Radio Controlled Soaring Digest

June 2008 Vol. 25, No. 6

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June 2008
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Front cover: Derek Marusich pilots his CMP Discus CS close to the Tamatieberg slope so Martie du Toit can capture it flying past. For more shots of scale sailplanes, see the Sungazer 2008 event coverage starting on page 4.
Panasonic DMC-FZ50, ISO 100, 1/640 sec., f8.0, 80 mm

Back cover: A classic photo from the 2nd annual WeaselFest Israel. Rene Wallage, hard at work, flying his Weasel (dig the hat and shirt), and Sharon Solomon preparing his Weasel for the next sortie.
Photo by Ariel Erenfrid
Nikon D200, ISO 200, f10, 1/640 sec., 125mm

R/C Soaring Digest

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In the Air

RC Soaring Digest is pleased to be able to host the *Slope Soaring News* archive! For details on how this came to be, see the major announcement on page 33 of this issue. Our sincere thanks to Charlie Morey, *SSN* founder and editor, for making this archive possible.

While many of us were coping with winter weather by building something to fly during the coming summer contest season, Gary Fogel, with the help of Lindsey Chew, made another two FAI record attempts. Provisional details are as follows:

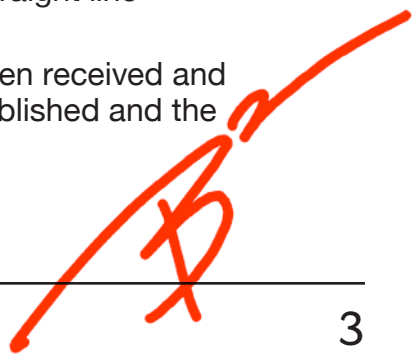
FAI Class F (Model Aircraft) record claims:

Claim number: 15051
Sub-class: F8 Open (Aeroplane, Electric motor S (rechargeable sources of current))
Category: F8: Autonomous Flight
Type of record: N°914: Duration
Course/location: California Valley, CA (USA)
Performance: 31 min 12 sec
Pilot: Gary B. FOGEL (USA) Crew: Lindsey CHEW (USA)
Date:03.05.2008
Current record: no record set yet

Claim number: 15052
Type of record: N°915: Distance in a straight line
Performance: 12.71 km

When all the evidence required has been received and checked, the exact figures will be established and the record ratified (if appropriate).

Time to build another sailplane!



SUNGAZER 2008

a slope scale event

Text by Mike May, Event Organizer
Photos by Russell Conradt, Martie du Toit, Derek Marusich, and Norbert Rudolf

I will start by answering the following questions: Who?... Why?... What?... and Where? Lets' see...

WHO: Well, a group of us South African glider pilots like to visit the slope at Volksrust every now and again.

Some of our trips have been featured in *RC Soaring Digest*, the most recent being the February 2008 issue. We are always honoured.

During this trip we started the idea of an event solely for scale and stand-off-scale model gliders, open to pilots with SAMAA, our local controlling body, membership.

WHY: Well, although they are fun, the normal common type of aircraft seen on our slopes are simple and generally

Paul Carnall launching one of Herman Weber's models. Photo by Derek Marusich

made of foam — what I would term "sky rats."

But when a big scale ship comes whistling by, it has a certain majestic presence that is hard to beat. It is this type of aircraft that can be truly inspiring. They are efficient, and in the hands of a capable pilot can be a pleasure to watch as they soar, something the former fail to achieve.

Upper left: Models in the pit area.

Above: Gert Nieuwoudt's Minimoa.

Left: Charl Viviers Speed Astir.

Photos by Derek Marusich

The pilot figure in Ken Kearns' Skylark. Ken says he spends almost as much time making the pilot as he does building the model! Photo by Derek Marusich

WHAT: The initial idea was to place a minimum span limit of three meters. But on discussion, we wanted to encourage as many aspirant scale glider pilots as possible, so this limit was dropped, and the criteria changed to any size scale glider. This included all the good value Chinese models, which serve as an excellent step into this gliding discipline.

We, the organizers — Charl Viviers, Russ Conradt, and yours truly — were asked about scale jets, but that falls into the PSS genre. So no jets, but perhaps an idea for another event.

WHERE: Volksrust is a sleepy little town almost halfway between Johannesburg and Durban, two of our three big cities with a fair number of pilots in each, the third being Cape Town, a substantial distance away and not worth the trip for a weekend.

The hill (Tamatieberg) outside Volksrust that we fly off (only some 320 meters high) is ideal in that it has the following advantages, most important being good winds.

As the escarpment is only 20 odd kilometres away, there always tends to be big air movements here. It's almost like a funnel, with the prevailing warm north-westerlies giving way to the cool southerlies when a cold front passes over. Even some of the rare winds have slopes onto which they blow, but landing areas are a bit rough.

The landing area on the northwestern slope is large, and after some bush


27
D-2003
1


64
ZS-MEK
2


4


3
CREW

Above: Craig Baker posing with his ASW19, photo by Norbert Rudolf, and pilot Shrek, photo by Russ Conradt. Shrek did manage to survive the tremendous crash which ensued after these photos were taken.

Opposite page: (1) Norbert Rudolf fitting the camera into his ASW27. (2) Ken Kearns going over KA6e preflight with Mark de Klerk. Model built by Ken, now owned by Mark. (3) Chris Adrian's model finished up there after sliding landing. Good view of the town of Volksrust just south of the hill. (4) Ken Kearns preparing his ASH26V. Photos by Derek Marusich

clearing can accommodate even really big sailplanes. The south side is more challenging, as the approach is made cross-wind and the grassed area is restricted, but acceptable for more skilled pilots.

The next big advantage is that the road to the top is paved, unfortunately not with gold but with tar and concrete, and the local farmer who charges a nominal fee does not mind us flying there. I think any venue should be a win-win situation for the land owner and modellers.

Lastly, very reasonable accommodation is available, normally at Oom Louis farm (Oom -Uncle in Afrikaans) right at the base of the hill. He and his wife have set up a small B&B specifically for the glider pilots, and it's another win-win situation for him and us, supplementing his farming activities.

The name Sungazer has its own relevance. It would appear to an outsider. like aliens, that this is what glider pilots practice all day while staring up at the sky. But that is not it.

On one of our earlier visits my son spotted a spiky lizard in a crack in a rock on the mountain. A quick search on the mighty internet for information on this critter revealed it to be a Sungazer lizard.

Craig getting prepared to launch his ASW19. Photo by Derek Marusich

This unique endemic reptile is found only in that area and endangered largely due to loss of habitat, pretty much the story of most red data listed animals.

So this event is named after a lizard that likes staring up and admiring the beautiful gliders soaring overhead, or maybe keeping and eye out for raptors. You decide.

The weather predictions did not look promising for the Saturday — light to no wind from the south, you know the story... But it blew steady all day up to 35 kilometers an hour (about 20 mph) from the northwest. Perfect. I don't know why I got all stressed over the weather bureau's predictions.

The final tally was in the vicinity of 50 scale gliders and 26 pilots officially entered.

Each pilot received a sponsored gift pack including a really nice cap and shirt depicting a Sungazer lizard and glider, donated by Russ Conradt of Durban. These were soon donned and, once the pilots were allocated flying slots, things got underway.

The idea was not to judge scale in the traditional way, but rather have social flying of these graceful gliders for the benefit of like-minded pilots who could really appreciate the show.

And what a show! From a miniature 30cm Zoegling trainer to the seven meter composite glass 'ships, and a number of older built-up gliders was also flown, including the famous Minimoa, Ka6e , Skylark and K8. The flying of these vitage scale 'ships seems to be a growing trend.

A flock of Chinese scalies in the 2.8 meter class also flew, and hopefully these pilots will now move on to bigger things.

The day ended with the approach of a big thunderstorm and a 180 degree swing in the wind as this storm approached.

Mark De Klerk a relative newcomer to the slope, flying a Ka6e, could not believe his luck with all the abundant lift. That was until his glider nearly disappeared into the cloud base. It took some anxious minutes by more skilled pilots to get it back into sight and safe descent. He says he can't wait until we go to the slope again. Go figure.

Saturday evening was rounded off with a good Braai (barbeque for some). Many of us gathered around Derek's laptop to view the photos of the day. The ones that really stand out are the launches. At the point of release, the body language tells a story of its own. And there was the arial photography from Norbert Rudolf's ASW 27.

Sunday of this two day event had the wind from the south and cold misty conditions early on. Only the brave pilots took to the sky. The rest just happy to spectate.

Chris Adriaan, with his smooth flying, wowed the onlookers as he made close passes in the marginal lift. Chris is an accomplished full size gliding instructor and Samba pilot, and this really shows.

The conditions did not really improve, so most guys packed up and started the 3-hour drive back to the relevant metropolis, vowing to return next year, all inspired.

Is there a place for a dedicated scale slope soaring event in our calender? Apparently there is, as it was a resounding success.

Or was it the free beer?

Until next time!

Mike May
Roodepoort, South Africa

Cordylus giganteus, aka Sungazer


johannesburg
minimoa

Opposite page: Ken Kearns preparing his Minimoa. Photo by Derek Marusich
Above left: Mike May's monster "near scale" Ventus. Photo by Norbert Rudolph
Above right: Russell Conradt posing with his ASW22b. Photo Martie du Toit

Top: Ken Kearns going over KA6e preflight with Mark de Klerk before launch.Photo by Derek MarusichAbove: Derek Marusich posing with CMP Discus CS. Photo by Martie du Toit

Right: Paul Carnall poses with his Fox. Photo by Derek Marusich

Ken Kearns pilots his ASH26V through a flypast for Andries Gouw's videoshoot. Landowner's farm is on the left. The hill is used for small scale cattle farming. The town of Volksrust is in the top right of the picture. Photo by Derek Marusich

Above: Craig Baker about to launch Johan Bruwer's ASW2. Behind him from left to right: Ken Kearns looking on while Dion Liebenberg flies his ASH26V, Chris Adrian and Johan Bruwer.

Above right: Gert Nieuwoudt launching Rui King's DG1000

Right: Ken Kearns launching his Skylark.

Photos by Derek Marusich

Opposite page: Norbert Rudolf launches Herman Weber's Ka6e. Photo by Derek Marusich

Right: Lionel Brink about to launch his CMP Discus CS.

Far right: Chris Adrian launching Johan Bruwer's ASW27.

Photos by Derek Marusich

Left: Derek Marusich launching CMP Discus CS. Photo by Martie du Toit

Opposite page: Jason Weber launching his little semi scale model. Photos by Martie du Toit, composite imaging by *RC Soaring Digest*.

Above: Norbert Rudolf's SB10 silhoutted against the bright sky and showing its very high aspect ratio. Photo by Russ Conradt
Opposite page: Craig Baker's ASW19 in flight. Photo by Martie du Toit

Above: Norbert Rudolf's ASW27 flying out for the event photo shoot. Photo by Russ Conradt

Opposite page: The view of the top of Tamatieberg, as shot from Norbert's ASW27. Notice the models on the ground near the antenna fence. If you look closely, a model is being launched from the hillside.

Have you looked at RES lately?

Ed Anderson, aeajr@optonline.net
Aeajr on the forums

Here is the path that many glider pilots take. They start on a typical two meter foam or wood rudder/elevator glider and find they enjoy soaring. Soaring is fun, it is relaxing and challenging all at the same time. You don't need expensive fuel or electric starters, and you don't need big brushless motors and Lipo battery packs. And you don't need all the support equipment that goes with this stuff. An inexpensive hi-start, a cheap radio, an open field, and the energy in the air is all you need to join the birds. This is great stuff!

As is usual, once they get good with their starter plane, they want to move up. So they go to the club glider master and ask for advice on the next glider. "Oh, well if you really want to do it right, you should go to a larger plane because bigger flies better." OK, no argument there.

"And you should get a full house glider and a real sailplane radio," advises the soaring master. And so the excited pilot gets a 3M full house whatever. If he has enough money he may buy into one of the composite planes. He gets a hot shot sailplane radio, too. This thing has switches and dials and mixes and flight conditions galore. Now he is going to become a soaring master by the end of the month!

In some cases this works out very well, and in others the complexity of the planes and the radios become a real challenge. A lot of money is invested and all of a sudden flying gliders has become complicated and expensive. And the soaring master says, "If you really want to launch that megaplane, you need a winch."

What happened to easy, relaxing and low cost? And if you break it, well now we are talking composites and bags and molds and a lot of money at risk. HELP!

This is nearly the path I followed. I actually had a couple of 2M RES gliders. I really liked them, but I wanted to be a real glider pilot so I moved on to a 3M

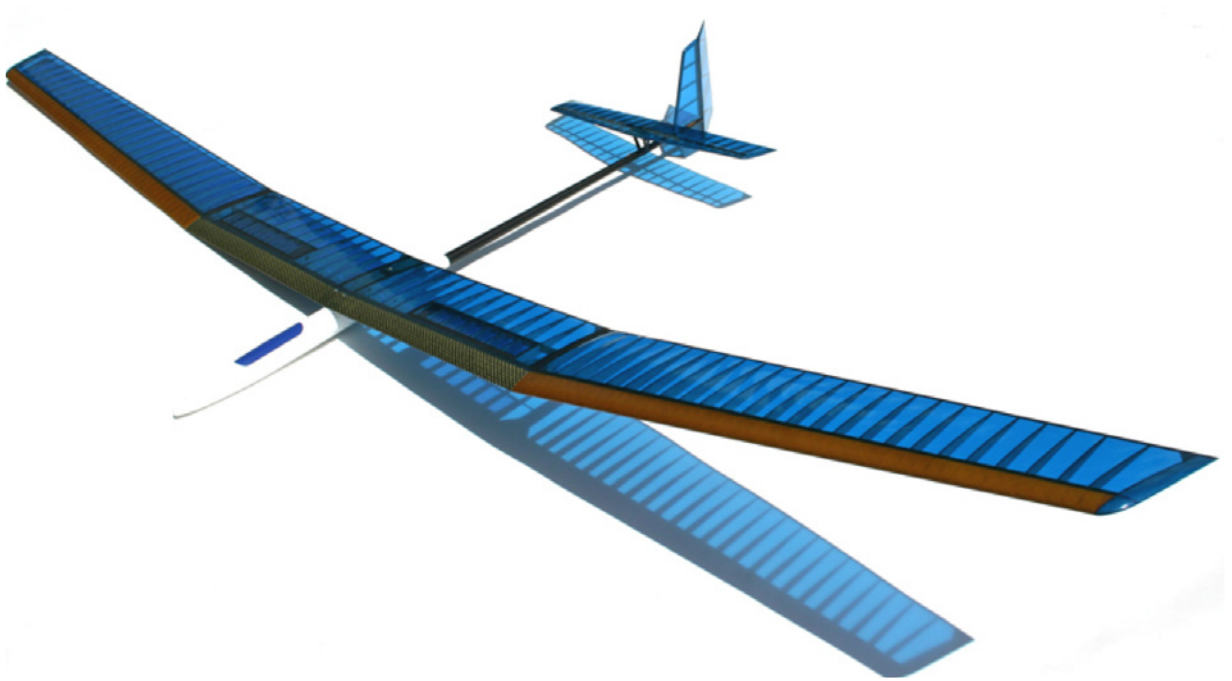
full house sailplane and a 9-channel sailplane radio. While I struggled to get all this mixing and camber changing under my belt, I learned a lot about how to fix full house glider wings and fuselages. And finding and staying in lift was more demanding than when I was flying my Spirit. (Yea, I had my launch mix on when I meant to be in Thermal 1.)

Of course there was RES, but that was for those nostalgia pilots and the woody kit builders, not for me. I was going to fly Unlimited competition. I had launch mixes and landing mixes and camber and... stuff. And I had access to a club winch. I was beyond RES.

I am happy to say that, today, my usual flight routine skips the crashing phase. Camber changing and the like are now part of my daily flying routine. But it took a while as I am not the sharpest knife in the drawer. And I did not practice as carefully and with sufficient focus to really get command of all these tools that were in my hands.

HEY BUDDY, LET'S TALK RES

Sailplanes that are designed around rudder, elevator and spoiler controls were once the standard. They were the hot competition planes and they were the design of choice for most pilots. There were no computer radios, so any kind of mixing for a full house plane had to be done mechanically. That was tricky and potentially troublesome.



The Topaz. Photo courtesy of Soaring USA

However, with the arrival of affordable computer radios it became easier and less expensive to go to full house gliders. So going full house - rudder, elevator, aileron and flap - became more practical, and the path of choice for "real sailplane pilots."

Somewhere in this evolution many of today's pilots skipped RES sailplanes. They were considered "beginner" planes. Real glider pilots used ailerons and flaps, right?

Lately I have been reading about the new generation of RES ships. I also started seeing them show up at Eastern Soaring League Unlimited sailplane contests, being flown against the full house ships. And the pilots who were flying them were not beginners. These were pilots who had full house ships and fancy radios. So, why were they buying and flying RES ships?

I can't say for sure when this RES resurgence started, but it seems to have occurred around the time that Dr. Mark Drela introduced his Bubble Dancer RES sailplane. The Bubble Dancer was based upon a built up wood design and a carbon/kevlar spar. This spawned a

The Author's AVA. Photo by Ed Anderson

whole family of related designs which include the AVA, the Topaz, the Soprano and others.

To be sure, there are many R/E and RES planes of the past that have been great flyers, but I have not seen too many of them as gliders of choice at Eastern Soaring League Unlimited class contests.

But these new birds are showing up in the hands of experienced flyers.

These new generation RES gliders are very light, but they are not fragile planes. They can take hard launches yet are so light that their ability to float and hang in super light lift may give them a competitive advantage in light to moderate conditions. Add some ballast for those windy days and you can increase their penetration ability quite a bit.

Some of these high-end RES planes are using similar airfoils to the full house ships. And the bent wing RES design makes them supremely easy to manage at the edge of visual range, offering the less experienced competition pilot the confidence to range out to work that fringe lift. And for a sport pilot, this is the fun, relaxed experience they fell in love with back on the R/E 2M glider.

So, I took the plunge and bought an AVA. Oh my goodness, what a wonderful experience. This is the feeling that got me involved in sailplanes in the first place. This is the easy flying, low-pressure feel that I fell in love with on my Spirit and my Sagitta 600. But this is a big plane and it launches like a competition plane. I like this experience.

My Supra and my Thermal Dancer both fly great and I love them. At 64 ounces and 59 ounces respectively, they have a wing loading just under nine ounces per square foot of wing area. They report and work lift very well. Using my sailplane radio I can reshape their wings in flight to do all sorts of neat things. I have no intention of abandoning these full house wonders.

But the AVA, and similar RES planes in this class, are working in the 35-50 ounce range with wing loadings in the

five to seven ounce range. These are real floaters that can rise on a whispered wish or the byproduct of a franks and beans lunch. In calmer conditions, flying the AVA almost feels like cheating because it is so easy to sky the plane out. My friend's Topaz has a similar feel. They are nothing short of amazing.

My full house birds need all of my attention all the time. By comparison, the AVA practically flies itself, leaving me more freedom to watch the air and the conditions. And since I don't need launch modes, flight modes, camber modes or any other modes, I can't make a mistake with my dials and switches. Fly smooth, pay attention, rise on the thermals, and just enjoy!

When the wind picks up, their very light wing loading can leave these planes feeling like leaves on the breeze. So, do you put them away? NO! You ballast, baby; you add lead!

I wrote about ballast in last month's *RC Soaring Digest*. Adding ballast increases the range of conditions these planes can fly. And adding ballast can increase the pilot's confidence to work that lift higher and longer and further out.

The AVA, for example, is typically in the 40–45 ounce range, depending on

The author's Spirit 2M, his first sailplane, and his Sagitta 600 2M, a competition RES glider from the '90s. Photos by Ed Anderson.

Another view of the author's AVA. You can see the wing has a flat center and two dihedral breaks on the outer panels, a common design for RES sailplanes. Dihedral is necessary for banked turns without ailerons. Photo by Ed Anderson

your equipment and options. Mine is 44 ounces with a center landing skeg, a ballast tube, and a modified split spoiler that has two servos. This yields a 5.7 oz. wing loading on a 127" wing.

We had some gusty conditions last weekend with some over 10 mph. I was able to fly the AVA just fine, but with an added nine ounces of ballast, it smoothed out nicely and rose beautifully in lift. This increased the model's weight and the wing loading about 20%, giving me a much more comfortable flight experience and better penetration without having to use a lot of down elevator to penetrate into the wind. I would not necessarily add this much ballast under these conditions, but this is what I had and I wanted to see how the plane would fly.

Since I plan to fly the AVA in a broad range of wind conditions, I plan to make up a 16 ounce ballast package as well to take it up to 60 ounces, or about a 36% ballast load. However, even at 60 ounces the wing loading is still under eight ounces per square foot of wing area. I have heard of competition pilots adding ballast to over 50% of the plane's weight for this and other RES planes in this class.

And ballast is not just for competition pilots. Any sport pilot who looks at a 10 mph wind and leaves the plane in the racks should start working with ballast. It will add a lot of flying days back onto the calendar.

WHAT ABOUT MY RADIO?

You can fly any RES ship on a simple three or four channel radio, like the Hitec Neon or the Laser 4. On a RES ship, in mode 2, you put the rudder on the right stick so you do all your flying with your right hand. You use the third channel to raise the spoilers, which reduces the lift of the wings to help to bring the plane down to a nice landing. If you can control this on the left hand, you have the perfect combination.

Depending on the RES plane, you will probably need to add some up elevator to hold the plane more or less level or it will start to dive when the spoilers are deployed. With elevator compensation the plane can settle down on a flat glide for a nice controlled landing near you, or on the landing tape for points.

Above: Here we see three proud pilots showing their Sopranos. Photo Courtesy of Isthmus Models. Right: Bob Legue and his Skybench Aerotech Olympic lll RES glider. Photo courtesy of Skybench Aerotech.

If you are going to buy a radio but are on a budget, most of the introductory computer radios have a flap to elevator mix built in. You will use it as a spoiler to elevator mix, which is the same thing, but may need negative numbers to get the right motion. Having this one mix can make a RES plane supremely easy to land as the elevator compensation becomes automatic and you can focus on the plane. You won't need all the other fancy mixes, flight conditions and the like that the full house glider pilots love to debate. With RES it is so simple to fly successfully.

Systems like the Spektrum DX6i, the Hitec Optic Sport and similar entry level computer radios have more than enough capability to bring out the best in your RES ship. And, while they are not real "sailplane" radios, they give you enough

in options to get into full house sailplanes if you ever decide to go that path. Then you can lust for that 8-12 channel mega-mixer, but for your RES glider you won't need any of that fancy stuff.

Some radios may allow you to put the spoiler control on the stick while others put you on a dial. Some only offer you a three-position switch for closed, half open and fully open spoilers. While that may seem quite limiting, if you practice with it, that should be enough control for all but the most precise work. In fact some people prefer the 3-way switch because the response is known and consistent. If you have the option, being able to operate the spoilers with the left hand while you fly with the right is best. Again, I am assuming a mode 2 radio arrangement.

Even though I have fully variable spoilers, I tend to deploy them at half and full most of the time. The variability just lets me ease them in, but I have a half way stop on my control so I can feel that mark. If you practice with those settings you will know how to use them and you can become quite accurate with your landings.

SPOILERS VS. FLAPS

One advantage spoilers have over flaps is that they raise the stall speed - the plane will stall at higher speeds than when the spoilers are closed. If you slow too much you can retract them - the lift of the wing will increase, and the plane will continue to fly. In this respect they are more forgiving than flaps.

With flaps you decrease the stall speed so you can slow the plane way down and keep flying. But if you slow down too much, pulling the flaps in will increase the stall speed and you may not have enough speed to keep flying. So if you apply too much flap too soon, then retract, you may stall and drop. And if you do this at 20 feet you may not have enough room to pick up speed to reach flying speed again. Don't ask how I know.

RES is simple and forgiving

(Yes, please put the pieces in the bag.)

I have tested this theory more times than I care to remember, unintentionally. It holds true every time. In my early full house experience I proved this over and over. My Legend has the scars to show for it. Combine this error with a high wing loading plane and you have a wonderful lesson plan for learning to repair wings and fuselages.

Once you have flaps out and the plane slows, you may not be able to safely retract them. You don't have this problem with spoilers. See, RES is simple and forgiving.

Now, the full house competition wizard enters and says, "You know with the flaps on a full house glider you can slow that bird down real nice and just about walk it up to the landing tape to nail the best landing score. You got no flaps on a RES plane." He strolls out with a smile.

Of course he is right. But with a plane in the 5-7 oz/sq. ft wing loading range, the plane already flies slow, so there is little need to slow it down. I just float it up to the landing tape, pop the spoilers and put the nose down. In fact my first day out with the AVA I almost hit the spike at the center of the circle, twice. I have never done that on any of my full house planes.

WHAT IF YOU LIKE TO FLY IN CONTESTS NOW AND THEN?

If you like to fly in contests but don't plan to accumulate a lot of specialized contest planes, RES may be your ideal plane. RES planes can be flown in most Unlimited contests as well as RES specific contests. So one plane can be your contest plane for both.

If you build one of the wood RES planes then you can also fly in woody and maybe some nostalgia contests, too. Check the rules, but wood planes like the Bubble Dancer are legal in contests like Wood Crafters, even though they have carbon in the spar. Build a Bubble

Dancer and you can now fly woody, RES, and Unlimited with the same plane. That is something you can't do with your 3M composite full house plane.

And there are kit makers like Polecat Aero, Skybench, and MM Glider Tech that offer RES kits for very reasonable prices. And the AMA has a plans service available, so check with them if you like to build from plans. If you like to build, don't overlook RES.

Many of the wood kits either call for carbon reinforcement of the spar, or can be modified to take it so you can feel confident making strong launches and get some pretty high launches without having an all-composite plane. I can say my old Legend, with a carbon capped wood spar, can take a full pedal launch on our club winches. Wood is not just for nostalgia anymore.

Wood RES kits can get you into the running on a low budget. Now you have to practice! Whether you are flying wood, or one of the high-end composite RES ships, a well-practiced RES pilot can do pretty well in most contests. I have read many reports of RES pilots scoring well or winning Unlimited contests against full house pilots.

If the conditions are light and you have a light RES ship, you may be at a competitive advantage against the heavier full house planes. And if you have practiced with ballast, wind does not have to be a reason to drop out. So, don't hold back, go challenge those full-house guys and go for the gold!

TAKE A LOOK AT RES

Look around and you will see RES ships popping up like dandelions on my front lawn. They are fun, they are great flyers, and they just might be the best next ship for your fleet.

Have you RESed lately? ■

RESOURCES

• If you are not familiar with spoilers, this article may be helpful:
http://www.skybench.com/report/spoilers.html

• Some of the RES planes and suppliers mentioned in the article can be found here:

Spirit 2M RES
http://www.greatplanes.com/airplanes/gpma0530.html

Bubble Dancer
http://www.charlesriverrc.org/articles/bubbledancer/markdrela-bubbledancer-3m.htm

AVA
http://www.kennedycomposites.com/ava.htm

Topaz
http://www.soaringusa.com/products/product.htm?product_id=16708&category_id=293
and
http://www.skipmillermodels.com/topazs.php

Soprano
http://www.isthmusmodels.com/product_info.php?cPath=21_27&products_id=97

Skybench Aerotech
http://www.skybench.com/

MM Glider Tech
http://www.mmglidertech.com/

Polecat Aero
http://polecataero.com/products/ezbd

AMA Plans Service
http://www.modelaircraft.org/plans.aspx
(765) 287-1256, ext 506.

• Discussions on RES Sailplanes:

AVA and Topaz – Too Light?
http://www.rcgroups.com/forums/showthread.php?t=843256

RES or Full House – Which is Better?
http://www.rcgroups.com/forums/showthread.php?t=859132

What RES Planes Do You Guys Like?
http://www.rcgroups.com/forums/showthread.php?t=839959

Brad Conlon wins DMAC "Most Improved" trophy

Don Slatter, dslatter@mweb.co.za

A couple of years ago, Durban Model Aircraft Club (DMAC) instigated a trophy for the Most Improved Postals Pilot in DMAC. The trophy was beautifully produced by Fred Wittstock and sponsored by Don Slatter. There is also a small cash award with the trophy.

The objective was to reward and encourage those lower down in Postals who had improved their performance significantly over the previous year.

The assessment of improvement was based not entirely upon the number of places gained, but upon the percentage improvement in the number of places. Thus, for example, a pilot who moves from 20th place to 5th place will score better than a pilot who moves from 30th place to 15th even though they have both gained the same number of places. To qualify for assessment, a pilot has to have flown at least three of the four Postals rounds in each year.

I have said the trophy was really aimed at the lower placed pilots in Postals, but as Murphy's Law would have it, the first time it was awarded (last year for the best improvement in the 2006 Postals over the 2005 Postals) the trophy went to our current best pilot Allan Sneedon. Allan improved from 8th in 2005 to 2nd in 2006, a really outstanding achievement.

This year, the award was made for best improvement from 2006 to 2007 and the trophy went to Brad Conlon. Brad improved his 23rd position in 2006 to 4th in 2007 and is worthy of our sincere congratulations for another outstanding performance.

Mention should again be made of Allan Sneedon who was determined to retain the trophy and came close to doing so with his improvement from 2nd in 2006 to 1st in 2007. Its hard to improve upon that!

Photos, courtesy of Dennis Bird, of Brad receiving his trophy and with his trophy and X-Perience Pro.

Announcing...

Thanks to the graciousness of Charlie Morey, we've been given the opportunity to create a PDF archive of *Slope Soaring News*.

For those not familiar with *Slope Soaring News*, *SSN* was Charlie's brainchild which enjoyed a run of twenty issues in the late 1980s. The first issue was published in September of 1988, and the last issue was dated June/July 1990. During nearly two years of publication, *SSN* enjoyed quite a following. Manufacturers, flying sites, aerobatic skills, personalities, and everything else related to slope soaring was covered. Particular issues of *SSN* are sometimes mentioned within the RCGroups web site, the RC Soaring Exchange e-mail list, and other venues, but very few people of *SSN*, and tracking down specific articles is nearly impossible.

Because of this lack of availability, we contacted Charlie and have received permission to create a PDF archive of all twenty issues of *Slope Soaring News* on the *RC Soaring Digest* web site. You can find the growing archive at <http://www.rcsoaringdigest.com/SlopeSoaringNews/>. Each *SSN* PDF issue is about 5MB in size.

Reproduced here is an "ensmalled" (as opposed to enlarged) version of the first issue. The archived issues are the original 8 1/2 x 11 inch format, reproduced in grayscale at 150 dpi from 600 dpi scans.

If you would like to continue to see miniaturized versions of *Slope Soaring News* in future issues of *RC Soaring Digest*, please let us know.


Free First Issue!

S.M.'s 'F3B' Slope Racer — Vader's Amazing Pod Planes

Slope Soaring News

Vol. 1, No. 1 — FREE First Issue

FLIRTIN' WITH DISASTER! Jeff Fukushima knife-edges his Hobby Shack/Fly-By-Night Shadow along the dreaded Long Beach rail just nanoseconds before feeding down-elevator to complete his awesome rail roll.

Wingin'It

Outlaws

Far off to the right, a cloud bank scatters the late afternoon sun in narrow golden shafts onto the Pacific Ocean. Seagulls wheel above us as the burned-out beach goers below shuffle slowly up the bank, burdened by beach chairs and coolers, back to their cars and the everyday realities, heavy traffic, blaring horns. The cliff faces south-southwest. From almost due south a cool, wet, evening wind carries dreams of Mexico along with its precious cargo: lift for our earthbound sailplanes.

"Nose to tail, the planes zip by at warp speed, barely at bluff level, and pull up into long, high-speed, slow-motion rolls followed by huge split-Ses."

Chuck and I have been exploring. We visited Kite Hill earlier in the day, then struck off for the coast in search of new flying sites. It was a discouraging enterprise. We found only chainlink fences rimmed with concertina wire. "Private Property" signs threatened our prosecution should we violate. Homes built on perfect natural flying sites were inhabited by dullards who have never looked up and seen the great hawks circling above.

Even now we're off limits. On either side, fences and signs forbid our passage...something about beach reconstruction. Don't ask. We can't figure it out either.

But it doesn't matter. A fence came to an end, a sign had been uprooted and lay face down on the coastal desert floor. Chuck lifted its edge with his foot, read the same old message and let it drop. Ignorance may be no excuse, but sometimes it does pay off. We ignored the sign.

Only a few beach stragglers remain as we launch the little Vader-style aileron planes. And only a few of them have the mental energy to look up and smile. A couple of groups come by, and we answer the aileron, rudder, elevator, radio and "How much do those things cost?" questions for the 1,001st time.

Then, they're gone. Only the gulls and two high-mileage kids with their toy airplanes are left to frolic in the ridge lift over the waves.

South, upwind, the bluff goes higher. We use it to gain 200-250 feet, then bank into our best "Bridges of Toko Ri" downwind bombing runs. Nose to tail, the planes zip by at warp speed, barely at bluff level, and pull up into long, high-speed, slow-motion rolls followed by huge split-Ses.

Chuck amuses himself by feeding in some down elevator at the peak of the split-S to carry the delayed downwind maneuver even further. It's a beautiful stunt, and its lazy duration (and his ability to get away with it) seems symbolic of our freedom to trespass and enjoy the natural attributes of the site.

I get harrassed by a cranky seagull, then find revenge on the next pass. An unsuspecting gull suddenly finds himself locked in my sights. Startled, he banks sharply seaward, but the strange wooden bird stays on his tail. He dives, cutting back and forth, trying to shake the unidentified attacker, but (much to the pilot's surprise) the sailplane is able to shadow his every evasive tactic. Finally, the gull makes a low level run for the ocean, just skipping the wave tops, and the pilot, satisfied that justice has been served, returns to the security of the bluff.

We're lucky. We have found the perfect day at the perfect site. If we go back next weekend to spend an afternoon, it's likely that a park ranger, sheriff, lifeguard, someone with a badge and nothing better to do than interfere with our freedom, will send us on our way. But for now, we've got it made.

Charlie Morey

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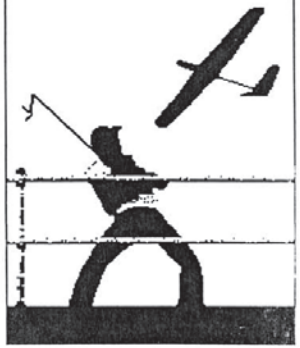


SSN Groundcrew

Auger-In Expert
Charlie Morey

High-Speed Inverted Extrovert
Chuck Korolden

Perplexed But Amazingly Patient
Marcie Berriz

Flight Instructor Extraordinaire
Tipstall Wingover, III

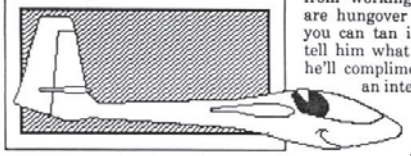
EDITORIAL CONTRIBUTIONS are much welcomed. Unfortunately, we can't pay for them. Editorial material is selected based on its perceived value to the slope soaring community, and the publisher assumes no responsibility for accuracy of content.

CLUB CONTRIBUTIONS are welcomed. Please keep us notified of your club's events and/or fun flying activities. Material printed will be selected at the discretion of the editors, unless the club has arranged in advance to publish a regular monthly column. For a $40 per page per month charge, CSSN will print all your club news.

ALL CONTRIBUTIONS should be addressed to SSN, c/o Charlie Morey, 2601 E. 19th St., #29, Signal Hill, CA 90804. All contributions requested for return must be accompanied by return postage. The editorial deadline is the 15th of the month preceding the cover date. All material is subject to editing and revision as necessary to meet SSN requirements. We can accept Ascii text files over the phone or work with your IBM-compatible 3-1/2" or 5-1/4" disk. Please call first for details at 213/494-3712. Don't get depressed if you get our answering machine. Just leave your name, phone number and the purpose of your call, and we'll get back to you.

ADVERTISING inquiries should be addressed to SSN, c/o Charlie Morey, 2601 E. 19th St., #29, Signal Hill, CA 90804, 213/494-3712.

SUBSCRIPTIONS are $15.95 per year in the U.S. Canada/Mexico: $22 U.S. per year. Europe/England: $26 U.S. per year, Air Mail. Asia/Pacific/Middle East: $30 U.S. per year, Air Mail.



Reasons Why You Should Encourage Your Mate To Fly R/C Slope Gliders*

BY MARCIE BERRIZ

--Because when he complains that you spend too much time doing lunch jabbering with your women friends, you can remind him of how much of the time he's at the bluff he's actually flying and how much time is spent jabbering with his flying buddies.

--Because when he moans and gasps about the $200 you spent on new aerobic clothes and shoes, you can point to the entry in the checkbook for $300 for the new Super Duper Whatever he just bought.

--Because when he teases you about how long it takes you to put on your make-up and blow-dry your hair in the morning, you can answer that he spent three evenings hand-painting the pilot's head that now perches in his glider.

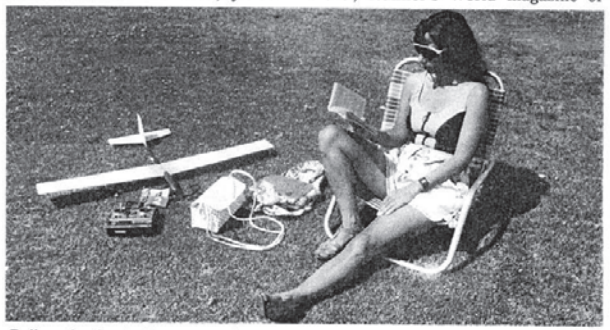
--Because when you're exhausted from working overtime all week or are hungover or just feel plain lazy, you can tan in the sun at the bluff, tell him what a great pilot he is and he'll compliment you for taking such an interest in his hobby.

--Because when he says you're too fastidious because you got angry after the beer bottle he left on the wood coffee table stained it, you can recount the time he yelled at the model-store owner who sold him a kit with one wing 1/16" shorter than the other.

--Because while he spends hours in the garage sanding, gluing and assembling, you can lie on the couch and read the latest Jackie Collins novel, *Runner's World* magazine or an issue of *1001 Home Ideas* without interruption.

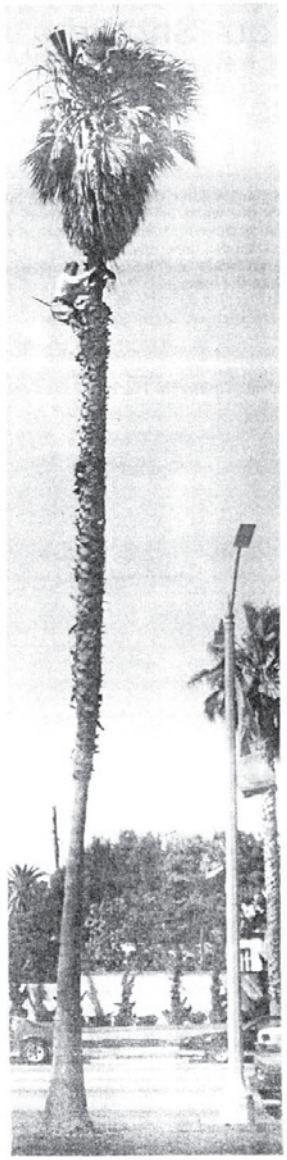
--Because if he points out that your clothes take up two-thirds of the closet space and that it's not possible for one person to wear so many shoes in one lifetime, you can ask him how many lifetimes if would take him to build all the kits currently in the garage and when he's going to make room for your car to fit in there.

--Because most of the time when he comes home after flying, he feels happy and gives you a hug and a kiss. (Of course, you stay well out of his way when you see him walking up the driveway with his new pride-and-joy in two or more pieces.)



Believe it of not, there are advantages to being a slope soarer's companion.

*Pilots, you may not want to show this article to your mate!



Dr. Death Rescued!

Dr. Death is MIA! The news spread quickly along the Long Beach slope-society grapevine. Don Autry, owner-pilot of the infamous "Dr. Death" pod-and-boom combat ship, had attempted to knock another flier's polyhedral floater loose from where it had lodged at the top of a local palm. In the process, he managed to stuff his own glider firmly among the fronds.

On Saturday, July 23, Autry staged a daring rescue mission. Wearing borrowed pole-climber spikes and harness and carrying a telescoping snake stick, he scaled the palm to reclaim the remains of the black-Monocoted Vader pod plane. The sweltering 90-plus-degree heat hampered Don's long, slow climb and descent, but his mission succeeded. Dr. Death, tattered and missing its battery pack, was plucked loose and lowered gently to the earth amid the cheers of an appreciative audience. The war will resume as soon as Autry builds a new wing.

Tree-totalled: But Dr. Death lives!

De Latest De Weese Design

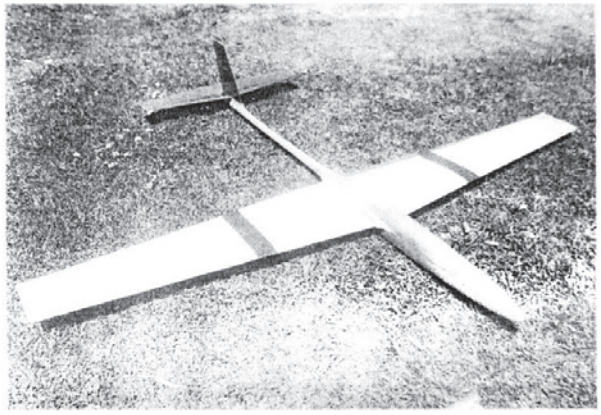
"Oh, just call it Number 10, or 12, or something like that," Armand De Weese responded when asked for the name of his latest creation. The master model builder and avid experimenter extraordinaire always brings innovative designs to the Long Beach, Point Fermin and Pomona slopes. Number 10 or 12 was no exception.

De Weese shaped the attractive 37" fuselage from balsa, then added a fiberglass skin for strength. The wing is fiberglass-covered blue foam -- no wood used at all -- shaped using the lower foam core bed and the vacuum-bagging process. The 44" wing measures 6.7" at the root and 4" at the tip. The airfoil changes from an Eppler 226 at the root to an Eppler 228 at the tip.

Designed for aerobatics, Number 10 or 12 features coupled elevator/flaps. The elevator and flaps are both trimmed at "0" to give a slight downward glide. Level flight requires up pressure on the stick, but inverted flight requires only the same amount. "You're always flying it," said De Weese, "but it works exactly the same whether rightside up or upside down." The plane performs very clean aerobatic maneuvers, rolling axially with its mid-fuselage mounted wing and losing no altitude (or requiring excessive elevator compensation) in the process.

A fringe benefit of the clean design is its speed, noticeably faster than its designer had anticipated.

Armand De Weese's sleek design features coupled elevator and flaps.



R/C Swap Meet

Radio Control Show, Sell & Swap
Saturday, September 17, 1988
10:00 a.m. to 5:00 p.m.
Building #14
Orange County Fairgrounds
Costa Mesa, CA
General Admission: $5.00
Advance Tickets: $4.00 (four or more)
Consignment Table, call for info
Door Prizes, Raffles
Grow Productions
714/674-1773
Please tell 'em you heard about it from Slope Soaring News!

Silhouettes on the Slope

If all goes well for Doug Hertzog, his sleek slope soarer will one day be sitting on your dealer's shelf. The 43" Silhouette features all-wood fuselage construction with sheeted foam-core wings. Doug is working out the final wing design right now, and he hopes to have it kitted in a few months.

"It's made to compete with the Son of Savage, to sit right on the shelf beside the S.O.S. and be bought by the same people," said Hertzog. Every weekend we see him at Long Beach, testing new wings for speed, inverted flight and basic aerobatics. The plane looks good, but Doug's not satisfied, yet.

Doug and copilot Troy Hertzog, testing the latest Silhouette prototype.

Bluff Cove's WWII warbirds: Designed for expert builders and fliers only!

Warbirds!

If you're into power scale slope gliders, you won't want to miss next month's Power Scale Special. Until then, here's a hot tip for anyone interested in owning a Spitfire Mk. 15, Messerschmitt 109 or a P-63 Aircobra. Contact Chuck Allen at Chuck's Model Shop, 14005 Hawthorne, Hawthorne, CA 90250, 213/644-5000. Paul Masura and Brian Laird of Slope Scale make partial kits, and Chuck sells 'em. An additional $20 for wood and finishing materials is required to complete them.

But be warned, the $60 kits are intended for expert builders and pilots only. They're very fast flying, heavily wing-loaded models. As their designer says, "They're definitely for high-lift places."

ModelNet: The Modelers Computer Network

If you own a personal computer and a modem, you can access the AMA's electronic bulletin board called ModelNet on CompuServe. You can send electronic mail to AMA Headquarters. You can locate and read current AMA news, contest schedules, and other helpful information. You can participate in an aeromodeling message board, and join online teleconferences with other modelers around the world.

To use ModelNet, you need (1) a modem to connect your computer with your telephone and (2) terminal software to allow your computer to send and receive information. Almost

all personal computers offer these features; some come with them already built in. You will pay an initial fee to subscribe to CompuServe, which will give you access to all their services, including ModelNet. Then you will be charged for the amount of time you spend connected to the service. CompuServe has local phone numbers in all major cities in the U.S. and Canada, and can be accessed through several telephone networks, so there should be no extra telephone charges for the time you spend online.

Many modems that are sold include free sign-up kits for CompuServe, which will save you the initial subscription fee; ask your computer dealer. You can get complete information by calling CompuServe at 800/848-8990.

Once you're online, it's easy to communicate with AMA. Their Easyplex (electronic mail) address is 76703,3041. You can send and receive private mail through Easyplex; type GO EASY to access the service.

Typing GO MODELNET gets you into AMA's area of CompuServe. ModelNet has a message board section where members leave and read messages on different topics. You might be looking for a used sailplane or have a radio you want to sell; leave a note to Suptopic 9, the Swap Shop, and everybody will see it. You can post announcements of your local contests or club activities to Subtopic 1, AMA Business. ModelNet has a Data Library where you can read all sorts of articles, files and computer programs. The AMA Contest Calendar is stored here, and updated twice each week. There are articles available that won't appear in print until months later; the authors put them in ModelNet for you to read before publication. Kit reviews, helpful construction tips, even programs to plot airfoils are all stored in the Data Library.

Once a week, there's an Online Conference on ModelNet. Everyone goes into the Conference area, where the lines you type pop up on everyone else's screens with your name in front. Conferences have been held on special topics and with special guests, but most are open discussions on a wide range of topics. It's like a conference call with 20 or 30 other modelers.

If you have any questions, please call Doug Pratt at the AMA Headquarters, 703/435-0750.

Summer school was never like this!

Absolute Beginners

The oldest kid in this picture is Bob Ratzlaff, owner of Wilshire Model Center. The other two are registered in Wilshire Model's summer-vacation introduction to modeling. For $425, your favorite young guy (or gal) gets a Futaba Conquest four-channel radio, a Wanderer kit, five weeks of supervised building instruction and assistance, no-limits flight training and a student soaring contest at the end of the summer. Watch for 'em at Malibu.

Totally Annular!

Looks like a tube tail to us, but creator Terry Abell says it's annular. We suspected he was talking dirty until our handy Webster's dictionary came to the rescue with "of, like, or forming a ring." Now we get it. This annular tail is hinged at the front edge and is pulled up or down with a pull-pull system of tensioned strings to eliminate linkage slop. He's built it both in balsa and clear plastic.

The tail is definitely trick, but Abell's little S.O.N., or Son of Ninja, doesn't stop there. It's a wingeron ship with large wing and tail surfaces and a small, short fuselage. It'll turn almost within its own length!

"The trick is that it has a very thin wing, and it's a very light airplane," Terry explains. The little S.O.N. has a six-ounce wing loading and flies on a modified Jack Chambers JC-14 airfoil. The 7.6%-thick 'foil is semi-symmetrical at the front, then goes undercambered at the trailing edge. Terry's modification simply makes it into a flat bottom.

The S.O.N. isn't kitted. Abell helps a selected group of proteges build them to spec. The white one shown here belongs to a student. It features a wing that's 1/32" thinner and a conventional tail design.

Terry Abell's S.O.N. sports this "annular" or tube tail. Terry's protege opted for a conventional tail on his S.O.N.

Chuck It!

Welcome to SSN! Here's what we're all about and how you fit tn.

There are many different types of flying in the world today, so here in the latter part of the 20th century we get to see a lot of new stuff. And not all of it comes out of Hughes or Northrup. In the last two years, at the slope where I fly, the advancements have never been more prolific or functional. The lift isn't the best, so design is very important, and a lot of interesting planes get built. Some actually fly, a few fly great.

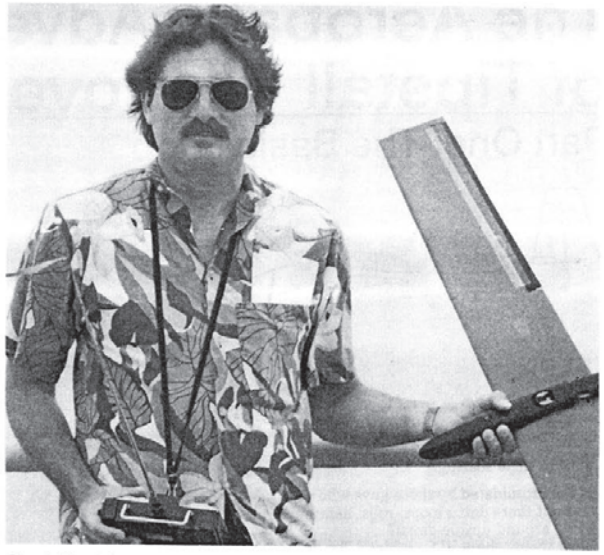
For me, it all started about two and a half years ago. For the umpteenth time, I drove by Long Beach's Bluff Park on the way home from work. While waiting for the green light, I watched the seagulls and slope gliders trade air space in the updraft and thought how much fun that must be.

"...the advancements have never been more prolific or functional..."

Suddenly, I was snapped out of my revelry and back to the cruel world of the earthbound by the blaring of car horns. The light had turned green. But this time, instead of going home and thinking that one day I should stop and get more info, I stopped and got more info.

From that day on I was doomed to look at hills and cliffs in a different way. To this day, I can't drive up the Big Sur with out going shit-for-brains over the lift sites. The sign that reads "Vista Point 1 Mile," should read, "Lift Ahead," with an international symbol that shows a propeller in a circle with a line through it. Not to say "No power planes!", but to say, "No motors needed. This is a natural flight area."

After building several sailplane kits, it became time to do my own design. It was adequate to say the best, but it taught me more about building and aerodynamics than ten books. Don't get me wrong, books are very important. A lot of experience goes into them, and every one, no matter how good or bad, has something to offer. But there is no substitute for "stick time." And hence, the reason for the Slope Soaring News.



Chuck Korolden spends most of his flying time at Long Beach testing his "Swift" and practicing aerobatics and formation flying.

SSN's first purpose is to share experience among slope fliers. I've flown at Torrey Pines, the Golden Gate and at many sites in between. The ideas and techniques practiced at these various sites are as numerous as the stars. By sharing these ideas with each other, we can surely generate more.

What all this boils down to is input. Input on a sport that is very much at home in California. Prevailing winds and high coastline bluffs produce a perfect place to fly like the birds. If you've got something to say about slope soaring, write us and we'll share it with our readers. And this brings up my last point.

We would love to be able to send the SSN to you free of charge, but the cost of printing and postage is formidable. The price of paper and toner for the laser printer alone would buy a new airborne system for the many backlogged ideas we have already.

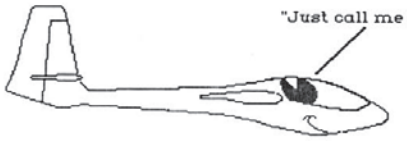
Eventually, we hope to get support from advertisers. This first issue will help determine what we can charge for ads by the reader response. If you would like a monthly update on the slope soaring scene in California, plus news on club events, building and flying how-to articles, photos, drawings and info about the new stuff we see at the slopes, then send in the enclosed subscription blank.

If enough people respond, we'll have good numbers to show those who would advertise. Your support, and theirs, will give life to this fledgling publication. And that will allow us to bring you the information you want to expand your flying fun.

Chuck Korolden

The Aerobatic Adventures of Tipstall Wingover, III

Part One: The Basic Loop



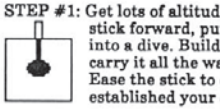
New to slope soaring?

Kind of intimidated by those guys who are always out there doing loops, rolls, hammerheads or flying around upside-down?

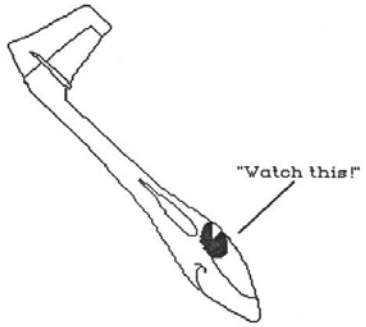
Don't worry about it! Our friend Tip here has agreed to teach a series of aerobatic lessons. He'll do the flying, and our editors will insert diagrams of your transmitter stick positions.

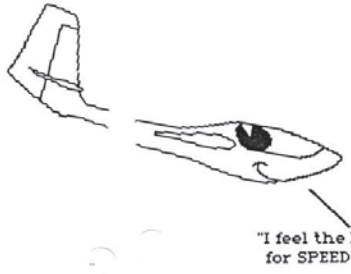
Our first trick is an easy one, the Basic Loop. With all your practice sessions, be sure to get lots of altitude, at least two mistakes worth. Then put Tip's advice to work.

Good luck!



STEP #1: Get lots of altitude. Then push the stick forward, putting your plane into a dive. Build up enough speed to carry it all the way through the loop. Ease the stick to center once you've established your dive.

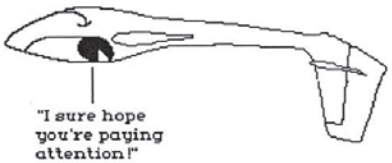




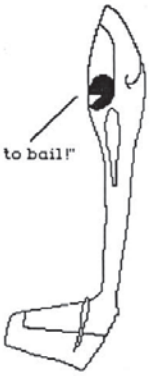
STEP #2: Pull out when you've built up enough speed but while you've still got enough altitude to mess up and still recover. Come back steadily on the stick. Watch the plane carefully. If you have any serious doubts about whether it's going to make it over the top of the loop, abort the manuever by pushing forward on the stick and returning to level flight.

The Aerobatic Adventures of Tipstall Wingover, III was created by Charlie Morey, 1988. Reprint permission will be granted upon request.

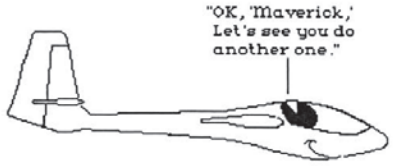
NOTE: Instructions are to be considered guidelines only. Due to the differences among sailplanes and their owners' setup preferences, stick positions can only be approximate. Flyers must observe their planes' flights and compensate accordingly.



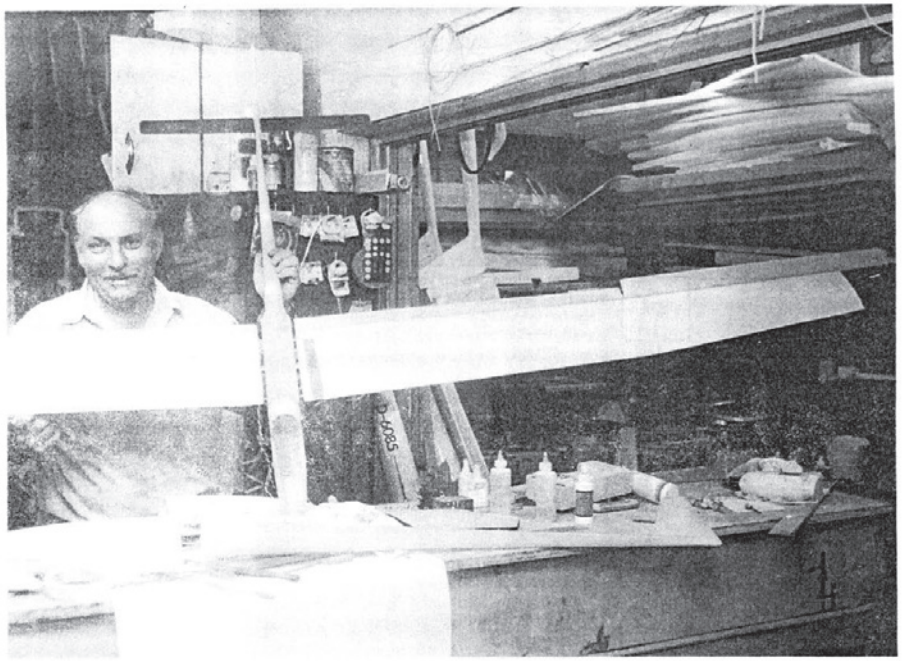
STEP #3: Hold the stick steady thoughout the loop, keeping a close eye on your plane. By now, you're commited, but you may feel the urge to tighten up (pull back) more. Go ahead, if it will make you feel better, but your ultimate goal is to scribe a perfect circle. Practice, practice, practice.



STEP #4: Ease off as you come through the bottom of the loop. Let the stick center. If you plane's trimmed right, you'll return to level flight with just a touch of down stick.



STEP #5: Dry off your sweaty palms, and pat yourself on the back. Good job!



Bare-bones beauty. Vince Parizek holds up this German-style Flair F3B. It sports flaps and a Quabek 1.5/9 airfoil. The Flair is also available in the full Slope Racer version with a thinned Eppler 374 and air brakes.

Santa Monica Sailplanes

F3B Technology, Made In The U.S.A.

By Charlie Morey

We're standing around in the back room of Bob Ratzlaff's Wilshire Model Center. It's lunch time, and Vince Parizek of Santa Monica Sailplanes has taken a break from his German auto repair business to engage in his second-favorite hobby, talking about radio control sailplanes.

Vince's first love is scale. In his tiny model shop, the wings and fuselage of a disassembled 4.4-meter Salto sailplane reach from floor to ceiling in one corner, and on any Sunday, you can find him at Sylmar putting the huge V-tail through its paces. In addition to the nonscale high performance ships we're about to describe for you, Vince also offers a 4.0-meter ASW-17, a 4.2-meter ASK-23 and, of course, the Salto.

"The Twister is for fun flying," Vince shrugs before revealing a beautiful 2.8-meter wingeron machine that would be considered high-tech on any American slope. It's his bottom-of-the-line sailplane. Vince Parizek is from Germany where R/C soaring is much more popular than here in the U.S. When he moved here, he missed the performance and quality of the German planes, so he began to produce them himself.

The Twister sports an undercambered Eppler 387 airfoil. "It's a very good thermal ship," Vince says. But the unique wingeron design, where the entire wing pivots to turn the plane, takes the Twister far beyond the scope of an average American polyhedral floater. A wingeron plane can turn as quickly as an aileron ship, yet the wingeron design doesn't alter the airfoil shape inducing excess drag as a deployed aileron does.

Each wing on the Twister is driven by an individual servo, a sound plan since the full movement of the wings could overload a single servo. But there's another benefit. With proper radio mixing, the angle of attack can be adjusted during flight! Want to pick up some speed? Crank the wings forward. Want to land like a feather? Gently pull back, and the undercambered airfoil lets the Twister float in slowly. Mixing can be accomplished either by a sophisticated transmitter with built-in mixing or by an onboard Christy mixer (available from Ace R/C) and a standard radio. The foam-core wings come fully sheeted; you just glue on the leading edge and wingtip stock and sand it to shape.

For a "fun plane," the Twister could be all many of us need. Typical of Santa Monica Sailplanes, the fiberglass fuse is an absolute gem.

Parizek's high-performance model is called the Flair, and it's available in so many configurations, you're almost designing your own sailplane when you order one. They come with full controls: rudder, ailerons, elevator and either airbrakes, flaps or spoilers, depending on the model.

There are three Flair models: the Flair, the Flair Slope and the Flair F3B. All three are based on a stunning three-piece fiberglass fuselage. The main part of the fuse starts at the tail and ends abruptly just ahead of the wings. With the fuse left wide open, control cable installation is an easy job. Two concentric nose cones complete the assembly. The inner cone can be cut or modified in any way to accept your radio gear before it's epoxied in place. Then, the outer cone streamlines the nose, yet is easily removable for access to the inner workings.

Another practical consideration: Every piece of a Santa Monica Sailplane can be purchased individually. Stuffed the nose into the ground? You don't have to come up with a whole new fuse, just get a new cone!

The basic Flair has a 2.5-meter span and an Eppler 205 airfoil with spoilers. Like its more sophisticated brethren, it features wing construction of foam cores, carbon fiber reinforcement and a choice of obechi wood or hardwood veneer sheeting. The wings come fully built and sanded in the Slope and F3B versions. The basic Flair kit comes, like the Twister, with sheeted wings, but you install and finish the leading edges and tips.

The Flair Slope is a 2.8- or 3.0-meter ship with a choice of three airfoils: Eppler 205, Eppler 374 or Quabek 1.5/9. The Eppler 205 has long been a popular choice among high-performance thermal flyers in the U.S. The 374 is generally recognized as an excellent airfoil for slope flying or high-performance thermaling. And the Quabek is current state of the art in the European F3B competition. Designed specifically as a slope racer, the Flair Slope is equipped with airbrakes, rather than spoilers or flaps, for safer landings.

The Flair F3B comes in 3.2-meter span with the same choice of airfoils as the Flair Slope: E-205, E-374 or HQ 1.5/9. Flaps are employed for landing control and increasing lift in the duration part of the F3B multitask competition.

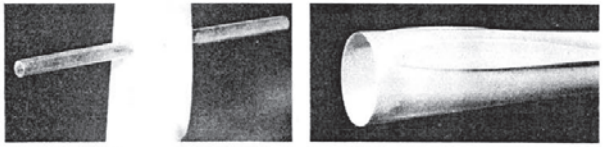
Considering the economical reality of the weakened U.S. dollar and the ever-strong German deutsche mark, Vince's planes could be the answer for performance-hungry Americans. German- built F3B-class kits may cost $600-$1,000, but the Santa Monica Sailplanes Flairs range from $225 to $375. The Twister is a reasonable, considering the quality, $175.

The Flairs come with an almost bulletproof guarantee. "They're indestructible on the winch or in any aerobatics," Parizek said. "Of course, we can't guarantee against the crash."

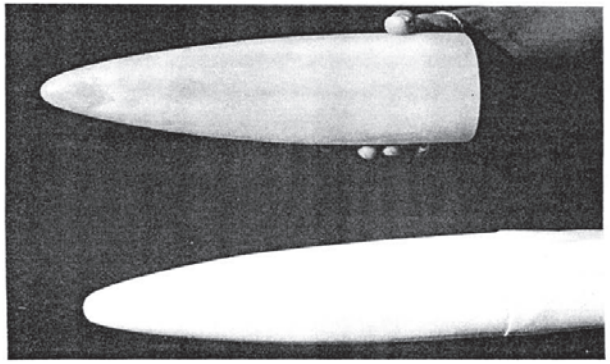
Vince has teamed up with Bob Ratzlaff and Wilshire Model Center. Parizek produces the sailplanes, Ratzlaff provides the retail outlet.

Of course, with a one-man, part time sailplane factory, there is a production limit. At present, Vince works on a one-month delivery time. Considering that you'll get a handmade, state-of-the-art sailplane that equals or betters European standards, it's well worth the wait.

Wilshire Model Center
2836 Santa Monica Blvd.
Santa Monica, CA 90404
213/828-9362



Above left: The wings are guaranteed not to fold under any conditions, except (maybe) a crash. With this carbon-fiber filled brass tube, it's easy to see why. Above right: Here's the front end of the fuselage before nosecone installation, No tweezers needed here to locate your control linkage. Below: Here's the three-piece nose system. The inner cone has been fitted into position, That's the one you cut up for radio installation and epoxy into place. Then the outer cone slips over to keep things smooth.



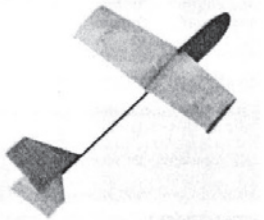
Dick Vader's Amazing Pods

Small slope, tiny planes, big-time performance!

By Charlie Morey

It's Sunday at Long Beach, and as usual, everything's packed: the bay with sailboats, the beach with baking bronze bodies, the bluff with brightly colored gliders. It's warm and sunny. A steady breeze paints patterns on the water and sends the day sailors tacking off across the bay.

A man picks up his small, black and natural-wood sailplane and steps up to the handrail that runs along the bluff. Dick Vader glances each way to check traffic in "the slot," then casually flicks the 42" aileron ship skyward at a 45-degree angle. Before the plane reaches the apex of its launch, Vader's hand has returned

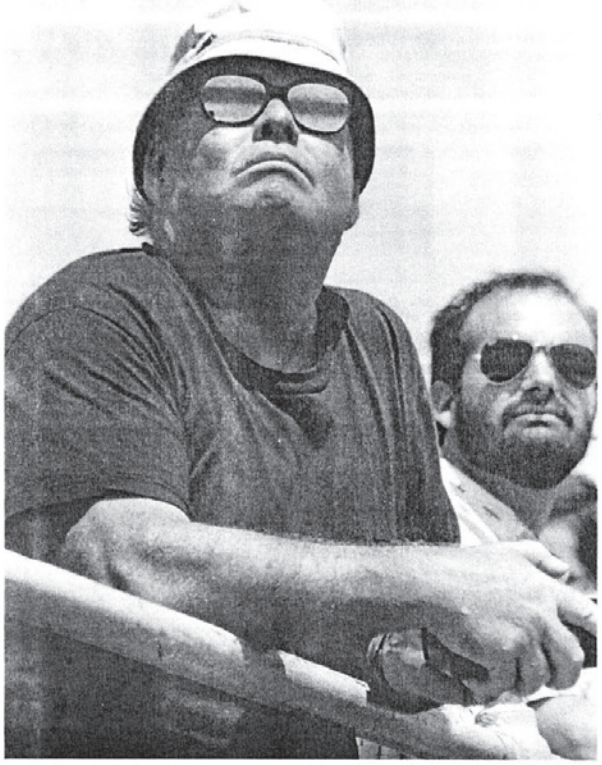


to the stick and twisted the glider through an aileron roll and a half. The "half" comes just exactly at stall. The little pod-and-boom model stops, noses down, then falls in a slow quarter roll straight toward the dirt slope. At the last second, it pulls out, clipping a few weeds in the process, and aims skyward again. A lazy half-roll brings it to stall, and again, it noses downward. This time it pulls out inverted and wanders off down the slope zig-zagging through the slower traffic, upside-down.

For the next 15 minutes, bystanders are treated to a cross between a miniature aerial ballet and a Top Gun strafing mission as Vader slaps the stick around with his right thumb and nonchalantly chats with a curious spectator.

The Vader planes have become a standard at Long Beach. It's a small slope, a bluff perhaps 60 feet high overlooking the public beach, so there's not much lift for big planes.

Dick Vader builds and flies some of the most aerobatic planes on the Long Beach bluff. And he proves it every time he tosses one off!



"The landing area is often occupied by picnickers, joggers, dog walkers, sun worshippers and playing kids. Dick's little planes fit into the scheme of things perfectly."

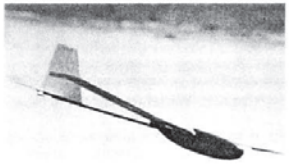
The landing area is a grassy park bordered on one side by bustling Ocean Avenue and on the other by a pedestrian walk with that unforgiving iron handrail. The landing area in the middle is often occupied by picnickers, joggers, dog walkers, sun worshipers and playing kids. Dick's little planes fit into the scheme of things perfectly.

The Vader phenomenon is an example of perfection through R&D, trial and error, pure tenacity, refinement of a single design...pick

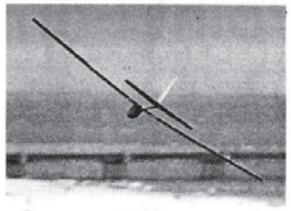
"Nothing could be homelier, but in every case, they're ultra-performers."

one or more. Dick came up with his first pod-and-boom design around 25 years ago, inspired by Frank Zaic's books. The original plane weighed one pound, compared with his latest eight- to 10-ounce versions, and sported a solid wood, dihedral wing. The pod was carved from balsa, and he used a piece of fishing rod for the boom.

In 1970, he left model building for several years, more interested in the art of goldsmithing and his religious



pursuits. He'd made a 36" polyhedral ship and gave it to his friend Jack Chambers, the man who designed the airfoils Vader uses today. In 1980, he started up again with a new variation. The pod was still carved from a balsa box built around the radio, but now it was covered in fiberglass. A fiberglass arrowshaft formed the boom. Steadily, his materials evolved away from hobby-kit standards. Now, he uses space age plastic and carbon fiber. A Long Beach man, Jim Slatt introduced Dick to the vacuum-



forming process in 1985, and today his fuselages are made of .090" styrene with carbon fiber arrowshaft booms.

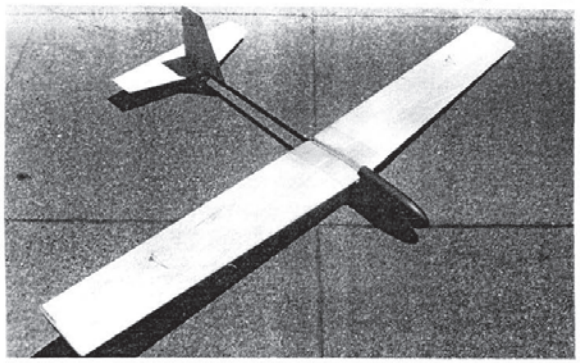
One thing has never changed, the Vader flying style. Whether at the stick of a quick little 32" aileron model or a "stately" 50" polyhedral ship, Dick designs 'em to tie knots in the sky. His polyhedral models feature a double break in the wing to aid the roll rate, and roll they do, with ease!

He makes them in several sizes and configurations, from 32" to 50" spans, aileron or polyhedral. He vacuum forms the black styrene pods, mates them with black carbon fiber arrowshafts, finishes his 4-6 lb. balsa flying surfaces with clear, thinned epoxy, then holds it all together with rubber bands and fillets of slow-drying cyanoacrylate. Nothing could be homelier, but in every case, they're ultra-performers! The solid wood wings never fail to surprise the first-time admirer. Hand sanded from 1/2" X 3" balsa, two pieces laminated together and trimmed to the correct chord for the particular model, comprise the main wing structure. A hardwood leading edge is added for strength and impact resistance. Vader buys his light (4-6 lb.) balsa from Lone Star Models, 1623 57th St. Lubbock, TX 79412, 806/745-6394.

Dick uses Jack Chambers airfoils exclusively. Chambers created a series of very thin airfoils ranging from 5.9% (JC-13) to 8.75% (JC-15) thick. Vader uses the 7.0% JC-20 for his aileron models and the undercambered 7.0% JC-18 for his polyhedral floaters.

The Vader planes aren't available in kit form. He personally builds every one. The waiting list consists of a wad of paper scraps that travels around in Dick's pocket from the slope to his shop and back again. Occasionally, he'll feel the urge to create, and a few new Vader planes will emerge. If you've talked with him about it, and if you're lucky, he'll walk up to you at the slope one day and ask, "Did you want one of my planes?"

The answer is always yes.



Site of the Month: Point Fermin Park

By Chuck Koroldeen

As a monthly feature, we'll pick a flying site and give you a brief description. We'll include location, prevailing winds and other important info, like if the site is controlled by a flying club or not. Some places require that you have your AMA card or join their club to fly there.

This month we go to Point Fermin Park. Point Fermin is located on the Palos Verdes peninsula on the San Pedro side. There are a lot of trees and picnic tables in the main part of the park, but all the flying is done in the northwest corner.

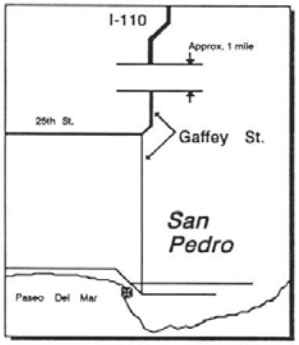
From the San Diego Freeway (I-405), take the Harbor Freeway (I-110) south to the end where it will dump you onto Gaffey St. Take Gaffey south to the end and turn right on Paseo Del Mar. To your right is a fenced-in field; this is where you land. About 100 yards further on your left is the flying site. If it's a good day and not too late you'll see other people flying. Further down the road you can turn around and park on the flying side of the road.

What's the place like? The lift is so good you could fly a brick if it was trimmed properly! The cliff is 200 feet up from the water, so the air gets a lot of momentum on its way up. The cliff faces due west, right into the prevailing wind. The flying usually starts to get good around noon or 1:00 p.m. From late summer to early fall, facing the afternoon sun Point Fermin Park can be a problem, so bring dark glasses or a good sun shield, the kind that fits on the transmitter's antenna.

All types of planes fly well at Fermin, but because of the landing area, a rugged aileron ship is recommended. The rotors are very strong and the field is filled with hidden rocks, so flying a classy ship that is your pride and joy should be done with care. I'm not saying don't fly a nice plane here, I'm just letting you know the pros and cons of the area.

If you've never flown in big lift, it's worth the adventure just to find out what your plane is capable of doing. The first time I flew one of my speed jobs there I crashed after only a few minutes (my screw-up, the dreaded thumb glitch), and after all the trouble I went through to get my plane back, I still felt it was worth all the trouble.

The people who fly there, on the whole, are very nice and willing to help out as long as you don't come as an ass. Remember, when you go to a new site, the people you find there probably fly at that spot on a regular basis. They have their own unwritten rules on what's expected of a pilot. If you can't feel out what is going on, ask questions. Nine out of 10 times you'll get the info you need and some respect. Whether you're a beginner or a seasoned pro a little respect can go a long way.



Site Check List

Point Fermin Park
San Pedro, CA

Slope faces: West.
Prevailing winds: West.
Slope height: 200 feet.
Slope angle: Vertical.
Typical lift quality: Excellent!
Landing area: Must land in field across busy street. Rough, hidden rocks, strong turbulence.
Emergency landing area: Very steep hillside, small beach or Pacific Ocean.
Recommended flying experience: Intermediate or better.

Want Ad Info

California Slope Soaring News
2601 E. 19th St., #29
Signal Hill, CA 90804

Name _____

Address _____

City _____

State _____ Zip _____ Phone ( ) _____

Want Ad Rates

Per word charge: $.25
Minimum charge $5.00
BOLD HEADLINE $1.00, 20 characters maximum.

SAMPLE WANT AD!
Here's an example of how your ad can look. It features a Bold Headline and is 32 words long. Total charge for this ad to run in one issue would be $9.00.

Cost Breakdown on Sample Want Ad:

32 words @ .25 each	$8.00
Bold headline	1.00
Total cost	$9.00

Print your
BOLD HEADLINE here: _____

Print your Want Ad here: _____

Be sure to include your phone number (charged as one word). Deadline for Want Ads: 20th of the month.

Number of words _____ @ .25 each	$ _____
Bold headline @ $1.00	$ _____
Number of issues ad will run.	X _____
Total	$ _____

Did you enclose a check or money order?
Sorry, no credit cards (yet).
Thank you very much!

Air Mail

TOP FUN!
Sir! Maverick wishes to report that Slope Soaring News is absolutely Top Gun material, Sir! Even Ice Man gets sweaty palms reading it. By the way, do you know of anyone who makes an F-15 kit?

Tom "Maverick" Snooze
USS Ghost Rider
Indian Ocean

Sorry, Mav. The only hope for your version of Top Fun involves converting one of those nine-foot Jet Hanger ducted fan kits for slope work. And your ego is writing checks your body can't cash if you think you can pull off that one! -- Editor.

GOOD OL' FUN!
Shucks, you boys have got one good little ol' slope flyin' rag here. Glennis don't like me readin' it, 'cause I get too twitchy an' restless, and she's afraid my ol' heart can't stand it. But I've got an extra copy stashed in the head, an' I've got another subscription bein' sent to my little ol' trout fishin' camp up in the mountains for me an' Russ Schleeh to enjoy while the gals ain't around. Just wanted to say thanks. Bye now!

Chuck Yogurt
Retired X-1 Driver
& TV Commercial Personality

Shoot, thanks, sir. Although we sorta doubt we'll be able to provide more excitement than a flat spin down from 100,000 feet to the desert floor with an ejection seat stuck to your face, we'll surely give it our best attempt! -- Editor.

BARON VON RICHTOF-FUN
Steathily, the trusty Sopwith Camel drifts into attack position, high and behind the Red Baron's hated Fokker Triplane . . . then, suddenly out of the sun . . . attack! Curse you, Red Baron! But thanks Charlie, Chuck and Marcie for giving me more "imagination ammunition" in every issue of Slope Soaring News!

Snappy The Beagle
In The Funnies, USA

!!!!! FUN!

!!!!!!!!!! !!!!!!!! !!!!!! !!!!!!!

Woodshock
Snappy's Co-pilot

You guys get the message? How 'bout sending us some real mail for the next issue? -- Editor.

Want Ads

FREEDOM!
Freedom slope plane kit. New, never got time to start construction. Two or three channel; ailerons, elevator, optional air brakes. $40. Charlie Morey, 213/494-3712.

CANNON MICRO SYSTEM
Four-channel Cannon micro TX, two-channel micro RX, two micro servos. No battery pack or wiring harness. Transmitter pot needs cleaning or repair(?). $150, as is. Charlie Morey, 213/494-3712

WWW.RCADVISOR.COM

Albuquerque, NM—May 14

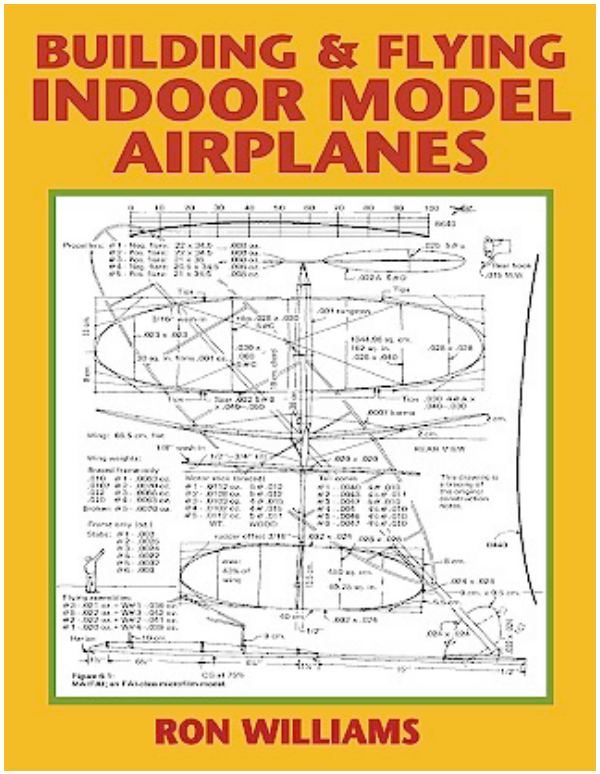
RCadvisor.com launched on January 1, 2008 with Calculator SE, an advanced free online calculator for model airplane building and design. Calculator SE features an electric power system optimizer, a virtual wind tunnel, a scale model sizing tool, and a real-time airfoil analyzer. Running on multiple platforms, it incorporates features distilled from the latest usability research. According to founder and lead developer Carlos Reyes, "Ease of use is the primary design goal, but accuracy has not been compromised."

Calculator SE uses ToolTips to provide help on highlighted entry fields, when it has advice to give, or to indicate an invalid entry. An online tutorial guides the user through common tasks. Twenty-five interactive graphs highlight trends at a glance. Graphs and results are recalculated automatically with every data edit, encouraging experimentation and speeding up the learning process.

Designed as a set of workbenches, each component (motors, airfoils, etc.) can be analyzed independently. A consistent layout for each workbench makes knowledge transfer easy. More advanced workbenches for airplanes and power systems combine multiple components together.

The calculator requires no installation and runs on Windows, Linux and Mac OS X. It is very fast - the power system optimizer can analyze 40,000 configurations every second.

<http://www.rcadvisor.com/visitor>



Our own copy of Ron Williams' Building and Flying Indoor Model Airplanes is a well-worn volume which is referred to often. Although devoted to the construction and flying of free flight models, in our opinion there is sufficient material applicable to the RC soaring enthusiast that a purchase is worthwhile. Aside from the various construction methodologies, we found the section devoted to travel boxes especially enlightening.

Long a collector's item, Building & Flying Indoor Model Airplanes has been printed for the third time. First published in 1981 and reprinted in 1984, this book has inspired future champions and model builders around the world. Over 200 drawings including plans and numerous photographs showing the hobby as it is practiced lure the reader into this fascinating and surprising pursuit.

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

The price is $24.95 plus shipping and handling.

Copies personally inscribed by the author are available. Building & Flying Indoor Model Airplanes (ISBN 978-0-615-20203-7) is available from AerocraftRC. They can be reached for more information by phone at 631-369-9319 or via their website <www.aerocraftrc.com>. ■

Date: Tue, 29 Apr 2008 02:06:08 -0000

New F3B-Speed World Record!

Yesterday, Martin Weberschock (GER) flew a fabulous new world record of 12.93 sec. with his "Radical" at the Eurotour Competition in Hülben.

The glider-airfield at Hülben, which is situated closely to Hahnenweid (well known from F3B-WC 2003) lies at an altitude of 750m.

There was a low dry wind from east, the temperature was about 15°C and a wide thermal stood above the parcours which allowed Martin to gain in a few circles and in 37 sec. a further 30m which contributed to a total height of about 320-330m.

Shortly before, Martin Herrig also flew an excellent 13.7 sec. with his Radical glider.

The second Eurotour competition was dominated by German pilots finishing first M. Herrig, second A.Herrig and third M. Weberschock.

Greetings

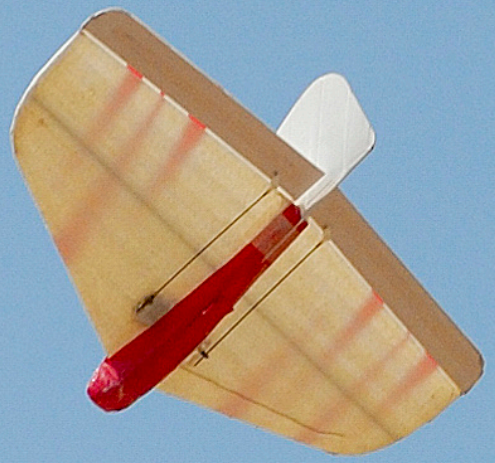
Rudolf Schaub, Ruchackerweg 8, CH-8405 Winterthur

Video of the record-breaking flight is available at:
<http://media.rc-network.de/showphoto.php/photo/2656>

Our thanks to the rcsoaringoz e-mail group for the original communication, and to Aneil Patel and Kevin Botherway for the video link. ■

WeaselFest Israel

Rene Wallage, rene_wallage@yahoo.com
Photos by Ariel Erenfrid, ariel666@inter.net.il



Well, after reading on RCGroups that California was gearing up for its 5th annual WeaselFest, I felt obliged to put the gears in motion for our second 'Fest. As last year, I tried to get our dates to coincide with the California dates, but due to the Passover High Holidays, work, family, etc., of the various Weaselers, we had to wait 'til Friday, May 9. But oh, was it worth it!

The morning of Friday, May 9, the parasol flew of my balcony! A good omen...

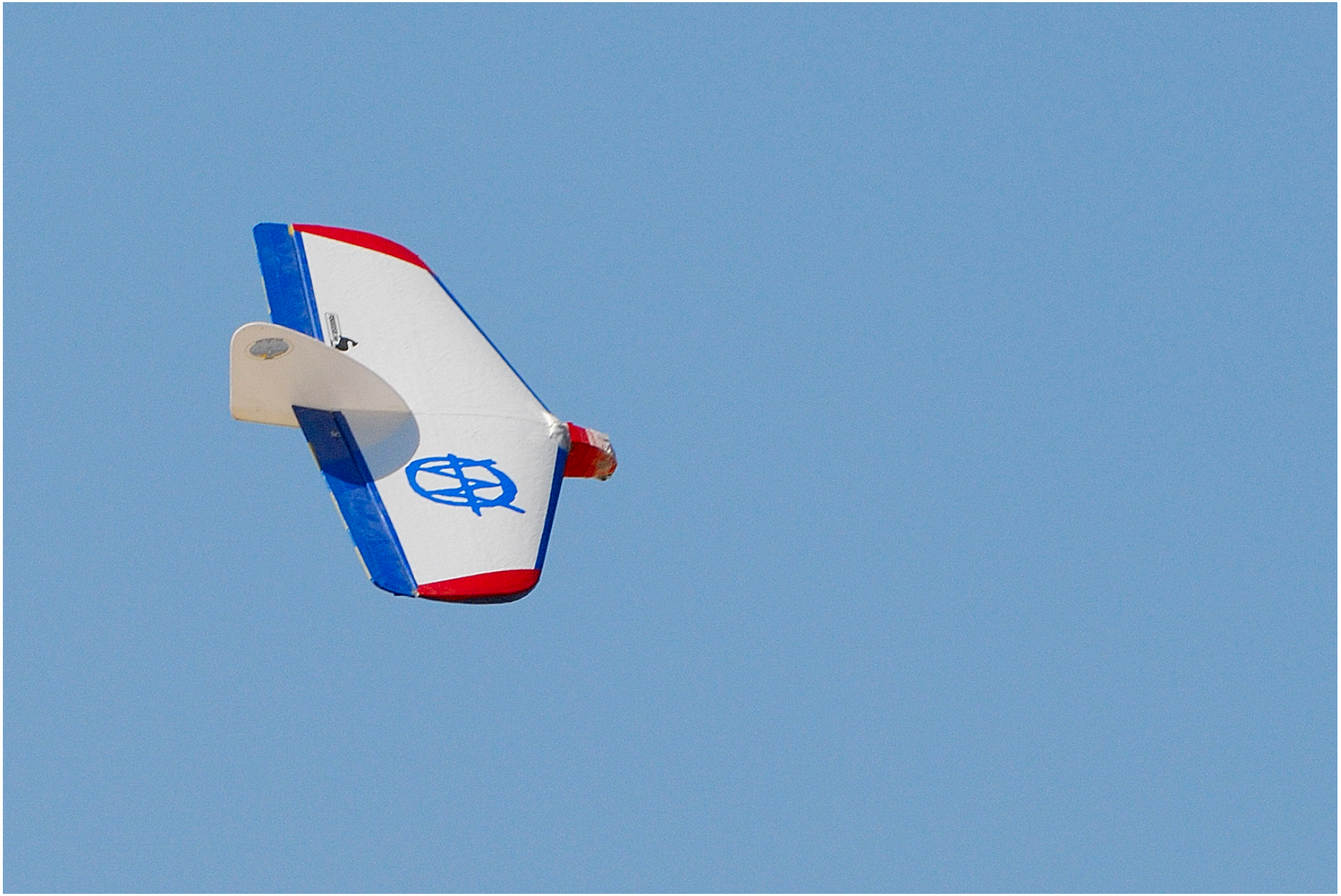
While driving to Bat Yam (just south of Tel Aviv) I anxiously eyed the flags at each and every petrol station. Direction, mostly west (= good). Force, varying from a limp wavy piece of cloth (= not good), to a good imitation of a piece of cardboard with the petrol station's logo on it (= too good).

Parking the car at the bottom of the slope (you need a 4x4 — or a company car — to reach the top by car) I met Eli Sayag and his son Ben. We all agreed that with this wind you could tie a receiver to a brick and make it fly...

I was getting somewhat worried, as my Weasel, when balanced, came out at 325 grams, which was great last week with relatively light 8-9 mph winds.

It took some persuasion, but we did manage to get all of us down long enough to get the group picture. From left to right: Ariel Erenfrid (our in-house photographer), Paz Erez, Yair Ya'acobi, Itzik Ashkenazi, Eli Sayag, Rene Wallage. Not in the picture is Sharon Solomon, who arrived later, and Ben Sayag who took the group picture.

Sharon Solomon pilots his Weasel closer to the beach and away from the combat area.



Rene Wallage's Weasel flies escapes the combat group.

We managed to do some slermaling as well. The Easyglider in the far distance is Guy Garber, of RCG aerial photography fame. The Weasel on the left is Paz Erez (who seems to think inverted flight is the way to go), the middle one is Rene (who likes to keep his Weasel high up), and on the right is Yair Ya'acobi (who came up there to see how fast he could get down to the deck again).

Rene and Paz try some formation flying. Paz, as mentioned before, loves to fly inverted.

Left: Comfortably sharing the slope with paragliders. Right: Here's Rene (right), trying to convince Ben not to try and hit his Weasel. After all, it's only the second day he's flying his Weasel. Ben graciously agreed.

After catching my breath on top of the slope, I took out my trusty anemometer and measured 14 knots (= 26 km/h, = 16 mph) of wind at the lip of the slope.

So everybody raided his, or in my case Itzik's, spare lead supply. After some trial and error I added about 60 grams. An added handicap was that with this wind and at this particular location, there always is a lot of turbulence at the lip of the slope which you have to punch through to get to clean air. You need weight, and some amount of serious stones to launch your model by yourself.

It is far easier to let someone else advance as close to the lip as is safely possible and launch your model for you.

But once up, oh boy! If the government knew how much fun we had, they'd charge us Weasel taxes. And what's worse, we'd gladly pay!

It was great to have 6-7 Weasels up all at once. We did try some combat, but virtually no hits where registered. Until we stopped trying that is. I knocked a light aerobatic slope glider (not a Weasel) out of the sky by accident.

Some confusion arose with two yellow and red Weasels, but how Eli lost sight of his white-and-bits-of-red Weasel is a mystery only known to him. Luckily his son Ben saw the Weasel spiraling down and located and fetched the wayward Weasel.

Of the approximately 15 Weasels in Israel, seven showed up. It took some persuasion, but we did manage to get all of us down long enough to get the group picture.

Now we look forward to next year! ■

Want to Move Up the Score Sheet?

Develop a "Task Habit"

Gordy Stahl, gordysoar@aol.com

Okay guys, I wrote about Task Flying and "Interrogation of a Sport Soarer," but it seems some guys just didn't get it. They still show up at contests unprepared, frustrated, disappointed, and without "wood"... all because they "practiced" instead of developing a "task habit."

I am always amazed at how some guys think that launching, finding a thermal, sitting in it for three minutes, then bailing out to come down to find another is possibly good "practice" for contests!

Next I still see guys "practicing" without a talking timer counting down their 10 minutes to make a precision landing on the second. They fly around 'til they are bored and then land somewhere near their feet, to walk away with a grin of accomplishment on their faces.

Then they show up at an event only to find that the top 10 guys are always just a couple of seconds off of zero and hitting 90+ every round, when their results often include yelling for some of the other pilots to watch out because they overshot the landing spot and are 15 seconds early.

The only way to get comfortable at contests and to score big is to practice the same tasks you will see at the events. 10 minutes has become the number currently, so if you have been practicing three minutes and then landing, the habit you have been developing is to get three minutes and then land. When the CD calls for 10, your anxiety level zooms up and your likelihood of wood dives in to the abyss.

It really is that simple.

Go out to the field, talking timer mounted on your transmitter and set it for 10 minutes. Launch and start your timer, but your single goal is to find a thermal. Once you find that thermal... STAY THERE for 10 minutes! Do everything you can, every practice flight, to get that 10 minutes. DO NOT use a count up clock, because counting up to see how much of 10 you got is useless and distracting. Remember, you are trying to develop a habit of staying up for 10 minutes... exactly... EVERY TIME!

If you read my landing article, make sure that you do your planned/timed approach — 30 seconds directly over your head on your way to the final approach turn... I know some of your heads are big, but "over your head" does not mean 100' off to your right!

At 20 seconds do a perfect 180 degree turn so that your sailplane nose and fuselage are directly in line with the landing tape (runway attitude is a great way to think). I use my transmitter antenna to sight up the landing and to align the sailplane's approach dead up the tape (a good reason not to use a rubber ducky or similar short antenna).

That aligned approach means that all you have to do is to control speed and altitude, not steering, too. The chances

Gordy having a bit of fun at the flying field.

Task Practice includes 10 minutes of thermal flying and the standard pattern, culminating with an approach to a tape “runway” with touchdown at the second.

Hand catches don’t count when it comes to Task Practice!

Photo by Tony Utley

of a spin-in landing are zero if you come in straight, it’s only when you are steering in at the last minute that tail booms get cracked and landing points spin away. Sure sometimes your sailplane’s nose spins into the landing spot, but it’s a hollow score versus you controlling the whole thing.

That 30/20 approach, practiced, is what makes the top guys dead on the zero so often.

Take a look in the mirror and ask yourself, what kind of habit have you been developing at the practice field. One that mirrors what will be asked of you at the contest, or one that has nothing to do with the task?

Stop futsing around and calling it practice! It is practice, but practice for disappointment. You don’t need thermaling practice — you know how to work thermals or you wouldn’t be at contests! You need Task Practice. Only Task Practice will get you the wood you deserve!

Got questions? Contact me at GordySoar@aol.com

Dave Beardsley's 1/3 scale LET Ventus 2c M waits patiently to once more take to the air. The model spans six meters and utilizes a 12-channel radio system. It sports a retractable "up-and-go" electric drive with 21" prop running off a 10s LiPoly battery pack. Photo taken at the Yakima Aerotow 2006 event by Dave Beardsley. Nikon D2H, ISO 200, 1/3000 sec., 18mm, f3.5

A Solar Powered Sailplane

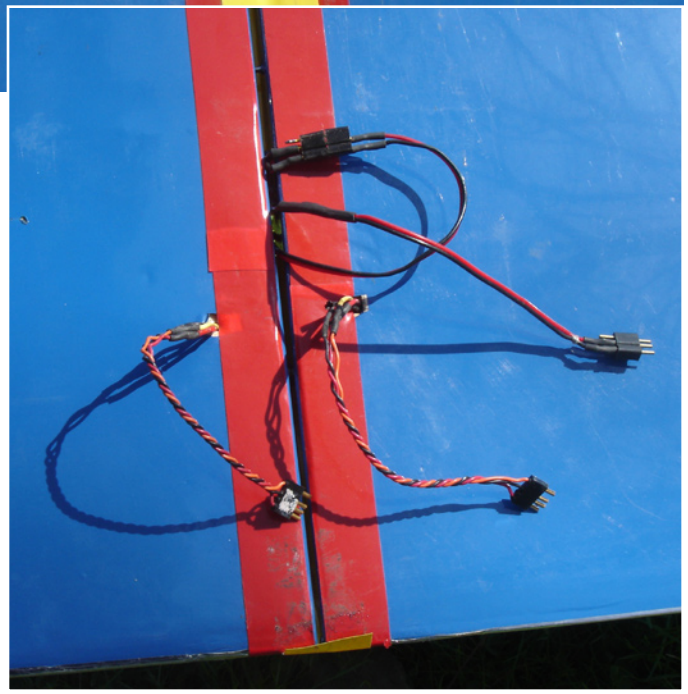
By Peter Carr WW3O, wb3bqo@yahoo.com

Several weeks ago the mailman brought a very interesting catalog. It was from the Electronic Goldmine and was filled with geek stuff that every Ham loves. One of the items was a solar panel. The item was rated at 3 Volts at 150 ma in bright sunlight. I'd wanted to experiment with solar cells and these were cheap. I logged onto their web page and ordered a pair of the cells.

The ones I received were enclosed in a plastic housing yet were extremely lightweight. They tested out at about 155 mA each in what passes for sunlight here in northwest Pennsylvania. I decided to use them both and to wire them in series to make a total of 6 volts at about 150 mA. I used thick Velcro tape to attach the cells to the center of the wing.

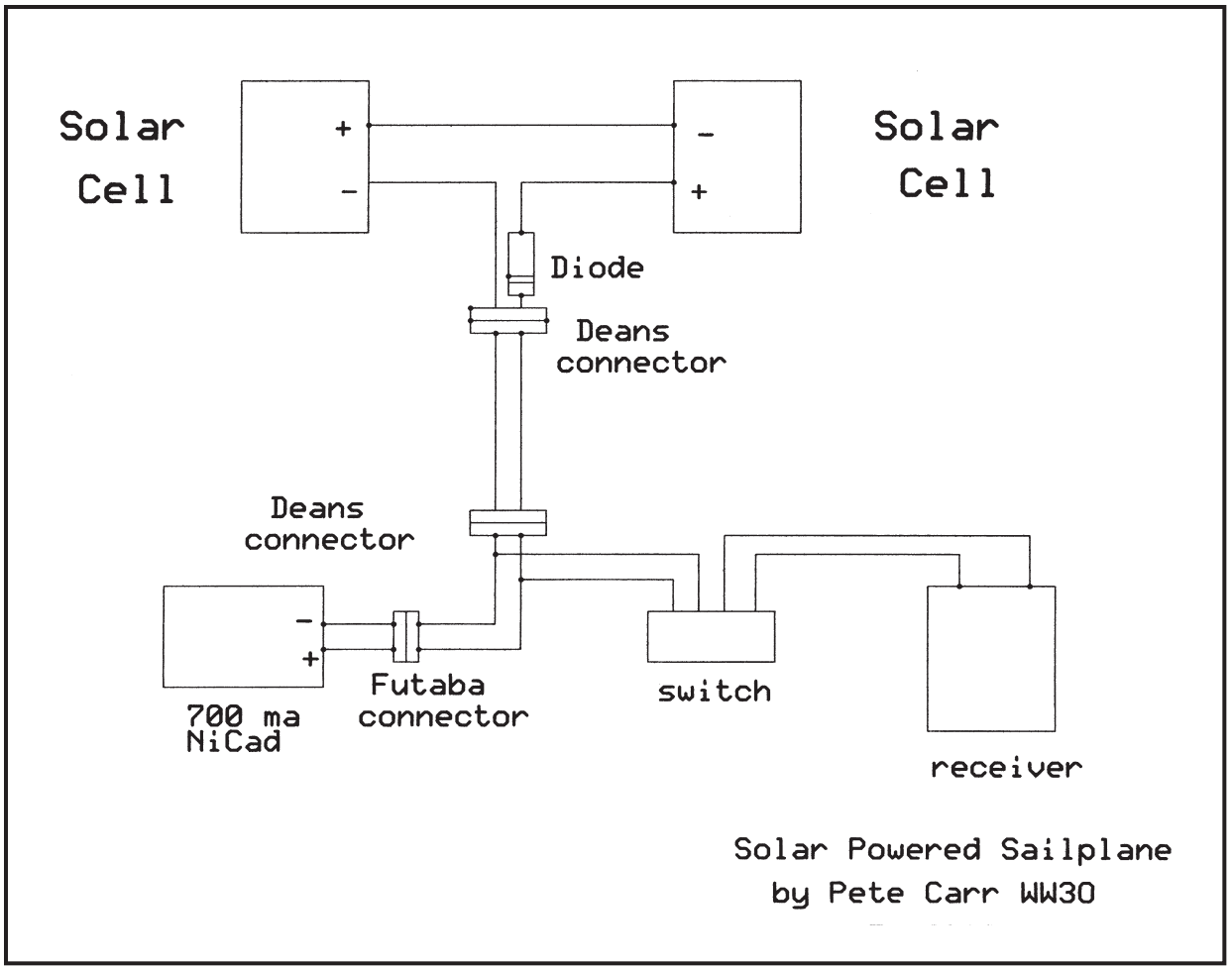
Since the objective was to charge the existing NiCad battery in the sailplane, I made up a wiring harness that connected the solar cells to the battery all the time. That way the NiCad would charge even when the ship was sitting on the grass waiting for the next flight.

The cells came with a diode that was wired into the harness. This prevents the NiCad from discharging back through the solar cells while they are in a shadow.



Upper: Solar cells mounted at the center of the Oly II wing. Connecting wires go down through the gap in the panels.

Lower: The underside of the Oly II wing. The single Deans connector is the Solar cells output. The two Kraft connectors are for each spoiler servo.



The schematic diagram (above) shows the polarity of the diode in the circuit.

As a test I connected an expanded scale voltmeter to the Deans plug/jack usually occupied by the on/off switch. The sailplane was placed in sunlight in the backyard and the starting voltage was noted. After about 30 minutes I rechecked the voltage and the circuit showed a good increase. This indicated that the solar cells were indeed charging the battery.

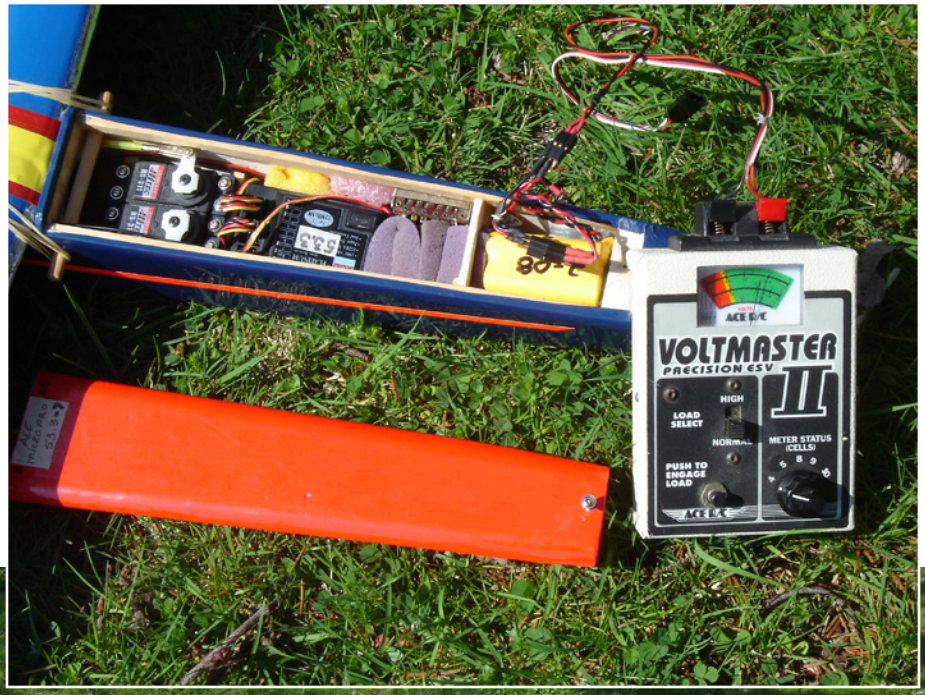
The two cells put out 6 Volts which is a good charge voltage for the NiCad without serious overcharge problems.

As you may realize, the current draw on the airborne NiCad fluctuates considerably. This sailplane uses two servos for rudder and elevator and two more for the spoilers. Those are at idle until called on to bring the ship down.

For a poly ship like this I estimated an average of about 120 mA draw in flight with about 300 mA in the landing approach. The solar cells probably won't supply the entire current draw, even in full sunlight and only a portion if it's cloudy or the ship rolls away from the sun. Still, the solar cells would have plenty of time to recharge the NiCad in between flights. The goal is to have the onboard NiCad remain at nearly full charge at all times.

The schematic diagram shows two Deans connectors in the line from the cells to the NiCad. The first one is under the wing so that the wing can separate from the fuselage. The other is at the NiCad so that it can unplug for charging at home. The diode is soldered in series with the positive lead from the cells and the polarity band is toward the NiCad.

Since I began the project Electronic Goldmine has sold out of the cells I used. As of early May 2008 they list a solar panel rated at 6 Volts at 100 mA. The Part Number is G15555. You can use these cells by wiring them in parallel to give a total of 6 volts at 200 mA. The voltage would be the same and the current would be 50 mA higher giving a



quicker charge. The blocking diode would be wired in the same place in the harness. The Electronic Goldmine web page is <http://www.goldmine-elec.com>.

Given the amount of current available from the solar cells, it would be okay to install a smaller size NiCad, something like 100 mA to 250 mA capacity. A 600 to 700 mA NiCad is actually overkill for reserve capacity, but I didn't want to rebalance the ship. The extra weight and drag of the cells is not noticeable on the glider performance and it's great to only have to worry about the transmitter battery from now on.

The end goal of this experiment is to evaluate the use of solar cells in a sailplane to fly the LSF 8-hour slope task.

As some of you may know, I lost a Sailaire in an 8-hour attempt about 10 years ago at the Fall Soar-For-Fun Event at Cumberland, Maryland. The ship had passed the 7-hour mark in temperatures that never got above 40 degrees all day. Granted that the conditions were extreme, but I wanted to engineer a bulletproof method of ensuring that it didn't happen again. The same holds true for the LSF Goal and Return task which can take many hours to complete.

The advent of very lightweight high voltage/current cells makes both these tasks far easier to achieve. ■

Upper: An ACE Expander scale voltmeter is connected to the NiCad pack which is being charged from the Solar cells. As the ship sits in sunlight the voltage gradually increases which shows that the pack is charging.

Lower: The Oly II buttoned up and ready to fly.

Skye Hooks

A HSWT Gadget

Tom Nagel, tomnagel@iwaynet.net

Sometimes it just depends on who you know. In my case it was knowing Skye Malcolm, a member of Mid Ohio Soaring Society, and just incidentally one of the original Ohio Honda engineers who worked on the design of the Honda Element. Skye remembers after working on the Honda Element design for a few months all the engineers in the team began asking each other "Who the heck are we building this car for anyway?" Turns out it was me.

My new car is a day-glow orange Honda Element, manual transmission, front-wheel drive, killer stereo, aerodynamics of a Borg mother-ship. My Element is named Leeloo, because mine is from the fifth model year, thus the Fifth Element, and the orange haired semi-alien heroine in the movie was named Leeloo. (I could have named it Bruce, but in my neighborhood that would have been a suspect move.)

The Element has tons of interior room, handles well, drives great, gets reasonably good gas mileage, and if anything goes wrong, the guys who designed and built it are just 35 miles down the road at East Liberty, Ohio. My problem was that I was having trouble hauling one-piece sailplane wings in the back of Leeloo. Hauling two meter wings or my Mongo Junior required laying the passenger seat back, and with gas prices what they are today, we try to car-pool to the flying field.

Skye Malcolm had the answer. Skye Hooks. Just take some old luggage straps from a duffel bag and hook them to the overhead grab handles. Lay the wings on top of the webbing, and the Element has such excessive head room that the front seat passenger won't notice. Not much anyway. Just an occasional winglet in the kisser.

The trick to this is that my Element does not have an overhead grab handle for the driver's seat. I guess the folks at Honda figured the steering wheel was sufficient. However, the Element does have an overhead storage bin up front, with a perforated metal floor in it. Skye showed me how a small S-hook loops nicely through those perforations, so you can half a half-span overhead web over the front seat.

I made hooks for the passenger seat and back seat grab handles out of coat hanger wire. Using old luggage straps for the webbing gives you straps that already have a length adjustment built in.

The straps disconnect from the grab loops and storage bin without tools, and stow neatly in the mesh pockets on the back of seats.

Skye uses this same trick in his Honda Fit, and it should work in other boxy mini-SUV's like the Scion, Mazda 5, etc.

No sailplanes were injured in the writing of this article. ■

The Skye Hook system in Tom's Honda Element. Tom recently found that the Element with Skye Hooks can carry an assembled 118" Paragon wing!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