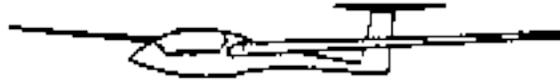


# AIRWORTHY



## Newsletter of the Black Forest Soaring Society - Spring 2004

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## **From the President: A Spring Time Soaring Story**

As you look outside, we can see the unmistakable signs of spring time, the days are longer and warmer, the flowers and trees are starting to bloom and the lawns and fields are turning green. Friends and neighbors whom I haven't seen in five months are out and about in my neighborhood. Some of my old Hang Gliding and more recent Sailplane buddies are calling on the phone and talking about getting in the air. Yes sir, I even had my first outlanding of the season last weekend and enjoyed every minute of it. Spring is here and I can't wait to go long.

Non-soaring folks often ask me, what is it that drives us soaring types? Speaking for myself I can only describe it as some kind of inner calling that drives my passion to experience what it feels like to be a bird soaring among the clouds. However, even this somewhat flowery statement doesn't exactly tell the story, a story that's certainly somewhat different for each of us but containing many shared experiences and common elements.

So I thought I might tell my story of where and how I was bitten by the soaring bug and why I'm reminded every spring of my beginnings in this unique sport called soaring.

San Diego in 1976 had a fledgling population of Hang Glider pilots, so I had many opportunities to watch them soar over the cliffs at Torrey Pines or at a few mountain locations. As someone who experienced re-occurring flying dreams ever since I was a kid, flying interested me. By the way, flying dreams, specifically dreams where only your body is flying through the air, seem to be a common thread between all soaring pilots that have been asked this question, and I've asked many.

So one day I approached a pilot at Torrey Pines about where to go for Hang Gliding lessons. A week later I found myself one hour south of the border in Baja Mexico at a place called Cantemar. Cantemar was a perfect site for training wannabe Hang Glider Pilots as it is a large sand dune located right on the Pacific Ocean. The smooth steady ocean breeze coupled with the sand dunes provides for consistent training conditions, and, a reasonably soft and forgiving surface to take off and land on, of that you will repeatedly be somewhat rudely introduced to. Long story short, my one lesson was an enjoyable experience, but for some reason I didn't get hooked, something was missing...

Fast forward to one year later. I'm a carpenter working on a project that happens to be located within a couple of miles of an 800 foot mountain called Little Black Mountain, often used for Hang Gliding. The typical observed flight was a short one where a glider would launch and fly down to a landing area below my point of view; that's it. Entertaining to watch but as I said before I wasn't hooked but I was still interested.

On this particular beautiful spring day the conditions were post frontal, blue skies with puffy clouds and a 20-knot westerly wind. I noticed three gliders setting up and

getting ready to launch. When the first glider launched, instead of going straight to the landing area, they made two or three passes back and forth across the mountaintop before heading for the landing area. I thought, now that's a little different, so I watched the next two launches. Both pilots were able to climb 100 feet above the mountaintop and ridge soar a very small area. Then I noticed one of the pilots turning circles and climbing another 100 feet higher, I stopped what I was doing and watched intently. The pilot who found what I now know to be a thermal lost the core and fell out of the sky like a rock. The last pilot to launch however slipped over to where the thermal was and hooked right into it and climbed all the way to cloud base, approximately 2,500 feet above the mountaintop. Then he turned downwind and flew off to points unknown. I said to myself that's what I want to do and at that moment a cross-country soaring pilot was born! Within two weeks I purchased a used Hang Glider and harness for \$400 bucks...I was hooked!

I took my Hang Glider to Cantemar and began practicing launching and landing, working my way higher up the sand dune providing more altitude and longer training flights each time until I reached the top of the sand dune. Launching from the top of this sand dune will place you about 75 feet above the ground and provide you with a flight of approximately 1/8 mile long. One of the tricks to successfully launching a Hang Glider is to have the glider well balanced on your shoulders, nose into the wind and the pilot prepared to be fully committed to running very hard down the hill. Attempting to abort a launch once started is not a pretty sight and the higher you are the less attractive the results will be. So proper preparation and full commitment is a must.

For the next hour and a half as I sat on the top of the sand dune hooked into my Hang glider contemplating my next move. Move is the optimum word here as my anxiety level was very high; scared would be more appropriate. I was having some difficulty convincing my legs to move and that little voice in my head was telling me no way stupid, let's go home and mow the lawn, dig a ditch, take a nap, anything but this. While I was staring below at my hopeful but increasingly distant looking landing spot and then out at the beautiful Pacific Ocean in front of me I was beginning to seriously doubt I had the so called "right stuff" for this game. That's when I experienced something unexpected and wonderful, I was treated to a sight I never personally had seen before other than on a Cousteau TV special. One of God's beautiful creatures, a whale, decided to sound right in front of me, no more than a mile from shore. Straight up vertical with at least half its giant body out of the water, then a massive splash as it fell over to one side. I was stunned. I also had a very warm and strong feeling that this was a sign, the legs came alive, the little voice said OK let's go and off I ran down the sand dune and into the air...

Fast-forward two years later, Torrey Pines Glider Port, located right on the Pacific Ocean. Flying my third Hang Glider, I'm now considered a so-called proficient Hang Glider pilot. The day is a picture perfect spring day at Torrey, west winds straight in at 15 to 20 knots, and nice puffy clouds. The lift being pushed up the 300-foot ridge is allowing us to climb to about 700 feet over the top of the ridge or 1,000 above the

Pacific Ocean below. On this particular stunning spring day when I flew out over the ocean just past the breakers and looked down below, the water was so clear I could see each tiny ripple in the sand as if you were looking through glass. At that moment I was treated to something, that to this day gives me goose bumps and places a smile on my face every time. As I looked down, directly below me a mother whale and a baby whale were swimming parallel with the shore, just past the breakers. The little one was clinging right next to her mother never leaving her side, it was quite a moving experience. Indeed, I felt as if I was being told I'm in the right place and doing what I was born to do. Every soaring experience since the day I watched that Hang Glider pilot climb up to cloud-base just validates my passion and reason for soaring.

You can perhaps draw many conclusions from this story, depending on how one views their place in Mother Nature's world. My hope, especially for the newer fledgling soaring pilot, is that this story may inspire you to find what drives your passion to seek out this very challenging and rewarding sport of soaring. We are all very fortunate indeed to be born in a time where we can experience Mother Nature in a way very few people could even imagine - through soaring.

Happy Soaring,  
Rick Culbertson



Rick working on his ASW19 on a promising November day.

## **From the Safety Manager: Are You Safe?**

Are you familiar with the acronym I.M.S.A.F.E.? It is an assessment of the pilot's condition before flight. Let's look at each of the letters individually.

**I = Illnesses.** Do you have any illnesses, cold or severe allergies that would inhibit your decision-making capabilities or motor skills? If you do, you probably should not be flying.

**M = Medications.** Are you taking any prescriptions or nonprescription medication? Prescription medication needs to be cleared by your Aviation Medical Examiner (AME). Nonprescription medication—although it may not cause any adverse side effects while you are firmly planted on terra firma—may cause adverse side effects at altitude. Nonprescription medicine also needs to be cleared by your AME.

**S = Stress.** Are you under any kind of stress? Did you just lose your job, are you going through a divorce, do you have an extremely sick family member? If so, you should not be flying; your mind will not be focused on the tasks at hand.

**A = Alcohol.** How long has it been since you had your last drink? Remember the eight hour bottle-to-throttle rule. In addition to that don't forget the 0.04% blood alcohol content. Even though it has been longer than eight hours since your last drink, depending on how much and what you drank, your blood alcohol level may still be higher than 0.04%. If you know you are going to fly the next day, consider drinking less and stopping sooner.

**F = Fatigue.** Were you up late the night before and did not get your normal amount of sleep? Were you tossing and turning all night worrying about your job? Are you really as sharp as you could be?

**E = Emotions/Eating.** Are you mad because you just had a fight with your boss? When was the last time you ate? If you are planning a long cross-country flight and you only had a cup of coffee for breakfast, look out! The combination of being low on hydration and having low blood-sugar leaves you open for extremely poor performance.

When you only have one day a week to fly at the glider port, it can be easy to dismiss any of the above concerns. For your safety and the safety of those around you, make sure you pass the I.M.S.A.F.E. test before you fly.

## Club News

### Welcome New Members

Robert Weien  
Meghan K. Robbins  
Rene Brinkerhoff  
Ben Napper

### Congratulations!

Matt Friedel soloed on January 17, 2004

### Notice of events:

- As of April 5 there are still 10 seats available for the Safety and CFI Clinic. Fee \$125.  
Saturday April 17 8:30 AM until 6 PM.  
Sunday April 18 2004 8 AM until 5 PM.  
Holiday Inn Select Denver - Cherry Creek  
455 South Colorado Boulevard

- Cross country flying seminar at BFSS club house organized by Lee Kuhlkee. No fee.  
Saturday April 24, 4:30 pm - 6:30 pm. Saturday May 1, 8:00 am-10:00 am.

- Club clean up day will be May 8 starting at 9:30. A list of tasks will be sent out before this day. Come and help do some club clean up chores, then stick around for dinner. Bring a side dish and the club will provide burgers and brats.

- The annual KAP pancake breakfast fly-in is Saturday July 24 at 7 am. This event is a KAI social event requiring us to delay operations until 12:00 as there could be up to 50 powered aircraft attending the event. BFSS members are also invited and encouraged to attend.

### Thanks to BFSS volunteers:

Steve Johnson	Facilities manager
Tom Serkowski	Web site
Bill Howe	Airworthy & membership
Bruce Carter	Pawnee care and feeding
CB Wilson and Hans Arnold	Instructor/student manager
Doug Curry	BFSS A&P
John Good	Tow Pilot manager
Clay Thomas	Safety manager
Raul Boerner	Commercial rides
Oliver Schmelzer	Broken toys & trailers
Annett Schmelzer	Social events

### Things to be aware of:

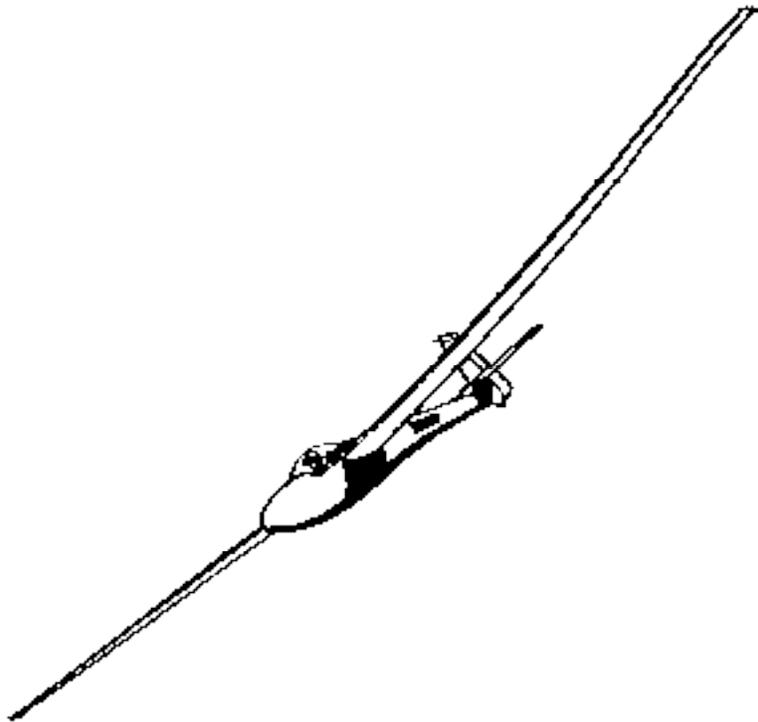
We need to be aware of BFSS aircraft operation Items left on the taxi and common area - rudder lock, tow hook, etc. Please pick up and return all items (including trash).

These items have been found and recovered by Kelly Airpark owners from the common area. If items are struck by a landing aircraft, it could cause an accident and even be fatal. All BFSS members are responsible to pick up any debris and return loose items to the BFSS hanger area. Please don't expect some else to do this task, it's all our responsibility.

\* Members are responsible to walk the parallel and cross taxi ways and repair or fill in any wheel marks left. these wheel marks become ditches during rain events and create hazards for aircraft and additional maintenance costs. This action is required every day we operate.

\* Any member walking on the taxi way is discouraged unless directly required for aircraft movement. Visitors walking on the common area / taxi ways with out a BFSS member escort is not allowed. This is an alternate landing area and a very dangerous place to be, the best & safest place for your visitors to watch the action is from the clubhouse deck area. Please be sure your guests are fully aware of the posted airpark rules.

\* Members, please don't forget, the last person to use the aircraft is responsible for putting the Radio Battery on a charger. BFSS aircraft are not allowed to operate with out a fully functioning Radio; no exceptions.



## **When in Doubt, Declare Setting a World Record**

by Tom Serkowski

The annual inspection for my ASH-26E is due each November, so I scheduled it for the weekend of the 8th & 9th. My friend Cory Thompson, an A&P arranged the use of a hangar at Fremont County airport near Cañon City. This time of year Colorado weather is quite interesting to say the least. Even a few days before the scheduled date, I wasn't sure whether it would be raining, snowing, or sunny on the weekend. So working in a heated hangar is the only way to go.

The forecast for the weekend was to be warm, with a possibility of wave on Sunday. My plan was to do the major portion of the inspection, which included removing, inspecting and reinstalling the engine on Saturday, then finish up on Sunday and soar or motor the 75 miles back to Kelly Airpark. We completed the fuselage inspection just in time to catch the full moon rising as it was being eclipsed Saturday at sunset. After enjoying the view for a while, we put the fuselage in the trailer and groped around in the near total darkness to secure the trailer for the night. On the drive home, the moon finally emerged from behind the earth's shadow.

Sunday dawned bright, sunny, and quite warm for the second weekend in November. The morning was spent assembling the ship, checking control movements and tolerances, and doing the paperwork with Cory. Finally, it was time to give the ship a good preflight, and go fly. Winds calm, the temperature near 60, lenticles were forming over the Wet Valley. By 11:30 we were finally ready to go fly. The previous December, I had set a US Motorglider speed record around a 100km triangle and even beat the world Open Class speed, but not by the 2 km/h needed to make the claim. That flight and others have proven to me that this area is perfect for the 100km triangle. Today was the chance to give it another try. With this in mind, I made the declaration in my flight logger with my official observer, faithful crew and wife, Karen, watching.



Waiting for the engine to warm up, I snapped the above photo from the cockpit. This is looking toward the southwest. The primary lenticular is very well defined and the

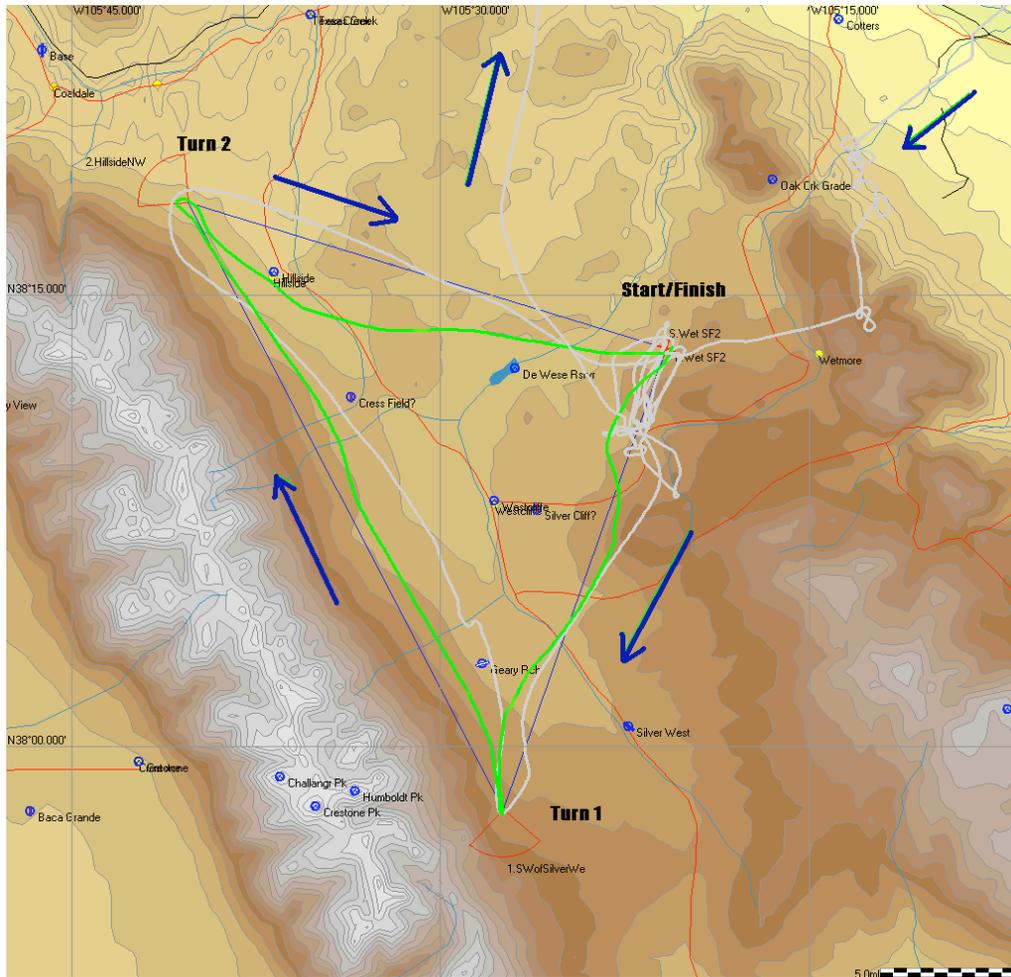
secondary is still trying to develop. Notice the very hazy atmosphere between me and the Wet Mountains, and the windsock hanging limply.

With a slight breeze from the east, the takeoff was in that direction. I climbed quite briskly and crossed the departure end of the runway with over 500' AGL. I made a left 270 turn, and headed toward Oak Creek Grade, the low spot visible in the photo on this page.



A few miles southwest of the airport, I captured the above image of the inversion layer at 8,000' with the lenticulars over the Wet Valley. Below this inversion, the wind is very light and with an easterly component. During the climb, my GPS and glide computer indicated light winds from the SSW, until about 10,000', when they became steadier from the southwest.

One of the things that helped on this flight was the winds aloft were quite low. I never saw more than 40 knots all the way up to 18,000'. This, combined with the strong inversion, made for a short wavelength and steep amplitude. It seems that the Wet Mountains ended up damping, and essentially cutting off the tertiary and any waves farther downwind. This made for a very pleasant climb up to altitude, although I had to use the engine all the way up to 13,200'.



I shut down the engine over the Wet Mountains in what seemed like some weak tertiary lift. With the engine off and the propeller slightly extended to allow the engine to cool, it very quickly became obvious that there was no lift here. The clouds marking the secondary wave looked to be about 5 miles upwind, so I pushed on to the west in search of the lift. This is where things started to get interesting.

Wondering if I would hit any rotor turbulence, I pushed on. Will it be rough, or will it be mild? Will I find lift before needing to pick one of the fields ahead and attempt an engine restart? Or will I be forced to land out? Finally, after about 9 miles at a little below 11,000', I found the secondary lift. It wasn't very strong, but I managed to average a bit over 5 knots while exploring the lift up to 16,000'. Cloud base of the lenuis was about 17,000', so it was not really worth pushing up to the Class A airspace base, or in this case, ceiling, of 18,000'.

It was time to explore making a start. Since I had to declare the course before takeoff, the start/finish had been placed in or near the secondary lift area. The two turn points are set up so the longest leg of the triangle is along the primary wave lift area. I used previous flight logs to determine these locations. Unfortunately, the wave didn't quite

cooperate, and the start point was right in the middle of the sink region. With a deep breath, I grabbed the stick with both hands, and made a dive for the start. Approaching from the direction of the first leg, this ended up being a big 180-degree turnaround. Due to Vne constraints at altitude, I limited myself to a maximum of 120 knots indicated airspeed, which would keep me below the redline set by Schleicher. However, this is above maneuvering speed, so careful control deflections are required in case I encountered unexpected turbulence. As I approached the start line, the airspeed stabilized, the air was smooth, sinking rapidly, indicating over 10 knots down.

Once across the line, I tapped the 'start' button on the glide computer, both hands on the stick again, and maintained airspeed as I plummeted and looked for the lift ahead. It took almost a minute to find the lift, and I was down to 14,500', but it is much stronger than before. I decided to slow down, and ride the 10+ knot lift back up to 17,000' and try another start. The second start was made at 16,000'. With a better mental picture of the wave, I connected with lift at about 15,000' after a short run in 10 knot sink.

I followed lift in the secondary wave while heading about 45 degrees off course and up to a little over 17,000'. At this point, I was a couple miles off course so I pointed the nose to intercept the course line under the primary lenticular. At first, I was in weak lift and mild sink, so didn't lose too much altitude. After a couple miles, the sink increased to as much as 2,000 fpm. I pushed on and waited for the primary rotor. There are many nice landing field options ahead and Silver West airport is just off to the right. About 7 miles short of the turn, the air got a bit rough. I slowed down just a little and bounced along in the rotor at around 14,000'. It wasn't too rough, so I maintained a good airspeed. A couple miles later, I connected with the primary wave and soon I was back up to 16,000' at the turn.

On the second leg it was a matter of keeping a distance of a mile or so upwind of the lennie as I maintained 120 knots and slowly climbed to 16,500'. The air was glass smooth as I cruised toward the next turn. Suddenly, I hit a small gust and bumped my head on the canopy. Even in the smooth air, I have both hands on the stick, so I gently eased back and made a turn into the wind. It seems like a ripple moved through the laminar flow to give me a little reminder of what wave is all about. As I approached the second turn point from about 5 miles out, I was getting a bit high, so turned upwind to avoid the lift and stay below 18,000'. This little detour probably cost me a few seconds, just as the 'bump' did earlier. On a flight that lasts about 25 minutes, every second counts. However, until I crossed the finish line, it is hard to know where I stood on average speed around the course.

I rounded the turn point at 17,500' and headed straight for the finish line, a virtual target in the distance. The next 7 miles were in the primary lee of the wave, averaging almost 15 knots of sink. But the good news is the tailwind gave me a ground speed of 220 mph! The next 8 miles I was in the secondary lift region. I slowed down just a little in order to gain back some of the loss and my average ground speed for this

segment was 'only' 195 mph. The last bit of this leg was in sink and I crossed the line at 14,700'.

An analysis of the task in my glide computer indicated a speed of a bit over 140 mph, not quite good enough for the record. But the day was still young, and the wave seemed to be getting more defined. In addition, I now had the advantage of knowing what to expect, and had a road map on my Glide Navigator display in the form of the track of my first lap.

Below is a photo I took shortly before making the second start. I am headed north and climbing through 15,700' under the secondary lenticular. The variometers are indicating a moderate climb of 8-900 fpm.



I quickly connected with 8-10 knot lift and was back to just below 17,500' in less than 5 minutes. Unfortunately, the lennie had grown and the base was still a bit below me. I slowed down a bit, then dove toward the start and crossed the line at 15,706' with just a bit over 120 knots on the airspeed indicator. In only a couple miles I was back in lift at 14,500'.

This time, I worked the secondary while staying closer to the course line. At 16,000' about 11 miles from the turn point, I lost the lift and was forced to dive for the primary a little lower than I would like to. It cost me 3,500' to travel the six or so miles until I hit the not too rough rotor lift under the primary lennie. Another mile and things got nice and smooth again. This was the low point of the flight at 12,700', a few thousand feet lower than I would like. The strength of the lift made up for the reduced true airspeed. Even when slowing down in the initial rotor lift, I never got below 100 knots indicated.

I made a wingover pylon turn and while going less than a mile into the observation zone, gained about 800'. The long leg of the triangle was a classic wave run. The air was eerily smooth and air noise in the cockpit seemed low even though I was indicating 120 knots. I explored left and right looking for the best lift, but could not really afford to make big course changes. If I fell out of the lift, it would have cost precious seconds to regain the altitude. In addition, I was climbing at what seemed like a rate that will get me a bit over 17,000' at the second turn. The wave, of course, had other plans for me. About 4 miles out from the turn point I topped out at 17,000' and flew in light sink the rest of the way. This only cost me 1,000' and was worth it, as it put me beyond the north end of the lennie and a little below it.

The 180 degree pylon turn got me up to 17,000' for a brief moment as I pushed back the way I came in order to stay in lift as long as possible before making the dive toward the finish. I managed to stay in good air for about 5 miles while veering a bit off course. Around 16,500', I turned downwind and hoped the air is not too turbulent and that I can find the secondary lift. This was necessary in order to maintain less than the maximum allowed altitude loss of 1,000 meters (3281'). The next 6 miles had me down to 14,000' and seeing sink rates well in excess of 2,000 fpm.

Once in the secondary lift, I managed to gain about 1,000' as I got a few miles closer to the goal. About 4 miles out, the lift ended, and I was back in sink. Luckily, it was not too strong and the finish line was crossed at 13,836' for an altitude loss of less than 2,000', giving me a good altitude margin. The glide computer indicated an average speed of 130 knots or just less than 150 mph, not too bad considering the airspeed indicator never saw much over 120. True airspeed really is your friend.

After returning to the lift and making a nice 10 knot climb back to nearly 18,000', I considered making another run, but decided to leave well enough alone and head back to Kelly Airpark.

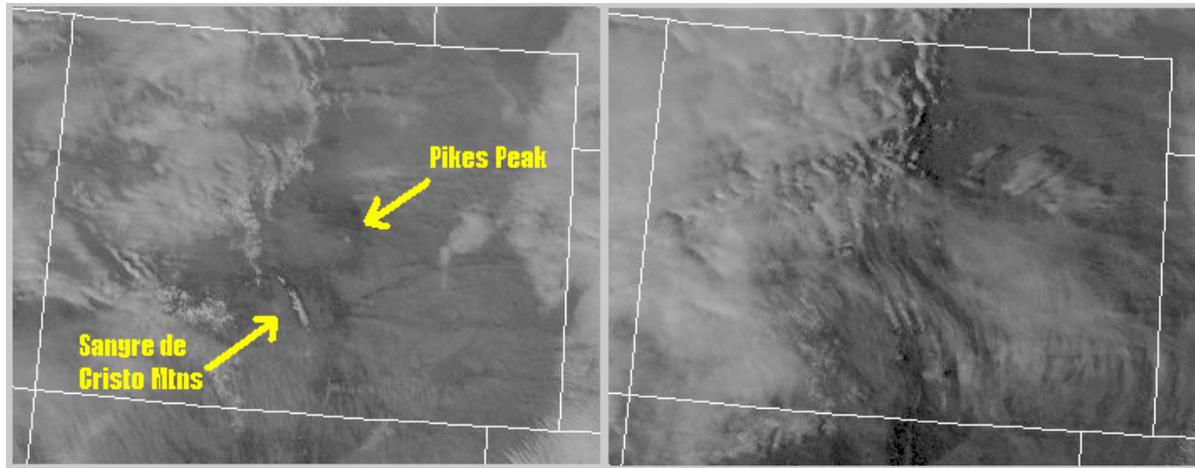
I headed north in the secondary, then spotted a tertiary lennie forming over the Royal Gorge bridge. At this altitude, the sink was not as strong and the glide to the lennie was quite pleasant and cost very little altitude. I slowed down and bounced against the class A ceiling as I headed toward Cripple Creek and some more potential lift. Sure enough, I found an area of smooth weak lift and managed to climb up to 16,700' with a little zig to work the lift. The run to Pikes Peak got me over the ridge about 8 miles west of the peak and still above 15,000'. It was now an easy mile glide back to Kelly.

Near the Air Force Academy, weak wave was coming off the Rampart Mountains and I managed to climb 1,000', back up to 13,800', for a smooth glide as I descended into the stable air mass downwind of the Rockies. I arrived over the airport with 4,500' and a few minutes ahead of Karen. I burned off the altitude by taking some pictures of the airport, reviewing stalls and generally playing around down to pattern altitude.

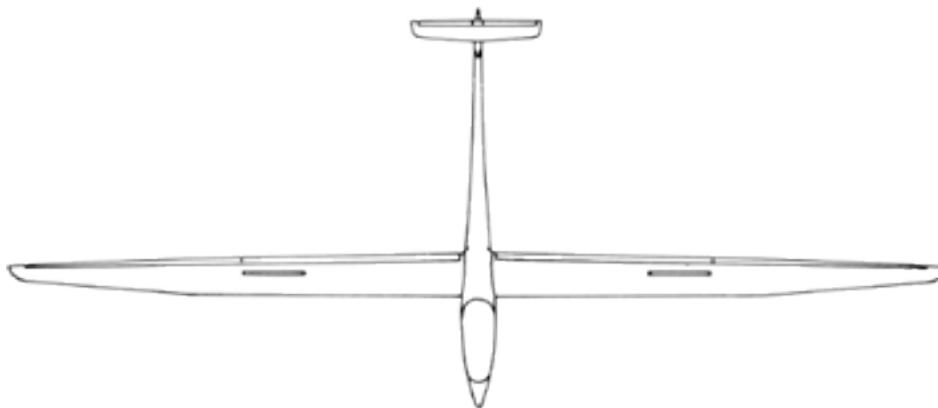
The photo below shows the view from 17,500' shortly after completing the task. I am near the start/finish looking back to the west. The first turn is outside the frame to the left and the second turn is on the right. The base is a bit below my altitude and the 12-14,000' peaks of the Sangre de Cristo Mountains are hidden by the cloud.



On February 19, 2004, the NAA approved the US record claim. On March 24, 2004 the open class speed around a 100km triangle was approved by the FAI. The speed was 151.24 mph or 234.95 km/h.



*The visible satellite images above were captured on the day of my flight. The first one was in the morning and clearly shows the snowcapped Sangre de Cristo Mountains and Pikes Peak. The second one shows two more parallel white lines, which are the primary and secondary lenticulars as they appeared shortly before I started the second lap around the course.*



# **Soaring Safari 2000**

by Dan Marotta and Claudio Abreu

## **Conclusion**

### **Day Two, 2 July**

Claudio: After a pleasant night at Taos, we headed to the airport to launch Dan. According to our agreement, we would alternate flying and towing the trailer and chasing the glider to an agreed destination. Dan suggested that we should go to Cortez, CO where his parents live. This was a 280-Km straight distance. Not much, but the sky was sort of dark to north, northwest. Exactly where Dan was heading.

We assembled the glider; the wind was calmer than the previous day. The take off was uneventful. While Dan was climbing in the vicinity, I hooked up the trailer and headed west on highway 64. Stopped at the Rio Grande Gorge Bridge to take some pictures from the ground and continued. I could see a big instability line over the Carson National Forest, exactly in Dan's course.

Dan: This was to be my third flight in Charlie Tango and only the second under power. I chose to fly to Cortez, CO, because my parents live in the vicinity and I wanted to pay them a visit as I had done on the previous safari. Immediately after Claudio released my wing tip on takeoff, it hit the ground. I had forgotten to use the dive brakes on the initial part of the takeoff run since, in my LS-6 I begin takeoff with negative flaps (left hand full forward). The wide runway and steel skid on the wing tip made this a nonevent.

The ASW-24E has only 24 hp at sea level and is not a stellar climbing aircraft under power. Taos delivered the expected 5 m/s (10 Knot) thermal, however, and climbout was swift. From about 3000 meters above the airport (17,000 MSL) I could see Claudio pulling onto the highway towards the Rio Grande Gorge. Anxious to get under way due to dark clouds to the west, I was dismayed to find that I didn't know how to operate the Zander computer or what was a good thermalling speed. I radioed Claudio for the information and was immediately reminded of why it takes 8 pilots to fly a glider... (One to fly it and 7 to tell him what he's doing wrong!) Everyone within radio distance had a comment about reading the flight manual, hitting the go button, "just go fast", etc. Sorry, guys, I was in a hurry. Flying the glider was easy; flying it well was what I needed help with.

Claudio: We were able to maintain some radio contact, but soon I was left behind as he crossed the T-storm line and continued west. I tried to communicate with him in intervals of 30 minutes, stopping the vehicle, putting the radio on top of the hood and calling him. This was time consuming and labor intensive. We later resolved this inconvenience by buying a connector and hooking up the antenna on the top of the 4-Runner.

Continuing, drive was slow and the road twisting through forest mountains, valleys, more mountains and valleys. I passed interesting named places like Terra Amarilla, Chama, Dulce, and others with their Hispanic names from past times. No contact with my pilot, let's push forward. Driving on Highway 64, I was able to see remote but still beautiful canyons and mountains, lakes and semi deserted areas.

Heading to Farmington, I was going to pass the important city of New Mexico, and head north on Hwy 666 to Cortez. After passing Farmington, climbing the plateau, I entered a new territory; I could see John Wayne or Charles Bronson at any moment riding their horses! This was truly cowboy and Indians scenery. Completely desolated, with peculiar mountains rising from the flat desert. Absolutely beautiful!

Dan: About 50 km (30 sm) west of Taos I was met with a wall of dark clouds and virga. I had discussed with Claudio the possibility of going north towards Alamosa, CO in the event of bad weather since it was the route that had the most airports. Looking southward there appeared to be more sunshine on the ground, so I headed off in that direction. Besides, we had good radio contact and I was unaware of the depth of the canyons that Claudio would be driving through.

After traveling several km to the south, a path to the northwest opened through the virga and I could see sunlight about 25 km ahead. I headed into the rain and sink and kept pushing the speed up until reaching the other side. I was down to about 450 meters (1500 AGL here) but the terrain was falling away to the west with an agricultural valley ahead with several landable fields so I was not concerned with the altitude. Once in the sunshine, a thermal was forthcoming and I climbed back up to about 3000 meters above Taos. I found the airport at Dulce, NM and noted that it had large yellow "Xs" at both ends indicating the runway was closed.

Lift continued to be strong and reliable until I arrived on the east side of Navajo Reservoir and learned about lake effect. The air became extremely stable and I had a smooth glide for several kilometers. I was low enough that I was considering my options: extend the engine and try for clouds in the distance, land at the airport in the state park, or continue to snoop the southwest while keeping the airport in my back pocket. I chose the latter course and was rewarded with the "Hallelujah Thermal" moments before turning back to land.

When I topped out again at around 17,000 MSL, I was able to recognize familiar landmarks in the Cortez vicinity. Upon reaching Durango, it was an easy glide over Mesa Verde with its Anasazi ruins, to Cortez. It was only about 3:30 and I had plenty of altitude remaining for touring but I had forgotten to take a supply of zip-lock bags and was in need of landing. I called my parents inviting them to dinner and began the long wait (over two and a half hours) for Claudio. While waiting for the trailer, I talked to a local pilot from Blanding, UT who had flown his Lark motor glider to Cortez for the day. We discovered that we knew many of the same glider pilots from around the country and around the world who transit the area.

Claudio: After a long drive I arrived to Cortez and headed to the airport. When I turned from the highway, I saw Dan and his Dad driving in the opposite direction. They executed a U-turn and came to meet me. Put the glider in the trailer, while we discussed the strategy that Dan used to cross the instability line. A good dinner and night sleep under the Marotta's roof. Exciting aviation conversation – Joe was a US Air Force mechanic for many years, including WWII, Korea, and Viet Nam.

### **Day Three, 3 July**

Dan: We had a pleasant visit with the folks and in the morning Claudio set out for Richfield, UT by way of Green River, about 450 km (280 sm). We chose that route over the more direct route because there are no roads anywhere near the direct route and a landout could cause tremendous problems. Claudio made several remarks about the beauty of the country over which he was flying. I said nothing about what it looked like from my perspective (mostly canyons and rocks!).

Claudio: My task at my second day of flying was to go to the west, a place in Utah. Following Dan's suggestion, I decided to fly to Richfield UT, by over flying Green River, west of Grand Junction. Total of 450 Km. This way, I would follow the highway north, then turn west or southwest to Richfield, but now parallel to I-70. Flying straight to the west from Cortez, I would be over rough desert with very few roads and inaccessible terrain.

The take off was standard; maybe a little bit too late since we refilled the oxygen bottle at the FBO in Cortez. The day was becoming very strong, thermals up to 6m/s (12 Kts). McCready in 3m/s. I pushed forward, flying as fast as I could. Radio contact with Dan was ok since we have installed the antenna on the roof. Visibility was breathtaking, easily some 150 Km. I could see the mountains next to Monticello and beyond. The Rio Colorado valley snaking in its canyons of red rock was unbelievable with all sorts of blue shades.

Dan: It was an uphill, upwind drive. I stayed in contact with Claudio for the first 2 hours or thereabouts. Each time we spoke he was further ahead of me. The tourist traffic at Moab, UT slowed me considerably but once north of Moab it was smooth sailing.

At Green River, UT the highway sign says that the next services along I-70 are 110 miles away. Believe it! I stopped at Salina, UT for fuel and was down to less than a gallon. Had I run out, I would have had to use the gallon or so of premix that we used for Charlie Tango.

Claudio: After reaching Green River, I decided to fly across the mountains to the west. My altitude allowed me to see the valley beyond (more or less in Huntington direction) was dust devils could be seen forming and reaching an unbelievable altitude. The wind was from southwest and fairly strong.

I had to fly across the Wasatch Plateau to reach Salina and Richfield beyond. I tanked as much altitude as I was able to, this is unknown territory and this was late afternoon with declining intensity thermals. The navigation presented no problem since I could see I-70 exiting the mountains, entering the valley and now heading south.

I arrived at Richfield fairly high because of my conservative way of flying. Flew up and down the valley trying to observe carefully all the features on the ground, traffic, the radio, etc. After contacting the FBO at Richfield, I landed stopping at the intersection of the taxiway because at this time the airport was almost deserted. Pushed Charlie Tango to the overnight apron and waited for Dan to arrive. A friendly Ultralight pilot approached the glider and we engaged in a friendly conversation. To dinner he recommended a restaurant, the Madhouse Cafe, in Salina which was up to its reputation of good homely food.

Dan: Arriving finally at Richfield I found the main street of town blocked by a pre-Fourth of July parade and had to wind through back streets. Finally I was able to ask a policeman blocking traffic to point in the direction of the airport. We got Charlie Tango boxed up and asked a local ultralight pilot for a dinner recommendation. He suggested the Madhouse Café back in Salina and we were glad to have taken his advice.

#### **Day 4, 4 July**

Dan: Claudio asked me if we were going to continue outbound for six days and then trailer home. After some thought and some discussion, we decided to reverse our route so that we each could experience the flying (and driving) that the other had experienced. My task, therefore, was Richfield, Green River, Cortez.

When we arrived at the airport, the previous day's ultralight pilot was just landing from his morning flight. He watched us assemble and load the glider and called his wife to get us the latest local wind report from a local mountain top weather station.

Claudio: The day was promising, the sky cloudless and very blue. Dan took off to the south and turned to the mountains on the west to find lift. Today he started fairly early and took him a good time to climb. I started to drive to Salina and from there to the east on I-70.

Dan: After takeoff, I flew a mile west to the rising mountains where the morning sun was starting the lift. After climbing in a thermal and shutting down the engine, I sent Claudio off on the drive back to Cortez. Working my way north about 30 km I climbed under what proved to be the only cloud of the day to about 1000 meters above Richfield. I headed east across the agricultural (irrigated) valley without finding any lift. As I approached Salina, Claudio informed me that he was entering the mountains on the east side of the valley.

Fearing that I would be unable to proceed, I directed him to stop and wait for my signal to continue. There was no lift in the valley and, not wanting to land after only about 20 miles, I headed into the mountains to the east looking for bare rocks facing the sun. My search was rewarded by a climb that took me all the way up to glide slope to Green River, over 100 road miles away! Knowing that there are landable fields within 20 miles west of Green River, I proceeded with confidence.

Claudio: In radio contact with Dan he asked me to wait until he could cross the valley and climb to go across the Plateau. I pulled out of the road and waited. He was really struggling to climb, but after a while he said he was with enough altitude to proceed. I drove again through I-70 passing wonderful inhospitable terrain. I could see once again the difference between what one sees from 18,000ft and what you see from the ground. Altitude flattens everything!

Dan: Meanwhile, wanting to tease Claudio a bit I radioed that the terrain looked pretty flat from my altitude. He responded that I shouldn't even think of landing on this leg of the trip.

Dan: The run to Green River was quick and uneventful due to my excess altitude. The visibility was so good (in excess of 100 miles) that I could see the landmarks around Cortez from this leg. The temptation to cut the corner was strong but I stuck to the flight plan.

Turning southward from Green River the lift began to weaken and I slowed quite a bit. Claudio was still about 80 km (50 sm) behind me and I hung out at Moab working every thermal with little success. I located the airport at Moab in case I needed to land and decided to continue south looking for lift until I descended to glide slope back to Moab. About 30 km south of Moab, I located a thermal that brought me up to glide slope to Montecello, UT and was able to continue. The slow flying had allowed Claudio to get ahead of me.

Claudio: The area around Moab, UT is beautiful with its red rock canyons and wind-sculptured walls. Made me think of returning here sometime in the future with my wife to enjoy it with more time.

Dan was reporting good thermals but all blue sky. Therefore he kept pushing south but at landing distance to the various airports along the route (Canyonlands, Sky ranch, Monticello, Dove Creek, etc.) Now he could reach Cortez but we didn't want to stay there again.

Dan: About this time a voice came up on the radio asking if I was the pilot from Cortez a few days before. It was the Lark pilot enjoying the afternoon near his home field. We chatted a bit while I searched for lift. He invited me to land at Blanding but I was determined to make Cortez.

Continuing southward I made Dove Creek (The Pinto Bean Capital of the World) and climbed sufficiently to achieve final glide to Cortez. Arriving there at about 5 PM and

with plenty of altitude, I asked Claudio if he'd mind if I continued. He said to continue and that he was stopping for gas. Crossing Mesa Verde and on final glide to Durango, I was in contact with an Air Wisconsin commuter inbound to Durango. The crew was amazed that a glider could travel so far (495 km, 308 sm), especially on a cloudless day. I arrived over Durango at about 700 meters (2000 AGL) and circled down to landing.

The FBO personnel helped me move the glider to the ramp and Claudio arrived shortly thereafter. It was 9 PM by the time we checked into a motel and almost 10 PM by the time we sat down to dinner. Leaving the restaurant we watched the forest fire on the mountaintop started by the city's Fourth of July fireworks display.

Claudio: To try for Durango. Go across the high plateau between Cortez and Durango. He said he would do it. I had to refuel the 4-Runner in Cortez and was much behind him at this time. Finally I arrived in Durango and had some trouble finding the airport, since it is fairly distant from the city. What a great flight for Dan! 495Km in 6:22 Hrs. Tired but very excited to discuss all the flight. To disassemble the glider, look for a motel, have dinner and if possible to watch the fireworks... what a day.

### **Day Five, 5 July**

Dan: The plan for today was for Claudio to fly southeast to Dulce, NM then north over the Continental Divide to Monte Vista, CO, north up the San Louis valley to Saguache, over Poncha Pass to Salida and terminating at Buena Vista where my former gliding partner, now retired, lives. Rigging was uneventful but when Claudio began mixing the fuel he discovered he was short of 2-cycle oil by about 4 ounces. It being over 10 miles to the nearest gas station, I asked the lady at the FBO office if they had any 2-cycle oil.

"What's that?" she asked. "Y'know, you mix it with gas for chain saws, motor cycles, snow machines..." "Oh, maybe what we use in the golf cart will work..." She said it was in the golf cart, to take what I needed, and that I was welcome to take the cart as well to avoid the long walk back to the glider. It's nice to meet people like that on our travels.

Claudio: My last flying day in this Safari I was to fly from Durango to Dulce, NM to Monte Vista, CO to Salida and then to Buena Vista. 330Km and we would have some time visiting with former Dan's glider partner, Walt Lafford. The weather was promising again just like the day three. Even better because I would be flying with wind from West and pushing me in the right direction.

According to the plan, Dan would drive to Dulce then climb the continental divide and drive north to Buena Vista to meet me there. Tomorrow he would fly to Kelly, closing the Safari where it began.

Dan: I got Claudio launched, paid for our overnight tie down and got on the road. There were a few early cumulous forming and it looked like Claudio would have an easy day.

Claudio: Dan has been trying to teach me how to use his hand-held GPS airborne and I took it strapped to my leg. One good feature was that it would provide the closest airport available in case of need. One problem is that this is a rather old model in which the information is not friendly displayed, unless one has been used to it. I took it as a back up for my navigation – the old dead reckons system.

Durango airport is a commercial one with regular jet airlines operating but also used by general aviation. We pushed the glider to take off position between other take offs. I started my roll and let the glider to accelerate, made a regular take off, turned to east and abeam the airport found good lift. Climbed to higher than usual altitude (800m) before retracting engine procedure, and made a quick evaluation of the route ahead. Unlandable terrain as most of the places we have flown over, but the weather seemed to be better than the 4<sup>th</sup> of July.

I could see some clouds forming in the direction of Navajo reservoir, so let's go. During my climb I briefly saw Dan pulling out of the airport towing the trailer. At this time I could not realize that this was my last glimpse of him in this day. The flight to the Navajo Lake showed to be misleading. The forming clouds were beyond reach. The progress was slow and I had to be very conservative because this was a "small pieces" (of glider) kind of land out. "Big pieces" was not an option, either since no place to land on top of tall sagebrush kind of vegetation. I was struggling to keep high but was going down between wide separated thermals. I decided to over fly the reservoir well to the north side to avoid the "sink hole" associated with wet places or bodies of water. So I flew abeam the Navajo strip close to the mountains. So far there was good radio contact with Dan in spite to the fact he was already driving inside some canyons in the way to Dulce. I kept him informed of the situation and worked hard beyond the lake. More of that terrible sagebrush vegetation everywhere. Kept an eye on the GPS monitoring my distance to Dulce.

As the terrain started to rise towards Dulce the conditions started to improve gradually. Now I was able to get higher and higher, already watching the mountains east of Dulce, the continental divide. Close to the mountains I was able to catch a good thermal and get real high. This brought added confidence to me and I radioed Dan my decision to go ahead and jump over the mountains. He reminded me that we would immediately loose radio contact and he would take several hours to climb to the San Luis Valley on the other side. I said that this was ok and we would meet there. I was then at some 16,000ft, well clear from the tops at that stretch. The visibility and the scenery of the mountains to the north were dazzling. One could see for hundreds of kilometers, high peaks to the north and northwest. Lakes on top of the mountains, with no roads in sight. This would be truly a helicopter retrieve. I'm glad that I have a glide reach to the flat plateau of the San Luis Valley with all its round irrigation fields. Now I was able to see the valley and places like Alamosa and

Monte Vista.

I was flying now in strong conditions and getting a very good sequence of thermals. I was with a good ground speed. I had seen a huge dust devil moving slowly on the other side of Rio Grande (small river here!). Would I be able to catch it? Let's try and move to the East Side of the valley. Did not catch it but was now east and approaching the Sangre de Cristo Mountains. Could see the Dunes. Have to make a decision: should I fly back to my previous course or should I try to go all the way home? It seemed to be feasible now – good atmospheric conditions back wind, relatively early in the day, good cloud sequence ahead. Altitude to go across the Sangres.

What would I do about my partner when he would find that I had not landed in Buena Vista? Well, I hope he will not be mad at me. I would understand if it were in his shoes. He will call my house and if everything goes OK, I will have landed when he calls. Only problem will be if I don't make it. Deep trouble in this case.

Dan: As it turned out, the going was slow initially for Claudio and I soon lost contact with him due to the rugged canyons I was driving through in northern New Mexico. I heard from him one last time crossing the Divide, remarking about how beautiful it is. Crossing Wolf Creek Pass into the San Luis Valley a couple of hours later, I hoped to hear from Claudio but there was nothing. I figured he must have crossed out of the valley to the north and was probably waiting on the ground for me at Buena Vista.

After a six-hour drive, I arrived at Buena Vista and found an empty ramp. Where might he have landed? How far back would I have to drive? Per plan, I called his wife to see if he'd checked in. "Oh, yes! The weather was so good that he flew all the way home to Black Forest!" (about 450 km, 280 sm). Another 3 hours to drive...

Claudio: Decision made let's make it as quickly as possible. First let's go across the Sangre de Cristos. No problem with my altitude. Now go across the Wet Valley Mountains where I had been in trouble on the first day and had to deploy the engine. The clouds forming and moving in my northeast course gave me a lot of confidence. I could see already the Pikes Peak in distance. Kept flying, passed Canon City, still excellent climb and stretch flight sequence. Will fly over Cripple Creek, pass Pikes Peak to the west, reach a final glide altitude to reach Kelly, which is 80km from here.

At his point I was completely oblivious of the GPS relying on my dead reckoning of terrain features and monitoring my position on the map. Finally high enough to fly final glide to Kelly I dashed to home airfield. I made it! Not paying attention to the several strong thermals that I went across, I landed relieved. Could have flown much further east. I have reached my objective and was good enough. The Zander computer was showing only 4 hours 8 minutes since my take off on the other side of the state, 430Km of distance! (I was just crossing the Continental Divide at this time – Dan!) Now to call home and let the family know that I am safe here putting the glider in the hangar and tell Dan when he calls. My son Thomas drove me home after the most

beautiful flight of my life.

Dan: Passing through Woodland Park about an hour from Black Forest, I called Claudio at home to congratulate him on his last leg. He was indeed happy with his last flight and offered to crew for me the following day on any task I might choose.

Claudio: Dan made contact with my wife before my arrival at home. Was surprised that I have not landed at the Buena Vista airport. Kathy told him that I was at Kelly. He could drive home and he arrived there after several hours behind the wheel. Later I apologized for not following our plan. I said that I would take the day out to crew for him. We did just that and Dan was able to fly a big triangle next day (475 Km). I stayed at Kelly standing by his call but he came back home with a big grin on his face. What a gliding Safari.

### **Day Six, 6 July**

Arriving at the airport, we spread out the maps and I decided on an approximate 500 km triangle from Black Forest west to Leadville, south to Blanca Peak at the southern end of the Sangre de Cristo Mountains and return. We serviced the glider, loaded the coordinates into my hand-held GPS and towed me to the takeoff point.

After warming the engine, I began what was the longest roll of my life in a glider. Two-thirds down the length of our 3,400 foot paved runway (elevation 7,050 MSL) I eased the glider into the air but did not have enough speed to fly out of ground effect. A couple of hundred feet from the departure end of the runway, I decided to abort and rely on the powerful hydraulic disk brake. I stopped safely at the end of the pavement, moved the ship clear and waited for Claudio to arrive to tow me back for another try.

This time, I waited for a bit of headwind to come up before rolling and made a safe, albeit low, departure. We have plowed fields off the south end of our airport making immediate landouts after takeoff safe. Making gentle turns after getting above 100 meters, I headed for the house thermal. Lift was minimal at first but, as altitude increased, so did the lift. I remained in the original thermal up to about 2,500 meters (about 15,000 MSL) and headed west. I continued for about 30 km into the Ramparts before stopping to thermal again. I rode the next thermal up to 3000 meters (17,000 MSL) and headed across Southpark, a large, beautiful valley surrounded by snow capped mountains.

At the western edge of Southpark, over the 10,000 foot town of Fairplay, I took another thermal up to 3000 meters before crossing 13,185 foot Mosquito Pass into the Arkansas River Valley and to Leadville, my first turnpoint. Turning Leadville it appeared that there was a wave working as there were ragged cumulous in the middle of the valley indicating a rotor. I flew to the middle of the valley but was unable to find anything other than sink and had to retreat to the high ground on the east side of the valley where I found sufficient lift to climb.

The next 100 or so kilometers were spent in dolphin flight, crossing into and across the Wet Mountain Valley and onto the Sangre de Cristos. At about 3,200 Meters (about 18,000 MSL) my oxygen ran out and I had to descend to a friendlier altitude. Since the spine of the Sangre de Cristos averages about 14,000 MSL, I had to cross into the San Louis Valley on the west side to stay low enough to be safe and legal.

It was at this point that I achieved my lowest and roughest part of the flight. I was well below the crest of the mountains and the lift was a mix of thermal and ridge and was extremely tight and turbulent. Due to the turbulence (and proximity to the terrain) I took great care to keep my speed well above normal to preclude stalling. I was well out of radio contact with Claudio but was communicating with a glider flying out of Canon City who was relaying my position to Claudio. My only concern at this point was that if I had to land out, there would be an eight to ten hour retrieve due to all the mountains to drive across.

Persistence paid off and I was able to climb back onto the spine of the mountains. It was at this point that I discovered that I'd chosen the wrong mountain peak off the chart for lat/lon information. While intending to fly to Blanca Peak, I'd entered the coordinates of Crestone Peak, about 50 km north of Blanca. Since there was growing over development at the southern end of the range, I decided to keep Crestone as my second turnpoint and headed towards home.

Crossing the Wet Mountain Valley was uneventful and, at 120 km (75 sm), I began final glide to Black Forest. Approaching Pikes Peak, I decided to circle the visitor center. My usual method is to fly past over a low spot and level with the visitor center, open the window, and whistle. It's amazing watching all the cameras come up! I had sufficient energy to make four circles around the peak and with a final wing rock, headed for home.

Inbound, I made contact with Claudio and began calling out my arrival time in minutes remaining. With straps tightened fully down, I flew over the field at about 50 meters, the Zander beeped indicating arrival, Claudio raised his camera (unfortunately he had no film), and a glance at the GPS indicated 325 kmh (200 mph) ground speed – ya just gotta love those tailwinds and the true airspeed that comes with high-altitude flight! What a perfect end to the safari... Six consecutive days of flying and on each day, our goal was either met or exceeded. I can't wait until next year.