

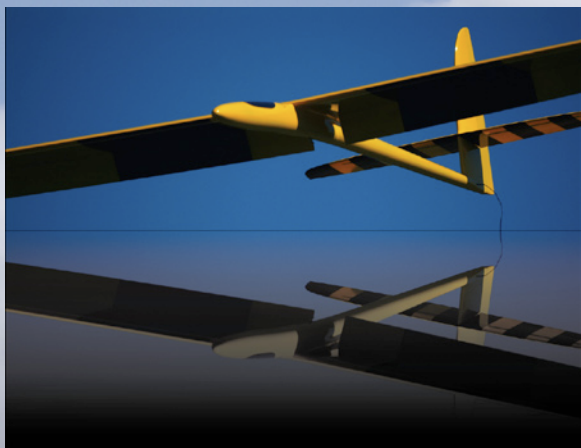
Radi■ C■ntr■lled
SoaringDigest

April 2009

Vol. 26, No. 4

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Front cover: Andy Page's Pike Perfect, flaps down, on approach at 60 Acres South. Photo by Bill Kuhlman
Konica-Minolta Maxxum 7D, ISO 100, 1/640 sec., f8, 500mm

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Canon EOS Digital Rebel XTi, ISO 100, 1/320 sec., f6.3, 300mm

R/C Soaring Digest

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In the Air

Materials have been arriving in a near constant stream since the March issue went on-line. This issue includes contest coverage, two record attempts, news items and announcements, converting a powered plane to an aerotow tug, the future of F3K (RC HLG) in the U.S., the availability of free plans for scale sailplanes, and the latest in hi-tech full size sailplanes. We were totally swamped with photos from a large number of sources, some anonymous. If we missed crediting your photography, please accept our sincere apologies.

Our local club in Port Orchard has been putting on indoor fun-flies on a semi-regular basis over the last couple of months. Several Vapors are brought to these events, along with the small foam Cessnas and electric helicopters. Additionally, there are usually quite a few machines which are small, lightweight, and incredibly inexpensive. One hovering low aspect 'ship, much like a single motor version of the Zimmerman "Flying Pancake," cost the owner under \$5.00. All of these aircraft are powered, and so one of the events that has been discussed for future meets is indoor RC towline glider, similar to FAI F1A. Fred Rutan, club president, has already investigated several construction techniques, and we completed a stick and tissue model which glided well but couldn't take the stress of towing. Once the club gets a few successful gliders operating, there will be plenty of substance for a presentation in *RCSD*. Time to build another sailplane!

My Trip to Windward Performance

Scott Fletcher, 211fletcher@bellsouth.net



At the 2008 SSA convention in Albuquerque New Mexico I attended Greg Cole's presentation on the new 15M sailplane he's building called the DuckHawk. The presentation piqued my interest and I managed to retain the knowledge that the DuckHawk is an American name for Peregrine Falcon, the fastest moving creature on earth, and that Greg Cole's sailplane factory is in Bend Oregon.

Other details stuck with me too, like an L/D of 52/1. Minimum sink is 111 fpm; empty weight is 300 lbs, and this Hawk has an aspect ratio of 30.0:1. The 200 kt. VNE would make for one hot smoking final glide.

When business took me to Portland Oregon last Fall, I realized I'd be fairly close to Bend. A few phone calls got me an appointment with Greg Cole, president and creative force behind Windward Performance Ltd, DuckHawk's creator as well as builders of 11M span SparrowHawk.

Greg Cole has been building and flying his designs since he was a kid. He has a BSME from the University of North Dakota, and a MSAE from Notre Dame. He holds a US patent on propeller design. His work experience includes the McCauley Propeller Company, Columbia Aircraft Company (chief Engineer), Cirrus Design, Lancair, and Adam Aircraft. He has made significant design contributions to several different

aircraft including: the Lancair Legacy, the Lancair Evolution, the Columbia 300, the Chanute, the A500, and of course the SparrowHawk which is the only U.S. designed sailplane to hold a world record in 30 years. The Columbia 300 bears mentioning again as it was the first new design certified by the FAA in 17 years, and it was a full composite airframe from a new company.

For those of us that live in America's South, the drive from Portland to Bend is simply amazing. In South Carolina we drive in one green tunnel of pine trees after another, and while we have mountains, they don't have snow on them in early September like Mount Hood. The drive down through the high desert is truly beautiful - just don't try to pump your own gas. Oregon gas stations are required by state law to be full service.

The modern sailplane is one truly amazing piece of machinery. They may look simple but they're among the most sophisticated aircraft flying. I learned to fly in a Grob 103. My first single-place glider was a 1968 Open Cirrus with massive fiberglass spars, fat wings, and heavy enough to send everyone on the field running the other direction any time you pull your trailer into the assembly area.

I moved up to a mid-80's LS6-a, and began teaching students in a 2-33. The historical progression from the 2-33 and

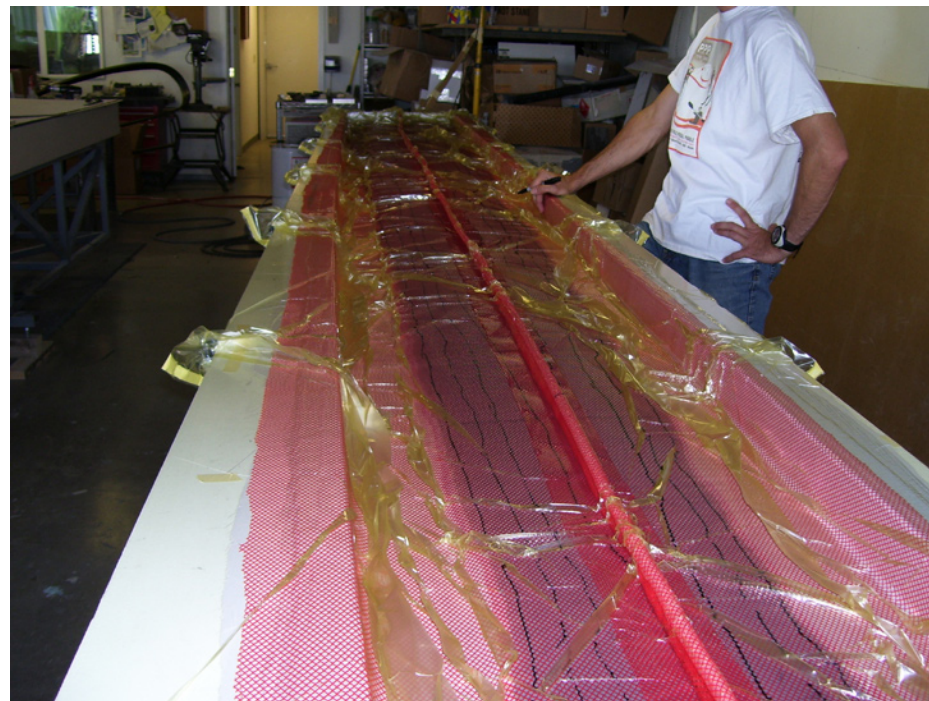
its flying barn door performance, to a first generation glass ship like the Cirrus, a second generation glass ship like the LS6-a, and a modern glider using knife-like laminar flow wings is exciting to experience firsthand. One of my friends sums it up saying "These new planes just do what you want them to do so much easier, and they do it so much better."

Improvements in modern sailplane performance have been driven by advances in materials, a better understanding of how to design aerodynamic structures with these materials, computer modeling, and leaps in understanding aerodynamic principles. Most modern sailplanes, with the exception of Windward Performance's aircraft, are built with a wet, room temperature cured, epoxy resin layup using glass, carbon, or Kevlar fiber reinforcement. The reinforcing cloth is laid into the mold by hand and the epoxy squeegeed, or painted on. This type of construction process was quite an advance over previous wood and metal construction and quite a bit better than "fiberglass" or polyester resins or even the vinyl ester resins, but still imposes several limitations on how strong aircraft parts may be made.

When the resins cure at room temperature there is fairly short amount of "out-time" - the number of minutes workers have to craft the part before the resin curing process begins.



Exterior of a wing mold.



Structural components are vacuum bagged and autoclaved.

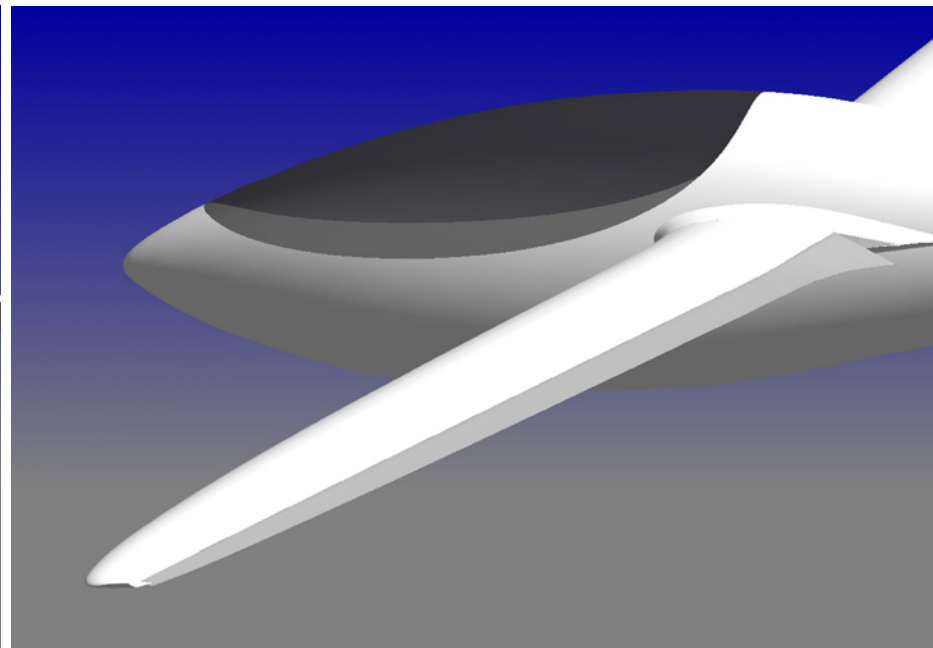
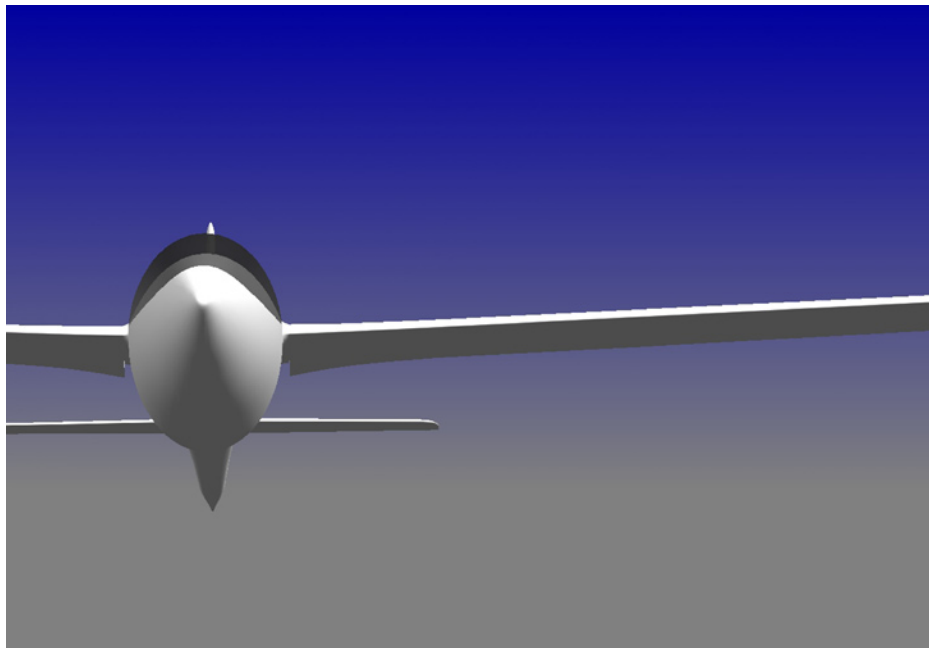
Complicated multi-layer layups have to be done quickly. Yet fiber orientation and wetout are important in critical aircraft applications. As a result room temperature resin application often means a heavier composite structure to maintain structural safety. The room temperature curing of resins causes the finished part to lose structural integrity rapidly at temperatures over 140 F, which is why modern composite sailplanes are painted white. If they were painted black or even red they would heat up under sunlight and lose structural integrity.

Thus Cole's Windward Performance is the only sailplane manufacturer I'm aware of to use sophisticated prepreg oven-cured carbon fiber construction. Prepreg carbon fiber is produced in a factory by sandwiching a carbon fiber cloth between two epoxy resin sheets, the sandwich is then run through high-pressure rollers. The high pressure insures an even and complete epoxy coating of the fabric with the ability to very precisely control the ratio of resin to fabric. This allows the composite's weight to remain low but optimized for strength with very tight tolerances.

Once the fabric is epoxy coated it is refrigerated for storage and transport, greatly retarding the start of the curing process.

Since the resin does not cure at room temperatures there is much more out-time in which to lay up the prepreg material in, say, a wing mold, while avoiding mistakes from rushing. There's more time for forming complicated multi-layer configurations.

In Windward's aircraft, the prepreg layup is vacuum-bagged to ensure all air is squeezed out of the layup and the



entire assembly goes into an oven to cure at high temperatures. The benefits of all this are lighter, far stronger and stiffer composites with a much larger temperature operating range than conventional wet layup composites afford.

Given these advantages, and given Greg Cole's expertise and obviously high standards of craftsmanship, it became clear why Windward Performance uses prepregs, and why they result in the DuckHawk's performance advantages.

A winning 15M racing sailplane moves around the course in the least amount of time with the highest average cross country speed. The key to obtaining that is, naturally, minimizing the time

you go slow. Climbing well and going fast between thermals sounds easy, but mastering this simple concept is far from easy. Most of us with modest skills in this area could use all the help we can get from the aircraft.

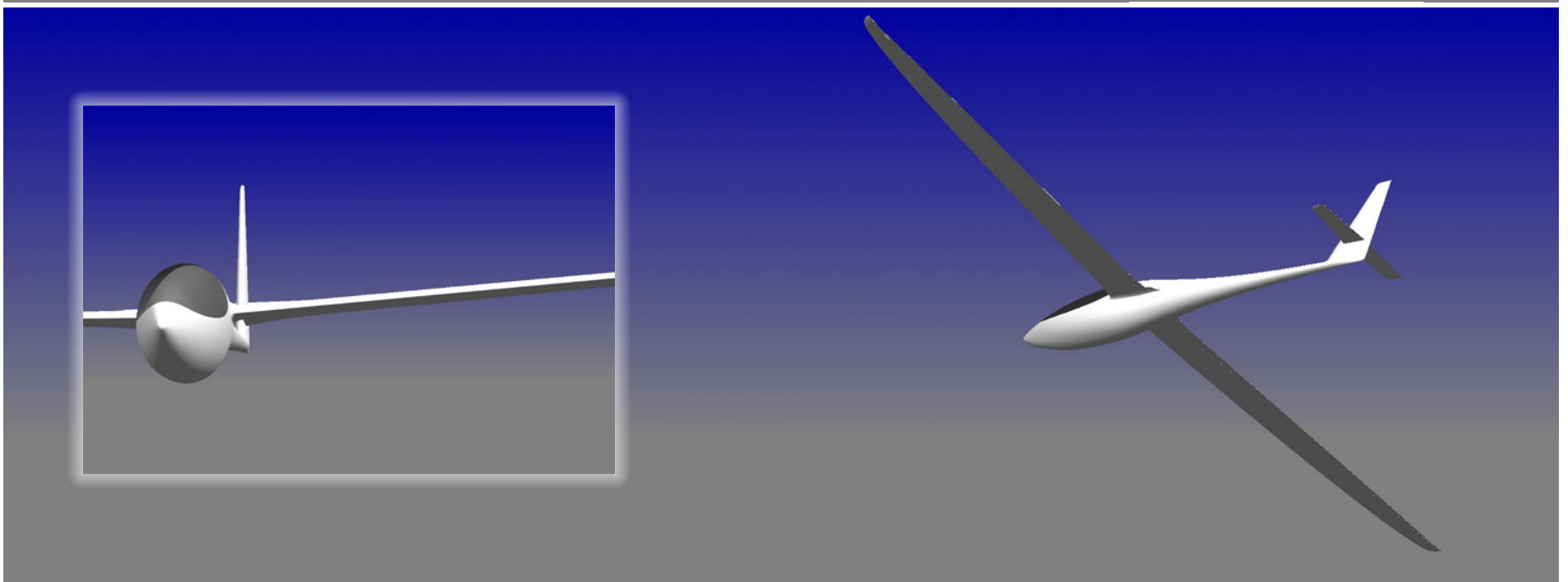
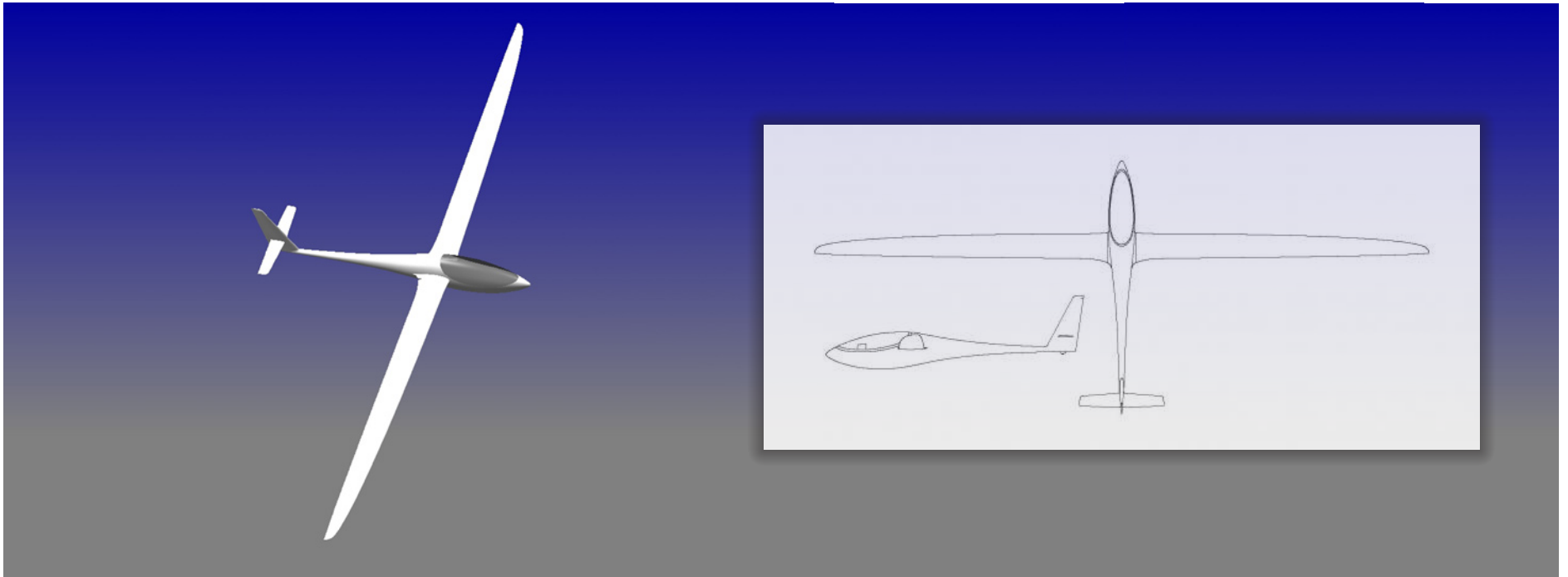
The modeling of average cross country speeds with different atmospheric conditions allowed performance simulations of different design iterations to be run and small improvements or losses to be determined. The accuracy of modeling new designs was, for Cole, validated by modeling current designs with known performance characteristics.

Designs that can be made light with small wing areas offer improved performance over conventional designs

especially in tough conditions. Tough conditions – small thermals, weak lift, headwinds, etc. - seem to have a far greater negative impact on my contest results than do the positives of favorable conditions.

Cole's calculations show soaring with the ability to fly well with low lift coefficients can also give the ability to go fast at relatively low wing loadings, meaning faster average cross country speeds. The results of the modeling process indicated an optimum with a wing area of 80 ft², and a wing loading of 8.75 lbs/ft².

Determining the optimum airfoil also benefits from Cole's computer modeling process. Structural constraints start as the wing area drops below 90 square



feet, and wing volume available for ballast drops rapidly as well. As wing area decreases, the Reynolds number goes down and achieving low drag at high and low lift coefficients becomes more and more difficult.

Good stalling behavior is another factor Cole considered. Amongst all of the airfoils designed the final airfoil selected for the DuckHawk is the CS33-18;

it allows the aircraft to fly at low lift coefficients at high speeds as well as at high lift coefficients at low speeds. Winglets were considered but an evaluation of their negatives and benefits indicated the DuckHawk would fly better without them when real world soaring techniques were considered.

State of the art performance is what Cole is after here, plus safety and relative affordability. The 30:1 aspect ratio and its razor thin wings are an obvious clue this is not your generic modern glider. Eighty-pound wings will be appreciated

by everyone during assembly. Eighteen-meter L/D performance with a 15-meter wing span will result in lower drag while circling and this plane should climb like a bandit.

The ship's lower mass will give it an induced drag advantage of 29% compared to today's 15m sailplanes at equivalent wing loadings. That means better climbing. Lower wetted area means lower parasitic drag and improved high speed running. A wing loading range between 6.25 and 10.0 lbs/ft² will give it ability to adapt to a wide variety of soaring conditions - a plane that will get you quickly around the course on the tough days and fly faster than anything else out there now on really good days.

Before my trip to Windward Performance I was unaware of the complexity of the sailplane manufacturing process. The plugs and molds required to produce a sailplane fill a good sized warehouse even without working room around them. The design and production capabilities

of this small sailplane operation were a very pleasant surprise. This is a small operation but it possesses world class design talent and state of the art manufacturing processes. While I love my German sailplane and fully recognize the abilities of the established sailplane manufacturing companies, I find myself rooting for the underdog home team in this case.

The first DuckHawk should take to the air summer 2009, and I look forward to seeing the finished product. In addition to the DuckHawk, Windward has a few other products currently in the works. They are currently building the Perlan sailplane designed to take two people to 90,000 FT. The Windward Goshawk, an electric aircraft, is also being built. Advances in composites are ushering in a new era in aircraft innovation and thanks to Greg Cole's love of soaring we get be benefit from his creativity, with an exciting new American sailplane.



Scott Fletcher has been soaring for five years, competing for three, and instructing glider students for one year. He is president of Carolina Soaring Association flying out of Spartanburg South Carolina, a 35 member club that has won the OLC contest for SSA Region 5 for the last two years.

In everyday life, Scott is the CEO of Mechanical Equipment Company, selling pumps, heat exchangers and process equipment in a variety of commercial, industrial and municipal markets.

E-Tsotsi sets new South Africa electric glider XC distance record

Piet Rheeders, pietlewis@absamail.co.za



Some time ago Evan Shaw asked me if I would like to go to Volksrust in February, as the MGA calendar showed only RES and Postal club competitions.

Anyone who has done any slope flying before will think twice before declining an invitation like this. At work, Philip Otto also wanted to go and his intention was to take his whole family.

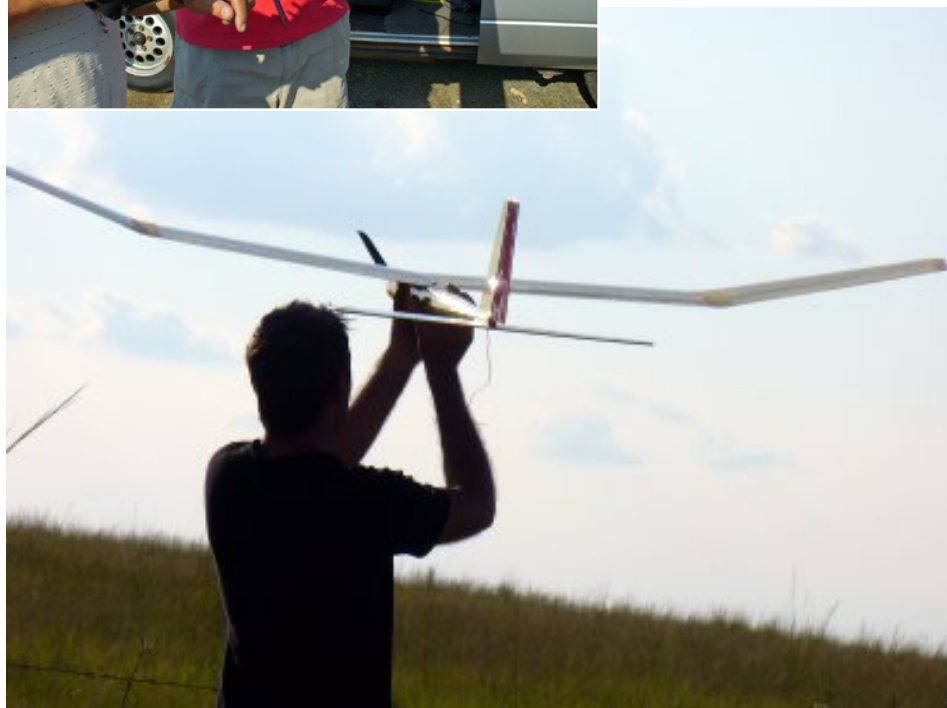
I had recently just finished my E-Tsotsi and knowing the conditions on Volksrust can be light, it was a sure selection to go with.

Lately there had been a lot of discussion on the MGA chat group about South African records. More research showed that there was no official XC electric glider record. So I decided to give it a go and try and establish a new SA Electric Cross Country glider record.

I informed the MGA of my decision and they gave me the go ahead. I had more than one course in mind and the one that I would use would depend on the wind on the day. We arrived later than normal at Volksrust at around 12PM to find a nice NW wind blowing up the slope. Philip, Izak and Norbert were already having great fun.

I had one flight with my 2M CMP Omie and then did a test flight with my E-Tsotsi to confirm trim settings, CG and range. Everything worked okay and I landed to recharge the lipo battery for the intended distance attempt.

Shortly before 4 PM the wind dropped and swung from NW to West. At this stage I realised that the conditions below the mountain on the flat field would be perfect for the XC attempt with plenty of daylight left to do the run. We packed all our slope gliders first and left the E-Tsotsi to pack in last. We descended the mountain to the start point. Evan assembled the E-Tsotsi (In the upper photo you can see the northern side of Tamatieberg in the background.) and at 5.51PM James Shaw my Spotter/Timer/Helper launched the electric E-Tsotsi on its way.



There was hardly any wind, but while flying the course I could feel a slight crosswind from a westerly direction. This I countered with the rudder when needed.

At this stage of the day I did not expect any major thermal activity and on my first glide down James informed me of birds circling straight ahead on my glide path. I opened the throttle for a brief run. The end result was that the E-Tsotsi shot up and must have gained 100 meters or more with only a five second run without any circling. This gave me at least a 7 km distance gain.

Meanwhile, Evan settled down to a steady 45 kph with the Garmen GPS displaying the actual and average speed as well as distance traveled.

Behind me, Robyn, James' girlfriend, was taking pictures as we moved along.

Above us slightly to the left the E-Tsotsi was flying like it was on rails. I can only attribute this to the fact that the air was very stable and smooth. Charl describes it as "Campaign air."

Every time, after a motor run, the E-Tsotsi would descend to a certain height and then, as if it was floating on a cushion of air, would maintain height, refusing to come down.

It was these conditions, plus the lack of sink, that made the kilos go by, and never did I once circle to try and find lift.



On the road, averaging 45 kph, with the Tsotsi overhead and slightly to the left.



Above: James scanning ahead for any lift or obstacles.



Right: Amersfoort - Straight ahead

Below: Evan driving - Nice paved tar surface all the way.

It was not long before we passed our intended landing point of 25 kilometers. With the conditions being very good, I decided to carry on and 6 km later flew past the town of Amersfoort.

Unfortunately, 4km after Amersfoort we were forced to come to grinding halt, with a Stop/Go traffic control not in our favor.





Me, craning my neck out the side of the Kombi while James checks the GPS.



I got out of the Kombi and circled overhead while waiting for the light to go green.

After a while I had to make the decision to end the flight as I had no telemetry equipment on board and could only tell from the last motor run that the battery pack was nearing the end of its charge. Never mind the fact that any cars approaching from behind would not appreciate the fact that we would be crawling along at 45 kph on the narrow single lane.

The landing presented no problems and just under a hour after take off, much to the delight of all the occupants of the cars that lined up behind us, I landed the Tsotsi in a field next to the road.

The whole team shook hands and while Evan and I recorded the GPS information, James and Robyn dismantled the E-Tsotsi.

All the relevant information was forwarded to the MGA for ratification and acceptance of the attempt.

Only on the way back did I realize how far this little two meter plane had gone. As we returned to Oom Louis' place we saw a typical sunset scene that just put the cherry on top of the cake of a really flawless flight and just a great team effort.

To Evan, James, Robyn (for all the lovely photos) and Kayleigh (for refreshments) a big thank you for assisting me with this flight. You all are definitely on my list for the next attempt.

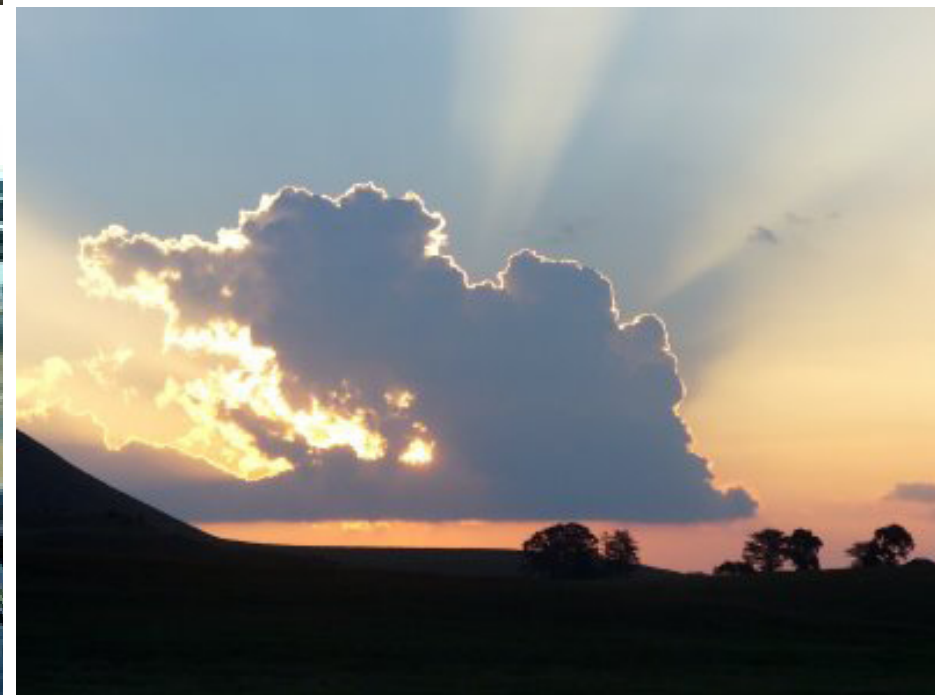


Upper Left: Circling, waiting for the light to change.

Above: Touch down!

Left: GPS data

Below: The sunset that finished the day.





For the Record

Distance flown in a straight line: 35.1 km

Distance traveled by road: 36.3 km

Time: 53 min. 59 sec.

Moving average by road: 43,1 kph

Number of motor runs: 6

Total accumulative motor run time: 5 min. 59 sec.

Ratified by MGASA 18 March 2009

GPS data

Start point: S 27,17,117 E 29,53,786

End Point: S 26,58,16,7 E 29,51,502

Equipment used

Battery: Lipo 2100 mAh 3-cell (11Volts)

Motor: Scorpion brushless motor 550 watts

Speed control: Scorpion 35A

Prop: Graupner thin electric folding prop, 13X7

Servos: 2 x GWS, 1.3 kg

Rx: JR 770RS

Tx: JR 9x2

Tsotsi Airframe Data

Wing span: 2 meter

Wing area: 44.16 sq dm

Total weight: 1080 grams

Wing loading: 24 gms/sq dm

Aspect ratio: 9.24

Designed by Evan Shaw 2003



Kinetic 100 does 392 mph on second day of flight

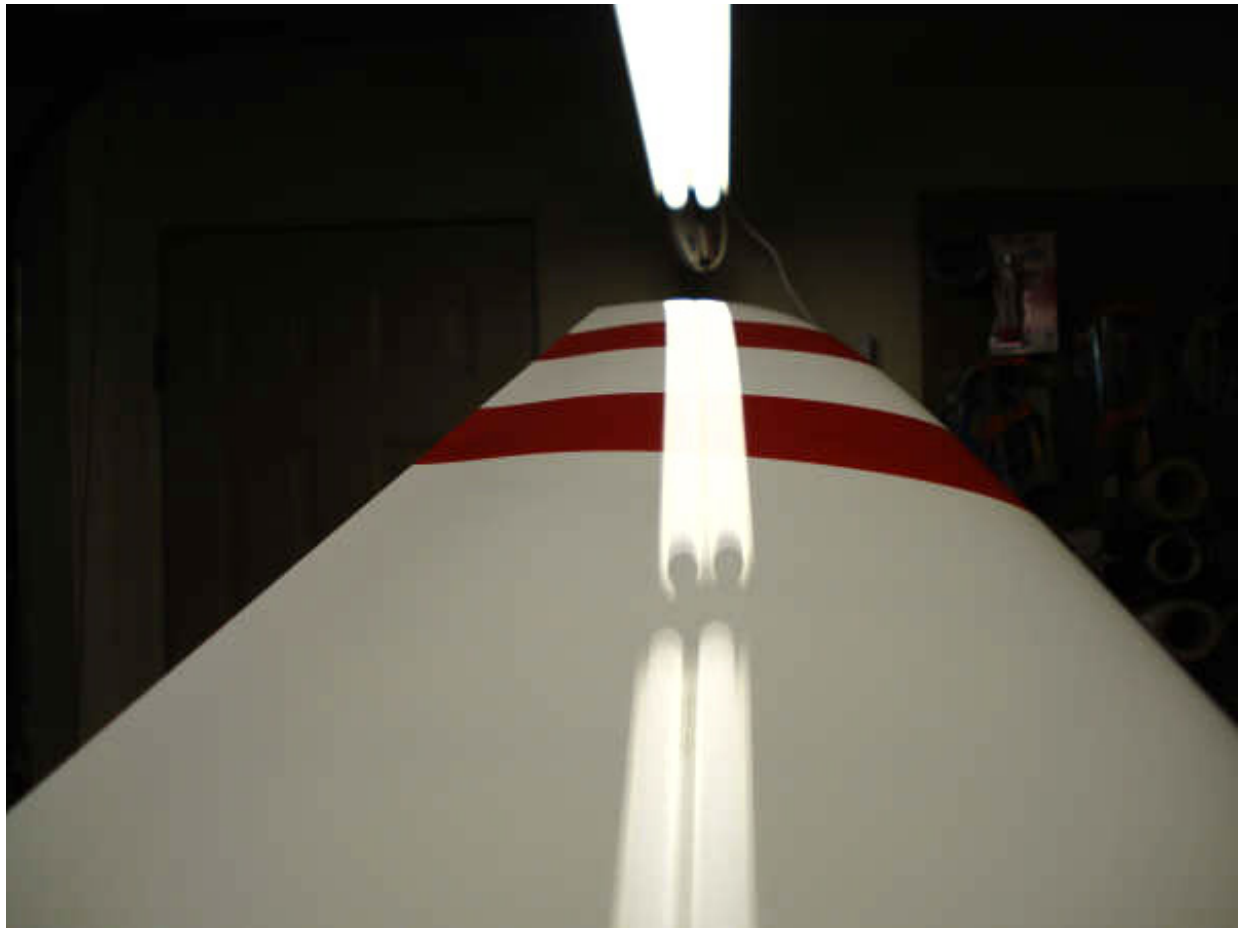
On March 9th, a CyberModelle Kinetic 100 piloted by Spencer Lisenby was recorded at a new record speed of 375 mph, then again at 392 mph.

Photos and videos at <<http://www.rcgroups.com/forums/showthread.php?t=1014375>>

Direct link to the video mentioned above: <<http://www.youtube.com/watch?v=WaQB16ZaNI4>>

Steven Seim's CyberModelle web site: <<http://www.cybermodelle.com>>

Steven's personal web site: <<http://www.stevenseim.spaces.live.com>>





Hybrid Kinetic 100
Fuselage is Version 1, wing and stabilizer are Version 2.
The revised wing and stab section came from Delft in Germany.



Jaro Ufer, Spencer Lisenby with Kinetic 100, Matt Desantis, Marlin Muir



THE MODELFLIGHT PARKZONE RADIAN CHALLENGE

Greg Potter, gpotter@opalibusiness.com.au



Today (February 2nd) saw the inaugural running of the Modelflight Parkzone Radian Challenge, an event specifically for the Parkzone Radian 2m EPP foam electric glider.

The competition is based on a simple set of rules that only requires one stopwatch. All models are launched at the same time for a 15 second motor run. A countdown clock is then started for a five minute flight time. Models must touch down in a nominated landing zone before the five minutes is up. Points are awarded based on the landing order, regardless of time. A one point penalty applies to landings outside the landing zone and a two point penalty applies to touchdowns after the five minute time. Models landing within a second of each other (i.e.; where it is not clear who landed first) are awarded the same points.

The day delivered perfect conditions for this model, sunny with a few clouds, very light breezes and good thermals. Every heat saw at least one model and sometimes up to five landing on the five minute mark.

Everyone flew in a spirit of fun. For one pilot it was his first time flying a fixed wing model after five years of flying helicopters. For another it was the first non-serious gliding event he had flown (Nick Chabrel, who represented Australia at the last F3B world champs). We had

A one design fun competition

one female flyer who did very well in her first flying competition.

Mike O'Reilly, the Managing Director of Modelflight (the Australian wholesaler for Park Zone and sponsor of the event) and five of his staff members competed.

In all, 13 starters flew five rounds of two heats during the morning, interspersed with rounds of the local Electric Thermal competition. Next time we plan to fly a single heat with everyone up together.

The Radian is a perfect model for this type of event. It is readily available in two packages — one complete package with everything you need to fly, or one that does not include radio gear, battery and charger for those with their own gear — spare parts are readily available, they are relatively cheap, and most importantly they fly superbly.

For someone like me who does not generally like “foamies,” this one is an exception. I love flying it. They take 10 minutes to put together out of the box and they fly with very minor trimming, a bit of down elevator with throttle and that's about it. They get to about 400+ ft in 15 seconds and they are very sensitive to thermal activity. It is not uncommon to thermal away from 20-30 ft. I did it once today where I was very low with three minutes to go and found a small bubble and worked it around and up and made five minutes with height to spare.





Above: Campbell is off as Kevin launches.

Opposite page:

1. Robert Gunn looking for signs of lift.
2. Chris Carpenter with his very colourful Radian.
3. Brad Merrywether ready to launch
4. Campbell waiting for Dave Whitten to fly his Radian.

Radian Challenge February 2009

Round	1	2	3	4	5	Total	Place
Mark Stone	7	4	7	7	6	31	1
Greg Potter	7	3	7	6	7	30	2
Murray Scott	5	4	7	7	6	29	3
Brian Lockett	4	6	7	7	5	29	4
Chris Carpenter	6	7	2	7	6	28	5
Nick Chabrel	4	7	4	7	6	28	6
Mike O'Reilly	5	7	6	7	2	27	7
Brad Merrywether	4	7	3	6	4	24	8
Sam Ibberson	6	5	7	5	0	23	9
Robert Gunn	2	1	7	4	5	19	10
Kevin Bartlett	0	5	5	4	4	18	11
Klaus Rudolf	3	6	0	0	0	9	12
Dave Whitten	2	2	0	0	0	4	13

NASA FLYING WING MODEL SOARS INTO NATIONAL AIR AND SPACE MUSEUM

RELEASE: 09-044 Beth Dickey, beth.dickey-1@nasa.gov and Kathy Barnstorff, kathy.barnstorff@nasa.gov

WASHINGTON -- A flying model NASA built to research futuristic aircraft designs will spend its future in the United States' premier air and space museum. The 12-foot wing span blended wing body, or BWB, model, used during wind tunnel flight tests at NASA's Langley Research Center in Hampton, Va., is on long-term loan to the "How Things Fly" gallery at the Smithsonian Institution's National Air and Space Museum in Washington.

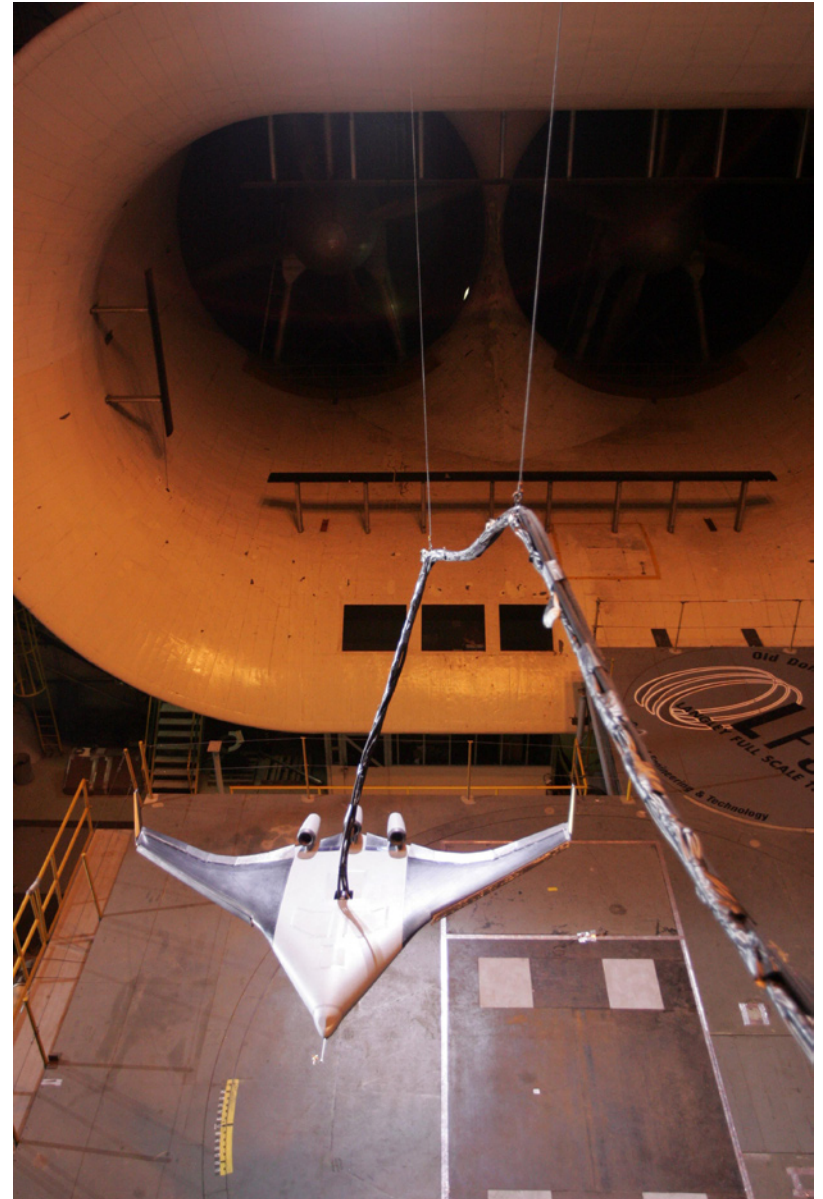
The model was tested in a wind tunnel to help engineers better understand how the blended wing body handles. The five-percent scale model has 18 control surfaces along the trailing edges of the wing, compared to four on most airplanes. One of the challenges to controlling a flying wing is determining how to blend the control surfaces to make the vehicle turn and climb.

"When you get rid of the tail you have to come up with different ways to control the plane," said Dan Vicroy, a senior research engineer at Langley. "We have a lot of experience with conventional airplanes. We know how to predict how they are going to fly. But with this type of a flying wing design, we have fewer examples and less confidence in our flying quality estimates."

Vicroy led the "free flight" experiment in the Langley Full Scale Tunnel's huge 30-by-60-foot test section.

In the National Air and Space Museum, the blended wing body model will hang from the ceiling about 15 feet above visitors' heads. "The model is an important part of a facelift of the gallery that we hope will be done by March 2009," said Michael Hulslander, the How Things Fly gallery manager. "This is the most visited gallery in the museum, and the BWB will be the largest artifact in it."

To learn more about NASA's blended wing body research and view video of the model in flight in the Langley Full Scale Tunnel, visit: http://www.nasa.gov/topics/aeronautics/features/bwb_main.html



F3K IN THE USA

Adam R. “Red” Weston,
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With its humble beginnings as “scaled up” free flight models, or “scaled down” thermal duration planes, or “really light slopers,” radio controlled hand launch gliders have come a long way in 30 years... and this years F3K German Open really proved it!

With over 120 competitors from around the world the Open was the largest R/C hand launch glider only contest ever.

But the question on everyone’s mind is whether F3K (FAI designation for hand launch competition) is ready for a formal world championship? In my humble opinion the answer is a resounding YES!

*Eurotour 2008, the German Open - Held in Salmdorf
outside of Munich Germany July 25-27 2008.*





Ralph Mittelbach's van



The American's borrowed tent



The British contingent's serious tent

In this article I'll first examine F3K at the world class level by taking you to the 2008 Germany Open and then discuss the F3K US team selections as we prepare for the F3K worlds in 2011.

The German Open was announced in December 2007 and by January the roster was full with 130 registrants and many more just too late to sign up. RCGroups was a buzz with the details of the event and nine Americans ended up attending.

In total, there were 19 countries represented, most of the contestants were from Europe, but that hardly meant the competition was lacking!

The Open allowed for some of the best comparisons of international flying skills and model designs ever. Many of the top ranking pilots from the States were in attendance, and with lots of familiar callers available (with English as their first, and often only, language) it was a pretty fair comparison of the best in Europe and the US.

The conclusion? Well, we're pretty darn close... in the end it was decided by one second — Oleg Golovidov (USA) finished second to Jonas Blomdahl of Sweden, and Ralph Mittelbach of Germany was a close third.

As my new British friend Tony so aptly put it, "Somebody has to win."



Winner (center) Jonas Blomdahl, 2nd (left) Oleg Golovidov, 3rd (right) Ralph Mittlebach, and (far right with the bubbly) CD Alex Wunschheim.

Designs - One of the biggest differences between the European and American models was their primary building techniques for the wings. Most of the top European pilots were flying planes with hollow molded wings. The skins were either rohacell (dense foam) or balsa wood. All of the Americans were flying vacuum bagged foam core wings with either Kevlar or fiberglass skins.

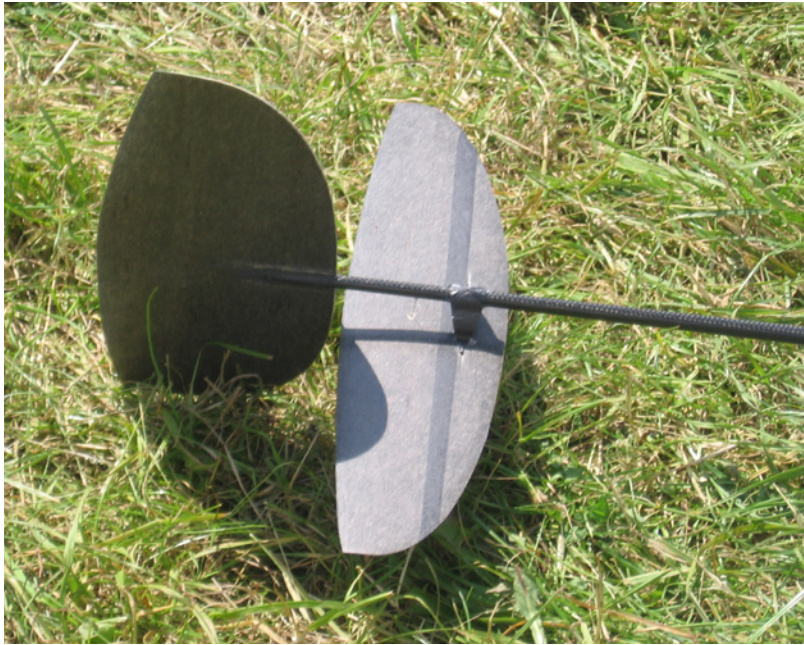
The fuselages were similar in design, but with more Kevlar pods in the American camp and carbon fiber for the Europeans.

Tail surfaces were another area of discrepancy, many European planes had foam core tail surfaces with large vertical fins. Many of the fins had comparatively small rudders (less than 20% of the area), and Johnas' Cirrus had no rudder at all! The American tails mostly followed Mark Drela's designs with somewhat lesser areas in the vertical and much larger rudders (40-60%).

Radio gear - there were a few Europeans running 2.4 GHz systems where 1/3 of the Americans were Giga-hertzing it. 2.4 GHz was certainly nice with so many competitors. Although I have to give it to the organizers, the radio impound was extremely well run. I don't remember a single mistake and there were only a few delays (like two) of the contest for the impound the entire three days!



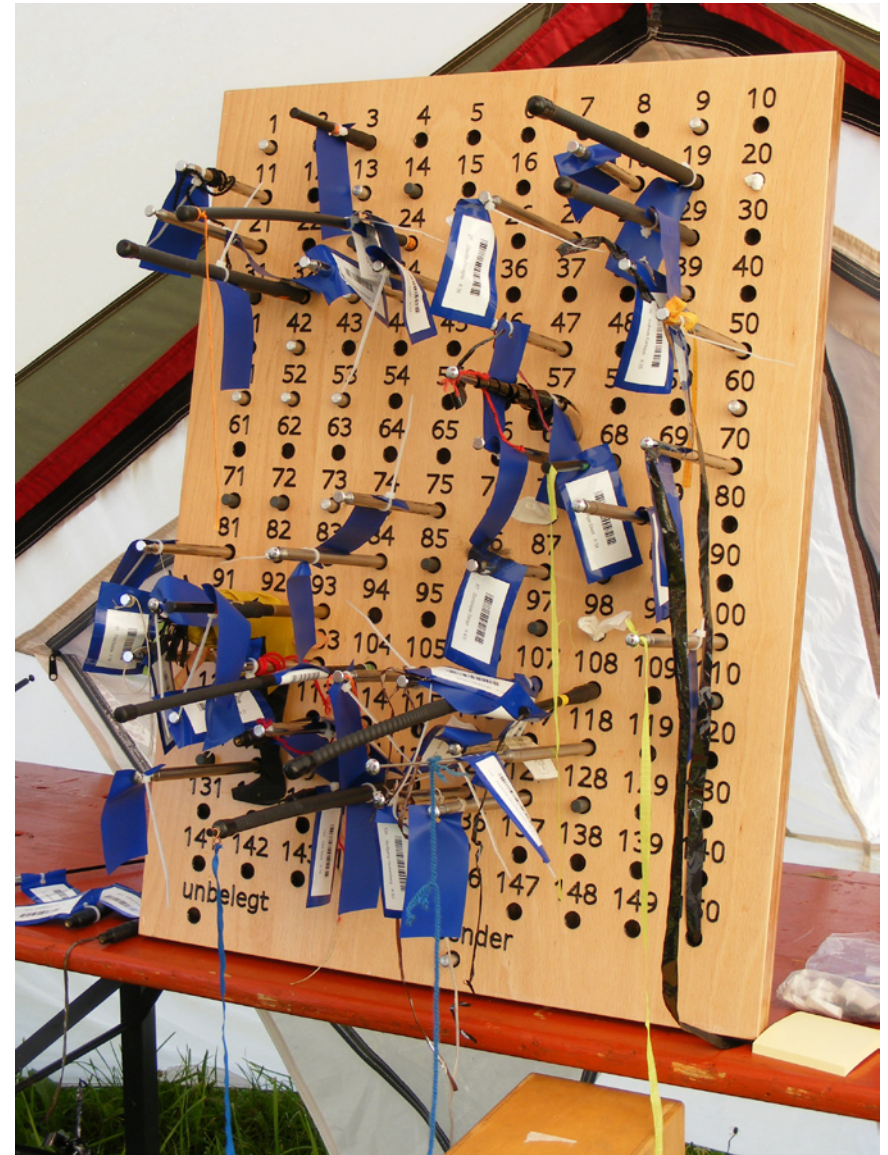
Clockwise from upper left: European molded HLG. USA Encore with vacuum bagged wing. Molded Stobel held by one of its designers, Thomas Ehrentraut. SALOnit molded carbon wing over white foam.



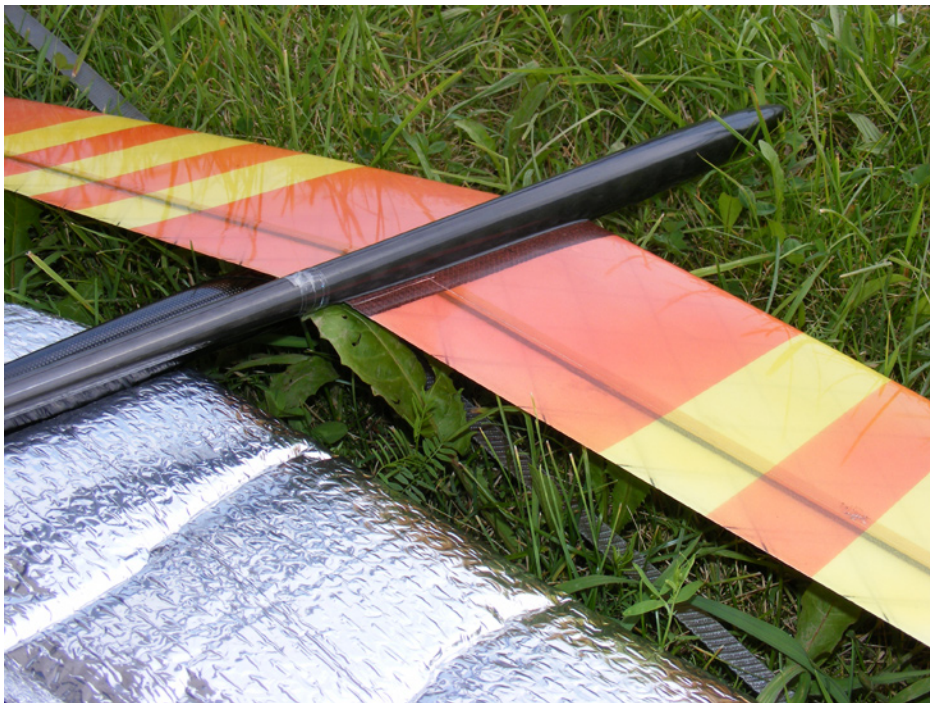
Above: Carbon fiber skinned tail group



Left: Composite tail with foam core



Right: Transmitter (antenna) impound



Colorful European moldie.



German flag painted Stobel.

Servo and receiver-wise, everyone was flying typical micro gear available around the world via Chinese import.

Many European ships were running pull-pull or equally common pull-spring return for the tail surfaces, where the Americans were mostly running pushrods through tubes glued to the exterior of the fuselage.

Very few of the European planes had exposed servos for the flaperons. They were either running a RDS (Rotary Driver System) or with servos in the fuselage.

Some were also running with servos in the bottom of the wing but with the pushrods running to horns on the tops of the wings. This latter technique was starting to catch on among the Americans (*ala* Oleg's Taboo).

Color - the addition of paint to the wings of a hand launch glider seemed incredibly novel to the American pilots. Commonly available kits from American manufacturers haven't been painted since the 90's.

The Kevlar and the carbon and the occasional pink foam core with fiberglass skin is the only color you'll see on American planes... But most of the European moldies had some paint on them... Some of them were very elaborate. However, to the American's advantage our planes stood out in their plainness, and were easily spotted overhead by the timers and pilots (and spectators).



*An Austrian competitor
in front of his tent.*

One of the distinct advantages international hand launch competitions have over F3J or F3B is how little support is really needed to run a world class event. The teams can be quite small (in comparison to the army that attended the seven pilots from the US F3J team in Turkey). And the outlay for a stable of models can be significantly less allowing competitors from across the globe to be



*Belgian/French competitor
Yves De Vriendt*

competitive. Additionally, a hand launch contest can be run just about anywhere there are a group of pilots and a couple of acres of open grass.

Obviously there is an advantage to a well designed and manufactured aircraft, but even at the elite level of the German Open, the top two pilots were flying planes they had built themselves.



USA competitors, L to R: Bruce Davidson, Adam Weston, and Paul Anderson discussing strategies for a round... Like: "Be sure to be ready when the round starts."



Internationale deutsche Meisterschaft F3K 2008 München, 25.-27. Juli 2008

SCORECARD

Many thanks for coming! Good luck!

The time has to be noted as complete seconds (no parts of a second) Please note the time into the field from left to right acc. the row of the flights, separated by lines, please write the time as e.g. 70 seconds : 70 or 1:10

Flugaufgabe und Wertung / flying task and scoring	Rd.	Gr.
Task M: die fünf besten Flüge / five best flights beliebig viele Starts, Rahmenzeit 10 Min. MAX 120 Sek. / work time 10 min., max flight time 120 sec. Flugzeiten / Flight times: 0:15 2:00 2:00 1:59 1:57 1:07 Unterschrift Pilot: <u>Paul A</u> Name Zeitnehmer: <u>an</u>	1	3
Task B: Der letzte Flug wird gewertet / last flight beliebig viele Starts, Rahmenzeit 10 Min. MAX 300 Sek. / work time 10 min., max flight time 120 sec. Flugzeiten / Flight times: <u>3:30 sec</u> Unterschrift Pilot: <u>Paul</u> Name Zeitnehmer: <u>U.S.</u>	2	6
Task P: Je einmal 1, 2, 3, 4 Minuten MAX, bei Reihenfolge / one, two, three, four minutes flight beliebig viele Starts, Rahmenzeit 10 Min. / working time 10 min. Flugzeiten / Flight times: <u>1:23 1:19 2:37 50</u> Unterschrift Pilot: <u>Paul A</u> Name Zeitnehmer: <u>Phil B</u>	3	8
Task J: Die 3 besten Flüge werden gewertet / 3 out of 6 3 Starts, Rahmenzeit 10 Min. MAX 180 Sek. / 6 flights, work time 10 min., max. flight time 180 sec. Flugzeiten / Flight times: _____ Unterschrift Pilot: _____ Name Zeitnehmer: _____	4	7
Task C: Der vorletzte und letzte Flug werden gewertet / last and next to last 3 Starts, Rahmenzeit 10 Min. MAX 240 Sek. / 6 flights, working time 10 min., max. flight time 240 sec. Flugzeiten / Flight times: _____ Unterschrift Pilot: _____ Name Zeitnehmer: _____	5	10

Upper left: The “beer trailer” keeping things nice and cool for the entire weekend.

Upper right: Serious count down clock right on the edge of the flying area... very nice!

Left: Score sheet... Fortunately for the American's, everything was graciously conducted in English.

The German Organizers, Alexander Wunschheim and his crew, ran a virtually flawless three day event. The organizers for the 2011 Worlds will be challenged to hold a contest that is this well run. There was a tent for transmitter impound, another for the computer system that ran the scoring and the round timing (complete with digital countdown clock visible from anywhere on the field). There

was a big tent for food staffed by friendly volunteers from the local club and their families.

Also, something you don't see at American contests, a beer truck with foamie beverages available throughout the contest (only in Germany!). One had to be careful to not take a bad round too seriously, one might be tempted to drown one's sorrows!



Bruce, Adam, and Phil Barnes enjoying roasted fish at the dinner hosted Friday evening at a nearby hotel.



Saturday evening's dinner hosted at the field by the event organizers.



Ugly Americans enjoying dinner!

Looking towards 2011, US F3K began drafting a plan for a team selection contest in 2010 for the 2011 worlds. The organizing group was chosen informally from the organizers of the “big” contests across the country, several activists in the HLG, community and most importantly, Tom Kiesling, the person responsible for FAI team selections here in the States.

This group came up with a proposal where the F3K team that would represent the US in the 2011 Worlds would be selected by the top place finishers in a team selection contest much like F3B and F3J.

However, since F3K is being so widely flown in the US, contestants would have

to qualify to even receive an invitation to the F3K team selections. This invitation would be determined by the contestants

placing at local and regional contests held in the US, using the following table:

Number of pilots in contest	Invitation for overall placing
6-10	1st
11-15	1st and 2nd
16-20	1st, 2nd, and 3rd
21-25	1st-5th
26-30	1st-6th
31-35	1st-7th
35-40	1st-8th
40+	1st-10th

Qualifying contests would have to met these criteria:

- Must follow the published F3K Rules <<http://f3k.us/page93.html>>
- Must be an AMA sanctioned contest.
- Must be listed on F3K.US website at least one month prior to the event.
- Qualification is determined by the final results of either two 1-day contests or one 2-day contest
- Single day events must have at least 7 preliminary rounds.
- Two day events must have a minimum of 12 preliminary rounds. If fly-offs are flown in a two day event there must be at least 10 preliminary rounds.
- There will be no separation of groups based on skill or age class. For example, for a contest that has sportsperson and expert classes, the sportsperson and expert classes need to compete head-to-head and the sportsperson scores would need to be ranked along with the expert pilots. Even if you win sportsperson class but are 20th in the overall ranking, you will not get an invitation to the team selection event.

To work out the kinks in the F3K team selections process, events in 2009 will be tracked the same as they will in 2010. Contests will be listed on the F3K.US website and at the end of the season, a

mock team selection list of pilots will be created. This won't have any bearing on the 2010 team selection, just bragging rights.

There is also a proposal to actually rank individual F3K pilots. If that process does come to fruition, you'll hear about it first on F3K.US.



American winners Brett Carr 4th Place Junior and Oleg Golovidov 2nd place Open.



Modifying a Senior Telemaster for Electric Aerotow

Alexander Breikreutz, albtz@comcast.net

My 4 meter Discus starts moving. My heartbeat goes up. "Keep those wings level!" I say to myself while my glider moves faster and faster. After about 30 feet I am airborne. This is how my first aerotow went: a lot easier than I thought. And since then I have been addicted to aerotowing.

Shortly after, I ordered my Senior Telemaster (TM) from Hobby-Lobby with the intention to modify it so I would be able to tow gliders up to 15lbs. I wanted an electric setup because it is clean, quiet, and I would be able to fly off any field since some fields have restrictions for glow or gas models.

I would like to give several pilots I met at SKSS credit for providing support: Bill, Charlie, Tony, and William.

Parts list for my build (I have built three Telemaster planes so far):

- Sr. Telemaster
- E-Flite 160 or AXI 5330/18 (any reliable motor in the 250kV range will do it)
- Castle Creations HV-85 or Jeti Advance Plus 90A Opto controller
- Deans series adapter (2 to 1)
- Two 5S-4800 lipos
- 20x8 thin electric APC prop
- 12mm reamer
- 6 metal gear servos in the 100oz.-in. range
- 4-cell 2600mAh receiver battery
- Two 5" threaded lite wheels (interior foam, exterior tough rubber)
- Two wheel axles with collars
- Aluminum landing gear (made for Sig Four Star 120, item# LG4-176, made by TnT Landing Gear)
- Four 3/16" machine screws with blind nuts and washers
- Six 4-40 threaded rods 12" long with 4-40 clevises
- Plywood sheet 1/4" thick
- Plywood sheet 1/8" thick
- Plywood sticks 1/8" thick
- Tail gear unit
- Four plastic screws, size 4-40, 2" long with blind nuts and washers
- Benn Diss tow release
- 30-min. Epoxy/CA
- Lock-tite

The build - There are basically three sections that will need your attention: wing, tail section of the fuselage, and front and center section of fuselage.

Wing:

I installed the aileron servos after routing the aileron extension cables. It is possible to modify the full span ailerons and cut flaps. I have built several versions with and without flaps.

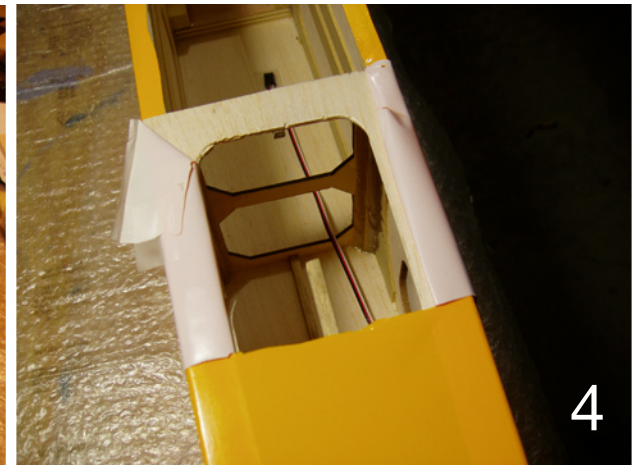
I epoxied the wing halves together because the wing rod had too much play if I had kept the wing halves separate. The wing has a 94" wingspan and requires a vehicle with ample room for transportation. If you would plan on having a two piece wing you would have to make sure that the wing rod is tight.

The wings come with pre-built servo frames which hold standard sized servos. After installing the servos and the aileron horns, I connected the threaded pushrods.

Center section of fuselage:

In order to tow heavy gliders, the fuselage formers at the leading and trailing edge need to be reinforced with 1/4" plywood sticks. I cut them to length and epoxied them to the former from the front and back side (pictures 001-004).

I have bought all my tow releases from Ben Diss who can be contacted on rcgroups.com. Ben Diss is also his user name. His release comes also with a



metal pushrod and clevis. I installed the release right behind the trailing edge. You have to open the covering and cut off the balsa stringer on top of the fuselage. I cut a 1/8" plywood sheet which is as wide as the trailing edge fuselage former and about the same height as the tow

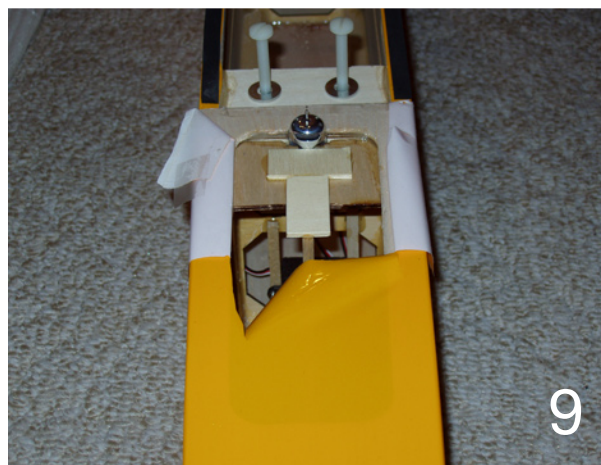
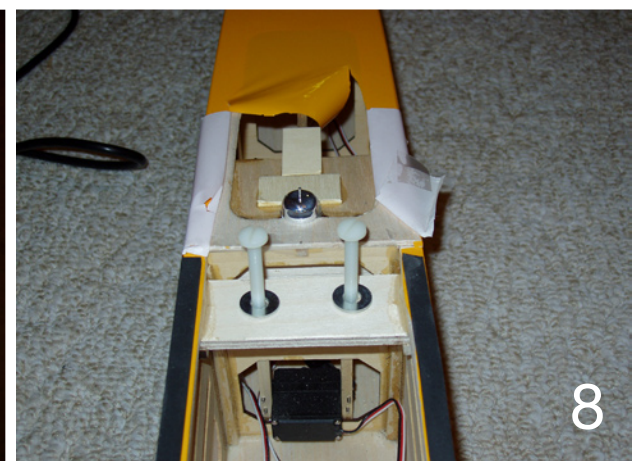
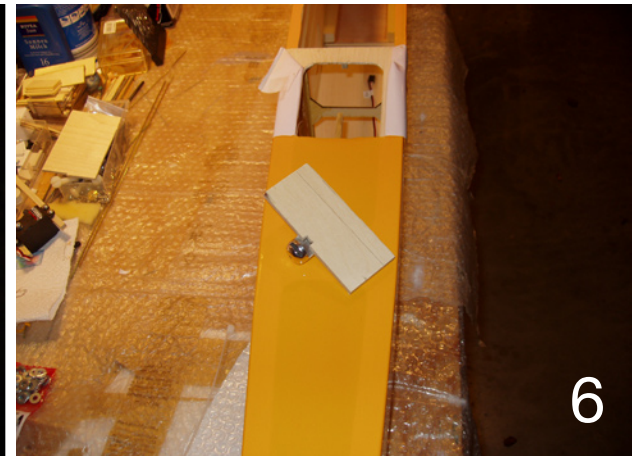
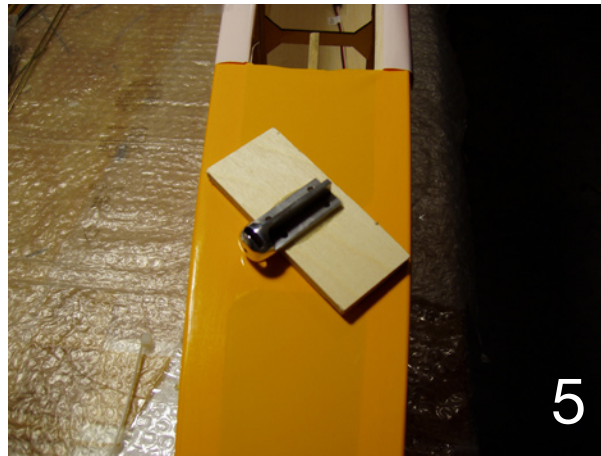
release. The tow release will be epoxied to that plywood sheet. Therefore, I sanded the metal side of the tow release that will be glued to the plywood now (pictures 005, 006, 007). Let the epoxy harden at least 8 hours before you continue to ensure a safe bond. Next,

I cut two 1/8" plywood sticks to length and fitted them to the bottom part of the fuselage former (picture 008). I screwed the release servo to these two sticks after adjusting the pushrod to the length of the release and servo horn. Again, test the servo before you install it! Finally, I epoxied the servo to the former. Do not save money on the release servo; use a high torque metal gear servo. If it fails you might risk the tow plane AND glider.

To close the gap between the tow release and balsa stringer, I cut another 1/8" sheet that would fit between the fuselage walls (picture 009). Some scrap wood was used to connect the balsa stringer with the plywood sheet. The installation of the release mechanism is complete after recovering the top side of the fuselage.

As per the Telemaster manual, the wings are held to the fuselage by simple rubber bands. This makes a modification necessary where the wings will be screwed to the fuselage with four 4-40size plastic screws.

First, I cut the covering behind the leading edge on the top wing side. I also cut out the balsa wood cover and measured a piece of 1/8" plywood sheet that would fit right between the two ribs (picture 010). This will serve as reinforcement for the front section of the wing. The trailing edge area comes already reinforced.



Then, I measured the width of the fuselage where the wing leading and trailing edge area would meet the fuselage. I cut a 1/4" plywood sheet to length, about 2" wide and epoxied it right behind fuselage spar number 2 and right in front of spar 3 (picture 008 and 011).

The build of the center section of the fuselage is complete after drilling four holes for the main gear. Any size of machined screws with blind nuts and washers can be used.

Front section of the fuselage:

To allow for the size of the motor I had to cut off the lateral side of the engine mount in front of the firewall (pictures 012-013).

It is up to the preference of the individual builder how you want to install the motor to the firewall.

I have used both, motor mounts and spacers, with success. Use Lock-Tite with any screws you will be using to mount the motor.

Because of the size of the controller used, I have always mounted these to the outside of the fuselage. The major benefit is that the controller will be exposed to adequate cooling (pictures 014, 015).

I connected the motor to the controller and the controller to the Deans series 2 to 1 adapter (picture 023). My two lipo packs fit right into the compartment



behind the firewall. I padded the floor and sides with thin foam.

When testing the motor for the first time I would recommend doing so without the propeller first. Check the correct rotation of the motor. If you need to reverse the motor rotation refer to your motor manual. For AXI and E-Flite motors you just have to switch any two wires between the motor and ESC. You may now mount the propeller.

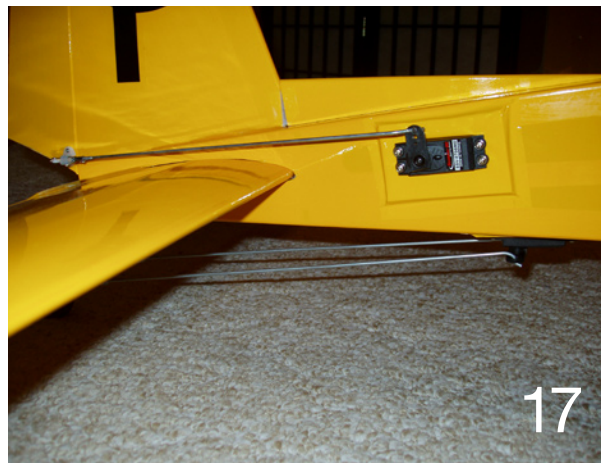
Be very careful when testing your setup for the first time! Stand behind the propeller. Have someone else hold the model. This power setup is extremely powerful! Remove any objects near the propeller. My setup produces a lot of thrust and any light object in front of the propeller would be sucked in, any object behind the propeller would be blown away.

Tail section of the fuselage:

I continued with the fuselage by preparing the servo bays and servo trays for the tail section.

I took the 1/8" plywood sheet and drew the outline of the three tail servos on the sheet. Then I measured 1/2" around the outline and cut the servo trays. I took the trays and put them on the tail positions seen in pictures 016 – 018.

Elevator servo: on left side, aligned so that the pushrod will be below the elevator.



Rudder servo: on the right side, aligned so that the pushrod will be above the elevator.

Tail gear servo: Should just be centered and not be more than 12" from the center of the elevator.

With a thin marker I drew the outline of all the trays. With a sharp blade cut the covering, making sure not to cut through the wood. Remove the covering, put the trays on again, and mark any wood that needs to be removed so the servos will fit in. I used a Dremel to cut the bays for the servos.

At this point you will see the reason why I chose to place the servos in that area: it is not fully sheeted. If you would place the servos closer to the elevator, you would have to cut a lot more through the



structure and, as a result, would weaken it.

Now is the time to prepare some 30-min. epoxy and glue the servo trays to the tail. When the epoxy had dried I covered the trays with the extra yellow covering that comes with all Telemaster kits.

Then I installed the tail servos after connecting servo extension wires to the servos. The rudder and tail wheel servo were connected through a Y-harness, but you can also connect them separately to your receiver and use a mix if you have enough channels available. Always check all electronics before installing!

Next, I took the elevator and the 1/8" plywood sheet. In the original design the two moving elevator halves were just connected with a thin metal rod. I

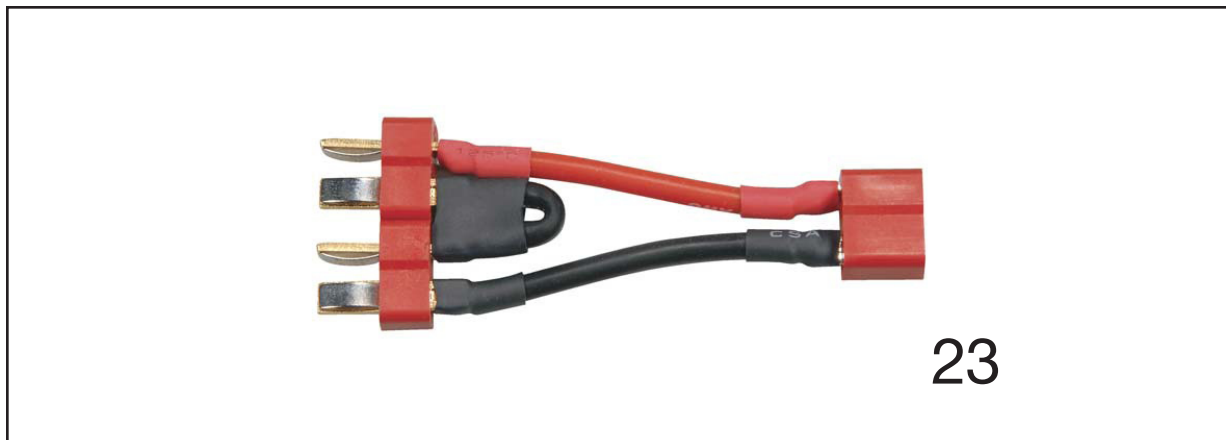
wanted a sturdier solution since the tow line would hit the tail section during tow. Therefore, I connected the two elevator halves with one 1/8" plywood sheet on the top surface and one on the bottom surface. I removed the covering where the plywood sheet would touch the elevator surface to ensure safe bonding of the epoxy. After all parts fit I epoxied them together (picture 019 & 020).

After finishing the tail section I installed the main landing gear using four 3/16" machine screws with blind nuts and washers. I chose 5" wheels for added prop clearance. Do not use light wheels. The foam is too weak and will get dents with every landing (picture 021). The installation of the tail wheel can be seen in pictures 016 and 019.

The last thing to do was to add the clevises. I used threaded pushrods to connect the servos with the moving surfaces. The long pushrods for the tail wheel absorb some energy, which helps to prevent excessive tear and wear on the tail wheel servo.

Final steps:

Install your receiver and receiver battery unless you are using a BEC. I positioned my receiver battery right in front of the trailing edge former. Use a heavy-duty switch. I balanced my Telemaster a little on the nose heavy side within the range specified in the manual.





Further modifications:

I have modified the wings to accept flaps for a Telemaster I built for a friend. It is not difficult; you just need another two servos and control horns and pushrods for the flaps. The flaps are 14" long (picture 022).

Feel free to check out my website with useful recommendations on aerotowing: <http://iflytailies.jimdo.com/aerotowing.php>

Videos I have taken on both the Telemaster and glider in tow: http://www.youtube.com/watch?v=HH0eX_49IPI

My video from an electric aerotow event only: <http://www.youtube.com/watch?v=Tbh2qDW1bw8>

Vendor links:

Cheapbatterypacks: <http://cheapbatterypacks.com/main.asp?sid=571401&>

Hobby-Lobby: <http://www.hobby-lobby.com>

SKSS: <http://skss.org/wpress/>

TnT Landing Gear: <http://www.tntlandinggear.com>

Tower Hobbies: <http://www.towerhobbies.com>

Xcitebatteries: <http://www.xcitebattery.com/index.htm>

THIS INFORMATION IS FOR ALL WHO ARE INTERESTED IN PARTICIPATING IN THE SCALE AEROTOW PORTION OF THE WOODY FUN FLY BEING HELD AT THE AMA FIELD IN MUNCIE ON MAY 29, 30 AND 31.

The Scale Aero-tow Event will have two categories of Scale Sailplanes:

CATEGORY 1: Will follow the previous Wood Crafters Scale rules: i.e.; built up flying surfaces, no foam, etc.

CATEGORY 2: Everything else that doesn't fall into CATEGORY 1. The only criteria, the Scale entry must display some resemblance to a full size sailplane. There is no restriction as to what material is used, how it is constructed, or who built it. This could be considered as a warm-up for the JR/ Horizon Scale Aerotow Event that follows in June.

There will be no static judging.

Any number of Scale Sailplanes may be entered in either or both Categories.

An award will be presented to the person who has accumulated the most time for their best three flights for the three day event for each Category.

The entry fee is as follows: 1 day \$15.00, 2 days \$25.00, 3 days \$35.00.

Checks payable to: Severn T. Green, Contest Director

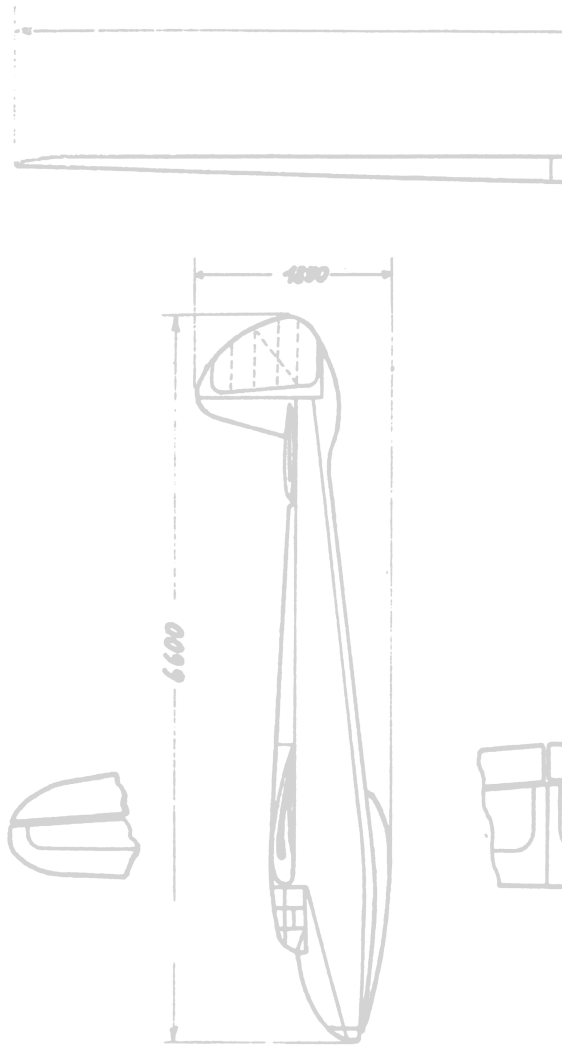
1226 Broad Street
Ashland, OH 44805
(419) 281-1408

anneg@zoominternet.net

PLEASE CHECK WITH SEVERN (BUD) FOR REGISTRATION
AND FREQUENCY INFORMATION

If you have any questions re. the Scale Aerotow portion of this Fun Fly Event, and wish to speak with me directly, please send me an email with your telephone number and I will return your call.

— Gordon Pearson, gordonpearson@chartermi.net



UAV graduate school opens

By Bruce Rolfsen - Staff writer | Posted : Sunday Mar 1, 2009 10:48:17 EST
<http://www.airforcetimes.com/news/2009/03/airforce_uav_course_030109/>

Airmen flying remote-controlled planes now have a graduate school to attend. Five unmanned aerial vehicle pilots are about one-third of the way through the first Weapons School course for those at the controls of the MQ-1 Predator and MQ-9 Reaper. The course, taught at the Weapons School headquartered at Nellis Air Force Base, Nev., started in January and ends in June.

The Air Force delayed start-up of the course last summer as it rushed to increase missions flown over Iraq and Afghanistan. Instead of giving lectures and flying training sorties, the pilots went on operational missions and taught airmen new to UAVs.

"All of our staff instructors got to go on air expeditionary force deployments to support the surge," said Maj. Joe Campo, the 26th Weapons Squadron's director of operations.

Besides UAVs, the instructors and students have flown other aircraft.

Campo was an F-16 Weapons School instructor. Squadron commander Lt. Col. Daniel Turner flew AC-130 gunships. Maj. Mike Stolley, one of the students, is a former F-16 pilot who now doubles as the squadron's chief of training.

The UAV course begins with two weeks of academics, then mixes in 25 training flights and five missions in simulators for each student.

The flights combine the UAV's attack and surveillance roles, the instructors said. One flight focuses on tracking down and destroying a mobile missile launcher.

Many flights are flown in tandem with students from other courses. For example, a Predator flies with an F-16. In June, all Weapons School students come together for a two-week exercise called the "mission engagement phase."

"The first time we fly with an F-16, we don't want it to be in June," Stolley said.

After Stolley and his colleagues graduate — each pilot already has more than

1,000 hours flying UAVs — they will become the squadron's initial cadre of instructors, Campo said.

The instructors are supported by enlisted sensor operators who sit with the student pilots at the control console. Air Force policy allows only officers to attend the Weapons School, so there aren't student sensor operators enrolled in the UAV course.

Like the instructors, the sensor operators who are staff members are experienced aviators hand-picked to work at the Weapons School. "They are the best of the best," Campo said.

The long-term goal is for eight students a year to complete the UAV course.

The class starting in July reflects the demand for weapons officers. Two students are from Air Combat Command units, one is from Air Force Special Operations Command and another from the Air National Guard.





Miramar 2009

Standard and Minithermal

Coverage by Alejandro “@le” Arroyo, sde@datafull.com

Additional photos by Ezequiel S. McGovern

Again, we are in the Aero Club Miramar in the Province of Buenos Aires, 35 km distance from Mar del Plata city, on the Atlantic Coast <http://en.wikipedia.org/wiki/Miramar,_Buenos_Aires>. And for the second year in a row, with my father, Alvaro, we were the managers of carrying out the organization of the Contests of Standard and Minithermal, the last one with points for the Annual Metropolitan Championship.

Organization of the Contest:

As the first step in the organization process, the goal was to come with the whole event organized in advance.

We asked the participants for their primary and substitute frequencies early to be able to make sure that there were no conflicts within the flight groups. All the flights with the corresponding groups were generated in advance by Walter Miranda with a contest program adapted specially for this occasion by Gustavo Cravacuore. The power of this program markedly improved the organization.

In both categories, contestants flew five rounds with three groups in each one. Each group had a specific activity already assigned in advance — to fly, to time, or to help with the tows. From the beginning of the contest, all the participants knew what role they

would play in every flight, since all the schedules had been placed on a blackboard and consulted at the conclusion of every flight.

This scheduling also got me out of a jam as The Director of Contest, allowing me to exchange this role with Ernesto Dondero. By means of a megaphone from the control table, we were the managers, announcing the role that the new recruits had to play and control the working time. Alberto Pasi officiated as schedule controller and field helper, together with Luis Petrone and my father.

By having included the group of towing assistants the classic crossings and hookings of the towlines was avoided. These participants were the persons in

charge of leaving the lines in the same conditions, and they would be using the same line when it was their own turn to fly.

We had pilot participation from the following institutions:

Club Aeromodelista Newbery
Club Aeromodelista La Plata
Club Aeromodelista
Club Aeromodelista Delta Alas del Norte
Club Aeromodelista Pucará
Club Aeromodelista Marplatense
Asoc. Marplatense de Aeromodelismo
Aero Club Miramar - Model Aircraft Subcommittee



The models of Franco Capuani and Alejandro Arroyo on launch and immediately before colliding.



Upper: Standard models of the Bardet family

Above: Model of Pipo Bernasconi

Upper right: Model of Carlos Seijo with dual spoilers

Right: Model of Felipe Vadillo , the "Bubble Dancer Platense"

Saturday, February 21st., 2009 - Standard Class

Characteristics of the models

Wingspan: from 2.00 m up to 2.60 m
3 Channels Control: Rudder/Elevator/
Spoiler

Regulation:

<<http://www.faa.org.ar/reglanacio.htm>>

Participants could preview the contest venue on our web page <<http://www.miramar2009.8k.com>>. The participants said that the airfield chosen for this contest is one of the best in the Country for the development of the discipline of RC thermal flight. The aerodrome

occupies an excellent location and offers a large expanse without obstacles. The question of the crossing of both tracks of the grass of the Aero Club was solved — they were closed to be able to realize this event in this place — with the request of the permission, granted by the Air Force, by way of the authorities of the Aero Club.

Day 1 presented more than ideal conditions for thermal flight, with a temperature of 23°C, a clear sky, and a wind that was not greater than 15 km/h from the southeast.

The first two flights of the morning flew away with powerful thermals where the

definition of the winner of the rounds was in the ability to make a precision landing, since the majority came close to the maximum computable time of seven minutes.

Up to this time, with 2000 points (FAA), Carlos Seijo and Adrian Bardet were disputing first place, and they were closely followed by Alejandro Arroyo with 1998 points, Alfredo Lattes with 1965 points, and Daniel Scardamaglia with 1957 points.

Then about 2 p.m. we prepared to enjoy the “asado” put on by Don Raul and Don Horacio, which took all the plaudits of the day!!!



Above: Model of Alfredo Lattes with single spoiler

Left: Franco Capuani and his “El Tano”



Upper: Ezequiel Mc Govern with the "Mammut", SD7037 and 1290 gm. Above: Alejandro Arroyo with his "Supra-Dancer STD," derivative of the designs of Mark Drela
Right upper: Alfredo Lattes and his model. Right: Alberto Romanutti and Alvaro Arroyo preparing the model "Condor 2300" for one of the flights.

After a long meal and enjoying a frozen dessert and coffee, about 4 p.m. we moved again to continue with the contest.

It was necessary to change the location of the tows because the wind had rotated from the east, the marine sector, though this did not mean that the maximum times were diminishing. The thermals were already not so easy to find, the wind was blowing in a form to laminate, and the temperature had gone down steadily so that we had to look for a light coat, an agreeable climate for this time of the year.

In the third round there was a collision between the models of Franco Capuani and Alejandro Arroyo during the tow, but without serious consequences for either. This forced them to compete in the following group.

From this round there was already an indication of the podium winners. Adrian Bardet was managing to obtain 3000 points, Alejandro Arroyo 2998 points, and Carlos Seijo 2846 points FAA.

In the fourth round Fabian Fernandez started a dizzying ascent, from 7th place to 4th place, being thus the winner of this round in his group.

The last group finished flying about 19:15 hours, but nevertheless the times continued being ideal, since achieving seven minutes of flight without difficulty, again defining the winner of the group through the accuracy in landing.

In this case, again in his group, the winner was Fabian, and this relegated Carlos Seijo to 4th position, for a difference of only 58 points!!!

The Standard Class podium shaped up as follows:

1st	Adrian Bardet	4000 points
2nd	Alejandro Arroyo	3957 points
3rd	Fabian Fernandez	3728 points



Alfredo Baños



Daniel Scardaglia snooping thermals



Upper: Felipe Vadillo and Adrian Bardet

Above: Carlos Seijo and his model

Upper right: Luis Petrone, Ezequiel McGovern & "The Mammut"

Right: Carlos Seijo



*Above: Alfredo Baños, Franco Capuani
and Mariano Bardet
Above right: Luis Petrone, Adrian Bardet
and Daniel Scardamaglia*



*Near right: Ernesto Dondero and
Felipe Vadillo
Far right: Walter Petrucci,
Pablo Bianchi and Luis Sartoro
(Agrupacion Aeromodelistas Necochea)*



Sunday, 22nd February, 2009 - Contest of Minithermal

Characteristics of the models:

Wing Span: up to 1.5 m

2 Channels: Rudder or Ailerons /Elevator.

Regulation:

<<http://www.faa.org.ar/reglanacio.htm>>

As the previous day, it started with the check of the towlines and assembly on the field. This category needs less space, so we carried out this event in the field that is habitually assigned for practice.

The sky presented clouds, with a wind that did not exceed 10 km/h, and a temperature similar to that of Saturday, which was assuring a special climate for the running of this category.

Again for some, the times of flight began with the maximum. Thermals seemed to be in a very a precise form - they were of small diameter but with power to reach 300 meters without difficulty.

Up to the third round, the FAA points obtained by Adrian Bardet and Alejandro Arroyo were 3000, followed closely by Alfredo Lattes with 2975 points and Daniel Martinez with 2560 points.

Group photo of all the participants of the Minitermicos category with their models. In the background is one of the Aero Miramar Club hangars.

2 p.m. was the high point in the competition for we enjoyed the traditional “asado” that was waiting for us in the bar of the Aero Club.

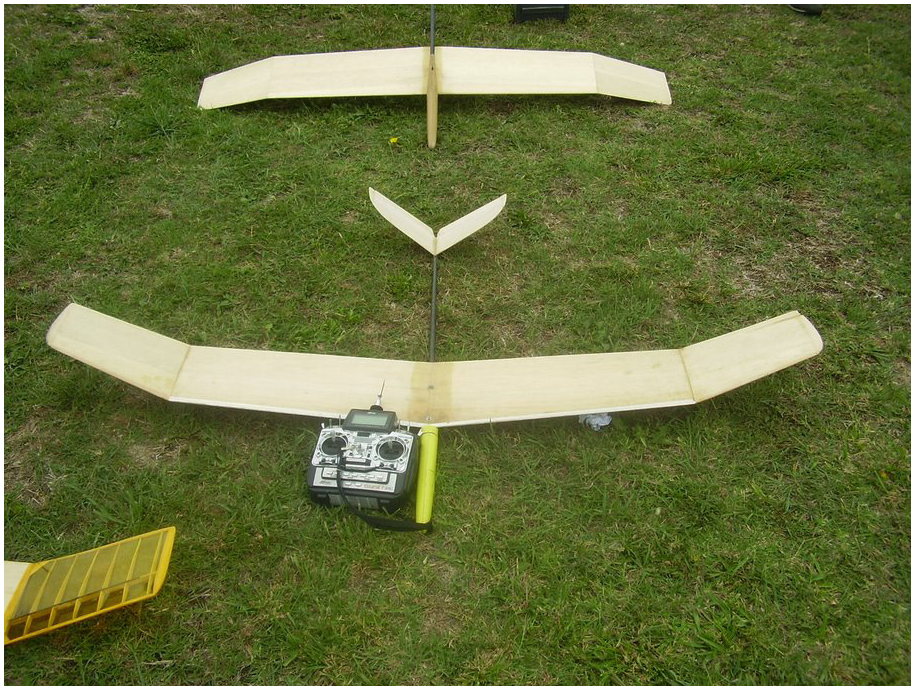
The fifth round was the definitive one of the contest. After discarding the score of the flight with the least points, Adrian Bardet and Alejandro Arroyo were in 1st place with 4000 points and Alfredo Lattes, with 3969 points, was in 3rd position, followed closely by Fabian Fernandez.

After avoiding the tows and a climate without even a breeze, one arranged the beginning of the Fly-off, crowning in the 1st place, and put like winning of the category to Adrian Bardet and 2nd, put to Alejandro Arroyo.

The podium for Minithermal was as follows:

1st	Adrian Bardet	4000 points
2nd	Alejandro Arroyo	4000 points
3rd	Alfredo Lattes	3969 points





Upper right: Model of Alfredo Lattes
Above: The "Selene"

Upper left: Model of Roberto Moriones
Left: Model of Alfredo Lattes





Upper left: Model of Luis Petrone, "The Red Devil"
Above: Model of Alejandro Arroyo, Minitermicos category,
realized entirely with compound materials



Upper right: Model of Carlos Seijo, the "Armic"
Right: Model of Carlos Seijo

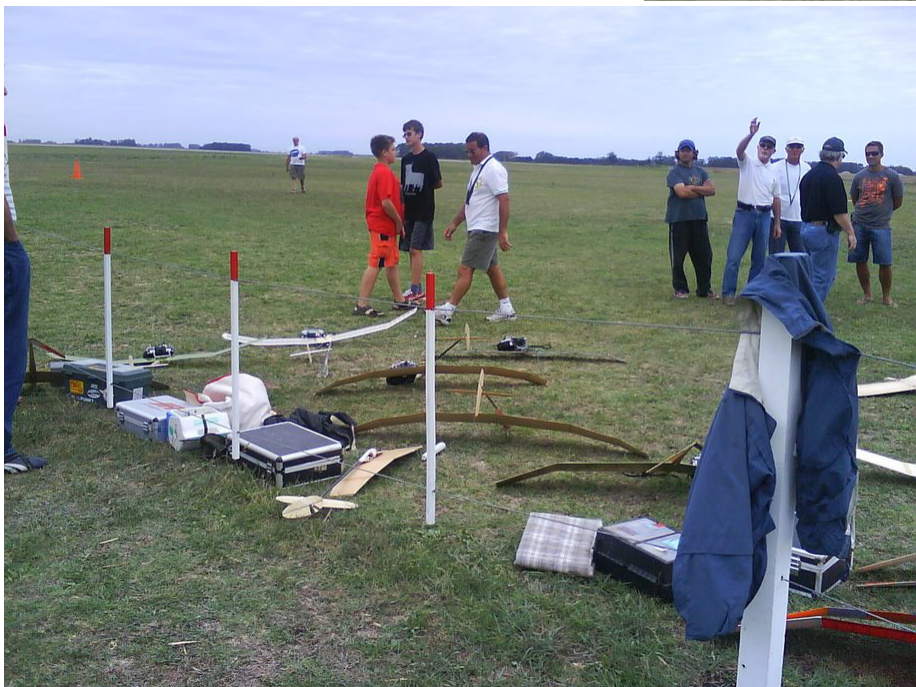


Upper left: Minitermicos of Adrian, Mariano and Ignacio Bardet

Left: Model of Franco Capuani, the "Selene"

Upper above: Model of Fabian Fernandez

Above: Model of Walter Ezcurra



A few shots of models, along with transmitter boxes and tool boxes, in the pits.



Opposite page -

Upper left: “@le” Arroyo working as contest CD

Lower left: Alvaro Arroyo about to initiate the tow

Right: Model of Daniel Martinez. Notice the anemometer indicating 8 km of speed of wind

This page -

Right: “@le” Arroyo, when to begin the flight of the Fly - off of the Minitermicos Category

Lower right: Alvaro Arroyo, organizer of the event

Below: Mariano Bardet, Adrian Bardet, Alberto Romannutti and Daniel Scardamaglia





Left: Alejandro Arroyo during the fly-off against Adrian Bardet

Below: Franco Capuani

Below right: Alvaro Arroyo, organizer



After the completion of the Minithermal event, awards were presented to the winners at the Aero Club facility.

Standard Class winners:

1st	Adrian Bardet	4000 points
2nd	Alejandro Arroyo	3957 points
3rd	Fabian Fernandez	3728 points

Minithermal Class winners:

1st	Adrian Bardet	4000 points
2nd	Alejandro Arroyo	4000 points
3rd	Alfredo Lattes	3969 points

Also, an extra prize delivered to the pilot was obtained the higher points, addend the results obtained in both categories. Obviously the winner of the trophy MIRAMAR 2009 was Adrian Bardet.

The competitive level of the participants that assist was very high, since we

possess the first places national and Provincial for both categories.

There were lived two days that used as training and as anteroom for 63rd. National Championship that was carried out in less than two months.

To finish, we wanted to be grateful for all those who collaborated in order that these events could be realized, for

Ricardo Durand, to Club Aeromodelista Mar del Plata and Necochea, for the friends of Model Car Racing of Mar del Plata, for all the inscribed participants who supported us and for the authorities of the Managerial Commission of the Aero Club for the freedom and granted disposition.



Left: Awards - 1st through 3rd for both the Standard and Minithermal, plus an award for the overall winner.

Above: Group photo following delivery of prizes. Lots of memories!

Archaeopteryx Avion Associates

aka Vintage Sailplaner

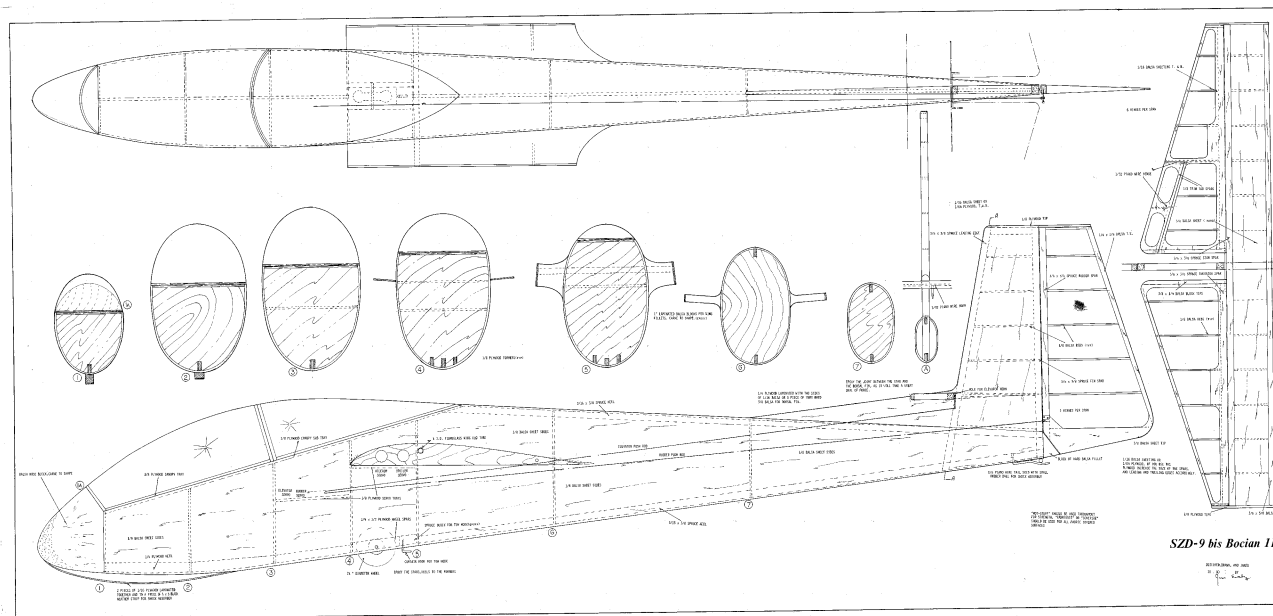
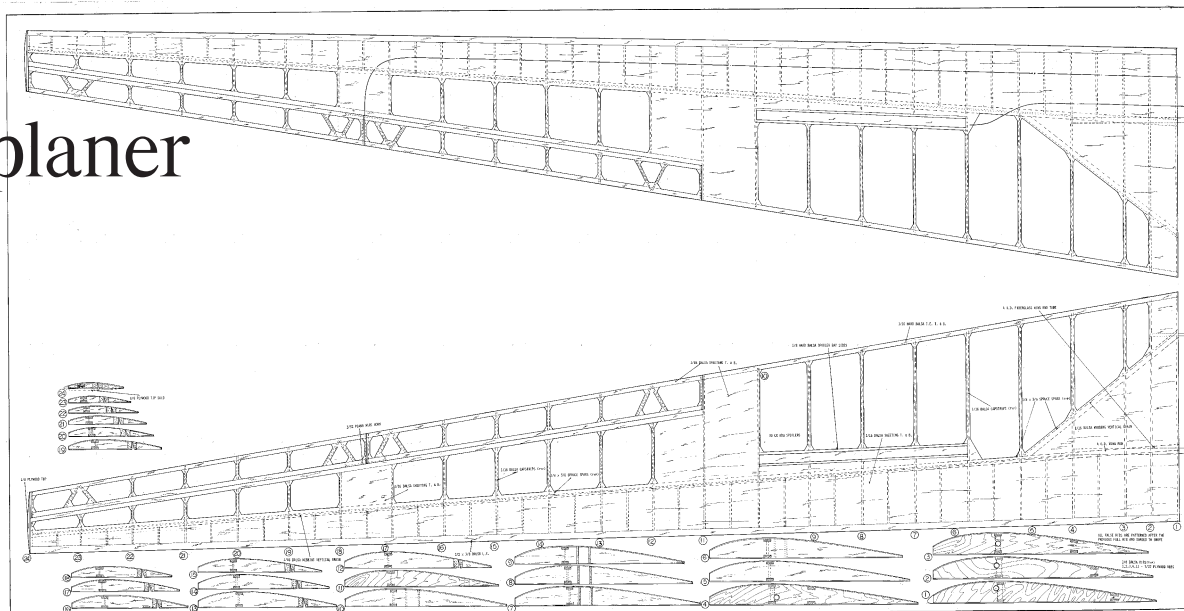
I have a new site that is still under construction... But, the important thing is that I have published my plans there for anyone to download freely. Please announce in *RC Soaring Digest* that these free plans are full size and available as PDF downloads. Take the PDFs to any print shop and they will print full size copies at about \$0.25/ft², \$6 to \$8 per set.

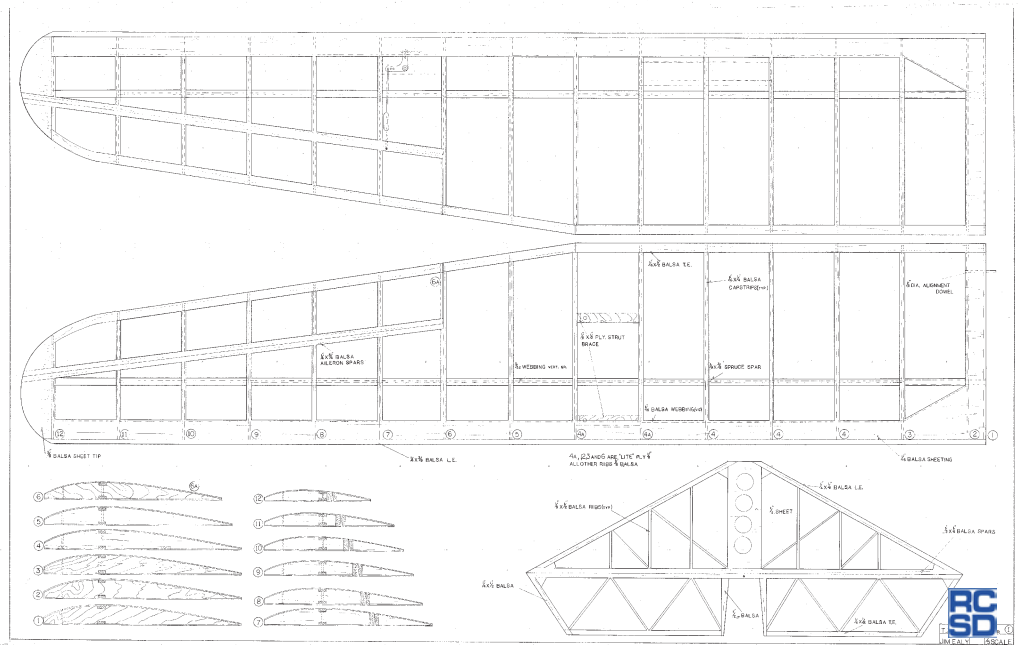
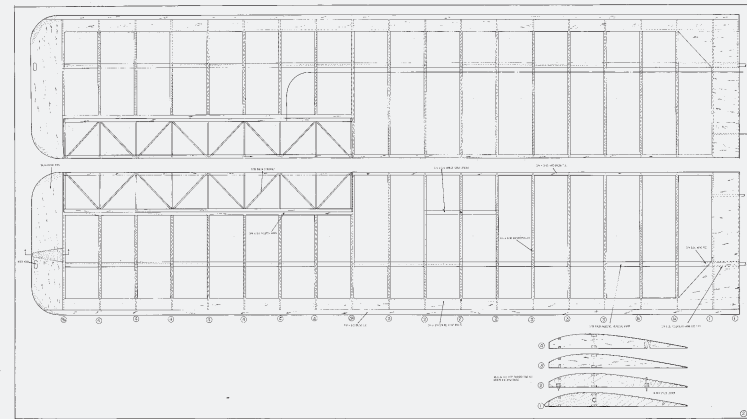
Plans currently available:
 Manuel Condor (Next page)
 DSK BJ-1 Duster in 1/4 scale
 Grunau Baby II in 1/5 scale
 Oberlerchner Mg 19A in 1/5 scale
 Rhonbussard in 1/4 scale
 DFS Reiher in 1/6 scale
 Slingsby T.21B Sedbergh (Next page)
 SZD-9 bis Bocian 1E (This page)
 Zogling SG 35/38 in 1/5 scale
 T.31 Tandem Tudor in 1/5 scale

Coming soon:
 Horton III, Weihe, D-30 Cirrus, and
 Woodstock, and more will be added
 as soon as they are ready.

<<http://www.vintagesailplaner.com/>>

— Jim Ealy





Southern Soaring League, South Australia

Open International F3J

Greg Potter, gpotter@opalibusiness.com.au

During March 6-8 the Southern Soaring League club in South Australia held an Open International F3J competition at their field south of Adelaide.

Unfortunately, due to world economic conditions, the expected competitors from New Zealand and Japan were not able to attend except for Joe Wurts, originally from the USA but now residing in New Zealand.

However, a large percentage of the cream of Australian RC soaring made the trip from around the country to attend, but, unfortunately, not the two time F3J WC David Hobby who was away working in Arizona. There were 30 flyers in all, separated into eight teams.

We were “blessed” with three perfect flying days providing conditions from early morning calm to afternoon breezes up to about 10 knots. Thermals abounded but were not always easy



An Ellipse4 and an Experience Pro on the flight line.



Simultaneous launch

to find, especially in the light morning conditions.

In three days we completed 16 qualifying rounds and four 15 minute flyoff rounds for the top seven competitors. There were also many rounds of F3K flown during each day.

The event was run with modified F3J rules using winches set at 150m. Teams were spaced at 15m intervals along the flight line. Otherwise the standard F3J rules applied to launching, flight times and landing. New landing tapes were marked at 200mm intervals for the first 2m and 1m intervals thereafter based on the 2009 rule changes.

Despite the proximity of the teams and up to eight models being launched simultaneously at the start of the 10 minute flight window there was only one mid-air, where one model launched a couple of seconds late and zoomed up through the field that had just levelled out and took out the left wing tip of another model, destroying itself in the process. There were some near misses but generally everyone launched together, stayed straight and got off the line safely.

Each round was started and finished using a recorded countdown played on a netbook PC using Windows Media Player piped through a PA system that everyone could hear. It had a one minute countdown to the start, an announcement at each minute with a



Above: Joe Wurts' Ceres and Supra

Opposite page, clockwise from upper left: Tim Lennon with Bruce Nye's scratch built Nexor (Why Nexor? Because flying it makes your neck sore.), Dave Pratley holding Alan Mayhew's Xperience Pro, Darrel Blow about to launch Greg Potter's Pike Perfect, Dave Pratley and his Espada R



beep at the intervening 30 seconds. After 3 minutes to go, there was an announcement every 30 seconds, after one minute there was an announcement every 10 seconds and a one second countdown from 10 with a final beep to mark the end of working time. This worked extremely well, taking some load off the CD who was also competing in the event. With a minor modification it was also used for the 15 minute flyoff rounds.

One or two flyers got off the line very quickly to stay away from the crowd, notably Joe Wurts, whose launches were generally in the 1-1.5 second range. He still achieved about 2/3 of the average

*Opposite page, upper: Theo Arvanatakis throwing Daniel Haskell's Espada RL
Opposite page, lower: Steve Keep with Michael Abraham's Shadow. Michael represented Australia as a Junior at the F3J WC in Turkey.*

*Below left: Evan Outtrim checking his Radical
Below right: The Nexor*







Upper left: Darrell Blow releasing Greg Potter's Pike Perfect

Above: Dave Pratley launches an Ellipse 4

Left: Theo Arvanatakis holding Daniel Haskell's Espada



Above: Joe Wurts about to release Jamie Nancarrow's Pike Perfect



Right: Joe Wurts launching Mike O'Reilly's Pike Perfect

launch height of the models that stayed on the line for 2-3 seconds. His strategy worked as he topped the qualifying rounds with a perfect score of 14000 after two dropped scores.

The models being flown ranged from the large span Shadow, Zenith, Explorer, Espada, Aspire and Pike Perfect to a number of F3B models such as Radical, Shooter, Evolution and Estrella (the Australian F3B team were there getting some rare team practice). These were

interspersed with Supra, Pike Superior, Tragi, Escape, Furio, Icon, Experience Pro and a couple of scratch built models.

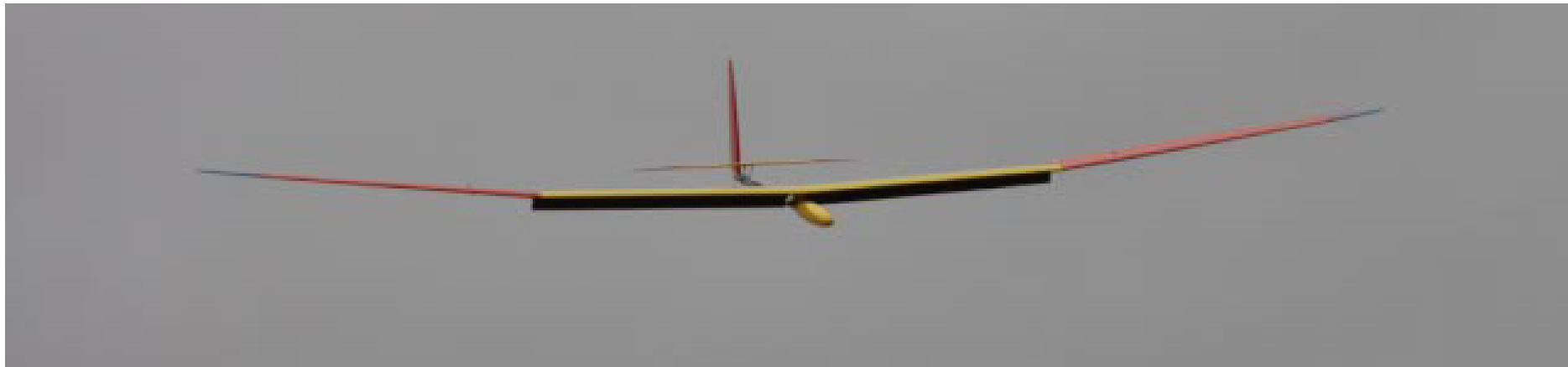
At the end of 16 high scoring qualifying rounds the top seven pilots prepared for the four flyoff rounds. They were Joe Wurts (Supra), Carl Strautins (Icon), Mike Rae (Furio), Mike O'Reilly (Pike Perfect), Alan Mayhew (Explorer), Jamie Nancarrow (Pike Perfect) and Tim Kullack (Radical) (Tim is an Australian F3B team member.)

All rounds were flown in strong thermal conditions with many pilots making their time from a single thermal. However Round 2 saw three of the pilots land early due to a line break, in one case resulting in a very low launch height and an out-landing. The others I think just struggled to get away in the strongest part of the lift.

The top four all produced four "15 minute" flights and were generally separated only by a second or two

*Below and continuing on opposite page:
Joe Wurts launches Jamie Nancarrow's Pike Perfect*





Above: Joe Wurts' Supra on approach





Above: Carl Strautins 3rd place)

Upper right: Mike O'Reilly (4th place) and Joe Wurts (2nd place)

Right: Steve Keep Tim Kullack and Nick Chabrel (Australia's F3B team for 2009)



Left: Mal Pring, Michael Abraham and Joe Wurts

Below left: Mike Rae (1st place), Evan Outtrim and Mike Richardson

Below center: Evan Outtrim and Steve Gleeson

Below right: Garry Whitfield and Darrel Blow





Left: Alan Mayhew, Jim Houdalakis and Gerry Carter

Left below: Bruce Nye and Tim Lennon

Below: Joe Wurts and Carl Strautins relaxing during a flight





Evan Outtrim with Mike Rae's Furio and the Furio in flight





Left: Mike Rae about to land the Furio on the spot

Below: Darrel Blow dorking the Aspire for a close landing



Opposite page -

Upper: Darrel Blow's Aspire on approach

Lower: Bruce Nye's Nexor on approach

Results of Qualifying Rounds:

1	Joe Wurts	14000.0
2	Carl Strautins	13937.8
3	Mike Rae	13916.7
4	Mike O'Reilly	13858.7
5	Alan Mayhew	13848.6
6	Jamie Nancarrow	13840.5
7	Tim Kullack	13836.7
8	Theo Arvanitakis	13815.8
9	Mike Richardson	13808.0
10	Nick Chabrel	13787.0
11	David Pratley	13759.6
12	Darrel Blow	13562.1
13	Jim Houdalakis	13561.0
14	Steve Keep	13541.4
15	Michael Abraham	13427.3
16	Daniel Haskell	13151.8
17	Garry Whitfield	13090.2
18	Gerry Carter	12846.5
19	Bruce Nye	12726.7
20	Greg Potter	12700.1
21	Chris Adams	12596.2
22	Evan Outtrim	12426.3
23	Graham Norman	12390.8
24	Steve Gleeson	12341.0
25	Max Newcombe	12140.3
26	Brett Anthony	12027.9
27	Don Berry	11949.8
28	Tim Lennon	11408.6
29	Jim McDougal	11367.6
30	Gavin Bowden	6219.4

and by their landing scores. Only 30 points separated first and fourth at the end.

This was the first serious F3J event flown in Australia as far as I know and everyone seemed to enjoy the format and the additional challenges that it offered over and above the traditional Open Thermal (Task A) events. A number of competitors had experienced some other F3J events and World Champs, but the majority were flying this event for the first time.

The top 15 competitors were within 95%, the top 20 were within 90% and the top 29 were within 80% of the winning score. One did not fly the first 4 rounds.

SSL club members (and some others) helped with adjudicating premature launches and late landings and checked flight timers while others collected the scores, catered food and drinks, maintained the PA system and whatever else was required during the three days. The event ran very smoothly thanks to the helpers and the calibre and sportsmanship of the competitors.

Right above: Greg Potter congratulates Carl Stautins for placing third.

Right: Joe Wurts clearly happy with his second place in the flyoffs (5 points behind the winner)

Opposite page - Greg Potter congratulates Mike Rae for winning the flyoffs.

The winners: Joe (2nd), Mike (1st), and Carl (3rd)



FINAL STANDINGS

Rank	Name	Score	Model	Rnd 1	Rnd 2	Rnd 3	Rnd 4
1	Mike Rae	3997	Furio	999	999	999	1000
2	Joe Wurts	3992	Supra	996	997	999	1000
3	Carl Strautins	3984	Icon	1000	988	1000	996
4	Mike O'Reilly	3967	Pike Perfect	981	1000	989	997
5	Alan Mayhew	3886	Explorer	987	907	996	996
6	Tim Kullack	3667	Radical	989	696	991	991
7	Jamie Nancarrow	2966	Pike Perfect	989	0	986	991



Containers from **GetStorganized**

During our attendance at the Northwest Hobby Expo in early February, we chanced upon a booth filled with a selection of plastic containers. As we were at the time looking for a container to hold CD/DVD Jewel cases, we were immediately attracted to the display. And right there in front of us was a container made by Komax which was

perfect for our needs - exactly the right size, dustproof (but not waterproof) with a clamp-on lid, and stackable. And the price was right, too.

In the ensuing conversation, it turns out that Theo Mittet started GetStorganized to supply kyakers and campers with an entirely different line of containers. Also

made by Komax, these are water and air tight and come in various sizes. Metal mountable racks are available for keeping these storage containers in place on a wall or under a counter.

GetStorganized now has a number of sizes and shapes of containers available, and all can be purchased on-line.



One of the smaller containers is the R1, just $4\frac{1}{4}$ " L x 3" W x $2\frac{1}{8}$ " H. The set shown on the opposite page is the Fixed Combo Flex Box which is $13\frac{5}{8}$ " L x 10" W x 7" H and comes with eight containers which fit snugly inside. The carry handle folds into a recess in the lid.

As storage containers, these are ideal.

- All are resistant to temperature extremes, with a workable range of -40°F to 230°F.
- All of the containers have snap/lock lids and are "modular" so they are stackable and can be nested with relative ease.
- All are liquid and air tight; the silicone lid ridge liner remains flexible and the clips assure a perfect fit.
- Additionally, all GetStorganized containers are microwave (unlock the clips for venting), dishwasher and freezer safe, and the plastic used is both odor and stain resistant.

While the container we purchased for storing CDs and DVDs is not air or water tight, we want to emphasize that all GetStorganized containers are both water and air tight.

If you're storing metal or electronic parts, the GetStorganized containers are a godsend. Drop in a silica gel pack and snap the lid closed.

The small R1 container described earlier has an on-line price of about \$3.00, while the Fixed Combo Flex Box is available for \$40.00. By the end of this year, GetStorganized will also have available a GS Snap Lock Cooler with a fabric outer enclosure; the price is scheduled to be \$40.00. Tubes ($2\frac{3}{4}$ " dia., 25.5" and 38" long) and conventionally shaped bottles/jars are also available.

GetStorganized

P.O. Box 22389, Seattle WA 98122
(206) 853-4752

<<http://www.getstorganized.com>>



