



TAKE OFF

Knowing when to go and when to stop

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MASTER INSTRUCTOR

NTSB Identification: ERA12LA250
14 CFR Part 91: General Aviation
Accident occurred Friday, March 23, 2012,
in Wellington, Fla.
Aircraft: PIPER PA-46, registration: N21EP
Injuries: 1 Serious.

On March 23, 2012, about 1745 Eastern Daylight Time, a Piper PA-46-500TP, N21EP, was substantially damaged after a collision with trees at the Wellington Aero Club Airport (FD38), West Palm Beach, Fla. The certificated airline transport pilot was seriously injured. The airplane was registered to Mascaro Air LLC and operated by the pilot under the provisions of Title 14 Code of Federal Regulations Part 91 as a

personal flight. Visual meteorological conditions prevailed, and no flight plan was filed. The flight was originating at the time of the accident. A witness reported that they watched as the airplane began its takeoff roll on Runway 33. The witness stated that the winds favored Runway 15. As the airplane continued its takeoff roll, it veered to the left and headed toward a large ditch that surrounded the runway. It appeared that

no attempts were made to stop the airplane or abort the takeoff. The airplane continued toward the ditch and, upon reaching the ditch's edge, the airplane took off reaching an altitude of approximately 50 feet. The airplane's left wing collided with trees. The airplane rolled to the left and then right before stalling. Examination of the airplane by a Federal Aviation Administration inspector revealed that the airplane came to rest inverted. The fuselage was buckled, and both wings were broken away from the fuselage. The airplane was recovered for further examination.

When we discuss a specific aviation accident, we are benefiting from nearly 20-20 hindsight — or so it may seem. It is also true that we cannot always know what the pilot knew when he knew it or what options might have appeared viable at the time. When a seemingly normal, albeit imperfect, set of flight circumstances produces a serious accident, we want a smoking gun, not two or three, just one smoking gun. The reason

for this simplistic need is a form of self-actualization which will ostensibly protect us in the future. We need to know how to not let this happen to us. The fix has to be understandable and infinitely do-able. This process forces a conclusion even when the facts don't support one that might be useful in terms of analysis and learning. This process is the investigative equivalent of finger-wagging, and it makes tactical, practical advice harder to come by.

When we train for a specific scenario, we run the risk of responding in a rote manner which may be counterproductive when the circumstances are different from that which was expected. When we think too fast, we reliably do the wrong thing. How then do we learn to respond correctly to all manner of circumstance? The usual response to this question is to train like professional pilots because they have fewer accidents. This oversimplified analysis is critically flawed.

Single pilot operations are fundamentally different from crew operations, and no amount

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of systems training, simulation or adherence to printed checklists can change this paradigm. If we were to study PA-46 accident rates, it would appear that even in the current training-rich environment, good judgment is elusive. We know that even a good decision can produce an accident if it is not made in a timely fashion. Judgment is, by definition, a series of opinions which our brain interprets as facts. Psychologists call it confirmation bias, and it is the 500-pound gorilla in the cockpit with us on every flight.

There are organizations conducting single-pilot operations with excellent safety records, and we can learn from their success. Cape Air is one such company. It flew 65,000 accident-free single-pilot hours using complex light aircraft on short-haul routes in IMC. It accomplished this by insisting that the relatively inexperienced pilots operate in accordance with a standard operating procedure (SOP) using checklists, flows and memory items. Cape Air pilots are trained one-on-one in the aircraft by an experienced pilot mentor working from standardized company procedure.

NBAA has similarly effected change in its member base. One method was to establish an SOP and make it available to members. I am an NBAA member, and I use an SOP derived from the NBAA pro forma. Other organizations such as Cirrus and the Bonanza Pilot Proficiency Program have also successfully established simple, effective and inexpensive standardized programs without the complexity or cost of additional FAA regulation or oversight.

Regarding takeoff procedure: Effective single-pilot Safety Management Systems (SMS) like the ones used by Cape Air and NBAA require all takeoffs to be made with proper call-outs. This time-honored method helps manage the critical sequence of events by confirming proper performance and allowing for a safe abort at the last possible moment. I used the Aeronautical Information Manual, chapter 7, paragraph 5-7, as a starting point to construct a practical procedure for the PA-46 SOP. Consistent application of this simple rule can provide the confidence needed to safely operate on short fields, grass or contaminated

runways, without distraction. Here are some video demonstrations of the use of the runway environment flow and takeoff callouts which I have developed for the PA-46: RWRPilotTraining.com/skills--techniques.html

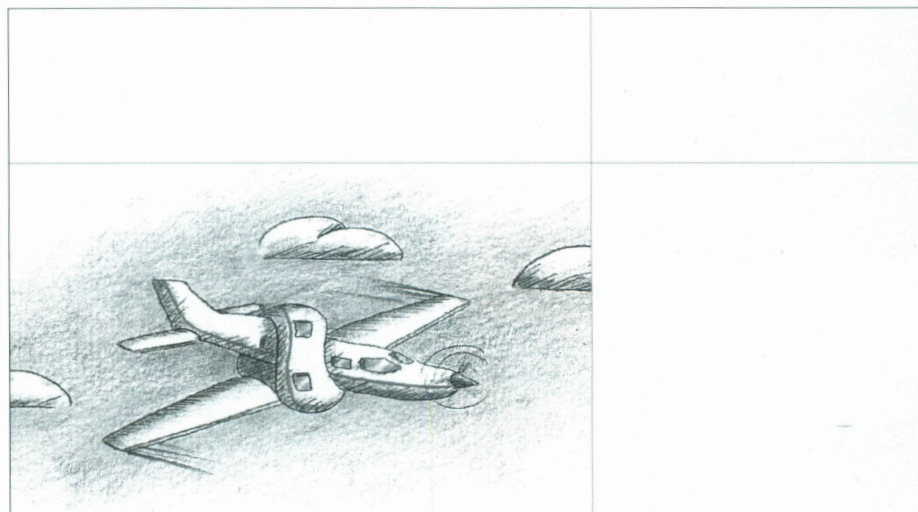
As a PA-46 owner-pilot, you are your own aviation safety management team, and no safety management system will become policy unless you decide to make it so. I encourage each of you to make it your policy to seek excellent training and make proper use of checklists, flows, memory items and SOP.

Remember, excellent training doesn't take any longer or cost any more. MMOPA

Dick Rochfort is a full-time Master Certified Flight Instructor providing type-specific, insurance-approved initial, recurrent and instructor standardization training, buyer consulting, relocation and expert witness services to Piper PA-46 (Matrix,



Malibu, Mirage, and Meridian) owners, pilots and instructors worldwide. He holds multi-engine ATP and Gold Seal Flight Instructor Certificates with CFII, MEI and CE-525S ratings. He has been teaching aviation and flying professionally since 1991.



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