

Southern California Soaring

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Torrey Pines Gliderport: 2007 Report By Ed Slater

Over the last few years, it has become increasingly difficult to obtain the necessary permits to soar at Torrey Pines. The dirt runway is on expensive real estate owned by the University of California. Combine this with the fact that several key agency people in the permit process have either retired or moved on, and this year we had a four month permit process.

Still, when the first good day blows in, it instantly becomes clear to me that it was worth all the effort. The first two weeks of April provided some very good days indeed, and April 12th was outstanding. Our webpage (<http://www.agcsc.org>) has some photos I took from my Mosquito that day along the cliffs, from Mount Soledad and La Jolla Cove to the south of the gliderport, to Solana Beach to the north.

The Orange County Soaring Association (OCSA) joined us on two weekends this year, and brought a 2-33 so we could offer rides to those who helped out with operations. We also had several pilots from the 1-26 Association fly with us as well.

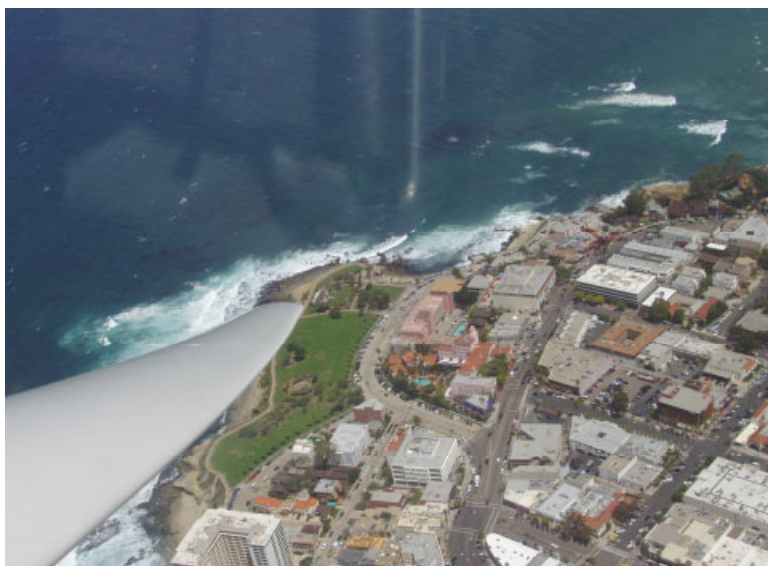
Safety is a major concern for those who fly at Torrey Pines. On good days, this is not much of a problem, as there is very little other traffic -- once the wind exceeds twenty knots, the paragliders, hang gliders, and remote control gliders stay on the ground. For example, on the 12th the only other glider in the air was AGCSC's 1-34, piloted by Steve Pachura, our club's primary instructor. We had a great time racing up and down the cliffs, with side trips to Del Mar.

On the weaker days, the hang and para gliders are seldom a problem, as their pilots understand the rules of the ridge. On the other hand, R/C pilots are standing on the ground, and they lack depth perception. Over the last ten years we have had three collisions with R/Cs that resulted in damage to our sailplanes. The latest was in the last week of March. A lone R/C hit the wing of

AGCSC's L-23 as it was on final approach. Our ship landed safely, but it will be offline for the rest of the Torrey season.

The problem with the R/Cs can be solved if we can keep them out of the "window" where our gliders launch and land. Possible solutions including moving the R/C landing and take off area to another location along the cliff, or grounding R/C gliders when we fly. We do need to solve this particular issue before a serious accident occurs.

Torrey Pines Gliderport is the fifth National Historic Landmark of Soaring -- it was dedicated on June 6, 1992. I was part of the process and was privileged to fly in the glider mail that day. A lot of people were involved in the historical designation process, most notable of them was Larry Fogel. Larry passed away a couple of months ago and I would like to dedicate this article to his memory. I trust that we can get support from other Southern California Soaring Clubs so that we can preserve this historic coastal Gliderport. I know that Larry would concur.



Ed Slater over La Jolla.



Back in the Saddle (BITS) 2007 By Terry Honikman

Saturday, March 24, 2007 saw about 60 soaring pilots gathered on the Cal Tech campus in Pasadena for the 2007 Back In The Saddle (BITS) meeting. Five highly qualified speakers gave seven excellent presentations that were both safety oriented and entertaining. Meetings such as these do not just occur by themselves – there is a serious amount of planning, organizing, contacting, worrying and frustration that must occur to pull off a successful event. Cindy Brickner, Al Cangahuala, Derek Lisoski, Dave Romer and Jim Skydell clearly deserve our appreciation for making this year's BITS the success that it was. Thank you!

Dean Carswell, immediate past chair of the SSA, and an instructor for the Soaring Safety Foundation, visited from his home in Dallas. He opened the talks with a fascinating review of ground launch safety issues, including the effect of a quartering wind and the counter-intuitive responses required to deal with a wing down during the ground roll. Immediate release is required if a wing drops and touches the ground. This is especially true when using a CG tow hook. Always be ready to use your emergency plan.

Cindy Brickner is a Region 12 Director, and a well known instructor and promoter of soaring safety. She and Marty Eiler operate Caracole Soaring at California City. The principal organizer of BITS, she talked about cross country safety. She stressed the need to know all the landout spots along the intended route, and also how to recognize when a potential landout spot is inadequate for your glider. It's all about scaling before you need to land. Road lanes are typically 10 to 12 feet wide, so if there is a road nearby, you can readily compare it to confirm that the strip you are considering is wide enough for your long wings. The same scal-

(Continued on page 3)

SCS Table of Contents

Torrey Pines Gliderport: 2007 Report	1
Back in the Saddle (BITS) 2007	2
Diana 2 -- Pilot Report	5
2007 Texas Soaring Association (TSA) Marfa Wave	7
Antares Electric Motorglider	8
OLC – Final Winter Season Standings	12
Equipment Corner	13
Soaring News	14



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ing can be used to estimate the length of the potential landout spot. You should be able to touch down accurately and manage your approach energy so that you can stop within 500 feet. Practice judging potential landout spots by developing that skill on strips of known dimensions. Cindy also tested our knowledge by showing air-to-ground photographs of landout spots in Region 12. She pointed out, however, that a photograph taken last year may no longer be useful if important details have changed. Stay up to date.

Next up was Derek Lisoski, a commercial glider/towplane pilot. He spoke in detail about communications technologies and methods in both routine and emergency conditions. He covered the full range of possible communication devices including cell and satellite phones. Keep a list of ATC frequencies that you might need to reach – see <http://www.microvoltradio.com/ARTCC/KZLA.htm> and http://www.milaircomms.com/artcc_frequencies.html, two websites that provide a wealth of frequency information. If you get below coverage of ATC frequencies, try requesting a relay by another aircraft already working the frequency you are trying to contact, but be careful not to step on the transmissions. Some emergency communication devices you could add to your list include a whistle, a strobe, a flashlight, signal smoke and flares. Also, a CD can be used as a low cost signaling mirror.

Bill Daniels, glider instructor, came from Colorado to talk about Training and Winch Launch Techniques. He used a rather novel method to make his points by demonstrating a high fidelity soaring simulator. The Condor Competition Soaring Simulator

(<http://www.condorsoaring.com>) started out as a computer game built on detailed, aerodynamically accurate flight properties of several current gliders. Written by Uros Bergant, a Slovenian physicist and meteorologist who is also a glider pilot, the game has become such a good simulator that it is worth buying to keep yourself from getting rusty when you cannot fly the real thing. The simulator demonstrated very graphically the issues that Dean Carswell had addressed earlier in the day.

Prior to an excellent lunch, we were introduced to Kathy Fosha, a member of the Junior US Team. She will represent us in Italy this summer at the Junior World Championships. Kathy lives in Hawthorne, California, and works for Northrop Grumman. An empty container was passed around the room, and by the time it was returned to Kathy, it contained a generous \$550, plus a donation of enough frequent flier miles to get her there and back. The team could still use your financial support, so if you feel like feeding the sport that you love, please send an email to Cindy at cindyb@caracolesoaring.com and let her know what you have to offer.

After the lunch break, Brad White, Region 12 Duster and Libelle pilot, entertained the group with his own, very personal, “Scared Witless” tale. A gripping story about dehydration and hypoxia, Brad told us how he was a test pilot for a company that pioneered the use of small power plants on hang gliders. After a planned demonstration at Bishop was cancelled, his group moved off field to a little-used road closer to the White

(Continued on page 4)



Dean Carswell presenting on the dangers of ground launches.



Kathy Fosha.

Mountains. Taking off from this road, Brad failed to account for significant density altitude, so his take-off roll was much longer than expected. Adding to the challenge was an approaching 18-wheel tractor-trailer rig that had failed to stop for his buddy's hand signals. So the race was on, and while he did lift off in time to avoid a collision, the truck's slipstream played havoc with his control of the powered kite. What followed should be reserved for Brad to tell because no notes could do justice to the way he presented it. If you did not attend, you missed a poignant recollection of tunnel vision, inflight breakup, canopy deployment, vertigo, and happenstance of crew communications that resulted in a tale of terror and teaching.

Dean Carswell returned to teach us about dip angles, and how the concept can help us make consistently accurate patterns all the way to touchdown. The dip angle is the vertical angle between the glider and the aim point. While flying on downwind, the dip angle would continually increase if altitude remained constant. Because a glider loses altitude on downwind, the dip angle remains nearly constant until passing abeam the aim point, after which it would start decreasing as distance increased and altitude continued to decrease. Dean suggested that there is no need to continue downwind beyond a point abeam the aim point. Instead, he said, start a gentle turn toward base, and watch the dip angle flatten. The flattening dip angle guarantees sufficient energy to reach the aim point. During base leg, apply spoilers to maintain a constant dip angle all the way to touchdown. The key to using this method is to be able to sense relative angles from one moment to the next, and to start the process with a dip angle that is close to normal.

Cindy had arranged for Greg Hatcher to visit from the Ontario Tower, but at the last moment he was unable to attend. Cindy boldly stepped to the lectern and took his place. She highlighted both high and low altitude arrival routes, and departure corridors throughout Region 12's busy airspace. By the time she had presented the last of those attention-getting slides, it appeared that there were only two tiny spots left for gliders in Southern California – and that was her intention. She helped to focus attention on the amazing amount of high speed, heavy metal that rockets through the airspace in which we frequently like to play. The midair that occurred just east of Minden last year no longer seemed quite such a surprise after Cindy's presentation. The lessons she imparted included keeping ones head out of the cockpit, using a transponder, being aware of traffic patterns, and talking to ATC. We cannot be too vigilant in taking steps to prevent even one more midair – not just for the immediate tragedy that could result, but for the disastrous effect it would have on our sport.

Between these presentations, several pilots spoke up about issues of particular interest to them. Byron Lowry from the Associated Glider Clubs of Southern California told us about Torrey Pines and the current operations and plans for that historic glider port this year. Of particular interest to me was the comment that motorgliders may operate along the cliffs at any time during the year. They may even use Torrey Pines as an emergency landing spot, however takeoffs are allowed only during the permitted season. There was also a discussion about hypoxia, with Dr. Jim Skydell stressing that one's O₂ saturation level should be maintained above 93% to 94%. Pulse oximeters have been available for many years, however the price of these products has recently dropped quit dramatically. See, for example, this site <http://www.clinicalguard.com/finger-pulse-oximeter-octivetech-300c-p-37.html?osCsid=74b0241d5cfa64ee8d57cab08c190d6f>, where you can purchase a pulse oximeter now for \$154.00 including shipping. Another very vigorous topic of discussion was tow safety signals. Because misinterpretation of signals was central to a recent fatal accident, you can review these signals in detail on page 38 of the April issue of Soaring, or at <http://soaringsafety.org/pilots/ic7.htm>.

Plan to attend BITS 2008, and until then, be actively safe!

Terry is a frequent contributor to SCS, and bases his Stemme at Santa Barbara.



From L to R: Derek Lisoski, Cindy Brickner, Brad White, Dean Carswell and Bill Daniels.

Diana 2 -- Pilot Report

By **Bill Liscomb**

“Whoever designed this will never be accused of copying anybody or anything,” proclaimed fellow glider pilot Bob Backer, visiting while the Diana 2 was being readied for its first flight. That is what attracted me to the Diana 2 – it is a total departure from convention. Decades of designing/building/flying both R/C gliders and hang gliders helped me to appreciate the unique design concepts applied to this little racer. I like stuff that is different.

I picked up the glider in Galveston, TX in the middle of June, 2006, saving about \$1000 in shipping costs and two weeks of time. I got it home, equipped the panel, completed the paperwork, and flew it on June 31, 2006. As of this writing, I have flown it for 28 flights and about 100 hours. Here’s the story.

The trailer is as different as the glider. The fuselage has spar stubs sticking out each side, so the trailer is wider than normal. The spar stubs prevent the wings from resting in the normal location next to the fuselage, so the wings are hung from dollies above the fuselage. The fuselage is held in a dolly that is rolled out of the trailer and onto the pavement about 30’ aft of the trailer for rigging. The dolly is designed for smooth paving of some sort, and doesn’t work well in the sandy soil at Warner Springs. To solve this problem, I made a “rolling kickstand” to slide on one spar stub (see photo), so now the dolly can stay in the trailer.

Once the glider is out of the trailer, the wings are inserted around the spars. The helper on the wingtip doesn’t have to lift much weight, and the root end of the wing feels lighter than the tips on some other gliders. Each wing has one pin. The flaperons and elevator have manual connections with very positive locking connectors. Now that I have a system to assemble/disassemble, it is actually pretty easy and quick. It isn’t better or worse than anything else, just totally different...

Before I bought the Diana, my main concern was, “Can I fit in it?” It is a tiny little thing! The first time I pulled out the fuselage, I thought it was an 80% scaled R/C model. But, at 5’ 10” and 175 lbs, I do fit comfortably in it with my chute. The critical dimension is from your tailbone to the top of your head. If you have short legs and are my height, you may not fit. This is an all out racer with no extra anything, including room. However, I’ve done a 7 hour 53 minute flight and was very comfortable.

I had flown with a side stick before, and the only problem is thinking about it before you fly. Once in the air - no



Diana 2 in flight.



The Diana 2 ready for rigging.

(Continued on page 6)

problem. The pilot position is more reclined than anything else I've flown, which took a short adjustment time. The pilot manual doesn't call for negative flaps for takeoff, but I've found that does really help. The rudder has a pretty high aspect ratio, and is not very effective while the tail is on the ground. Once the speed is high enough to raise the tail, all is well. Add positive flaps, and a view of the tow plane fills the canopy and the glider is airborne.

Off tow the fun really begins! It is easy to fly and the roll rate is downright snappy. As with most flapped ships, as the flaps go farther down, the adverse yaw goes up. But at normal climb/cruise settings it is not noticeable and control harmony is good. I haven't flown with other ships very much, so I can't claim any kind of remarkable thermalling performance. I do know this thing has climbed out of situations where my previous glider, a 304CZ, would have had problems. The flying weight of the Diana 2 (without water ballast) is about 25 pounds heavier than the empty weight of the 304CZ! Empty weight of my Diana 2 with instruments, battery, oxygen, etc., is 433 lbs.

Then, there is the glide. Unreal! I'm still having trust issues with the glide computer. It seems impossible that a 15m ship has legs like this! The factory provides a nice sheet of linear graphs showing flap settings for speeds at different wing loading. The idea with the flap charts is you cut them out and stack them together with a glue stick. As you dump water, simply peel off charts until you get to your current wing loading. The correct flap setting is mandatory to get the best performance from this ship. In March of 2007, I did get to see what a load of bugs does. I checked out my black, fuzzy leading edges, then set the glide computer to 20% bugs and did a 30 mile final glide. I got back to Warner very high, dialed the bugs back to zero, and it showed my actual arrival altitude.



I've done one flight with water ballast. I put in 43 gallons (344 lbs) plus another 12 lbs in the tail, which put me at just under 1,000 lbs (1102 lbs is the maximum). This gave a wing loading of 10.6 lbs sq ft. (the dry wing loading is about 6.7 lbs sq ft). Once off tow, the water transforms the glider into a rocket. I felt like I was strapped inside a runaway locomotive. I flew on August 29th, 2006, a great day in So-Cal, and SeeYou showed two segments over 170 miles with no turns and average speeds 113 and 116 mph.

Landings are easy. I use the +21 flap setting rather than the +28 because of the wind we usually have at Warner Springs. This setting also increases aileron effectiveness while dealing with the normal crosswind shear, thermals and turbulence on final. Wheel landings are the norm – touch down, add full spoilers, put flaps full

(Continued on page 7)

negative, hold the tail off, roll to a stop.

The Diana 2 is small and light, both in the air and on the ground. It is a total blast to fly. Soaring in Southern California is unique in that a pilot can encounter several different air masses in one flight. Without water ballast, the Diana 2 is very capable of handling these conditions. It does very well in small, weak thermals as well as the big rowdy stuff, and has an amazing glide over a wide speed range. When it gets good, simply add water. Lots and lots of water...

Bill was a hang gliding pioneer who now flies his Diana 2 at Warner Springs.

2007 Texas Soaring Association (TSA) Marfa Wave Camp

By Dave Raspert

This year was my seventh trip to the Texas Soaring Association's Marfa Wave Camp. I go to the Camp primarily for two reasons: 1) To fly the Marfa wave and the Marfa dry line; and 2) to watch Dick Johnson and try to absorb as much from him and his flying style as I can.

Held on March 31 to April 7, we had 23 sailplanes flying both the Marfa wave and the Marfa dry line. Six of the 8 days were soarable, with Dick Johnson making the best cross-country flight -- a 697 km OLC flight in the dry line. Three pilots on three different days got above 18k.

We thermal up to the Marfa wave, with the thermal smoothing out somewhere between 11 and 13k, and the lift above that being worked like wave. The top of every thermal doesn't have wave, so it takes patience and persistence to keep trying until contact is made. The wave conditions exist in southwest winds. The nearest geographic feature that could trigger wave is about 30 miles upwind, but I've found that flying upwind is often not a good strategy to get to better lift.

One explanation for the wave is that the wind is shearing between one air mass moving over another at different speeds or slightly different directions. I've never managed to gain more than about 4k before I lose the wave, or it dies out and I have to move on. For example, to gain 15.9k last year I had to make five distinct climbs scattered over a 5 by 10 mile area. The highest anyone has gotten in Marfa wave is 28k. The patches of wave are usually scattered in and around the roughly 60 by 50 mile window that Albuquerque Center provides up to 30k. A very different experience from our Sierra waves at Cal City.

In addition to wave, there is the Marfa dry line. The story goes that it was first identified during WWII when the Air Bases on the eastern side of the line would report fairly high dew points and Marfa would be reporting very low dew points. At first Washington suspected the instruments at Marfa. The dry line exists at the interface between the dry western air and the damp air moving in from the east. The effect is like the sea breeze front or a shear line. The dry line is usually marked by a line of cumulus clouds with bases in the 14 to 18k range running SSE to NNW. The line can extend for hundreds of miles.

As long as I've been coming, Dick Johnson has served as host and mentor for the camps. I try to absorb as much as possible from his practical soaring technique discussions and safety advice. I continue to marvel at his patience, his thorough analyses of a wide range of soaring topics, and his clear enthusiasm for soaring. He is the first to takeoff and flies right up to sunset. After almost 70 years of soaring, you might expect some of his enthusiasm to fade, but it hasn't. After watching Dick for the last 7 years my mantra for practically any soaring situation is "WWJDD?" (JD is Dick's contest number so the mantra translates as "What Would Dick Johnson Do?").

Marfa itself is an interesting town. It mixes the cattle ranching culture with New York minimalist artists and a dash of Border Patrol. There are a number of sights in the area -- a fine observatory in the mountains north of Marfa, various art galleries and institutes and the famous Marfa lights -- mysterious lights that move and dance on the horizon just east of town at night.

Finally, I enjoy the low-key attitude of the pilots that fly the camp. They are cooperative, not competitive. No fussing over

(Continued on page 8)



Desert soaring at Marfa.

take-off positions, lots of reports of the location of the good lift, and so on. Many pilots fly over 30 hours during the week, and say that the Marfa camp comprises the majority of their annual soaring. I flew an extra day this year so I got 35 hours -- a nice early start to my soaring season.

Three years ago Burt Compton moved his commercial operation from Miami to Marfa. He is available year round for instruction, for tows with his 180 hp Cessna 150, and for advice on the local soaring conditions. Burt is very active in the Soaring Safety Foundation and his experience with Marfa goes back to the 60s and 1970 when the World Championships were held there. He can be reached at 1-800-667-9464.



Waiting for launch at Marfa.

Antares Electric Motorglider

By Dave Nadler

The Antares 20E motor-glider project was started to create a pilot-friendly, electric-powered, top-performance 18m/20m glider. I've been interested in this project since I saw the flying test-bed (based on the DG-800) at the Aero 2001 show at Friedrichshafen, and then later the prototype Antares 20E at Aero 2003. The concept was born out of frustrations with the trade-offs inherent in gas-powered motor-gliders. Can electric drive prove practical, as well as providing the efficiency and reliability we expect from electric motors?

On one of my regular business trips to London in 2005, I hopped Rynair down to Frankfurt, picked up a rental car, and drove down to visit the beautiful new purpose-built Lange factory on the airfield at Zweibruecken, Germany. Ola Thorsen, an engineer at Lange, kindly agreed to meet me on a Sunday and brief me. Weather permitting, I would be able to go for a spin So, how does the Antares stack up?



The Antares in flight.

(Continued on page 9)

Safety and Operations Briefing

The safety briefing is detailed and lengthy, covering the numerous systems, safety features, and emergency procedures of the Antares. Actual operation of the machine is blissfully simple. As with all motor-gliders, however, one must be very aware of system operation in case of malfunction. For the Antares, one must correctly and safely manage the available power in the batteries rather than fuel.

While the Antares is simple to operate, there are myriad systems to make it so. Battery cooling during high discharge, battery discharge rates, motor heating, battery cell voltage leveling by automatic discharge, battery heating to nominal operating temperature during flight, and so on. All these things one must understand, though ordinarily no action is required.

Want to fly in very cold weather but avoid discharging the batteries with the self-heaters? It can be done, but understand the limits on available power and/or restart the heating system well in advance of using the prop. And so forth. The dedicated computer screen gives you detailed information about battery voltage, estimated available power, temperatures, etc. Ola's careful safety briefing covers theory of operation, displays, warnings (presented visually and via voice), emergency procedures, and he walks through the entire manual.

Standard operating procedures are really very, very simple. The emergency procedures are not too bad, and many failure modes are carefully non-threatening. Sink rate with the motor out and windmilling is only around 250 fpm, with no major pitch-up or other handling excitement. Learn when to operate the emergency shutdown (fire only), emergency wheel extension, power cycle, what to do if the control computer fails, and on on.

A gust of wind blows through the office, signalling the thermals are starting to kick off. After 3 hours of study, time to get going!

Assembly

The wings are very heavy, being filled with batteries and the battery systems. The glider comes with an excellent self-assembly dolly to avoid lifting the wings, and it was easy to hoist the wingtip out of the trailer and into the dolly. Ola quickly maneuvered the wing around and inserted it, and then repeated with the second wing. He used an assembly tool to easily draw the wings together, line up the holes, and then insert the two pins. No "opposite wing pops out" hassles. Everything hooks up automatically except for the large battery connectors in the wing-roots.

In The Cockpit

The cockpit is big and comfy, even for my 6 ft 1.5 inches. Nice adjustable seat-back and rudders provide seating for people of greatly different sizes and proportions. After the detailed briefing, everything seems familiar. All controls fall readily to hand. Really nice layout.

Start-up, Taxi, and Take-off

It's amazingly painless and quiet to get underway. Turn the key on, push the throttle forward, and in 10 seconds the engine extends and engages and we're taxiing comfortably. No fuss trying to start the engine. Nothing else to do. In the Antares, even the pitot-static switching and microphone switching to the headset mic occur automatically during engine operation. A big improvement!



(Continued on page 10)

Nice positive rudder steering for taxi. It is easy to taxi even with no extra space on the taxiway. No tendency to go up on the nose.

The glider is wide. With 10 meters between main gear and wingtip wheel, one must taxi carefully on the 10.2-meter wide asphalt.

As advised, for my first take-off I accelerate gently. Stick full back as usual with full aileron to pick the wing up. The wing-tip comes up quickly and easily. No flap changes required -- take-off and best climb are achieved with the +2/L flap position, so no need to start with negative flaps.

Raise the tail at about 65 km/h. Some bobble as the tail comes up, looks a bit discombobulated and disorderly. Accelerate a bit more and lift off at around 95 km/h, but perhaps I let it lift off a bit early as my takeoff is unsteady. Ola later kindly attributes this to a bit of turbulence at this point on the runway.

Acceleration and take-off

Climb to 100 meters (safe turn-around altitude), flip the switch on the panel to retract the gear, and throttle back to 100 amps for better efficiency. This power setting seems to impair the climb quite a bit, so I increase power to 110 (at around 275 volts, that is a lot of power). Climb is extremely positive at the 51 knot blue-line. The IGC file shows something like 12 seconds to gently accelerate to lift-off, then 2.9 minutes to 1900 feet, for an average of 650 fpm climb (mostly at less than max power). This climb used about 1/4 battery capacity (which had been topped off to 100% during my briefing).

The noise level during climb is very low, though one should use the provided light-duty headset to be sure of hearing any audio warnings. A big improvement from "use a proper headset when running the engine or you will damage your hearing".



A massive array of batteries are stored in the Antares' wings.



The wings have ample room to store the batteries.

Shutdown and Retraction

To shutdown, just pull the handle back. It is recommended that the pilot confirm in a mirror that the automated system properly moves the prop vertical prior starting retraction. In it goes! Around 15 seconds to clean gliding configuration, with the motion of a single handle. No cool-down time or other duties in the cockpit. In short, easy, painless, and without the gratuitous excitement delivered by some other machines!

Initial Impressions

The Antares handles easily. No problem maintaining proper speed during climb, with only mild trim changes during shutdown and retraction. The first weak thermal is easily managed, though I struggled a bit trying to properly trim the glider.

(Continued on page 11)

In normal maneuvering, the controls are light and harmonized.

There's a customer glider ready for delivery later in the week. It is clearly in need of further factory testing! As duty demands, Ola will join me in around 15 minutes.

Putze around for a bit and get used to the glider, then wander back to the airfield to watch Ola's launch from above. He lifts off without any perceptible bobble raising the tail, so it is obviously possible to do this smoothly with a bit of practice.

A Nice Area Tour

While it is quite hazy, to our surprise and delight it turns out to be a decent soaring day. Can't just hang about Zweibruecken! We head northeast, and quickly find it is possible to run-and-bump with no need to circle.

We make a moderately fast run across a big forest to the town of Landau, near Mannheim in the Rhine River Valley. Stop to tank up in a nice strong thermal, then north along the edge of the high country, and west around the big Ramstein US airbase control area. Further northwest around the Baumholder restricted area, west to the Luxembourg border, then southeast along the French border, across the Moselle river, and head back home, taking care to detour a bit north of course to stay out of the Saarbrücken airspace. Flying in Germany with all the airspace restrictions is like flying through a maze, which makes me appreciate all the more our remaining freedoms in the USA.

On the final leg towards home it gets fairly weak. The Antares is quite nice in the soft thermals (though I'm still fighting a bit with the trim). Maybe I'll just fly local for a bit longer in the gentle evening thermals . . . Sudden immense panic as I realize I'd meant to leave for my return trip already! I'll never hear the end of it if I miss my return trip to London!

Pattern and Landing

Radio the tower, gear down, and dash back to Zweibruecken. Land on the spot, and pull off at the intended taxiway. Oops, it is the wrong taxiway. No problem to instantly raise the motor (10 seconds from clean to power) and fast-taxi to the correct runway exit. The German lady's voice in the cockpit warns me I'm using the motor with the spoilers unlocked, but this seems prudent for a downhill taxiway and the wheelbrake at the end of the spoiler travel! At least I think that was what she was complaining about -- English will be available soon. Easy taxi back to the Lange factory, shortly joined by Ola.

I helped Ola a bit putting the plane away, but had too little time to hang out and ask a million questions. Rush off to return to London, only to find I really did allow excess time back to Frankfurt-Hahn and my flight is delayed by an hour! Just made the last train from Stansted back into London. Time to spare, go by air . . . Regret that I didn't have a bit more time to check out how the glider behaves with the prop windmilling and so forth, but given what I hear from friends of mine who've flown Antares (and tried this) I'm confident its very benign.

Final Impressions

The Antares is magnificent. Handling is extraordinary with roll faster than some 15-meter ships. My intro flight lasted 4:21 for 270km distance by OLC score, but actually more by our circuitous route. The propulsion system is powerful, quiet, and simple to operate. And the glider is easy to assemble and manage on the ground.

Questions/Comments (with replies from Lange)

- The tiny tip wheels and low wing-tip clearance, coupled with ailerons that deflect down at the tip (unlike outboard flippers on some gliders), look really vulnerable to aileron-tip damage. I'd be nervous taxiing other than on smooth pavement.
Lange: *Larger tip wheels are an option.*
- I don't know why I could never get the trim just right in a thermal. A few more flights and I'd probably be used to it.
Lange: *Dave, you clearly need to fly it more!*
- When the vents are closed the glider is impressively quiet. With the vents open, noise is high enough that I had trouble understanding the radio, and it interferes with using the panel-mounted microphone. I found I had to close the vents to use the radio easily. This is going to be a problem in hotter weather. A boom microphone would be better -- possibly the vent noise could be reduced with better intake duct (and maybe exit air) detailing.
Lange: *We will make it quieter and look at moving the microphone.*
- I would want 18-meter tips as advertised, even uncertified, but they aren't currently planned. In USA the 18-meter class is quite popular, whereas open class not so much.
Lange: *We will not certify 18-meter -- not enough demand to pay certification costs. 18-meter tips may be provided as experimental.*

- The manual does not really specify the minimum safe runway length. I consider that to be the runway length to accelerate, climb to turn-around altitude, and then land straight ahead and stop (without hitting anything). What's the number?
Lange: *We will not specify an official number, but rough calculation is around 3000 feet. Of course this depends on headwind and other factors.*

The above was written by Dave Nadler (designer of the SN-10 flight computer) following his first flight in the Antares in September 2005. He liked the glider so much that he subsequently became the American agent, as well as the owner of the first Antares imported into the country. Currently about 35 Antares have been built, with another 35 on order. For more information, see Dave's website at <http://www.nadler.com/public/Antares.html>.

OLC – Final Winter Season Standings

This year's OLC season started in mid-October, 2006, and will end in mid-October, 2007. The halfway point for the season is mid-April, 2007. If the OLC gave awards for the half-year winter season, the final standings would be similar to those listed below. These standings include all flights through Wednesday, April 25, 2007.

Although the vast majority of Southern California pilots hibernate in the winter, these standings show that consistently good cross-country flights are possible in the winter. And, as pilots who fly year-around know, there often is more satisfaction in a 200 km flight in weak winter conditions than a 500 km flight in booming summer conditions.

In other OLC news, the website continues to improve. It now appears that the score for a flight usually is the same whether directly uploaded or uploaded using SeeYou. Also, the website now is enforcing the OLC rules to a better extent, as files that fail validation don't count toward the OLC Championship. They do, however, seem to count in all other categories. Flights of less than 50 points still are being counted despite being displayed in a fainter font in the daily listings.

OLC Champion	Points
Dan Ladd	2085
Gary Ittner	1845
Carl Czech	1800
Greg Arnold	1609
Stan Foat	1585
Bill Liscomb	1508
Steve Mawhinney	1416
Chuck Deerinck	1336
Robert Backer	1171
Scott Finkboner	1127

All Flights	Points
Greg Arnold	4656
Dan Ladd	4598
Carl Czech	2702
Chuck Deericnk	2574
Gary Ittner	2497
Stan Foat	1993
Peter Hartmann	1761
Robert Backer	1648
Steve Mawhinney	1929
Bill Liscomb	1618

Best Flight	Points	Distance (km)
Gary Ittner	468	507
Dan Ladd	454	521
Bill Liscomb	414	511
Steve Mawhinney	403	443
Walt Rogers	396	428
Robert Backer	392	460
Greg Arnold	353	398
Carl Czech	349	392
Bill Richardson	340	414
Kevin Wayt	322	375

OLC-FAI All Flights	Points
Dan Ladd	1231
Carl Czech	1062
Greg Arnold	1045
Chuck Deerinck	770
David Zanze	709

Club	Points
Warner Springs	25682
Hole in the Wall	7611
Santa Ynez	6746
Caracole	2330
Lake Elsinore	2219
Tehachapi	1917

FAI Best Flight	Points	Distance (km)
Robert Hunter	213	243
Steve Mawhinney	194	209
Kevin Wayt	177	205
Gary Ittner	173	187
Stan Foat	170	183

Equipment Corner

Listing of all Schleicher and Schempp-Hirth gliders

For a listing of all Schleicher and Schempp-Hirth gliders built during the past several decades, see <http://www.rcawsey.fsnet.co.uk>. The gliders are listed by serial number and N-number (or the equivalent in other countries).

First ASG-29 in SoCal

The first ASG-29 in Southern California is now flying. It is P7, owned and flown by Gary Ittner.

New Narrow "a" Fuselage Ventus 18 Meter

For those pilots who want a fuselage that fits like a glove, and who are not content with a mere 15 meters of wingspan, Schempp-Hirth has the glider for you. SH has taken the 18 meter flapped wing from the Ventus 2cx and placed it on the narrow "a" fuselage from the Ventus 2a. The fuselage has been modified to include the taller vertical tail of the 18 meter V2cx. According to SH, the new fuselage has a slightly longer cockpit, which gives both more room and better visibility than the previous "a" fuselage.



The new Ventus 2cxa.

Sage Instruments

Pete Russell has sold Sage Instruments to Rex Mayes, Jerry Annoni and Todd Robinson. They will build and repair Sage Variometers at the Williams Soaring Center.

NOAH Bail-Out System

SH has announced that the NOAH is available on all new SH gliders except the Nimbus 4 and those with the "a" fuselage." The NOAH is a device pioneered by DG that uses an inflatable bag to instantly boost the pilot to the level of the cockpit sides to make it possible to quickly roll out of the glider .

Antares Repairs

Thinking of buying an Antares electric self-launcher, but worried that you may have problems getting it repaired? Well, worry no longer. Rex Mayes at Williams Soaring went (with two other A & P's from the US) to Zweibruecken in November 2006 for factory training.

DG-300 Problem

DG recently announced that manufacturing problems at Elan mean that the wingspar on some DG-300's is not as strong as

designed. DG has accordingly reduced allowed speeds and weight. For more information, see <http://www.dg-flugzeugbau.de/holm-dg300-e.html>.

New Instrument Display

Some of the people who used to be at Cambridge – including Dave Ellis and Chip Garner – are now working on a new flight computer with a substantially bigger display than the Ipaqs that we are using now. They claim that the display is readable in any lighting condition. See <http://www.nkhome.com/soaring/soaringindex.html>.

Videos from SSA Convention

Kemp Izuno took several interesting videos at the SSA Convention. See <http://sierrawave.blogspot.com>. The topics include the motorized version of the Sparrowhawk, the Antares, the Diana, the Silent, and the NK flight display described above.

Longer Duo Discus Cockpit

Schempp-Hirth has announced a new Duo Discus which has a fuselage that has been lengthened by 4" in front of the wing. Apparently most of the additional space benefits the rear seat passenger.



The New Duo Discus Cockpit.

Soaring News

Tonopah – Space Still Available!

The Soarfari group will be flying at Tonopah from June 23 to 28. Water ballast and oxygen will be available. There still are openings, but any pilot wishing to fly must submit the \$150 deposit by May 11. If not already a Soarfari member, you also will have to undergo the rigorous initiation ritual (payment of the \$5 membership fee). For more information, see <http://www.soarfari.com>

Three SoCal Clubs Plan “Winchfest” for Memorial Day Week

The “Twenty-Nine Palms Wild West Winchfest” promises to be one of the largest gathering ever of winches and winch aficionados in the USA. Sponsored by the 29 Palms Soaring Club, Associated Glider Clubs of Southern California (AGCSC), and

(Continued on page 16)

Twenty-Nine Palms Wild West Winchfest

Two Back to Back Weekends!
Memorial Day 5/26-28 and 6/1-3
At the Historic 29 Palms Airport



- ✓ Sponsored by 29 Palms Soaring Club, Associated Glider Clubs of Southern California (AGCSC), and Orange County Soaring Association (OCSA)
- ✓ Space Limited, Reservations Required

Orange County Soaring Association (OCSA) the goal is to share best practices in winch launching operations, and to have a safe fun time flying for all.

Twenty-Nine Palms is well known as a training site for the World War II glider pilots. It's also a great soaring location. The county government has recently put a tremendous amount of money into refurbishing the airport, which locals now call the "quietest airport in San Bernardino County." If you haven't been to 29 Palms in the last couple of years, you will be surprised.

The Winchfest will be held on two back-to-back weekends – Memorial Day weekend (May 26 to 28) and the following weekend (June 1 to 3). Extensive information is available at <http://www.ocsoaring.org/Documents/Events/29Webpage.doc>. Camping is allowed on site or in the adjacent Joshua Tree National Park. Space is limited – please email Larswan@aol.com for participating aircraft reservations. Everyone is invited out to observe, learn, and party!

Region 12 Contest Looks For 2007 Site

SoCal Region 12 contest is looking for a site/sponsor for its 2007 Regional Contest. The goal is to move the contest within the Region to different locations to generate new challenges for contest pilots, and to develop contest management experience for clubs and promotional opportunities for FBOs. If your club, FBO, or airport is interested in exploring the possibility of hosting this years R12 contest, please contact Cindy Brickner (cindyb@caracolesoaring.com).

Interactive Mountain Wave Model

An interesting mountain wave interactive model entitled Mountain Waves and Downslope Winds is at <http://www.meted.ucar.edu/mesoprim/mtnwave/>. After hassling with the registration process, click on the "Print Version," and go down to section 4.3.5. There, you may vary parameters for wind speed, mountain height, and lapse rate, and see the corresponding wave profile. Assuming that this model is accurate, stable air is not necessarily desirable for mountain wave. In fact, with the lowest mountain height and lowest windspeed, the model shows the best wave occurring with quite unstable air. The model in section 4.2.3 suggests that with low mountains the optimal windspeed for wave may be between 5 and 10 knots. Of course, the wave will not be booming, but the experience of pilots at Santa Ynez with such windspeeds over a low (1500' to 2500') mountain range suggests that the wave can be sustainable, and even strong at times.

Memorial Weekend at Lone Pine

Caracole is again going to Lone Pine over the Memorial Day weekend. As of Monday, April 23, a slot or two still was open. If interested, contact Cindy Brickner at cindyb@caracolesoaring.com.

Soarfari

Want to fly at places like Bishop, Lone Pine, Tonopah, and Inyokern? Then join the Soarfari group (www.soarfari), which will be flying at all of these locations this year.

Avenal Contest

The Central California Soaring Club's 33rd Annual Soaring Contest will be held on May 3rd - 6th, 2007. May 2nd will be a practice day. The contest will be held at the [Avenal Gliderport](#), 600 La Neva Boulevard, Avenal CA 93204 (notice that by the time they built this road they had run out of names, so they just spelled Avenal backwards). The contest classes are Standard, 15 Meter, 18-Meter, Open, and Sport. For more information, see <http://www.soaravenal.com>.

WSPA Women's Soaring Seminar at Avenal

The annual Seminar held by the Women Soaring Pilots Association will visit California this year. It will be hosted at Avenal from June 18 to 22. For information see <http://www.womensoaring.org> and <http://www.soaravenal.com>.

Southwest Soaring Museum

The Southwest Soaring Museum in Moriarty is looking good, with many gliders on display. The website is <http://www.swsoaringmuseum.org>.

Soar Into Spring

The Orange Country Soaring Association, the Cypress Soaring Club, and Sailplane Enterprises are sponsoring Soaring Into Spring on Saturday, May 5th, from 10 to 5. A good opportunity to introduce a friend to soaring, as glider rides will only be \$55.

Wikipedia Gliding Project

Doug Haluza (also the US's OLC honcho) has undertaken a gliding project on Wikipedia (which is an on-line encyclopedia). The project is described in more detail at http://en.wikipedia.org/wiki/Wikipedia:WikiProject_Gliding and http://en.wikipedia.org/wiki/Wikipedia_talk:WikiProject_Gliding#Things_to_do. Doug is looking for help with the project.



Southwest Soaring Museum

Bill Aronson

Bill Aronson died in a Las Vegas nursing home during the night of February 5th. He had suffered for years from Parkinson's disease. Bill was a Schweizer glider dealer and flight school operator as Aronson's Air Service. In his later years he transitioned Rosamond Airport into the Rosamond Skypark.

Bob Fronius

Bob Fronius, an El Cajon resident, died Feb. 9 at a nursing facility in Rancho Bernardo. He was 91. His life revolved around aviation, first in the Navy, then later as a parachute maker, aircraft mechanic and sport aviation enthusiast. He was an avid hang glider who made his last flight at age 68, and who continued to pilot sailplanes at 80.

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Thanks to everyone who helped with this issue.

To all Region 12 members: Many soaring-related businesses support our efforts to revitalize and enhance soaring activities by advertising in Southern California Soaring. Please do your best to return the favor.