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R/C SOARING DIGEST

Radio controlled

THE JOURNAL FOR R/C SOARING ENTHUSIASTS

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BOUNCEABLE SLOPE PLANES

Chris Costigan with his DAW Foam Wulf 190 and Lou Garwood with his DAW Foam-51 on an Atlantic Ocean dune. Joe Chovan's DAW FoaMe-109 flashed by in the background.

Photography by Dave Garwood, Scotia, New York.

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, <jimpeg@netzone.com>.

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Happy Holidays

This month, several of us put our heads together and came up with Christmas and gift giving ideas for the coming year. And rather than simply stop there, you'll find that several of the authors geared their writings with a 'beginner to the hobby' in mind. They detail out cost, share a few words of wisdom as to selection and, in one case, give you an idea of things to say to a beginner to prevent them from quitting.

We hope this issue gives you a few ideas for the holidays and, of course, the coming year. As always, our thanks to all the authors for going the extra mile! And not just for this issue, but for all the dedicated columns they've written this past year!

Happy Flying!
Judy & Jerry Slates

A Christmas Poem

by Robin Lehman

A merry Christmas and a happy New Year!
May the new millenium bring you all very good cheer!
May your gliders all fly well and your transmitters do
The sending of precisely what want them to!

No crashes, no flyaways, nor lost models at all!
No bad landings and please, never wing tip stalls!
May all of your building be wonderfully true,
And better remember no sniffing the glue!

May the tops of your slopes always face the right way!
May your winch lines be strong and just right for the day!
May the wind always blow the best way to fly!
May you always catch thermals and soar way up high!

May this next year be better than ever you thought!
May your knowledge grow greater than what you've been taught!
May your grasses grow greener, and the grays turn to blue,
May your friendships be golden, and your gliders fly true!

May the year 2000 bring you even better than last!
And the year after that, and the next when it's past...
Again merry Christmas, and New Years to all!
And when you go flying do go have a ball!

ELMIRA AEROTOW 2000

COME FLY WITH US AND SOAR TO NEW HEIGHTS!

June 7-10, 2000
HELD IN ELMIRA, NY
SOARING CAPITAL OF THE U.S.
HOSTED BY: HARRIS HILL L/D R/C
co-sponsored by:
The Natjonal Soaring Museum
The Harris Hill Soaring Corp.
Chemung County, NY
Eastern Soaring League

Four days of soaring at the cradle of soaring in America

Taking scale into the new century, we promise another friendly, well attended aerotow for the summer of the year 2000. As last year, we will be given exclusive use of the Harris Hill Soaring Corporation's airfield on Wednesday through Friday, 7-9th. Weds. will be open flying (aerotow or slope) for early arrivals. Thursday will be the start of the official event with radio impound. The field will be shared with full scale sailplanes on Saturday. Factory and international demo flying are scheduled for Saturday afternoon. Sunday is a travel day, and no flying is scheduled.

This year we expect to see some excellent pilots from Europe attending, including 1999 Akro Cup winners. National and international vendors will be showing their wares. The emphasis will be on fun and aerotowing, as well as some fantastic slope soaring if conditions dictate. Tow planes and experienced pilots will be there to tow you to altitude. We will be blocking out channels 17-25-26-29-57 for tug use this year. Bring a scale sailplane with nose release and join us at historic Harris Hill. On Friday evening there will be a Banquet at the Harris Hill Youth Camp adjacent to the flying field. Guest speakers to be announced. More exciting plans are in the works; keep an eye out for further developments as they become available. Current AMA or MAAC membership is required. There will be a $25.00 pilot registration fee ($20.00 in advance, check payable to HH L/D by April 15th). Bring the family and enjoy a few extra days in the NY State wine country, or visit the National Warplane Museum, or the Glenn Curtiss Museum.

For details & information (including shipping your sailplane to Elmira) contact:

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e-mail: johnders@postoffice.ptd.net
RD#3 Box 336, Gillett PA 16925

Online Registration & Updates
http://www.Geocities.com/~scalesoar

Jer's Workbench

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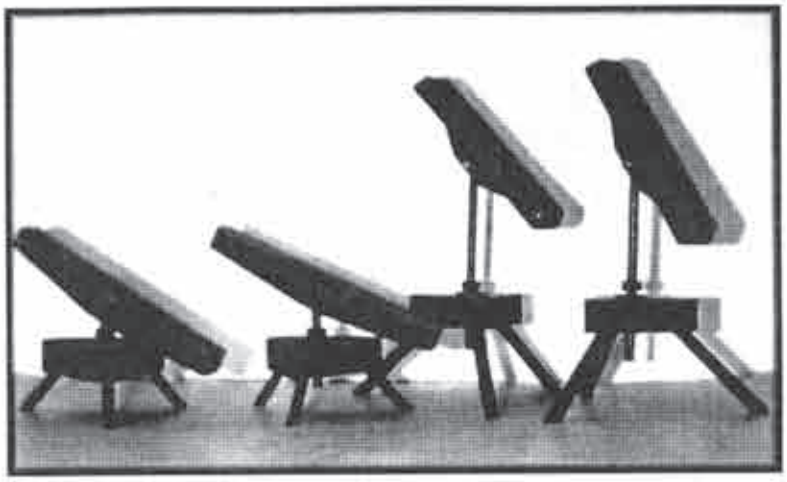


Two sets of wing jacks. Note simple adjustments by cutting longer or shorter legs, and by cutting longer or shorter threaded legs.

Wing Jacks

Let's say that you've spent the last couple of months building and detailing a scale model, and you're really proud of your handiwork. Perhaps there's a scale contest or scale fly-in scheduled in your area, and you plan to attend.

The day arrives, you pack up the plane, arrive at the site, and introduce your beauty to the other scale ships sitting in the pit area. And, they're *all* beautiful!

As the day progresses, a few spectators chance by. You listen keenly for their reaction, and overhear one remark, "Oh, my!! Just look at all those absolutely beautiful models!" Feeling a bit dejected, you realize that your model is no different from the rest.

What can you do to make your model stand out among the rest? How about adding a set of wing jacks?

Well, I tackled this subject and, as you can see by the adjoining photos and figures, there's not much required by way of parts. While scrap wood is usually readily available, the threaded rod may need to be purchased from a local hardware or building supply store.

First, please note that there are no measurements on the figures, since all models are different. That said, let's start with figure 1.

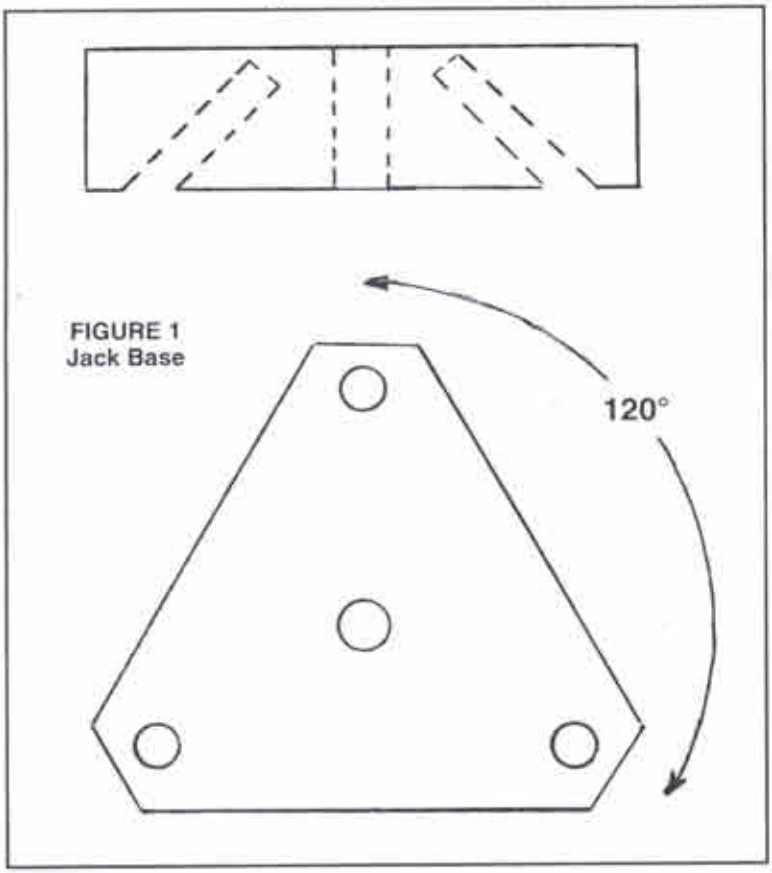


FIGURE 1
Jack Base

The jack base is constructed from a piece of scrap 3/4" pine. Once cut to shape, as shown, a hole is drilled in the center for a 1/4 x 20 blind nut. Three leg holes are then drilled at a 45 degree angle. Lay-out of the three legs is done at 120 degrees to each other, and are cut from a dowel.

The length of the legs is dependent on the size of the plane. So, cut the legs so that the base is about 1/3 to

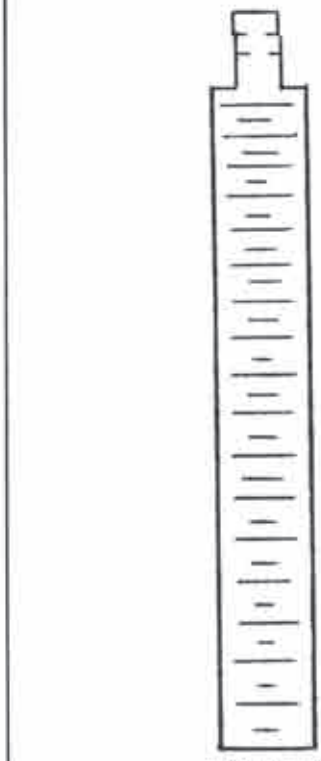


FIGURE 3
1/4 x 20 Threaded Rod

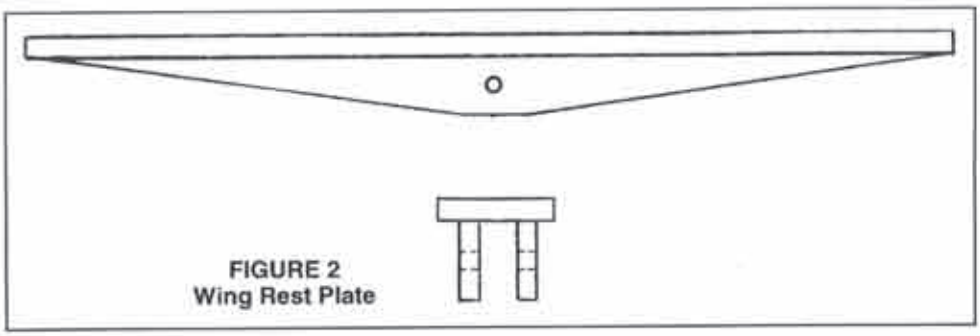
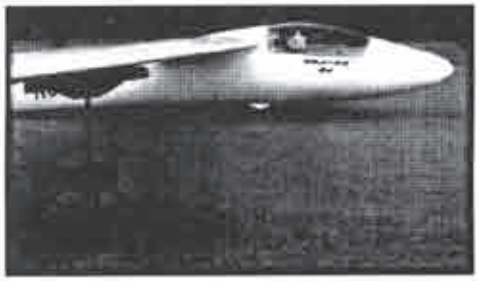


FIGURE 2
Wing Rest Plate



Wing jack installed under wing of Pilatus B-4.

1/2 the height from the ground to the bottom of the wing.

Figure 2 depicts the wing rest plate. In order to obtain the length, measure your wing chord at mid-span. That length is how long the wing rest plate should be. The plate in the figure is constructed from 1/8" plywood.

The last thing to determine is the length of the threaded rod. I cut the rod approximately 3/4 of the distance measured from the ground to the bottom of the wing. This leaves some room for adjustments.

Once complete, the wing jack set was painted with a flat black paint. For a bit of extra detail, a strip of foam rubber was attached to the top of the wing rest plate, and protects the bottom of the wing.

So, give it a try, and let me know what you think! Be the first on your block to have a set of wing jacks!

Happy Holidays!

■

Salto sitting up straight with wing jacks installed under its wings.

2000 MONTAGUE CROSS COUNTRY CHALLENGE

Location -	Siskiyou County Airport, Montague, CA
Date -	June 9th – Practice and LSF Task Days June 10th & 11th – Contest Days
Time -	Pilots meeting at 9am, flying begins at 10am
Task -	Saturday - Free Distance within a prescribed course Sunday – Speed Task, 2 hour minimum, 3 hour maximum
Classes -	Open, Electric, Sailair
Rules -	All sailplane pilots must be AMA members. The team will decide who and how long each pilot flies the sailplane. Sailplanes must be winch launched. There will be unlimited attempts allowed, no relaunching on course. Each sailplane must be identified with the last 3 numbers of the team captain's AMA number. The numbers must be 3" high and placed both sides of the vertical fin.
Prizes -	Plaques will be given to 3 members of the top 3 finishing teams in each class.
Entering -	Entry fee is $65 per team, each team will receive 3 event T-Shirts, and 3 tickets to a Saturday night BBQ. All entries must be received by May 9th, 2000. There will be a limit of 20 teams, so don't delay.
Lodging -	Camping is available on-site, no services available. Motels are available in Yreka, approximately 12 miles away.
Info -	For additional info please call Dean, Scott, or Randy at (541)899-8215 days, or Dean (541)899-7034 evenings, or e-mail us at dgair@cdsnet.net

on the Wing

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Addenda to Previous Columns

This month we're going to provide some updates and additional information directly related to topics we've covered in previous columns. The provided dates denote the *RC Soaring Digest* issue in which the original article appeared.

A-12 "Dorito," February 1996

Although it never reached production, the "Dorito" did make it to the mock-up stage. Interestingly, the mock-up was on display in 1996 and 1998 at the Carswell NAS (Fort Worth, Texas) Open House. For those with internet access, several pictures of the A-12 "Dorito" mock-up are posted on the web. The pictures are of good quality and show several of the unique features of the A-12. The home page for the site listed at the end of this article has a number of links to other A-12 pages and sites.

Our 1/4 Scale "Pioneer II-D" at 60 Acres, March 1996

Our model is currently owned by Don Bailey of Seattle Washington. Don has taken it to several events during the last couple of flying seasons, and you may have seen pictures of it in some of the other model magazines. Somewhere along the line it gathered the moniker "flying egg," but that has not affected its performance - Don says it continues to fly beautifully.

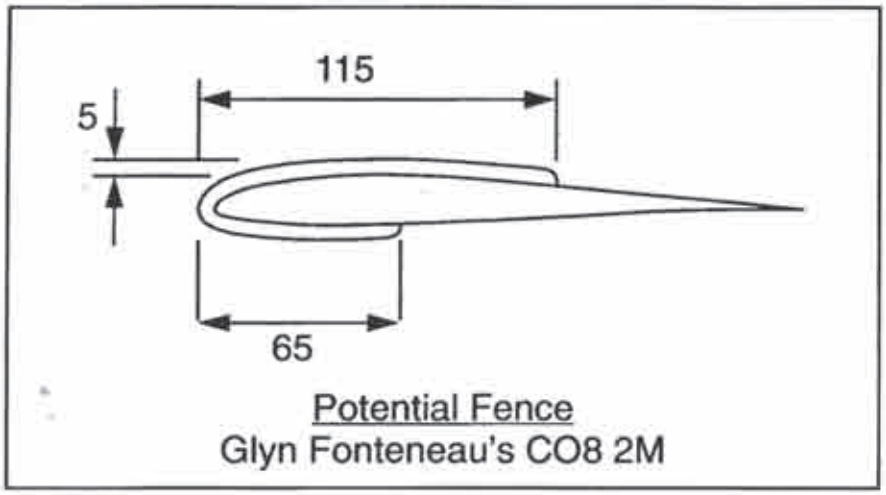
While we were building the Pioneer, we were in contact with John Irwin of Texas. At the time, John was building a full size Pioneer in his garage, and the project was nearing completion. In fact, there was some anticipation that both our model and John's full size 'ship would be getting maiden flights on the same day! Well, we recently learned that John never finished his Pioneer.

Lloyd Watson, also from Texas, purchased the nearly finished airframe and completed construction with the help of several family members. John's unique additions to the airframe - aerodynamic rear wheel fairing, streamlined skid, and NACA scoop - remain a part of the completed aircraft. What really sets this Pioneer apart, however, is the color scheme: red wings, blue underbelly, and a huge rendition of the Texas state flag across the fin and rudder. We've included a couple of photos of the finished Pioneer II-D from Lloyd's web site, but these pictures just don't do the paint job justice.

Lloyd's web site includes a history of N86TX, a large number of photographs, a description of the maiden flight and some subsequent flying experiences, and exuberant descriptions of his flying the Pioneer II-D cross-country.

Horten H XIII, November 1998

While searching for information on effective dihedral, we found a small item on the H XIII in Nickel and Wohlfahrt's "Tailless Aircraft in Theory and Practice." Referring back to the *RCSD* column, we noted that the wing of the H XIII was constructed by mounting the wings of the Horten H III on a specially made diamond shaped central fixture. While the increased sweep angle (60 degrees) lengthened the wing chord and therefore reduced the percent thickness of the section, the side area of the wing root was made larger. Despite the gondola being mounted slightly aft of the CG, there was enough side area forward of the CG that the aircraft was slightly directionally unstable at high speed. (This did not appear in Hermann Strebel's report on the maiden flight of the H XIII, but was mentioned in private correspondence with Dr. Nickel.) We've included a silhouetted side view of the aircraft which we hope illustrates the reason for this difficulty.

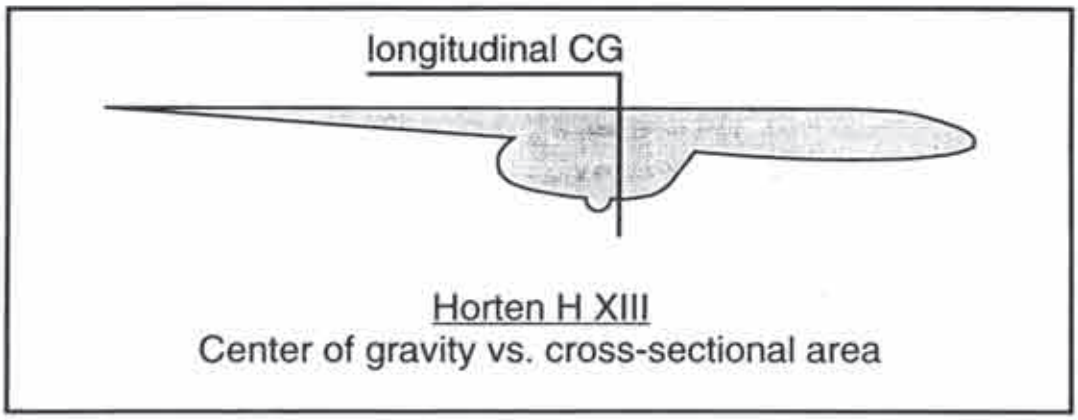


Potential Fence
Glyn Fonteneau's CO8 2M

Glyn Fonteneau & Dave Camp's CO8 2M, October 1999

Glyn Fonteneau has sent us a drawing of the "potential fence" he has installed on his CO8 2M. Glyn made the fences out of plastic card and simply taped them in place, positioned parallel to the air flow and right in front of the elevon root. Thus far we've not received a report from Glyn concerning performance improvements, but we anticipate much better behavior at stall, as installation of potential fences often dramatically improves controllability at high lift coefficients. Watch for a comprehensive article on potential fences in a future "On the 'Wing..." column!

That's about it for this month. Remember, if you have a suggestion for a future "On the 'Wing..." column, write to us at P.O. Box 975, Olalla WA 98359-0975, or at <bsquared@halcyon.com>.



Horten H XIII
Center of gravity vs. cross-sectional area

References:

A-12 "Dorito": <http://www.geocities.com/CapeCanaveral/Hangar/1420/newFSM.htm>

Lloyd Watson's Pioneer II-D: <http://www.continuo.com/videowebpage/lloydweb/newhome.htm>

Horten H XIII: Nickel, Karl and Michael Wohlfahrt. Tailless Aircraft in Theory and Practice. American Institute of Aeronautics and Astronautics, Inc., Washington D.C., 1994.

Fonteneau and Camp CO8 2M: Personal communication with Glyn Fonteneau.

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THE NATURAL SIDE OF THERMAL SOARING

By Lee Murray
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(Top) Looking SSW. John Palfery photo.

(Bottom) RES Class looking NNE. John Palfery photo.

(By Lee Murray with collaboration from Al Scidmore.)

Regularly Spaced Fair Weather Cloud Streets

I chose this topic after witnessing a cloud street condition at the Appleton Sailplane contest on Aug. 8th. My friend, Al Scidmore, was at the contest and pointed it out to me. The condition manifested itself almost exactly as described in several texts that will be referenced in this article. What we saw were long lines of clouds oriented about 15 degrees off the predominate 10-20 mph NNE wind. Club member and contestant, John Palfery, took pictures with his Nikon SLR with an adjustable polarizing filter. The clouds were perfectly contrasted against the blue sky. I included his photo of the RES class we are promoting with a cloud street visible looking NNE. Al Scidmore sent me his analysis of the conditions he saw at the contest and has collaborated in this article.

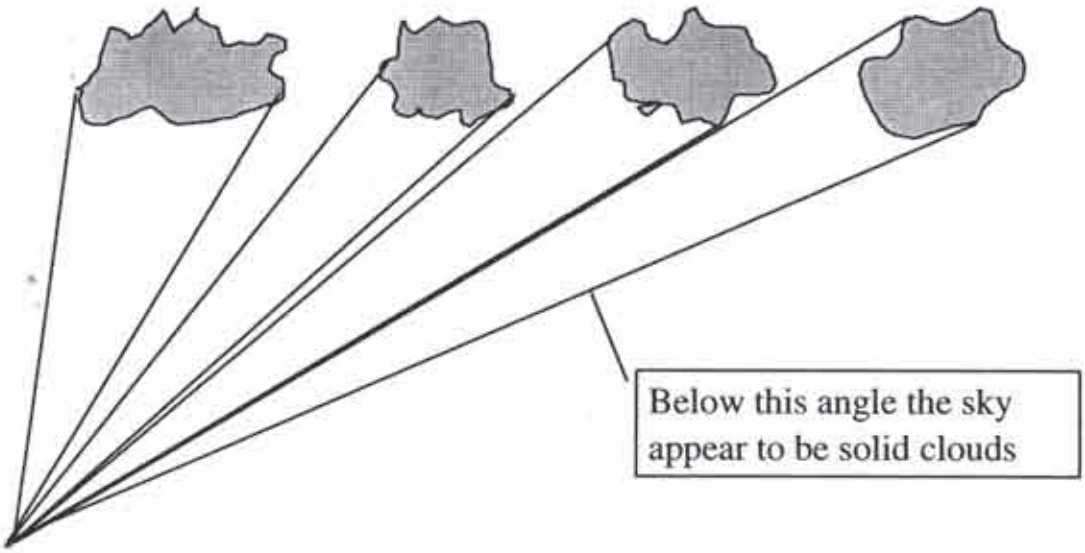
Most sailplane modelers spend the majority of their time in the very bottom of the mixed layer. We do sometimes speck out and get to cloud height, but generally we are scratching for thermals at a few hundred feet (or less). Down here, we can associate the individual bubbles with trigger points such as ridge lines, tree lines, black-top parking lots, asphalt roads, the tops of buildings, etc. As these small bubbles or plumes rise, they coalesce with other plumes to form a larger air mass that even full-size glider pilots recognize as thermals. The rising air columns become larger and larger until they reach cloud base. There at the top of the mixed layer the rising air has cooled to the condensation point and we see it as a cloud. Helmut Reichmann[1], speaking from the viewpoint of a full scale glider pilot, writes that under calm, fair weather conditions, with regular terrain, these cumulous clouds appear almost randomly distributed.

However, under certain circumstances, the thermal plumes are gathered up in such a way that, at cloud base altitude, they show up as a series of straight lines of clouds. Because of this straight-line organization, they are called cloud streets, thermal streets, or cumulous streets. Instead of the randomly distributed puffies, these appear to be very organized and regularly distributed across the sky as far as the eye can see. Looking upwind (or downwind) from under a thermal street, the clouds appear as a row of clouds or even as one long, long cloud. Parallel to the one overhead, but separated by blue sky, is another row, then another, and another, in both directions. The pattern can best be seen from airliner altitude as wide spread lines of clouds. From the ground, the streets directly overhead appear as separate clouds, but toward the horizon they appear to coalesce into an overcast sky due to the low angle of observation[2]. (See Figure 1.) As you can see from the photo of our Appleton outing, there are many isolated smaller clouds too, but the regular nature of most of the clouds is very apparent, especially here in flatland where you can see from one horizon to the other.

There is a particular meteorological condition that often produces thermal streets. This condition occurs most frequently following the passage of a cold front. Moderate wind is required along with a particular wind temperature profile. A copy of that profile from Charles Lindsay's book[3] is shown in Figure 2.

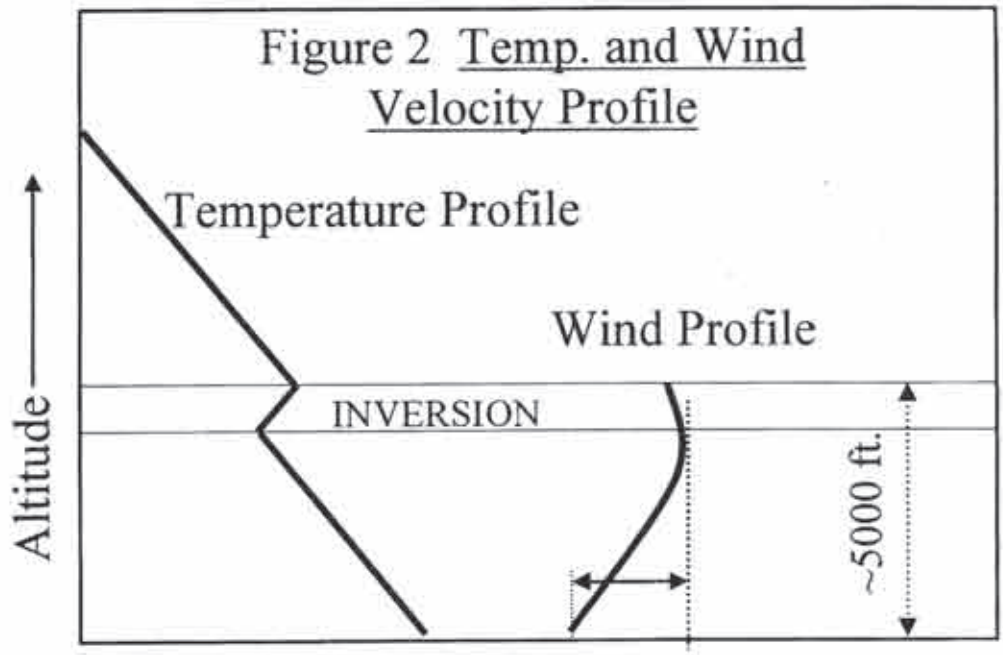
The street pattern can show with the first appearance of cumulus puffies and last for several hours. Actually, this lift pattern can occur even when the air moisture content is not sufficient to form clouds. Such condi-

Figure 1 Clouds Converge at Horizon



* Point of Observation

Figure 2 Temp. and Wind Velocity Profile



tions have been termed "blue streets". Some meteorologists have voiced suspicion that thermals in general are more organized than we think. As mentioned above, orientation of the streets is usually 10-20 degrees off of the mean wind direction. For example, in the first picture, the wind was blowing directly toward the end of the grove of trees. The spacing between streets is usually given as about 2.5 to 3.2 times the cloud base height.

Our concern is lift, lift, lift! The thermal streets are just a visible manifestation of this lift arrayed in an extremely interesting circulation pattern. At the 1992 National Sailplane Symposium, Prof. Roland Stull, Dept. of Meteorology at UW, gave a talk on thermals and presented a diagram describing the vertical circulation which produces cloud streets[4]. You can see the lift pattern near the streets, and the sink pattern between them. Since the wind is blowing and the clouds are 3000-5000 feet above you, the problem is to determine when you are standing under the rising air roll pattern and when under the sink part. As usual, when the air is cold and the sky above you is dark blue you should try to sandbag. (See figure 3.)

At Appleton with a cloud base at 3000 feet, the streets would be about 9000 feet apart. Now with a 15 degrees offset and a little trigonometry we can estimate that, with a 20 mph wind at altitude, a street will blow over and downwind to be replaced by another in 19 minutes or so. In other words, we should have had a regular lift cycle of 15-20 minutes. We saw contestants flying in lift throughout the day, but the really good lift did seem to come in about 20-minute cycles. The R/C sailplaner needs to identify the rising air using cues such as birds feeding on bugs, soaring birds (and gliders), floating spider webs or other debris in the air, haze from ground level sources, etc.

Al and I were able to pick up some of these clues and maxed the last round of the contest. I described the occasion to a friend as follows.

During the last round, the wind speed fell and conventional thermals started to pop. I needed an 8 minute flight, so I was looking for some positive signs of lift. I spotted a hawk and then, above him, three more birds in a group with five more to the right, still higher. This was it! My chance to finish

with a win. All I needed was to launch soon and get in the rising air before the bubble lifted, the thermal died or moved on down wind too far. I launched and flew into it behind two others who had seen the same thing and were fast rising in the thermal. Before long there were many birds and a half dozen fake ones turning circles and getting smaller and smaller. At two minutes I was straining to see my model. Al was also in the thermal and flying with full spoilers to keep from getting higher than he could see his plane. Even Wayne Westphal, an eagle-eye from Madison, was frantically trying to keep out of the cloud base. What a hatsucker! It was great to be there and experience the magic of the moment, sharing it with friends. I don't think it gets much better than that!

[1] Reichmann, Helmut, Cross Country Soaring, p. 21

[2] Pagen, Dennis, Understanding the Sky, p. 222

[3] Lindsay, Charles, Handbook of Soaring Meteorology, p. 61

[4] Stull, Roland B., Meteorology for Model Sailplane Flyers, M.A.R.C.S. National Sailplane Symposium – 1992 Proceedings, p. K30

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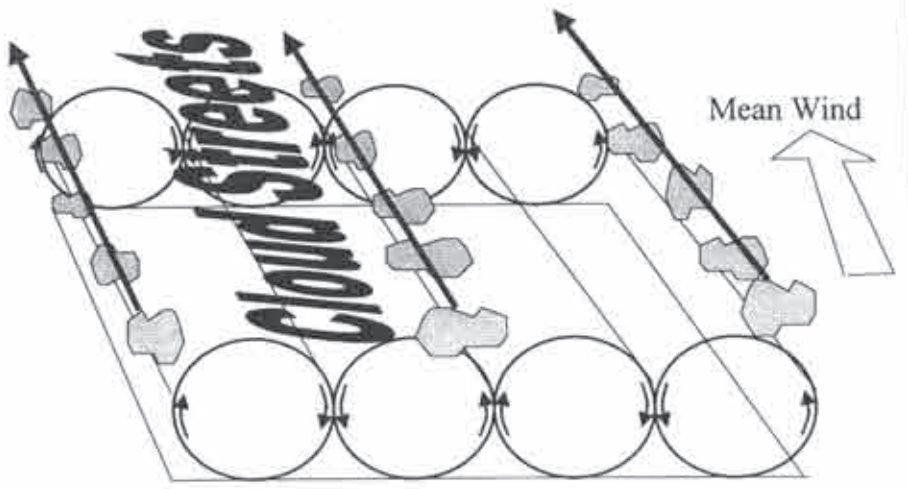
Figure 3 Air Movement Pattern in Cloud Streets



Know Your Metals.

by Roy Vaillancourt

This article is intended to help distribute some information about some of the metals most commonly used by the average modeler. Understanding the classification and associated properties of various metals will help you choose the right material for the job and maybe even help you learn how to work metals more easily. Please keep in mind that the following series is not all-inclusive and that it is presented merely as a broad information base to enhance the average modeler's knowledge of the various metals we routinely use.

Lead:

Probably the second most used metal used by modelers. When was the last time you built a nose heavy plane? Lead is most commonly used by modelers as ballast. This bluish-gray metallic element is very dense with a specific gravity of 11.35. This means it is very heavy for a given volume. Lead is a soft, malleable and ductile material. Its melting point is quite low at 625 degrees F. Lead is also useful for generating electric current in electrochemical applications such as batteries. It can be readily and inexpensively fabricated into many forms. It is used as an additive to some metals to make them easier to machine and it is also a major alloy in most solders. Lead is sometimes added to "plain" bearings to aid in lubrication and ease of fabrication.

Copper:

Probably the first metal to be smelted from its ore, Copper is a very useful material that has a number of desirable properties. It resists corrosion, provides outstanding electrical and thermal conductivity, and has good ductility. While its strength-to-weight ratio is relatively low, Copper is considered a heavy metal. Pure Copper melts at 1981 degrees F. It can be polished to a high luster. It is non-magnetic and combines well with other metals to form a wide variety of useful alloys. It is easy to fabricate and can be joined mechanically by soldering or brazing very easily. Copper and its alloys tend to work harden and can be either hot or cold worked to increase its strength. What this means is that as you bend Copper, if you were to bend the same area back and forth repeatedly the material actually gets stronger at the bend. The down side is that as the strength and stiffness goes up so does its stress cracking probability. So the trick here is to know just when to stop working it before you start to fatigue it. For most of our uses today there are two basic forms of Copper.

C110

This is 99.9 percent pure Copper. It can be bent, riveted, drilled, milled, filed, soldered, brazed and welded to most any configuration. Most common use is electrical connections and ground straps, etc.

C112

A harder version of the C110 that can also be easily brazed and soldered. It is harder then the C110 so it may require annealing prior to bending and/or shaping. Annealing is a softening process that is accomplished by heating the part to a burgundy red color and letting it cool naturally. The annealing process can be applied to an entire part or it may be done locally (only to certain areas).

Like Aluminum, Copper also likes Kerosene as a cutting agent when machining it. Also like Aluminum, Copper forms a thin oxidation layer that helps it become very corrosion resistant. This oxidation layer, however, does not form as fast as Aluminum's, so painting Copper is not as big a chore. The do-it-at-home modeler should follow similar techniques as used on Aluminum (*RCSD* October 1999) when it comes to painting Copper. ■

About the Author

Roy Vaillancourt is the president of Vailly Aviation. His specialty is giant scale warbirds. Vailly Aviation has been serving the giant scale enthusiast since 1986. Roy is an active scale contestant and has competed regularly at **TOP GUN** and **The Scale Masters Championships** for the past 10 years. He has written numerous articles for many of the major magazines dealing with all aspects of scale modeling. Roy and his wife Nancy operate Vailly Aviation out of their home as a part time venture to help contribute to the scale modeling community. In "real life" Roy's full time day job is as a senior design specialist for Lockheed Martin. He is a degreed mechanical engineer (2 degrees) with over 30 years experience in the design and manufacturing fields.

CHRISTMAS AND GIFT GIVING IDEAS FOR THE COMING YEAR

All I Want for Christmas...

From Mark Nankivil
St. Louis, Missouri
(314) 781-9175
nankmc@quixnet.net

Models

Multiplex Twinstar - A foamie twin engine (Speed 400s) model that is a real blast to fly. Just about the easiest way to go multi!

Multiplex USA
(800) 375-1312, (818) 785-2401
www.multiplexrc.com

DJ Aerotech Chrysalis 2 Meter - I always like to have a straightforward, simple sailplane on hand to take the field. The Chrysalis 2 Meter is a very good performer and the quality of the kits and models I've seen means I need one!

DJ Aerotech
(937) 773-6772
http://www.bright.net/~djwerks

Fieseler Storch Park Flyer - This one is from Dymond. This is a foam park flyer that looks neat and comes with the geared motor and a battery pack for a very reasonable price. Woody Blanchard told me it's a fine flyer so I need one for the winter months!

Dymond Modelsport USA
(920) 303-1100
www.rc-dymond.com

PriBeck 1/3rd scale Ka6e from Sailplanes Unlimited Ltd. - Yeah, I know, it probably won't actually fit under the tree, but you can always put it in a long stocking! I like the simplicity, shape and size of this model and want to get into aerotowing this coming year. I guess I would need to be very, very good to find this on Christmas morning!

Sailplanes Unlimited, Ltd.
(212) 879-1634
http://www.sailplanes.com

Miscellaneous

Airtronics RD6000 Radio - This is an impressive radio with sensible programming and a great price. Sure glad Airtronics has made their connectors compatible with the rest of the manufacturers.

Airtronics
(714) 978-1895

"Sailplanes by Schweizer" - This new book is written by fellow contributor Martin Simons along with Paul Schweizer and appears to be the best, most complete history on the Schweizer Aircraft Company yet published. A must read for scale fans!

Raul Blacksten
P.O. Box 307, Maywood, CA 90270
raulb@earthlink.net

or

Specialty Press
(612) 583-3239

And finally, a wish to all of you for the best of holidays and a tremendous new year - all the best to all of you in 2000! ■

Christmas Ideas

from Jerry Slates
RCSDigest@aol.com

Drafting Tools & Accessories

Does your model builder scratch build his/her models or build from plans? If so, they could probably use a set of drafting tools:

- Triangles (30, 60, and 45 degrees)
- T-square
- Protractor
- Compass

Accessories for the above items could include:

- Roll of drafting paper
- Pencils (2-H & 4-H)
- Good eraser and erasing shield

Most items can be found at any art supply store.

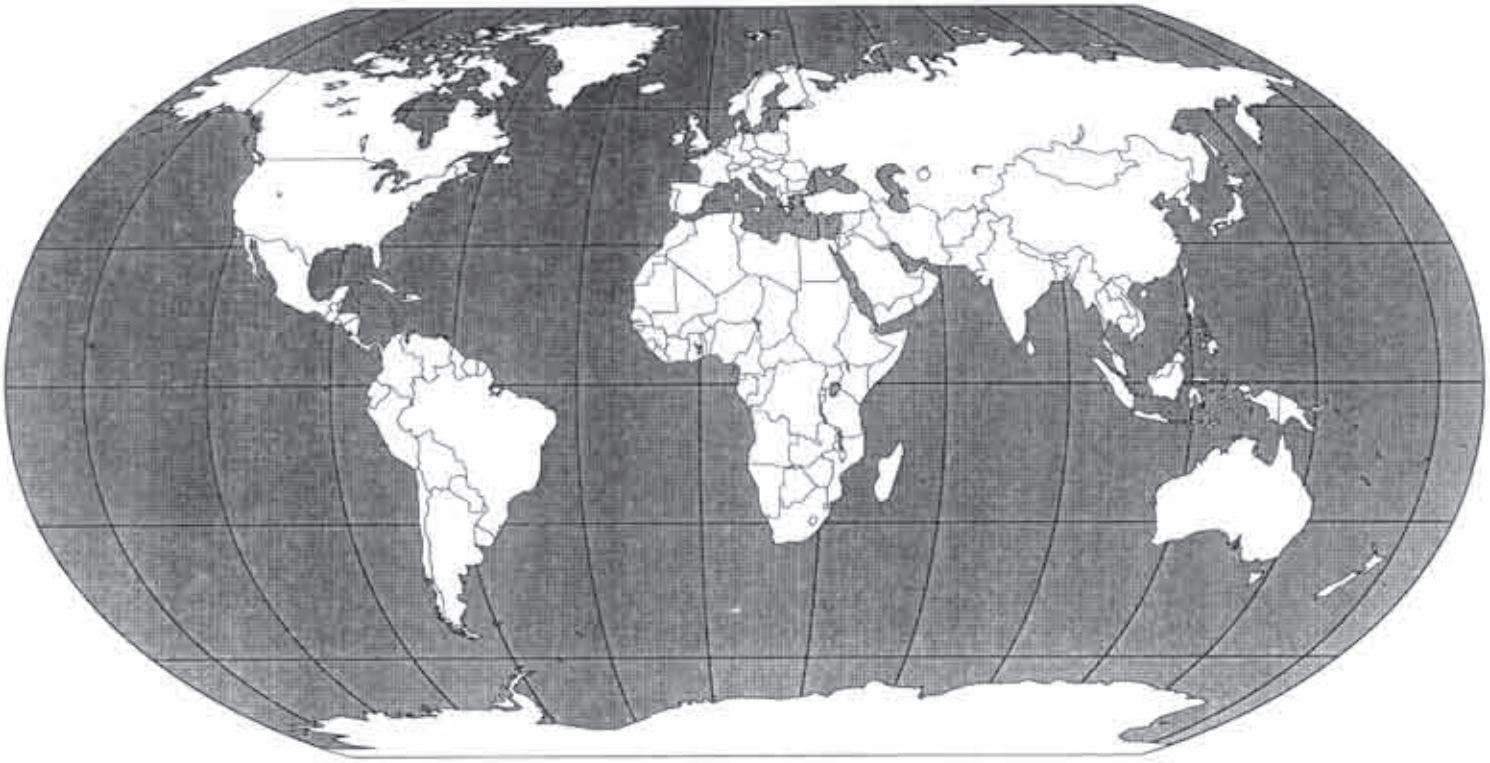
Attire

Is your builder a slope flier? If so, a good pair of ski goggles would likely be most appreciated, if they don't already have a pair. Check out a local sporting goods store or ski shop. If you live where it's really cold, a ski suit might be a good bet, as well.

For the Shop

How about a large waste basket with matching plastic bags to go with the waste basket? Or, how about a dust pan, brush, or a small shop vacuum? They're readily available at your local home builder supply house. ■

HAVE SAILPLANE, WILL TRAVEL!



By Tom H. Nagel
904 Neil Ave.
Columbus, OH 43215
tomnagel@iwaynet.net

This column is dedicated to soaring vacations.

I have been inflicting "Have Sailplane, Will Travel" on the readership for about a year and a half now, and there are actually a few signs that people are not only reading this column, but actually visiting some of the sites listed. This installment is about the reports that have been filtering back.

Travel Saga Reports

Chuck Anderson writes:

"I have been soaring at Bull Run. That's the Bull Run National Park at Manassas, Virginia, not a site where modelers get together to discuss modeling. My wife and I were scheduled to be visiting my daughter on the second weekend in August. I posted a notice on the R/C Soaring Exchange internet mailing list asking about any flying going on that weekend. There was no contest in the area, but the Capital Area Soaring Association was having a club contest that weekend and invited me to join them.

"We were planning to take the Toyota instead of the van, so the Sailaire was out. The only other sailplane I had that would fit in the Toyota was the Tern IV that I hadn't flow since last summer.

"The flying site was in a picnic area adjacent to the Bull Run National Battlefield at Manassas, Virginia. It wasn't a sod farm but was still a nice flying site in such a heavily populated area.

"There were about 25 flyers present to fly 4 rounds of duration, a nice club contest with some good flying. I flew two times but the model was too far out of trim, so I didn't fly the last two rounds. Next time I will take a model that will at least let me be competitive.

"It's always fun to see what others are doing so I always try to schedule trips around contests. The Radio Control Soaring Exchange (soaring@airage.com) is a good way to find out what's going on in other areas of the country, so why not give it a try on your next trip?"

(Chuck promises a longer HSWT article some time soon. Tom)

Ron Mong's Travels

Ron Mong, one of my flying buddies, bummed a photocopy of the Sleeping Bear article, and bundled his family off to Upper Lower Western Michigan this summer, instead of going to the beach.

And then I started getting e-mail messages from Jim and Cindy Cook, a retired couple traveling the US in their recreational vehicle.

Jim & Cindy Cook write:

"Muncie AMA flying field, Indiana - that's where we've been parked the last week. We're the RVing couple who enjoyed the heck out of Morningside Flightpark, thanks to your article. We tried to enjoy the site at Malvern, Ohio. It was pretty nice, but the air was a little strange. Might have had something to do with all the hurricane hubub.

"We came here to Muncie to fly Jim's electric Zagi (he loves his Zagi), but in moved the National Kite Convention for 5 days, which means no open flying.

"So what does one do - join them! Jim has discovered fighter kites - they are really neat and zippy to say the least. There are kiters here from all over the world; our RV is surrounded by kite buggy pilots.

"Anyway, the reason for this message was to ask if you've ever used Muncie's AMA site for a place to fly in your column in *RCSD*? It's absolutely wonderful, lots of thermals (really windy the last week). No slopes, but 1000 acres of relatively flat mowed field. As members, we are able to park our RV here for free. They even have showers! And they'll let me download my e-mail in the museum. Gee, what more could you ask for?

"Well, hope your weather's been great wherever you are. We will keep you posted if we find any other good flying sites. So far, this has been the best one in a while."

Happy flights,
Cindy & Jim Cook

And then shortly after that:

10/26/99 - Wilson Reservoir, Kansas

"Hi! Jim has been on the slope the last 3 hours & I can't get him off! He loves this place. We're parked right on the water, camping is free after 10/16. The winds have been from all directions. It must be fantastic here in the spring if it's this good now. This is some of the best flying Jim has ever seen. We met the mayor at the K18 restaurant in Lucas. He's still building that Zagi.

"If Wilson Reservoir is one of the top 10 slope soaring sites in the nation, where are the other 9? Would Morningside, NH or Malvern, OH be included?"

Thanks & happy flights,
Cindy Cook

and then....

11/7/99 - Deming, New Mexico

"Hi! Tomorrow we move to Benson, AZ, where we will be parked for a month or longer... We both enjoyed your article in the September *RCSD*. Once we get settled in Benson, we'll be looking for Capt. Dale Willoughby to find that slope site!"

Til next time,
Jim and Cindy Cook

The Cooks have made an itinerary out of old issues of RCSDigest! (OK, we did not yet do an article on Wilson Reservoir, Kansas, but I did mention Muncie in one of the columns.) The Cooks have so far hit Morningside Flight Park, Dean's Farm in Malvern, Ohio, and 'A' Mountain in Tucson, AZ. If their RV floats, they may yet make it to Maui.

Jim and Cindy are working on a HSWT article about flying in Muncie.

Coming Attractions

We also have articles in the works from:

- Randy Bullard about 'The Lump', a North Carolina slope off the Blueridge Parkway.
- Al Nephew and another bout of Hobo Sloping in the Badlands during Aunt Bea's funeral.
- The Third Annual Montague Cross Country Challenge from Scott Gradwell and W. Stewart Tittle.
- Bay Area Slope Safari by Scobie Puchtler.

And those are just the ones where we have seen the first draft and are waiting for the artwork or a few other details.

Traveling to Maui?

Just one more HSWT development to report; our faithful correspondent and island guide Duane Asami has set up a home page meant to be a point of contact for visitors to Maui so they can more easily get set up to go flying with the locals. The URL is http://homepages.msn.com/HobbyCt/SoarMauii/index.html/

Be sure to check Duane's web site if you are headed to Hawaii!

And remember, if you are traveling, check RCSDigest and the sailplane exchange; take your plane, and take notes. I expect to hear back from you! ■

(Left) Foamies fill the sky at Cape Cod, Massachusetts. Kyle Saltzman on the sticks with his DAW Foam Wulf 190. Jim Harrigan ready to launch his DAW Kawafoamie Ki-61. Lou Garwood and Joe Chovan sitting in the brush. Photo by Dave Garwood.

(Below) Chris Costigan and Lou Garwood with Chris' DAW Foam Wulf 190 and Hitec Focus II SS radio transmitter. Photo by Dave Garwood.

WISH LIST

Foamies

by Dave Garwood
Scotia, New York

Not all newcomers to soaring are happy with a floater trainer. The traditional recommendation: a Gentle Lady type plane, a two-meter stick-built slow-flying, easy-to-keep-up-with thermal glider is not radical enough for all of today's student pilots.

Just as many people who have learned to fly on the well-loved Gentle Lady, there are some out there who need a little more excitement to stay interested during the learning period. They need slope planes. They need aileron slope planes. The problem is new pilots crash a lot, and a good crash quickly puts an end to the day's fun.

The answer is bounceable slope planes. Bounceable warbirds even. Combat slope planes made of EPP "miracle" foam provide the durability and excitement that skater/surfer/snowboarder types need in their introductory sailplanes.

Several manufacturers make suitable kits of EPP-foam slope planes, and nearly any of the simplest four-channel radio sets will work for this program. Recommended here is a combination of cost-effective plane and radio that I have seen work, and work well for new Wildman student soaring pilots.

The Plane

The recommended sailplane is EPP-foam warbird from Dave's Aircraft Works (DAW). You can chose between the Foam-51 Mustang, the FoaMe-109, the Foam Wulf 190, or the Kawasaki Ki-61. These $60 kits build into a 48-inch span, good-looking, tough-as-nails, aileron slope plane that will provide the excitement that lots of young fellows crave, and will withstand dozens of crashes that are inevitable during the learning period. These planes were designed for full-contact combat, and so they have maneuverability and damage resistance needed by the modern extreme gravity sportsman.

Building the plane will take a week of evenings for a first-time builder, working carefully from the detailed instructions in the kit. If building assistance is available the project will go faster, but it can be done by a determined newbie alone.

In addition to the materials provided in the kit, the builder will need a hobby knife, epoxy glue, and "Goop" glue from the hardware store. Finishing the plane is done with Carl Goldberg Models Ultracote covering and a covering iron tool made for this purpose. The DAW combat foamie kits cost $60 and Ultracote costs about $12 per roll. One roll of covering will do the job, but more than one color may be desired in the finished warbird.

The Radio

The DAW warbirds and most slope planes fly fine with two control functions: aileron and elevator; and the DAW foamies require only two standard-size servos, the cheapest of all servos.

While a two channel radio is all that is needed, many beginner 2-channel transmitters split their two functions across two control sticks. This we want to avoid, because nearly all slope pilots fly with aileron and elevator together on the right control stick, and this is the way you will fly throughout your RC career. You might as well learn on the type of radio you will be using later.

The Hitec Focus II SS (two channel, single stick) radio set is an inexpensive introduction to slope plane control, costing about half a what a four-channel "beginner" radio costs, and will serve well for the service life of the first and likely second EPP slope plane. The HS-300 standard-size servos work just fine in this installation.

The Focus II SS comes without batteries, and I recommend getting rechargeable Nickel-Cadmium batteries instead of the suggested alkaline batteries. They cost nearly the same, and are optional in the transmitter, but necessary in the airplane because in an EPP plane the battery back cannot be easily removed to replace alkaline cells. The Focus II SS radio set with standard servos costs about $62 from J&C Hobbies, a reliable mail-order hobby shop in Pittsburgh PA. The optional wall charger costs another $15; the eight loose AA Nickel Cadmium rechargeable cells for the transmitter cost about $12 and the Hitec airplane battery pack costs about $12.

With a DAW foamie warbird and a Hitec

Kyle Saltzman with his DAW Foam Wulf 190 and Lou Garwood with his DAW Foam-51 ready to launch. Photo by Dave Garwood.

Focus II SS radio, you'll be prepared for slope training, for aerobatic flying, and for slope combat. Here is a list of the bits and pieces needed for this project and their approximate cost:

DAW foamie warbird kit	$60
Tube of Goop brand glue	6
60 yards of filament strapping tape	10
Epoxy glue	8
Roll of Ultracote brand covering	12
Hitec Focus II SS radio set	62
(8) loose NiCad cells for transmitter	12
Hitec battery pack for inside the plane	12
Hitec wall charger	15

Total for kit, radio, supplies and materials: $197.

The specialized tools you'll need that may not be found around the house are:

Hobby knife and blades	$5
Covering iron	20
80 grit sandpaper	2

Suppliers

Dave's Aircraft Works (kit maker)
3445 Camino El Molino
Capistrano Beach, CA 92624
949 248-2773
E-mail: daw1@access1.net.
Web site: www.davesaircraftworks.com

J&C Hobbies (radio supplier)
100 A Street
Pittsburgh, PA 15235
Order line: 800 309-8314
Info line: 412 795-9344
FAX line: 412 798-9857
Web site: www.jchobbies.com

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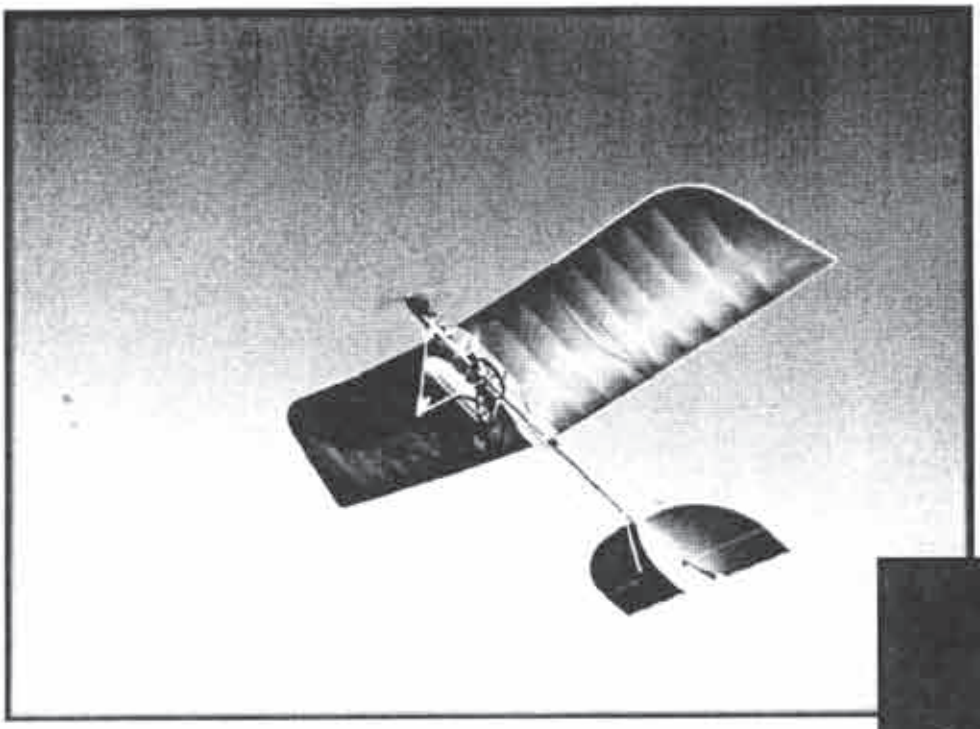
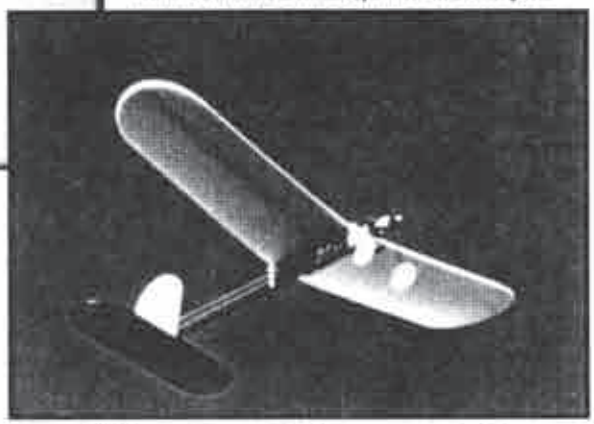


(Left) Blariot, a very slow flyer, is an excellent model. While it requires a lot of building, it flies very well, indeed!

A real labor of love! Bernie Coleman is holding the Air Hog, an ingenious little air-powered model, which is sure to please the little folks!



The Dragonfly goes together very easily, flies very slowly and, at the same time, is responsive.

Christmas Is Coming

I thought I'd give you a few ideas for Christmas – some which cost nothing and some which are more expensive - whatever might suit your taste or budget. Some of these things are difficult to build, while others are ARF flying "things" for beginners. Some require lots of materials and building skills; others require just a simple piece of paper; and, some of these things will interest little folks who are not yet into R/C, but might find it fun to go out and "fly" something. After all, who is not attracted to the magic flight?

Computers

Some of what follows is computer oriented. Many of you own a computer and are on the Internet. If you don't, the chances are you know at least one person nearby who does have a computer and is on the net! A computer is certainly a handy dandy tool for R/C!

Beginnings

Interest in R/C gliders starts with curiosity about flying things. Here are some, which are sure to spark an interest.

Curiosity

The other day my seven-year-old came home from school talking about paper airplanes. It seems a friend of his sailed a folded bit of paper across the classroom with a note on it. We got into a discussion about flying things and I made him a few paper gliders I knew how to fold and make fly.

I haven't thought about paper airplanes in years, so I decided to see what I could find on the Internet. I made a search on the Internet for:
"paper + airplanes". I came up with a whole host of things from the world record flight to some very interesting "kits" you can download, print, cutout and glue.

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

There's a whole host of web sites about paper airplanes.

Some Very Inexpensive Gifts - They cost nothing!

You might like to visit:
www.paperparadise.com/freelinks.htm - under "planes" you will find the "Oak Flyer" paper airplane, the "Willow Flyer", the "Hickory Flyer", and others. Click on one of these and go to "build now", and click on "play". What you will discover is a step-by-step set of instructions with an animated picture of a folding piece of paper. This shows you exactly how to fold to produce the finished paper airplane. These are great projects for you to share with younger folks on rainy days! The cost: one sheet of paper!

More of the Same

On this same site you can also print out paper "kits" of airplanes, some of which are purported to fly up to 100 yards! Want to try one of these? For example, they have a Dessault-Breguet Mirage IIIE. You can print out all six sheets required to build this airplane and then follow the animated instructions on how to glue it together. All you need are six sheets of paper and some glue!

The animated building instructions you will see on your computer are quite amazing. You can go backwards and forwards, and see how each piece of paper fits to make the airplane. This was a fascinating and very inexpensive experience!

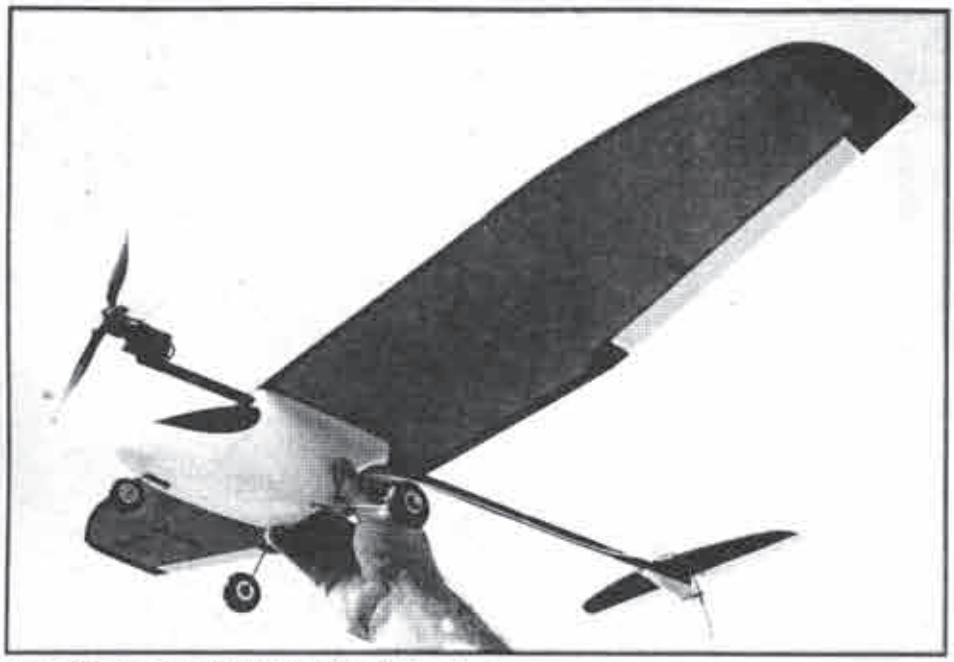
If you wish to give youngsters a relatively inexpensive and fun bunch of projects, you might visit www.paperparadise.com where you can find many of these projects on CD for Mac or Windows.

They also have lots of other stuff to be seen and enjoyed – everything from animals to origami to ships and vehicles - something for every taste!

Want to send a friend with a computer a free Christmas present? Simply send the address of this site!

The Children's Museum of Indianapolis, (www.children'smuseum.org/flyact.htm) brings you a few new neat paper airplanes that you can print out and make yourself. If you wish to explore their site further, they also have flight experiments, and origami.

Another nifty site to visit is



The Elfi is one of the fastest building of the park flyers. It's a blast to fly, does NOT need ailerons, and will handle up to a 10 mph wind!

The free flight, Skybot, can be put together in just a few minutes. Its little motor can be charged with an external battery pack It's best flown in a large, open area, because it flies a long way. Excellent for beginners.

If you want a more scale-like, little park flyer, then Nora is for you. It goes together very fast and flies extremely well.

<www.pchelp.net/planes.htm>.

These people say: "Educate and protect with net nanny!" In this case, "Nanny" is the mind, perhaps the best "protector" of all. If you think right, the chances are, you'll do right! This site will give you twelve other interesting paper airplanes to make.

The Phoenix Sky Harbor International Airport has some paper airplanes for you to make as well. Four of these can be printed out and the diagrams are very clear. As they state, "At the Phoenix Sky Harbor Airport, the planes weigh in at about 700,000 each! But you can make your own planes at home that are as light as a feather! Just grab some normal typing paper, tape and a few paper clips, and click on the planes below for easy instructions with pictures." This just about says it all: four more paper projects!

With just a little time and a little searching on the net you can assemble your own portfolio of paper airplane projects to give or to use and share!

Books

There are a number of books on the subject as well: "The Paper Airplane Book" by Ken Blackburn, "The Best Ever Paper Airplanes" (can be bought through 800-848-1186) and "The Kids Paper Airplane Book" by Ken Blackburn. No doubt there are others you will find on the shelves of bookstores this season!

Go For a World Record!

For you competitive types, go for a world record! In 1994, Ken Blackburn, co-author of the best selling World Record Paper Airplane Book, set the Guiness world record for time aloft with a paper airplane: 18.80 seconds. Why don't you give yourself the task of beating that record? Now there's a project for you!

Rubber Power

There are a whole slew of inexpensive rubber powered models to be had. Everything from the familiar stick with wings (which got me into this hobby in the first place) through fairly sophisticated foam ready-built and ARF models. Some of these fly extraordinarily well, and if you know how to trim them to fly in a circle, these can be flown (on a calm day) in the middle of a basketball court-sized space with skyscrapers all around! These little rubber powered models cost anywhere from a $1.50 on up to $30 for the more sophisticated and scale look-alikes. These are readily available in hobby and museum shops and make wonderful gifts.

A few that I have flown are: "The Flying Machine" by Gillow's, "The Fire Fox" (a very nice scale looking Cessna type airplane of foam with a 19.5 inch wingspa), the "Skyboy" and others. Just take a look in your local hobby shop and you're bound to find something along these lines.

Air Power

One of the most ingenious aircraft that I've ever seen is a thing called the "Air hog". You can find this in toy stores, museum shops, and hobby shops. It sells for under $30 and, if you plan to fly it, you'd better go to a large wide-open space for its first flight. This incredible airplane takes about fifteen minutes or less to put together and has an air powered motor! It comes with a little pump, resembling a miniature bicycle pump, which pumps up air into power unit. With enough air pressure, all you need to do is flip the prop (the right way around), give it a gentle toss, and off it will go. This thing will fly for a couple of hundred yards (in a circle)! It's one of the best and most ingenious flying things I've ever seen!

Whoever invented the air pump motor drive really came up with something unique, and it works excellently well. Kids are fascinated with this motor.

The Air Hog comes with a couple of sets of wings just in case you have a hard landing, so with a relatively small investment, you might be flying with a little friend for a long time to come!

Learning How to Launch

The Air Hog is quite robust and will withstand many bad landings. It's great for learning how to properly launch a model airplane. Our young pilots quickly learn how to get the thing flying. Good hand launches are prerequisite for flying gliders!

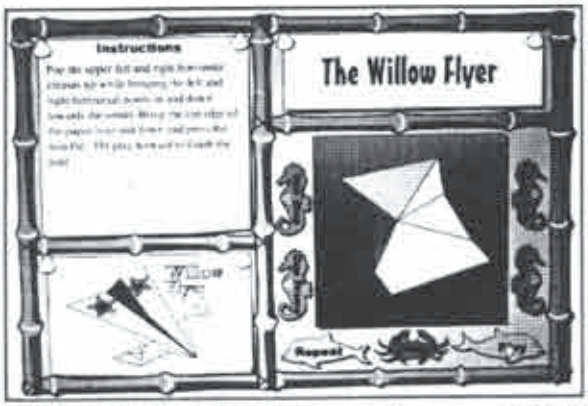
Gliders

There are a million, fun, small, free flight gliders sold in hobby shops and toy stores. They come in every possible shape and size and mostly are extremely easy to build. These give our young aircraft designers a chance to put something together quickly. Young attention span tend to be quite short, so we want to see almost instantaneous end results! For $15 or less, you should be able to get a very nice hand launch glider which will fly extremely well.

Ready to Fly Electrics

Cox makes an electric ARF flying thing called a "Skybot", which can be charged with AA batteries. This airplane takes a minute or two to charge and flies a long way. It's easy to put together, has a pusher propeller (which doesn't get broken easily), and will last a long time! It can take quite a beating!

There's a whole host of these types being offered this year, some with radio for as little as $33 with radio! How about the



(Left) A whole slew of very interesting paper airplanes are to be seen on the internet. This photo is of a wonderful, animated site at <www.paperparadise.com/freelinks.htm>. You can even see how the piece of paper should be folded, in order to make the flying paper glider!

(Right) There's nothing like a flight simulator to learn on. Real Flight from Great Planes is one of the best.

Zooper Flex Wing Flyer (twin electric motors) or the XB-29 ducted fan?

You might like to try something zoomier: like the Great Planes Sonic Blast Free Flight Ducted Fan Jet ($33)? (On your first flight you might need some wide-open space!) There are many others to choose from.

The Electric Connection

Up until this year, all of my flying experience has involved quite an investment in time. I can hardly go out and fly in less than three to four hours and mostly it's an entire day's excursion. First, I need to load the airplanes into the van; then, I have to drive to the field, rig the towplanes and gliders and, only then, we fly.

There are some nearby slopes, but I still have to drive for half an hour, rig the gliders and climb the hill. IF the wind is OK, only then can I fly.

When I'm done flying, the airplanes have to be de-rigged, packed up and then there's the drive home. All this is rather time consuming, with the result that I used to go flying rather less than I would like to.

Quite often I look out the window and find a beautiful, sunny, calm day, but I just can't spare the time to get three or four or more hours together, so I can't fly. That was before I was introduced to Slow Flyers and Park Flyers! The first one I ever saw was the Diversity Aircraft "Dragonfly", which sells for around $70. This rather Rube Goldberg-looking airplane comes with a motor and propeller. It takes a bit of time to build, but when it's finished it is an extremely slow flying and gentle bird. It's great in a light wind and requires very little space to fly in.

Of course, you need more than a motor – you need a BEC system, which plugs into a motor, batteries, a charger and, of course, a receiver, servos and a radio. All of these add up to a fairly expensive proposition. For just a couple of these little airplanes, you can buy the four meter scale sailplane! So why bother with all of this expense? The answer is, you can fly these almost anywhere!

Lunchtime Flying!

These little electric Slow Flyers and Park Flyers open up a whole new universe for the R/C community. If you have a sixty minute lunch hour, and if the weather is right, you can fly one of these in a parking lot. Your investment in time is practically nil, because almost everyone has some sort of limited open space accessible within just a few minutes drive from home or work. I've seen these birds flown in motels, shopping center parking lots, in back yards, at night time in lit parking lots – everywhere. You get the idea! And best of all these are small, quiet, slow flying and very unobtrusive, so folks don't mind where you fly them!

Just to name a few other very interesting and excellent slow flyers I have seen or have flown myself, there's the little Blariot, Nora, Wingo, Elfi and the Party. These ARF park/slow flyers range in price from $80 - 100. All of them are excellent flyers, and virtually ARF aircraft, requiring an evening or less building time to get them ready to fly. All of these airplanes fly pretty much as advertised, and enable you to go out there and get flying within a few minutes, wherever you happen to be at the time! I've taken to keeping my park flyer in the car and, if the wind is right, I go out and get twenty minutes of flying and am back with but a few minutes commute.

Slow Flyers are Great for Beginners

The slow fliers also have a terrific advantage should you wish to teach somebody how to fly. They are easy to fly, docile and attractive. You can get to a flying site without having to spend half a day doing so. This is a tremendous advantage. I can drive to a nearby schoolyard (where I have permission to fly), have a couple of flights and come home all in half an hour including the commute! In the middle of New York City, I would have no qualms flying them in the basketball court across the street. The R/C Slow Flyers are much easier to fly in a confined space than a free flight model. They certainly do open up whole new horizons!

Other Slow/Park Flyers

The "Party" has to be just about the slowest-flying and one of the fastest building of the lot. It's a beginner's model and very gentle and stable. A beginner can put it together in an evening. It's certainly one of the very best slow flyers for someone getting started. The cockpit is very accessible, so it's very easy to change batteries. It lands well both on grass and harder surfaces.

The Icarus "Blariot", like its sister ship, the "Damoiselle", is full of character and looks just like something from 1915. I watched it fly one evening in a lit parking lot. It flew around a lamppost like a large slow-flying moth. It landed and took off with ease. This model requires a bit of building, but if nostalgia is your thing, it's well worth the effort. These models sell for around $80 (not included is the price of the radio, motor controller, battery, prop and drive system, and charger).

The Dragon Fly has a very large foam wing. It's built of foam, balsa and plywood. The parts are laser-cut and go together very well, but for a first time model this one might be a bit too finicky for some. The end result, however, is a lovely and easy to fly slow flyer, which will give many hours of excellent service!

The "Nora" has a 42-inch wingspan, and 233 square inches of wing area. It weighs in at a mere 13 ounces, which gives it an 8.2 ounce per square foot wing loading. With its flat bottom wing and a 280 reduction drive, the "Nora" takes off and lands very well on a hard surface. It's a rather nifty looking, modern looking Piper Cub-like bird, and it comes in red, yellow, blue or white. The fuselage is glass, and the tail, rudder and stab are all built up and covered. The Nora goes together extremely quickly and, in an evening, you can have it flight-worthy. It's quite snappy and responsive, and although it's much more agreeable to fly in no wind, it will handle wind up to perhaps ten miles an hour. The "Nora" sells for around $110 and comes with a prop, motor and gear drive. With a 600 MAH NiMhd pack you can fly up to twenty minutes!

The "Elfi" with its 39-inch wingspan and 260 square inches of area, weighs in at thirteen ounces, giving it 7.8 ounces per square foot. It flies with an E205 section, and with rudder only is snappy, to say the least. My first experience with the "Elfi" was watching Pete George fly in between trees and lamp posts outside an Elmira

motel. The Elfi is extremely agile, responsive and, in my personal opinion, does NOT require ailerons. Ailerons will only make it heavier and give you one more control, which you don't need! The rudder response on the "Elfi" is more than adequate! This is an extremely nice Park Flyer and will handle winds up to ten miles an hour. It flies a bit faster than the above–mentioned models.

Want a twin-engined bird? Then the "Twin Star" is for you! This electric plane, styled like a small business-twin, is powered by two Speed 400 motors. It's of foam ARF construction. It flies extremely well! It requires larger spaces than the slow flyers, and sells for around $80. I came upon it this year in Germany when a friend took me to his local club field near Frankfurt. Only one person was there. He was flying the "Twin Star" and chatted with us the whole time. He barely looked up. The "Twin Star" pretty much went where he flew it – it flew itself and was very stable and easy to land. This model requires a bit more space to land than the above-mentioned models.

There are many, many more very attractive slow/park flyers priced from $70 on up to $160, although I haven't seen or flown them all. You can pretty well tell how they might fly by looking at them.

You Might Like to Try One Yourself!

These Park/Slow flyers have opened up a whole new universe for me and many other folks. For those of you who have not yet tried them out, I couldn't recommend them highly enough! They'll give you many hours of flying fun with a very minimal investment in time.

This summer I flew my slow flyer every (calm) evening just before or just after dinner. I'd simply walk out the door and fly the thing. Best of all, these small, quiet electric airplanes are so unobtrusive you should never get a complaint wherever you might choose to fly them.

Where to find them

Hobby Club
telephone: 949-240-4626
www.hobbyclub.com

Hobby Lobby
5614 Franklin Pike Circle
Brentwood, TN 37027
Phone: 615-373-1444
www.hobby-lobby.com
(Be forewarned: If you try to order slow/park flyer stuff from Hobby Lobby, don't be surprised if much of your order is "out of stock". Over the past 6 months, I haven't placed a single order where something wasn't "out of stock", whether batteries, props, gear drives, or 280 motors. So, if you place an order, do so early.)

North East Sailplanes
140 Kirby Lane
Williston, Vermont 05495
telephone: 802-658-9482
www.nesail.com

Tower Hobbies
www.towerhobbies.com

Getting All Juiced Up!

Batteries now come in a whole variety of flavors. There are the normal Nicads with "a normal" amount of flight time. Then there are the NiMhd batteries that are lighter and yet give almost twice the flight time. Then there's the Tadiran-lithium batteries, which give twice the voltage per cell at half the weight. These are available now at 803-644-4005 (speak with Emory Donaldson). These impressive batteries can not be quick charged, however they will fly your slow flyer with a 280 motor for a very long time (perhaps over thirty minutes)! Those who have tried them find that two batteries will give you a nice day's flying!

Electric Airtowing?

It's only a matter of time before batteries are powerful enough and light enough to put into tow planes (Senior Telemasters, etc.); imagine towing 1:4 sized sailplanes with silent power! Wouldn't it be nice to have silent airtowing? We're not all that far away!

When It Gets Too Cold To Be Outside: Flight Simulators

When it gets too cold to be outside, or it's too windy and the weather is nasty and rainy and you just don't want to go flying, there's another way to do it! Flight Simulators! As I mentioned before, a year or so ago, I've particularly enjoyed Flight Unlimited (the first version with aerobatic airplanes and a Grob 103). This works on Mac or PC if you can find it. Later version of Flight Unlimited are available, but these

A Letter on the Subject of 'Noise'

Robin,

"I enjoyed reading your well-written article about towplanes in the September issue of *R/C Soaring Digest*.

"In a future article would you please discuss another important aspect of towplanes... noise!

"One of the biggest reasons I choose to fly model sailplanes and electrics is because they are quiet. I attended a scale towing fly-in at Apple Valley a couple of years ago. The planes were beautiful, the flying skilled and the racket awful. Get enough tow planes going like that and we will start losing flying sites like the wet power fliers are.

"Isn't there something that can be done to hold down the noise level? Multi-blade props or muffled tuned exhaust systems? What do the Europeans do about this? I have heard that they are very noise conscious.

"Otherwise, thanks for writing an entertaining and educational column each month,

Jim Cook

And, Response

Jim,

"You're absolutely correct. Most powerful motors are very loud and no one in the USA or Canada makes quiet mufflers for these beasts. At Elmira this year, I flew the 1:3 Wilga and the 1:3.5 Pawnee with Very quiet motors - they had German mufflers on them. In Germany the model airplanes MUST be quiet or they can't fly them.

"Here, most folks don't seem to care! Not a word was written about these very quiet and powerful tugs!

"You have to get a very large muffler to quiet these motors. The Germans make and sell these mufflers; here, I guess you can get something similar through the 3w dealers, or ZDZ or perhaps Desert Aircraft.

"By the way, an OS 300 twin 4-stroke with its minimal little muffler is an extremely quiet motor and, in a proper tug, will pull up to 1:3 sized gliders. Many of these motors are for sale in the IMAA web under personal classifieds. The large Lanier Stinger with the OS 300 twin is an excellent tow combination.

"So if noise is your problem, the only question is what sized gliders would you like to tow?

"Perhaps I should try to do an in-depth article on the subject?

"If you have any specific questions, which I might be able to answer, please ask away!

Good flying!
Robin

are more suitable for those who want to find the real thing.

If flying from inside the cockpit is your thing, there are many, many flight sims available. Visit your local computer shop or go on line and browse!

Since then I've taught a couple of people how to fly with the Great Planes Real Flight R/C Simulator. For the experienced hand, there are numerous motor planes to choose from. Unfortunately, the one glider in this program is somewhat unsatisfactory to fly. Making up for this, is the whole slew of excellent powered aircraft at your disposal. You can also alter the size of the airplanes making them more docile, or if you prefer, you can fly smaller ones, which are more responsive and fast flying. The Real Flight add-ons #1 and #2 give you a multitude of other airplanes and backgrounds to choose from.

If you would like to try your hand at power, or just exercise your left hand, this is a wonderful R/C flight simulator. It comes with a "radio control" type "transmitter" and even has a way of plugging into the trainer chord socket of your actual transmitter.

Great Planes also produces a less expensive flight simulator called R/C Pilot, and although this does not give you as much variety, it does give you a number of excellent stunt planes and scale models; this program would be superb for a beginner. You can find it in mail order PC shops.

Easy to Install

Perhaps the nicest feature of all is that these programs are extremely easy to install and calibrate. Unfortunately, both of these programs are for PC's and so those of you with Mac's will just have to go out and fly the real thing!

Great for Teaching

As I said before, I've taught several people how to fly using the flight simulators. It's a great way to learn which sticks in the radio control which functions of the airplane. Most importantly one can learn how to control an airplane when it's coming straight at you and inevitable mistakes and crashes are no problem – push a button and you're back flying.

For those of you who are used to flying sailplanes with an inert left hand, flying with throttle would be a new and refreshing experience. I know that quite a few of you are beginning to get tow planes, and the flight simulator would give you the ability to fly a powered aircraft before you actually get your hands on the real thing. Besides, some of you will become tow pilots. This is an excellent way to get going!

A Computer for Christmas?

Whether surfing the World Wide Web for paper airplanes (or any other kind of airplane for that matter), or using a flight simulator, the computer has become an indispensable tool. Some of you who have a hankering for a computer this year might be well advised to wait until January, February or March, when the Christmas prices go down and the spring computer enticements go into effect. If you plan to give yourself a computer for Christmas – wait a month or two and it will be well worth your while!

Take a Look at What's Out There!

If you don't have a computer and don't have access to the wonderful World Wide Web, I'm sure that a nearby friend does have a computer. DO have a firsthand look at all of the above-mentioned stuff as well as many, many other R/C related items. You will find non-scale sailplanes, electric sailplanes, scale sailplanes, free flight, hand launch – just about anything your heart desires. Best of all you can visit web sites all over America, Germany, Czech Republic, Japan and anywhere else in the world. It will give you a great sense of perspective and the power of appreciation of what's good and not so good here in the USA.

Scale Stuff Too

All said and done, if you do want a scale sailplane, there are more than ever to choose from. They come in all price ranges, from two meters on up to half sized. Some are builder's delights while others are all glass ARFs. If scratch building's your thing, many excellent plans are available. There's something out there for every taste and skill level! There's certain to be a perfect Christmas gift to be had!

I hope you all have a wonderful Christmas season and may 2000 bring you nothing but excellent, soft and happy landings!

■

THINGS TO SAY TO A BEGINNER TO PREVENT THEM FROM QUITTING

By David M. Sanders
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I've taught a lot of people to fly... Maybe not as many as some, but quite a few. I've actually taught three guys to fly over the phone! In this experience, I learned a few things to say that help them get past the 'Goddamit, I've had it!!' phase of their learning curve. Here's a few of the golden axioms that keep 'em going! This is a short list, and there's undoubtedly more, but these are the ones that fliers I've taught always remember and muse about later on.

"If you glue all the parts together in the shape of an airplane and balance it right, it'll fly."

This one is great. As an instructor, you're frequently called upon not only to teach this person to fly, but to build. We all know that the plane you build will more than likely outlast the ARF model, exactly because of the first-time builder mistakes like using too much glue, etc.

Granted, this greenhorn's plane is going to weigh a ton and be ugly as hell (with some exceptions), but we all know that if it's relatively straight, balanced correctly and the control surfaces work reasonably well, the thing will be flyable. Ease his anxiety with the above quote... If he can relax and get over his stress of creating a pristine flying machine, he'll be able to move ahead instead of getting mired in minutia.

"Just make it so when you let go of the sticks, the surfaces return to their neutral position."

Another trouble spot.. Control surface hook-ups. No matter what Rube Goldberg method this budding falcon has devised, and no matter how hokey you may judge it from your high and mighty perch of Pro Toy Airplane Pilot, just be certain that the controls neutralize well, and are at least strong enough to handle flight loads. If you see a job that needs re-done, don't just slap the student upside the head and send him to re-do it; explain the basic physics of the system and then send him to the building board.

"Start small, and work your way up."

Emphasize the value of the test glide, and make it part of the student's training! You can sneak in a full lesson on elevator control just with test glides really intended to check the trim and balance of the plane. Encourage the student to use small amounts of elevator on his test glides to try and achieve smooth, long-skid landings. Instruct him or her to notice if a good landing required elevator input and to try and notice how much. Save turns for later... I had my kids do a full hour's session just doing 20 foot high launches, then flying straight ahead to smooth landings. Pretty

soon, they were greasing 'em in sweet. This saved their young little butts many times further down the line, as they knew what a smooth landing felt like already, and could perform it reliably at a second's notice. They also learned the stall speed of their plane, which helped a lot.

"You can glide and land. Now launch a little higher and try some 90 degree turns, then land."

Another good one. This most students can digest, and it gives them a feeling of accomplishment with low risk to the plane. They're still going to feel pretty comfortable with the plane flying across their field of vision and won't approach the 'Oh my God.. It's backwards coming toward me!' zone. Advise a full session of this. Here, they'll begin to get the feel of the dynamics of a turn, and won't be so shocked the first time they try to turn 180 degrees.

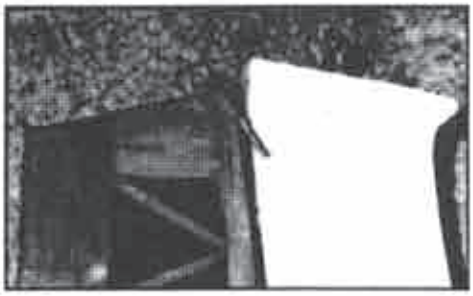
"Get ready to get confused.. You're going to fly toward yourself. If you get panicky, orient your body to the plane, and shoot one of those pretty landings you're so good at now."

Flying toward one's self is the hardest thing to learn, agreed? Tell your student it's going to be challenging, and he or she will psych up for it. Assure them it can be done... You can do it yourself, and you're no rocket scientist (well, most of us aren't). I've found the best way to get someone on the ball is to have them orient themselves to the plane, i.e. look over the shoulder at it as it comes toward themselves. This makes all the controls feel natural again and will usually avert a serious crash.

"Let the plane fly."

The other big thing we see beginners do is constantly stall. It's natural.. The plane's headed for the ground, and your first reaction is to yank back on the stick! Try to help them break their habit of trying to fly too slow. Assure them that if they got it gliding well on those initial test glides, then by all rights the thing oughta fly itself, right? Prove it to them.. Gain some altitude and let go of the stick.. It'll fly. My other favorite quote in this vein is, ***"The plane wants to fly.. We screw it up by trying to control it."*** Once they come to this realization, you'll see much less of the herky-jerkies.

Finally, keep the mirth. Sympathize with the crashes and help them laugh it off. Explain some of your own dumb-thumb mistakes. Tell 'em how you buried a $1500 composite TD plane because you were an idiot. Beginners love that stuff... Makes 'em feel like they're confronting the same hurdles every other flier has. They'll thank you for it later, sometimes not even in words. It's a great feeling to go out and see a guy tearing up the sky that didn't know an aileron from a servo six months prior, and see the big smile on their face the first time they do a roll or a loop. It works.. Trust me. ■



Ellipsoid has very graceful elliptical lines, Transparent covering. Note the elevator wire connection.

Back to Hobby Club, What the heck is an Ellipsoid?

by Gordy Stahl
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For a change I was home, when the phone rang; an excited Alberto of Hobby Club was gushing about a new electric, ARF sailplane.

"It's beautiful - glass fuselage, T-tail, open-bayed balsa elliptical wings. It even has pull-wires for getting the servo wires routed through the wings to the servo bays! How about doing a review?"

And that's how this trip started...

The kit arrived about a week later, and at first sight, he was right. And at second sight... He was still right. I pulled the wings from the packing and marveled at the care taken in applying covering. Every seam perfect, the balsa construction appeared flawless. How do they do that?! I've covered hundreds of airplanes in my time in the hobby and *never* got one *that* perfect.

The plane gets its name from the shape of the wings. They are tapered and the dihedral is elliptical, as is the shape of the tips. I can't figure out how the wings are constructed with the elliptical 'hedral. But the end result is a very attractive and distinctive looking plane.

The fuselage is gloss white gelcoat and has the wing rod and alignment holes, and even the pushrod cable exits, molded in place. The holes aren't drilled through, but I found that they were in perfect alignment once they were drilled out.

The instruction manual consists of two booklets. Since the model originates overseas, both are a translation. One has fairly detailed drawings and, as I progressed through the assembly process, I managed to figure out what was what. To assist others in speeding up assembly, I wrote an assembly tips addendum.

The wing panels are joined with a bent, super-hard steel rod about 3/8" diameter. For alignment, a 1/8" rear alignment pin is used. The wings have ailerons already hinged in place; just need to glue in the supplied horns. The servo bays consist of boxes in the wing panels. They have pull-wires installed so that routing servo extensions to the wing roots is no problem. I chose Volz Zip servos since they fit great, and have plenty of power and excellent centering.

This plane ends up very aerodynamically clean and, with motor and batteries, the weight can supply the plane with plenty of inertia and momentum, so I urge everyone to make use of the ailerons as spoilerons to slow it for landings. By using a long enough servo arm, you can get both ailerons up to kill lift and increase drag. Use the 'Flaperon/Spoileron' function to utilize this function. If you can get them to come up beyond 40 degrees, great; you'll find the plane sticks its nose up in the air and it slows down dramatically for smooth, safe and short spot landings. Without, expect long glides, since the 7037 airfoil really likes the wing loading. Some down elevator compensation is necessary to stop it from ballooning with deployment of the spoilerons. You don't need to have a computer radio to have a ball flying this plane, but it really sweetens up the enjoyment to have elevator to flap compensation, and spoilerons and rudder to aileron mix.

The fuselage components such as battery, RX and speed controller are stored under a 'snap-on' canopy that comes fitted and painted. The kit comes with two CNC cut ply firewalls to fit various motor mount screw patterns, and the instruction drawing provides an excellent guide for gluing it in place with the proper side and down thrust. No measuring or special tools are needed to get it right. A little epoxy and its in place. While the instructions talk about 10 cell packs and motors, I can tell you that this plane doesn't need it. I used an old Astro 15 on 8 1700mah SCR's with a 9X5 folding prop, and the ship literally roared out of my hand, with just a slight push. It climbed up to soaring altitude a bunch of times even in strong winds! I think that 8 1000mah cells would be a great choice because it doesn't need a lot of motor on time and the thousands are lighter.

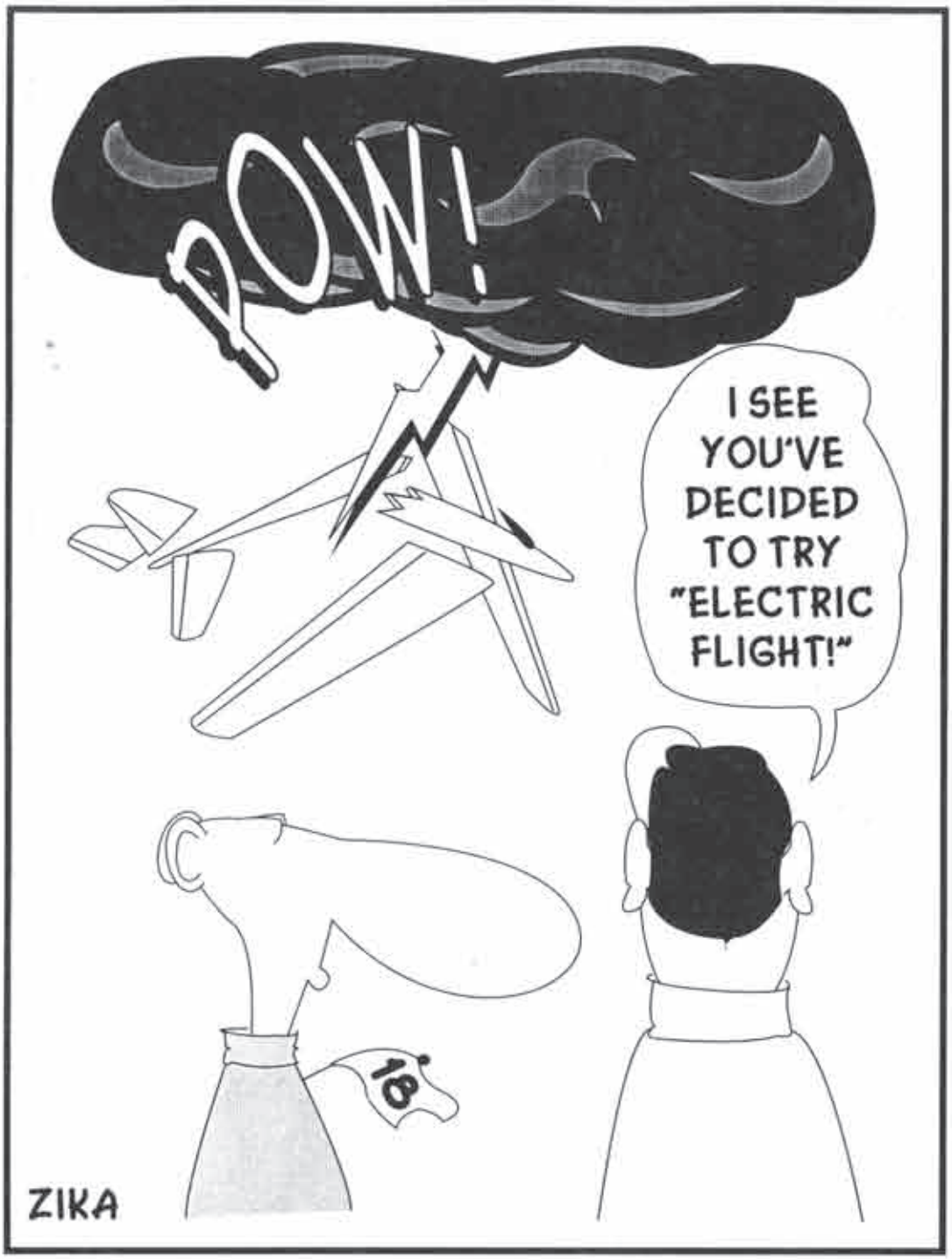
The battery pack sits on a tilted tray assembled from pre-cut ply parts with interlocking tabs. No need to anchor the pack as it stays in place, even through rolls and loops and inverted flight. Yes it will do nice crisp rolls, but it is not a 'hotliner' aerobat! This is a lazy day soaring machine that climbs in light thermals or cruises the clouds. The transparent covering is tough and very uniform in color; once in the sky, the sunshine in the bays and wings literally glows.

The T- tail is bolted on with one screw and really adds some elegance to the looks. The pushrod link up is very simple and unique. A thin piece of steel wire is crimped into the pushrod and has a 90 degree bend in it about 1/2" long. This bent end slips into a piece of pushrod tubing that has been glued to the elevator. When you mount the elevator to its mount, you slip the wire into the tubing and the connection is made.

The Ellipsoid has a rudder too, and it is very effective; so, if you are in the mood for Hammerhead turns or even some snap rolls, this 100" bird will do 'em. I used two more Volz Zips in the fuselage for the rudder and elevator control. I used a speed control with BEC, but there is plenty of room in the fuselage for a receiver battery pack.

I flew the Ellipsoid in some pretty violent, gusty winds for its first flights, since I was going to be gone from home for long periods and frankly was dying to see it fly. It had no problem penetrating or dealing with the turbulence. Possibly that elliptical 'hedral is the reason that it's so stable, but for a fairly big spanned airplane, it handled the furies pretty well. I also flew it in calm evening air and found it in no rush to come down.

All in all, the Ellipsoid is a very nice



Both panels have to match, and the trailing edges of the very tips need to be higher by about 1/4" than the leading edges. That means washout - wash-in will make a plane very wobbly in the sky and quick to snap roll (mistakenly referred to as tip stall).

The fix is a heat gun. Block the root rib down with a pillow and some heavy weights. Then block the TE with a shim to match the other wing, so that you have washout. No big deal and it is not something specific to the Ellipsoid but rather to balsa wings with heat shrink covering. Humidity and heat allow the panels to relax to the pressure of the packing on them. Simple checks, simple fix.

The selling price, around $250, reflects its quality and level of completion. Trust me - you couldn't scratch build one for that. Go to www.HobbyClub.com to find out more, or see their advertisement for the phone number.

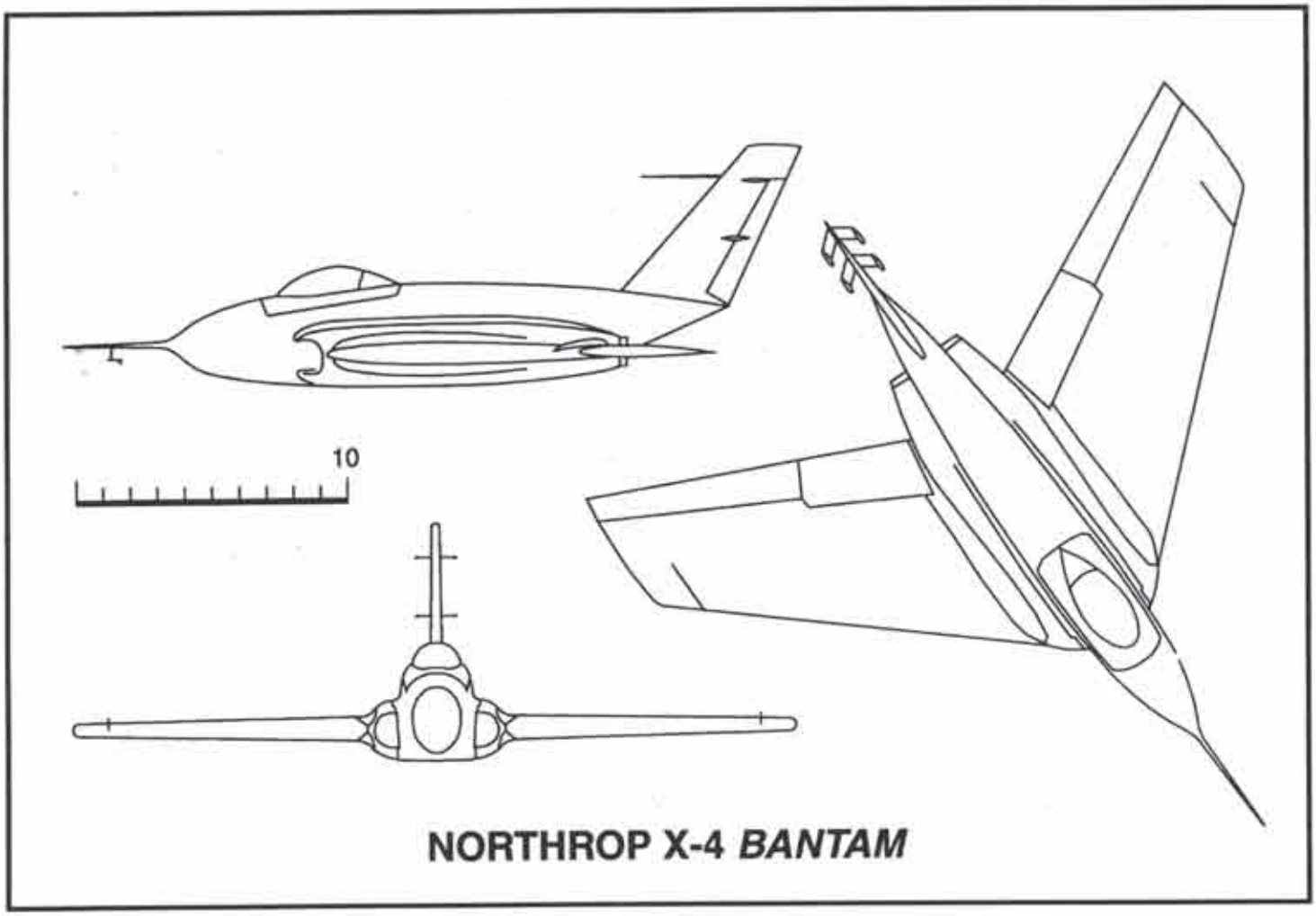
This trip was a short but fun detour. Next on the itinerary is a day in the life of a Visalia Fall Funfest participant. If you haven't been to Visalia, you can live it with me. Visalia is a RC sailplane pilot's life experience, and I got to be there twice!

See you on the road!

■

airplane. There is one thing that I want to mention about ARF balsa winged planes that is worth checking. I found that after having been stored in its box, the wings had twisted some, causing a pretty severe roll on first flights. The fix was simple, but since I hadn't futz'd with balsa winged planes for awhile, I didn't check the wings for 'storage-twist'; it could have been a fatal mistake. What's the fix?

Well, while I go into detail in the assembly tips, all you have to do is set each panel on a flat surface, hold the wing root flat, and measure the leading and trailing edge distance at the joint, where the tip is glued to the main panel. Then, measure the same spots out at the very end of each panel.



NORTHROP X-4 *BANTAM*

"SHORT CUTS"

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

HERE WE GO AGAIN!
A New Project
Northrop X-4 Bantam

(Graphics & artwork courtesy B^2.)

"You've got to be kidding," were the first words out of my wife's mouth when I announced another scale building project. It's that time of year, so why not? I've been toying with building an XB-70 Valkarie, but the challenges are a bit too much at this point in time. In fact, it almost seems that one would build the Valkarie on a dare or just to see if it could be done, but for now I'll pass for a year or two...

So that being said, I thought it would really be nice to build another unique aircraft. This time it will not be built via the plug and mold method. Building molds really puts off the average builder, so this project will be a one off composite fuselage. The plane will be specifically built for slope flying, unlike my U-2, which is geared towards aerotowing. More folks have access to a hill rather than to aerotowing, so that was another factor which affected the aircraft selection.

I also thought that it would be nice to have other *RCSD* authors contribute to the design and construction aspects of this project. Jerry Slates has a tremendous amount of glass fuselage experience, as well as vacuum forming experience; ya, that's right, Jer - I need to make a canopy. Bill Kuhlman is another source for information that I'll need, because this aircraft is tailless and I don't think a scale airfoil will work well. Anyway, Bill plans to share a few thoughts on airfoil selection, wing twist, and center of gravity.

As for myself, I've heard of some very unique ways to vacuum bag one off fuselages, and I've got a few ideas on how to incorporate some unique construction methods and composites into the design. This project will be set up so that the average builder will be challenged, but not

overwhelmed. I'll also select materials and methods that most folks are familiar with, though they may not have used them, themselves. The plane will require the use of a computer radio with a mixing device to effect roll and pitch.

Most importantly, though this project will be affordable to most builders who have access to a vacuum pump system, there are alternatives to that method. Transportability also comes into play when selecting a building project, as does scale (1/3, 1/4, 1/5), which will impact flying characteristics, as well as airfoil selection. I'll also make plans available to the *RCSD* subscribers who wish to build along. Oh, ya! The plane; I almost forgot! Anyone ever heard

Dryden Flight Research Center E-17402 Photographed 1967
X-4

of the Northrop X-4? It has some very unique lines and only two were ever built. So, why not?

I swore that I would never attempt another project as overwhelming as the U-2, so I hope this is a wise choice. We're excited about this project, and hope to hear from any of you that are excited, as well!

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TECH TOPICS
A CHRISTMAS WISH LIST

By Dave Register
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Technique

A wish list won't get you very far if you don't have an appropriately subtle way to get the message across. Plan 'A' is to dog-ear pages and highlight advertisements in modeling magazines and leave them in a convenient place. That approach can be hit or miss but is likely to have more success if you leave them on the towel hamper in the bathroom. Be sure to remove any other potentially interesting literature. Modeling magazines are reading material of last resort for our spouses so be sure to keep the options to a minimum.

This year I also asked Adele the following (hypothetical) question, "Judy wants to know what's the best way to drop hints for a modeler's holiday wish list." Reply: "Just give me the list. It'll make it easier on both of us." Guess that's Plan 'B'...

Beginner's suggestions

We've all talked about the simple radios and EPP trainers as a way to get started. Now we have some terrific options along those lines so give it a try.

Radio - The Hitec IIISS (Hitec, (858) 748-6948, <www.hitecrcd.com>) is a terrific bargain and a great way to go. It's the only radio I'll use for HLG fun and it's perfect for an inexpensive and handy entry level radio. Yea it's AM, but it's narrow band with V-tail mixing and I haven't been hit yet.

Plane - A couple of guys around here are flying the 2m Highlander (MAD Aircraft Design, (909) 606-0363, <http://wwwmadaircraft.com>). I've also seen a TG-3 in action. They work well and are really rugged. I've got a couple of Highlanders on order to build with my nephew who's just starting out. I'd suggest 2m as a good place for beginners since this class is big enough for most radio equipment but not so large that it takes a polo ground to fly.

HiStart - A medium duty hi-start is still a good way to launch. For first flights, you don't have to use maximum stretch. With a good launching EPP 2m, this is about the simplest way to get airborne. The ones from NSP (Northeast Sailplane Products, (802) 658-9482) are good quality. If you go that route, just order early 'cause I find they are pretty slow on delivery most of the time.

Video - I STRONGLY encourage any beginning modeler to get the "Old Buzzard Goes Flying" video from Taylor Collins at Soaring Stuff. Dave Thornburg's tutorial is the best one around for demonstrating soaring technique, launching, thermaling, etc. Be sure you go all the way to the outtakes! (Soaring Stuff, <http://www.soaringstuff.com>)

Big Ticket Items

Open Class: I'm completely sold on the Laser 3MC (or Psyko) for an open class ship. Very good workmanship and nimble flight characteristics (NSP, <http://www.nsp.com>).

2 Meter: Although I haven't flown one (yet), the Laser 2M is giving very good service to some flyers around here. Same quality as its open class cousin.

Fun Stuff for the Shop

More than anything else, I really appreciate handy items for the shop. Here's a few ideas:

Scrollsanders - If you've got a scroll saw, you've GOT to try some of Chris Adams' scrollsanders. Every time I start a project these little gems find another way to be handy (http://www.scrollsander.com).

More videos - If you're collecting soaring flicks, the 'Airborne to be Wild' and 'Endless Lift' videos are great. Available from Soaring Stuff or the producers.

Tools - What every modeler needs to have is the Micro-Mark (The Small Tool Specialists) catalog:

(800) 225-1066
http://www.micromark.com

This is a GREAT source for hard to find modeling tools. A sampler of some of my favorites:

- Just about any Dremel attachment, bit or fitting you can think of. In addition to the router and shaper table, they also have the drill press accessory.
- If you don't have a PanaVise, you're missing a real handy shop tool ($39.95).
- Need a pin vise set? Good ones here for $9.95.
- Surgical hemostats are a terrific tool for shop and field. Straight or curved, $6.95 each.
- Tool maker's angle plates. Great for blocking fuselage sides. $9.95 to $19.95 each.
- Angle setter. For cutting any angle in 3" or 4" wide sheet ($10.95).
- Steel machinist squares. $9.95 to $12.95 depending on size.
- 4-arm jig. A terrific tool for holding wires for soldering wing connections, servos, etc.: $13.95.
- A complete set of micro drill bits (hard to find!). #61 thru #80 with case: $18.50.
- Drill and tap set for 00-90, 0-80, 1-72 and 2-56 (very hard to find): $19.95.
- Just about any type of inside, outside, right angle, deep reach, etc., clamp. Many sizes and prices.
- Just about any size or type of jeweler's file, rasp and other hand finishing tool.
- And many, many more neat hobby tools and supplies.

Hope this helps with a few ideas. Happy holidays to all. See you next millenium! ■

SCHEDULE OF SPECIAL EVENTS

May 5-7, 2000
Texas National Tournament — Dallas, TX
Jay Schultz, jkschul@juno.com
Henry Bostick, (972) 279-8337

May 19-21, 2000
Midwest Slope Challenge — Lake Wilson, KS
Loren Blinde, (402) 467-4765
mwsc@alltel.net

June 7-10, 2000
Elmira Scale Aerotow 2000 — Elmira, NY
John Derstine, (570) 596-4392
johnders@postoffice.ptd.net
http://www.Geocities.com/~scalesoar

June 9-11, 2000
Montague Cross Country Challenge — Montague, CA
3rd Annual, Practice June 9th
DG Airparts, Inc., dgair@cdsnet.net
(541) 899-8215

June 23-25, 2000
MSSC 2000 — Louisville, KY
Ed Wilson, (502) 239-3150
ewilson1@bellsouth.net

For detailed information on events outside of the U.S.A., please view www.sailplanes.com event schedule.

Please send in your scheduled events as they become available!

Hobby Shops that Carry RCSD

Gunnings Hobbies
538 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
17431 Brookhurst Unit H
Fountain Valley, CA 92708
(714) 378-8924

Hobbies"N Stuff
9577-L Osuna Rd. NE
Albuquerque, NM 87111
(505) 293-1217

Hobby Town U.S.A.
8060 S. 84th St.
La Vista, NE 68128
(402) 597-1888

Hobby Warehouse
4105 South Street
Lakewood, CA 90712
(562) 531-8383

King R/C
Five Forks Village
King, NC 27021

Tim's Bike & Hobby
2507 Broadway
Everett, WA 98201
(206) 259-0912

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.

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 3.7 Sailplane Performance Evaluation Program with Airfoil and Sailplane Library expanded to 60 models including Chrysalis, Anthem, Genesis, Peregrine, Probe, Thermal Eagle, and Spectrum. Airfoil library includes 322 polars with 56 UIUC polars. PC-Soar with Libraries of Sailplanes and Airfoil Polars plus a new Excel utility for working with multi taper wing areas and aerodynamic centers. Reduced Cost: $50 + $3 P&H. PC-Soar library and software Upgrade to Ver. 3.7: $10 + $3 P&H. LJM Associates, 1300 Bay Ridge Rd., Appleton, WI 54915; ph: (920) 731-4848 after 5:30 p.m. weekdays or on weekends. E-mail: lmurray@athenet.net. PC-Soar Web Page: <http://www.athenet.net/~atkron95/pcsoar.htm>.

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

DesignAire: EASY TO USE AIRCRAFT DESIGN SOFTWARE (PC). 3-D sketch, performance, Wt/Bal, inertias, color graphs, panel analysis, static stability, airfoils, envelope, FAR 23A loads and envelope. Runs "airfoil ii". $119. JammAero POBox 236, Horntown VA 23395. www.jammaero.com.

For Sale - Personal

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, Brison 3.2 or similar), NIB... $385.00. Contact Robin Lehman, 63 E. 82nd St., New York, NY 10028; (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, (256) 722-4311, <ron.swinehart@lmco.com>, or Rob Glover at AMA3655@aol.com, http://sh1.ro.com/~samfara/

Alabama - Central Alabama Soaring Society, Ron Richardson (Tres.), 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, slope sites 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 & Electric (Tucson area), Philip Brister (contact), (520) 394-2121, pbrister@juno.com. 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, Dudley Dufort, 225 30th St., Suite 301, Sacramento, CA 95816. (916) 448-1266, <www.svss.org>.

California - Soaring Union of Los Angeles, John Bruce, 908 W 245th St., Harbor City, CA 90710, (310) 534-0948, <rcflyinman@aol.com>.

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), Tom Keisling (Pres./Editor), (814) 255-7418, kiesling@ctc.com; Ben Lawless (Sec./Tres.), LawlessB@ang.af.mil; Anker Berg-Sonne (Scorekeeper), (508) 897-1750, anker@ultranet.com; Josh Glaab (Contest Coordinator), (757) 850-3971, jglaab@pinn.net; <http://www.eclipse.net/~mikel/esl/esl.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), Jerre K. Ferguson (Pres.), 4511 Pageant Way, Orlando, FL 32808, (407) 295-0956, <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, <dasami@mauigateway.com>.

Illinois (Chicago Area) - Silent Order of Aeromodeling 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.

Indiana (NE Indiana and NW Ohio) - League Of Flight by Thermal (LOFT), Ft. Wayne, Marc Gellart, (419) 229-3384, <isoar2@wcoil.com>, <www.rc-aero.com/LOFT>.

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

Iowa - Eastern Iowa Soaring Society (IA, IL, IN, KS, NE, WI), Ed Harris (editor), 2000 NW 84th Ave., Ankeny, IA 50021; (515) 965-5942, <harris.edwin@mcleodusa.net>, <http://eiss.cnde.iastate.edu>.

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 Hartland 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 <ewilson1@bellsouth.net>.

Louisiana - Capitol of Louisiana Soaring Society (CLASS), Leonard Guthrie (contact), 12464 Fair Hope Way, Baton Rouge, LA 70816, (225) 275-2122, flynguts@aol.com.

Maine - DownEast Soaring Club (New England area), <Jamesiii@blazenetme.net>.

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, 12504 Circle Drive, Rockville, MD 20850; (703) 643-5513.

Massachusetts - Charles River Radio Controllers, Dick Williamson (past president), 21 Pendleton Road, Sudbury, MA 01776; (781) 981-7857 (W), <williamson@ll.mit.edu>, <http://www.charlesriverrc.org>.

Michigan - Greater Detroit Soaring & Hiking Society, Greg Nilsen (Sec.), 260 Rosario Ln., White Lake, MI 48386-3464; (248) 698-9714, GNilsen624@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. Mark Nankivil, nankmc@quixnet.net, (314) 781-9175.

Nebraska - B.F.P.L. Slopers, Steve Loudon (contact), RR2 Box 149 El, Lexington, NE 68850, (308) 324-3451/5139.

Nebraska - Lincoln Area Soaring Society (Wilson Slope Races), Jim Baker, 920 Eldon Dr., Lincoln, NE 68510, (402) 483-7596, jcbaker@inebraska.com, <http://www.geocities.com/CapeCanaveral/Hangar/1671/lass-2.html>.

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

Nebraska - Ken Bergstrom, R.R. #1, Box 69 B, Merna, NE 68856; (308) 643-2524, <abergst@neb-sandhills.net>.

Nevada - Las Vegas Soaring Club, Ray Dinoble, 10812 Hollow Creek Lane, Las Vegas, NV 89144, (702) 254-7911, <dinobler@juno.com>>.

Nevada - Sierra Silent Soarers (Reno/Sparks/Carson City/Minden area), Chris Adams, (775) 345-1660, chris@scrollsander.com, <http://www.scrollsander.com/SierraSilentSoarers.htm>.

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

New Mexico - Albuquerque Soaring Association (all soaring & electrics), Jim Simpson (contact), 604 San Juan de Rio, Rio Rancho, NM 87124; (505) 891-1336, <jimbonee@aol.com>, <http://www.abqsoaring.com>.

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 johnders@postoffice.ptd.net.

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

New York - (Buffalo/Niagara Falls area) - Clarence Sailplane Society: www.paradox.net/homepages/mtimm/css.html or Lyn Perry, President (716-655-0775; perryl@ecc.edu); Jim Roller, Competition Coordinator, (716-937-6427; Rolj98@aol.com).

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 Zinteck, Minoa, NY, (315) 656-7103, e-mail Zinteck@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), 1119 SW 333rd St., Federal Way, WA 98023, e-mail: parrot2luv@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>.

Ohio - Dayton Area Thermal Soarers (D.A.R.T.S.), Walt Schmoll, 3513 Pobst 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@iwaynet.net>.

Ohio, Kentucky & Indiana - Ohio Valley Soaring Series, Marc Gellart, (419) 229-3384, <isoar2@wcoil.com>, <www.dma.org/DARTS/ovss/ovss.html>.

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

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

Oregon - Bay Area R/C Fliers, Mike Shaw, <grizzy2@gte.net, (541) 269-2423.

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/~aszy/sss/>.

Oregon - Southern Oregon Soaring Society, Jerry Miller, 3431 S. Pacific Hwy. TRLR 64, Medford, OR 97501, e-mail Milljer@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>.

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

Texas - aerotowing, Dallas area, Andrew Jamieson, 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>.

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@naxs.com>.

West Virginia & Pennsylvania - Tri-State Soaring, Chip Vignolini, 2784 Mill St., Aliquippa, PA 15001; (724) 857-0186, Voice mail (412) 560-8922, <ydne30a@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, <lmurray@athenet.net>.

Outside U.S.A.

Australia - Southern Soaring League, Inc., Mike O'Reilly, Model Flight, 42 Maple Ave., Keswick SA 5035, Australia. Phones: ISD+(08) 8 293-3674, ISD+(08) 8 297-7349, ISD+(018) 8 082-156 (Mobile). FAX: ISD+(08) 8 371-0659.

Canada - Calgary R/C Soaring Society (Alberta), thermal duration & slope soaring, Chris Gregg (Pres.), (403) 226-1019, cgregg@cadvision.com; Eric Weder (Sec.), (403) 289-8844, eaweder@telusplanet.net.

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.

Japan - Dr. Paul "Sky Pilot" Clark, 2 - 35 Suikoen Cho, Hirakata Shi 573, Osaka Fu, Japan; IAC+(81) 720-41-2934, <pclark@osk3.3web.ne.jp> http://www3.osk.3web.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/~atkron95/pcsoar.htm>. Or, send 3.5" high density disks & SASE 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, <lmurray@athenet.net>.

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, Herk Stokely, 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, demos, 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.

Books by Martin Simons: "World's Vintage Sailplanes, 1908-45", "Slingsby Sailplanes", "German Air Attaché", "Sailplanes by Schweizer". Send inquiries to: Raul Blacksten, P.O. Box 307, Maywood, CA 90270, <raulb@earthlink.net>. To view summary of book info.: http://home.earthlink.net/~raulb

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.

BBS/Internet

Internet soaring mailing listserve linking hundreds of soaring pilots worldwide. Send msg. containing the word "subscribe" to 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. Post msgs. to soaring@airage.com. For more info., contact Michael Lachowski at 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 desiminate 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).

Sailplane Homebuilders Association
Dan Armstrong, Sec./Treas.
21100 Angel Street
Tehachapi, CA 93561 U.S.A.

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.

Send for your aspirant form, today:

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

The Vintage Sailplane Association

Soaring from the past into the future! The VSA is dedicated to the preservation and flying of vintage and classic sailplanes. Members include modelers, historians, collectors, soaring veterans, and enthusiasts from around the world. Vintage sailplane meets are held each year. The VSA publishes the quarterly BUNGEE CORD newsletter. Sample issues are $2.00. Membership is $15 per year. For more information, write to the:

Vintage Sailplane Association
13312 Scotsmore Way
Herndon, VA 22071 USA

The Eastern Soaring League (ESL) is a confederation of Soaring Clubs, spread across the Mid-Atlantic and New England areas, committed to high-quality R/C Soaring competition.

AMA Sanctioned soaring competitions provide the basis for ESL contests. Further guidelines are continuously developed and applied in a drive to achieve the highest quality competitions possible.

Typical ESL competition weekends feature 7, or more, rounds per day with separate contests on Saturday and Sunday. Year-end champions are crowned in a two-class pilot skill structure providing competition opportunities for a large spectrum of pilots. Additionally, the ESL offers a Rookie Of The Year program for introduction of new flyers to the joys of R/C Soaring competition.

Continuing with the 20+ year tradition of extremely enjoyable flying, the 1999 season will include 14 weekend competitions in HLG, 2-M, F3J, F3B, and Unlimited soaring events. Come on out and try the ESL, make some new friends and enjoy camaraderie that can only be found amongst R/C Soaring enthusiasts!

ESL Web Site: http://www.eclipse.net/~mikel/esl/esl.htm

ESL President (99-00): Tom Kiesling (814) 255-7418 or kiesling@ctc.com

ZIKA

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Joe Chovan's DAW FoaMe-109, Lou Garwood's DAW Foam-51B, and Chris Costigan's DAW Foam Wulf 190 over the Atlantic Ocean.

Photo by Dave Garwood.

Chris Costigan launches his DAW Foam Wulf 190 at Cape Cod, Massachusetts. This is Chris's first RC building project and he learned to fly with this aileron slope plane in 2-3 days of practice, with a little help from his friends.

Photo by Dave Garwood.