SPATIAL DISORIENTATION STALL/SPIN

BY DICK ROCHFORT, ATP, CFII MASTER INSTRUCTOR

National Transportation Safety Board
PRELIMINARY REPORT
AVIATION
NTSB ID: CEN13FA131
Occurrence Date: Jan. 12, 2013
Occurrence Type: Accident
PRELIMINARY INFORMATION - SUBJECT TO CHANGE
Most Critical Injury: Fatal
Investigated By: NTSB
Nearest City/Place: Paris, Texas
Registration Number: N5339V
State Zip Code: 75462
Aircraft Manufacturer: Piper
Local Time: 0900 Time Zone: CST
Model/Series Number: PA46-500TP
Injury Summary: Three fatal

Note: 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 Jan. 12, 2013, approximately 0854 Central Standard Time, a Piper PA-46-500T, N5339V, was destroyed when it impacted terrain shortly after departure from Cox Field Airport (PRX), Paris, Texas. The commercial pilot and the two passengers were fatally injured.

A preliminary review of Federal Aviation Administration air traffic control communications revealed the pilot was issued an IFR clearance at 0844 from Paris to Austin. Shortly after takeoff, approximately 0850, the pilot contacted the Fort Worth Air Traffic Control Center. A controller advised the pilot to maintain 5,000 feet. At 0853:12, a controller advised the pilot he was five miles south of Paris and to confirm his altitude. The pilot responded that he was nearing 5,000 feet. The controller then instructed the pilot to climb and maintain 16,000 feet, and the pilot acknowledged. At 0853:36, approximately 10 seconds after the last transmission, the controller advised the pilot to contact Fort Worth Center on another frequency, but the pilot did not acknowledge the instruction, and there was no further communication with him.

The airplane was first observed on radar at 0852:22. It was on a southwesterly heading at an altitude of 4,200 feet. Approximately 25 seconds later, the airplane reached an altitude of 4,700 feet and a ground speed of 249 knots. At 0853:40, the airplane was still heading southwest, but had climbed to 5,100 feet and slowed to a ground speed of 214 knots. The airplane then entered a descending right-hand turn. At 0853:52, the airplane was at an altitude of 4,800 feet and a ground speed of 202 knots. At 0854:04, the airplane continued to turn right and climbed to 5,000 feet and slowed to a ground speed of 153 knots. Nineteen seconds later, the airplane climbed to an altitude of 5,200 feet, and the groundspeed slowed to 115 knots. The last radar return was received at 0854:34. At that time, the airplane was at 4,500 feet at a ground speed of 110 knots.

A wreckage review was conducted on Jan. 16 and 17 under the supervision of the National Transportation Safety Board investigator in charge. Examination of the airplane revealed that the flap and landing gear were fully retracted. Flight control continuity was established for all major flight control surfaces from the surface to the cockpit. Elevator trim continuity was also confirmed. The elevator trim tab was found in the 8-degree nose-down setting. Continuity of the autopilot system could not be established due to impact and fire damage.

The pilot's logbook was located in the wreckage. This logbook was marked "#3." The first entry was made on May 30, 2009, and the last complete entry was made on Jan. 11, 2013. According to the logbook, the pilot had accrued a total of 2,365.7 hours, of which, 126.9 hours were in the same make/model as the accident airplane. The pilot also accrued a total of 118.3 hours in actual instrument conditions and 86.3 hours of simulated instrument conditions. He logged 57.3 hours in the last 90 days and 4.3 hours in the 24 hours prior to the accident.

This accident most likely was caused by a loss-of-control leading to a stall/spin, which I suspect was precipitated by spatial disorientation. Mechanical failure is potentially a contributing factor as well.

We all throw around terms like risk analysis, judgment and aeronautical decision-making. It's really easy to blame the pilot, but what about the system? Do you really believe you are qualified to make every flight the FAA says you are legal to make?

I recommend that each pilot consider the following procedural steps, no matter what the flight conditions may be:

1. Determine that the pilot and the aircraft meet the terms and conditions of the SOP (standard operating procedures). This step will take some of the angst out of aeronautical decision-making while contributing mightily to risk management and safety. Organizations with good safety records use SOP. A well-vetted SOP is different from a personal minimum because it is in writing and agreed upon well in advance. Personal minimums can trump SOP, but not the other way around. Your SOP becomes the baseline for your own personal SMS (Safety Management

System). Your flight instructor can and should play the role of chief pilot for your organization.

2. Use proper call-outs and Pitch-Power Configurations. PPC combinations are an excellent way to verify the status of every operation regardless of conditions. Actively consider the various climb segments and which PPC will be used for each. These techniques will give you the ability to discover faulty instruments sooner and make timely decisions confidently.

3. Get on the AP ASAP. The autopilot is a critical safety device and should be used regularly for all phases of flight. Single-pilot IMC is not for sissies. Do not accept IMC without an operational AP unless a second qualified pilot is available. It is also true that the autopilot is not to be used as a crutch for poor skills. Both are necessary for safe flight.

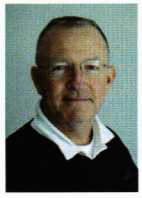
4. Do not accept any distractions while hand flying. This means no answering radios or operating brow switches until the AP is engaged and verified.

5. Verify a stable climb with three questions: Which way? How high? What's next? If you cannot answer these questions immediately and correctly, you are officially "behind the airplane" and need assistance from ATC.

6. Seek excellent training at least twice per year until you have ATP level skills and knowledge, then ask your chief pilot (flight instructor) for a recommendation. The human brain can only process one thing at a time. Excellent pilots do exactly the right thing at the right time and in the correct sequence. Experience makes this somewhat easier, but only when you have had excellent experience. Excellent experience is derived from excellent training.

Over the 27 years of PA-46 production, an average of three fatal PA-46 accidents have occurred per year. Over the immediate past five-year period, the averaged climbed to four fatal PA-46 accidents per year. The vast majority of these are considered pilot error. Unfortunately, the concept of a standardized, procedural approach to training has not taken root in the PA-46 community as it has in other pilot communities (Bonanza and Cirrus are two such examples). I encourage you to take charge of your own aviation training. Choosing to make the paradigm shift and seek excellent training, which must include tactical, practical advice on how to construct your own personal Safety Management System.

Remember: "Keep things as simple as possible, no simpler" (Albert Einstein). "Be quick, but don't rush" (UCLA basketball coach John Wooden). "Be sure you're right, then go ahead" (Fes Parker/ Davey Crockett). "Do the same thing, the same way, to a high professional standard, every time. Set your standard, stick with it, don't violate it and let no outside pressure change it. Discipline is going to keep you alive." (Fred Kaiser, FAASTeam program manager).



I welcome your comments and suggestions. MMOPA

Fly Safely - Train Often

About the author: Dick Rochfort has been providing excellent training and related services to PA-46 instructors, owners and pilots worldwide for more than 20 years.