

YOU WILL BE TEMPTED

REPRODUCED WITH THE KIND PERMISSION OF JOHN COCHRANE
INTRODUCTION BY BRUCE TAYLOR



In the USA there is a tradition of having a selection of well-respected pilots give a safety talk at the morning briefing. While attending the Pre-Worlds in Uvalde last year, we were fortunate enough to have John Cochrane speak to us about the real hazards of competition flying. His talk was simply one of the best I have heard, and in hindsight the only bad thing about it was that none of us managed to have some sort of recording device running to capture the event. John has a great mind, and he speaks well. The following article contains all of the messages that he delivered in his talk.

There are four basic ways to crash a glider in a competition: you can have a midair, you can run in to a mountain, you can crash on a landout, or you can blow a final glide, ending up a few miles short, crashing on the airport fence, or crashing at the airport after arriving with insufficient energy.

Many pilots focus their safety worries on midair collisions. In fact, the other three categories are much more common in the accident statistics. Reducing midairs is important, but it involves a different set of considerations, so I'll focus on the others.

Crashing into mountains has caused three of the last four U.S. contest fatalities. The scenarios for these crashes generally involve scratching in weak weather, or trying to make a transition that isn't working. The pilots needed to give up and move out to the valley, or turn around and abandon the transition before running in to the hills.

We all know how a landout should be accomplished. As you get lower, you deviate to landable areas. By 2000ft, you're over several good fields, examining them carefully. At some reasonable altitude, you commit to a landing and do a perfect pattern.

Looking at the traces of crashes, typically the pilot does not deviate to landable terrain anywhere near early enough; attempting to thermal at very low

altitude is common. Many are slow speed, straight-in approaches. The pilot often will see something wrong at the last minute, and try to change plan. The stall/spin or hitting wires is just the last straw.

Low energy final glides pose a subtle coffin corner. At Mc 3 + 300ft, all is well and good bashing along at 90 knots. At Mc 0 - 300ft, it's clear you need to thermal or land out sensibly. The trouble happens at Mc 0 + 10ft. Now what? You're not really going to give up the contest here are you? On we go, maybe it will get better up ahead. And you bounce along, hoping with each surge, dreading each drop.

Until, it finally becomes clear this isn't going to work. But if that happens 2 miles out, you're at 250ft and 53 knots. Obviously, all of the standard off-field landing advice can't happen. If you were at 500 feet, you'd be screaming home. Unless you just happen to be over a really good field, you're set up for big trouble.

The reports are also full of crashes at the airport after finish. 50ft, 50 knots, the middle of the airport, and no ideas, is not a good place to be.

WHY ARE THESE DECISIONS SO HARD, AND CAUSE ACCIDENTS YEAR AFTER YEAR?

First, in each case you need to quickly make a big switch from, racing, to, the

contest is over, I need to save my butt, mode. Hundreds of points are on the line, and you have only a few seconds to decide to abandon the whole effort.

Second, personal experience is not much help. Each of these situations is rare. If you're still alive, your personal experience may be hindering you - you've learned that you got away with it. The experience of your buddies is not much help either. The dead tell no tales. Reading the accident reports helps.

You can say 'well, I'm a great pilot, I wouldn't do those things'. That attitude leaves you unprepared. It's much wiser to realize that you will be tempted and start preparing now to overcome that temptation, rather than just pretend you're such a superior pilot it won't happen to you.

We're all great pilots on the ground. I have heard great lectures from pilots, describing eloquently exactly how not to do the exact things that later got them in to trouble. The key is figuring out how to make in the air decisions you understand perfectly on the ground. That's harder than it sounds. Did I say, you will be tempted?

HERE ARE SOME WAYS TO DO IT.

- 1) Preplan the tough decisions.
- 2) Set quantitative guideposts.
- 3) Choose, plan and practice how you will feel; the stories running through your head, your attitude while making the necessary decisions.

Basic training for tow emergencies are a good example of the first two ideas. There is no time to figure it out in the air, so we all prepare an emergency plan for towplane or towrope failure at each point. The guidepost, if you have 200 feet, you can do a 180, helps to make the quick decisions.

As you visualize and plan our go-fast decisions, visualize and plan the tough safety decisions. Think of the circumstances in which you will deviate to good terrain, leave the mountains, commit to a landing, stop pushing a final glide.

Turn to your spouse now, and say 'Honey, I promise never to thermal below x altitude', and 'I will not cross unlandable terrain below Mc x plus y margin.' Pick those numbers now, over dinner with your spouse, not in the air on the last day of a big competition.

I said, quantitative guidepost, not, rule. If it's a calm day, you're over a huge expanse of brown fields with no wires or trees, well go for it, try one more circle. But when you reach that altitude you promised, a little alarm should go off in

the cockpit - you're breaking your rule. Is this really a good idea? Or is it time to give up and land?

Plan your thoughts. When you get low, it's common to think, Oh why can't I thermal, here we go again. Self-pity is a common defence mechanism. Paradoxically it makes you feel better about your predicament. But it's not a useful emotion to the task at hand. Or you might think, I have to press on to win. Real champions take these risks. That's even less useful - they don't.

HERE ARE SOME BETTER THOUGHTS

Don't evaluate your flying in the air. You've been flying for decades, one landout means nothing to your overall career. The champions all land out sometimes. Now, let's show how a real champion confidently executes a slow save, or a perfect textbook landout. Take pride in making this tough decision just right.

Recognize stress. A small part of your brain needs always to be monitoring your mental state, and ready to put yourself back in that calm, focused state that flies well. Preplan and visualize that mental state.

PLAN YOUR STORIES

Gliding is wonderful for the great campfire stories. "We were 30 miles out on Mc O, and came all the way home. I had to pull up from best L/D to clear the trees and just plopped it in for a finish." This is a true story from a normally very safe pilot. One pilot we all know, says he saw another of our, heros, thermal out from below a hangar roof.

Great stuff. When I used to fly hang gliders, we actually had a tradition that every campfire story had to start 'there I was, I thought I was going to die'. But these are terrible stories to have in your head when you're making the tough decision to give up hundreds of points. Think of the stories that ended badly.

Here's a good story. In the 2001 Nationals the CD called an assigned task straight through a line of thunderstorms. Most of us turned around, ten pilots went through. John Seaborn was in first place but he turned around, throwing away the contest win and the chance to go to the worlds he fought for years to get to.

There are no prizes, no money, and no groupies in this sport. We fly only for the respect of our fellow pilots. I don't remember who won that contest. I do remember John's decision. He won more pilot respect in that one decision than by a whole series of wins. Do like that. GA

IMPACT OF NEW TECHNOLOGY ON GLIDING COMPETITIONS

BY: BRIAN SPRECKLEY



WILL NEW TECHNOLOGY CHANGE GLIDING COMPETITION TACTICS?

The stated objective of IGC competitions is to select the champion in each competition class on the basis of the pilot's performance in the tasks set.

Current developments and availability of situational awareness devices and in-cockpit graphical display will provide competitors in future gliding competitions with the ability to see all the other competing gliders

This discussion is intended to highlight the issues and consider if the IGC need to make changes to its competition rules in light of these developments.

Will new technology change gliding competition tactics?

Currently available cockpit displays displaying other competitors' situations are in their infancy both in the range they can 'see' ahead and the information they display. Currently FLARM can give detailed real-time information of aircraft within a 3-10km radius.

This information is useful for monitoring the location and situation of nearby competitors but once Mode-S is mandatory or widely used, details of gliders possibly up to a 50km radius will be readily available. ADS-B receiver boxes are already available to pull in MODE-S generated signals and deliver them to LX instruments and other gliding displays but unlike FLARM there is no stealth mode to enable pilots to make their own flights without being watched by anyone who has the technology.

Extremely large, high resolution, good daylight readable displays are already available, newly developed tactical software will provide a pilot with detailed and relevant information about fellow competitors and gaggles. There is no technological barrier to this happening, it is just a programming exercise that will

become refined and more targeted so that within a couple of years pilots will have full positional / performance awareness of any group of competitors they are interested in.

YOU NEED NEVER LOSE TRACK OF THE GAGGLE AGAIN

- You will be aware of gaggles / gliders around the start.
- You can be alerted to gliders climbing well
- You will "see" all the gliders ahead at all times and how well they are doing.
- You will see your current task performance relative to your competitors.
- You will see all final glides and be able to compare best routes back to the airfield.

WILL TECHNOLOGY GIVE US 40/20 VISION?

All this information could be monitored by a team on the ground and key tactical possibilities could be analysed by ground based software and experienced coaches. If your team has the resources and a good radio you can take critical decisions together or allow yourself to be guided through all the critical parts of the flight.

The questions we must ask ourselves are; Will the new technology become commonly used by competitors and teams?

- What are the safety issues, increased gaggling/following?
- Will it be possible to use it effectively?
- Will it make our competitions fairer and more fun?
- Will it lead to a new generation of pilots who win by using others not by their own flights?

The IGC must consider whether the developing situation poses a threat to our competitions and if so what can we do to reduce it's impact.

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