



NTSB

SAFETY ALERT

National Transportation Safety Board



Understanding Flight Experience



A rating alone cannot ensure safety: Training is key

The problem

- Aircraft have different flight characteristics, performance, and systems.
- Pilots may have many hours of experience, but their experience specific to the aircraft make/model and/or equipment they are flying may be limited.
- Although Federal Aviation Administration (FAA) regulations allow pilots to operate aircraft that are designated by a specific category and class, differences among different types of aircraft within the same category and class can be significant.
- Even if operating a specific type of aircraft is allowed by regulations, it does not mean the practice is safe.

Related accidents

The NTSB has investigated many accidents in which pilots who met the minimum federal requirements for flight ultimately did not have adequate experience and/or training in the aircraft they were flying to operate it safely or to deal with an inflight emergency. The following accident summaries illustrate some common—and preventable—accident scenarios:

- A 15,150-hour airline transport pilot was fatally injured after losing control of a recently purchased Beechcraft KingAir B200GT airplane shortly after departure. The pilot had previously flown another similar model airplane and obtained about 5,075 hours, but the airplane was slightly older and had a different avionics package; the accident airplane's avionics and flight management system were new to the pilot. During a ferry flight just before the accident, a passenger who was also a pilot was pointing out the avionics features of the new airplane. Due to the pilot's unfamiliarity with the avionics, he allowed the airplane to slow and then descend into a house during departure. ([CEN13FA326](#))
- A 16,000-hour airline transport pilot was conducting the Phase I flight test of the experimental Mustang II tailwheel airplane and lost directional control. He had 2,130 hours in single-engine airplanes, and 10 hours in the make and model airplane. He had accrued 6 hours in tailwheel-configured airplanes in the 3 months before the

accident. Although the pilot had thousands of flight hours, his lack of experience in the accident airplane made him more susceptible to losing control of the airplane. ([CEN10LA255](#))

- During a water landing in a Quest Aircraft Company Kodiak 100, a 1,650-hour commercial pilot, with 550 hours in seaplanes and 232 hours in the accident airplane lost directional control. The pilot had completed one 180-degree step turn during her initial training, but she had not performed any during her interagency pilot evaluation/qualification check even though it was required. If the pilot had received thorough training in performing step turns in the accident make and model airplane, she would have been less likely to lose control of the airplane. ([ANC12GA114](#))
- A private pilot was fatally injured following a loss of engine power from a Cessna P337H airplane's rear engine. The pilot had obtained a private pilot certificate in 1998 and, over the next 15 years, accrued minimal flight experience, with a total flight time leading up to the accident of 118 hours. About 1 month before the accident, he obtained a multiengine rating. His total multiengine time was 40 hours, with 18 hours in the accident airplane; only 3 hours were acting as pilot-in-command. The pilot's extended absence from flying, minimal total flight time, and limited experience in high-performance multiengine airplanes made him more vulnerable to errors when addressing the loss of engine power. ([WPR13FA289](#))

What can pilots do?

- Obtain the necessary training from a flight instructor experienced in the aircraft that you plan to fly so that you understand the flight characteristics and emergency procedures for that aircraft. Meeting the minimum requirements does not mean that you are proficient.
- Obtain refresher training if you have not flown for a long period; long periods of no flying, even for high-time pilots, can have an adverse impact on your ability to respond to unusual situations and emergencies.
- Seek out a qualified test pilot to assist in flight testing homebuilt aircraft you are not familiar with.
- Seek out instruction for advanced avionics and systems. Identical make-and-model aircraft can have considerably different cockpit panels.

Interested in more information?

The reports for the accidents referenced in this safety alert are accessible by NTSB accident number from the NTSB's Aviation Accident Database & Synopses web page at [http://www.nts.gov/ layouts/nts.gov/aviation/index.aspx](http://www.nts.gov/layouts/nts.gov/aviation/index.aspx). Each accident's public docket is accessible from the NTSB's Docket Management System web page at <http://dms.nts.gov/pubdms/>.

The Aircraft Owners and Pilots Association (AOPA) Air Safety Institute, a division of AOPA Foundation, offers an online educational course, [Transitioning to Other Airplanes](#), that provides information about transitioning to different airplanes and avionics. This course and other safety resources can be accessed from <https://www.aopa.org/Pilot-Resources/Air-Safety-Institute>. (Course access requires creation of a free account.)

A [Personal Minimums Checklist](#) can be a helpful tool in assessing your capabilities and determining your readiness for flight. This information can be accessed through the FAA's website at www.faa.gov.

"[Beyond the Buttons: Mastering Our Marvelous Flying Machines](#)" published by *FAA Aviation News* (March/April 2007), contains valuable resources and information related to the multiple considerations pilots must take into account when moving to glass cockpit displays. This information can also be accessed through the FAA's website at www.faa.gov.

In 2012, the NTSB published a study titled, [The Safety Of Experimental Amateur-Built Aircraft](#), that led to recommendations related to flight testing experience and using a second qualified pilot during aircraft testing. Additionally, the NTSB published a study in 2010 titled, [Introduction of Glass Cockpit Avionics into Light Aircraft](#), that led to recommendations related to pilot knowledge of aircraft equipment operations and malfunctions. These studies can also be accessed through the NTSB's website at <http://www.nts.gov/safety/safety-studies/Pages/SafetyStudies.aspx>.

This NTSB safety alert and others can be accessed from the NTSB's Safety Alerts web page at <http://www.nts.gov/safety/safety-alerts/Pages/default.aspx> or searched from the NTSB home page at <http://www.nts.gov/Pages/default.aspx>.