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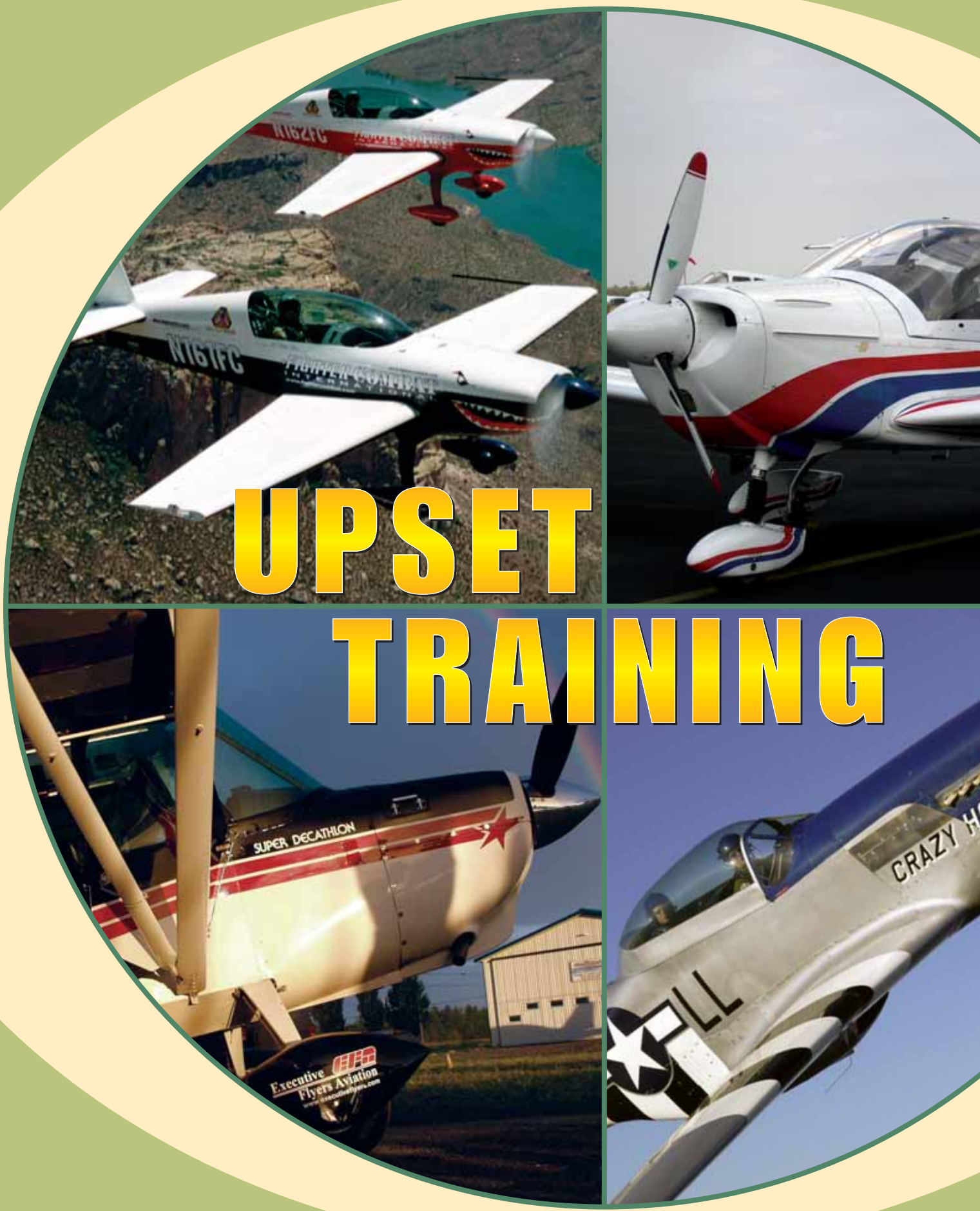
Upset Training

Become A Better, Safer Pilot



UPSET TRAINING

Moving Up – Managing Your Transition

A quarterly report addressing topics of interest to the transition turbine pilot.

by Mike Dwyer

An adventure is best described as a planned departure from your comfort zone. I would like to propose a radical adventure. If you have read any of our prior turbine transition articles, you would have a difficult time arguing with the logic behind our scientific approach to becoming a better pilot. Well this month we get a little bolder, a little more cutting edge and therefore, more controversial. So buckle your seat belt, er … five point harness, (after you have strapped on a parachute) because this month we want to tumble your gyros.

The next four articles have been written to give you options to getting upside down in an airplane. More to the point, we want you to learn to get right side up if you find yourself upside down.

The logic is as follows: No matter how great a pilot you are, stuff happens. Should you become inadvertently upset from wind shear, microburst, mountain wave, wake turbulence, vertigo, runaway trim, someone else's negligence, sloppy stall practice or a bad turn to final; in a long, healthy flying career, you may find your life depends on how good your hands and feet are.

So what could be controversial about making upset training, which is essentially unplanned aerobatics, part of your turbine transition training plan? I plan to make a case for airmanship training, which is the point of the four following articles. But first, let me make a case, to show my opponents on the topic, that I am empathetic and that I appreciate the opposing point of view — even if it is weak and ultimately, as you shall see, untenable.

Reasons not to go spinning upside down on purpose:

1. It is scary – Even if you love roller coasters and have a healthy dose of testosterone, tumbling through the skies can remind any of us of our mortality. Nightmares usually center around a monster we can't vanquish. Surviving your first spin will most likely require the presence of someone who has been there before to help you through.

2. It is dangerous – The reason spin training is no longer a part of primary training, as it once was, is that more people were getting killed from practicing spins than the spins themselves.

3. Give me a break – This is the common-sense approach that says if you are so far behind the airplane that you find the windshield accelerating toward earth, you probably won't magically become Charles Lindbergh and save the day.

4. What are the chances – Another safe statistical position. How many pilots do you know found themselves upside down inadvertently? This school of thought says that the focus on the training should be on avoiding stalls, wake turbulence, mountain wave, etc. How many police officers have drawn or fired their weapons during an entire career?

5. YMCA – You don't have to be Michael Jordan to play basketball. There are plenty of us that play at the Y regularly on weeknights. We are all pretty good, have sufficient skills to love the game and play within our abilities. You don't have to be an astronaut to safely fly an airplane.

Just to prove how empathetic I am to a pilot who does not want to undergo upset training, I will only offer one reason to offset the five sound, perfectly rational arguments against scaring yourself in an airplane.

1. You will become a better pilot, which could save your life.

There, it's that simple. It is silly to suggest that all police officers should stop training with firearms just because many may not need them. Upset training is preparing for what you don't expect and oh, by the way, you will become a better pilot.

You will become a better pilot in three ways:

First, the ground school of airmanship training is like a graduate degree in aerodynamics. We take the Bernoulli effect and four forces acting on an airplane in flight and rotate them so that we can apply the same simple principles to more challenging attitudes. We learn about what an airframe can endure and what goes into the thought process behind a normal category aircraft with the ability to withstand +3.8 G's and -1.52G. The ground school is a great tool to expand your thinking before a training flight and to critique your learning experience after a flight. We should all keep learning and there is a real tingle in the pit of your stomach as you discuss airmanship maneuvers. All great advances come at the price of breaking new ground.

Second, the hands and feet part of the training. It is only with practice and exposure to unusual attitudes that we see the effect of control inputs that are correctly (or incorrectly) applied. Our hands and feet need the repetition of correct technique so the muscle memory can develop.

The third and most important goal of the upset training is to expand your IQ. True, we can't significantly increase your intelligence in a three-day curriculum. A better way to phrase it is, we want to prevent the shrinkage of your IQ. You have an instinctive reaction to danger that has only had a few million years to develop. In sudden and stressful situations, both the left and right side of your brain shut down to fuel your muscles for fight or flight. A first exposure to acrobatics can get you wondering which way is left, right, east, west, up or down. If forced to distill all of my training into a phrase, here are the magical three words:

"DON'T PULL BACK!"

The universal response to the ground rushing at us is to pull the stick into our laps. As our IQ shrinks to 75 in our first spin rotation, most of us react as follows. "That is the ground in the windshield and I don't want to hit it. If I pull back, I will go up and I won't hit the ground." In the second turn, IQ shrinking to 40, ground still rushing at us, we think, "Hmmmm, this isn't working, I better pull back harder."

We all know, as we are reading this article with both sides of our brain functioning at our natural IQ, pulling back with the yoke in an airplane that is stalled and spinning only makes the problem worse. The training we are advocating is simply designed to provide the knowledge and skills to overcome mental gridlock and get the hands and feet providing the appropriate control inputs.

If you are still up to the challenge, you are in for a treat. You are about to meet four magicians in an airplane. They can make you a better pilot which can save your life.

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