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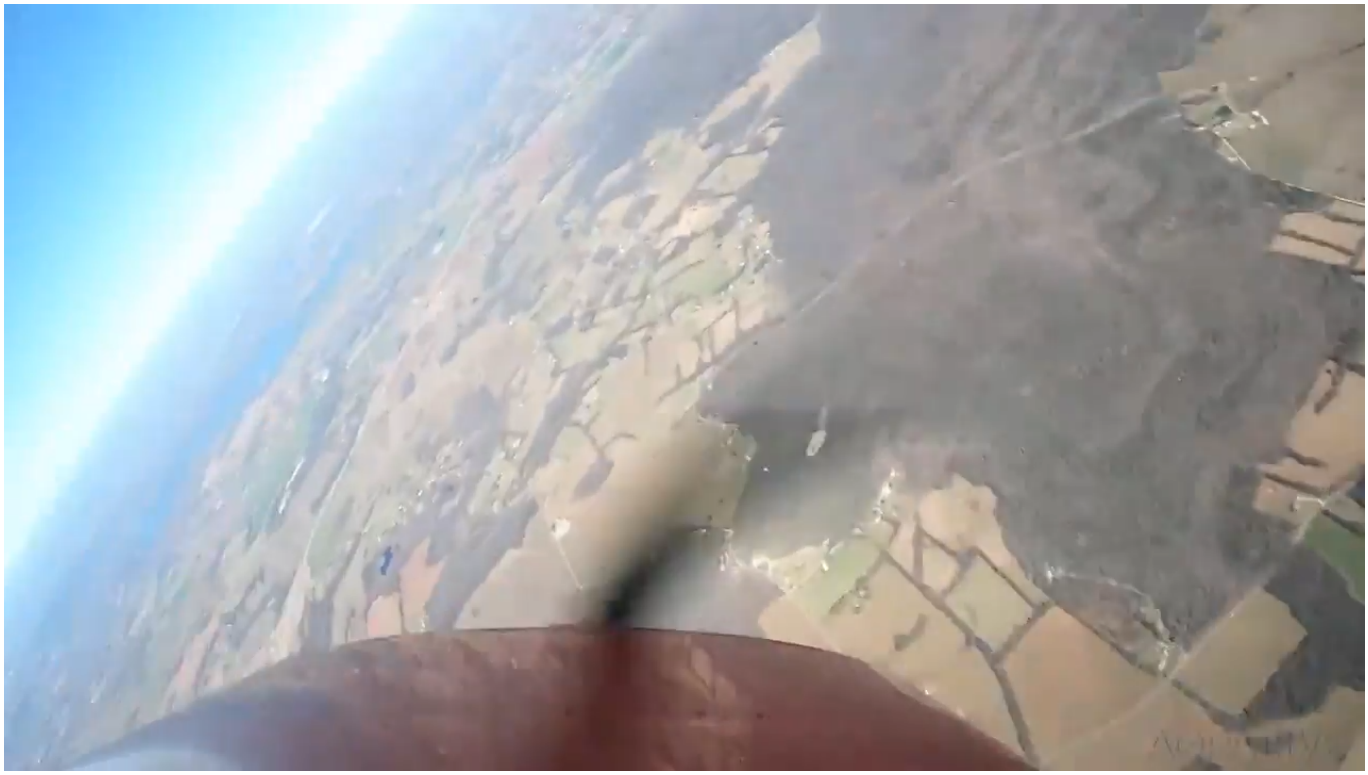
ESSAY

Spin Training Teaches the Value of 'Airmanship'

Learning how to pull an airplane out of a dangerous tailspin is valuable for pilots, even if they never have to put the skill to use



By Kate Murphy

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Before my spin training flight, my instructor, a bearded bear of a man, said, "The last guy threw up inside his shirt." Stifling a chuckle, he added, "I felt bad for him." I had been anxious about losing control of the airplane. Now I also worried about losing my lunch.

I am working toward getting my certified flight instructor license, and one of the requirements involves putting an airplane into a tailspin and recovering before it augers into the ground. It's a dread maneuver that can humble even the most cocksure pilot. Many vomit or wet themselves, and some give up flying altogether.

Spins typically result when an airplane stalls while yawed, or misaligned, as when a pilot pulls back too vigorously while making an uncoordinated or sloppy turn. The resulting imbalance of aerodynamic forces causes the airplane to violently pitch over and autorotate in a dizzying helical pattern. Recovery requires practice because so much of the procedure is contrary to

instinct, such as pushing the stick or yoke forward into the dive when everything in you screams to pull up.

Spin training used to be required of all pilots in the United States and still is in Canada. But in 1949 the Civil Aeronautics Board (CAB), forerunner of the Federal Aviation Administration, eliminated spin training from the curricula for private and commercial pilots. The aviation world has been arguing about it ever since.

The CAB made its decision after a spate of spin training accidents in the 1940s, hoping that the change would reduce risk and encourage manufacturers to build spin-proof airplanes. It didn't. According to National Transportation Safety Board data, aerodynamic spins and stalls (the precursors to spins) account for nearly a quarter of all fatal air crashes, a statistic that has remained fairly consistent since records have been kept. Since 2008, there have been 1,242 accidents categorized as aerodynamic stalls or spins, resulting in 580 fatalities. The aircraft involved ranged from small single-engine propeller planes to business jets to airliners.

Today, the debate is not so much whether every pilot would benefit from spin training—they would—but whether every pilot should be required to do it. "Stall/spin awareness and recovery is undoubtedly valuable training," says Richard McSpadden, former commander of the U.S. Air Force's aerobatics and formation-flying Thunderbird squadron and now executive director of the Aircraft Owners and Pilots Association's Air Safety Institute. "The challenge is if we require it of everybody, some instructors are just not qualified enough to do it, and do it in the right airframe."

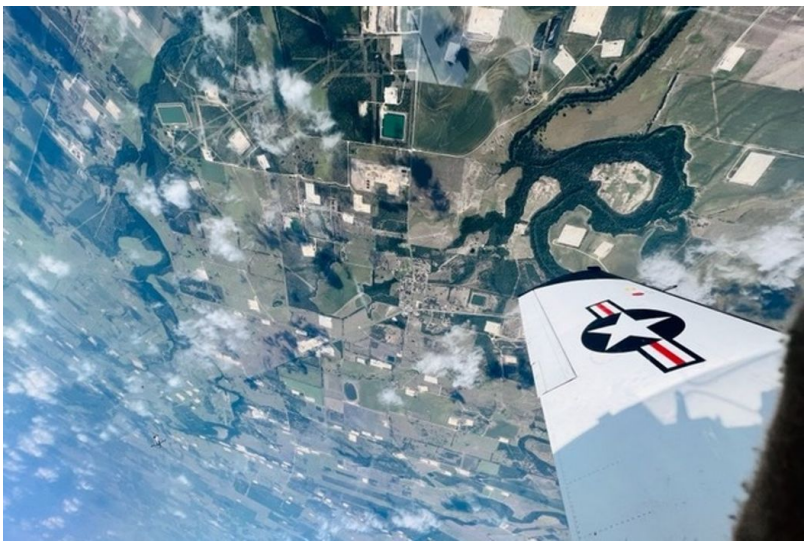
In other words, spin training can improve pilot skills and prevent accidents, but only if both the instructor and airplane are capable. "Spin training done right, and in the right airplane, teaches more than just how to get into and out of a spin," says Debby Rihn-Harvey, one of the first female pilots hired by Southwest Airlines, an aerobatic champion and the owner of the flight school in La Porte, Texas, where I did my spin training. "It teaches about all the flight controls and how they affect the spin and the spin characteristics."

Opponents of mandatory spin training say it assumes that the pilot will have enough time to recover. "If you look at data, spins typically happen at a low altitude when there's essentially no recovery," says Alan Stolzer, dean of aviation at the Daytona Beach campus of Embry-Riddle Aeronautical University, where spin training is elective. He agrees with the FAA that it would be better to emphasize spin awareness and prevention, so you never have to recover from a fully developed spin in the first place.

For Ms. Rihn-Harvey, however, spin training improves overall "airmanship," an anachronistic term applied without irony or prejudice to both men and women. It signifies exceptional aeronautical judgment and an almost intuitive feel for how to handle an aircraft even in the most extreme circumstances.

That is the position of the U.S. Air Force and the U.S. Navy, which both incorporate spin training into their basic pilot-training regimes. "We're training future fighter pilots and future cargo haulers and everything else," says Lt. Col. Earl "Patch" Arnold, commander of the 559th Flying Training Squadron at Randolph Air Force Base in San Antonio. "We want them to have that understanding of not only what a spin is and how to recover, but also that confidence to know that you, as an aviator in this world, 'You've got this,' and that's huge as you continue with your training."

That was my experience after spin training. As in the military, my course began with thorough ground instruction on the aerodynamics of spins. My instructor, a former law enforcement pilot, was highly qualified, and the airplane we flew, a Super Decathlon, was in the "acrobatic" category, an FAA designation that means it is well-suited for spins. And spin we did, over and over, as I learned how to recover from spins after three full rotations, both to the left and right.



I was fortunate, and not just because I didn't have to use my shirt as a sick sack. According to surveys, flight instructors typically receive little or no ground instruction in spin dynamics and, on average, do just 2-4 spin entries and recoveries of not more than one full rotation, often in an aircraft in the less spin-worthy "utility" category. "The FAA simply accepts an endorsement in your log book as proficient in spins as true when the reality is the stall/spin knowledge of flight instructors, broadly speaking, is inadequate," says Rich Stowell, an aerobatics flight instructor who has logged 35,000 spins in 250 different airplanes and written several books on the subject.

This is especially concerning in light of the current pilot shortage. Previous generations of airline pilots typically came out of the military, but carriers are now pipelining more pilots right from the civilian or "general aviation" sector. By and large, they have not been adequately trained in how to recover from spins and the arguably larger imperative of airmanship. While much of airline travel today is automated, taking airmanship out of the equation, we have seen many instances of the tragic consequences when automation fails and pilots are ill-prepared to take control manually.

Having been conditioned to fear spins throughout my flying career as a mysterious and deadly phenomenon too dangerous to even approach, it was a tremendous relief to finally know what a spin feels like and how to get out of it. I am undoubtedly a better pilot now, not only technically but also temperamentally, because I no longer have the anxiety that lurks in the subconscious of the uninitiated. I only wish I had done it sooner.

—Ms. Murphy is a journalist in Houston and the author of "You're Not Listening: What You're Missing and Why It Matters."

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