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TEACHING SPINS

Are you competent?

By Mike Kloch

Loss of control in-flight (LOC-I) is the number one killer in airplanes. It is deadlier than the next three mishap categories combined. Stall/spin events are involved in a large portion of these LOC-I fatalities. According to the FAA, a fatal GA mishap involving loss of control occurs, on average, every four days. Therefore, don't we want CFIs to be highly competent in teaching stall/spin awareness? I say yes.

One of the best solutions to reducing the general aviation mishap rate is to reduce LOC-I mishaps, and one way this problem can be attacked is by instructors providing better stall/spin awareness related training.

Reading Rich Stowell's excellent *Light Airplane Pilot's Guide to Stall/Spin Awareness*, I was not surprised by his reporting on the current state of spin training. It matches my own experience that the average amount of training given to earn a spin endorsement is severely lacking (to put it kindly). Since there are no specific



minimums to earn the endorsement, most appear to do as little as possible just to get signed off and move on. I have flown with many CFIs and queried many others concerning what they did to earn their spin endorsement, and the answers are all similar. They did little to no ground training

and then went and did anywhere from one to three spin entries and recoveries in each direction. Many of the answers were one spin in each direction. Several of the CFIs queried did their spin endorsement outside of my local area, which tells me that it is not a problem specific to my region.

During the first couple of spins a person experiences, their situational awareness (SA) is not good, akin to looking through a soda straw is the metaphor I use. Then their SA starts to expand to that of looking through a paper towel tube, and continues to grow with practice. Many repetitions spread out over at least two flights makes a big difference in SA, which also means much higher competence levels and confidence, in my experience.

How can a pilot be proficient in a maneuver they have only done a handful of times (or only twice!)? What other maneuver in a pilot's flight training is introduced and completed in one flight, never to be reviewed again? So what does "has demonstrated instructional competency in those maneuvers as required by ..." as stated in

the spin endorsement mean? Does this minimal exposure really meet the intent of the endorsement?

A new CFI is legally allowed to teach spins. Many won't, but some will. How can this CFI be competent if they have only done a few spins themselves and never learned any of the intricacies of the complex subject of spins and spin recoveries? An instructor should know much more about spins and spin recoveries than just being able to parrot the PARE (power/ailerons/rudder/elevator) recovery procedure without any details.

Before the flying starts there of course needs to be adequate ground training. To cover all of the needed information to develop an instructor with adequate spin knowledge takes preparation beyond that of a short brief before flying. Most commercial-level pilots in training or CFI candidates usually need to pump up their aerodynamics knowledge and need instruction on how to apply this knowledge to emergency maneuvering, spin prevention and recoveries. For some reason there are some useful aerodynamics concepts that just don't get covered in training and are not in the FAA publications, or are not described adequately.

I think the reason for these deficiencies in training is that it has been the blind leading the blind as far as spins go. This statement is not meant to be offensive; it is just reality. Many flight schools do not have upset recovery training available nor an experienced and knowledgeable spin instructor. Therefore, only a cursory exposure to satisfy the requirement for a spin endorsement is usually covered. Because of this, many CFIs have a weak understanding of spins with very limited capability in spin recoveries.

Flight schools mostly train to syllabuses that meet the requirements for the checkride. Unfortunately, that leaves out most "edge of the envelope" type maneuvering where many pilots tend to not be comfortable or competent. These are important areas for understanding stall/spin awareness. I have found that incorporating this type of maneuvering with spin training to be useful for increasing stick and rudder skills, aerodynamics

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I believe we can raise the standard level of training given for a spin endorsement with minimal extra expense. For the past five years I've been teaching my Enhanced Spin Endorsement course to local CFIs and CFI candidates, and the results have been excellent. The goals and results of this course are:

- Improved knowledge of certain "key" aerodynamics.
- Understand spin dynamics at a significantly higher level than the average pilot.
- Knowledge of common spin mishap scenarios and how to avoid them.
- Learn proper and efficient spin recovery techniques for your spin training aircraft.
- Acquire knowledge of some spin statistics.
- Attain a much more thorough understanding of VA and why it is important to know.
- Learn "proper" unusual attitude recovery techniques to ensure the most efficient and safest recoveries possible.
- Gain comfort, confidence and ability flying closer to the edges of the flight envelope and performing advanced maneuvers.
- Learn how to teach stall/spin awareness and spins.
- Practice teaching spins as well as experience and counteract spin training mistakes.
- Understand and apply safety measures to spin training.
- Earn the spin endorsement.

My course requires a pilot in training to have four hours of ground and three hours of flight time available for the spin endorsement course. Not bad considering how much is covered in that time. The result has been CFI candidates with far more confidence and capability in stall/spin knowledge and instructional capability. It would be great to see something similar, as far as raising the standard of training, go nationwide. I am open to suggestions from anyone on how to make this happen.

Here are my recommendations for flight schools to provide better spin endorsement and stall/spin awareness training:

- Designate and train an in-house spin subject matter expert (SME). Of course, this instructor has to be trained and educated on stalls and spins to a relatively high level. An Upset Prevention and Recovery Training (UPRT) course that includes spin training would be a great start for a spin SME. This person can then conduct the spin endorsement training for the school.
- Provide every instructor with enhanced spin training.
- Identify a local upset recovery training provider and encourage all instructors to take upset recovery training.
- Encourage spins to be demonstrated to and practiced by private and commercial students (dual flights only).

Every pilot should get UPRT in my opinion, but that is not always feasible at this point. The next best thing is for CFIs to get enhanced spin training. Let's all work together to make the spin endorsement really have meaning. 

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Mike Kloch is a test pilot for Epic Aircraft and a two-time Master CFI. He is also a retired Marine Corps F/A-18 pilot as well as an FAA Safety Team representative. He has taught upset prevention and recovery training and aerobatics at Advanced Flight Dynamics and conducts spin endorsement training for Central Oregon Community College and Leading Edge Aviation in Bend, Oregon. He is happy to help and has an outline of his Enhanced Spin Endorsement course on his website (www.MikeKloch.com) as well as a page there dedicated to spins.

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