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The Dry Line

Northeast of Wichita in Sunflower you'll find what remains of the Navy's biggest inland air base. Purchased by a sailplane pilot for the mere pittance of $10,000, this was where Gary Osoba kept his six sailplanes, all given to him for experimental purposes.

We had driven up through Oklahoma late in the afternoon with our friend David Glover, and had set up camp south of the airport. There was a big storm brewing nearby, and the light was fading as the sun got low and a gigantic cumulonimbus cloud began to fill the sky. After dropping off the trailer the three of us drove north to check out the airport, lightening flashing off to our west.

Sunflower Field was a ghost airport, with a gutted tower and cracks in the apron and the runways. Every few hundred yards a semi trailer sat by itself — we found out later they were packed with fireworks. In the dark and the storm, the deserted airport was full of the ghosts of World War II Navy pilots.

But the next day, with Gary there and all the sailplane pilots hanging out, the airport wasn't quite so weird. Belinda towed me up with the little static line setup we'd brought back from Australia, and I soon discovered that hang gliding over the flat fields of Kansas was as pleasant as it got. Nothing could be more beautiful than flying over the Mennonites' cultivated fields of wheat, corn and milo. And after I landed I had a great time talking with the farmers, who really made me feel at home.

Gary Osoba had been a hang glider pilot and hang glider manufacturer back in the 'seventies, in the infancy of our sport. He had designed and produced the successful Pliable Moose — a glider that, while not up to today's standards, was quite a few steps forward from the original Rogallo wings. He'd also made it big and gone bust in the oil business. Now he was an independent consultant helping others start businesses based on his original ideas.

By the time I had started communicating with him via e-mail in 1997, Gary was also a sailplane pilot. Not only did he fly sailplanes, but he was dedicated to setting world records in them, especially in ultralight sailplanes. He was president of the Sailplane Homebuilders Association, an association of ultralight sailplane enthusiasts of all stripes, homebuilders and otherwise.

One of the sailplanes Gary owned and wrote about was the Carbon Dragon, a plane built by others that he had helped design. The Carbon Dragon was a one-off plane built by craftsmen who wanted something very light — which meant that it couldn't be left out in the rain (paint would have made it too heavy), and it couldn't handle strong conditions. In fact, only one other Carbon Dragon was ever built in the US, and that pilot had added paint so his glider wouldn't be destroyed if it got caught in the rain. Of course, that one wasn't really the light Carbon Dragon anymore.

The Carbon Dragon was of interest to hang glider pilots because it was so light, foot launchable, and designed to break hang gliding records. The designers had looked at the official definitions of the hang glider classes and created an ultralight sailplane that met the definition of a hang glider.

As soon as Gary had set a hang gliding world record in the Carbon Dragon, CIVL — the international committee that keeps the hang gliding world records — realized that a sailplane in the guise of a hang glider had snookered them. They quickly did the old switcheroo, changed the rules, and put the Carbon Dragon in a new class by itself so it wouldn't compete with other less capable hang gliders. Then they took away all of Gary's Carbon Dragon world records.

By the time Belinda and I had first met him in person at the U.S. Hang Gliding Association's convention in Knoxville, Tennessee in March 1999, Gary was already formulating his plan for an assault on the ultralight sailplane world records. Right away he encouraged me to think about what it might take to set world records myself. At the time, though, that had seemed unimaginable.

Now it was June and a small group of us hang glider pilots had come to Kansas for the 1999 Ultralight Soaring Championship, a multi-class event Gary had organized. Belinda and I were on our way west, and I was looking forward to spending more time with Gary, learning more about his ideas.

Hang glider pilots were interested in Gary's theories and experience with "micro-lift" and dynamic soaring. Flying the ultralight Carbon Dragon, Gary was able to work small pieces of light lift down low, and to stay up for extended periods of time in the lightest lift. Gary claimed that he could "feel" the small pieces of lift coming off the ground and quickly turn into them to keep the Carbon Dragon from sinking, and perhaps to get a little higher. The Carbon Dragon's quick turning response was a necessary ingredient in taking advantage of these small pieces of lift. Regular hang gliders just couldn't turn that quickly.

Gary would fly the Carbon Dragon and other sailplanes in what looked like an erratic manner, going left and right and not following any apparent course line. He would be feeling out the course of the lift and following it. He said that he would sometimes be able to find lines of lift that continued for many miles. The lines were like sharp ridges; he had to carefully balance the Carbon Dragon to stay on top of them and not fall into the sink on each side.

Flying through an air mass affected by various winds and bits of lift and sink, Gary would continually pitch up or down and move from side to side as he felt the air. This could be quite difficult for any passengers that he had with him. They'd better bring along a plastic sack.

A few days later, as we headed toward Hobbs, Gary already had me thinking about other options. I had my doubts about Hobbs, and wasn't even sure that I wanted to try for a world record, but Gary had encouraged me to think seriously about how one might go about it. What set him apart was that he had a method for seeking the very best weather conditions — he wasn't just going back to the same spots where records were previously set. Gary's methodical attack on the weather data certainly inspired confidence. I believed he could indeed spot the patterns that would make for world record weather.

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All during that spring of 1999, Michael and Tiki had been driving up from Hollywood, Florida to Wallaby Ranch every weekend, hoping to get in some practice before their annual trip west to Hobbs. Michael had never been interested in just hopping on his hang glider and getting in a little flight around the Ranch. Whenever he flew he had just one thing on his mind: setting a record.

Michael had been hoping for a spring weather pattern that would take him far to the north, even into Georgia. He had a deep desire to break his own Florida state record of 167 miles, set the previous year when he had flown into the Everglades — not to mention the 182-mile East Coast record set in 1997 by Peter Lehmann from Templeton, Pennsylvania. But the southeast winds Michael needed never

seemed to show up on the weekends. He had made a couple of attempts at the two-person record using Nancy Smith, a local hang glider pilot who happened to be very lightweight, as a tandem passenger — but without success. Now it was time to go west.

Michael and Tiki had made the pilgrimage west for the four previous years, with the express purpose of breaking the world record. In between trips they would plan and train all winter for the next attempt. In this effort Michael had flown more flights of over two hundred miles than any other hang glider pilot — yet he still hadn't been able to break three hundred miles, or to capture the one record he was really after, Larry Tudor's.

Tiki was eager to recapture her Women's World Distance Record, broken by Tove Heaney in Australia. Tiki had achieved her record distance of 220 miles the previous summer, only to have Tove raise the bar to 230 miles in December. Hobbs seemed like the place to go to beat Tove.

Whenever Michael was at the Ranch he and I would discuss the weather and how to forecast it. I'd really gotten the weather forecasting bug from Michael; he and Gary Osoba were the only pilots I knew who were as interested as I was in understanding soaring weather. Better information was becoming available on the Internet, and we were constantly trying to figure out ways to produce more accurate and detailed soaring forecasts. Michael was particularly interested in being able to predict what time in the morning conditions would begin to be soarable, to get the earliest possible start for a long flight.

Unlike Michael, I had never been particularly interested in setting world records. I liked going long distances cross-country, but Larry's record seemed just way too big for me even to contemplate. My longest flight until then was only 142 miles. I was much more interested in competition flying, something in which Michael did not participate. He didn't enjoy the crowds or the stress. Quiet and meticulous, Michael was focused on Larry's record with an intensity that definitely set him apart.

Michael had encouraged me to come to Hobbs in June to try to set records with him and Tiki, but I was skeptical. I was sure they would love to have more pilots out there in lonely desolate Hobbs, but I didn't think I would really enjoy it there.

Having flown many times at Sandia Peak next to Albuquerque, I knew what flying could be like in the central New Mexico high desert. It had been only a year since Brad's death there, and his tumble was still very much in my mind. I was wondering if I really wanted to put up with what sounded like something worse in Hobbs. After experiencing the thick warm air of Florida over the last couple of years, I felt spoiled. I dreaded the thought of launching at Hobbs' altitude of 3,600 feet and climbing out to eighteen grand: it was cold, you had to bring oxygen, and the thermals over the desert could eat you up and spit you out. I thought I'd had my fill of that.

In addition, the big scary monster peculiar to Hobbs was the dry line — something I'd heard about for years, and wondered whether I wanted to meet in person. All the stories I'd heard had been tales of glory, and I knew that glory usually comes with a price.

The dry line comes about when hot dry air over the desert Southwest contacts moist, relatively cooler air from the Gulf coast and forms a north/south-tending line of instability. The best flying conditions occur when there is a low over Colorado with a counter-clockwise flow, combined with a high in the Midwest with a clockwise flow. These flows come together in a region that stretches sometimes from southwest Texas into the Dakotas, creating strong south winds and lots of instability. While there can be cumulus development all over the sky, along the dry line it is much thicker and the tops of the clouds are much higher.

It is quite possible to fly the dry line, but that doesn't necessarily mean flying right under it — especially when conditions overdevelop. By late afternoon the sky can easily be embedded with cu-nimb thunderheads. You can fly twenty or thirty miles to one side of the line, and still get lift from it.

On a summer morning the dry line begins to form, up to fifty miles east of Hobbs. Since Hobbs is west of the dry line, flying there is supposedly safer; the gust fronts associated with the thunderheads tend to be more severe on the east side of the dry line. The heights of the clouds in the dry line increase during the day, so it's possible to fly under the line earlier and move away from it later. But sometimes conditions change so rapidly that pilots can be caught, unable to outfly the rapidly spreading cu-nimbs and the associated gust fronts.

Late in the day the dry line looks like a line of mountains. It stretches for hundreds of miles, and those towns underneath may be under tornado watches. It was the dark side of the dry line that we had experienced that first night in Kansas.

Here's what Gary Osoba has to say about it:

"Convection in the zone of convergence is created due to latent heat in the moist air mass. As very dry, cool air aloft moves in from the west and overlies the warmer gulf air mass, the results can be dynamic. When it sets up in the classic fashion, it starts in Mexico in a region south of Marfa, TX. Then it extends north through the region of Hobbs, up to the Texas and Oklahoma panhandles and finally further north through all of western Kansas. Sometimes, the orientation is a little further west through all of extreme eastern New Mexico and extreme eastern Colorado.

"When it's really good, it's truly dry. Cloudbase at circa 18,000 feet msl but no cu-nims. It may be a few miles wide or 30. However the convective zone may extend many miles out from the obvious cloud markers. This is generally true on the western (dry) side. In fact, the convection in this region, out in the blue, is sometimes the best. There may be a 2,000 to 3,000 foot difference in the height of the cloudbase from the dry side to the moist side in the convergence zone.

"Later in the day in western Kansas, the line often compresses down to a 5-10 mile wide zone, which is usually not as high as the southern end. However, it can often be one continuous street of lift then with the typical 20-30 knot winds aloft at this point, conditions not usually seen in the southern regions when the classic line is working. This is ideal for running downwind fast and no circling.

G.W. Meadows told me:

"One interesting thing about the dry line, that I use to explain it when teaching basic micro meteorology, is that its effects are easily seen on any map of the U.S. that shows vegetation. You'll easily see the average dry line position delineated by where the green areas of vegetation (created by the regular rainfall of course) stops and the brown (less lush vegetation/less rainfall) begins in the southwest."

In the last fifteen years there has been increased agricultural development in western Texas, tapping the Texas aquifer. I don't know how this distorts this map, if at all. But, it sure makes for pleasant landing areas northeast of Hobbs."

When hang glider pilots talk about the dry line, we are thinking about getting under it and flying straight in lifting air. No need to slow down your flight by having to turn in lift — just pull in your control bar and fly. But the scary side is the very good chance that clouds will form, that they will be too big, and that they will swallow you up. This is cloudsuck at its most dangerous.

The clouds not only form along the center of the line, but they can quickly explode outward. And no matter how fast you might try to fly away from the clouds when this was happening, you wouldn't be flying fast enough. They would catch you, and soon you would be whited out, experiencing vertigo and not knowing which way was up. Given that these clouds could easily become cu-nimbs with tops at fifty thousand feet, I had nightmare visions of being spit out as an icicle.

Sure, I thought, run the dry line fast and set a record — or run the dry line, have it turn into a wetline, and come out a statistic, another marker for everyone who thinks that hang glider pilots are crazy-stupid.

Still, the stories of pilots going a hundred miles without even turning were incredibly enticing. I didn't have any other plans for June, and I didn't have to be in Chelan for the Classic until the first of July. So I had told Michael that we would at least come and look at the place on the way out to Chelan. This was not saying that I agreed to fly there.

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By the second week of June Belinda and I had made our way west with our trailer, drifting through Kansas to visit Gary. Driving from Oklahoma City down through western Texas we found the open rangeland reassuring. A sky full of inviting little cumulus clouds made it appear as though violent weather phenomena weren't really an issue. OK, I said to myself, we'll see.

When we finally arrived, Hobbs wasn't anything like I had imagined. Because that had been a very wet year, the desert was in bloom. Everything was green and inviting. Seemed like a perfectly nice place for a fly.

The town itself was nothing to get excited about, but we weren't there for cultural events. In fact it was bigger and more prosperous than I had expected, a rural center serving a population of about a hundred thousand, with a community college, a big athletic center, and a decent commercial core. Hobbs had been an oil boomtown, located as it is on the Permian Shield, and had never really recovered from the oil industry crash of the 1980's. But that week it was packed with school-age girls competing in the Little Dribblers state basketball championship. The Little Dribblers and their families seemed to have taken every RV space in town, but we finally found a place to park the trailer out near the airport, a few miles north of town and close to the hang gliding operation.

When we arrived the next morning at the Crossroads Wind Sports hanger, proprietor Curt Graham was playing host to a little group of visiting hang glider pilots eager to try for world records. Mike Barber, Tiki and Michael — the top Florida pilots were there, so it couldn't be too bad. David Glover had come with us from Georgia as far as Oklahoma City, and he arrived soon after we did. John Borton and Ramy Yanetz had made the trip out from California with Ramy's wife, and there was even a cluster of determined paraglider pilots. Maybe this could be fun after all.

Belinda and I had first met Dave on a flying trip to Guatemala in the early 'nineties, and we had become good friends when he was manager at Wallaby Ranch. Dave had been a tandem instructor for many years and was an excellent pilot, but he didn't usually fly cross-country — in fact, he didn't even have a harness or glider with him on this trip. For him this was more of a vacation.

John and Ramy, on the other hand, were experienced pilots who both flew an unconventional glider called the Millennium, which was in many ways almost an ultralight sailplane. I had met Ramy, who was originally from Israel, and had flown with him at Dinosaur, but I didn't know him well.

I knew John, often called J.B., from flying with him in Dinosaur, Colorado at the 1997 U.S. Nationals, his first competition. He did well there, mainly by leeching off of Manfred Ruhmer, the current flex wing world champion. John candidly admitted that as an inexperienced competition pilot in a high performance craft this was his only plausible strategy.

I hadn't met Curt before, but I knew him by reputation as the host of several "Hobbs Tow Jam" competitions. Although Curt was actively teaching hang gliding, Hobbs was a long distance away from a secure base of potential customers, so his school couldn't have been all that profitable. But in the summer Crossroad Wind Sports was a magnet for hardcore cross-country junkies.

Crossroads was located at an abandoned military air base with a seven thousand-foot main runway and a new high security prison down at the south end. Curt ran the business out of a new hangar at the north end of the runway, near the small office of the Soaring Society of America, the membership organization for sailplane pilots.

As we got our gear organized and signed the ubiquitous release forms, Curt gave us a rundown on how the towing would work. His operation used a payout winch mounted on a platform in the back of a pickup truck. The pilot was hooked in to his glider atop the platform, attached to both the platform and to the towline, which was wound around the winch. The truck driver would accelerate to about thirty miles per hour, enough speed for the wing to fly, and the pilot would release from the platform — but stay connected to the towline, which would gradually unroll from the winch. When the truck got to the end of the runway, the pilot, now high in the air, would release the line and fly away. As one last caution, Curt told us not to circle over the prison.

With such a long runway it would be easy for Curt to tow us up behind his pickup truck and get us plenty high. However, I elected to launch on foot behind Curt's truck instead of using the platform. After we got our gliders set up, I had Curt peel out five hundred feet of line from the tow reel in the back of his truck and hook it to my quick release bridle. It was just a matter of talking to him on the radio, telling him to “Go, go, go!” and I was running down the runway and off the ground in about three steps.

Curt had clamped down the reel in the back of his truck so I wouldn’t pull any line off until I was a few hundred feet in the air. Then from the cab he eased back on the pressure to one hundred pounds and let me take out the line as I climbed up. All the while he was tooling down the runway at thirty-five miles per hour.

By the time Curt got down to the prison end of the runway, I was fifteen hundred feet in the air, pinned off, and searching for a nice thermal over the square miles of concrete that made up the old airfield.

I even went over near the prison once or twice, but only when I could get high enough to be just a speck to them. I definitely didn't want any trigger-happy guards shooting up into the sky.

I'd had plenty of practice thermaling up over prisons, since that seemed to be the biggest growth industry in Florida. They were always hot spots due to all the concrete. I'd seen the guards run around in their trucks below me if I got too low, but fortunately I'd never had to land nearby.

The dry line was fifty miles to our east on this first day. It had rained hard the night before, so there was plenty of moisture in the ground to absorb the heat from the sun and mellow out the thermals. We worked light lift and thoroughly enjoyed ourselves, staying far away from the dry line, and took a little fifty mile flight to the north. Maybe Hobbs wouldn't be so scary after all.

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All of us were out early the next morning, June 11th, though no one as early as Michael. He would consistently be ready to launch every day by 10:45, well before we had seen any signs of lift. Michael knew that if you wanted to go really far you had to spend a lot of time in the air. And this looked to him like a day to set a world record.

Other than Michael and Tiki, none of us were used to starting a flight in mid-morning. Noon was about as early as it got for most of us, and even though we saw him and thought we understood, it was hard to imagine actually going as early as Michael did. It seemed that the ground hadn't had enough time to heat up the air, that you would just as likely fall out of the sky with no good lift. We marveled at the way Michael could be airborne before we were even ready, and then stay up.

With the wind blowing steady out of the south, Michael was soon downwind of the airport and out of sight. We knew he had to be low, since he'd drifted away from the airport at fifteen hundred feet. It was hard to tell if he would be able to stay up.

It was almost noon before I loped down the runway behind Curt's pickup truck. Mike, J.B., Tiki and Ramy soon followed me into the air. One day without rain, and the desert had warmed up a bit. Thermaling up over Hobbs, we could see that everything was green to the north and wildflowers were beginning to fill the fields with other colors.

The dry line was again off to our east, just where it was supposed to be, and we were working less organized lift under scattered cu's. Getting up to twelve thousand feet was easy. We were already much higher than we had gotten the day before, and it looked as though we'd be able to go far.

After we had all launched and flown away, David Glover came on our radio frequency. He had borrowed Belinda's seated paragliding harness to go for a flight on my single-surface Wills Wing Falcon hang glider, a low performance glider normally used for training. Dave said he was taking it out for a joy ride, sitting under the glider as if on a swing, with his feet on the control bar.

We headed north and east, getting closer to the dry line — which was anything but dry. Over to the east we could see the cumulus clouds gaining height and filling in, casting long dark shadows over the Texas pastures and wheat lands. We, however, were still under a dappled sky, with plenty of sun on the flatlands below us.

At ninety miles out J.B. and Mike miscalculated and couldn't find the next thermal in time to keep from landing. Ramy and I were more fortunate and continued heading north. We hadn't heard from Michael or Tiki, so we didn't know what was up with them. We hadn't heard from David in quite a while either. He must have landed back at Hobbs, we figured.

Ramy and I were flying well together, helping each other out when it came to finding the next bit of lift. Not that this was a great problem, since the clouds were getting thicker and the lift was getting stronger.

Off to our northeast a great cu-nimb was forming, piled so high that its top must have reached over forty thousand feet. It was spreading out fast, approaching us, and we drove north toward it. Below the giant cloud, the ground was dark for a hundred square miles at least. It was a huge mountain, and we had no business flying near it.

The air still felt good and we were still moving along, so we continued north with a wary eye on the cu-nimb, hoping to go around it on the west side. We were so high that its base was way below us — as usual, cloudbase west of the dry line was much higher than to the east.

As we came even with the center of the cloud, still many miles to its west, the air began to feel not quite so friendly. The glider was twichting and would suddenly drop a few feet, snaping the hang strap that connected my harness to the keel.

Something was moving toward us, and we no longer felt far enough away to be safe. At 165 miles out from Hobbs, my longest flight until then, I decided that going further north was not wise. I turned and fled directly west, away from the threatening cloud. I was acutely aware that it would most likely produce a gust front like the one I'd crashed in at Dinosaur, and I wanted to be as far away from that as possible.

A gust front occurs when a huge cu-nimb releases its rain. The air coming down with the rain hits the ground and rushes out from the center of the cloudburst. The winds can easily be over fifty miles per hour — easily strong enough to destroy a hang glider in midair.

Five miles of gliding with my bar pulled in as hard as I could finally got me down to the safety of the ground. Ramy continued north a little way, then decided to land at 175 miles out. We later found out that Michael had also taken the measure of the mountainous cloud and landed near us.

Piling into Ramy's car for the ride home, we tuned in the local radio station, which suddenly broke for an alert. The town we had seen below the cloud was under a tornado watch and experiencing substantial hail. Nothing too much out of the ordinary for West Texas — but certainly this was the most massive cu-nimb I had ever experienced up close while flying in a mere pea shooter of an aircraft.

Belinda had gone back toward Hobbs in our truck with Mike Barber and Ramy's wife after J.B. volunteered to chase us. But as we neared town, we heard her calling on the two-meter radio. Much to everyone's surprise, she announced that David Glover had set a new distance record for a Falcon hang glider by flying 95 miles to Lubbock, Texas — only his second flight of the year. Belinda hadn't heard him talking on the radio for quite a while, but had suddenly seen his location on her GPS, sent from David's GPS by radio. Amazed, she had turned around to chase him.

David had gotten further into the dry line by flying northeast instead of following us to the north, keeping far to the south of the cloud that had spooked Ramy and me. He had climbed out to 15,500 feet under more benign clouds, floating straight downwind on a glider incapable of doing much else. I was thrilled for David, and even more thrilled about the possibilities that Hobbs seemed to offer.

We were only a couple of days into our Hobbs adventure, and it had already been pretty darned adventurous. There were definitely big weather phenomena here in Eastern New Mexico and West Texas, but so far we were all enjoying the air. I had begun to think more seriously about what it would take to go really far — given the right day I knew I could get a lot farther than I had. And Michael's example was there for all of us to learn from.

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Mike Barber and I spent the next few days flying together. We had a nice little flight 110 miles north to Clovis, and an eighty-mile triangle in light winds back to Hobbs. We weren't setting any records, but we were enjoying ourselves.

Then there came a change in the weather. David left to drive back East, and Belinda flew to Seattle for a break. Since we didn't expect record-setting conditions for the next few days, Michael decided to check out the Millennium, the glider J.B. and Ramy flying, to see if he could learn to fly it.

Instead of hanging from the keel by a strap, the pilot of the Millennium was enclosed in an open-air cage fixed right below the wings. The pilot controlled the Millennium not by body movements, but using a stick, just as in a conventional sailplane. But unlike a sailplane, the Millennium didn't have a tail — like a hang glider, it was simply a flying wing. It could be folded up and transported on a pickup truck's roof rack and set up at a hang gliding site, just like a hang glider. It could also be foot launched, as J.B. had been demonstrating every day. However, Ramy and Michael used the Millennium's built-in wheels for takeoff and landing.

We were just hanging around the airport for a few days, so J.B. was more than willing to show Michael how to fly his Millennium. On several evenings when the air was smooth, J.B. towed Michael up behind a truck. Michael was getting the feel of it, flying down repeatedly from two thousand feet over the airport, and towing up again. It was fun. Lacking the conditions that made straight-line record flights possible, Michael was enjoying this new kind of flying. It made a good diversion while we waited for the main business — the right weather and wind conditions for long flights.

Every day Michael put up his soaring and wind forecast for the day in the hangar, so we knew he and Tiki were up early, getting ready for the day that would let him break Larry's record. The rest of us were not quite so focused on the big goal. Getting a personal best long flight seemed about as far out as I, for one, could think.

While we waited, Michael and J.B. engaged in long discussions about the Millennium, especially about its ability to spin. Unlike almost all flex wing hang gliders, which are very spin resistant, the Millennium is easy for a pilot to put into a spin just by pulling back on the stick

and slowing down until one wing stalls. Lots of planes and sailplanes spin easily enough if you try this trick, and pilots of those craft learn as students how to enter and recover from a spin.

J.B. explained that on a Millennium you could easily get out of the spin by letting go of the stick or by pushing the stick forward. This would put the nose down and speed up the glider, getting the stalled inner wing flying again. You did have to be careful, though, since the Millennium would quickly pick up speed when you pushed the stick forward. It was not hard to exceed the maximum speed the glider could sustain without breaking apart.

Michael had been flying his Moyes CSX topless flex wing hang glider for his record attempts. While it was possible to spin his glider, that did require significant effort and expertise on the pilot's part. The few hang glider pilots who regularly engaged in aerobatics could spin a glider, but most others had never done it. I, for example, had never spun a hang glider, even though I'd tried to do so a few times.

Michael and Tiki had each taken a dozen sailplane lessons just before coming to Hobbs, but neither Michael nor the instructor was able to spin the sailplane they were using for training. Therefore Michael hadn't had a chance with an instructor on board to learn how to recover correctly from a spin. Even so, spin recovery in the Millennium was different from that in a sailplane, which had the additional control of a rudder.

On Thursday, June 17th, it looked like a good day to fly — but not a good day to set a world record. Michael decided to take J.B.'s Millennium up for some practice in thermal conditions. The rest of us launched soon after him, a little after noon. With light winds drifting out of the north, we decided on another triangle task, with the first turnpoint to our north at Lovington. Michael was going to stick around the airport and practice. He was on the radio with J.B., who would provide him with additional guidance if Michael asked for it.

We all climbed out easily at the airport to five thousand feet above the ground. Heading north, we found the air not quite as pleasant as it had been over the last few days. It was smooth over the airport — no doubt due to that great expanse of concrete — but the thermals were broken up over the fields out on our course. Mike and I found we were pushing hard against a headwind as we made our way toward Lovington.

Back at the airport Michael was flying the Millennium at five thousand feet above the tarmac. A very careful and conservative pilot, he was only just getting used to thermaling the Millennium in midday conditions. The Millennium had quite a different feel from his hang glider, and it took a bit of getting used to.

After about an hour Michael radioed J.B. that he was ready to try a couple of practice spins, to get the feel of how to recover from spinning. This was a part of the training and was encouraged for new Millennium pilots, especially those who had come from a hang gliding background. Like Michael, hang glider pilots would have had little or no spin experience, and it was considered important that they become familiar with this aspect of the Millennium — to avoid a spin, or to recover if one occurred.

After radioing J.B., Michael completed two spins by pulling back on the stick and slowing the Millennium until it stalled. He successfully recovered from each of the spins, either by letting go of the stick or by pushing the stick forward, to get both wings flying again. Then Tiki radioed that she hadn't seen him spin and asked him to do one more.

Michael initiated his third spin. Attempting to come out of it, he pushed the stick forward, aiming the nose of the glider at the ground. The Millennium would recover from a spin if you just let go of the stick as soon as the spin started — but you could speed the recovery by

pushing the stick forward. You didn't need to push the stick all the way forward, and it was definitely not a good idea to go into a dive to recover from a spin. But at this point Michael did exactly that, entering a high-speed dive — a very high-speed dive.

Perhaps Michael made some mistake in trying to recover from the third spin. Perhaps he pushed the stick too far forward. We don't know. But what we do know is that whatever he did or did not do, the result was a dive that very quickly exceeded the maximum safe speed of the glider.

From perhaps a very small error in judgment, Michael almost immediately found himself in a situation that exceeded the capabilities of his glider to maintain its integrity. This "positive feedback toward disaster" is a phenomenon not commonly experienced by hang glider pilots. Our aircraft normally react slowly to pilot input, cannot exceed the maximum speed so rapidly, and are difficult to keep in a nose-down attitude.

Hang glider pilots are used to systems that are difficult to move away from a stable state. Push out on the control frame, and it wants to go back to trim. Same if you pull in. True, sometimes it's possible to induce unintentional oscillations, but simply relaxing your grip or reducing your speed almost always works to regain equilibrium. In general we are not used to systems that are unstable, or that get quickly out of hand after a minor input. Michael was now in a realm of flight for which he had little or no experience.

The glider came out of the dive, presumably because Michael had eased off on the stick. But it was still going very fast, most likely well beyond its "speed never to exceed." The momentum took the glider straight up, then suddenly the wings folded back.

In spite of the high altitude of the glider when it broke — over a mile up — Michael didn't deploy his parachute. The helpless onlookers called out to him in agony, though of course he couldn't hear them.

Tiki and J.B. had been on the ground at the airport watching as Michael flew the Millennium high over the prison. It was just a relaxing day, a break from record attempts. In an instant the Millennium had turned from a flying wing into a dart speeding straight to the ground. In an instant everything had changed.

The Millennium crashed just outside the prison fences, causing all sorts of consternation at the prison. Medical emergency crews were called immediately. J.B. changed frequencies on his radio to talk to Mike and me.

"Guys," he said, "we need your help. Something's wrong with Michael." We turned around from Lovington and started flying back.

By the time we got back to the airfield, the emergency crew had taken away Michael's battered body. The prison guards wouldn't allow anyone, including the distraught Tiki, near the crash site. Finally J.B., Mike, and I were allowed to drive over and recover the remnants of J.B.'s Millennium under the watchful eyes of the prison guards. We found a smashed and bloodied helmet. There was blood over much of the Dacron sail material. As we expected, there was little about the remnants that was recognizable as a glider.

While were picking through the wreckage, J.B. made a discovery. The steel nose pin that had held the two wings together at the nose was bent, and the safety ring that had held the nose pin in place was missing. We realized the safety ring must have been sheared off in flight after the powerful forces of Michael's steep dive and climb bent the pin. Once the pin was bent and the safety ring sheared off, the wings folded. With its wings folded back, the glider dove nose first into the ground from five thousand feet.

That evening and in the days to follow, we went over and over what had happened, trying to make sense of it all. The sail, ribs, and backs of the leading edges could have collapsed in on Michael, either pinning him in the cage, knocking him out, or hurting him severely. We thought that Michael must have been incapacitated and unable to pull the handle of the air-deployed parachute — why else had he seemed to do nothing to save himself?

In our discussions we learned from J.B. that, only a few weeks before, this very same Millennium had been involved in an accident at Marina beach in California. A pilot had caught one of the Millennium's wingtips in a sand dune; the nose pin bent, the safety ring sheared, and the wings folded. J.B. had replaced the bent pin before bringing this glider to Hobbs.

In addition, another Millennium had been flying at Marina that very same day. That pilot had gotten one wing low on landing, and touched or dug the wing tip into the beach; the nose pin was bent, the safety ring sheared off, and the wings folded.

In fact, it was clear from these stories that the Millennium nose pin was designed on purpose to bend, and the safety ring to shear off at a certain load. J.B. explained that this was to prevent damage to the leading edges under a certain range of loads. Bright Star, the Millennium manufacturer, presumably felt that such loads would never be experienced in flight, so the nose pin would not be bent by any normal flight maneuvers.

Everyone who set up a Millennium for the first time would mention the small latch and pin at the nose. In contrast, the nose pins of the Exxtacy (the glider I was flying at the time) were much beefier, and they still gave me pause. I mean, everything was riding on those pins. Yet the Millennium had been tested to ten G's without failure.

J.B. also explained that the Millennium was designed to break six feet in from the wingtips. If the glider were to break under stress, that would keep any debris away from the pilot cage and allow the glider to go into a slower rotating descent, more like a leaf than a dart. Keeping the wings unfolded would allow the pilot to pull the chute handle and put the Millennium under canopy. It would also keep potentially harmful parts of the glider away from the pilot.

But once the Millennium was flying in a regime past its placarded limits, all bets were off. The dynamic conditions of first a high-speed dive and then a sharp pull up could have easily exceeded ten G's, likely causing Michael to black out, and the nose pin to fail.

While there was pilot error (and inexperience) involved in this accident, it could have easily been a very small error that cascaded, because of glider design, into a very big consequence. The Millennium failed its design criterion of breaking near the wing tips under extreme loads, and instead failed in the absolutely worst way possible — wings folding.

Michael, the magnet that had brought us all to Hobbs, was dead; we were all in shock. The point of trying to set the hang gliding distance record was now lost on us. Once again I struggled to remember what it was that I loved about flying. After the memorial service a few days later we drifted away, most without ever flying there again. Only Tiki would return in another season, to continue her quest alone.

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It was three years later in the spring of 2002 that we learned one reason why Michael hadn't deployed his chute. He could not have done so even if he'd had the chance.

J. B. sent out the following note:

"Most are aware that in the summer of 1999 my friend Michael "Hollywood" Champlin was killed while flying my Millennium in Hobbs, NM. There was much discussion in the hang gliding community regarding why no apparent attempt on Michael's part to deploy the gliders rocket chute. Bright Star gliders also engaged in a considerable design review effort trying to answer that question.

"This is what happened...Michael trusted me to pull the rocket safety pin before he launched and I failed him. I then covered this fact up during the following investigation.

"As primarily a flex wing pilot, Michael was rather new to both the flying position and parachute deployment mechanism of the Millennium. During the 20-minute wait for the tow vehicle to arrive he and I reviewed the deployment procedure several times and he reached for the handle repeatedly until it could be found and pulled blind and quick. For obvious reasons during this process I left the safety pin in place and told him I would remind/assist in its removal just before his launch. After hooking him up to the rig I simply forgot.

“As the first pilot to the scene, I pulled the pin for the purpose of hiding my mistake and told not a soul. As the author of the USHGA accident report I simply left out this important fact for the same reason. While the cause of the original accident is to my knowledge yet unsolved, the lack of deployment is no mystery.

“I apologize first and foremost to Tiki and Michael's family. I can only imagine the loss that they have incurred and I can't even pretend to imagine the pain that this revelation will add. To Steve Morris and Brian Robbins at Bright Star, you have done far too many kind things for me to deserve my dishonesty and I hope time will provide me with an opportunity to make it up to both of you. To Jamie Shelden I apologize for the first lie in a decade long relationship built on trust and openness. To all others and the USHGA membership specifically, I apologize and express sincere regret for the misleading accident report.”