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The landing sailplane is a 1/2.5 ASW 20 (6 meter span) owned by Mike Watson; the sailplane on the ground is a 1/3 ASW 20 (5 meter span) owned by Gunnar Stumpe.

Photo was taken at the Second Annual Southeast Aerotowing & Scale Fun Fly in Fayetteville, North Carolina by Chris Bovais, Lorton, Virginia.

R/C Soaring Digest (RCSO) 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 RCSO 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 RCSO. We encourage anyone who wishes to obtain additional information to contact the author. RCSO was founded by Jim Gray, lecturer and technical consultant. He can be reached at: 210 East Chateau Circle, Payson, AZ 85941; (602) 474-5015.

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The Soaring Site

Does Time Really Fly?

Sure looks like February of 1997 has arrived, because you're holding the February issue. Right? But, the initial draft of this column was prepared in December 1996! Just by a click of the mouse, or pounding a key on the keyboard, we find ourselves moving from one month to another, or from one year to the next. We even prepared new summary sheets this month, and entered four years: 1997 to 2000! The latter was a really hard year to type. It means that in less than three years, the year 2000 will have arrived...

Does time really fly? Is the moment really fleeting? Well, we decided to consult the "Wit and Wisdom of Mark Twain", a book edited by Alex Ayres, and sent to RCSD by fellow sailplane enthusiast, Dave Garwood. One of the entries on "time" says, "There is in life only one moment and in eternity only one."

Another book, written by sailplane enthusiast, Frank Zaic, entitled "Frankly Speaking", contains a collection of quotes, which he penned over a period of many years. In regards to time, there is an entry for "Past, Present, and Future". The first paragraph says of the past, "All the pleasures and joys that we experience while we build and fly model airplanes are being handed to us by those who were here before us."

Another quote, from 'The Talmud', also provided by David Garwood, says, "A person will be called to account on Judgement Day for every permissible thing he might have enjoyed but did not."

So, one could say that we live for the moment, building off the knowledge of the past; when it comes to sailplanes, by George, we believe that we're enjoying every minute of it! Hope that each of you are, too!

Happy Flying!
Judy & Jerry Slates

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**COME FLY WITH US AND
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Our event this year will be breaking new ground. We will be holding it at the full scale glider field atop Harris Hill. The field will be shared with full scale sailplanes, including ASK-21's and Schweizer Trainers. Rides will be available during the event. The emphasis will be on fun and practicing aerotow techniques. Tow planes and experienced pilots will be there to tow you to altitude. Bring your 3 meter (118") or larger aileron sailplane, with nose release, and join the growing aerotow movement. Scale gliders are recommended, but not required. Pilots are encouraged to bring their 1/4 scale, or larger, tow planes (with release). This may be the "year of the scale tow plane". We will have a few scale sailplanes available on site for those who can't bring their own. This year we are going to have a pilots choice award, and a special award for the best Schweizer scale sailplane. Other prizes to be announced. We will have an evening Banquet Saturday night at the National Soaring Museum.

Paul Schweizer will be a featured guest speaker, with others to be announced. More exciting plans are in the works, so keep an eye out for further developments as they become available. Current AMA membership is required. There will be a \$25.00 pilot registration fee.

For details & registration info. (including shipping your sailplane to Elmira), contact:
John Derstine
717-596-2392

R/C Soaring Digest



Jer's Workbench

Jerry Slates
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Molded Hollow Core Wings Part VI

Finally, my first set of molded, hollow core wings are complete! The last step in the process was to cut and seal the hinge line gap on the ailerons.

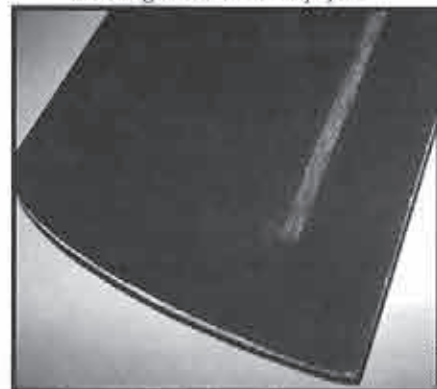
The gap was sealed with a strip of pre-painted fiberglass. Where did I get the pre-painted fiberglass? When the parting tray was constructed for the wing molds, I saved a scrap of pre-painted particle board.

Anyway, I applied a coat of mold release wax to the particle board, and buffed; then, a coat of PVA mold release was applied. The PVA was allowed to dry; a coat of matching paint was then brushed on. In this case, I used red K&B Super Pox. Once dry, a sheet of 1.5 oz. fiberglass cloth was laid in place; epoxy was applied, and then allowed to dry. Once cured, the pre-painted sheet was removed from the particle board. Later, carefully using a pair of scissors, the pre-painted fiberglass was cut into strips, the size necessary to complete the process.

At this point, it is time to cut out the ailerons. But first, I should explain one other step in the process. Before I joined the top and bottom mold halves together, the hinge line was very carefully marked on the inside, top skin of the wing. Also, very carefully, I cut the fiberglass and foam on the inside, taking care not to cut the outside or surface skin; then, the top and bottom molds were joined to complete the wing. OK. Now for the ailerons. Using a razor saw, the required cuts were made: the hinge line and each end of the aileron. There were three cuts in all. Next, using a strip of 80 grit sandpaper, I sanded the hinge line. Folding the sandpaper double, the hinge line was sanded some more. When the gap was big enough, the sanding was completed with a sanding stick. The sanding stick allowed me better control, as I sanded



Tools used to cut ailerons: razor saw, sanding stick, and sandpaper.



Bottom side of wing before cutting.



Bottom side of wing after cutting.

the gap. Next, the bottom hinge line gap needed to be sealed. Taking a strip of the pre-painted fiberglass, a strip of double-sided tape was applied to the unpainted

side of the pre-painted fiberglass strip; this was then applied to the bottom of the aileron.

Well, complete, at last!

Conclusion

Will I do this, again? Maybe. But, it was a lot of work. The hard part, or the most time consuming part of the process, was making the wing plugs and molds; but, once that was complete, the actual lay-up of the wing was easy, and took very little time.

Would I change anything, if I did it again? Yes. The 1/32" plywood strip that I used for the step on the bottom side of the aileron needs to be changed to 1/64".

The overall weight of each wing was 14 oz.; I think with a bit of creative engineering, that some of that weight can be removed. Remember, this was my first attempt at doing a molded hollow core wing. I learned a lot; there is a lot more to learn.

I hope that you all enjoyed this series. If any of you decide to take on a project such as this, be prepared! It is very time consuming! ■



Bottom side of wing with gap sealed.



Top of wing; no gap hinge line.



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98359-0975

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Those EH Airfoils Again!

Over the last few weeks we've received a number of requests from readers of this column, and visitors to our web site, for airfoil recommendations. Here's a partial list of the specific cases:

- A delta planform used for slope flying is currently using a symmetrical airfoil, but performance in light lift leaves something to be desired. What airfoil should be used to improve light lift performance, while retaining the near zero pitching moment of the symmetrical section currently being used?
- A PSS Me-163 Komet with a conventional cambered airfoil requires several degrees of twist to provide stability. Removal of wing twist would improve performance and allow a more realistic appearance. Is there an airfoil available which will allow this?

- A swept wing planform of roughly two meter wing span is to be used for thermal soaring. The performance must be rather docile, as the resulting 'ship will be used as a tailless trainer. What airfoil will provide good stall characteristics and a stable platform?
- A high performance swept wing tailless glider for the 60 inch slope racing class is being designed. The designer is looking for a low drag section which will require very little twist for stability. No airfoil had been chosen when this request was received.

It was no surprise to us that we were able to recommend one of the EH airfoils for each of these applications. In the first case, the delta, any of the EH sections can be used as nearly a direct replacement for the symmetrical section. This is because all of the EH sections have pitching moments very

near zero. As cambered sections, however, they are capable of producing substantially more lift than the symmetrical sections they replace. Substituting a cambered EH section for the symmetrical section would improve light lift performance.

For the ME-163 Komet, which could benefit from a reduction in wing twist, the EH sections again are useful. Using a section with a lower pitching moment and a smaller zero lift angle would allow removal of nearly all of the wing twist while still maintaining a good degree of stability.

In the third case, the swept wing tailless trainer, the EH sections are an attractive choice because of their excellent stall characteristics. A larger than usual amount of twist might be useful in this instance as it would allow the CG to be placed somewhat further forward, making a more stable platform.

Lastly, for the slope racing enthusiast, the low drag EH sections can be thinned to a moderate degree for further drag reduction without fear of losing the positive characteristics outlined above. The EH 1.0/7.0, a thinned version of the EH 1.0/9.0, was used with great success on the Joined 1, the near record breaking model described in the April 1996 issue of RCSD. It serves as an example of what can be done in this regard.

Coordinates for the various EH sections have been printed within the pages of RCSD. The EH 1.0/9.0, 1.5/9.0, and 2.0/10.0 were covered in the November 1990 issue, the EH 2.0/12.0 and 3.0/12.0 in the December 1992 issue. Both of these columns are available in "On the 'Wing... the book." Information on the EH 0.0/9.0 was published in the January 1996 issue, and will appear in "On the 'Wing... the book, Volume 2," to be published this year. Coordinates for all of the EH sections mentioned in this column are also available on our web site at <http://www.halcyon.com/EH.html>. Coordinate tables, regardless of the source, always include the pitching moment and zero lift angle for the described section. These two aerodynamic characteristics are needed when designing a tailless platform by

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With all of their positive characteristics, the EH sections have proven themselves to be excellent choices for many tailless applications. Despite new airfoils appearing on the scene, the EH sections will be attractive alternatives for tailless aircraft designers for a very

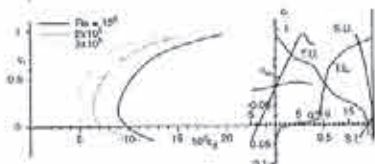
long time.

Suggestions for future columns are always welcome. Contact us by mail at P.O. Box 975, Olalla, WA 98359-0975, by e-mail at <bsquared@halcyon.com>, or through our web site at <<http://www.halcyon.com/bsquared/>>.

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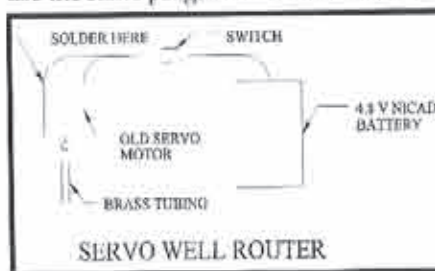
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A Micro Sized Router For Cutting Servo Wells In Foam Wings

...by Greg Norsworthy
Los Angeles, California

Have you found the Dremel tool to be a bit heavy handed for cutting out the servo wells in foam wings? If so, you should find the depicted, micro sized router to be an excellent solution, especially for wings with thin skins, as found on many hand launch designs. The motor is from a standard size servo, which had a stripped gear train. Be sure that it has a metal output gear on the shaft. The leads on the outside of the motor are soldered via a switch to a 4.8 volt nicad pack. You can even use the same plugs and switch harness

which come with any radio. Find a piece of brass or copper tubing, which matches the diameter of the output gear of the servo motor, and simply crimp it on. If you expect to use this tool heavily, you can epoxy or solder it on. Use a Dremel tool with a cutoff wheel to cut notches into the "bit" end of the tubing. Flip the switch, and you are ready to go. You will find that this router is much easier to manipulate than a Dremel tool with a drill bit or sanding drum on it. The well can be shaved out in very small increments, and the depth can be controlled very accurately. You should be able to consistently cut to within 1/32" of the top skin. ■



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February 1997

Tennessee State Soaring Championship

...by Brian Smith
Tullahoma, Tennessee

1996
Tennessee
State
Champion,
Dan Banko.



Brian Smith presents
award to Dan.

The Tennessee State Soaring Championship is a program conceived by myself, Brian Smith, of Tullahoma, and Bob Sowder of Memphis, Tennessee. The purpose is to entice and encourage sailplane modelers, from Tennessee and surrounding states, to participate in as many sanctioned contests, hosted by Tennessee clubs, as possible. By all accounts, the program is a success, with attendance up over previous years.

Since I was keeping the books, the 1996 rules were kept as simple as possible.

1. Tennessee sanctioned events would only count for point totals, even though the model/winner could be from any state.
2. Points were awarded: 1st = 10 points, 2nd = 9 points, 3rd = 8 points, etc., through 9th = 1 point.
3. Only one event per day could be used for point accumulation. As an example, a flyer places 3rd in 2 meter, 2nd in standard, and 1st in unlimited on September 25. He/she could only claim the 10 points for the first in unlimited for that day.

4. In the event that the pilot experience levels versus airplane classes was used, an individual class had to have at least three entrants for points to be awarded to anyone in that class.

Anyone, in any class, had an equal chance of winning with these rules, and that is exactly what happened. Attendance and consistency did it.

The 1996 winner was Dan Banko of Nashville, Tennessee. He is the son of a sailplaner/airline pilot father, and a supportive/kindergarten teacher mother, so his interest in sailplanes is rather unremarkable.

What is remarkable is that Dan has only been flying sailplanes for about one year, and this was his first, full contest season. He won or placed in every contest entered and, more often than not, had the experts looking over their shoulders with his scores.

His first ship was a 2M Thunder Tiger ARF (a present on his 14th birthday last September) that he flew through June and at the Mid-South Soaring Championships. This was a two channel, rudder/elevator plane; he picked up first place in his class on both days. His scores placed him in the middle and higher, with the expert pack. There were no spoilers either, guys.

After the Mid-South, he got a 2M Super V going, and has solidly entered the world of full house ships. He finished the season at Huntsville, Alabama with this plane. He plans on using it next year, as well as a Spectrum and a Monarch CX, that are about ready to come out of the hangar. The trusty Hawk has been given to Ross Godfrey of Huntsville, and he wishes this junior sailplaner success with it.

Dan is pretty modest. He credits his success, especially with full house ships, to the Dave Brown Flight Simulator. He flies a Joust or Heat Seeker out of the computer library for one 10 minute flight each day, with the wind kicked up, and the thermal level set on minimum. His dad reports that he soloed the Hawk his first time out, after learning to "fly" on the simulator. Never-the-less, he is a very smooth and deliberate flier.

Dan wanted me to be sure and thank his mom and dad for their support and help. Thanks also to those folks that made him feel like a part of the group, from his very first trip to the field.

So, there you have it. It was especially nice to see a young guy win this, even

though we all expect him to whoop us in the coming years. It is gratifying to see other junior fliers emerge from the woodwork; if this program helped, it was more than worth the effort involved. ■

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EUROPEAN F3J LEAGUE NEWS

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LSF



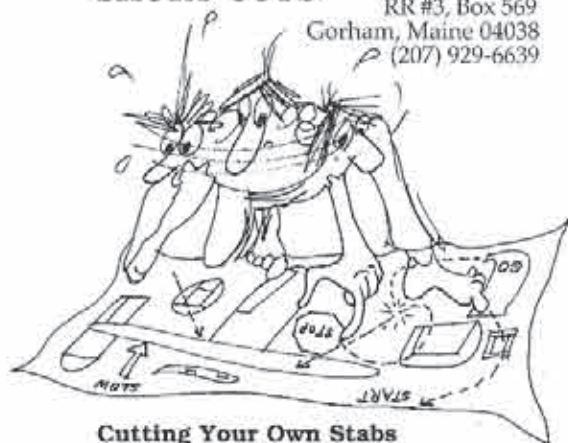
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Cutting Your Own Stabs

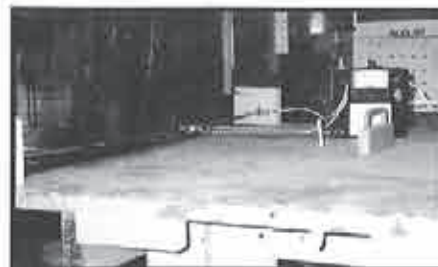
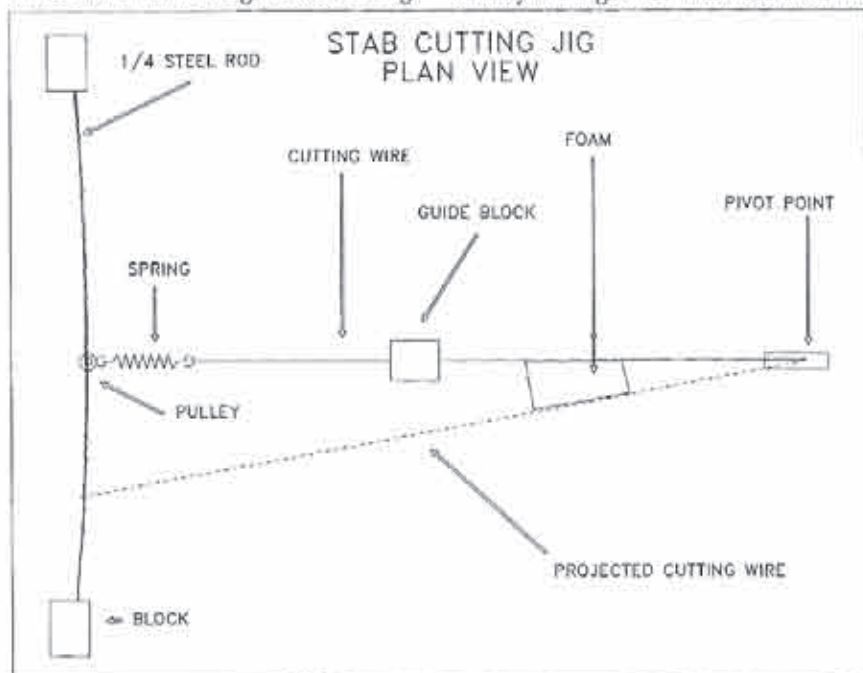
Stabs Made Easy

Several weeks ago, I had to cut about 12 stabs of varying sizes. The task was not as bad as one would think. All of the templates were previously cut and stored in my template library; the workbench was clean, an unusual sight for my basement. I've always cut stabs via the single template method, since I can do it by myself and, to me, it's much easier than using a foam cutting

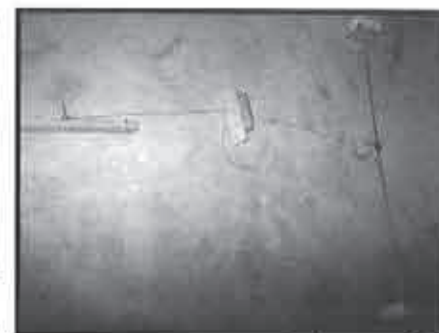
machine on a short tapered platform.

One drawback of the single template, pivot cutting method, is the inability to control the thickness and airfoil of the tip. The tips have the same airfoil as the root, usually not a problem for tail surfaces, but the thickness is proportional to the taper ratio, based upon the root template. Once again, this is usually not a problem, unless there is a reason to change the thickness or type of the airfoil; this can be a problem for scale rudders.

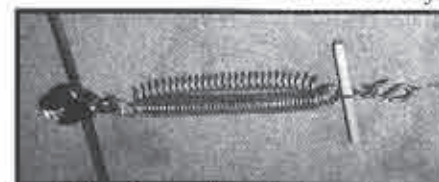
This problem came up recently, when I cut a set of stabs and a rudder for a Viking Models U.S.A. Nimbus II fuselage. I found that, when I used the proper taper to achieve the required cord length, the thickness of the rudder was undersized for the fit at the top of the fin. The only way to correct this was to use a small bow and separate templates. The tip of the rudder usually has a greater thickness than the



Rigged pulley wire, spring, guide block, and power supply.



Entire assembly.



Rod, pulley, spring, S-hook, and wire.

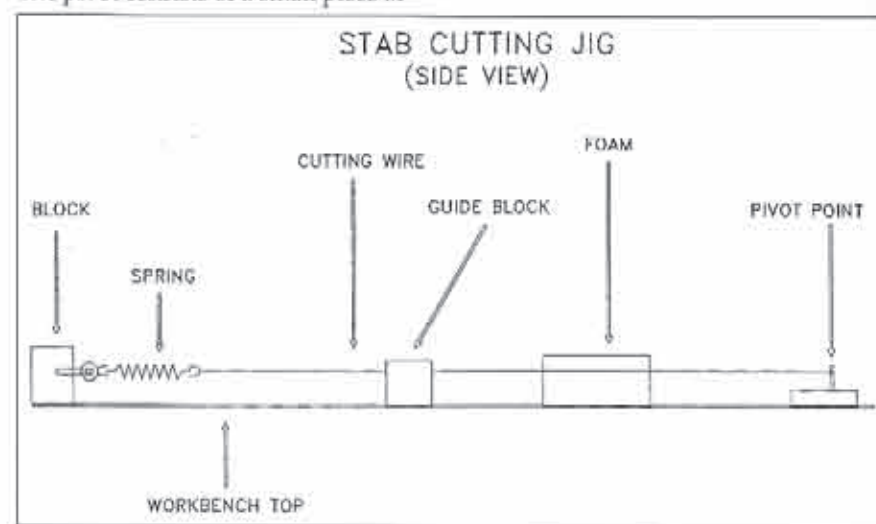


Block, rod, and pulley.

root. Now, back to the subject of single template cutting.

The system I currently use is very portable, and can be set up in a matter of minutes. Since I don't have a steady enough hand to maintain cutting wire tension and guide the wire at the same time, I had to come up with a better solution. To maintain tension on the wire, I opted to use a spring that's attached to an S hook at one end, while the other end is hooked to a small light duty metal pulley. The pulley rides on a 36" x 1/4" mild steel rod, supported at each end by a wooden block. Each block is drilled with 1/4" blind holes of varying heights (1 1/4" is most commonly used). The blocks are merely clamped onto the work table, to the desired position, with C clamps.

At the other end of the work bench is the pivot point for the cutting wire. The pivot consists of a small piece of



oak fitted with a 10-32 screw to position the vertical height of the wire. The oak is attached to the work bench by two screws. The cutting wire is attached to a small washer that's vertically positioned on the 10-32 screw via a self locking nut (nylon inserted) and a washer. The 52" cutting wire is then led through a guide block, which is very accurately drilled with 1/32" holes at varying heights (1 1/4" is used most often). The end of the wire is attached to another S hook, which mates with the S hook from the spring. If everything is set up correctly, the wire will be kept under tension by the spring, and perfectly parallel to the top surface of the table by the pulley's height, guide block height, and pivot point height. When the tension is correct, the 1/4" rod takes curve at its center. This method is so accurate, I can cut foam blocks into varying thickness for different uses. The idea here is to allow the wire to enter and exit the foam, without any vertical deviations, either up or down. Almost forgot about the power hook up. Since all the components are metal, except for the wood blocks, I connect one lead of my power supply to the pivot screw, and the other lead to the 1/4" round stock. The current flows uninterrupted from the round stock to the metal pulley, to the spring, and finally the wire. And since only the wire has high resistance, it's the only component generating heat.

The next step is to position the template. Just turn on the power, and slide the root of the core ever so slightly against the wire, and a center reference mark will melt into the foam. Use this line to center the template. My templates are attached by very small, finish nails, sharpened in a drill press chuck with a sharp metal file. The nails must be slowly rotated, while being inserted into the foam, to reduce the chances of tearing.

The next step is to position the stab so that extension lines from the leading and trailing edges intersect the pivot point as shown in the illustration.

One more step before cutting. Even though everything is centered, the cutting wire will still need to be guided, with a small amount of



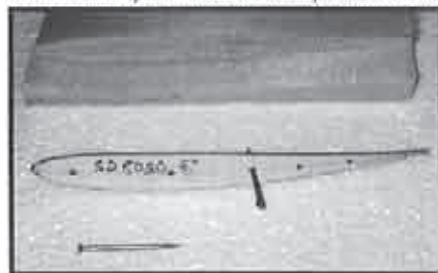
Guide block and wire



Guide block, foam, and template.



Centerline reference line. Set up second stab.



Stab, template, and nails.

pressure against the template, to get a good contour and to lead off around the leading edge. I have found that one half of a wooden, spring-loaded clothes pin works just fine; in fact, the ones I use have a very fine groove on them that guides the wire nicely. Now to cut.

Check the height of the wire at the pivot, guide block and pulley; all

should be within 1/64". Then, power up and melt the reference mark on the core. I use red bricks to weigh down the foam. Next, attach the template, and position the core on the table, ensuring leading and trailing edges intersect with the pivot point. See illustration. Then, unhook the two S hooks from each other, and position the wire on the leading edge side of the template; temporarily clamp the round bar to stop the pulley, and therefore the cutting wire, from pulling into the core when the wire is hooked back up under tension. Position the guide block to keep the wire off the leading edge, and remove the clamp from the round bar. Then, power up the wire and guide it, with the guide block, into the leading edge and over the top of the template, while simultaneously applying contact pressure with the clothes pin, to keep the wire against the template.

Now, this is important; as the wire slides past the trailing edge of the template, you must remove the clothes pin from contacting the wire. If all wire heights are set up right, the wire will seek its neutral position. I know this description sounds complicated, so I've included a few photos and illustrations to show the entire process. Once the wire exits the trailing edge, I kill the power and clamp the pulley to keep the wire away from the trailing edge. The stabs come out quite well, and only need a bit of light sanding on the leading edge. This method works well with either white, blue, gray, pink or Spyder foam. I hope this technique inspires others to experiment and improve the process.

Keep yer tail straight. ■

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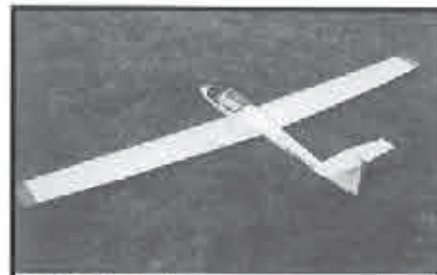
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Tips II

After a number of calls/e-mails about the tips article in December, here is another one. It's a bit short this month; don't you just hate how work can get in the way of modeling?

The first item is one that many of you foam/composite builders are aware of: foam thickness problems. Living up north, 2" thick foam was once easily available, but no longer. Seems that here, down south, they only like to carry 1"; but if I beg a lot, and promise not to mix up the different size nails in the store bins, 1.5" is possible to get through the local building supply store. What I liked about the 2" foam was being able to cut one core, then flip the foam over and cut another one, getting 2 panels out of one block of foam. This is not possible with the 1.5" foam, unless it is a very thin or small chord foil. Sometimes, the 1" foam is plenty for a panel, so it is worth while to try to keep a few thicknesses of foam around for different projects, and thus minimize waste.

After making one of my first ever, 2 panel, bagged wings, I found out that using the same template height on a multi-panel wing is a mistake. As the wing gets shorter in chord, the thickness also gets smaller. This causes the top surface to start drooping at the

panel break, if you leave the cutting height the same on the templates.

Effectively, this is anhedral (And, looks funny!). So, in order to get a straight top surface, you must have a higher template base on the smaller chords. If you calculate this correctly, you end up with a straight top surface after gluing the beds and cores together. Taking this one step further, I like to bag most wings, up to 2 meter, in one piece. This means getting the whole top surface flat on slopers, with about 1.5 degree (my favorite) dihedral on thermal planes.

This is quite easy to do, if you determine the proper template height to the top of each foil used on the various panel breaks. Let's take a double taper HLG wing, as an example. We need three templates: root, panel-break, and tip. The goal is for the wing to look as shown in the picture, which depicts the one piece, bagged Epsilon HLG wing. Note the thickness of the beds, with equal height at the tips, and straight lines, even through the panel breaks. Math works, but this can be done by trial and error, also. Just print root and tip templates, until you get the total height difference you want for dihedral.

Measure from the bottom of the template to the top of the high point of the foil; let's call this the total height. A root to tip height difference of about .3" yields about 1.5 degrees of dihedral over 60", if a foil thickness change from .68" to .28" is taken into account. Less thickness change would require more difference in



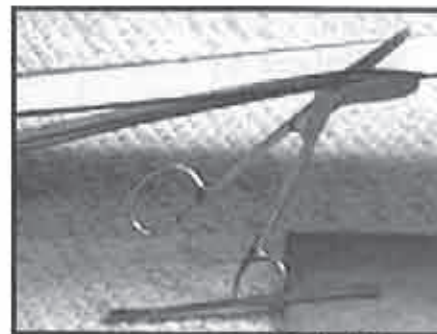
the height of the templates.

Next, we need a total height for the panel break template. If the break is at 2/3 half span (20" inner panel), take 2/3 of .3"; the total height for the panel break template should be that much higher than the root template. For example, if the root template and foil is 1", and the tip template and foil is 1.3", then the 20" from center template total height should be about 1.2". Adjust template height so that the foil and template come to this total. (Don't add foil thickness to template height, as the foil goes above and below template height.)

For a reasonably small tip chord, these numbers work in a 1.5" block of foam. In fact, these are the exact numbers used on the templates that cut the cores for the wing in the picture; looks like lots more than .3", huh? This is because of the difference in thickness of the foil. No more droopy tips. Note the diagram depicting the three templates. The bottom of the root template goes down to only .32" at the thickest part of the airfoil. My bow design allows it to work, but you might not want your template this thin. When this wing is set with one wing half flat on the table, the other wing's L.E. tip is about 1.1" off the table. It is hard to get the numbers to add up to that, but that's reality.

This method can also be used to put in tip-hedral. More than about 2 degrees though, and you must relieve the stress on the mylar or obechi with a small split in the L.E. at the bends, or it will lift up from the core, while bagging.

Next tip is a tool tip. Don't know about you, but trimming the leading edge flashings off a glass bagged wing is a pain. On carbon, lead sled slopers, I use a band saw. This is overkill for most smaller planes, or thermal planes. Until recently, I have been using a razor blade. The problem here is sore fingers, and occasional "oops"es. The other day, I remembered some medical scissors bought for trimming cloth in fuselage molds. These are shown in the picture, while trimming a leading edge flashing. They are offset enough to allow for cutting the full length of the leading edge, can be found in most medical supply stores, and are used for cutting bandages. They are useful for many



Medical Scissors

things around the shop.

Last tip for this column is due to several people letting me know that they did not like me saying to put alcohol in a squeeze bottle. They felt it was unsafe. I guess I presumed that everyone would have enough sense to label the bottle as to its contents. A good way to do this (since alcohol will remove most inks) is to write it on the bottle (in big red letters for you safety type folks); then, wrap the bottle, right over the lettering, with clear carton sealing tape. That will keep the label from smearing off. That's all for this month, I gotta go put a label on the new car warning people not to use it to drive nails. Don't want to get sued by someone improperly using it. ■

Sailplane Homebuilders Association (SHA)

A Division of the Soaring Society of America



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

SHA publishes the 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.

Prism Unlimited Class Sailplane by Ron Vann

...reviewed by Lee Murray
Appleton, Wisconsin

Summary

The kit, available as a V or T tail version, is an excellent value for the experienced builder. It looks like a clone of a Spectrum without the molded wings: no polyhedral breaks, Schumann planform, two piece wings. The fuselage dimensions for my T tail version is very much the same as the Spectrum. The kit is not for the new hobbyist or for the faint at heart. Some advance planning pays off for the builder. The plans consist of a hand drawn diagram of the tail section and two pages of instructions. I obtained my kit from friend George Hollidge of Oakland, California. The kit seemed to be just what I was looking for: a SD-7037 model with light wing loading, Schumann wing planform, full house computer radio compatible, with a reputation of being strong on the winch and able to compete on equal footing with the Genesis, Thermal Eagle, etc. The price, I thought, was a selling feature.

Design Features

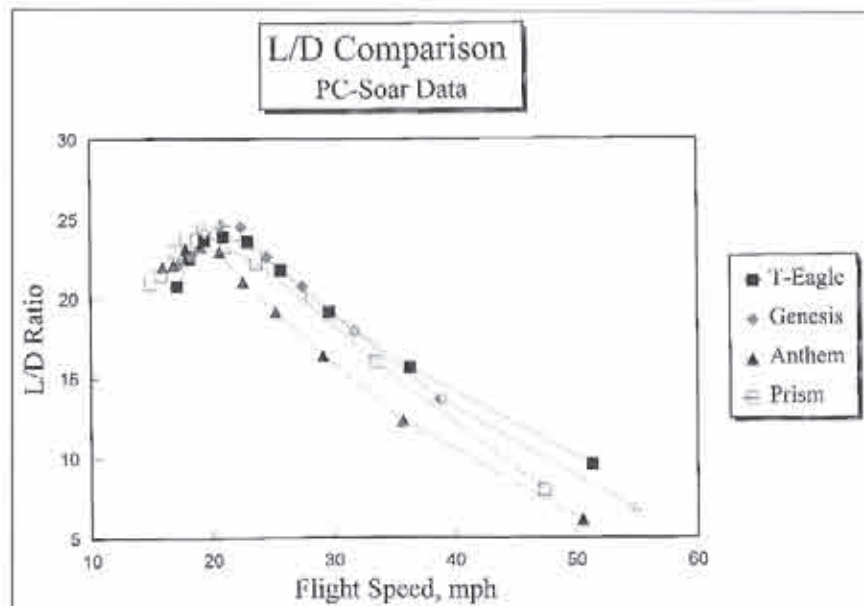
- 3/8" titanium wing joining rod.
- Sheeted wings with servo wells routed out.
- Normally, the control surfaces routed out in the wing. In my case, the wing did not have the control surfaces routed out, so the aileron and flap hinge line needed to be a controlled percentage of the wing chord.
- An elevator on the T-Tail horizontal stab.
- Slip on nose cone.
- Tempered music wire rod for controlling the tail surfaces with almost no bends between the ends. There is a large bellcrank in the tail to operate the elevator.
- The finished model will fit back in the original kit box for storage, transportation, or shipping.

Things to Pay Attention To when Building

The horizontal stab is bolted to the top of the fin. I understand there are options for mid fin mounting with a different fuselage. The holes are pre-drilled, but you have to make the holes in the top of the fin, and mount the blind nuts to hold the horizontal stab. Your selection of the spot to mount the fin will vary the angle of incidence of the stab. If you don't get this right, you will probably need to adjust this later. You will be marking the location for the joiner rod carrier tube, the alignment tube, and the servo wire pass through. You will need templates. Ron suggests that you place tracing paper over the wing root and do a pencil rub to mark the location of all these things relative to the wing surfaces. I went a little farther, to plot the airfoil, do the tracing of the joiner hole, then make a wood template.

When drilling the holes, I started small and checked the alignment early with music wire and a fuselage alignment jig. Later, you will want to make sure the H. Stab is aligned horizontally with the wing. I made a wing template with just the 3/8" wing rod, which allowed me to create the wing alignment pin holes in the fuselage and the wing. I also made a hole just big enough to fish the servo plugs through the fuselage. I make the holes big enough for 4 pin Deans connectors, my favorite for wings. By making the right wing a different gender than the left wing, you can keep from getting the right & left sides mixed up when plugging in the wing servos. They are not permanently mounted plugs. I'd rather have them hang out of the fuselage before assembly, and have them tuck into the fuselage when assembled. This can be a little inconvenient if they fall back through the hole, but that can be easily rectified if you bring the right tools to the field.

I have been using the Hobby Lobby horizontal wing mounts for the servos, because of the flexibility to change or service the servos easily. The servos are held in with two screws. These mounts require that the servo openings be opened about 1/2" in the chord direction to receive the horizontal



FLIGHT PERFORMANCE OF THE SAILPLANE: PRISM							
CA	MPH	SINK	L/D	RR	TOTAL DRAG	AIRFOIL DRAG	INDUCED DRAG
0.10	47.34	8.72	7.96	337381	0.0126	0.0090	0.0003
0.20	33.48	3.07	16.01	238564	0.0125	0.0082	0.0010
0.30	27.33	2.00	20.07	194787	0.0149	0.0093	0.0023
0.40	23.67	1.56	22.20	168690	0.0180	0.0106	0.0041
0.50	21.17	1.33	23.28	150881	0.0215	0.0117	0.0065
0.60	19.33	1.16	24.34	137735	0.0247	0.0121	0.0093
0.70	17.89	1.10	23.80	127518	0.0294	0.0135	0.0127
0.80	16.74	1.07	22.97	119282	0.0348	0.0150	0.0165
0.90	15.78	1.08	21.44	112460	0.0420	0.0178	0.0209
1.00	14.97	1.05	20.91	106609	0.0478	0.0187	0.0258

MINIMUM SINK RATE 1.068 FEET/SECOND
 MAXIMUM GLIDE RATIO (L/D) 24.338
 BEST L/D SPEED (MPH) 19.327

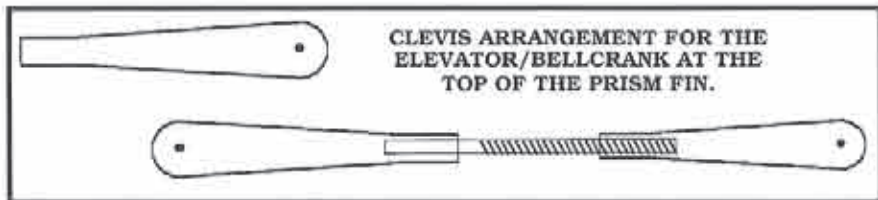
ENTER YOUR SELECTION

1=Sail #1 2=Sail #2 3=Sail #3 4=Sail #4 5=Compare All
 6=Sink Rate 7=Lift to Drag 8=Set Screen Type 9=EXIT TO MENU

mounts. A Dremel router works great for this. The final openings were noted in pencil. This did not present a problem with finishing, because I was to use black paint on the bottom of the wing. The mounts need to be glued to a plywood plate, which is attached to the foam. These plates and the placement of the mounts needs to be precise to insure easy installation and removal of the servos and to prevent

	Thermal Eagle	Genesis	Anthem	Prism
Wingspan, in.	118	115	124	114
Weight, oz.	68	66	76	65
Wing Loading, Oz./ft ²	10.8	12.4	10.5	9.2
L/D Max.	23.9	24.6	23.5	24.3
Min. Sink Rate, fpm	1.18	1.16	1.12	1.07
Best Speed	20.96	20.8	19.1	19.3

trim shifts later. The 1/32" plywood used was 47.0 x 29 mm. The heights of the mounts were also shortened by 0.5 mm, by sanding to make them flush with the top of the servo.



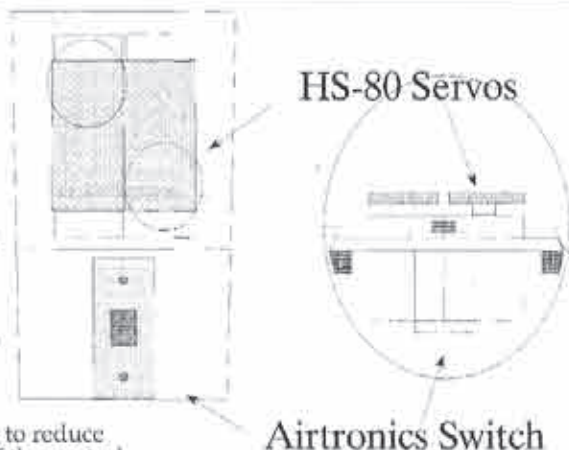
CLEVIS ARRANGEMENT FOR THE ELEVATOR/BELLCRANK AT THE TOP OF THE PRISM FIN.

The fuselage did require some minor pinhole and defect filling. It was reinforced with Kevlar on the sides and with carbon fiber at the base of the fin. This is a damage prone area for T-tail models.

Connecting the control rods to the bellcrank took a little planning to get it to my satisfaction. The elevator bellcrank is 1/8" plywood and there are two clevis connections at each end. I used heavy duty, solder-on, clevis connections and used brass tubing to reduce the size to the music wire of the control rod. Into the other end, I silver soldered on a threaded brass cable connector, which then held a small clevis, which attaches to the control horn on the elevator. It works slick and has very little slop. It also allows the stab to be removed for shipment or transport in the car.

The servo tray isn't described, and there is lots of stuff to fit between the nose and the back of the opening in the fuselage. I decided to mount the MS-80 servos side by side. A 600 ma flat battery pack is required due to the nose shape. You need to mount the tray so that the receiver can be installed behind the servos. This takes some planning. A switch was designed into the servo tray, but there isn't room to install the switch after the servo tray is installed. Therefore, I put I separated switch mount, so it could be installed after the model was painted. See diagram.

In the instructions, Ron suggests that the control wire outer tubes (ones with side ridges) be attached to the fuselage with epoxy. I have had bad experiences with this approach on other models and decided to use the Jerry Slates' method of making balsa



bridges, which fit across the fuselage tail boom and support the cables about every 6". I drilled small holes and used toothpicks to secure their position. No matter what you do, you will increase the friction of this arrangement if there are any departures from straight for these control wires. I sanded some slight roughness from the wires, and then used graphite to lubricate the surfaces. This reduced the friction by about half.

The sequence I used to put the control system in was as follows:

- Cut off any bent part of the control wire with a proper tool. A "Z-Pliers" device (cut off hole) works perfectly for this.
- Attach the large clevises to the elevator control rod and the small rod going from the bellcrank to the elevator. Sand off and clean the wire and use silver solder with plenty of heat.
- Install the outer control cables (tubes) in the fuselage.
- Lubricate the outer tubes with graphite.
- Temporarily install the servos in

the fuselage.

- Mark the locations where the forward part of the control wires should be cut off to receive the threaded couplers for the servo clevises.
- Silver solder the threaded ends in place.
- When it comes to making the holes in the servo arms the right diameter, I made a jig to insure that they were drilled at the right angle. This was done by drilling a 5/16" hole in a board. The top side of HS-80 servo arm fits into this hole and allows you to use a small drill press (e.g., Dremel drill press) to make the holes square.

Flight Performance:

The PC-Soar Performance curves are shown in the illustration vs. a couple well known models. A tabular comparison is also shown. Based on my flying style, this is what I am looking for. Now, it is a matter of practice and good fortune to make the model a winner for me. ■

ED: The Prism is no longer available from Slegers International. However, the Spectrum is available, as is the new replacement for the Prism: Fazer. Fazer has the same wing, with a conventional stab and tail, which makes the plane more user friendly. The address for Slegers International is P. O. Box 364, Long Valley, NJ 07853; (908) 879-9964, fax (908) 879-8177. ■

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Three towplanes and quite a nice gaggle of huge sailplanes came to the Pensacola Fly-In. "Site 8" is a square mile of mown grass used by the U.S. Navy during the week for helicopter training. You can always set up into the wind for 360°. Never a cross wind landing or takeoff!



Asher with one of his beautiful desk models, all-glass molded, little ASW 20. They are gorgeous!

Postponed once, because of a minor weather problem (a hurricane), suddenly it was the afternoon of November 14th, and I was on my way to Pensacola, Florida, and the fall, scale, airtow event. I wasn't sorry to leave the 20 degrees and snow. Our flying season up North is long gone, and the



(L.) What a neat way to carry a large sailplane! Asher made up this "carry all". This way, nothing gets bumped and it is hard to forget the parts!

Mike Watson from North Carolina is flying his 1/2.7 ASW 20. Note the very relaxed atmosphere at the first Pensacola Fly-In.



thought of flying in warm sunshine seemed farfetched, indeed.

I arrived in Pensacola and was greeted by a grim-faced Asher Carmichael. "It's the weatherman," he said. "It's supposed to blow tomorrow, and for the rest of the weekend."

"Oh well, we'll just have to make to best of it," we agreed.

We watched the Weather Channel and saw the results of 60 MPH winds battering Miami; worse weather was predicted. "Make the best of it, make the best of it, make the best of it..." I kept repeating to myself.

I took a sleeping pill, as I didn't want to think about it.

Friday morning dawned bright, clear and warm. As it turned out, Asher must have pull upstairs, because the

A pair of the largest sailplanes in America: 2 1/2.5 LS4s with different wings. They both tow and fly just great. The biggest one, weighing 52 lbs. was towed by Rusty's Telemaster with a 3.2 Saks. Wayne Parrish (L.) and Tony Fiorentino (R.).

weatherman was wrong three days in a row; we had three very nice flying days: Friday, Saturday and Sunday.

On Friday, 8 or 10 of us from Pensacola and North Carolina airtowed, winched, and really enjoyed ourselves. The most fun I had was watching Asher taxi a Telemaster around (without wings)! This was his first experience with a motorplane, as he decided he wanted

(L - R) Bernie Coleman, Wayne Parrish, and Rusty Rood towed all day. Wayne Parrish had a great helper: Dee! Here, the Robin 99 with a Saks 5.8 up front.





Fred Rettig's CNC ASW 27, with scale sized winglets, fantastic mirror finish, and very nice cockpit. It flew very well, and won pilot's choice for best modern.



(L) Rusty Rood and his wife are making field repairs... Ah, huh... Towing stopped on Sunday while the landing gear was repaired. It's always good to have a backup towplane, just in case.

Bernie Coleman for North Carolina came in second in thermal duration with just 6 seconds shy of a perfect score.



Martin Stohr won two of these beautiful ASW 20 desk models, which were made by Asher Carmichael: Best Vintage (ASK 18, and best in duration (only 2 seconds off a perfect score).

(Below) Rusty Rood, Pensacola Contest Director.



to become a towpilot. In about an hour, he educated his left hand enough to put the wings on and go fly. He went solo that afternoon, doing very nice take-offs and landings. Another towpilot has been born!

The most memorable flight that day was Mike Watson's 1/2.7 ASW 20, weighing 30 pounds; it was towed by Bernie Coleman's ST 3000-powered Telemaster! It was astonishing to me that a motor, pulling only 18 pounds, would fly 45 pounds of combined aircraft! But, fly it did. The nice thing about this hobby is that there's always something new to learn! Ever been to a flying field big enough to land anywhere in a square mile of nicely mown grass? A place where you can make a nice landing on grass and fly just about out of sight? Well, "Site 8", owned by the U.S. Navy and used for helicopter training, is where we were to fly, next! What a beautiful

Tools of the trade. Battery checker-voltmaster reads under load to let you know if you have enough juice left to fly safely. JR and Futaba plugs all in one; it's a good idea for a group!

place to fly! On Saturday, the Pensacola fly-in got underway in earnest at "Site 8". The huge advantage of a field like this is that, no matter which direction the wind blows, you simply set your landing strip in that direction. Take-offs and landings are always into the wind, which is a luxury that many of the rest of us do not have!

The intent of this get-together was to HAVE FUN! And, did we ever! It was wonderful getting together with old acquaintances and meeting new ones! Primarily, this was a fun fly; but just to spice things up, and to tweak those competition types who were present, Asher also incorporated a scale duration event. The task was to fly for exactly seven minutes, after release from airtow, as high as you want.

Some of the guys REALLY enjoyed that, and got into the competition with body English and all! The event was



13.5x8 prop. Eut Tileston came in 2nd flying a beautiful Stahl scale Fairchild 24. This model used a Speed 400 motor with a Graupner 6/1 gearbox and Sonic Tronic 12x7 prop.

The second electric event was Limited Motor Run (LMR). In this class, the designs allowed are pre-1943 gas powered designs; you are allowed a 90 second motor run and use a 7 cell 800mah motor pack. Props are not allowed to fold, and the target time is 10 minutes for the total flight. Jay



Eut Tileston launching the Caudron for Kirby Hinson.



Jay Burkart holding his Playboy Pylon for the LMR event. Powered by a MEGA Mini Kruse 2:1 gearbox. Jay won the LMR event.

Burkart flew a Pylon Playboy to 1st in the event. The model used a MEGA Mini motor with a Kruse 2/1 gearbox and Aeronaut 14x7 prop. Rick Richardson finished 2nd, flying a Cleveland Viking powered by an Astro Flight geared FAI motor turning a Master Airscrew 11x7 electric wood prop.

The third class flown was Electric Texaco; the task is longest flight of the day with two tries and an unlimited motor run. The models are restricted to a 7 cell 800mah motor pack. Jay Burkart made it 3 for 3 with a 1st, flying a Lanzo Bomber using a Speed 400 motor with a 5.25/1 Simprop gearbox swinging a special 16x16 prop. Jay's winning time was 36 minutes. 2nd was Jack Hiner



Eut Tileston with his Stahl scale Fairchild 24 for the Spirit of SAM event. Powered by a Graupner Speed 400 with Graupner 6:1 gearbox. Eut placed 2nd.



Eut Tileston with his Stahl scale Caudron Fighter for Spirit of SAM event. It was flown by Kirby Hinson, and performed very well. Graupner Speed 400 with Simprop gearbox 5.9:1.



Jay Burkart receiving the perpetual trophy.

flying a Lanzo Racer powered by a Leisure 28T motor using a Leisure gearbox turning a 16x15 prop. Jack's high time was 29 minutes. Some of you will remember Jack from his long distance R/C Sailplane records in the '80s and from the Great Race.

This year was the first time that a perpetual trophy was given to the

Spirit of SAM winner in the memory of Australian Colin Borthwick. Presented to Jay Burkart, the trophy is a beautiful polished full size metal aircraft propeller blade mounted on a wood base with logos colorfully mounted along the blade face.

Colin was instrumental in starting the SAM movement in the land down under, and this is a fitting tribute to him.

Next year's SAM Champs will be in Las Vegas from September 22nd thru the 29th. Step back in time, build an Old Timer, and join in on the fun! ■

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Proposal for a New AMA Scale Soaring Event

...by Robin Lehman

A little past history

As most of you probably know, some years back the AMA scale soaring event used to be a thermal duration contest. The competition rules were then changed to make the event task-oriented (a better format in my opinion), with the scale sailplane required to do a certain number of maneuvers. While it's true that airtowing as a launch method was permitted, no one ever airtowed, and winch was the only method used for launching.

I had the opportunity of speaking with a number of ex-scale competitors, and their reason for dropping out of the event was that most of the time their ships could not perform the required tasks from the altitude gained from a winch launch and, consequently, flying was not so much fun anymore. Perhaps even more importantly, winch is not suitable for the 1/3 and larger state-of-the-art sailplanes, because you just can't get these birds high enough to perform the required maneuvers.

To further aggravate the situation, once Muncie, Indiana became the permanent site for the AMA Nationals, many of these folks had a very long drive to get there and to return home; with guaranteed unsatisfactory flying results, why go at all?

They didn't; attendance has dwindled to a single competitor.

This prompted Dave Garwood to write this past Fall, in his column in *Model Aviation*, wondering whether scale is living or dying. John Derstine then e-mailed Dave that scale soaring is alive and well in other areas (fun fly airtow and slope soaring events), and that he believed, "There was no incentive for scale flyers to attend the Nationals, because of the outdated format they adhered to." Within a day or so the ball was thrown back in John's court from Dave and Steve Kaluf (AMA Technical Director), with the comment that, "The AMA is you," and that the rules are made up by the open membership; if there are problems with the rules, then the members should change the rules. After a little investigation, it was found that the cut off date for new rule proposals for the 1999 rule book had just passed at the end of October. This means that after a long and arduous paper chase to get a new rule approved, the soonest it could be implemented is 2002!!!!!!

Steve Kaluf suggested a short cut; if we came up with a new set of rules within three weeks, perhaps they could "fit in" a new, demonstration scale event. John Derstine

and I then put our heads together, and sent out the proposed scale airtow rules a week later.

Where did these new rules come from?

Keeping some of the existing AMA rules, we drew inspiration from several other sources.

Obviously, the Europeans are way ahead of us on this score, and we drew heavily from the very popular DMFV Scale Masters event (in Germany). The models are judged for scale accuracy, and airtowed to any height to perform maneuvers. The average of the two best flights is tallied (out of a possible five), and added to the scale static scores.

The best overall score is the winner. Interestingly, the Germans, who are the experts in this field, do not care who built the model, whether it was an A.R.F., a kit, or scratch-built.

Another source for our proposed rules was the U.S. Scale Masters qualifiers (powered aircraft). The Scale Masters' rules certainly have some interesting things to offer.

Our last point of inspiration came from the full-sized aerobatic competitions. Interestingly, each maneuver they do has a different difficulty factor, which seems very logical to me. The more difficult the maneuver, the higher the possible score.

The purpose of this new scale format

We hope we have come up with a scale competition which will give every type of scale builder and flyer a good chance to excel and compete. A scratch-built model is rewarded more than an A.R.F., but both can compete. In the flying portion, no particular type is favored. Bear in mind that a scale model should fly exactly like its real, full-sized sister ship. There are relatively few sailplanes capable of the more difficult aerobatic maneuvers. The ASK 21, the Fox, the Swift, the Salto, the Grob Twin Acro, the Pilatus B4, and the LO-100 are some of the better known, fully aerobatic sailplanes; but the vast majority of models will be attempting the easier routines, as per the full-sized counterparts. Given the fact that it is more difficult to do a perfect aerobatic maneuver than it is to execute a horizontal figure eight, for example, there is much more room for error and down grading for the hot performer. This will level the playing field.

What follows is our hastily gathered, but carefully thought out, proposal for a new, scale airtow event, combining the best and most interesting points from all of the above mentioned sources. We stirred the pot, shook the sieve, and filtered through what we thought was the best of the best.

We have attempted to create a fun, competitive, and easy to run, scale event, for all skill levels.

PROPOSED RULES FOR SCALE SAILPLANE AIRTOW CONTEST

STATIC JUDGING

Static judging, as per AMA, from 15 feet except for craftsmanship and cockpit (with or without pilot), which are judged last and close up.

Proof of scale as per AMA sport scale.

Colors	15 points
Markings	5 points
Wings	15 points
Stab/Rudder	10 points
Fuselage	15 points
Undercarriage	5 points
Cockpit	20 points (2 seater can be awarded 30 points)
Craftsmanship	25 points

Bonus multiplier (to be calculated after static judging is completed)

If model is designed and built from factory drawings multiply total static by 1.7.

If model is scratch built from existing plans multiply total static by 1.5.

If model is built from existing fuselage multiply total static by 1.3.

If model is built from kit multiply total static by 1.1.

If model is an A.R.F. multiply total static by .9.

If model is scratch built bring plans or other proof.

FLYING

Total points for the flying portion of the contest are flying points plus flying bonus points plus scale option points (if any).

If you elect to airtow as one of your flying options the judges shall ignore any errors on the part of the towpilot.

You may be airtowed as high as you want. If the towpilot makes a mistake and you must release too low, you may land immediately and take another airtow without penalty.

All models must have flown successfully prior to contest. NO first flights.

Safety as per AMA sport scale.

Weight limit 55 lbs., but if you have a model over 25 lbs. you would be wise to contact organizations to see if there will be on hand a powerful enough tug to tow.

Contestant will include declaration whether prototype is aerobatic or not.

Aerobatics and scale sailplanes description of maneuvers as per AMA rule book per sport scale.

Time limit for flight is 15 minutes.

Flight judges should score on a basis of 0 to 10, 10 being the maximum points awarded

for each maneuver. After the flight is complete, multiply the score for each maneuver by the difficulty factor. The average of 2 best flights or the only flight (if 2 or more flights are not possible) constitutes the flight score.

For non-aerobatic sailplanes choose any 8 plus 2 mandatory maneuvers * in any order.

Difficulty Factor	(to be calculated after flight scoring is completed)
1. .7	Straight flight at least 10 seconds (not for aerobatic sailplanes)
2. 1.0	Takeoff
3. 1.0	Triangle
4. 1.0	Traffic pattern
5. 1.0	Spot land in 50 foot circle, judged from where the nose of the airplane stops
6. 1.0	Figure 8
7. 1.0	Procedural turn (not for aerobatic sailplanes)
8. 1.0	Rectangular flight (not for aerobatic sailplanes)
9. 1.1	Side slip (at least 5 seconds)
10. 1.1	Inside loop
11. 1.2	Straight flight out at least 5 seconds, procedural turn, straight flight back at least 5 seconds
*12. 1.2	3 turn thermal (mandatory)
13. 1.2	Chandelle (not for aerobatic sailplanes)
14. 1.3	Airtow including release
15. 1.3	Stall turn/wingover
*16. 1.3	Landing (mandatory)
17. 1.5	3 turn spin
18. 1.5	Low pass under 20 feet

For aerobatic sailplanes choose any 8 from the eligible non-aerobatic list above or any from the list below plus 2 mandatory maneuvers *:

Difficulty Factor	(to be calculated after flight scoring is completed)
1. 1.0	1 roll
2. 1.1	1/2 Cuban 8
3. 1.2	Inverted flight at least 5 seconds
4. 1.2	Tail slide
5. 1.3	Immelman
6. 1.4	2 horizontal rolls
7. 1.5	Outside loop
8. 1.5	Cuban 8
9. 1.5	Snap roll
10. 1.5	Inverted stall turn/wingover
11. 1.5	Inverted 1/2 Cuban 8
12. 1.6	4 point roll
13. 1.6	Double stall turn/wingover
14. 1.7	3 horizontal rolls
15. 1.8	Horizontal 8
16. 1.8	Inverted tail slide
17. 1.9	Inverted Cuban 8
18. 2.0	Inverted 3 turn spin
19. 2.0	Vertical 8 from middle

Bonus points awarded for all flights

Realism 30
Artistic presentation 30

SCALE OPTIONS (can be substituted for any optional flight maneuvers)

A maximum of 10 points multiplied by the difficulty factor as per AMA rule book.

Difficulty

Factor		
1. .5	1.	Spoilers
2. .5	2.	Flaps
3. 1.0	3.	Retract wheel
4. 1.0	4.	Drop wheel
5. 2.5	5.	Dumpable water ballast

Where do we go from here?

As of the time I write this (the beginning of January), I don't know if any of the "powers that be" have or have not seen these rules. In fact, we haven't actually received an official acknowledgment from the AMA itself.

Last but not least, we come to a very interesting Catch-22: I am told that competitors must "earn" their right to a time slot on the AMA Nationals' agenda. We did a little research on this and from talking to scale enthusiasts that I know, there are at least 10 to 15 guys who would go to Muncie to compete in a scale airtow event, but only if there were enough flying time allotted to get in a minimum of three, to a maximum of five flights, for the competition. Judging from my experience, at Scale Masters events I have seen, it takes approximately two days to get in enough flying for some 15 to 20 competitors. The static judging, of course, can be done before the flying at some other place off the field, and so would not interfere with other flying events.

I hear that the 1997 Soaring Nationals is going to be a very cramped affair with one less day than required, and so there is very little time to "fit in" a new scale event.

There is one other slight wrinkle in all of this; you can't run an airtow event, unless you have at least two capable towplanes and one very experienced tow pilot, who knows how to airtow. (John Derstine and I offered to go out to Muncie this year with towplanes, if we were allotted a two day time slot for this event.) This is an absolute minimum. In just the last year or two, I have seen and heard of several instances where towpilots were inexperienced enough to crash due to pilot error, and other instances where things just didn't work out very well, because the towplanes were somewhat inadequate for the task. So, a lot of people have never even seen flawless airtowing first-hand.

Put all of this in a pot, add cobwebs and red

tape and you will see why it's going to be rather difficult to get this new event off the ground and flying!

Why do this at all?

In my opinion, there is a very strong likelihood that a scale event similar to the one proposed here, could become the most popular and interesting event held at the Nationals, both from the pilot's point of view and from the spectator's point of view. No other event combines assets from both the power and the soaring world, and has the potential for producing large, beautifully scaled and supremely elegant, soaring machines, which can wonderfully emulate their full-sized counterparts. For us airplane watchers, nothing could be more exciting!

Recently, quite a few excellent, competitive (thermal duration) sailplane pilots have taken up scale; if this trend continues, there will be more and more enthusiastic pilots out there wanting to push their chosen scale sailplane to the limit. I urge those of you, who are really interested in competition, to take a hard look at the proposed rules; let's correct and refine them together to come up with the best possible new scale competition format to suit you all. If we accomplish this, then perhaps in a fairly short time in Elmira, Fayetteville, Pensacola, Canada or somewhere else, a group will be interested enough to hold the first scale airtow competition and try it out.

Please send me your constructive criticisms, so that we may further refine and improve these guidelines for a really fun, competitive scale event. If you have no comment, but you are potentially an interested competitor, please make yourself known! It would be nice to get some idea as to how many, or few of us, are actually out there!

Again, please send your constructive criticisms to me, so that we can further refine and improve these proposed rules. Your comments would be most appreciated.

Good building! And for those of you up North, just think... Good flying will begin in just a couple of months! ■



Lehman

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1/4 Roedel Piper Super Cub (scale towplane) - 2.687 meter span (105"), wing profile Clark Y mod., approx. 15 lbs. This airplane is partially built. It requires additional building and covering. Suitable motors are OS 160 T, OS BCX-1, Brison 3.2, or similar.

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Specifications

Wing Span 110"
Airfoil SD7080
Weight 59-61 oz.



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Designed by Mark Allen

V-tail

Vucanistics:

Wing Span 78.73"
Weight 33 - 38 oz.
Airfoil (8 1/2%) S7012
Wing Area 556.55 sq. in.
Wing Loading 9.25 oz./sq. ft.
Aspect Ratio 11.13:1
Average Wing Chord 7.07"

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Airfoil	SD7037/RG-15	SD7037
Aspect Ratio	13:1	11.2:1
Weight	60 oz.	40 - 43 oz.
Wing Loading	10 oz./sq. ft.	10 oz./sq. ft.

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Designed by Mark Allen

Fiberglass fuselage reinforced with Kevlar
Pre-sheathed wings and stab
Double taper planform
7 - 10 cell electric

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Spectrum-117, F3B or Thermal Duration plane, all molded wings w/"living hinge" built in for flaps & ailerons, carbon wing rod, T-tail set-up, blue bottom/white top, w/with out Fub. 3002 (flaps), Air, brass geared 401's (ails.), JR 3021's (elev., rud.), never been scratched, references upon request... Hans Wiederkehr, (516) 929-5507, duck2m@worldnet.att.net, New York.

1/4 Roebers Pilatus B4, 3.75 meter span (147"), wing profile Ritz 3, NIB... \$495.00; 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; 1/4 Rosenthal Ralley Morane (towplane), 2.78 meter span (109"), NIB... \$495.00; 1/5 Wik Twin Astir, all glass, NIB... \$595.00; Roedel PSS A-10 Warthog, all styro, 1.7 meters, E205 wing profile, weight ca. 4 lbs... \$100.00. Contact Robin Lehman, 63 E. 82nd St., New York, NY 10028; (212) 879-1634.

NIB: 2m Baby Esteem w/carbon/glass wing & stab... \$290.00; 2m Alycane kit... \$70.00; 1.5m Phasoar E. w/3 ch radio... \$70.00; Graupner motor, prop & speed ctrl... \$60.00. UPS shipping \$10 ea. item. Bill, (817) 285-0398, Texas.

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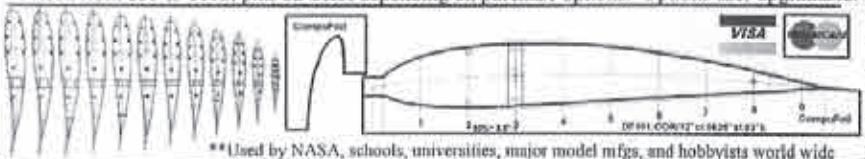
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Earning Your Wings

...by Asher Carmichael
Spanish Fort, Alabama



Asher is now using his left hand. Or, educating his left hand! Robin Lehman photo.



Well, fellow Glider Guiders, have you ever wondered what that left thumb was for, other than controlling the flaps on full house ships? I found out recently, and it helped me earn my wings!

Like the majority of R/C sailplane pilots, today, I am too dependent on cars. Not the contrivances that ease our wanderings and fleece our wallets, but the coupled aileron/rudder system. Robin Lehman has been cajoling us into experimenting with uncoupled flying in his columns, and I had played around with it some. But, I always found myself ditching the left stick in favor of the right. After all, I reasoned, a well balanced and mixed system should operate just fine for the type of flying I do. It has served me well, until recently.

You see, Rusty Rood has been our trusted tow pilot for some time, and he is a fantastic flyer. He takes pride in what he does, and takes particularly good care of his truck (read, "stuff"). I've been dropping hints that maybe he should teach me to fly the towplane, so he could enjoy airtowing from my perspective, but the time just never seemed right. (Read, "No way are you going to learn to tow with my Telemaster!")

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*Look MA! No wings!
This is how Asher educated his left hand! Or, tail up, ready for a take-off. Or, keeping it going straight on take-off. (It's done with the rudder alone.) Robin Lehman photo.*

Well, Robin had been encouraging me to pursue a towplane of my own, because he knows the importance of duplicating efforts in locales. "You never know when you'll need to know how to tow," has been his admonition. I agreed, and so I decided to acquire both a towplane and the necessary skills to fly it.

Robin also indicated that it might not be such a bad idea to purchase a used trainer in a "ready-to-fly" state, so that I could ease into power with what Jeff Troy calls a limited "emotional debt factor". "After all, you can always sell it after you have transitioned into your towplane," Robin said. "Better yet, I could bring down an old Telemaster that I use for just such purposes, when I attend the airtow meet in Pensacola in November, and I might be able to give you some instruction," he continued. I readily accepted his offer, as I knew that this might be one of the best opportunities to learn power flying from someone who understands both ends of the issue. A little coaching, I

R/C Soaring Digest

thought, and I'll be carving up the sky in no time. Little did I know that things just might not be that easy.

Just before the airtow meet, Robin called to confirm his plans and, towards the end of the conversation, he offered a suggestion, which at first seemed a bit odd. "Maybe we will let you taxi around the field first, to get you used to steering the plane on the ground with your left thumb. And, I think we'll leave the wings off to keep you from getting into too much trouble." Well, I can tell you, that I really didn't think I needed to go that far. What will all the guys think and say when I show up, with a box in my hands, that is controlling a wingless, uh, uh, uh... Thing? I could just hear them, "Hey, Asher. Why don't you just go over to the R/C car track and play with those guys?" Or, "Momma didn't give you enough money for a whole airplane?" I thought to myself, "Robin doesn't have much confidence in my flying ability." As it turned out, he knew a lot more about me and my flying handicap than I thought.

The day arrived, and everything was in place. I made sure that everyone there knew EXACTLY what we planned to do. I was simply going to "get the feel" of the plane on the ground and, if I progressed adequately, we would

attach the wings and go for the whole ball of wax.

We fired up the O.S. 108, and Robin demonstrated the task. "Just hold full up elevator, low throttle, and taxi out; then turn, and come back towards you," he instructed. Looked simple enough the way he did it. "This is going to be a piece of cake," I thought. Then, he handed me the box and said, "Your turn."

O.K. Left thumb on the left stick for rudder, a little throttle, too; and, away we go! Twenty-five feet out, and everything is fine, Captain! Then, the "thing" started to drift to the right. "Left stick," my brain said to my right hand! "LOOK OUT!" Somebody screamed. "It's going to turn, and come our way!"

I reasoned, "Left stick, left hand." Besides there were no ailerons; they wouldn't really help, anyway. "It's the rudder, stupid," I said to myself. "Ailerons won't do you much good here, will they?" Then, I let go of the right stick which, if you will remember, was holding full up elevator. The tail of the Telemaster lifted off the ground, just as pretty as you please.

"Look at that would you," I thought. "It wants to leap off the ground and fly." And then, my brain locked up, again, and all hell broke loose. I tell you, it was all over that field. People were running for cover. "Keystone Kops," was one viewer's comment. "Freddie Kruger," and "Halloween," came next. Lest you laugh and "thumb



LEHMAN

February 1997

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your suspenders" with a condescending air, old "Comfed" himself, Fred Rettig, didn't do any better on his first try, either.

I finally did get the "thing" settled down, and could navigate with what we felt was acceptable competence. So, on went the wings. "Now, taxi with the wings on," Robin said. "And, don't use the right stick to steer." I think the Telemaster did look like a waddling duck for a moment or two, as I fought the urge to use my right hand. I managed to master this technique to our satisfaction at which point he asked, "Ready to fly?" I responded positively, and he did a couple of go-arounds to check the trim. He finally gave me the box saying, "Here you go."

I managed to do better in my initial attempts at flying. Power models aren't a great deal different, except for a couple of things. You can go up or down at will, throttle controls altitude, and elevator controls airspeed in a little different manner than with sailplanes. Robin felt that my general abilities were up to par, so he finished off the day teaching me to land and take off, both of

which demand reliance on the ground-handling skills I had learned earlier in the day.

This was one great experience. My take-offs and landings looked pretty darn good, at least to my eyes, by the end of the day. I feel that I now have the basic skills required to reach my airtow goals. If you are pursuing the skills required to enjoy the growing airtow/scale movement, consider using Robin's techniques to help you "earn your wings". Oh, by the way. Thank you, Robin. ■

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April 9-13	Dortmund Intermodellbau - Germany		
April 19-20	FSS#42m/Unl.	Orlando, FL	Don Cleveland, (407) 696-7516
May 3-4	Spring Intergalactic R/C HLG	Cincinnati, OH	Paul Siegel, (513) 561-6872
May 16-18	Los Banos Slope Scale Soar-In	Los Banos, CA	Lynsel Miller, (408) 275-6403
May 16-18	SIG-LASS Midwest Slope Challenge	Lucas, KS	Paul Wright, (402) 796-2175 PaulW@isco.com
May 16-19	Coupe du Quebec Slope Race	Leclercville, Qc, Canada	Etienne Dorig, (514) 449-9094 JCARE@telts.com
June 13-15	Elmira Aerotow 97	Elmira, NY	John Derstine, (717) 596-2392 2076482@mcimail.com
June 19-22	1997 MSSC	Huntsville, AL	Ron Swinehart, (205) 883-7831
July 19	RCHLG	Orlando, FL	Ed White, (407) 321-1863
July 20	Gentle Lady	Orlando, FL	Rick Eckel, (407) 365-9795
Aug. 16-17	Scale Fun Fly (GNATS) Sailplanes/Motorgliders	Nigara Peninsula, Canada	Gerry Knight, (905) 974-7451 Don Smith, (905) 934-3815 Mistral@niagara.com
Sept. 13-14	Sauaire One Design Contest	Cincinnati, OH	Paul Siegel, (513) 561-6872
Sept. 13-14	DMFV Scale Masters Motor Glider - Germany		DMFV, 011-49-2 28 97 85 00 Ralf Scheifele, 011-49-7161 92 93 84 DMFV, 011-49-2 28 97 85 00 Ralf Scheifele, 011-49-7161 92 93 84
Sept. 19-20	DMFV Scale Masters Scale Sailplane - Germany		Phil Hill, (209) 686-8867 Paul Siegel, (513) 561-6872
Oct. 4-5	24th CVRC Fall Soaring Festival	Visalia, CA	
Oct. 11-12	Fall Intergalactic R/C HLG Championship	Cincinnati, OH	
Nov. 15	New England R/C Soaring Convention	Portland, ME	Steve Savoie, (207) 929-6639 jim.armstrong@acornbbs.com
Nov. 28-30	24th Tangerine	Orlando, FL	Don Cleveland, (407) 696-7516

NEW PRODUCTS

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

New Products

...from Unbeaten Path Imports



L33 Solo

The L33 solo is a 126" wing span ARC scale glider kit. Very little assembly work is required; the kit comes with a beautifully finished, white gel coated epoxy/glass fuselage, and pre-sheeted wing sections with locating tube; the spoiler and servo cut-outs are pre-installed. For thermal, slope or electric flying, the fuselage has space for up to 16 - 1700SCR cells. Model 002-00060 suggested retail price is \$439.00.



Fashion

Fashion is the production version of a 59" wing span contest model, which has been flown successfully in European HLG contests using a Selig 4083 airfoil. Model has a removable nose cone (F3B style) and can be built as a pure HLG or electric. Switching between versions can be accomplished by purchasing an additional nose cone. Model 002-00080 suggested retail price is \$169.00.

If you have a new product, please let us know. There is no charge, although space restrictions may apply.



DG 200/17

The 1:8 semi-scale model DG 200/17 duplicates the design of the original. This 83.5" wing span kit contains a gel coated, carbon fiber reinforced, epoxy/glass fuselage. The two wing sections have a Ritz combination airfoil, come pre-sheeted and ready for radio installation. Model 001-00040 suggested retail price is \$209.00.



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The 1:6.15 semi-scale LO100 model duplicates the elegant design of the original aerobatic sailplane from the 50's. This 64" wing span ARC kit contains a gel coated, carbon fiber reinforced, epoxy/glass fuselage. One piece wing has an authentic elliptical planform, E205 airfoil, and comes pre-sheeted, ready for radio installation. Model 001-00050 suggested retail price is \$219.00.

For additional information or to obtain a catalog, contact Unbeaten Path Imports, P.O. Box 271, Oconomowoc, WI 53066; (414) 569-5711 (Mon. - Thurs., 7 pm - 11 pm CST); fax (414) 569-5915; Internet Site: www.unbeatenpath.com. ■

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TIDBITS & BITS

Response to Power Flying

The following is a response to the article "An Option to Power Flying for Teaching Model Glider Pilots" written by Craig Foreman, December 1996 RCSD, page 28. Joe Enluet, Laurenceville, New Jersey notes the following.

"It is a very interesting and useful subject. I think there is one minor element being left out, and might be worth implementing. That is, the use of spoilers, if the glider has them, on final approach. The readers know that the use of spoilers will increase the rate of descent, without increasing the airspeed.

"If a little bit of elevator trim is applied in conjunction with the spoiler, just before touch down, the glider can really be landed at a much slower ground speed. In windy conditions, some R/C gliders tend to fly quite fast. It is much desirable that they can be landed slower. However, if there is sufficient head wind, the use of spoilers could be at the pilot's discretion.

"I hope that this note is useful to the readers."

ED: We're sure it is, Joe. Thanks!

A Request

The following is from *Slow&Easy*, Royston, Georgia.

"I would hope that more modelers out there would share their experiences with us poor, dumb beginners, starting with the basics, and going through it all. I know this is a tall order, but what is common knowledge to all of you, we have to scratch, dig, and beg for."

ED: That is a tall order indeed, *Slow&Easy*. We'll try to get more articles that start with the basics. In the meanwhile, if you have any specific questions, just let us know. We'll try to help you out.

SMSK International Soaring Event 1996

Morten Munkesoe, Seelands Model Soaring Club, Denmark, sent in a copy of the results of the International 2M Postal Soaring Contest, which is held every year, everywhere.

"Generally, the interest regarding soaring competitions has been somewhat low in 1996. The reason is (I believe), because we have the National Postal event, the Danish Championship, and a Seeland Cup, where one has to participate in four competitions to be able to win, etc. While people are getting a little fed up with 2m soaring events, the International Soaring event has indeed survived, including 41 wild pilots, mainly from our country, and from the U.S.A. and New Zealand, as well."

Of the 1996 event, "We had windy conditions all day, but it was beautiful and sunny. By means of 300 gr. extra weight in the aircraft, we succeeded to get through two rounds. The picture is taken on the landing strip of SMSK. I am the one with the old Blue (Phoenix)."



ED: Morten goes on to say that he has been surfing the internet and has found a lot of clubs that may get an invitation to the next event, in 1997. Of course, you don't have to wait. Morten can be reached at Morten_Munkesoe_smsk@dk-online.dk.

F3B Team Selection Finals

Terry Edmunds, Solon, Iowa, was Jury Chairman at the F3B Team Selection Finals. The photos here were taken by Terry at the event.



"Team U.S.A.: Mike Lachowski, Dan Halverson, Dan Hesselius, Rich Burnowski, Howard Stearn, Dennis Phelan."



"Albuquerque A Team: Don Scegiel, Buzz Averill, Phil Gilbert, Phil Renaud (front)."



"Los Angeles Team: (Back) Randy Spencer, Joe Wurts, Gordon Jennings, B.J. Weisman, Dwayne Lane. (Front) Tim Renaud, Bob Pope, Thomas Acres."





"Colorado Team: (Back) Bob Edson, Skip Miller, Lenny Keer. (Front) Mark Howard, Dusty Miller."

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"The 1997 USA F3B Team: B.J. Weisman (alternate), Randy Spencer, Joe Wurts, Gordon Jennings."



"The winner: Would you believe this model was totally rebuilt to finish the last round after a crash?"

International Postal Contest

Sometimes it takes us awhile to get some submissions into RCSD. We apologize to Kale Harden, Palm Harbor, Florida for not including his photographs much sooner! Readers, this is not the same postal as the one mentioned above.

"The International Postal Contest (IPC) is in its 13th year and still going strong, with eight teams participating in the last contest in March 1996. Since previous articles about IPC have gone into detail about the competitions, a short synopsis to bring the reader up to speed, and to enlighten those who have never heard of the IPC before, might be in order.

"It began in 1983, when the Brisbane, Australia Model Soaring Club and the Pelican Soaring Association of St. Petersburg, Florida began exchanging competition results by mail. A simple competition of 6 minute precision duration: 4 rounds. Publicity about the competition was spread through the modeling press, and other countries requested that they be allowed to compete. Over the years, there have been 15 different teams competing in the Postal contest, with the largest single contest having 8 competing teams. Tasks have varied and have included Speed and Distance, as well as the basic 6 minute precision. The consensus of team correspondents has been that we should stick to the 6 minute task and fly 5 rounds, which is where we are at, right now. We fly twice a year, in the spring and the fall, to equalize weather somewhat with the teams of the southern hemisphere. Our spring is their fall, and vice versa.

"All club members can fly in the competition, but the team score is comprised of the best five individual scores. Maximum individual score is 360 flight points, plus 100 landing points, equals 460, times 5 (rounds), equals 2300. Maximum team score is 2300 times 5 = 11,500. Note that some of the team scores shown below are quite good, as are some of the individual scores. Lawicki of the Michigan team always posts high scores flying his DUCK!!

"The most recent contest was held in March 1996. As usual, the teams with good weather always post the best scores. Results this time were:

1. Scotland	10,694
2. Pelicans (Florida)	10,557
3. Switzerland	10,536
4. Brisbane, Australia	10,106
5. Wellington, New Zealand	9,495
6. Travis City, Michigan	9,280
7. South Africa	8,449
8. Adelaide, Australia	8,019

"Individual scores of note were: Troy Lawicki of Travis City (2285), Armin Rothlisberger of Thun, Switzerland (2271), Colin Sparrow of Scotland (2267), Andy Lewis of Scotland (2231), Bob Bingham of the Pelicans (2219), and lastly, Bob Wargo of the Pelicans (2212).

"Anyone desiring additional information about the IPC can contact Kale Harden, 3184 Brunswick Circle, Palm Harbor, FL 34684."



Five top scorers for Pelicans: (L - R) Bingham, Wargo, Harden, Langevin, Schoenstein.



Pelican Team, March '96, U.S.A.: (L - R) Schoenstein, Good, Gnad, Strommer, Berry, Langevin, Williams, Bingham, Wargo, Harden, Pieter.



Kale Harden, April '96, U.S.A., Australis II, all glass - CF - Kevlar™.



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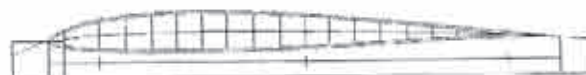
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The Swiss Team, Thun, Switzerland.



Bob McGrath's son, Gentle Lady sailplane, New Zealand.



Kevin Sharp with his Gold Cloud model, 100", R.E. Brakes, Scotland.



Brian Sharp with O/D "Reiver 93", 168" (WOW!), R.E. Brakes, Scotland.



Garry Jordan adjusting controls on Australis, his own design. Gabe Cooper is the interested youngster. Brisbane, Australia.

International Scale Soaring Association (ISSA)



ISSA is a non-profit organization formed in 1996, governed by a board of directors, dedicated to the advancement and expansion of all aspects of scale R/C soaring, both vintage and modern. It encourages I.S.F. Achievement Goals, and promotes general interest in soaring flight. Quarterly newsletter provides information on plans, kits, accessories, and membership list of others interested in scale, as available.

General membership is \$15 per year, which includes organization By-Laws. Rules and Regulations for initial ISSA festivals and competitions, to be held at Empire Polo Field in Indio, California, are also available. For additional information, contact:

International Scale Soaring Association
37545 Oak Mesa Drive
Yucaipa, CA 92389-9507
e-mail: 70773.1160@compuserve.com
AMA Charter #3733



Mark Furwell, Yeggy Schleid (& plane), Garry Jordan (launching), Sidewinder, foam w/glass wings, Brisbane, Australia.



Jim Moxon flying BMAC Legend w/glass wing. Australia.

tinuous climbs in thermal. It is NATURE, because this is the prevalent element of Val di Fassa; it is CULTURE, simple but profound, originating from the meeting between enthusiasts coming from all over Europe, but speaking the same language: slope flying models.

"This kind of a meeting naturally needs help from the most important model firms and tourist organizations; until now, this has happened, thanks to the excellent (coverage), distributed all over Europe (5000 copies), the reports made by the national RAI-TV, and most important Italian magazines.

"As usual, a very nice ceremony of awards was held at Hotel Bellavista in Val di Fassa, which closed two days of flying and nature. Everybody received a gold medal; the first of various categories also received a special award. Almost everyone received a "drawing premium" for kits, servos, accessories, and radios furnished by Johannes Graupner and ARC Fulcro Service."



"The last creature from Josef Wimmer. A strange bi-plane with a mixture of antique and modern technique; the wings and tailplane are all wooden with geodetic design and elliptical dihedral; the fuselage is a carbon tube; model weighs 2.2 kg., with a wing span of 3 mt."



"Some of the participants just before launching towards Marmolada's glacier. Uwe Gewalt (R) has a new, little HLG, which is really efficient in every condition."

Euromeeeting 95

The 18th edition of Euromeeeting 95 occurred on July 29 - 30, 1995, with more than 160 participants; it was another success for the organizers. The following information was provided by *Berriardo Cason, Italy.*

"This impressive swarm reached the grass slope at 2500 meters over the sea, in the center of the Dolomiti Mountains. They arrived to race, as well as take part in and look at the new trends in construction, kits, and technical details.

"Euromeeeting is a competition where the most important European firms propose and test new models and products, so that you not only see them in their boxes or in catalogues, but in the real situation on the slope.

"Here, slope flying is sport, because of the labor necessary to reach the famous COL DEL CUC, a beautiful slope site just in front of Marmolada's glacier; one stays two days at altitude with cold and warm weather, wind, sun and, sometimes, rain. It is a SHOW for the slow and fast, with aerobatic flights and con-



"Some of the aerobatics and reproductions realized by Gerhard Bruckmann from Villach, Austria; all the fuselages are made by Harry Rosenthal, Germany."

"Some of the participants and models together for the ritual, group shot."



"A moment at the prize giving at Hotel Bellavista. The man speaking is Leopoldo Rizzi, organizer and promoter of Euromeeting Val di Fassa; Johannes Graupner (R) is one of the most important sponsors of the meeting." ■



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New kits coming soon are: SCALE; 122" span BABY BOWLUS; SLOPE; MINI SLOPE HAWK, THERMAL; 72" span KWIK FLY.

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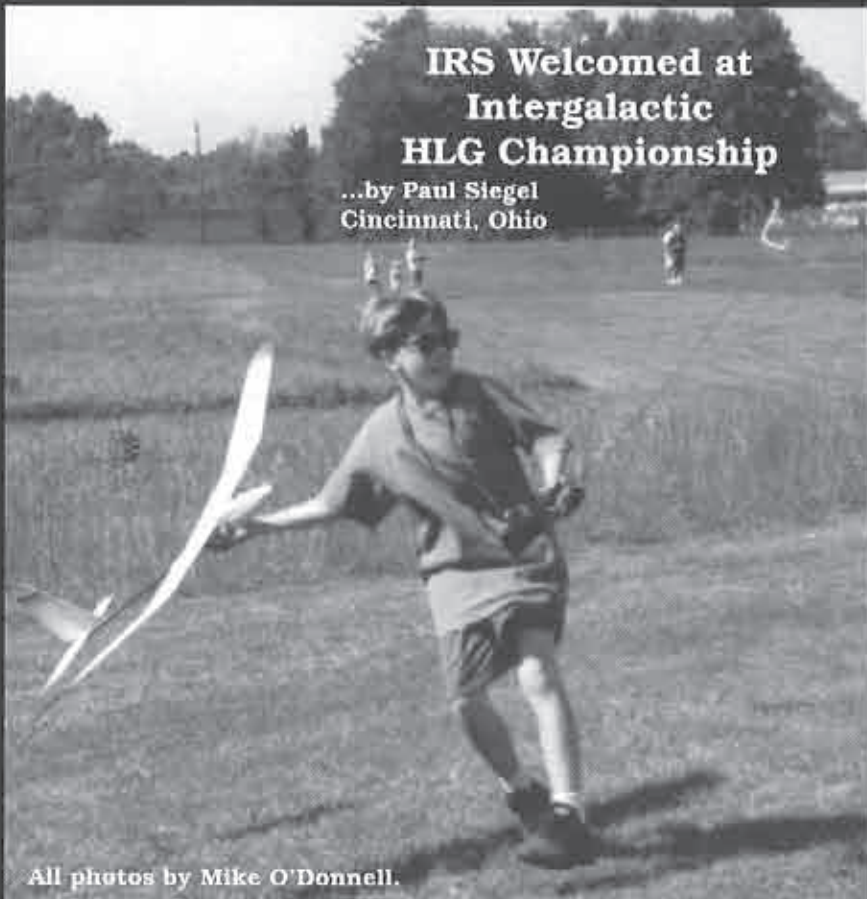




ZIKA

A Thanksgiving Poem
 (Author unknown. Provided by Dale King, Wylie, Texas. ED.)
 The Turkey shot out of the oven,
 And rocketed into the air,
 It knocked every plate off the table,
 And partly demolished a chair.
 It ricocheted into a corner,
 And burst with a deafening boom,
 Then splattered all over the kitchen,
 Completely obscuring the room!
 It stuck to the walls and the windows,
 It totally coated the floor,
 There was turkey attached to the ceiling,
 Where there'd never been turkey before.
 It blanketed every appliance,
 It smeared every saucer and bowl,
 There wasn't a way I could stop it,
 That turkey was out of control.
 I scraped and I scrubbed with displeasure,
 And thought with chagrin as I mopped,
 That I'd never again stuff a turkey,
 With popcorn that hadn't been popped.

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All photos by Mike O'Donnell.

IRS Welcomed at Intergalactic HLG Championship

...by Paul Siegel Cincinnati, Ohio

No, the Cincinnati Soaring Society did not go through a tax audit at the Fall Intergalactic R/C Glider Championship! Rather, the Immediate Results Scoring ("IRS") system was used successfully.

A brief description of the IRS scoring is in order. After each flight group completed a round, all timers compared their scores to determine what the highest score for that flight group was. Several solar powered calculators were available at the scorers' table, so that each timer could divide their pilot's score by the highest score in that particular flight group. This would yield the normalized score for their pilot in that flight group.

Each pilot thus knew immediately how well they had done in each round, as well as how well the winner for that

Sean Harrigan winds up to launch his Corndogger HLG.



The winners' circle! Front row (L - R) Paul Weise, Jon Harrigan, Sean Harrigan, Paul Siegel. Back row (L - R) John Schmall, Joe Hahn, Bob Massmann. Note the "all flying" tail on Paul Weise's Orbitor!

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group did. The timers then added up the running scores so that overall standings were, also, always available. No waiting was necessary for scores to be run through a computer, printed out, and then posted. An added benefit was that this scoring system made it easier for the contest director to run the contest. Thus, the CD, Mike Welch, could actually fly rather than do math all day!

Conditions for the Fall Intergalactic were as good as you can get without buying an airline ticket to Southern California! Sunny skies with temperatures in the mid-60's generated lots of lift. The light, shifting winds were perfect indicators of thermal locations. The old sailors' saying, "May the wind always be at your back," was certainly appropriate. When any breeze was detected, the technique used was to face directly downwind, and then fly the glider into the area you were facing. More often than not, "Boom!" The thermal was being "fed" by the wind at your back! With twenty seven fliers divided into just two flight groups, it was not unusual to see gaggles of up to a dozen gliders working the same lift. Who said that hand launch soaring is not a spectator sport?

Eight rounds were flown with goals ranging anywhere from one to five minutes, providing a great deal of variety, in order to keep pilots on their toes. A particularly interesting task was in round six, where only the best three flights counted (three minute maximum), but with a ten second penalty for each launch after the third launch. This made for some interesting strategy. When the round began, nobody wanted to launch right away; each waited for someone else to risk one of their three "free" launches,

Fall Intergalactic Hand Launch Glider Championships at the Cincinnati Soaring Society field.

while they went looking for lift. However, if they waited too long, there was not enough time left in the round to be able to get the three theoretical maximums! Depending on your point of view, the other gliders became either "markers" to show the way to lift, or "leeches" following the leader to attain a max!

It came as no surprise that the Monarchs dominated the competition, sweeping the top three places, with Joe Hahn coming out on top by a scant 19 points over Bob Massmann. Jon Harrigan of Lake Geneva, Wisconsin, an up and coming pilot, not only won the junior division, but he outscored his dad, Bernie!

With the light wind conditions present, the slight penalty of having a lower L/D with the polyhedral Monarchs was more than compensated for with a better minimum sink; this allowed the Monarchs to out climb the alleron ships. However, several Monarch pilots had alleron ships standing by, in case conditions required a ship that could really range out, hunting for lift!

Grilled out lunch was provided to the competitors. Mary Siegel's famous brownies (while they lasted) provided a "sugar buzz" that accounted for an extra five feet on a typical launch!

Special thanks go out to DJ Aerotech for sponsoring the contest, and for providing a Monarch for the raffle. Mark your calendars now for next season's 1997 Intergalactic HLG Championships, which will be held on May 3-4, and October 11-12. I'm the event contact, and my number is (513) 561-6872. ■

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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, Ron Swinohart, 8733 Edgehill Dr. SE, Huntsville, AL 35802; (205) 883-7831.

Alabama - Central Alabama Soaring Society, Ron Richardson (Tres.), 381 Stonebridge Rd., Birmingham, AL 35210; (205) 956-4744, e-mail: lamrehi@concentric.net.

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

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

Arizona - Southern Arizona Glider Enthusiasts, Bill Melcher (contact), 14260 N. Silwind Way, Tucson, AZ 85737; (602) 325-2729. SAGE welcomes all level of flyers!

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

California - California Slope Racers, John Dvorak, 1063 Glen Echo Ave., San Jose, CA 95125; (408) 287-0375.

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 - South Bay Soaring Society, Dave Burwell, P.O. Box 2012, Sunnyvale, CA 94087; tiedoff@ix.netcom.com.

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.

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