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R/C

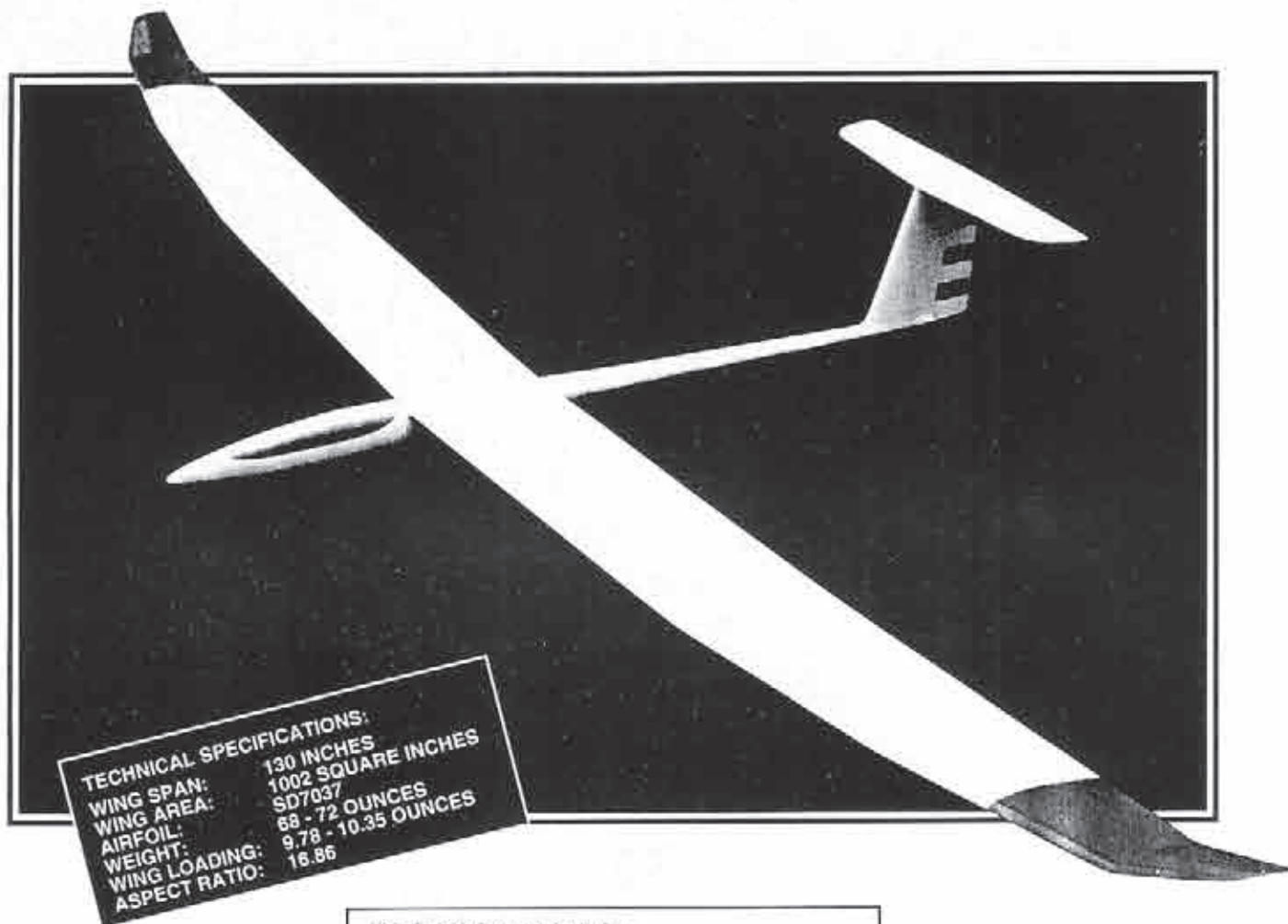
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**Contest Winners**

The winners of the Volz servo contest should be in receipt of their servos by the time you read this. Thanks go to Bill & Bunny Kuhlman for coordinating the contest, Michael Volz for his suggestions and the opportunity to host the contest, and to the 5 winners out of 106 entries:

- Scott Hinckley, Utah
- Tom Haake, Pennsylvania
- Courtney Blackwell, Oklahoma
- Steven Martinez, Michigan
- Al DeRenzis, Maryland

**Behind the Scenes**

As most of you have probably noticed, we have not received any new event coverages this month, perhaps because the building season is upon us. However, we'll continue to maintain the current on-line reports from last month for those of you that are new to RCSD or have not as yet found the time to view the reports. Based on the entries for the servo contest, it would appear that at least 50% of you have immediate on-line access, so read and enjoy!

Since we've been running behind our personal schedule for several months now, for one reason or another, we thought it best to provide you with Christmas gift giving ideas in this issue, thanks to a suggestion by Dave Garwood. So, several of us prepared a list of ideas, based on things that we liked or would have included on our own personal lists. We hope our wish lists provide you with some ideas, and you don't find your stocking stuffed with traditional socks or ties!

Almost a year ago, we attempted to do our own printing, having purchased one of the top of the line Cannon machines. However, it's been down for months, and the local folks seem to be having trouble getting parts. If any of you happen to be repair qualified on these machines, and happen to be in the Dallas/Fort Worth vicinity, PLEASE let us know! We'd like to know what the problem is, and how to fix it! For now, we'll continue to work with an outside contractor to do the printing for us.

**Happy Flying!**  
 Judy & Jerry Slates

**RCSD ON-LINE EVENT COVERAGE**

<http://www.halcyon.com/bsquared/RCSD.html>

R/C Soaring Digest (RCSD) is a reader-written monthly publication for the R/C sailplane enthusiast and has been published since January, 1984. It is dedicated to sharing technical and educational information. All material contributed must be exclusive and original and not infringe upon the copyrights of others. It is the policy of RCSD to provide accurate information. Please let us know of any error that significantly affects the meaning of a story. Because we encourage new ideas, the content of all articles, model designs, press & news releases, etc. are the opinion of the author and may not necessarily reflect those of RCSD. We encourage anyone who wishes to obtain additional information to contact the author. RCSD was founded by Jim Gray, lecturer and technical consultant. He can be reached at: 210 East Chateau Circle, Payson, AZ 85541; (520) 474-5015; [cjimpey@metron.com](mailto:cjimpey@metron.com).

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 Steve Savoie, Jerry Slates, Gordy Stahl

**Artwork**

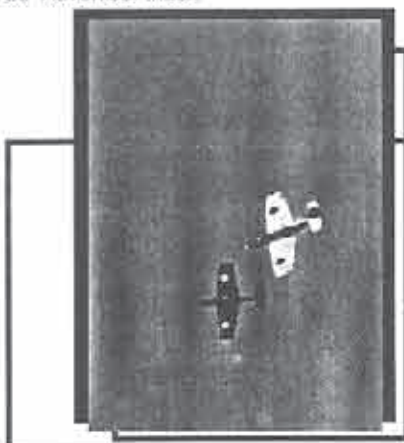
Gene Zika is the graphic artist who designs the unique ZIKA clip art.

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- Soar Utah '98..... Scott Marshall
- Texas National Tournament '98 (TNT)..... Photography by Scott Marshall
- G.N.A.T.S. Third Annual Aerotow Rally..... Dave Lear
- ..... Gerry Knight & Phil Landray
- ..... Photography by Charlie Rader
- Mid-South Soaring Championships '98..... Edwin Wilson
- Mid-South Soaring Championships '98..... Behind the Scenes: Rumble in the Bluegrass
- ..... Gordy Stahl

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**COMBAT OVER LAGUNA NIGUEL**

Dave's Aircraft Works (DAW) FoaMe-109 flown by Dave Sanders, and DAW Kawafoamie-61 duel it out at the Laguna Niguel (California) slope site.

Photography by Dave Garwood, Scotia, New York.



## Jer's Workbench

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### Pilatus B-4, Part II

Construction of the Pilatus B-4, as discussed last month, has begun. And, as I suspected, several trips to the hobby shop were necessary in order to gather the supplies required for this project. Unfortunately, I was not able to purchase everything, and find that I will have to improvise as we go along.

The first item not in stock was 3/16x3/8x48" spruce. Oversize stock was selected, 1/4x3/8x48", and will be cut to size with a table saw. The second item, a 3/4x3x13-1/4" balsa wood block, is an odd size, as most balsa wood blocks are only 12" long. So, a 36" sheet of 1/2" and 1/4" balsa was purchased, instead. The sheets will be glued together and finish cut to size.

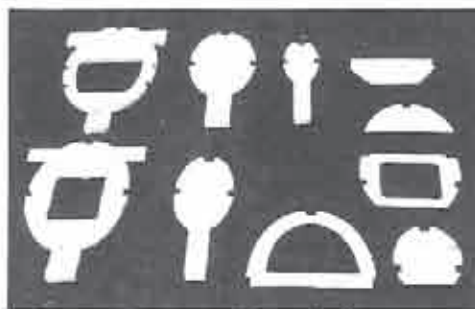
At the local home builder supply store, I found a very straight 1x6x72" pine board. It is quite satisfactory for use as the keel that the fuselage will be constructed on.

Back at the shop, the former patterns were transferred onto some 1/8" lite ply and 1/4" plywood, which were cut out with the use of a scroll saw, as shown in photo #1. Some of the stand-offs have also been glued onto some of the formers. In case you're wondering how long the stand-offs should be, let me explain what I did. First, taking the drawing, a line was drawn just under the fuselage from the nose to the tail. This represents a datum line. Then, I measured from the datum line to the bottom of each former requiring a stand-off. While not visible in photo #1, there is a vertical center line drawn on each former. Setting the formers aside, let's go on to the next step.

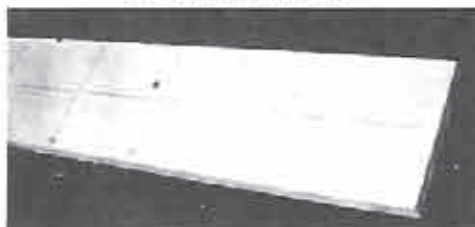
Next, a center line was drawn on the pine board (keel), down the middle, from one end to the other. Using a square, the position of each former to the keel was transferred to the board, as shown in photo #2. This step is real tricky, because the position of each former must be exact. If even a slight mistake is made, the error will likely show up when the strip planking is constructed.

And, now onto the hard part. Using a square, place the first former on its mark. It must be square to the datum line, and must be vertical to the keel. The former is glued in place as shown in photo 3. Repeat this process until all of the formers are mounted onto the keel, as shown in photo #4. (Note: I have also added some extra backing to each stand-off. I expect to manhandle the unit when the stringers are added, and I don't want the formers to break loose from the keel.)

As shown in photos #4 and #5, all the stringers have been added for the internal framework of the fuselage. The next step will be to strip plank the fuselage. Of course, if the fuselage is strip planked at this stage, how will the pushrods and controls for the T-tail be installed? How will the wing be mounted? Much to think about, and we'll see what I come up with, next month. ■



Formers with stand offs.



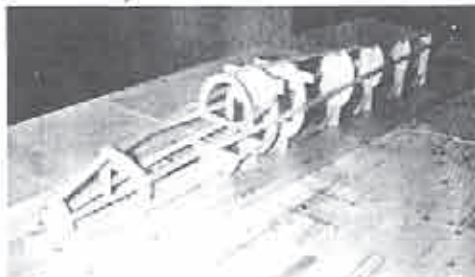
The keel. Note center or datum line and positioning for mounting each former.



Use square to position each former onto keel. Use a lot of care, as each former must be positioned exactly.



All formers mounted onto keel.



(Above & Below) Stringers, or internal framework, added to formers.



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## "SHORT CUTS"



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926 Gage St.  
Bennington, Vermont 05201  
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### Battery Checks

This article will waiver a bit from the topics I usually write about, but I wanted to share a few experiences that may save someone a plane or two.

Most recently, I've been plagued by a bit of bad luck with regards to airborne battery packs. Though I've recently been cycling all my packs with a new DIGIPACÉ III, this battery charger/cycler is no substitute for common sense.

Several weeks ago, I was flying with Dave Garwood at a super slope site when, on the first launch, my Coyote went down for the count at about 75' above the tree line. I was lucky enough to maneuver the plane into a semi-accessible area on the slope, where an old ski lift cut ran up the hill. The cause of the crash was old batteries. I do date all my batteries, but once the pack was installed in the nose of the Coyote, in foam padding, and wired into a stereo jack switch, it has been out of sight. The date you ask? May, 1992... Yup. Out of sight, and out of mind...

A new pack has since been installed, dated, and the stereo jack is now wired so that I can read the battery voltage directly from a small ESV (expanded scale voltmeter). The one I use is made by Ace, and easily fits into a pocket; this gives me no excuse not to check voltage prior to each flight, which was not possible based on the previous wiring. To access the Coyote's battery, the wing had to be unbolted from the fuselage, and the receiver removed; only then was the battery accessible.

Dave Garwood's Coyote is rigged in a most ingenious way. The battery and receiver are each padded with sheet rubber and installed in an old sock that easily slides into the fuselage, making removal simple. Dave and I agree that dating inaccessible batteries in order to prevent a crash does no good; in fact, it only reinforces the embarrassment of picking up the pieces. We also think that putting the battery date on the bottom of the fuselage, wings, or inside the canopy is a more effective method. However, a good, pre-season check up would likely have caught the problem by doing a thorough battery check.

My most embarrassing battery problem could have been much more costly had it not been for a very well designed plane, and a lot of luck.

Recently, I was invited to fly thermal via winch in Brattleboro, Vermont. I took along a EMS DG-800, and my trusty Catalina. The batteries on the Catalina are 2800mAh, and recently cycled out fine with the DIGIPACE. However, the 4.2 meter DG-800 has a 1200mAh main pack, and a 600mAh back-up pack with a Jomar battery protector. My problem started when I didn't pay attention, using the fuselage of the DG-800 as a storage container. The 600mAh pack had been cycled and charged a few days prior, and then stored inside the fuselage, loose, but ready for a day of flying. Once I reached the field, I couldn't find the pack, having forgotten that it was stored inside the fuselage. Since I carry a spare, charged 600 mAh pack in my flight bag, I didn't consider it a problem.

Do you see where this is leading?

Well, the DG-800 was assembled with the spare pack, the back-up system was checked, and voltages were checked (This was one week after the Coyote incident.); a good range check and pre-flight were performed. The DG-800 is an exceptional flier, and winch launches very well with flaps and ailerons drooped; but, still, I always find myself feeling better once those high aspect wings are off the winch line and the plane is flying on its own.

The winch line was tensioned, the plane was tossed. She immediately went into a 75° pitch attitude, with the tail only about 3" off the grass! Only one thing saved the plane from a crash. I use a tow bridle which leads into the nose release from the tow hook, in order to control pitch up on initial launch. I am also fortunate to be left

handed, and fed down immediately into the elevator.

The plane did reach launch altitude and, as soon as she was off the hook, began a violent stall to stall. It took full down stick and down trim to control the violent pitching. It landed a few minutes later, without incident, except for the pilot who felt quite wasted! On reaching the plane, the first thing I did was to check all the control surfaces, which were fine. But, when I lifted the plane, the sound of the 600mAh pack, as it slid from half way down the tail and stopped under the servo tray deck, clued me to the problem. This was a stupid mistake, and almost cost me the plane. I was fortunate that it didn't, and feel obliged to share this experience (and embarrassment) with the readers of *RCSD*.

By the way. The battery was not seen during the pre-flight, because it was under the servo tray deck. These large fuselages may serve nicely as a way to store batteries, wing rods, etc., but DON'T fall into the same trap that I did.

In sharing this story with John Derstine, he informed me that he had a plane suffer significant damage when the battery pack shifted while airborne, and unplugged from the receiver. Well, large scale fuselages are great for easy access to components, but there is still something to be said for a tightly packed T.D. fuselage, which has no spare room in which parts can wiggle around. I hope these two stories are of interest, and may save a plane or two! That's it for this month.

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### The Horten H XIII

In 1943, Reimar and Walter Horten constructed a rather unique glider to investigate the stability and control of a highly swept wing. This was done in preparation for construction of a high speed fighter, as seen in the H X and H XIIIb projects. A secondary goal was to determine the effect of sweep on the "middle effect" (see *RCSD*, November 1995). Designated H XIII, the resulting aircraft was successfully flown several times and provided substantial information regarding control authority at various speeds. The airframe was relatively simple and would make a rather unique project

for the scale modeler.

The H XIII had a sleek, highly swept wing and a gondola style pilot enclosure. The wings were taken from an H IIIb which had a leading edge sweep angle of 24.3 degrees. The H XIII fuselage was constructed such that the wing junction was set at an angle, increasing the leading edge sweep angle to 60 degrees. This change in sweep angle had the effect of lengthening the chord and decreasing the section thickness. The span was reduced from 20.5 meters to 12.4 meters. A spoiler was mounted on the top center of the wing, but it was not effective due to inherent turbulence in that region.

The gondola was mounted below and behind the trailing edge of the wing. The pilot could eject himself from the aircraft by jettisoning the tail cone and attached seat, and pushing himself backward through the opening. Visibility to the front was limited because of the shape of the gondola and the front landing strut, and while this did not severely affect piloting the aircraft in normal flight, it did make landing somewhat difficult.

Overall flight performance was not

spectacular, but certainly good considering the planform and construction methodology. The overall L/D was 12, but could be pushed to 16. Aileron control was good at low speeds (around 70km/h), but nearly non-existent at higher speeds (150 km/h). The elevator seemed to always have a heavy feel.

The single H XIII was destroyed by liberated Russian prisoners at the end of WWII.

As a scale project, the H XIII offers several challenges to the builder. To maintain the internal structure of the original requires an incredibly large number of diagonal joints. Because of the planform, all of the control surfaces meet at a severe angle to the hinge line. The edges must therefore be made to clear each other regardless of the extent of deflection. The gondola easily serves as a place for receiver and battery pack, and the wing is thick enough for internal servos. With care, winch launching should be possible, but for a spectacular sight, and to be historically accurate, a scale H XIII should be towed behind a Henschel Hs 126A of the same scale.

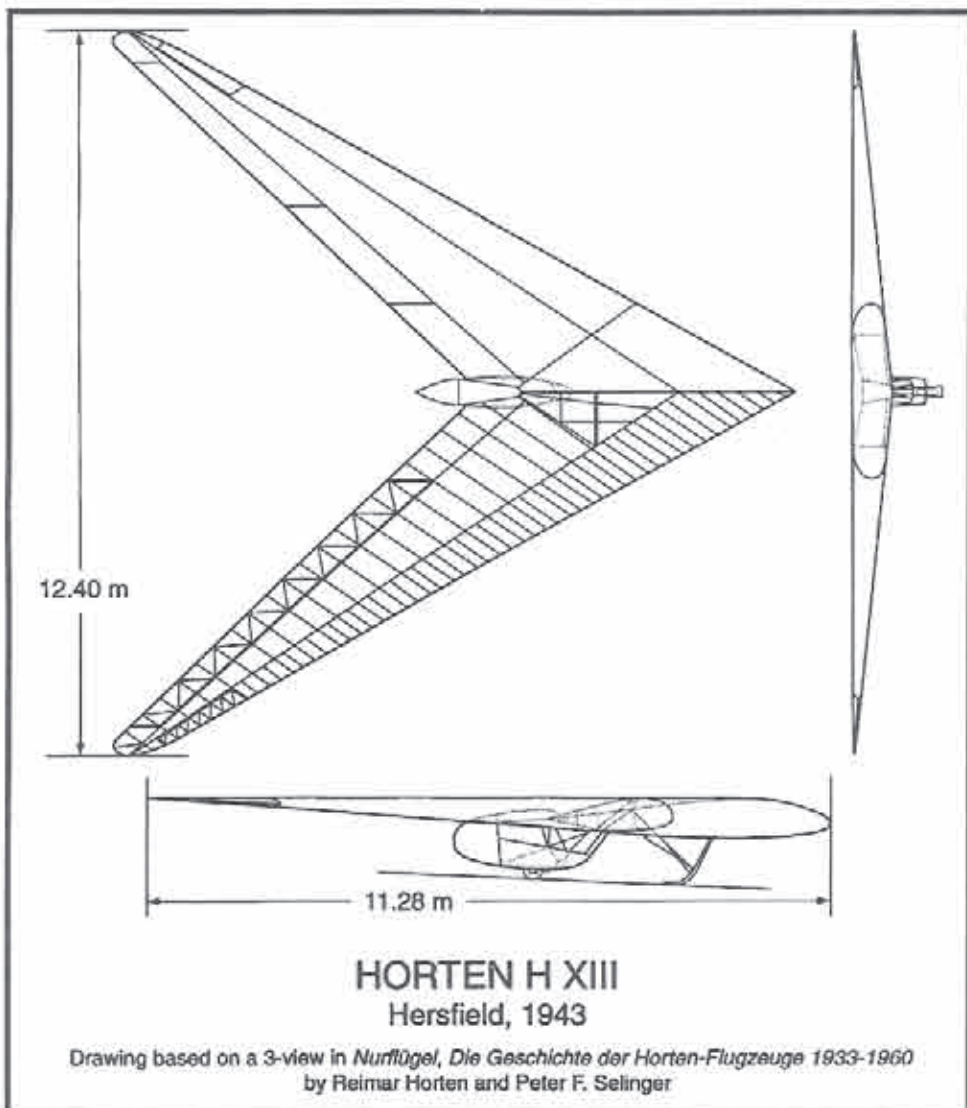
Suggestions for future columns are always welcome. We can be reached at P.O. Box 975, Olalla, WA 98359-0975 or [bsquared@halcyon.com](mailto:bsquared@halcyon.com).

#### Resources:

Dabrowski, Hans-Peter. *Flying Wings of the Horten Brothers*. Schiffer Military/Aviation History, Atglen Pennsylvania, 1995.

Green, William. *Warplanes of the Third Reich*. Galahad Books, New York, 1990.

Horten, Reimar and Selinger, Peter F. *Nurflügel, Die Geschichte der Horten-Flugzeuge 1933-1960*. Herbert Weishaupt Verlag, Graz Austria, 1993.



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Horten H.XIII		
	Parameter	Dimension
Wing	Span	12.4 m (40' 8.2")
	Sweep angle	60 degrees at leading edge
	Thickness, root	12%
	Chord, root	5.2 m (17' 0.7")
	Thickness, tip	7%
	Chord, tip	0.4 m (1' 3.7")
	Area	36 m <sup>2</sup> (387.5 ft <sup>2</sup> )
	Twist	6 degrees
	Aspect ratio	4.0
	Surface loading	9.2 kg/m <sup>2</sup> (1.88 lbs/ft <sup>2</sup> )
Airframe	Total length	11.28 m (37' 0")
	Gondola:	
	Length	2.4 m 7" (10.5')
	Width	0.6 m 1' (11.62")
	Height	1.0 m 3' (3.37')
	Weight	250 kg (551 lbs) empty 400 kg (882 lbs) max.
Design C <sub>L</sub>	0.4 at 400 kg (882 lbs)	
CG location	-4.725 m (15' 6") aft of leading edge apex	
Flying characteristics	Stall/landing speed	44 km/h (27 mph)
	Lowest sink rate	1.1 m/sec (3' 7.3") at 60 km/h (37 mph) and 9.2 kg/m <sup>2</sup> (1.88 lbs/ft <sup>2</sup> )
	Best L/D	16 at 60 km/h (50 mph) and 9.2 kg/m <sup>2</sup> (1.88 lbs/ft <sup>2</sup> )
	Maximum speed (V <sub>NE</sub> )	180 km/h (112mph)
First flight	27 November 1944	Approx. 20 flights total



## My First Passenger

by Fred Mallett  
Corpus Christi, Texas

I was flying slope a few days ago, and there was a lady sitting on a bench near the edge of the hill. A closer inspection determined she was probably not going to walk to the edge of the hill, as she was engrossed deeply in a book. I went ahead and flew a leaded up sloper, and was yanking and banking, and generally trying to get disoriented, stall, and run out of altitude and speed at the same time. After twenty minutes or so I was wrung out.

She kept on reading her book.

Since the batteries were low in the Shred-Air, I changed over to the Esteem (118" thermal duration ship), as I had not flown it since the last contest, and there would be another contest this weekend.

Changing over to maneuvers more suitable for a big bird on a small hill, I flew very smooth, huge loops, low smooth inverted passes, and loooooong, sloooooow rolls down the line; it looked so graceful with those long wings...

Pretty soon, I was in the bliss of a 1300MA battery, a 60 oz. open class, and 12 mph winds; there was no doubt I was in that little cockpit. I was swaying with the turns, bending forward with the dives, and feeling the G forces with the pullouts...

After awhile, a certain amount of awareness came back to me, as I discovered someone standing silently beside me; then, a little more awareness came back, and I realized she was swaying right along with me. I threw in a few smooth "off camber" surprise turns just to check and, sure enough, the lady from the bench was in the cockpit - with me.

I had a passenger.

My first passenger.

After awhile, I came in for a landing; luckily, it was a beauty.

I turned to the lady; she kinda shook her head, like she was coming out of a trance. "Wow! You can really feel it," she said, and then returned to her bench.

\*\*\*

Today, I was back at the hill, and a car pulled into the parking lot.

The Lady from the bench had only one question.

"Where do I get one?"

■



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\$5.00 shipping**

CA residents add \$5.47 (7.75% tax)



**MAD  
Aircraft  
Design**

15268 Rolling Ridge Drive  
Chino Hills, California  
91709 USA

**(909) 606-0363**



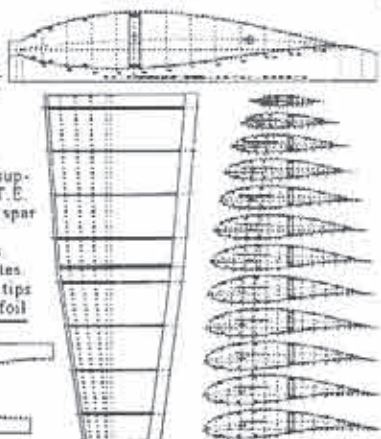
<http://www.madaircraft.com> email: [madair@madaircraft.com](mailto:madair@madaircraft.com)

## All new features! CompuFoil 98 for Windows The complete airfoil system

Over 40 great new features, same great price! Now also supports multi-panel auto rib generation, planform support, T.E. building tabs, D-tubes, T.E. stock, L.E. round stock, new spar and modification options, dynamically size holes, etc. Price: \$35-\$113 + \$25&H depending on purchase options. Registered users upgrade for \$35. Free incremental updates. Download the trial version, free utilities, or foam cutting tips from <http://ourworld.compserv.com/homepages/compufoil>

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Email: [CompuFoil@aol.com](mailto:CompuFoil@aol.com)

Eric Sanders  
3904 Traine Dr.  
Kettering, OH 45429



Also available - The Feather/Cut Foam Core Cutting Machine - \$149.95

# CHRISTMAS & GIFT GIVING IDEAS FOR THE COMING YEAR



## From B<sup>2</sup>

### Razor Plane

We've seen a lot of razor planes that take relatively thick blades. These are usually made in Germany. Micro-Mark (1-800-225-1066, 340 Snyder Avenue, Berkeley Heights, NJ 07922-1595) carried the Solingen brand for quite a while, but this item was not listed in their latest catalog. The true razor plane is one which actually takes double edge razor blades. These are so cool for taking extremely fine shavings off balsa or even some densities of foam... They will NOT handle spruce. We have a Little Giant, a nice block-type plane. We also have another style, this with a true handle to hold the blade mount, rather than the thumb screw used by the Little Giant. We find true razor planes at garage and yard sales. Sometimes for a quarter or half dollar, but we've paid as much as a couple bucks for one. They are cast aluminum alloy, so they can be tried to a very fine degree using wet or dry sandpaper and a sheet of glass. Paper thin does not in any way describe the great cuts you can get with one of these once it's properly set up. (Editor Note: Another source for a razor plane, #AM710002, list price \$16.95: Model Expo, Inc., P.O. Box 229140, 3850 N. 29th Terrace, Hollywood, FL 33022.)

### Plans R/C Sailplanes, Scale, Sport & Electric

Published by Cirrus Aviation, Ltd., prices start at \$4, postage included. Plans include Pioneer II-D, Alan Halleck's Razer I, Bruce Abell's Scimitar and Dragonfly (both have swept forward wing tips and wide chord and mid-wing), Bill Kuhlman's Enalpria (canard), and several scale sailplanes (Delanne 60E1, CM 311.P, Avia XVA 15.1A/2A), plus a whole bunch of electrics. There's also a whole slew of plans for rubber powered and free flight towline gliders, etc. Catalog: \$2, Visa & MC.

Cirrus Aviation, Ltd.  
P.O. Box 7093 Depot 4  
Victoria BC V9B 4Z2 Canada

### Trick R/C ZAGI Combat Wing

Nearly indestructible combat wing, flies great in light lift, very maneuverable. Under \$100, Visa, MC.

Trick R/C  
938 Victoria Ave.  
Venice, CA 90291  
(310) 301-1614  
e-mail: [Zod@Zagi.com](mailto:Zod@Zagi.com)  
<http://www.Zagi.com>



## From Tom Nagel

### Under \$10

These are stuffing stockers as we call them at our house. This was a tough assignment, as a roll of monokote or a bottom of the line servo cost more than \$10! Here's some ideas:

- ZAP cyanoacrylate glue, comes in Christmas color bottles of green (medium) and red (thin). (local hobby shop)
- A batch of disposable squeeze bulb cya applicators. (local hobby shop)
- A pack of #11 exacto blades in a little spring-loaded dispenser gizmo. (local hobby shop)
- A roll of leading edge dazzle tape. (local hobby shop)
- A big bottle of Trio, the combination sun screen, bug repellent and dessert topping (skin lotion). Very effective but hard to find around here. I last saw it at Walmart in the pharmacy section, with other sun screens and bug repellents.
- A couple of rolls of Blenderm medical tape, great for tape hinges, find it at medical supply houses.
- A big can of Gator Aid mix, makes a couple of gallons of isotonic drink, about \$7 at Sam's Club. With Gordon's gin, makes a great gin and isotonic.
- A DeLorme Mapping Co. book of backroad maps for your state. Great for slope scouting and finding your way in general. Available mail order or in book stores. Their toll free number is 1-800-227-1656 ext 5900.

### Gift Range Between \$10 and \$100

- A Zagi-THL, the perfect gift kit for anyone who does not already have a Zagi. About \$45 mail order, fast service, lots of giggles per dollar. E-mail [zod@zagi.com](mailto:zod@zagi.com).
- An altimeter watch. Opens new horizons in contest formats, lots of fun to share with friends. Casio is cheaper and Avocet is more accurate. Check a big outdoors store.
- A Hitec Model 3G S.S 3-channel radio, with HS-80 servos and V-tail mixing built in. Great fun for a Stylus owner who needs to get back to basics. Contact Ray Hayes, Sky Bench Aerotech, at 810-781-7018 in Michigan.
- A lava lamp, for those days when you

## From Steve Savoie STOP PRESS

Late breaking fax from Steve says:

- 40 hours of spare building time.
- A month of sunny weekends.

(I think there's gonna be a long line on this one, Steve. Gotta source? Ed.)

can't fly but still want to visualize thermal shapes. Ask at a head shop.

- The Ultimate Hat, \$38.95 mail order. Good sun protection, cool, will float, virtually indestructible, makes you look like Robert Kidd. Mine has survived 6 or 7 years, was blown off my head by a storm on the shores of Lake Erie, and retrieved half way to Kelley's Island by a fisherman. It has been to two NATS and survived a mini-tornado on handlaunch day 1997, was blown off my head by a nearby meteor impact during the time travel ride at Disney's Wild Kingdom, subsequently trampled by a Sauropod, run over by the time travel machine, rescued by Disney elves, and carried thru the tunnels under the park, back to the lost and found office; it's been slept on by the dog, spilled on by the kid, chewed on by a baby Snow Leopard, and had ape & t thrown on it by a territorially possessive female gorilla. In other words, it looks a whole lot like most of the hats worn by sailplane folks. It floats, has a layer of foam insulation under the top, a pocket to carry small items, 2 chin straps (for those of us with double chins, I guess), cleans up pretty well, and looks eminently studly when worn with panache.

The Ultimately Hat Co.  
4893-B West Waters Ave.  
Tampa, FL 33634  
(813) 881-1575

- ACE or Cirrus Field Charger. Peak charge your TX and planes from your dashboard used-to-be-cigarette-lighter socket on the way to the field. Some folks with these chargers have stopped using anything else to charge up their stuff. About \$100. (local hobby shop)
- A sailplane ride. A gift certificate for a ride in the real thing, guaranteed to provide new insights into the phenomenon of un-powered flight. Might also result in a new hobby/fixation, so be careful. Look for ads in your local paper or check at a full-size sailplane field near you.

### COST IS NO OBJECT?

- An all expense paid trip to Harris Hill and the Sailplane Museum in New York.
- A 15 minute, all-you-can-grab, shopping spree in the NSP showroom, with Sal running the adding machine.



# CHRISTMAS & GIFT GIVING IDEAS FOR THE COMING YEAR

## From Dave Register

Here's a couple of thoughts to minimize the tie and sock calamity that will be upon us in a few months.

**Chris Adams' Scroll Sanders** are a MUST for any shop with a scroll saw. The selection can be reviewed on Chris' web page at [www.scrollsander.com](http://www.scrollsander.com). Ordering instructions are there also. Can also be reached at 702-345-1660 for the web-challenged. These are sanding strips that fit in your scroll saw and allow beautiful finish sanding of small pieces and compound curves (such as airfoil templates). Prices run \$4-\$5/package, and can be ordered for most types and sizes of scroll saws.

The **Micro-Mark** catalog is a MUST for any modeler. With 75 pages of goodies, there's something on every page for a modeling type. They can also be reached at [www.micromark.com](http://www.micromark.com). Orders can be placed on-line and some catalog items are viewable. Best bet is to get the catalog and go from there. Among my favorites:

- 1) Steel machinist's squares. \$9.95 - \$12.95 depending on size.
- 2) The Microlux table saw is a beauty. I use mine on every project. A bit pricey at \$329.95, but one of the best around for model work.
- 3) Jeweler's drill press. Again, up there a bit at \$149.95. I don't have one, but I drool over it every time I open to that page.
- 4) Toolmaker's Vise - \$23.50.
- 5) Every bit, drill, collet, router, etc. you could ever want for a Dremel tool. Selection is amazing.
- 6) You can order a PanaVise here, also. An excellent bench tool for soldering and holding small parts - \$39.95.
- 7) Miniature C-clamps and Aluminum clamps - \$7.95 to \$10.25.
- 8) Contour gauge - \$7.95.
- 9) Any type of ChannelLock plier you can think of. - \$20 each.
- 10) Surgical hemostats, straight or curved. These have long been my most indispensable tool - \$6.95 each.
- 11) Toolmaker's squares (3 - 90 deg



- surfaces). A really handy tool for blocking up and squaring fuselage sides, wing ribs, etc. - \$9.95 - \$19.95.
- 12) 3 and 4 arm jigs for soldering wires. Indispensable for wiring up wing servos. \$5.80 - \$13.95.
- 13) MANY different assortments of Swiss pattern files and needle file sets. \$12.95 - \$32.95.
- 14) Just about any type of blade you can imagine for an XActo knife. Also looks like some blades for the old Uber-Skiver knife marketed by RCM years ago.
- 15) A wood stripper - \$6.50.
- 16) T-bars for long straight sanding surfaces (~ \$5). Also the adhesive backed sanding strips for same (~ \$10).

Micro-Mark

1-800-225-1066

340 Snyder Avenue

Berkeley Heights, NJ 07922-1595

Other really useful (to me) hobby tools have been a CG balancer and an incidence meter. Robard makes the latter. CG makes the former. I believe these are in the \$20 - \$40 range, at a local hobby shop, but well worth it.

## From Mark Nankivil

### Under \$10

Find a couple of items useful, and they're available at Home Depot. American Tools makes a very handy Quick Grip Micro Bar Clamp that goes for about \$8 each; it's very useful around the workshop. (Sears has their own version of the same thing.) There's also the Wolcraft Quick Jaws C Clamp for about \$8, too.

### Well Over \$10 and Up

What would I like to get for Christmas? Here's some things I've got my eye on:

- Indoor R/C Slow Flyer: Bleriott II, or Elfi
    - Hobby Club
    - (714) 498-5377, [www.hobbyclub.com](http://www.hobbyclub.com)
  - Multiplex Dart HLG
    - Multiplex USA
    - (Or, Local Hobby Shop)
    - (818) 790-0713
    - <http://www.multiplexrc.com>
  - Maple Leaf Design Encore HLG
    - Maple Leaf Design
    - (510) 234-8500
    - e-mail: [mapleleaf@aimnet.com](mailto:mapleleaf@aimnet.com)
  - Volz Zip or Wing-Maxx servos
    - Volz Modellbau
    - e-mail: [mail@volz-servos.com](mailto:mail@volz-servos.com)
    - <http://www.volz-servos.com>
- (Or contact: Hobby Club, NSP, UPI, R/C Direct)
- 1/3 scale Ventus 2C
    - Sailplanes Unlimited, Ltd.
    - (212) 879-1634
    - <http://www.sailplanes.com>
  - "On the 'Wing... the book, Volume 2"
    - B<sup>2</sup> Streamlines
    - P.O. Box 975, Olalla, WA 98359-0975
    - e-mail: [bsquared@halcyon.com](mailto:bsquared@halcyon.com)
    - <http://www.halcyon.com/bsquared>


## From Dave Sanders

### Under \$10 - Stocking Stuffers


- Hex ball drivers (like a screwdriver for Allen bolt heads). These are very handy, and I never have enough of the little devils. 1/16 and 3/32 are the most common sizes. There's metric ones, too. Might want to raid said modeler's tool box and see which are missing! (local hobby shop)
- Hinge tape. Wing tape, too. Check brands found in modeler's field bag or inquire at his/her local hobby shop. You can bet they know him/her!

### Over \$100

- Servos! Almost everyone can use a set of four HS-80's. If they fly big planes, get 'em a set of 6 standard servos. Heh, heh, heh... Who wouldn't love getting a box of brand new servos on Christmas Day? (Answer: A modeler's spouse that doesn't fly!) (local hobby shop, or distributor)
- Fresh combat plane! (Check out the ads in RCSD for more information.)



**Nimbus 4-D**  
130" Wingspan  
\$499.95



**Duo Discus**  
90" Wingspan  
\$399.95

**Gallery of Gliders**

Specs.	ASW-19/24	PILATUS B-4	LUNAK LF-107	DISCUS (1:3.5)	DG 800 (1:4.5)	NIMBUS 4-D
Wing Span:	49 in./84 in.	57 in.	65 in.	168 in.	137/165 in.	130 in.
Length:	28.3 in./28.3 in.	29.5 in.	29 in.	74 in.	62.5 in.	46 in.
Wt.:	9 oz./11 oz. \$139.95/\$159.95	10.5 oz. \$149.95	15 oz. \$159.95	200 oz. \$1199.95	123 oz. \$899.95	54 oz. \$499.95

CALL FOR FREE CATALOG **HOBBY CLUB** [WWW.HOBBYCLUB.COM](http://WWW.HOBBYCLUB.COM)  
 931 CALLE NEGOCIO-Suite F-SAN CLEMENTE, CA 92673 - Phone (714) 498-5377/FAX 498-5340  
 Now available: complete line of glider accessories: Canopies, Markings, Retract L/G, Airbrakes, etc.

# CHRISTMAS & GIFT GIVING IDEAS FOR THE COMING YEAR

## Christmas Shopping at Your Local Hobby Shop From Jerry Slates

I'll bet the model builder(s) in your life can always use an extra bottle of CA or epoxy glue. There are many types to choose from: thin, thick, fast and slow, so get one of each. These glues can also be used around the house to mend a broken coffee cup handle, or a vase. A perfect gift for honey do's!

If your model builder is one of those who takes pride in his model building and likes to show-off the latest project to you, and/or the next door neighbor, why not get him an airbrush to paint his models? I found 2 at my local hobby shop to choose from. "Testors" sells for \$89.95, and works from canned air costing \$7.95 per can. "Badger" also makes a couple of airbrushes for \$46.00 and \$61.00, but these will require an air compressor for \$199.95. Besides painting models, an airbrush can be used to airbrush T-shirts for the kids, to show off their class colors, or to paint Christmas decorations next year.

There are two items that would fit very nicely into a Christmas stocking: an X-Acto tool set for \$29.95 and a Weller cordless soldering tool for \$27.95.

For something a bit more personal, Hangar 9 has a very nice transmitter case for \$39.95. It can protect an R/C transmitter from the family dog, and other daily obstacles, such as travel to the flying field.

## F-21 "Predator"



Designed to bring High Performance to EPP combat. 48" span, RG15 airfoil, 29 oz weight, 9oz/sq ft loading. Uses a 2 channel radio. Coroplast tail surfaces. The F-21 will perform axial rolls, outside loops, and will fly inverted with ease. Highly tapered wing gives faster roll rate and greater top speed. Composite wing spar is lighter and stronger than wood. The F-21 Predator looks great and is killer for combat! \$59.00 +\$5 shipping

**We sell 1.3 and 1.9 density  
EPP foam sheets for less !!!**

**RPV Industries, Palo Alto, CA**  
(650) 493-5502 [rpvi@aol.com](mailto:rpvi@aol.com)  
<http://members.aol.com/Rpvi/home.html>

## New Stuff From Gordy Stahl

I've found a new source for stop watches, and at a great deal: \$24.95. The Accusplit Alliance 620, model number AL620M10T, will be reviewed next month. It appears to be reliable, specifically functional for our tasks, and at a reasonable price. Tell 'em, "Gordy sent me!"

ACCUSPLIT, Inc.  
(800) 965-2008  
e-mail: [ron@accusplit.com](mailto:ron@accusplit.com)  
[www.ACCUSPLIT.com](http://www.ACCUSPLIT.com)

**Please be sure to tell our  
advertisers you found  
them through RCSD!**



## From Joe Chovan

### Under \$10

Socket head cap screws (for servos in tight places), Micro Fasteners, Catalog #STS0208 (\$4.50).

Micro Fasteners  
110 Hillcrest Rd.  
Fleming, NJ 08822  
(800) 892-6917

e-mail: [microfasteners.com](mailto:microfasteners.com)  
<http://microfasteners.com>

### Over \$100

Slope Scale Aircobra kit! (See Dave Garood's wish list for more information.)

### ARF Kit Specifications:

Span: 60"  
Length: 59"  
Airfoil: S4083  
Wing Area: 366.5 in.<sup>2</sup>  
Weight: 10 - 12 oz.  
Wing Loading: 3.9 - 4.9 oz./sq. ft.  
Color: Krylon  
(Additional cost/extra color.)

Kit Contents: • Composite wing pre-cut, fiberglass fuse, canopy, rudder, elevator, throwing bar (graphite shaft, body pre-drilled) • wing mounts pre-sanded • dowel pre-drilled • nylon screws, easy hinges, & fiberglass tape

**AT WINTER/CHRISTMAS PRICE!**

## Bludartar

(Texan for Coopers Hawk)

**\$160.00 INCLUDES S&H U.S.A.**

(Does not include Texas Resident tax.)

**ELECTRIC & V-TAIL  
VERSIONS AVAILABLE**

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## Announcing the FIRST ALL LASER CUT Sailplane Kit!

The precision of CAD-CAM Laser cut parts are far superior to previous methods of designing and manufacturing. Parts fit so well, it makes this complex kit easy to assemble. The strong, full

D-Box, double shear-web wing allows for super winch launches; the large flaps and ailerons add to the great SD7037 airfoil performance.

Terrific performance, style, accuracy of parts, and at an affordable price!

The Mystery Ship has ailerons, flaps, rudder, and full flying T-tail. The wings are plug-in; 2 micro servos for ailerons and 2 mini servos for flaps are required. Standard size gear will fit in fuselage.

Retail **\$169.95**  
only **\$149.95**

FREE shipping in continental U.S.

Wing Span	118 in
Wing Area	973 in. <sup>2</sup>
Airfoil	SD7037
Aspect Ratio	13:1
Fuse. Length w/Rudder	33.25 in.
Wing Loading	8.8 to 10 oz./ft. <sup>2</sup>
Flying Weight	62 - 68 oz.

Say you saw it in RCSD and save \$5.00 more! *The mystery is why pay more?*

**Major Hobby, 1520 "B" Corona Dr., Lake Havasu City, AZ 86403**

Orders Only: 1 (800) 625-6772 Info: (520) 855-7901 FAX: (520) 855-5930

# CHRISTMAS & GIFT GIVING IDEAS FOR THE COMING YEAR

## Some of My Favorite Things From Dave Garwood

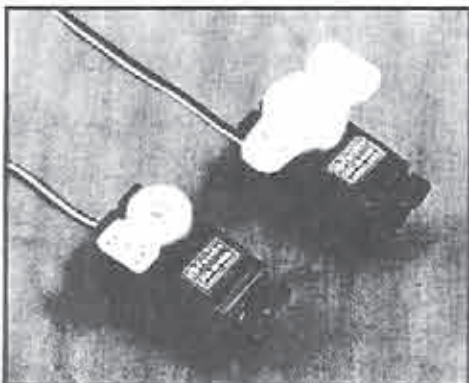
### UNDER TEN BUCKS

**Kimbrough Servo-Savers.** Ever had an aileron servo strip gears on a landing?

How about breaking elevator servo gears during a one-point landing. Grrrrr!!!!

Reduce your chances of having a stripped servo end your flying day early with these slick fittings. The Small Servo Saver has one ear; the Large Servo Saver has two. Less than five bucks each from Tower Hobbies, the R/C car section of your hobby shop, or order direct from the maker.

Kimbrough Products  
1322 Bell Ave, Unit 1-C  
Tustin, CA 92780



Kimbrough Products No. 114 Mini Servo Saver (left) and No. 122 Large Servo Saver with Double End.

### OVER \$100

**Slope Scale warbird.** If you're an advanced aileron slope flyer, and you can handle planes with a wing loading of 15-20 ounces per square foot, you'll be pleased beyond all expectations to add a Slope Scale Aircobra, Mustang, Spitfire, Hellcat, Fock Wulf, Messerschmit or Zero Fighter to your arsenal.

Brian Laird designs them first for performance and then for looks. The \$130 kits include molded fuselage, pre-cut tail parts, foam wing kit, and hardware. They build in about 15-20 hours before finishing and detailing. They fly fast, roll fast, and look pretty good doing it. This winter I'll be building my fourth Slope Scale plane, hoping to make the Sierra Hotel list. It's not a crime to fly an airplane that looks like an airplane.



November 1998



Ken Hawkins' Sniper and Joe Chovan's FoamWulf battle it out in foamic combat over Wilson Lake, Kansas at the 1998 Midwest Slope Challenge.

Slope Scale  
12935 Lasselle Street  
Moreno Valley, CA 92553  
E-mail: [slope\\_scale@compuserve.com](mailto:slope_scale@compuserve.com)  
[ourworld.compuserve.com/homepages/slope\\_scale](http://ourworld.compuserve.com/homepages/slope_scale)

### Cost No Object?

**Dream slope soaring trip.** Want to see the country and want to fly a lot? Try this itinerary next spring. Remember seekers, you gotta make these trips before you're too crippled-up to climb those hills. Don't put it off forever.

### Midwest Slope Challenge, Lake Wilson, KS

May 15-16-17, 1999

[www.geocities.com/CapeCanaveral/Hangar/1671/lass-2.html](http://www.geocities.com/CapeCanaveral/Hangar/1671/lass-2.html)

Foamic combat and four classes of slope racing in the heartland. The reservoir site is flyable in nearly any wind direction and when it's blowing, not many slope sites are better. Some real friendly folks fly there; they eat beef and drink red beer. Then cross the Rocky Mountains, maybe fly at Point of the Mountain in Salt Lake City, but in good time to make the:



PSS Slope jet flown from Point of the Mountain during Soar Utah 95. Doug Buchanan's BAe Hawk design. There will be slope jets and PSS warbirds at Cajon Summit.

Pete Marshall flies a Slope Scale Spitfire over the Great Salt Lake from Francis Peak on a dream trip to Soar Utah 95.



Joe Conrad flies a Slope Scale Zero from Eagle Butte during a dream trip to the central Washington desert for the 1994 World Soaring Jamboree.

### Cajon Summit PSS Festival, San Bernadino, CA May 22-23, 1999

[ourworld.compuserve.com/homepages/ISR](http://ourworld.compuserve.com/homepages/ISR)

Power Slope Scale and nothing but PSS. Foamies and foamic combat. Glass warbirds and slope jets, all the PSS you can take in one weekend on a mountain pass site near the San Bernadino National Forest. They eat healthy here, this is SoCal.

While in SoCal, might as while fly the coast. Start at Torrey Pines in San Diego, fly The Promenade in Long Beach, Point Fermin in Los Angeles. Head north to Sunset Beach in Watsonville and spend a day or two at the Los Banos Reservoir.

Fly for a week at some of the 20 sites in the SFO Bay area then get back on the road to head up the Oregon coast. Don't miss Cape Blanco and Point Sebastian, but don't be late to:

### World Glider Speed Trials, Kennewick, WA

June 11-12-13, 1999

[www.semodeler.com](http://www.semodeler.com)

This should be a good one, a money-prize event on mega hills. Nobody does big events better than Wil Byers. In Kennewick, they eat Mexican food and drink margaritas by the pitcher. Be there or be square.





Note that the V-tail angle of the Cumulus is at about 80 degrees; this is substantially less than the typical V-tail angle, 105 degrees. Some club members wondered if the "ruddervators" had sufficient authority on pitch control. Test flights in both calm and strong wind conditions have shown the pitch control to be excellent.

### Come Down and Join Friends With a "Cumulus"

by Joe Enhuei

Lawrenceville, New Jersey

At our flying field in West Windsor, New Jersey, electric planes have become more popular, and we have more than 6 active pilots flying 1.5 to 2.0 meter size 2-axis and 3-axis thermal sailplanes. These planes have direct or geared drive Speed 400 to 600 motors and they all perform well. The pilots have a lot of fun, especially when they follow the buzzards around in a gaggle in thermals (while I fly 4 meter size sailplanes at an extreme altitude hunting stronger and larger thermals). One day, my flying buddy, Mark, said, "Why not come down and join us?" Yes! That was indeed an inspirational proposition! So, I started searching for my next plane in order to join the pack.

A nice V-tail sailplane (powered by a geared Speed 400) belonged to Mark really caught my eye. This plane is quite light and has a few long thermal flights. Mark also flies it in windy conditions, manages to catch "waves", and soars to high altitude. However, it tends to wobble during turns (perhaps due to lack of ailerons). My good friend Ian has a NSP 3-axis sailplane (powered by a Speed 400 direct drive) with a conventional tail. This plane thermals well and turns smoothly.

By now, I know what plane is for me: a light, aileron V-tail electric sailplane. I came across a Graupner Cumulus (1.87 meter) as I flipped through Hobby Lobby's latest catalog. It is an ARF designed specifically for thermal flights. With enthusiasm, I ordered the plane, along with a power package.

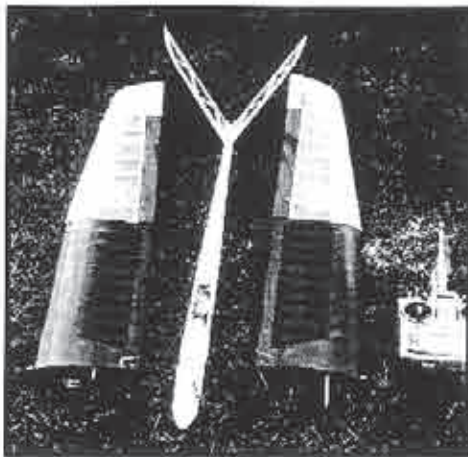
The 2-piece wings (relatively thin MH-series airfoil) and tails are built-up construction (covered with heat-shrink film); they are extremely light. The fuselage is gel-coated fiberglass, with two nose cones

(convertible between electric and hand launch). This is a high quality kit. A complete hardware package is included. Two HS-80 servos (in the fuselage) for the V-tails and two HS-60 servos (in the wings) for the ailerons are required. The motor is a Speed 480 geared drive with a 10-inch prop. An AR500 8-cell battery and a Jeti speed control with BEC are recommended by Hobby Lobby. I use a JR 10-channel radio for 3-axis controls.

I built the Cumulus per the plans with one exception; I installed fuselage servos ahead of the LE, so the AR500 battery can be sitting directly below the wings. The plan shows the fuselage servos installed about 2 inches ahead of the TE of the wings; this may cause the plane to become too nose heavy with the AR500 battery sitting in front of the servos. I fiberglassed the V-tail root because the balsa appears to be flimsy. The total weight of the Cumulus is about 30 oz.; the wing loading is 9.0 oz./sq. ft. I built the Cumulus on the heavy side. I think that it is possible to trim off 3 to 4 oz.

The day came for the test flight of the Cumulus. After a thorough safety check, I powered up and the Cumulus climbed lively through the cool air; it was an overcast day with a light breeze from north. The Cumulus stalled twice, but recovered quickly during climb out. At about 300 feet, I shut down the motor; the Cumulus became quite unstable, and the control input was extremely sensitive. With one or two clicks of down trim, I brought it down to see what was going on. Mark and I rechecked everything, including the CG position, and we could not find anything wrong. The symptoms of instability and extreme sensitivity on control input appeared to be the result of being too tail heavy. I rearranged the battery pack, and moved the CG 1/4 inch forward; the CG was right on the wing spar. I relaunched the Cumulus and it climbed to about 300 feet with much better stability. From there, only minor trims were required and it was a delightful plane





to fly. The Cumulus penetrated better than the comparable size electric thermal planes and it responded very well to small air disturbances when flying slow. The control input was medium sensitive, which suited me well. Ruddervator in conjunction with aileron input was needed for efficient, tight turns. Light weight and stream-line design enabled the Cumulus to glide at an incredible low sink rate, while its speed domain was wide. Mark also flew the plane around and was surprised at its high performance design. Upon landing, the glide path control was positive when both ailerons were deflected upward slightly.

The next flight, Mark's V-tail and my Cumulus were up together. Old man Bob's Graupner "Bussard" also joined in. We flew the planes side by side, circled leisurely together and we were all happy pilots.

I also flew the Cumulus during late morning on a fair weather day. Light thermals appeared to be everywhere but the thermals dissipated at about 400 feet high. I found it interesting that the air on the ground was calm, but it was quite breezy at over 500 feet above ground, where the Cumulus could be flown backwards. The Cumulus stayed up almost 40 minutes before I gave up my radio channel to a club member. I went home around noon time. Mark flew his V-tail and reported relatively strong thermals in the afternoon.

I am very happy to be in the dancing rituals with other sailplanes in my club. Flying 4 meter and bigger size sailplanes is a different category of sport. I am very lucky to be able to fly a few high performance sailplanes of small and large sizes and to "feel" the difference. Indeed, it is great fun to come down and join friends with a "Cumulus".

\*\*\*

If any of you have flown a Cumulus, please let RCSD readers know if you have encountered the instability problem, and how to correct it. I do not know if change(s) of the incidence angle would help to stabilize the plane without the CG adjustment.

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# Getting The Little Folks Started

*A few observations which might be helpful for beginners*



Robin Lehman  
63 East 82nd St  
NYC, NY 10028  
(212) 879-1634

*(Top Left) Gernod Bruckmann, aged 6 1/2, started flying this past summer and, in 3 months, has learned to fly a powered glider and do excellent, square landing approaches.*



*Four year old Logan Hill was just thrilled to be able to fly Ray Alonzo's glider. Ray Alonzo got along famously, as dad looks on. This is part of the spirit of the Pensacola In, having fun in a very relaxed atmosphere.*



*Marcus Lange, aged 13, was the youngest competitor in the 1998 Akro-Cup held in Germany in September. He got lots of encouragement from everyone there.*

Wow! Christmas is just about here and snow's flying! I hear it's supposed to be a hard winter this year with lots of ice and cold. That means lots of good building time. Many of you've already started on your next pet project. Aaaaaaaah, the smell of epoxy glue! Glue's a spiritual thing; after all, it keeps things together and it's quite amazing how a bit of glue on the fingers helps warm the heart and soul!

We're pretty much bundled up here in the North, but you guys down South are enjoying some of the best flying weather of the year. Go to it while you can! Between record heat, the wrath of hurricane George and torrential rain, you deserve to make

the best of those few wonderful weekend days when you can go out and fly! ENJOY!

On Christmas day, a few very lucky pilots will find that Santa has brought an unexpected, LARGE box. It's a marvel that he managed to bring that thing all the way from the North Pole! And how the heck did he get it down the chimney, anyway? Lucky you, this might be your best bird, yet!

It's quite amazing how every year the airplanes, radios and technology keep on improving. 1998 was the year of the polyhedral wing when the Discus II and several other great new full sized sailplanes first soared above the Teck (more on this in a later issue). You will no doubt see several of these bent-wing-birds at Elmira '99, and who knows what else? I'm told we'd better have a really powerful towplane ready to launch some 8 meter sailplanes. 1999 is going to be a most interesting year, indeed!

Many of you had the thrill of your first airtows this year. The word is that many new towplanes are in the building stage. Soon airtowing will be a very familiar way to get the big birds up! That's good news for all of us!

Some of you will have the pleasure of getting to know a friendly Fox. You will be pleasantly surprised at just how well these highly aerobatic birds fly, and thermal. Others will get to fly their very first scale sailplane. Yes, they are quite easy to fly after all! New airtow groups are forming up and there are more and more informal fly-ins. Yes, 1999 is going to be a great year - the best ever for scale sailplanes as more and more of you "come on line".



Perhaps, even, my little 6 1/2 year old guy will get in some flying next year...

## Taking a Hint from the Germans

On my trip to Germany this fall, several things impressed me about how different the model airplane scene is from what goes on here in the USA. Perhaps the most obvious difference is the fact that at all model airplane events, whether they were the most important competitive events of the year or Sunday



*Klein Bruckmann helps model airplane chores at not to get dragged across runs up the motor in*

All of the little airplanes we have flown with the kids come from various model shops. All are ARF and either sticks with wings (which are a challenge to get to fly well), or little styrofoam rubber, or electric-powered, costing around \$15 - \$30. Your local hobby shop is sure to have something along these lines!

...Robin

(Right) Rolf and his glider, which we put together this summer. It took awhile to get the hang of launching a glider: not too hard, not too softly, but just right with the fuselage and the wings held level.

Everyone comes to the German model airplane fields: wives, girlfriends, children, and all the pets. These are wonderful family outings.



grounds for the kids. Given these facilities, it's not a giant leap for mankind to get kids interested, because

they're already at the field watching daddy (or mummy) fly the model airplane!

My first clue was the very first event I attended at the Ikarus, Harszewinkel club (the DFMV Akro-Cup, the aerobatic event for scale sailplanes). I immediately saw sandboxes, swings and jungle gyms. But none of this really sunk in until I saw Gerhard Bruckmann launching a little electric sailplane for his son, Gernod, aged 6! As it turned out, Gernod had plenty of flying because the weather was quite poor and it rained a lot. At every opportunity, when the competition wasn't being flown, Gernod would ask his dad to launch the glider, and then he would fly nice square patterns and approaches; just before touchdown he would throttle up and take off again, and then do another pattern and another. Not bad for a beginner! It was a real pleasure to watch this little kid fly those nice, square, landing patterns time and time again. Practice, Practice, PRACTICE!!!! Maybe that's why Gernod got so good so fast. He apparently loved every minute of it and just couldn't get enough flying in!

His dad told me that Klein Bruckmann (little Bruckmann as he was affectionately called by everyone there) had only been flying since this summer - three months - and he's not only gone solo, but flies five controls (rudder, elevator, ailerons, spoilers and throttle)! If the kid keeps this up he'll be towing his dad's Swift in a year or two! That family is really into sailplanes in a big way. As some of you know, Bruckmann builds some of the very best sailplanes in the world and, not only that, his wife also flies and airtows!!!! I guess the rest of us might have a ways to go. I can hardly get my wife to come to the field, never mind fly...

### Byron ARF 1/3 Clipped Cub

An excellent choice for inexperienced pilots

We towed with this ARF, clipped Cub for the first time around the middle of October. Powered by a Brison 4.2 (swinging a 24x8 prop), this Cub makes an excellent and very stable towplane for 1/3 sized sailplanes and up.

The Cub is exceptionally easy to land and fly, and would be an excellent choice for inexperienced tow pilots. I had 30 or so tows today, although I had never flown it before, with NO bad landings. This attests to its ease of handling. I would unhesitatingly recommend this Cub as a quick and easy way to get into airtowing. When properly trimmed, it takes off and, basically, flies itself. We did part of one tow with both transmitters sitting on the ground, unattended for awhile!

The Cub is quite large, so it's easy to spot very high up (a couple of black stripes on top of the wings, and several under the wings help visibility).

Byron is probably still selling these for a limited time; I got mine a couple of weeks ago. It sells for around \$600, and comes completely covered in 21st Century (Cub yellow) fabric, taking but a few days to get airborne. Nick Zirilli Jr., a Byron distributor, can advise any of you that are interested as to availability. His number is (516) 467-3932.

I also recommend that the Cub be powered by the largest motor one can fit inside, and certainly nothing less than a Brison 4.2, G62, or similar.

...Robin

### Start at the Beginning

Perhaps part of her reticence comes from the fact that I had her try to fly an airplane on the spur of the moment one day. That was a big mistake! She had no idea how to control that thing and didn't



enthusiasm!



out with all sorts of the field. Here he tries the field when his dad the Piper Pawnee.

gatherings of friends, the whole family comes along. At every flying field I visited, there was much evidence of this. The most obvious clue was on weekends; we saw wives, girlfriends and children (and pets) in attendance everywhere.

### Getting the Whole Family Involved

But even when visiting deserted model airplane fields, the physical evidence of this very friendly family atmosphere is plain to see. There are club houses, men's and ladies' toilets, and perhaps even more important, sandboxes and play-

enjoy the experience. She hasn't wanted to touch a radio since. I hadn't prepared her for the experience with a little ground training and so, as you might expect, she had little idea how to steer the thing - especially when it turned around and flew at us. This made her introduction to the wonderful world of R/C flying an immediate negative experience she's never wanted to repeat.

A bit of time on the ground learning how to control the airplane is time well spent. It doesn't take long to introduce someone to the controls on the radio. A few minutes spent on how to steer the airplane when it's coming at you will make all the difference in the world!

### The Fun Factor

I would really enjoy having my six-year-old become an R/C pilot. This flying model airplanes thing this is supposed to be fun. Perhaps one of the main ingredients and what makes it fun is because this is something we don't *have* to do. It's something we are not *forced* to do. We can fly or not fly as we wish. The same holds true of kids - the surest way to turn them off is to force them to do something! Easy does it! Slowly, but surely...

### Attention Spans

The attention span can be very short with little folks and so the very short thing one can do is to go beyond the "fun factor". It's going to be a fun flying time, fly (and teach) for only so long as it remains an enjoyable experience! One minute beyond that point and you'll have a lot of negative feeling to overcome the next time you try it!

### Learning by Osmosis

Klein Bruckmann helps his dad put the airplanes together. He also holds the wings of the gliders level for takeoff. He participates. He also helps his dad check out the motors on the towplanes by holding the tail when the motors are revved up. Taking a feather from Bruckmann's hat I tried that the other day and my little guy had a ball holding the fuselage as I started up the motor.

### Little Airplanes

We've also put together some nice, inexpensive and easy to build rubber-powered free flight models which we picked up at local hobby shops (it sure helps to know how to trim a glider). We fly these from time to time. We are also learning how to toss a glider. We also do quite a bit of repairing! It's taken quite a while to get the knack of throwing it just hard enough to glide, not to mention keeping the wings and fuselage more or less level! It's a BIG win to get a few seconds of flight now and then.

### Watching the Big Boys Play

A short visit to dad's flying field has been a lot of fun. Just being there and watching airplanes fly is a very rewarding experience. There's nothing like aerobatics to stimulate a young mind! Also, the magic of flight in and of itself is very seductive, not to mention the fact that some R/C airplanes are quite beautiful. Depending on who or what is flying, a short visit can be a great experience.

We've also enjoyed a couple of full-sized airshows but again, with attention span in mind, it seems best not get locked into something too long...

### Building

We plan to build a little electric glider for next summer. Handling tools and learning what they can do can also be a real fun experience. Kids love to glue bits and pieces together. We hope that these bits and pieces will fly well!

### Learning How to Steer

We've also had a lot fun with a little R/C car. It goes at quite a good clip around our driveway and has so far lasted two years in spite of many crashes. This teaches good throttle control (slow and fast) and helps with steering. Along similar lines, we've been to the flying field and have "flown" around the landing strip by taxiing a Telemaster without the wings on. It's not really much different from the R/C car except it goes a lot faster, and now we've added the fun of elevator control. Keeping the tail up off the ground without digging the prop into the grass adds an additional very interesting element to the experience. Perhaps this winter we'll try that on a frozen lake. It will be an interesting experiment for both of us!

### Simulators

It's obvious that when someone can control the airplane flying in any direction then they can fly. A computer can be a fantastic teaching tool in this regard. We use Flight Unlimited with a Dave Brown flight box and little by little we are learning how to control the airplane. It's *fun* and the graphics are superb! What better way to learn flying, especially when the weather outside is uncooperative? And there are five different airplanes to fly for every talent level. Five minute lessons every once in awhile are the way to go. It's no big deal - just turn on the computer, insert the CD and voila, we are flying! A lot can be accomplished in a little time.

### Crashes

You might have noticed that kids just love the crashes. Flight simulator crashes are great fun, even for dad! No repairing!

### The Trainer Chord

By the way, I ALWAYS use a trainer chord when flying with beginners.

Sometimes there just isn't time to grab back the radio. I find the trainer chord the most indispensable piece of equipment ever invented! If you use a trainer chord, you can let your student try to correct mistakes, shoot landing approaches and try takeoffs with no danger to the airplane or the ego. It's a win-win situation!

### Gifts and Talent

No doubt you've experienced folks who never seem to get the knack of piloting a model, while others seem to always accomplish those perfect flights. It's a fact of life that some folks have "IT" and others don't, no matter how hard they try. I remember teaching two such people how to fly - the one was having a ball after two, 15 minute sessions on the ground (how to control the airplane when it's coming at you), while the other just could never seem to get the hang of it.

The sad fact of life is that some are more "gifted" than others. That's just the way it is. Our kids, by the way, can be as different from us as the next stranger we meet on the street. But we can work with what we have, and that's why the "fun factor" is so very important. If it ain't fun, it probably won't happen!

### Back to the Fun Factor

I strongly suspect that all these same things hold true with adults. If it ain't fun, it won't happen! Whether or not a person has an innate gift, whether or not it takes them a day or a year to learn how to fly, it seems pretty obvious that it won't happen if they don't want to do it!

If you know someone you'd like to introduce to the wonderful magic of R/C aircraft, give some careful thought as to how to go about it. If you succeed, who knows? That very person might just end up teaching you a thing or two. Now that's the greatest gift of all!

### MERRY CHRISTMAS!

And may you have happy landings every time you fly!

Speaking of landings, perhaps we should discuss landings soon: nice landings, gentle landings, just the way you want to see your beloved scale sailplane kiss the earth type of landings...

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## GORDY'S TRAVELS

### Don't Blinki, or Should You? Reviewing R/C Direct's On-board Battery Monitor

Gordy Stahl  
Louisville, Kentucky  
GordySoar@aol.com

This trip takes us to San Diego, the location of Discount Hobby Warehouse - R/C Direct, and its owner, John Weaver. I was on a week long soaring trip as guide to Michael Volz, of Volz servo fame. We stopped by R/C Direct to finalize the details of R/C Direct becoming the USA repair facility for Volz servos.

While we were there, we got to meet one of the hobby's radio legends, Mike Byrd. For those of you long time JR users, you will remember Mike from his days as Service Manager for Circus Circus. Mike is an amazing guy with lots of cool mods for JR's. He is the service part of R/C Direct, so if you are considering RX/TX tune-ups, you can't go wrong sending it that way!

John is a gadget kind of guy and has made some really interesting electronic contacts in Europe. One of the very cool things that he showed me (and I will be reviewing others!) was the Blinki.

The Blinki is stated in its literature as a "microprocessor controlled on-board battery voltage controller", but in fact it is actually a *pro-active* monitor, outfitted with a smart, audible alarm.

So, what the heck does *pro-active* mean, and why should us sailplane guys care? THAT was exactly what I thought. I mean, we don't use junk like that! We fly! To tell the truth, I got it months ago, and threw it in my TX bag, meaning to read up on it in some motel room. Then one day, I found my ship over the Atlantic Ocean with the NSI/Cape Cod crew, putting in multi-hour flights. I kept landing to hook up my load meter to see how my pack was doing. I had to get my meter, hook up and check it, then put my meter away (or lose it in the brush). Each time, I thought to myself, "Wish I had installed that Blinki!" Little did I know what a limited value checking that load meter was... compared to what the Blinki would have told me!

Over the years, most of us have been "glitched" into the ground and we ALWAYS assumed it was from RF interference or some mysterious faulty connection — both of which we never seem to find. OR, maybe our battery pack died... But, nope, it's still working! We thought - but was it? I mean, when we really needed it to be working? Okay, it probably was *working*, but was the system getting all the power it needed? If you think about it, you realize there is a difference, and how the Blinki exposes the difference.

Consider this, our pack is up there trying to deal with all of the wildly fluctuating load demands. Also realize that the RX needs its minimum amount of power to do its job. We charge all nite, then let the pack sit until we get to the site, then launch putting a huge load on the pack. We may have

even checked the pack with our meter and it was fine... But six servos, stalled out, can put a whole amp of load on the pack. Heavy loads 'cause heat in the wiring, and amplifies poor connections, all compounding losses of power... Well, you get the point. That is where the Blinki shines for us!

When first plugged in or turned on, the Blinki loads the pack to get a true *start* reading. It displays the actual cell count it detects, then determines if the 'power' (not just voltage) is correct for the type of cells you have configured the Blinki to read. Yep, as in do you have typical radio type cells (E type) or fast charge (R type) cells? They each have their own discharge curve characteristics, and what the heck - why not get more specific information?

After all that, then you can push all your servos to their ends (by moving the TX sticks to the corners!) to see what sort of actual load you are putting on. The Blinki has a memory, which retains and displays that lowest power point, even while you are in flight. So, you can actually see and monitor, from flight to flight, where the 'bottom' of your system really is, and if it's maintaining enough.

I mentioned a 'warning horn'. The Blinki can be plugged into a switched channel (like retract) and that will allow you to toggle between lost model alarm and glitch display. This thing is very smart. The 'glitch display' tells you of interference your system experienced while turned on, and it maintains the count of incidence in its memory as long as it is powered. This feature can warn you to start looking for loose connections or, possibly, a need to tune the RX - to head off a future failure. Kind of like the dreaded 'check engine' light in cars. With the system turned on you can check connections simply by wiggling wires to cause a 'glitch' reading on the Blinki's display.

Now you are probably saying all that would be worth lots of money but, believe it or not, it costs about the same as a good micro servo! It is light and small enough to fit in a HLG (again, about the size of a stick of gum), but where it really shines is in a full house ship where the power demands can get really high.

Well, like I said at the start, we see things like this and say, "That's a neat idea," but figure it is some gimmick with no value to us. However, the Blinki is specifically for us sailplane guys. Did I mention it can tell if you are using a 4, 5, or 6 cell pack and takes that into consideration when providing information?

A pretty amazing device to help protect our 'finally got it trimmed' ships!

This trip into the techy side of things was fun, and I will have some more to come. Tell your friends about RCSD, and all of the neat things you learn about... And send in some articles of your own! RCSD is written by RC sailplanners for RC sailplanners... That's you! I look forward to reading some of your stuff in the future!

Approximate cost: \$39 + Change  
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### Testing Your Radio Signal Reliability with the Blinki

Since the Blinki has a 'glitch recorder' function, for those of you who have wondered about the argument about RD (rubber ducky) type antenna's versus the extended stock antenna, it is a simple matter of flying a 5 minute test flight with each antenna installed; then check how many 'glitches' your RX saw during the flight.

Those of you who don't use RD's can check the difference between glitches with say a dirty antenna, versus one that has been cleaned. Or, check with the antenna partially extended, or with a low RX or TX battery. Lots of interesting variations can be tested.

One note about the RD type antenna question, before you all go nuts in arguments about which is *better*... We first have to define what better means in the context of VALUE.

"An Obechi wing with two coats of varnish is *better* than one with 1.99 coats of varnish." This is an in-arguable statement... But it doesn't have any value.

My point, when finding a higher glitch count with the stock antenna or with the RD, is that there is such a HUGE margin for temporary loss of signal in our systems that the glitch count thing in *reality* (as in actual effect on our flights) ends up just interesting information. Not a topic for concern or argument.

Remember, our house lights are flickering at 60 cycles per minute, and yet we are still able to read this article. Would no flickers be better? What is better for sure would be to have a Blinki in your ship!

...Gordy Stahl

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## HAVE SAILPLANE, WILL TRAVEL!

Tom H. Nagel

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This column is dedicated to soaring vacations. This month, John Vigour takes us to the Outer Banks of North Carolina.

John Vigour has been flying RC in Charlottesville, Virginia for 4 years, and belongs to the Blue Ridge Area Soaring Society, a newly formed sailplanes-only AMA club in the Shenandoah Valley burg of Waynesboro. There is an active full scale glider port near the club with which they maintain contact. John says that although he has thermalized various hand launch, 2 meter ARFs and a full-house Dove II, he is currently left with two foamies and a pile of balsa trash in his hangar.

John says his Zagi-Thl's fly better than he'd dreamed. Most of the Blue Ridge Area Soaring Society club members are long-time glider flyers with open class glass ships and years of experience; so far, John is the only foamie flyer known in central Virginia.

John says they have some good sloping on the Blue Ridge Mountains and lesser hills, but the peaks in his area tend to be rounded off with the lift pretty far out. Small 48" slopers are almost too small to see by the time they finally rise up. John writes that he has hiked the Appalachian trail along the crest while flying, intoxicated by spectacular views and utter solitude.

### Sloping Down the Outer Banks

by John Vigour

The Outer Banks of North Carolina are a chain of barrier islands, a "ribbon of sand" over 100 miles long but averaging only 200 yards wide. There are thousands of rentable beach houses in clusters along the Outer Banks, but much of it is National Seashore and pristine. A single highway, US 12 travels its length, accessible by a free Ferry at the south end from Swan Quarter and Cedar Island. From the north you can cross to the Outer Banks by bridge after traveling 50 miles south of Norfolk, Virginia or from Roanoke Island, midway down the chain.

The Outer Banks offer great surf and Gulf Stream fishing, surf riding, maritime birds, history, a unique ecology, and all the brew-thrus, goKart racing, WaterWorlds and other tourist schlock you really need. [Editor's note: "brew-thru" is a southernism for drive-through beer and wine carry-out.]

I stayed a week in Salvo, North Carolina (in the middle of the chain of islands) in August 1998 after a 6 hour drive from central Virginia. The beach house that my friends and I rented cost \$2500/week for 5 bedrooms, the peak season rate for a location that's a 3 minute walk to the beach. On the internet, search for "outer banks" or use: [www.outer-banks.com](http://www.outer-banks.com) for rental agencies and tourist information.

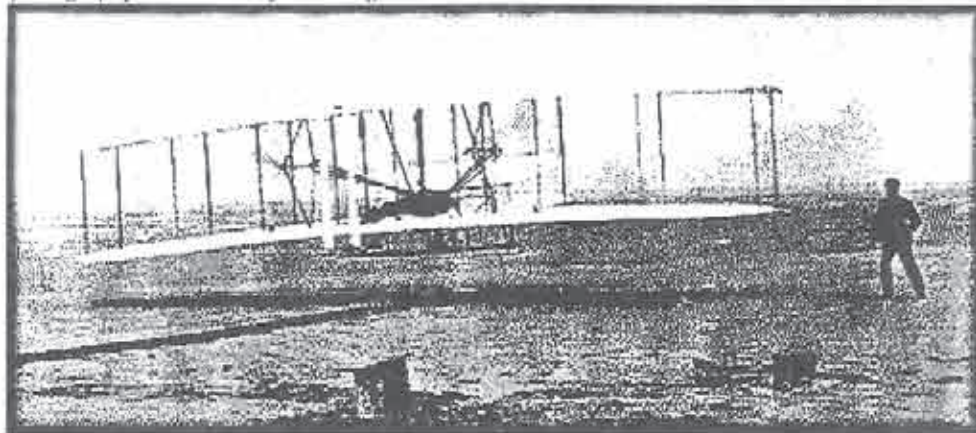
The Outer Banks are one of the year-round windiest places in the country, which is why the Wright Brothers went to Kitty Hawk to practice gliding off a huge dune into 35 mph winds. In 1902 they made over 1000 slope flights. Later they were sucked into flying with power, another story. Since you can't walk on that dune now that it's a National Monument, I went to Jockey Ridge, an even larger one three miles north in Nags Head, North Carolina. It is about 100 feet high and has a fairly flat top of five acres or so. The hike from the parking lot takes about fifteen minutes, and in August is a really hot proposition. Although hang gliders are required to



Cape Hatteras Lighthouse in Buxton, North Carolina, "Graveyard of the Atlantic", from Sun Realty's site <[www.sunrealty.com](http://www.sunrealty.com)>.



1903 flyer flying at the foot of the dune at the Wright Brothers National Monument, from <[www.nps.gov/wrbr/wright.htm](http://www.nps.gov/wrbr/wright.htm)>. Additional photography can be seen by accessing the site.



check in with Park Rangers, everyone else just comes to fly in a genial free-for-all. There's no frequency control, or control over much else. This attitude extends throughout the banks. (Another day when this Ridge was closed for a hang gliding competition, the Rangers rattled off the names of 6 other Parks nearby with larger-than-average dunes, and said I could fly at any of them, no problem). But with no contests today, I headed into this maritime desert, well stocked with ice water.

As I crested the rise I saw about 100 people, some taking hang gliding lessons off one slope, some flying aerobatic kites at the other end, and only two folks flying RC gliders - a 2 meter ARF and a converted free flight model. The views of the Atlantic and Albemarle Sound were beautiful. I suspect the sloping would be best with a SW through SE wind. When I was there, conditions were NE winds at 12 or so, and very smooth. My Zagi Thl wouldn't stay up, but I could get flights of 30 seconds or so. Environmental conditions were very harsh on both plane and transmitter - I'm still finding sand in odd places. Spectators were friendly but not obnoxious, and an air of camaraderie prevailed due to our shared

ordeal of being baked alive.

Later that week I figured out how to fly the typical dune that extends the entire length of this area - only about nine feet high, with sea oats sticking up an additional three feet. In the 1930's the Civilian Conservation Corps created dunes by planting snow fence 50' or so beyond high tide. When one fence was covered, they planted another on top. These dunes have to be maintained - the natural process of overwash (storm waves breaking over the whole dune) tends to remove them.

The dunes are higher and better for flying on Pea Island, a bird sanctuary just south of Oregon Inlet. Typically the Summer wind rises to 15 mph from the SW and blows all day. In this case you have to fly between the highway and the west side of the dune. There's prickly pear cactus and scrub on that side, so you have to stand and land on the top of the dune.

This August I found the wind NE to SE all week, which gave me the luxury of flying on the beach side. Here there's no vegetation for mosquitoes to lurk in, landing is easy on the flat beach, and the scenery is better. However, it takes a little while to

master the skill of keeping one eye on the plane and one eye on the bikinis. Usually the wind was oblique to the dune and 10 mph, but sooooooo smooth from its origins at sea.

I learned the technique from gulls. You stand next to the dune, throw into the wind and immediately station the plane just above and in front of the crest - watch out for those sea oats! You can just barely stay up, following the undulating altitude of the crest as far as you can see - maybe ten feet up. Occasionally a favorable bump will allow you to get 20 feet up. This obviously is fun, but it can't go on forever.

The upwind turn can be made anywhere, and a surprising amount of altitude can be gained as the plane wheels up, toward the sea, and begins to wobble downwind toward you. Quickly find your station slightly to windward of the crest and slowly pull back on the stick as the plane hurtles past you. You'll need every inch of height for the downwind turn. At a favorable bump, pull abruptly back and up wind. If you're lucky, the foamie will flip around and have a little forward air speed while not losing too much altitude. Now you have to slowly build up speed while maintaining station. Don't worry if you fall below the top - keep flying, dodging sea oats, following the contour, watch out for that crowd coming to the beach through a break in the dune, lugging beach chairs, surfboards, umbrellas, babies - just fly between them and try to gain enough height and speed to make a decent upwind turn! A foamie is a natural in these conditions (rough).

When the wind blew straight onto the beach and its dune, it seemed to be much stronger. Then I could really get up and in front of the crest, maybe 40 feet high and 100 feet in front. I was surprised to be flying over the surf, over the bikinis, and still maintaining in that smooooooth updraft. It was fun to hike the beach, walking a mile or so and working the wing across the dune as I went. It was easy as I lost altitude to stall the Zagi right into my hand at zero ground speed.

Once I got pretty hot, but didn't want to get my shorts wet. Then I noticed that I'd walked away from the crowds and had the beach to myself - so the solution was obvious.

After a long cool down, I dressed and started flying back down the beach. Try that at Torrey Pines!

\*\*\*

Thanks, John!

If you have a favorite sailplane saga, consider writing it down for RCSD. If you are planning a vacation that includes your plane and transmitter, consider making notes as you go, and working up an article later. Take photos. Collect maps. And send your story to Tom Nagel at [tomnagel@freenet.columbus.oh.us](mailto:tomnagel@freenet.columbus.oh.us) for gentle editing and suggestions.

Tom

■

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## TECH TOPICS

Dave Register  
Bartlesville, Oklahoma  
RegDave@aol.com

### Sources for Custom Foam Cores

For the past several months, we've been looking at design considerations for R/C sailplanes. The platform used for that analysis has been a HLG format, since that's simple and pretty inexpensive to build.

So now you've absorbed all that information. You've figured out aspect ratio and wing loading effects. Selected a planform and airfoil. Done your stability calculations and got your tail moments and areas right. Even committed the whole thing to paper, and are ready to go build the wonder ship that's gonna take over the world! (Well, maybe a tiny corner of the flying field.)

Only trouble is, you really want to put it together with a foam wing, maybe even with composite construction. You're out there in the middle of KowFloP, Texas, and have never done that before. So, now what do you do?

There are several alternatives:

- 1) Find a kit that comes close and see how you like it.
- 2) Set yourself up to cut cores (and vacuum bag), and mail order the raw materials.
- 3) Find someone that does this and see if they'll work with you.

We're going to discuss that third option this month.

If you're fortunate enough to live in an area with a large club (preferably sailplane types), there is undoubtedly someone that does this. That's a real good way to get the job done and meet some interesting folks. Most guys that can cut cores are flattered if someone in the club wants to work on a small project with them. Be fair about paying for materials and maybe some pizza (or whatever) for the guy's time. But that's a real good option, so don't be afraid to ask.

But suppose all you've got in town is the gas station, post office and the KowFloP Weed'n'Feed? No R/C guys for miles around?

There's a small cadre of folks on the sailplane side who will work with you to get the job done. They'll need to know the specific dimensions and requirements you need, the type of material you want to use, and what kind of schedule you're trying to meet. Then, they can cut the cores for you and ship them to you. Several of these guys will also bag the wings as part of the job. This isn't as inexpensive as doing it yourself, but all of these folks are very experienced and the quality of work they do is very high.

In putting together this list of contacts, we've steered away from people who are committed to manufacturing wings and kits for large suppliers. You may know some of them yourself and, if so, you're probably aware of the quality of work that's out there. But when I started this project, I promised Slegers International, NSP and others that we wouldn't mess with their regular suppliers.

Some of you may also be aware that Jim Reith of RA Cores provided this service for awhile. RA Cores no longer cuts custom

cores, but that home page is still active and has links to some of the custom cutters listed below. Wherever possible, I've tried to include an address, phone number, e-mail and URL (if available) for the folks who are interested in this type of work. Also included is a description of their capabilities and any other details they could supply. So, get in touch with any of the suppliers noted here and I'll bet you can get that dream ship of yours put together faster than you thought.

### Finney's Hobbies

Finney's supplies hand launch and 2 meter wings. For HLG, they use the SD7037, RG-15 or the S4083 airfoils. For 2 meter they use the SD7037 and RG-15. All cores are available as either one piece straight taper, two panel or polyhedral. Wings are obechi covered white foam reinforced with carbon fiber and glass. Ailerons and flaps can be cut out, as well as servo wells. Charges range from \$60/wing set (HLG) and up depending on the options requested. Finney's is a regular advertiser in RCSD. I've been out to their website and all the details you'll need can be found at that location.

Finney's Hobbies  
3455 Peachtree Industrial Blvd., Suite 980  
Duluth, GA 30096  
(770) 495-8512  
fax: (770) 495-8513  
e-mail: finney's@mindspring.com  
<http://www.mindspring.com/~finneys>

### RPV Industries

Rick Powers of RPV Industries has been producing EPP foam soaring products since 1996. Rick was originally apprenticed to Del Brengman (see Del's area next), who taught him his foam cutting skills. Since then, Rick has cut many cores for people, with a 100% satisfaction rate. He produces the F-21 Predator, R-60 Cyclone, and XB-60 Shadow flying wing. He also offers EPP foam in sheets, 1.3 or 1.9 density, 2"x24"x36".

RPV will cut custom cores up to 36" long and 36" chord with a maximum thickness of 2". He uses aluminum sheet upper and lower surface templates. Most airfoils are available and Rick will also cut cores with a customer supplied airfoil if it's in the right format. On their URL, RPV has a list of all the information you'll need to provide to get an order going. Charges are typically:

- \$20 set-up fee (make templates, set up table for this cut).
- Materials fee (depends on how much material is used).
- \$5 per core cutting fee.
- It is most cost-effective to request a run of more than one core!

Rick Powers  
RPV Industries  
3428 Middlefield Rd.  
Palo Alto, CA 94306  
(650) 493-5502  
e-mail: rpvi@aol.com  
<http://members.aol.com/Rpvi/home.html>

### Viking Models, U.S.A.

Jerry Slates has been cutting foam core wings for over 35 years, from 12" hand toss gliders to cores as large as those on full size aircraft. About 1980, because of lack of time and space, cores were only done on a limited basis; most foam core wing cutting was farmed out to others. Now that space is no longer a problem, Jerry offers custom

cores in white, pink, blue and Spyder foam flavors, using Chuck Anderson's Airfoil Plot program, which makes almost any airfoil, as long as the coordinates are available. (Pricing example: Double taper set of wing cores, 2m/78" thru 3m/120", white foam: \$39.95 + \$10.00 S&H in the U.S.A.) Jer requires a drawing in order to provide a quote; if you have your own special airfoil, the information and drawings will be considered strictly confidential.

Jerry Slates  
Viking Models, U.S.A.  
2 Broadmoor Way  
Wylie, TX 75098  
(972) 442-3910  
fax: (972) 442-5258  
e-mail: RCSDigest@aol.com

### Andrew Famiglietti

Andrew has been cutting custom cores for several years and is listed on the RA Cores link page. He cuts custom cores to the customer's specifications. Since each wing is different, they are quoted for each customer. Template set-up charge is typically \$10. Shipping is extra. Cores are made from extruded (blue) foam. Information needed to get a quote underway would be:

- \* Planform (looking down from the wing from above - full size is best).
- \* Airfoil needed - most known airfoils can be generated from its name.
- \* Name, address, etc., for delivery.
- \* Vacuum bagging service is also available for glass, obechi or balsa.

Andrew Famiglietti  
3 Forestwood Lane  
Barrie, Ontario  
Canada L4N 7S5  
(705) 722-8162 after 5 P.M. (EST)

### Del Brengman

Del Brengman has been in the foam cutting business as long as anyone. He can cut panels up to 70" per panel using any available airfoil. Some of Del's capabilities include:

- \* He cut the SD7037 and US1000 for Dr. Selig in Volume 2 and 3 of the low speed airfoil study.
- \* Several hundred templates already exist in Del's library.
- \* Any type of foam material, and
- \* Del has cut cores for two kit mfg. three universities, and the USAF.
- \* He will give anyone a set of plans to build their own hot wire cutter for the price of printing and postage ~ \$5.00. (I've got a copy of Del's plans downloaded from a site where he posted them for awhile. They are indeed thorough and certainly worth your consideration, if you plan to set up your own system someday).
- \* He also does vacuum bagging. You'll need to discuss that in more detail with Del, as there are lots of lay-up options you need to consider.
- \* Del also provides ready to use vacuum systems and re-built vacuum pumps.
- \* He has event videos and a 'how to' video on foam core cutting and vacuum bagging.

Delmar Brengman  
6054 Emlyn Ct., San Jose, CA 95123  
(408) 629-1325  
e-mail: DBrengman@aol.com

### Tom Broeski

Tom has been making HLG wings and provides several options:

- \* 4083 — 6% to 5% — 8" chord (Notch to fit Monarch)  
— finished weight 4 oz. to 5.5 oz. (client specifies - heavier carbon in heavier wing): \$80 to \$100.
- \* 7037 — almost any % — 7" to 8" chord, 3.75 oz. to 5.5 oz.: \$75 to \$110.
- \* CR001 — 6% or 8%, 7.25" to 8" chord, 4.4 oz. to 5.8 oz.: \$80.
- \* TB01 & TB02 (blended from above or custom templates): \$80 to \$140.
- \* NightWing — any of above with glow powder in resin — (adds 1 to 3 oz. weight) add \$24.
- \* Normal turn around: 1 to 3 weeks.

Tom Broeski  
(540) 943-3356  
e-mail: tjb@rica.net

### Pat McCleave

Pat has been cutting cores and making wings in the Wichita area for quite a few years. I fly with Pat from time to time and can attest to the quality of his work. Any of Pat's wings will be strictly custom and he can do the following:

- \* No restrictions on type of foam unless not available at time of need.
- \* No panels over 40".
- \* Any of the airfoils available to CompuFoil.
- \* No payment asked until ready to ship.

Pat will also vacuum bag using glass, carbon and obechi. He can provide a color coat if desired. For this service he's willing to work with a customer's preferred layout, but will provide advice on reinforcing based on his own experience.

- \* Cut-outs can be made for additional fee.
- \* Choice of colors are whatever is available in Krylon.
- \* Payment on bagging jobs in advance.

Pat is also willing to bag wings in trade for buying extra material. Best deals go to those willing to barter or trade.

Pat McCleave  
11621 Nantucket  
Wichita, KS 67212  
(316) 721-5647  
e-mail: Ptmccleave@aol.com

### Al Mangani

Al has recently set up a business to cut cores. He's been using this building technique for many years having cut his first core for a CG Ranger 42 free flight when he was 13. He's been in modeling for 45 years and RC soaring for over 26 years. Al is an ME from Notre Dame (Please tell those guys to stop beating up on Navy so bad!), and is a Lead Engineer in Composites Development at New Venture Gear, Inc., a company set up to transfer aerospace composites technology to automotive driveline applications.

He can provide:

- \* Cores in white (expanded), pink/blue/gray (extruded) and Spyder foam.
- \* EPP on special request.
- \* Al uses CompuFoil and the Feathercut system. This gives him access to over 2500 airfoils in his library.
- \* Custom coordinates can be cut and/or

custom templates supplied by the customer. The accuracy of the final core will then be subject to the accuracy of the customer's templates.

- \* Templates are Formica using Chris Sander's Scrollsanders for the finish surface. Other materials used per customer request.
- \* If the templates are to be held as proprietary, then Al applies a setup charge of \$20 for a root and tip set. If the templates are not held as proprietary, then no setup charge.
- \* Chord length up to 13 in.
- \* Several bows available for cutting from ~ 6" to 4 ft. cores.
- \* Pricing: As a general rule of thumb: Constant chord and single taper panels: \$0.30 per inch of span; double taper panels: \$0.40 per inch of span; triple taper panels: \$0.50 per inch of span. Special cases can affect these numbers, but as a rule, these are Al's prices.

Contact Al directly for additional pricing and delivery information.

Cores R Us  
c/o A. Mangani  
21154 Nummer St.  
Warren, MI 48089  
office: (248) 524-5552  
(8-5 EST M-F)  
home: (810) 773-8103  
evenings and weekends  
e-mail:  
glidersaur@aol.com

### Performance Composites

Michael McKeown of Performance Composites primarily supplies planes from his catalog, but cuts custom cores on request. He can provide quotes on custom layouts and other services and can be contacted at:

Performance Composites  
perfcomp@community.net

### Wing Manufacturing

Wing Manufacturing provides a number of power kits and supplies some wings suitable for slope use. The services they provide can be reviewed at the following URL:

Wing Manufacturing  
http://www.wingmfg.com

Well, that's it for this month. I realize this doesn't cover all the folks who provide this service, but these are the ones I could track down over the last few months. If you are aware of others who manufacture cores, please have them drop me a note at my e-mail address and we'll update this list from time to time. Next month, let's look closer at things you might want to consider when setting up foam cutting equipment for your own use. ■

**Ventus 2c**

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**February 6-7**  
11th Annual Southwest Classic Queen Creek, AZ  
Dave Wenzlick, (602) 345-9232  
azdw@uswest.net

**February 19-21**  
Pensacola 1999 Pensacola, FL  
Asher Carmichael, (334) 626-9141  
ACarmic985@aol.com  
Rusty Rood, (850) 432-3743

**June 24-27**  
MSSC '99 (Incl. XC) Huntsville, AL  
Ron Swinehart, (205) 722-4311  
ron.swinehart@lmco.com

**July 24-31**  
AMA NATS Muncie, IN  
24th: Sport Scale Sailplane, F3B, XC  
25th: F3J  
26th: HL  
27th-28th: 2M  
29th-30th: Unlimited  
31st: NOS & RES

Please send in your scheduled events as they become available!

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finneys@mindspring.com  
http://www.mindspring/~finneys

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2 Broadmoor Way  
Wylie, TX 75098  
(972) 442-3910 • fax (972) 442-5258  
RCSDigest@aol.com

### EVENT ANNOUNCEMENT

#### Elmira '99

Harris Hill L/D R/C is pleased to announce the official dates for next year's edition of the largest aerotow gathering in America. Mark your calendars for June 10 - 13, 1999. Plans will remain the same as last year with respect to use of the Harris Hill field. Thursday/Friday we will pretty much have the field to ourselves except for rides for our guests and a club flight or two. Saturday and Sunday we will have shared use with a radio link to the full scale flight line to ensure a safe event.

This will be our third year at this venue operating with the full cooperation of the Harris Hill Soaring Corp. and the National Soaring Museum. The event continues to grow, and this year we are pleased to announce that the Eastern Soaring League will join us as a co-sponsor, assisting with field logistics and flight line operations.

Our efforts to present a satisfying and enjoyable soaring festival continue. Our aim is to give everyone who wants to fly ample opportunity, and provide an atmosphere of relaxed flying, camaraderie, and a collection of scale sailplanes unrivaled at any other single event.

EMS will bring a new gaggle of glass and foam beauties (including the new Discus II), and we have inquiries from at least three other European sailplane and tug factories who would like to attend. The major North American distributors will also show their wares. We will make announcements as more information becomes available.

We will be blocking out probably four frequencies for exclusive use by the tugs. An announcement will be distributed to registrants and published on various print and electronic media as soon as we decide on which frequencies.

John Derstine  
johnders@postoffice.ptd.net  
http://www.Geocities.com/CapeCanaveral/Lab/5739

### Bowman's Hobbies

#### The Ruffnecks

The newest Ruffneck EPP Glider is the Cutlass. A scale version of the Navy fighter bomber, F7U-Cutlass. This plane was specifically designed for use with a Zip start. It also flies great off the slope!

Wing Span 44"  
Fuse 20"  
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Wing Loading 6-7 oz/sq ft  
\$59.95 + \$7 S&H + Tax in CA.

The redesigned Comanche is a state of the art combat slope sailplane made of EPP foam. It has proven to be a competitive and virtually indestructible combat slope sailplane.

Wing Span 46"  
Fuse 28"  
Wing Area 408 sq. in.  
Airtow 6051  
Weight 28-32 oz.  
Wing Load 6.7-10.7 Oz/sq ft

The Javelin A HLG that you can gonila launch without folding the wing and fuselage. Build to a competitive 18 OZ, light air efficient, a channel (flaperon, rudder, elevator) made of EPP with the durable nature of the Ruffnecks. Competition or training, the Javelin is only a hand toss away.

Wing Span 60" Fuse 33"  
Wing Area 420 sq. in. Air Foil 7037  
Weight 18 oz Wing Loading 4-6 oz/sq ft  
\$65.95 + \$7 S&H + Tax in CA.

21045 Susan Carole Saugus, CA 91350 (805) 296-2552 email ruffneck1@aol.com FAX (805) 258-5473

All kits have EPP foam wings, fuse, carbon spar. Purchase kit and instruction manual with phone.

### PENSACOLA 1999 !!!

#### Scale / Airtow Extravaganza !

February 19th - 21st, 1999, Site B, Pensacola, Florida  
Rain Date: February 26th - 28th, 1999

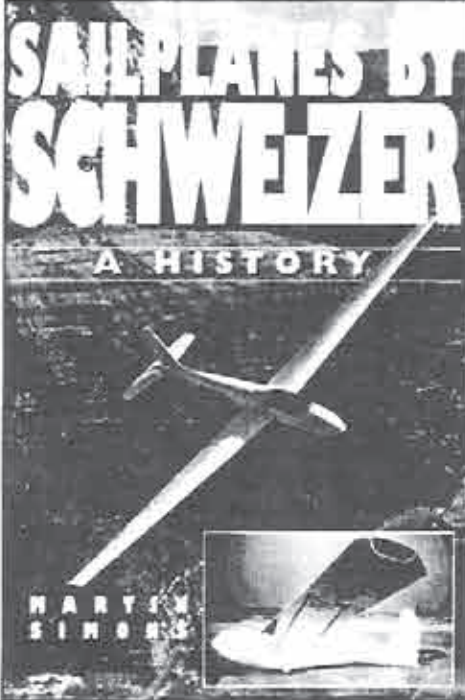
Please call on the Wednesday evening before the schedule dates for weather information.

ASHER CARMICHAEL (334) 626-9141  
RUSTY ROOD (850) 432-3743

ACarmic985@aol.com

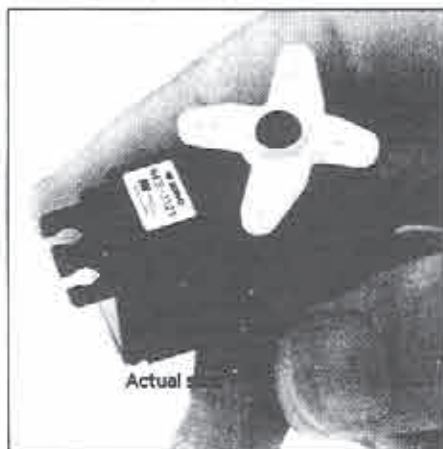
## NEW PRODUCTS

The information in this column has been derived from manufacturers press releases or other material submitted by a manufacturer about their product. The appearance of any product in this column does not constitute an endorsement of the product by the R/C Soaring Digest.



"Sailplanes by Schweizer"  
...from AirLife Publishing Limited

"Sailplanes by Schweizer" tells the story of the Schweizer Sailplanes, and includes a chapter on each of the 22 different glider types and variations that were built and flown by the Schweizers. The book explains how each type was developed, its purpose, and the details of its construction, its special features, how it flew, as well as the story of any outstanding flights that were made. A specification sheet provides detailed information on each aircraft; a detailed three-view drawing of each glider, done by Martin Simons, is also included for model builders. Numerous photographs illustrate each type, and a series of appendices explain the SAC Numbering System, lists the total of each type and variants, explains the drawings, and includes a drawing of each airfoil section used. This beautiful book was written by Martin Simons and Paul Schweizer. Price is £24.95, English pounds, from AirLife Publishing Limited. Recently released, check on availability with a local bookstore: ISBN 1 84037 022 X. AirLife Publishing Limited, 101 Longden Road, Shrewsbury SY3 9EB, Shropshire, England; phone (01743) 235651, fax (01743) 232944, e-mail: <airlife@airlifebooks.com>. ■



### PIPER CUB PA-18

...from Hobby Club

Wingspan: 1000mm (40 in.)  
Length: 700mm (27.5 in.)  
Airfoil: Clark Y - flat bottom  
Weight: 330grs (11.5 oz.)

Controls: Rudder, Elevator, Ailerons, Throttle  
Power options: 10-12 gas powered R/C engine  
Or Power 400 electric motor. Direct drive for hand launch  
Or gear reduction 1:1.8 (8x4 prop) for R.O.G.  
JES 18 electronic speed control  
7 cells 500-800mAh battery pack

Beautifully handcrafted built-up wing, solid balsa rudder and stabilizer are all white fabric covered; aileron servo wells are ready to accept these, including extension wires already installed. White gelcoated fiberglass has plenty of molded details; complete set of easy to apply, self sticking markings are supplied. Other models available: Piper J-3 (yellow), L-4 (military green).

Introductory offer \$159.95 (Limited time only).

Suggested retail price for the ARF is \$179.95. Available from select retail outlets or Hobby Club, 931 Calle Negocio - Ste. "F", San Clemente, CA 92673; (949) 498-5377, Fax (949) 498-5340, they ship worldwide, SE HABLA ESPAÑOL. Web site: <http://www.hobbyclub.com>. ■

### "Getting the Most Out of Futaba's 8-Channel Radio Control Systems"

...from Dynamic Modelling

"Getting the Most Out of Futaba's 8-Channel Radio Control Systems" is an instructive textbook and comprehensive guide covering all aspects of Futaba systems: 8UAF, 8UHF, 8UAP, 8UHP, as well as the new Super 8 systems (8UAPS, 8UHPS). The book is intended to supplement the users manual, and is a valuable addition to every 8U owner's library.

"Getting the Most Out of Futaba's 8-Channel Radio Control Systems" is softbound, 180 pages, 400 illustrations, with information tables filled with instructions and step-by-step procedures that explain all aspects of 8U systems. The book contents include quick set-up instructions, programming techniques, how-to instructions on using 8U built-in capabilities more effectively, model trimming instructions and procedure charts, and instructions for modifying, repair and maintenance. There are definitions for system commands, menu structures, and menu functions, including setting servo neutrals and travel, failsafe, model memory handling, dual rates, exponential, etc.

Price is \$15 + \$4 S&H via priority mail in the U.S.A. Dynamic Modelling, 4922-6 Rochelle Ave., Irvine, CA 92604-2941; order # (888) 770-1812 or (949) 552-1812 (Visa, MC, AX, Discover), <http://www.flash.net/~dynamic3>, <dynamic3@flash.net>. ■

### JR's 3121 Mini Servo

...from Horizon Hobby Distributors, Inc.

The 3121 Mini Servo is a direct replacement for the 3021 servo. At 46.4 oz./in., the 3121 offers 24% more torque than the 3021. At .58"x1.30"x1.02" and weighing just .92 oz., the 3121 Mini Servo has a .22 sec/60° transit time, dual ball bearings, and a coreless motor.

Typical applications for the 3121 Mini Servo include: control surfaces of small to medium sized planes, electric helicopters, sailplanes, pylon racers, or anywhere a high precision mini servo with a lot of torque is desirable.

Approximate retail price: \$89.95. Available at local hobby shops or distributors. <[www.horizonhobby.com](http://www.horizonhobby.com)>. ■

## Classified Advertising Policy

Classified ads are free of charge to subscribers provided the ad is personal in nature and does not refer to a business enterprise. Classified ads that refer to a business enterprise are charged \$5.00 per month and are limited to a maximum of 40 words. The deadline for receiving advertising material is the 15th day of the month. (Example: If you wish to place an ad in the March issue, it must be received by February 15.) RCSD has neither the facilities or the staff to investigate advertising claims. However, please notify RCSD if any misrepresentation occurs. Market Place Listings are \$5 a month. Personal ads are run for one month and are then deleted automatically. However, if you have items that might be hard to sell, you may run the ad for two months consecutively.

### For Sale - Business

**PC-Soar Version 3.5 Sailplane Performance Evaluation Program** Optional Sailplane Library now expanded to 54 models including: Alcione, Anthem, Genesis, Mako, Probe, Thermal Eagle, and Synergy-91. Free Library Upgrades. PC-Soar Upgrade to Ver. 3.5 \$10, PC-Soar New Purchase \$40. New Libraries of Sailplanes and Airfoil Polars \$30. Please include \$3 P&H for all purchases & upgrades. Also available: Laser cut airfoil templates. LJM Associates, 1300 Bay Ridge Rd., Appleton, WI 54915; ph: (920) 731-4848 after 5:30 pm weekdays or on weekends; <<http://www.athenet.net/~atkrone95/pcsoar.htm>>.

**PRECISION AMAP WING CUTTER**, replacement parts, and service. AMAP Model Products, 2943 Broadway, Oakland, CA 94611. Butch Hollidge, (510) 451-6129, or fax (510) 834-0349.

**A.M.P. Aerial Model Products, sport, slope, race prototypes** - all airfoils. 60" Del Valle Snake, 94" H&K Cobra, AMAP Flair, Kevin Cutler's full house Davenport Monitor. All race tested. Butch Hollidge, (510) 680-0589, eve, California.

**PARACHUTES: \$10.** Dale King, 1111 Highridge Drive, Wylie, TX 75098; (972) 475-8093.

**PLANS - R/C Sailplanes - Scale, Sport & Electric.** Old Timer & Nostalgia - powered, rubber, and towline. Scale - rubber. All models illustrated. Catalog: \$2.00. Cirrus Aviation, P.O. Box 7093 Depot 4, Victoria, BC V9B 4Z2, Canada.

**Custom Cut FOAM WING CORES.** White, pink, blue, and Spyder foam available; most airfoils available. Send copy of drawing for quote. Viking Models, U.S.A., 2 Broadmoor Way, Wylie, TX 75098; (972) 442-3910, fax (972) 442-5258.

### For Sale - Personal

NIB Astroflite geared cobalt 05 FAI (6T)... \$120.00; NIB Jeti motor control, 7-12 cells, 50 amp, BEC & prop brake... \$60.00. Randy Martin, (310) 519-9539, California.

Super V 2m, low time, good condition, white w/ orange trim, JR 341 servos in wings... \$650.00 w/ servos, or \$550.00 w/o servos. Josh Glaab, (757) 850-3971, <[jlglaab@pinn.net](mailto:jlglaab@pinn.net)>.

1/4 Roedel Super Cub (towplane), 2.687 meter span, wing profile Clark Y mod. (suitable motors are 160 T, 300 T, OS BGX-1, Brisson 3.2 or similar), NIB... \$385.00. Contact Robin Lehman, 63 E. 82nd St., New York, NY 10028; (212) 879-1634.

### Closet Scale Stuff At Sailplanes Unlimited, Ltd.

1/3 Pribek ASW 27 - 5 meter span (196"), wing profile HQ 2.5/12, ca. 20 lbs.

1/4.2 FiberClassics Nimbus 4 - 6.28 meter span (246"), wing profile E 68-66, ca. 18 lbs.

1/3.6 Roedelmodell DG 800 - 4.15 meter span (163"), wing profile E 207, ca. 11 lbs.

1/3.75 Roedelmodell Fox MDM-1 - 3.8 meter span (149"), wing profile RG 12, ca. 15 lbs.

1/2.77 PriBek ASW 19 - 5.4 meter span (212"), wing profile Ritz 3 mod., ca. 20 lbs.

Please call for additional info: (212) 879-1634.

## R/C Soaring Resources

These contacts have volunteered to answer questions on soaring sites or contests in their area.

### Contacts & Soaring Groups - U.S.A.

Alabama - North Alabama Silent Flyers (NASF), Ron Swinehart, (205) 722-4311, <ron.swinehart@imco.com>, or Rob Glover at AMA3655@aol.com, <http://sh1.ro.com/~samfata/>

Alabama - Central Alabama Soaring Society, Ron Richardson (Treas.), 141 Broadmoor Ln., Alabaster, AL 35007, <ron\_mail@bellsouth.net>

Alabama - Southern Alabama & NW Florida Aerotow, Asher Carmichael, (334) 626-9141, or Rusty Rood, (904) 432-3743.

Arizona - Aerotowing, slopesites in AZ (rugged), Arizona Flying Eagles R/C Demo. Show Team, Dave Wenzlick, (602) 345-9232, <azdw@uswest.net>, or visit CASL at <<http://www.public.asu.edu/~vansanfo/casl>>

Arizona - Central Arizona Soaring League, Iain Glithero, (602) 839-1733.

Arizona - Southern Arizona Glider Enthusiasts, Bill Melcher (contact), 14260 N. Silwind Way, Tucson, AZ 85737, (520) 825-2729. SAGE welcomes all level of flyers!

Arkansas - Northwest Arkansas Soaring Society, Tom Tapp (President), RT 2 Box 306, Huntsville, AR 72740; (501) 665-2201, eve.

California - DUST, Buzz Waltz, 68 320 Concepcion, Cathedral City, CA 92234, (760) 327-1775.

California - High Desert Dust Devils, Stan Sadorf, 14483 Camrose Ct., Victorville, CA 92392; (760) 245-6630, <Soareyes@aol.com>

California - Inland Soaring Society, Robert Cavazos, 12901 Forman Ave., Moreno Valley, CA 92553, RCAV@aol.com

California - Northern California Soaring League, Mike Clancy, 2018 El Dorado Ct., Novato, CA 94947, (415) 897-2917.

California - Sacramento Valley Soaring Society, Lee Cooper, 4856 Rockland Way, Fair Oaks, CA 95628, (916) 966-2672, <[www.svss.org](http://www.svss.org)>

California - South Bay Soaring Society, Mike Gervais, P.O. Box 2012, Sunnyvale, CA 94087, (408) 683-4140 (H), (650) 354-5469 (W).

California - Southern Calif. Electric Flyers, John Raley (President), 1375 Logan Ave., Costa Mesa, CA 92626; (714) 641-1776 (D), (714) 962-4961 (E), e-mail: E-Flyer@ix.netcom.com.

California - Torrey Pines Gulls, Ron Scharck, 7319 Olivetas Ave., La Jolla, CA 92037; (619) 454-4900.

Colorado - Rocky Mountain Soaring Assn., Phil Weigle, 1290 Salem St., Aurora, CO 80011; (303) 341-9256 eve.

Eastern Soaring League (VA, MD, DE, PA, NJ, NY, CT, RI, MA), Jack Cash (Pres.), (301) 898-3297, e-mail: BadIdeas@aol.com; Bill Miller (Sec./Treas.), (609) 989-7991, e-mail: JerseyBill@aol.com; Michael Lachowski (Editor), 448 County Rt 579, Millford, NJ 08848, e-mail: mikel@airage.com, <<http://www.eclipse.net/~mikel/esl/officers.htm>>

Florida - Florida Soaring Society, Mark Atzel (President), 1810 SW Terrace, Ft. Lauderdale, FL 33312, (954) 792-4918.

Florida (Central) - Orlando Buzzards Soaring Society ([www.specs-usa.com/~ingo/OrlandoBuzzards](http://www.specs-usa.com/~ingo/OrlandoBuzzards)), Jerre K. Ferguson (Pres.), 4511 Pageant Way, Orlando, FL 32808, (407) 295-0956, <[jerre@bellsouth.net](mailto:jerre@bellsouth.net)>

Georgia - North Atlanta Soaring Association, Tim Foster, (770) 446-5938 or Tom Long, (770) 449-1968 (anytime).

Hawaii - Maui Island Slope Soaring Operation (MISO), Duane A. K. Asami, 262 Kamila St., Kula, HI 96790, pgr. (888) 932-6247, <[dadasami@mauigateway.com](mailto:dadasami@mauigateway.com)>

Illinois (Chicago Area) - Silent Order of Aeromodelling by Radio, Jim McIntyre, 23546 W. Fern St., Plainfield, IL 60544-2324; (815) 436-2744. Bill Christian, 1604 N. Chestnut Ave., Arlington Heights, IL 60004; (847) 259-4617.

Illinois (Northwest) - Valley Hawks R/C Soaring Club, Jeff Kennedy (President), 414 Webster St., Algonquin, IL 60102, (708) 658-0755, eve. or msg.

Iowa - Eastern Iowa Soaring Society (Iowa, Illinois, Wisconsin, Minnesota), Ed Harris (Editor), 2000 NW 84th Ave., Arkeny, IA 50021; (515) 965-5942, <[harris.edwin@mcleodusa.net](mailto:harris.edwin@mcleodusa.net)>

Indiana - Bob Steele, 10173 ST Joe Rd., Fort Wayne, IN 46835; (219) 485-1145.

Kansas - Kansas Soaring Society, Pat McCleave (Contact), 11621 Nantucket, Wichita, KS 67212; (316) 721-5647.

Kansas - Aerotowing, Jim Frickey, (913) 585-3714.

Kentucky - Bluegrass Soaring Society, Frank Foster (President), 4939 Harland Pkwy., Lexington, KY 40515; (606) 273-1817.

Kentucky - Louisville Area Soaring Society, Ed Wilson (Contact), 5308 Sprucewood Dr., Louisville, KY 40291; (502) 239-3150 (eve), e-mail: <[edwilson1@bellsouth.net](mailto:edwilson1@bellsouth.net)>

Louisiana - Capitol of Louisiana Soaring Society (CLASS), Leonard Guthrie (contact), 12464 Fair Hope Way, Baton Rouge, LA 70816, (504) 275-2122.

Maine - DownEast Soaring Club (New England area), <[Jim.Armstrong@juno.com](mailto:Jim.Armstrong@juno.com)>

Maryland - Baltimore Area Soaring Society, Erich Schlitzkus (President), 52 North Main St., Stewartstown, PA 17363; (717) 993-3950.

Maryland & Northern Virginia - Capital Area Soaring Association (MD, DC, & Northern VA), Chris Bovais (Coordinator), 12504 Circle Drive, Rockville, MD 20850; (703) 643-5513.

Michigan - Greater Detroit Soaring & Hiking Society, Greg Nilsen (Sec.), 260 Rosario Ln., White Lake, MI 48386-3464; (248) 698-9714, GNilisen624@aol.com.

Michigan - Great Lakes 1.5m R/C Soaring League & "Wings" Flight Achievement Program & Instruction, Ray Hayes, 58030 Cyrenus Lane, Washington, MI 48094; (810) 781-7018.

Minnesota - Minnesota R/C Soaring Society, Tom Rent (Contact), 17540 Kodiak Ave., Lakeville, MN 55044; (612) 435-2792.

Missouri - Independence Soaring Club (Kansas City area, Western Missouri), Edwin Ley (Contact), 12904 E. 36 Terrace, Independence, MO 64055, (816) 833-1553, eve.

Missouri - Mississippi Valley Soaring Assoc. (St. Louis area), Peter George, 2127 Arsenal St., St. Louis, MO 63118; (314) 664-6613.

Nebraska - B.F.P.L. Slopers, Steve Loudon (contact), RR2 Box 149 E1, Lexington, NE 68880, (308) 324-3451/5139.

Nebraska - SWIFT, Christopher Knowles (Contact), 12821 Jackson St., Omaha, NE 68154-2934, (402) 330-5335.

Nebraska - Ken Bergstrom, R.R. #1, Box 69 B, Nerna, NE 68856; (308) 643-2524, <[bergst@neb-sandhills.net](mailto:bergst@neb-sandhills.net)>

Nevada - Las Vegas Soaring Club, Jim Allen (President), 7117 Caprock Cir., Las Vegas, NV 89129; ph (702) 658-2363, fax (702) 658-1996.

New Jersey - Vintage Sailplane R/C Association, Richard G. Ianis (President/Founder), 391 Central Ave., Hawthorne, NJ 07506, (201) 427-4773.

New York, aerotowing Rochester area, Jim Blum and Robin Lehman, (716) 335-6515.

New York - Elmira - Harris Hill L/D R/C, aerotowing & slope, John Derstine, (717) 596-2392, e-mail: 2076482@mcimail.com.

New York, aerotowing Long Island Area, Robin Lehman, (212) 744-0405.

New York - (Buffalo/Niagara Falls area) - Clarence Sailplane Society, Lyn Perry (President), (716) 655-0775; e-mail: perryll@staff.sunyerie.edu; Jim Roller (Competition Coordinator), (716) 937-6427.

New York - Long Island Silent Flyers, Stillwell Nature Preserve, Syosset, NY, Ze'ev Alabaster (President), (718) 224-0585, or Peter DeStefano (VP), (516) 586-1731.

New York - Syracuse area, Central NY Sailplane Group, Dave Zintek, Minoa, NY, (315) 656-7103, e-mail: Zintek@aol.com.

North Carolina - Aerotowing, Wayne Parrish, (919) 362-7150.

Northwest Soaring Society (Oregon, Washington, Idaho, Montana, Alaska, British Columbia, Alberta), Sandie Pugh (Editor - NWSS Eagle), 119 SW 333rd St., Federal Way, WA 98023, e-mail: <[parrot2luw@aol.com](mailto:parrot2luw@aol.com)>, (253) 874-2429 (H), (206) 655-1167 (W).

Ohio - Cincinnati Soaring Society, Ed Franz, 7362 Ironwood Way, Burlington, KY 41005; (606) 586-0177, <[ejfranz@fuse.net](mailto:ejfranz@fuse.net)>

Ohio - Dayton Area Thermal Soarers (D.A.R.T.S.), Walt Schmoll, 3513 Pobsst Dr., Kettering, OH 45420, (513) 299-1758.

Ohio - Mid Ohio Soaring Society (MOSS), Hugh Rogers, 888 Kennet Ct., Columbus, OH 43220; (614) 451-5189, e-mail: tomnagel@freenet.columbus.oh.us.

Oklahoma - Central Oklahoma Soaring, George Voss, (405) 692-1122.

Oklahoma - Tulsa R/C Soaring Club (TULSOAR), <http://www.mccserv.com/tulsoar>

Oregon - Portland Area Soaring Society (PASS), Pat Chewning (Secretary), 16766 NW Yorktown Dr., Beaverton, OR 97006, (503) 645-0323, e-mail: patch@sequent.com, www.europa.com/~patch/

Oregon - Salem Soaring Society, Al Szymanski, CD, (503) 585-0461, <http://home.att.net/~asz/> for club's home page.

Oregon - Southern Oregon Soaring Society, Jerry Miller, 3431 S. Pacific Hwy. TR1R 64, Medford, OR 97501, e-mail: Miller@aol.com, ph/fax (541) 535-4410.

Tennessee - Memphis Area Soaring Society, Bob Sowder, 1610 Saddle Glen Cove, Cordova, TN 38018, (901) 751-7252, FAX (901) 758-1842.

Tennessee - Tullahoma (Southern Middle Area), Coffee Airfoilers, Herb Rindfleisch, 106 Inglewood Circle, Tullahoma, TN 37388, (931) 455-1836, <[herb@cafes.net](mailto:herb@cafes.net)>

Tennessee - Soaring Union of Nashville, Terry Silberman, PO Box 17946, Nashville, TN 37217-0946, (615) 399-0846.

Texas - aerotowing, Dallas area, Andrew Jameson, 9426 Hillview, Dallas, TX 75231, (214) 349-9346, e-mail: ajsleep@aol.com. Larry Sengbush, (972) 291-4840.

Utah - Intermountain Silent Flyers, Tom Hoopes, (801) 571-3702 (eve), "Come Fly With Us!"

Vermont - Steve Savoie, 926 Gage St., Bennington, VT 05201, (802) 442-6959.

Virginia - Blue Ridge Area Soaring Society (Central Virginia - Waynesboro), Tom Broeski, (540) 943-3356, <[tjb@rica.net](mailto:tjb@rica.net)>

Virginia - Tidewater Model Soaring Society, Herk Stokely, (757) 428-8064, herkstok@aol.com.

Virginia - Appalachian Soaring Association, Virginia's Southwest (Bristol area), Greg Finney, 106 Oakcrest Circle #5, Bristol, VA 24201; (540) 645-5772, e-mail: <[gfinney@maxs.com](mailto:gfinney@maxs.com)>

West Virginia & Pennsylvania - Tri-State Soaring, Chip Vignolini, 2784 Mill St., Aliquippa, PA 15001; (724) 857-0186, Voice mail (412) 560-8922, <[cydne30a@prodigy.com](mailto:cydne30a@prodigy.com)>

Washington - Seattle Area Soaring Society, Waid Reynolds (Editor), 12448 83rd Avenue South, Seattle, WA 98178; (206) 772-0291.

Wisconsin - Valley Aero Modelers, Lee Murray, 1300 Bay Ridge Rd., Appleton, WI 54915; (920) 731-4848, <[74724.65@compuserve.com](mailto:74724.65@compuserve.com)>

### Outside U.S.A.

Australia - Southern Soaring League, Inc., Mike O'Reilly, Model Flight, 42 Maple Ave., Keswick SA 5035, Australia. Phones: ISD+(08) 8293-3674, ISD+(08) 8297-7349, ISD+(018) 8082-156 (Mobile), FAX: ISD+(08) 8371-0659.

Canada - Montreal Area - C2VM Glider Club, Jacques Blain (President), days (514) 443-5335, eve. (514) 652-6167.

Canada - Greater Niagara Area Thermal Soarers (GNATS), Flat Field Soaring & Aerotowing, Gerry Knight, (905) 934-7451 or Don Smith, (905) 934-3815.

Canada - MAAC Men Gliding Club, Jim Holland, 168 Verona Dr., Winnipeg, Manitoba, Canada R2P 2R8, (204) 697-1297.

Canada - Southern Ontario Glider Group, "Wings" Programme, dedicated instructors, Fred Freeman, (905) 627-9090, or Bill Woodward, (516) 653-4251.

England (CIAM Flyer), Jack Sile (Editor), 21 Bures Close, Stowmarket, Suffolk, IP14 2PL, England, Tele. # 0449-675190.

England (southwest) - Sean Walbank, Woolcombe Hays, Melbury Bubb, Dorchester, Dorset, DT2 0NJ, phone 01935-83316.

Hong Kong - Robert Yan, 90 Robinson Road, 4th Floor, Hong Kong, (852) 25228083, fax (852) 28450497, <[yanr@asiaonline.net](mailto:yanr@asiaonline.net)>

Japan - Dr. Paul "Sky Pilot" Clark, 2 - 35 Suikoen Cho, Hirakata Shi 573, Osaka Fu, Japan, IAC+(81) 720-41-2934, <[pclark@osk3.web.ne.jp](mailto:pclark@osk3.web.ne.jp)> <http://www3.osk3.web.ne.jp/~pclark/skypilot/>

Scotland - Ron Russell, 25 Napier Place, South Parks, Glenrothes, Fife, Scotland KY6 1DX, ph. 01592 753689.

### RCSD Index/Database

Available from: <<http://www.athenet.net/~atkr095/pcsoar.htm>>. Or: <<http://www.halcyon.com/bsquared/RCSD.html>>. Or, send 3.5" high density disks and SAS with stamps for 2 oz. Lee Murray, 1300 Bay Ridge Rd., Appleton, WI 54915; (920) 731-4848 after 5:30 pm weekdays or on weekends, 74724.65@compuserve.com.



### Reference Material

Summary of Low-Speed Airfoil Data - Volume 3 is really two volumes in one book. Michael Selig and his students couldn't complete the book on series 3 before series 4 was well along, so decided to combine the two series in a single volume of 444 pages. This issue contains much that is new and interesting. The wind tunnel has been improved significantly and pitching moment measurement was added to its capability. 37 airfoils were tested. Many had multiple tests with flaps or turbulation of various configurations. All now have the tested pitching moment data included. Vol 3 is available for \$35. Shipping in the USA add \$6 for the postage and packaging costs. The international postal surcharge is \$8 for surface mail to anywhere, air mail to Europe \$20, Asia/Africa \$25, and the Pacific Rim \$27. Volumes 1 (1995) and 2 (1996) are also available, as are computer disks containing the tabulated data from each test series. For more information contact: SoarTech, HerkStokely, 1504 N. Horseshoe Circle, Virginia Beach, VA 23451 U.S.A., phone (757) 428-8064, e-mail <herkstok@aol.com>.

"Aerotow '97" Elmira" video taken at the Annual Northeast Aerotowing Fly-in, New York. 56 minutes of great flying, interviews, pristine scale models, dummies, full-scale as well as models, and rare vintage film from Harris Hill in the 1930's. Check or money order, \$24.95 plus \$3.00 S&H (U.S.), payable to John Derstine, RD 3# Box 336, Gillett, PA 16925; (717) 596-2392, <johnders@postoffice.ptd.net>. S&H foreign: \$6 Canada/Mexico, \$7 Europe, \$8 Asia/Africa, \$8.50 Pacific Rim. VHS format, NTSC standard. PAL format \$40 + applicable shipping.

### Seminars & Workshops

Free instruction for beginners on construction & flight techniques, week-ends (excl. contest days). "AJ" Angelo, South Bay Soaring Society (San Jose area), (415) 321-8583.



The League of Silent Flight (LSF) is an international fraternity of RC Soaring pilots who have earned the right to become members by achieving specific goals in soaring flight. There are no dues. Once you qualify for membership you are in for life.

The LSF program consists of five "Achievement Levels". These levels contain specific soaring tasks to be completed prior to advancement to the next level.

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League of Silent Flight  
c/o AMA  
P.O. Box 3028  
Muncie, IN 47302-1028 U.S.A.

### Hobby Shops that Carry RCSD

Finney's Hobbies  
3455 Peachtree  
Industrial Blvd. Ste. 980  
Duluth, GA 30096  
(770) 495-8512

Gunnings Hobbies  
550 San Anselmo Ave.  
San Anselmo, CA 94960  
(415) 454-3087

Gyro Hobbies  
23052 Lake Forrest Dr.  
Unit C2  
Laguna Hills, CA  
(714) 583-1775

Gyro Hobbies 2  
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### BBS/Internet

Internet - Email list/resource of RC soaring related folks, including US and international club contacts, vendors, kit manufacturers/distributors, software, equipment and supplies. Check out the web site: [www.ocpapsych.com/yellow.htm](http://www.ocpapsych.com/yellow.htm), or contact Maruy Tau at [taucom@kaiwan.com](mailto:taucom@kaiwan.com).

Internet soaring mailing listserve linking hundreds of soaring pilots worldwide. Send msg. containing the word "subscribe" to [soaring-request@airage.com](mailto:soaring-request@airage.com). The "digestified" version that combines all msgs. each day into one msg. is recommended for dial-up users on the Internet, AOL, CIS, etc. Subscribe using [soaring-digest-request@airage.com](mailto:soaring-digest-request@airage.com). Post msgs. to [soaring@airage.com](mailto:soaring@airage.com). For more info., contact Michael Lachowski at [mikel@airage.com](mailto:mikel@airage.com).

### Sailplane Homebuilders Association (SHA)

A Division of the Soaring Society of America



The purpose of the Sailplane Homebuilders Association is to stimulate interest in full-size sailplane design and construction by homebuilders. To establish classes, standards, categories, where applicable. To disseminate information relating to construction techniques, materials, theory and related topics. To give recognition for noteworthy designs and accomplishments.

SHA publishes the bi-monthly *Sailplane Builder* newsletter. Membership cost: \$15 U.S. Student (3rd Class Mail), \$21 U.S. Regular Membership (3rd Class Mail), \$30 U.S. Regular Membership (1st Class Mail), \$29 for All Other Countries (Surface Mail).

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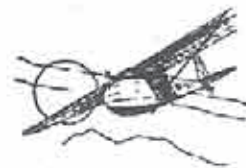
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#### (The Wing Is The Thing)

T.W.I.T.T. is a non-profit organization whose membership seeks to promote the research and development of flying wings and other tailless aircraft by providing a forum for the exchange of ideas and experiences on an international basis. T.W.I.T.T. is affiliated with The Hunsaker Foundation which is dedicated to furthering education and research in a variety of disciplines. Full information package including one back issue of newsletter is \$2.50 US (\$3.00 foreign). Subscription rates are \$18.00 (US) or \$22.00 (Foreign) per year for 12 issues.

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### The Vintage Sailplane Association

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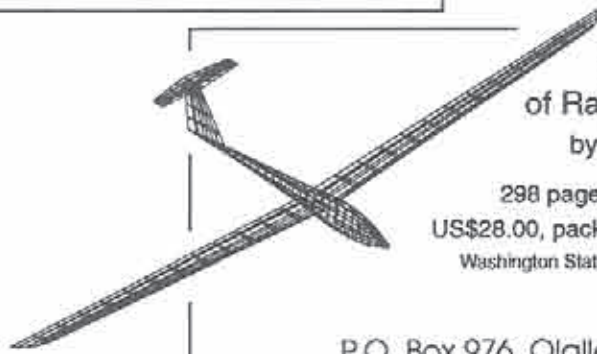
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Lovettsville, VA 22080  
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### International Scale Soaring Association

There is a growing interest in scale soaring in the U.S. We are dedicated to all aspects of scale soaring. Scale soaring festivals and competitions all year. Source for information on plans, kits, accessories and other people interested in scale. For more information, write to:

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Wing Area: 276 sq/in.  
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Airfoil: Thinned 10/14

Also available: Switchblade S100/Race Wing 60" Slope Race

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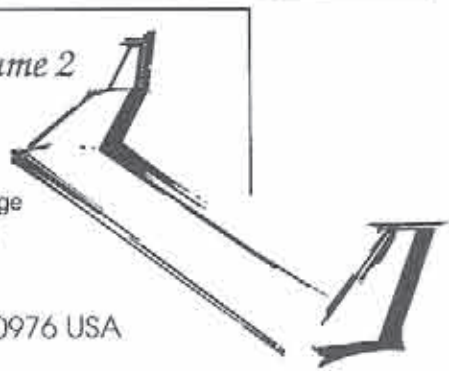
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# THE CONDOR

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TRIPLE TAPERED SD7035 WING!

SPECS:	
WING SPAN	112.5"
WING AREA	918 SQ. IN.
AIRFOIL	SD7035
WEIGHT	62-66 OZ.
WING LOADING	9.7 - 10.3 OZ./SQ. FT.

The Condor is designed by Mark Allen, who is considered one of the best model sailplane designers in the United States, if not the world. Mark has taken all of his previous experience in competition thermal duration flying, plus all the knowledge he has gained from his earlier contest and sport designs, to design the Condor. Mark Allen's previous planes, to name only a few, are: Falcon 880 and 800, Falcon 600, Swift, Thermal Eagle, Vulcan, Night Hawk, Sky Hawk, Electric Hawk, Falcon 550E, Rocket, Pocket Rocket and, of course, the molded, world championship F3B Eagle. By taking the best of these designs and the new construction techniques available today, Mark has come up with what we feel, is the absolute best open-class sailplane available.

The wings are made in America by Ron Vann, owner of Spectrum Enterprises. Ron is also an avid competition flier, and is considered to be one of the best wing manufacturers in the industry. Taking his years of experience in manufacturing wings, Ron has produced wings and stabs for the Condor that we feel are world class. Starting with the spar that Mark Allen designed, Ron uses only the best and most accurately cut foam cores available. He then uses hand-picked obechi from Kennedy Composites, which is applied with West Systems epoxy.

## CONDOR

*Tomorrow's Sailplane,  
Technology Today*

This is after he has first reinforced the wing with carbon fiber and fiberglass. The servo wells are routed out, as are the flaps and ailerons. What this means for the sailplane enthusiast is a minimum amount of work before getting the sailplane into the air. The wing is light but strong enough to take "pedal to the metal" launches. Also available as an option is Ron's unique internal capped hingeline. This means even less work for the modeler.

The fuselage is made by Steve Hug, owner of the Fuse Works. Steve is another master at what he does. Fuse Works makes what we consider to be the best fuselage in the business. Steve uses only the best fiberglass and Kevlar™ available. All fuselages are manufactured using the West Systems epoxy. Steve's fuselages have the least amount of pinholes, if any, that we have seen. In fact, the fuselage is so pretty that many people do not paint it. The fuselage is extremely light, and yet strong enough for very aggressive flying and landing. For those with very little

building time, and those who don't like to paint, there is an optional pre-painted, in the mold, fuselage which includes a unique carbon fiber canopy.

All kitting is done at Slegers International's new and larger manufacturing facilities. We have spared no time or expense with supplying the modeler with the best materials available. The kit contains pre-sheeted wings and stabs by Ron Vann, fiberglass and Kevlar™ reinforced fuselage by Steve Hug, 3/8" diameter titanium wing rod from Kennedy Composites, optional 3/8" diameter steel wing rod by Squires Model Products, control horns and tow hook by Ziegelmeyer Enterprises, pushrods by Sullivan, or optional one piece steel rods. All wood is custom cut. Specially cut basswood of 60" is supplied to eliminate splices in leading edge, flaps and aileron capping. All balsa is hand picked, light to medium, to ensure light weight wing tips, stab tips, and rudder. Aircraft ply is used for the pre-fit servo tray and towhook block. A comprehensive instruction manual is included.

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1/4.5	ASK 21	E393	165" (4.2m)
1/5.6	Ka6E	E392	165" (4.2m)
1/5.75	Fox	RG12	149" (3.77m)
1/5.6	DC 800	E207	163" (4.15m)

### **Buechele**

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1/4.2	Nimbus 4	E68-66	246" (6.28m)
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### **PriBeck**

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1/4	Ka6E	E207-205-205	196" (5m)
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### **Bruckmann**

1/5.8	FOX		222" (5.65m)
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### **Schueler & Fleckstein**

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1/5	all glass ASH 26	H03/14-10	235" (6m)
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