safety: Climbing to the Next Level," will be chaired by NTSB Chairman Deborah A. P. Hersman. All five Board Members will participate.

"Each year, hundreds of people are killed in general aviation crashes, and thousands more are injured," said Chairman Hersman. "Tragically, the circumstances leading to these accidents are often repeated over and over, year after year. If we are going to prevent future fatalities and injuries, these common causes must be addressed." Last year, the NTSB added General Aviation Safety to its Most Wanted List of Transportation Safety Improvements.

Among the key safety issues the forum will address are pilot training and performance, pilot access to and use of weather-related information, and aircraft design and certification. Panelists participating in the forum will represent industry, government, academia, and professional associations. A detailed agenda and list of participants will be released closer to the date of the event. The forum will be held in the NTSB Board Room and Conference Center, located at 429 L'Enfant Plaza, S.W. Washington D.C. The forum is open to the public and free of charge. In addition, the forum can be viewed via webcast at www.nts.gov.

I was honored to be consulted in some of the early discussions on this forum, and will present information some time on **Tuesday, June 19th** on **the safety benefits of type-specific training**, as well as lessons learned from using NTSB accident report information as an instructional tool for pilots.

The Pilot Proficiency Project

The Experimental Aircraft Association announces the **Pilot Proficiency Project**, to be conducted during AirVenture 2012. Located in the EAA's Learn to Fly Center, the project offers forums and simulator training sessions targeted to address key safety-of-flight issues. Topics include:

- Angle of attack awareness
- Type-specific aircraft issues
- Glass panel flying
- Aeronautical Decision-Making (ADM)
- Controlled Flight into Terrain (CFIT)

...and much more. Panels of experts will discuss transitioning to experimental aircraft, flying in instrument meteorological conditions, and questions on flight training as well. Presenters include amongst others, this year's National Flight Instructor of the Year, Hobie Tomlinson as well as past National Flight Instructors of the Year Jeff Edwards, Rich Stowell, and Doug Stewart.

The Project has evolved into a cooperative effort between EAA, the Society of Aviation and Flight Educators, REDBIRD Flight Simulations and the National Association of Flight Instructors (NAFI). A series of four forums will be presented each day between 8:00 am and 2:00 pm, followed by 20-minute simulator training sessions in Redbird FMX and Crosswind Trainer simulators. Participating pilots will work with trained SAFE instructors in scenarios including engine failures during takeoff, overshoots on base to final, and approaches to minimums with a tailwind. Those attending Pilot Proficiency Project forums and simulator training sessions will receive WINGS credit.

I'm honored to be included in the program with my seminar "**Outflying the NTSB: Lessons from Experience**," beginning at **12:30 pm on Monday, July 23rd**. Watch www.airventure.org for the full Pilot Proficiency Project schedule.

Questions? Comments? Let us hear from you...at mftsurvey@cox.net.

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Personal Aviation: Freedom. Choices. Responsibility.

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



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