Fatal Thunderstorm Encounter, Lehman, Texas

BY DICK ROCHFORT, ATP, CFII - MASTER INSTRUCTOR

NTSB Identification: CEN14FA300
14 CFR Part 91: General Aviation
Accident occurred Wednesday, June 18, 2014, in Lehman, Texas
Aircraft: PIPER PA-46-310P, registration: N2428Q
Injuries: Three fatal.

This is preliminary information, subject to change, and may contain errors. Any errors in this report will be corrected when the final report has been completed. NTSB investigators either traveled in support of this investigation or conducted a significant amount of investigative work without any travel, and used data obtained from various sources to prepare this aircraft accident report.

On June 18, 2014, about 1635 CDT, a Piper PA-46-310P, N2428Q, crashed in an open field half a mile east of Lehman, Texas. The private pilot and two passengers were fatally injured. The airplane was substantially damaged. The airplane was registered to Flying Lazy T, LLC, and operated by a private individual under the provisions of 14 Code of Federal Regulations Part 91 as a personal flight. Instrument meteorological conditions prevailed for the flight, which operated on an Instrument Flight Rules flight plan. The cross-country flight originated from Aspen-Pitkin County Airport/Sardy Field (KASE), Aspen, Colo., at 1326, and was en route to Brenham Municipal Airport (11R), Brenham, Texas.

Preliminary data available from the Federal Aviation Administration indicated that the airplane was at FL270, deviating to the east due to weather. This preliminary data indicated that the airplane climbed to an altitude of FL293 before starting a descent. The airplane was last recorded on radar at an altitude of 12,500 feet.

The wreckage was located in an open field by the landowner. The wreckage came to rest upright, on an approximate heading of west. The main wreckage included the fuselage, empennage, both wings, and the engine and propeller assembly. The empennage and the outboard portion of the right wing separated partially from the main wreckage but came to rest immediately adjacent to the main wreckage. There were no ground scars nor was there a debris field associated with the accident.

According to a witness in the area at the time, there was a severe thunderstorm in the immediate vicinity of the accident. The witness described high winds, heavy rain and low visibility.

The following comments are not intended to provide a comprehensive training program on tactical weather avoidance. However I do want to address some common causal factors for this type of accident and provide a few procedural ideas that you might readily implement to make yourself a safer, more confident pilot. This article is based solely on the official NTSB report of the accident and is intended to bring the reader's attention to the events depicted in that report. It is not intended to judge or draw any conclusion about the aircraft or the skills, training, actions or inactions of any person, living or dead.

This composite image suggests that a weather deviation was flown, which took the aircraft directly through the worst part of the weather. This is particularly troubling because this particular PA-46 aircraft most likely was not equipped with an operational on-board weather radar system.

One common error, which can lead to this type of accident, is a willingness on the part of the pilot-in-command to accept vectors from ATC when on-board weather radar is inoperative or non-existent. Center controllers have only data-link weather radar.

Let me say this as clearly as I can: On-board weather radar (and proper training in its effective use) are necessary for tactical weather avoidance. Strike Finder, Stormscope, XM Weather and other weather avoidance systems can help clarify and quantify the

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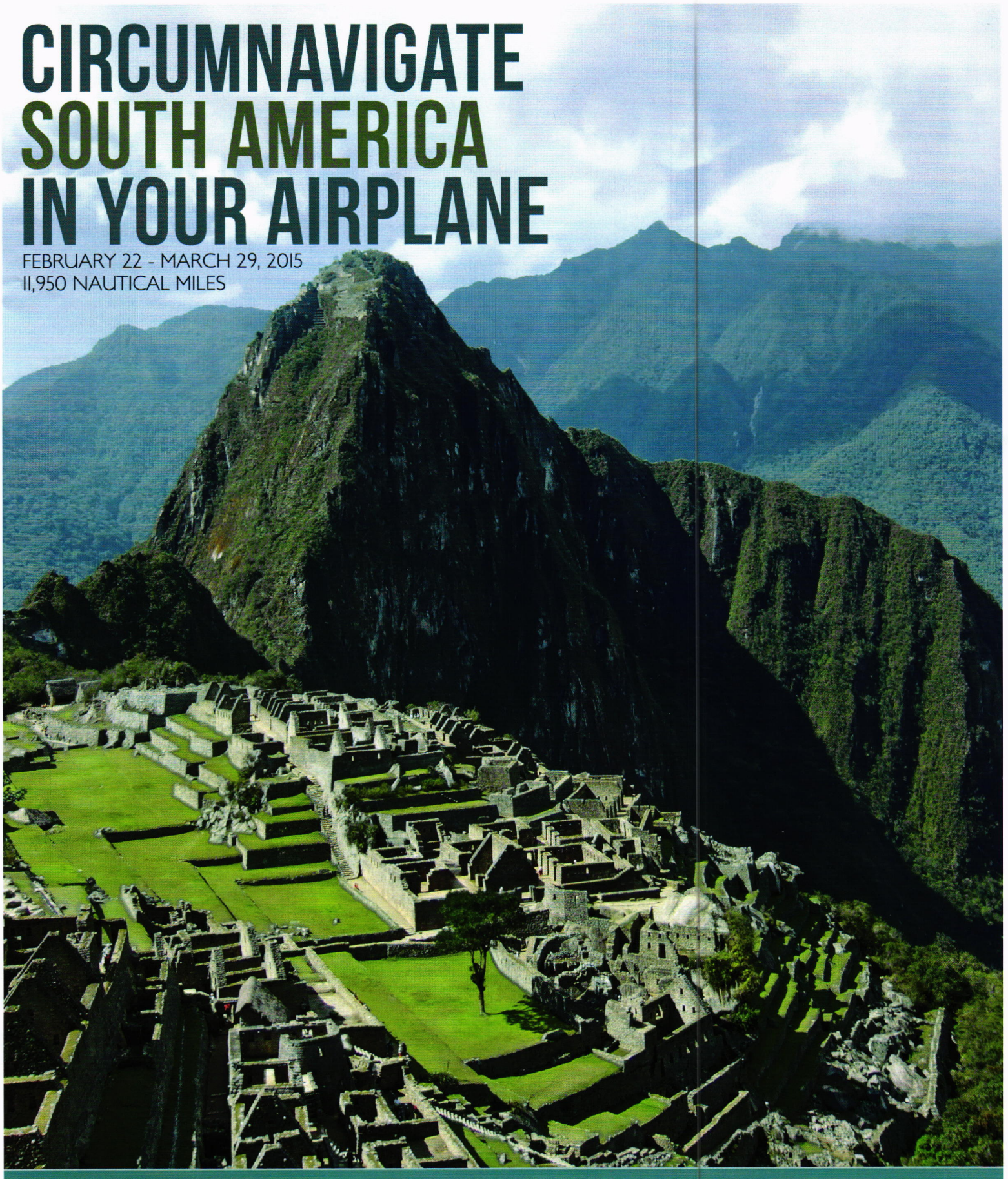

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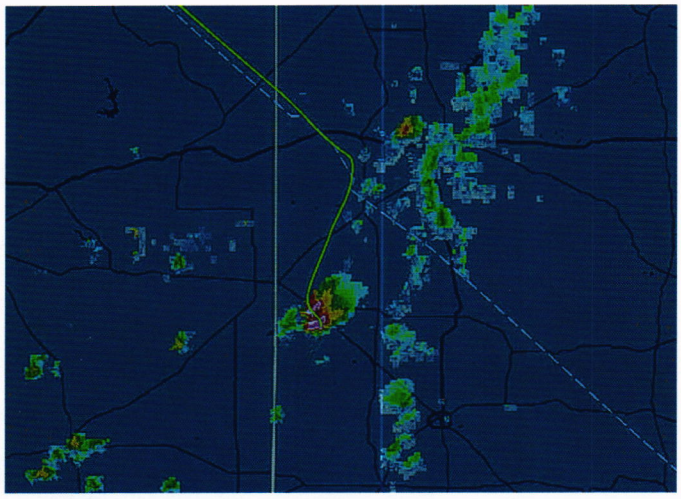

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situation, but no other weather avoidance system can replace on-board weather radar. You may get lucky on numerous occasions, but tactical weather avoidance without on-board weather radar is, in most cases, very risky.

Every weather avoidance procedure, no matter how simple or complicated the circumstances may seem, has two aspects. First, the pilot must constantly be aware of the aircraft's position relative to the adverse weather. This involves a thorough knowledge of the weather-avoidance equipment aboard the aircraft and an understanding of how this equipment should be used in conjunction with SOP, ATC, PIREPS and other en route weather advisories.

The second aspect of convective weather avoidance is that the pilot must know where he/she wants the aircraft to go. No. 2 is more difficult I think because the guidelines given to most General Aviators for separation from hazardous weather are over-simplified or, in some cases, completely missing.

If the phenomenon you are investigating contains lightning, estimate the tops. The tops will likely be FL250 or higher; if so, stay a minimum distance away as prescribed by your SOP. If the phenomenon is not producing lightning, do not overfly or penetrate the yellow or red parts of the phenomenon. You may encounter bumps in the clouds. If this happens, slow down by setting the power per your SOP.

Pitot Heat should be ON always during flight regardless of conditions. The rest of your FIKI package should be used in accordance with your company SOP. I use +10C to -20C in the presence of visible moisture for Prop Heat and Stall Warning Heat, and I use the boots as needed when I see ice. If you are flying a piston-powered PA-46, ensure that the alternate induction air is open/on before entering any area of visible moisture, no matter how benign the moisture may seem. (This means clouds rain snow, etc.) It should not be closed until the aircraft is safely on the ground and shut-down is completed.

With respect to circumnavigating convective activity, you might be thinking there are 50 ways, but I'll repeat myself at the risk of being rude. Do not attempt to navigate around convective activity without a fully operational on-board weather radar system and the requisite knowledge to use it properly.

ATC must be involved in your avoidance strategy. They will have information about what might be best, but keep in mind three things whenever ATC gives you suggestions or routing:

1. Those things, which you prefer based on maximum passenger comfort
2. Those things, which you will accept based on your SOP
3. Everything else requires a response of "unable"

Anytime you fly, you must consider the possibility of a diversion. While it is well-understood that too much information (hyper-focusing) can be a bad thing, it is also true that not enough information (inadequate planning) can be worse. Incorrect information (confirmation bias) can even be fatal. Choose your diversion plan carefully and remain alert for — and respectful of — dynamic change.

These four images depict the same rain-shower activity, using different tools. I ask you, in the memorable words of Groucho Marx: "Who are you going to believe, (the radar) or your lying eyes"

Late decisions tend to lead to accidents. It amounts to an attempt to "un-ring the bell," and convective-weather accidents are a good example. This is why we should be clear in our own minds about alternate plans and under what circumstances we will employ them.

I believe the PA-46 community, as a whole, does a good job of risk management. We train regularly; we are aware of our preflight and flight planning duties. We tend to be technically savvy; and we have more experience than the average owner/pilot. While all of this is good, I also frequently observe a need to "ratchet up" on our single-pilot procedural discipline.

In summary, the desired and expected outcome on any flight can only occur consistently if you insist on the procedural discipline to operate the one best way, the same way each and every time using well-vetted checklists, flows, memory items and SOP. I invite you to view several demonstration videos on this topic within the PA-46 Pilot Reference Library: RWRPilotTraining.com/thunderstorms--rainshowers.html

Dick Rochfort is an Airline Transport Pilot and Master Instructor providing type-specific, insurance-approved initial, recurrent and instructor standardization training, buyer consulting, aircraft relocation and expert witness services to the US aviation insurance industry and Piper PA46 (Matrix, Malibu, Mirage, and Meridian) owners, pilots and instructors worldwide through his company, RWR Pilot Training. You may contact Dick directly at mail@rwrpilottraining.com Additional information available at the PA46 Pilot Reference Library at: http://www.rwrpilottraining.com/training-library.html.
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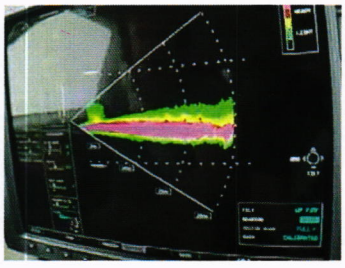

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