

This article touches on more than a few controversial subjects, but its about time they were addressed. No argument please, just look at the statistics. We've killed enough pilots and wrecked enough planes.

This narrative is my personal view of what happened at region 1 last June, how these accidents occurred, and what we pilots can do to stop the carnage. I hope this will open some eyes and provoke more thought and discussion on safety. Not everyone will agree with my conclusions about what happened. Certainly not everyone will agree with the guidelines I use in my own flying, but I hope that they will at least warrant consideration.

As I drove up to Sugarbush for the Region 1 competition of 1986, I reflected on the '85 contest. That contest had left one friend dead and four busted sailplanes out of 31 competitors. In the 15 prior years of racing at Sugarbush, I can recall only one accident, a groundloop. What happened ? Would 1986 be any different from 1985 ?

Day 1, Region 1, 1986

Promising forecast and OK sniffing lead to a call of Sugarbush - Manchester Center - Sugarbush - Stockbridge - return; short trip, around 170 miles. This trip will take us south of Sugarbush, across the mountains containing the Killington and Pico ski areas. The flight down across the ski areas to the first turnpoint is slow but uneventful. Coming back across these mountains can be tough, as the low wet terrain on the other side doesn't easily yield good thermals high enough to cross safely. When the bases are 8000ft with strong lift, this is a beautiful trip, but not today. Fortunately there's huge Rutland airport right at this point, near where one can hold until high enough to cross.

So Here we are, stuck at Rutland. The pressure's on. Each second puts us farther behind the top pilots, who probably just breezed thru here. Maybe there's better lift further north or south along this ridgeline. Certainly it will be better over the high ground, if we can ever get to an altitude which would allow a safe entry and a possible retreat back. Incredible frustration. Once I was stuck here for 3 hours and ended up landing at Rutland. But I know that somehow the good pilots must have zipped thru. Another pilot is feeling the pressure, decides to give the valley a try. Crosses over the airport, could that be a thermal ?? Keeps trying, lower, lower, now out of reach of the airport. Got to be some lift there somewhere. Lower and lower, he is finally forced to land in a tiny rock-filled field. Horrendous groundloop, trashed glider, almost within spitting distance of Rutland airport. I didn't see it, but one of the top pilots did - while patiently trying to get high at Rutland.

I finally get high enough to get past Killington safely, gradually working in over the higher terrain and the accompanying higher lift. Promptly get low on the other side, eventually scratching over to the ridge, which is working well running back to Sugarbush. The ridge turns a significant corner, and it also drops sharply from the same point. Not paying close attention to the wind direction can fool a pilot badly, as witnessed by numerous pilots charging around the corner and downhill at ferocious speed, unaware that they were no longer in ridge lift. Fortunately this dumps them squarely at Sugarbush airport. Making this mistake in the other

direction could be invigorating as this stretch of ridge we're discussing is in Granville National Forest; you could final glide out of there but with a nasty pucker factor.

After scooting out to Sugarbush airport, I finally scratch and claw high enough to safely start the run back south across the trees. Running down the ridge, it looks grim. The southern Stockbridge turnpoint is well away from the ridge, and it takes a thermal to get from the turnpoint back to the ridge. A thick cirrus deck has got the entire area in shade. And the sun is going down. Bad, bad news. First day of the contest, a landout is going to put me out of the running. Probably the top pilots are already dialing their final glide computers. I leave the ridge near the turnpoint, seeing a gaggle.

Everyone in the gaggle knows that this thermal will make the difference between a completion and a landout, on day 1. Pressure's really on. But the gaggle is not going up. I leave, hoping the others will call it quits and final glide out to the beautiful fields in the central valley, while they can still get past the low obscuring front ridge. I coast down to the turn, click my photo and coast up the valley, picking fields. Pattern altitude, and a nice landing on a lovely golf course fairway. As I taxi off, the panicky radio calls start. Somebody tried to hang on too long in that gaggle, refusing to admit that the day was over until too late, nothing worth calling a field to land in. The violent crash was seen from the air. Nobody dares land to offer assistance, the 'field' is way too dangerous.

Which one of our friends is dead now ?? Just one day, 3.5 hours of flying, already one dead and two crashes. So much for a nice, safe, fun contest. Neither of the pilots who crashed decided to keep flying, they put off making any decision and allowed the default to be 'just keep circling'. It's easy to just keep going, putting off deciding to land. Instead, we need to make it a point to decide to keep flying. Think: "If I don't come up with a better idea, I'm landing *NOW*". Each step of each flight, think "Where's the next field, and how far can I go before I might not be able to reach it ?" This is pretty basic, but we haven't been flying this way.

When low, each turn has the potential to lose enough altitude to prevent getting to that field. If I don't continually ask myself, "OK, if things really go south, where am I going to put this bird down ? Can I safely get to that field if I make another turn and hit sink ?", I'm not flying safely. This is especially important when feeling such pressure to keep flying.

Day 2, Region 1, 1986

It's June, but our host announces that the wax of the day is Red Klistar. It's cold. As we grid, it starts raining. Visibility to the north is terrible, but south along our course back to Manchester Center the ridge is clear and a wave window beckons. This is going to be a marginal launch, what with rain and low visibility; not a great time for a rope break. It's also not a great time to check out the takeoff performance of your fully-tanked ship with rain-spotted wings, with the grid using up runway behind you. Fortunately our host provides L-19s, towplanes from Venice Beach. Some pilots, wiser than I, elect to pull off the grid and wait for more reasonable weather.

We are advised to go sit on the ridge or in the wave. In the air, contestants start freaking out. As is all too common, pilots are forgetting about circling direction, cloud clearance, and passing

sides on the ridge. I decide to head out a few miles and camp in the wave, stay out of traffic. Amazingly, after specifically being warned about those pesky FARs, I see a sailplane come whizzing out of the lenticular. I move a couple of miles further out. Eventually the rainstorm subsides a bit.

As the gate opens, pilots seem to have calmed down a little. We make our start run thru the light rain, and motor off down the ridge. Twenty miles out, I'm too low to cross over the ski areas, banging about in rotor thermal, sustaining but not climbing high enough. Several locals and a nationally known pilot are stuck with me, so at least I'm not feeling excessively stupid. We run to and fro, up and down the valley, no gain. Pressures building, we're wasting time, supposed to be racing and we're parked. Suddenly the well known pilot heads upwind and disappears over the next ridge. Problem is, there's no place to land in the next valley, and he's too low to get back. I wonder if we'll see him this evening or if he's our next statistic.

I'm shook up and scared by the flying I've seen today, and I decide its time to land. I fly to an area with excellent fields, from where I can see a sailplane very low in the area of the previous day's fatality. I sustain until the pilot glides out of the predicament. Finally I land in a nice field.

While I sit and wonder what in god's name is going on in this sport, another competitor wanders up. I'm surprised, where's the sailplane ? It's at the extreme downwind end of this 3000ft field ! The pilot had done a final glide down the valley ending with a straight-in to this field, with a 15 knot gusting to 30 knot tailwind. Wasn't even concerned, and was very surprised when I pointed out the wind direction. He was extremely lucky to not wreck the glider. He had seen some other gliders running down the ridge and, in spite of NO PRIOR RIDGE EXPERIENCE, had motored off down the ridge, ignoring the landing field situation along the way. When he fell off the main ridge, he glided to the low ridge towards the middle of the valley, and when he fell off that one, he did this amazing straight-in. Thought he had a great flight ! He had no training in ridge or wave soaring, never read about either; and consequently had no idea of the risks he was taking.

Mercifully no carnage on day 2. The pilot who performed the suicide dive over a blind ridge was trapped for well over an hour before escaping from that valley, and later confessed to having had a really terrible scare. Seems he was a little confused as to which valley he was crossing into; and he had to use every ounce of skill he had to get out of that hole. *Aren't you glad you weren't following him ??* He and several others were very, very lucky this day.

Day 3, Region 1, 1986

Another day, another crash. Same as day one. The pilot went low into unfamiliar terrain, didn't keep a decent field in reach, and put off making any decisions until way too late. Just kept going without thinking, hoping it would work out, and it didn't. Fortunately, no injury.

Day 4, Region 1, 1986

A late start to a magnificent ridge day, with post-frontal thermals accompanied by light wave and low-level rotor. We are tasked south to Stockbridge, north to Morrisville, and home. As usual, a spectacular run down towards Stockbridge finds the turnpoint area without lift. I take what little

extra altitude I can get off the ridge, and head out to the turnpoint. When I get there, a pilot is scratching too low and slow near the turn. I call him on the radio and warn him to speed up or land, and he happily decides to land. I bounce weak lift north over the central valley's low ridge, trying to sustain until I reach sunshine and lift. Other gliders are wafting about with the same idea. I push north, hopping from field to field. I hit sunshine and a weak rotor-thermal at about 600ft, in position for landing in an excellent field. So far, so good.

The turbulence is not too bad, but this is a rotor thermal, with both horizontal and vertical circulation evident in the trees on the ridge side. This means significant airspeed variations as you circle, plus or minus 15 knots in the gusts, and requires MUCH higher airspeeds than normal for safety at this altitude. Climbing slowly but steadily at about 65 knots average speed shows ASI variations from 50 to 80 knots in the gusts.

I am joined by another pilot, entering very, very low. He is flying a Standard Cirrus. He enters the thermal and circles much more slowly, at serious risk of spinning in. After the race, he approached me and commented "I was wondering what to do down there, and when I saw you I knew I was OK", though I estimate he entered the thermal only 350 ft over the valley floor. While the Ventus would have landed easily in the field I had selected, he probably could not have gotten the Cirrus stopped. He had NO PRIOR EXPERIENCE in these conditions, and could easily have spun in flying so slowly. He was way too low to make any kind of landing pattern. Following another pilot encourages you to suspend your assessment of what risks you are taking, where you are going to land, assumes that you and your ship are up to the level of proficiency of the other pilot, and that the other pilot knows what he is doing. Bad gamble.

Back up to a more respectable altitude, over to the ridge, homewards towards Sugarbush. On the way back, numerous pilots are too low on the ridge, which is convoluted and knarled. Fastest speed is usually had well over the crest, which also reduces the hammering from the sink around each little knoll. The ridge climbs towards the high point in the National Forest, and you need to be above the crest at the high point to go around the corner safely. One pilot tries to go too fast, and falls below the crest near the high point in the National Forest. He makes a straight in to Sugarbush Airport, and almost crashes. We'd hoped this pilot had learned not to fly like this, after barely surviving grave injuries received from spinning in several years earlier. ***Aren't you glad you weren't following him ??***

Northwards on course, past Sugarbush, the radio starts erupting with scared cries from the airport. Seems the wave is dumping in the region of the airport. Someone tried to do a high-speed pass and "pulled up" into 800 fpm sink. Then does a low level spin-in to the polo field next to the airport. Thank God he was flying a 1-35, and was uninjured despite demolishing the sailplane. Another pilot pulls the same stunt, and completes his turn onto final with his wingtip stuck in the grass. Despite a spectacular groundloop, pilot and ship are unhurt. Other pilots skip the high-speed pass and continue to land normally.

At a site known for wave activity, you must be careful of this type of situation. It does happen, its not even uncommon. I have made several complete patterns at Sugarbush with varios pegged down, no spoilers or flaps necessary until late final. It's also real clear when this is happening, if you pay attention to the weather. The trees in the vicinity of a rotor thrash violently, not like the gentle lean and constantly upturned leaves you see from a thermal. You can see this from miles

away. You had better be able to recognize this situation, as it might also happen where you're trying to land out.

When I arrive back at the field, the rotor has moved, and I make a normal finish. I overhear a foreign guest ask where in hell some of these pilots learned to do high-speed passes; he is shocked when informed that in the U.S. pilots generally teach themselves. Next a discussion of minimum safe altitudes for passes ensues. **No minimum altitude or pattern rule will apply in all cases, certainly not when a wave is dumping on you. The only safe way of dealing with this type of weather is thorough understanding, not rules. If there is ANY doubt, don't do a high-speed pass.**

Region 1, day 5, 1986

Curious weather is served up. The task is north to Belvidere mountain, back to Montpelier (near Sugarbush), north up to Morrisville, and home. Strong lift and high bases near Sugarbush don't make it easy to face over-developed Cu with light rain showers and darkness near Mt. Belvidere. Belvidere is not well known for places to land. The only reliable lift will be near the bases, I will have to tiptoe. Field selection and potential lift sources will determine the exit route. Heading north, I pick where my last stand will be, a small south-west facing ridge with a field nearby, in sunshine. There will be lift here, building from ridge lift to a thermal about the time I will be back.

I gently press in for the photo, then max glide out to a this little ridge. Back and forth on the ridge, waiting for the thermal to kick. Any sink and I will have to head instantly to the field; it isn't as close as would be nice. Minutes later, I am joined by two other sailplanes heading north as it begins to kick. I work gently back and forth, keeping the airspeed up, staying well in front of the ridge and making sure that the field stays within safe reach.

The pressure's on. Pilots are already headed southbound, these two are still on the way north. "He's a local pilot, must know the best way to Belvidere" in one cockpit. "He's been to a few competitions, flying a hot ship, must know what he's doing" in the other. Watching the vario and the other ship, scratching to keep up, climb out of this hole. Next thing I know they've drifted not only out of range of the field, but in back of the ridge. Only thing back there is 250 square miles of trees and a beaver pond; and these two have put themselves in a position where one quarter-turn into the sink outside the thermal will put them out of reach of anything. The local pilot had practically no XC experience, never been to Belvidere. The other pilot was from the flatlands, inadequate mountain flying experience.

I wait patiently in front of the ridge as the thermal builds, and reflect that the future for those sailplanes, and possibly their pilots, is probably very short. They're following each other, egging each other on, but neither knows what to do.

The lift strengthens, and it becomes apparent that it is part of a building cloud street. Nose into the wind, and a 3500 foot straight climb while making several miles upwind. I break off from the climb and head towards Mt. Hunger, a better lift source, wondering what will become of those two pilots. Slowly back to the Montpelier turn, when I turn around its now raining at the

Morrisville turn. At least the sailplane's getting washed. Back to cloudbase, tiptoe to the turn, back to Mt. Hunger. To my horror, one of the two pilots I had earlier watched is now southbound and trying to ridge soar in a high bowl on Mt. Hunger. Not only is there no place to land, but the wind isn't even blowing in that direction. He falls below the crest, and dives thru a tiny notch to more unlandable terrain. This guy doesn't learn easily.

I climb out and head home, where I learn that the other of those two pilots had crashed near Mt. Belvidere, fortunately not injured. *He went low into unfamiliar terrain, and he didn't find anything.*

So ended another regionals. One fatality, 5 busted gliders, out of 45 contestants. In addition to these accidents, 6 specific incidents which could easily have led to crashes are listed above. You can bet that there were others.

When I see this happening around me, I must ask myself what I can do to prevent myself from becoming another statistic. None of us are so different from those who crashed in these contests. Haven't you ever been unsure of what to do next, but felt that someone in the group around you must have it figured out? Ever got low and realized you didn't have a field picked and an approach planned? Got low out of reach of a field and had to climb to escape? Have you ever done something which you look back on and realize you were real lucky not to crash? Many of us, myself included, have made some of these mistakes and gotten away with it. We cannot claim to fly safely just by getting away with it. We owe it to the sport and our fellow pilots to try and prevent repetition of these mistakes. The way to learn about a sport should not be to be lucky and survive.

Only 1 of these 5 accidents was related to special local conditions. These accidents were all caused by pilot error; not by bad decisions but total lack of decisions. Don't blame the site. It's easy to say to yourself just keep going, follow the other ship, somehow this will work out. Never what are my options, landable fields, margins, and next move; just blast along without thinking. It must be a decision to keep flying, not the default. That decision must be made after making sure there will be a place to land after the next move, and making sure that there are no possibilities that could result in crashing.

These accidents were unrelated to task length. This contest was not overtasked, nor is this a tough site for outlandings. In the Elmira nationals in 1982 (comparable terrain for field selection) there were over 200 off-airport landings without any damage, though I managed to ding an aileron landing at an airport. Landing out is part of this sport, *especially* in a regionals with a wide spectrum of pilot experience. The accidents at the region 1 contest probably all would have occurred with shorter tasks.

I don't believe in dangerous weather, dangerous tasks, or dangerous sites; only dangerous pilots. Pilots who choose to fly beyond their capabilities or knowledge, pilots who get caught up in the excitement and challenge and choose not to ask themselves whether they are in over their heads; whether its time to back off. As pilots, we are first and foremost responsible for ensuring that each flight we make is safe, given our ability, the site, the weather, and all other factors affecting the flight. *It is OUR decision to fly, and OUR decision each and every second to*

continue the flight. It must be a decision, and not just the default. "I should be able to call a 1000km task every day and have no accidents" - Karl Streideck.

So far I have painted an unpleasant picture without much in the way of constructive suggestions. In the remainder of this article, I will address training issues and personal pilot guidelines. Many will disagree with my opinions, but I hope directly addressing these issues will yield some constructive outcome.

One of the big problems we have is obviously lack of training. It is much more important to know the limits of your knowledge and ability than to know everything, and certainly more practical. So we have two areas which don't seem to get covered adequately in current training; basic knowledge, and the judgment required to recognize the limits of the knowledge we've got. Some thoughts about learning to fly cross-country, mountain and ridge sites, and competition:

If you aren't familiar with the type of soaring at a site you are going to fly, you are at serious risk. Any new form of aviation must be taken one step at a time, making every effort to learn from those who are proficient at the new type of flying. Before you dive into something, go and read everything you can get your hands on, then figure out how you're going to get yourself educated. Doesn't matter if we're talking about aerobatics, low level flying, parachuting, ridge flying, or competition flying. Nobody's likely to grab onto you and force you to educate yourself, you have to decide. But you should no sooner try ridge flying without background education and training than you would casually jump out of an airplane because you've seen someone use a parachute once.

When we don't know any better, we tend to assume that if we got away with it its OK. Might be busting redline by 5 knots, thermalling at a lower altitude than we've flown before, or flying in rougher weather than we've done before. Then we do it again, only a little more so. Maybe 10 knots over redline this time. Hell, I saw someone fly thru the start gate at 190 knots and nothing broke, maybe I'll give it a try. If we do it enough and get away with it, maybe we even become an expert and encourage others.

Each type of flying has it own set of hazards associated with it. Each hazard needs to be understood, along with the margins required to keep this hazard from biting us. When we teach ourselves, we usually don't have an adequate knowledge about the hazards. The usual sequence seems to be test the limit, test it a little more, scare ourselves silly, and eventually come to recognize and understand the hazard. If we survive. This sequence is constantly repeated in off-field landing field choices, decision height, redline busting, ridge pucker-factor, etc. Our accident rate is the predictable outcome. Lack of training is the root cause, coupled with lack of respect for what we don't know.

Trying ridge or wave flying without serious training by pilots really experienced in this kind of flying can be lethal. Serious training does not mean one gentle wave flight. Cross-country mountain flying involves interaction of ridge, wave, and thermal on almost EVERY flight. This is fantastic, beautiful flying; but it can kill you if you are unprepared. Jumping on and off ridges can involve flying at VERY low altitudes in substantial turbulence. Study Tom Knauff's excellent book on ridge soaring, and get some serious training from a pilot who regularly flies gold distance or better in the mountains. If you show up at a ridge site without

adequate training and knowledge and promptly blast down the ridge at mach 6, you will very likely scare yourself badly or crash. You just can't stay out of trouble if you don't know enough to understand the dangers.

Getting cross-country training from somebody who doesn't regularly fly at least gold distance is like preparing for Indy by getting a learner's permit. You're going to have to locate sources of knowledge about soaring cross-country and get yourself educated, this means pilots who regularly fly gold distance and have significant outlanding experience. Teaching yourself cross-country is just plain dangerous and irresponsible.

Unfortunately, pilot experience doesn't necessarily make a good teacher. The high-performance two-seater is by far the best method here. Leading a squadron of beginners around a course can be dangerous. The situation often deteriorates to the point where the leader wants to get home, and the others can't. The leader can't help when a pilot starts to get panicky in another cockpit. Often the thermalling skills, which should have been checked out back home, aren't good enough in one of the pack. I recently saw a well-intentioned experienced pilot take a pack of 5 pilots (all of whom had already flown in a sports-class contest) on a short (silver distance) flight. OK weather, and all flying fancy new glass. In two hours of radio discussion, no mention of landing fields was made; as the leader was so busy trying to keep them all in the air. Great lesson. Number one priority must be making sure everyone has a field picked and a pattern planned, then worry about keeping aloft.

I also tried leading a pilot on a short (silver distance) XC for instructional purposes. Despite my caution, the pilot got scared. Various attempts at levity failed to get him to loosen up, and it ended up being somewhat dangerous, as he was close to panicking and wouldn't even follow me when it was necessary. If you're going to use this type of training, either as instructor or pupil, start with some local thermalling and airwork and make sure you're both comfortable with the other's skill level and communications skills. Would your pupil be able to make a decent off-field landing? Can your instructor communicate with you and does he or she understand what you're going to work on this flight? Make sure you have a clear set of objectives before heading off into the boonies. To make sure that the number one priority of the flight remains keeping a good field within reach, the instructor must constantly check that the student has a field picked and a pattern planned.

GET INSTRUCTION IN LOW-LEVEL FLYING BEFORE TRYING IT. If the pilot who spun in the 1-35 had had adequate low level flying training, he wouldn't have spun it. Many pilots get their first taste of low-level flight after a high speed pass, and the results are often spectacular if not deadly. Just watch some of the patterns flown after finishes at a regionals. Watch the overshoots of the turn onto final, jerkiness in the pattern, and overbanking or underbanking in the base and final turns. I have twice heard an inexperienced pilot say "I wanted to be on the safe side, so I kept the pass slow". Unbelievable. Please get some instruction. If you get down near the deck and you're not doing close to redline, you may not have enough energy to go around. If its too rough for that, or there is rotor or thermal or dust-devil activity, DON'T do a high-speed pass.

Contest flying often involves flying low. Experimenting can get you killed, and the SSA seems not to want to talk about it, let alone appear to encourage it. Please go back and reread Dennis

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Gallotti's excellent letter on the subject of disorientation in low-level turns. Then find an EXPERIENCED PILOT and learn how to thermal up off a ridge safely; get used to the extreme visual effects with someone else flying. After you have that down, some low thermalling next to a field should be practiced WITH AN EXPERIENCED PILOT. Don't do this in anything less than a modern high-performance two-seater, as the increase in speed over the older trainers makes a huge difference in the visual effects which you need to learn.

It is not necessary to fly at 5 feet just because others do. You can usually fly well above the ridgetops and keep airborne. If you are going to fly low, get training first.

GET INSTRUCTION IN MOUNTAIN FLYING BEFORE TRYING IT. The accident rate among pilots trying ridge and wave flying without decent instruction is awesome, and not just in contests. Not just low-time pilots ! Many of the ships wrecked in the New England mountains in the past five years were piloted by CFIs with limited mountain experience. Make sure you get instruction from pilots who regularly fly gold distance or better in the mountains, and with serious outlanding experience. Go to Tom Knauff's or some place with serious training if this isn't available locally. It's just too dangerous to skip training. Read Knauff's book, and everything you can get your hands on about ridge and wave. Study the classics like Reichman's *Cross-Country Soaring* and Moffat's *Winning*. If you don't even read these basic texts, you are really making your life difficult.

Here's a summary of the rules I personally use to try and keep myself out of trouble with the reasoning behind them, one more time:

I MUST KEEP A LANDABLE FIELD WITHIN REACH. Notice I don't say '1000 ft, 1/2 mile'. Every day and each set of conditions, each different pilot and ship warrant different margins. If its blowing 20 knots gusting to 40 in rotor, it will take a hell of a lot more space and altitude for a safe landing than a calm summer day with a steady headwind. In reach means safely within reach, allowing appropriate margins without blowing in back of a ridge like in the example above. The time factor involved is very important. Get knocked off a 400 ft ridge with wave sink, and there will be about 40 seconds to complete the checklist, pattern, and landing. It would be less, but this includes about 8 seconds in ground-effect and roll-out.

I WILL MAKE IT MY BUSINESS TO LEARN EVERYTHING I CAN ABOUT A SITE BEFORE RACING IT. I need to know about fields around the airport. Ropebreaks, screwed up final glides, and getting low before the start are all important reasons. Before I go try a real final glide, I will try approaching the airport from all different directions low. At Chester final glides are often directly into the setting sun, and one would rather not final glide into the town. I will make it my business to find experienced pilots and **get a briefing before every day's task**. Sites like Sugarbush or New Castle take many years to learn about. At New Castle, newcomers are assigned 'buddies' to ensure access to information about the terrain and landing areas. It's a good idea we should emulate.

WHAT GOES UP MUST COME DOWN. WHEN THE WAVE STARTS COOKING, ITS TIME TO GET CONCERNED. Suppose I see 800 fpm climb in a wave. That's (950 fpm airmass - 150 fpm sailplane sinkrate at 60 knots). Now when I run into the backside of that wave and punch the nose down, I'll see (950 fpm airmass + 550 fpm sailplane sinkrate at 110 knots) =

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1500 fpm sink (numbers for a dry clean Ventus). For a LONG time, as I'm going upwind against a stiff headwind. Contest day 2 in 1985 I plummeted from 11,000 ft to 4,000 ft in 6 miles (same conditions as above calculations, 60 knot headwind at 11,000); couldn't go around the wave because of cloud. So when I see that great lift, I start thinking. The rotor under this kind of wave can be horrendous, much stronger than the one that contributed to the incidents at the airport in 1986. If the rotor or wave sink crosses a ridge, that ridge can be lethal; Dave Shapiro was killed on the day just mentioned.

IF I ENCOUNTER LARGE AREAS OF STRONG SINK WHICH I CANNOT UNDERSTAND, I WILL EXPECT TO HAVE TO LAND PROMPTLY. Wave sink can be nasty, and if I can't figure out how the wave system is operating, I might unexpectedly run into strong down and rotor. So any unexplainable sink, and I must instantly raise my allowable margins for reaching a field.

IF I REALLY GET IN TROUBLE, A CONTROLLED CRASH IS MUCH LESS LIFE-THREATENING THAN CATCHING A WINGTIP TURNING FINAL OR SPINNING IN. I had two friends who are dead. Both could have made this decision and lived. It's a hell of a decision to make, to trash a sailplane. But both of my friends had already gotten to the point where they could not possibly get the plane down intact, as they were too low to get to a landable field. A landing in tree tops is probably not going to result in injury, but catching a wingtip in a turn and cartwheeling, or spinning in has a good chance of being fatal.

I WILL NOT FOLLOW ANOTHER PILOT. One pilot I know followed a Ventus going like gang busters up an unlandable valley. He was getting scared as they reached the end of the valley too low to turn around or cross the ridgeline, when the motor popped out of the turbo-Ventus. Then he got real scared. Escaped, but barely. Not character building, stupidity and dumb luck.

I WILL NOT FOLLOW ANOTHER PILOT. One pilot I know was flying a Standard Cirrus with a pack of Ventus (the originals, not the new ones with the wimpoid dive-brakes). They got low, and the three Ventus landed and cleared the field. He made a perfect pattern and wizzed off the end of the field with a spectacular groundloop; it just wasn't a big enough field for the Cirrus. Other ships may have vastly better landing characteristics.

I WILL NOT FOLLOW ANOTHER PILOT. He may have picked a field that only has room for one glider. In New England we try hard to get everyone to immediately pull off, but ...

I WILL NOT FOLLOW ANOTHER PILOT. He may have absolutely no idea what he's doing. Plenty of good examples above.

I WILL NOT FOLLOW ANOTHER PILOT. Concentrating on sticking on someone's tail means not spending enough time on understanding the weather, keeping fields in reach, and keeping the flight safe.

I WILL NOT FOLLOW ANOTHER PILOT. We've all heard stories about competition pilots scraping off leeches on ridges. Many times, the pilot is climbing just high enough to cross a ridge line to better lift; each circle is determined by eyeballing that ridge. Blast off when its

made. Following 100ft lower (or with a lower LD or wingloading) may result in getting left on the back side of an ugly ridge somewhere, possibly very low in bad sink, possibly with absolutely no place to land. I've seen this happen many, many, times. I've never seen it done intentionally; the pilot in front was always just going as fast as possible.

I WILL NOT FOLLOW ANOTHER PILOT. We fly with pilots with many, many thousands of hours of low-level and mountain flying. I have less than a thousand hours total time, which makes me a rank amateur compared to many competition pilots. I know that they can fly to a level of precision way beyond my capabilities. They are making judgments about what is safe for them, with their vast experience and proficiency; not for me. It is for me to watch, learn, and increase my skills while still making my own decisions about what I will and will not do; based on my own knowledge and proficiency.

Conclusion

I hope that we can all reflect on what has happened, and learn enough to avoid repeating the tragedy of this contest. Sugarbush is one of the most beautiful and spectacular sites I have ever had the privilege of soaring. It would be sad to see competition flying cease at Sugarbush, which is the likely outcome if we don't clean up our act. Don't blame the site, remember the 15 years prior to 1985.

Let's all think hard about our own flying. Let's all keep a field in reach, and fly to our own levels of expertise without allowing our judgment to be affected by what we see other pilots do. Fly safe, see you at the gliderport.