



THE VINTAGE SAILPLANE ASSOCIATION

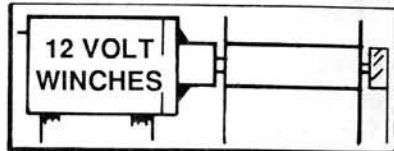
VSA is a very dedicated group of soaring enthusiasts who are keeping our gliding history and heritage alive by building, restoring and flying military and civilian gliders from the past, some more than fifty years old. Several vintage glider meets are held each year. Members include modellers, pilot veterans, aviation historians and other aviation enthusiasts from all continents of the world. VSA publishes the quarterly magazine BUNGEE CORD. Sample issue \$ 1.-. Membership \$ 10.- per year.

For more information write:

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Vol. 5 No. 2

February 1988

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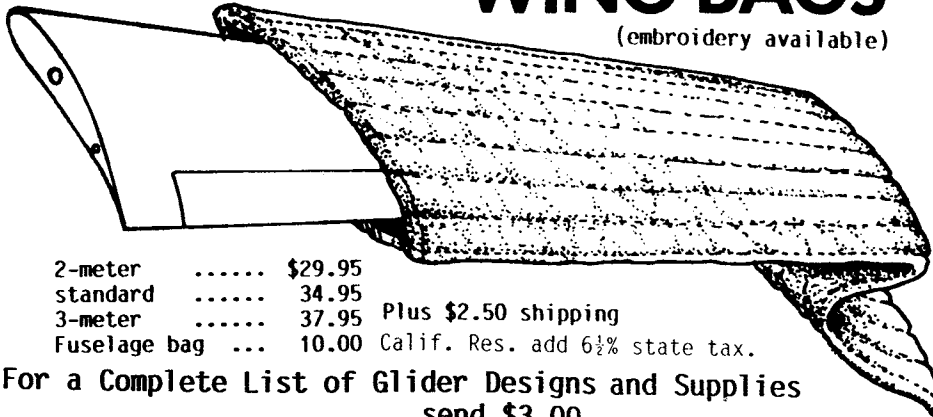
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HI START

In the January issue I mentioned a bit about F3B and Thermal Duration, and also said that I'd talk about slope soaring in this issue, so here goes. California is the place where you hear more about slope soaring than any other place in the country, probably because that's where it was done first and most often...but there are other places where slope soaring is done...and a few of them were mentioned in the last RCSD -- in Washington and Oregon, for example. Not surprisingly, there are even good slope sites in the eastern United States, but we don't often hear about them. Every once in awhile you read about someone doing his 8-hour slope duration for LSF Level V on an eastern slope, and I think it's a generally well kept secret that easterners and Canadians DO have useful slope soaring sites. I hope that readers who use these slopes will talk more about them and let the secret out of the bag.

To me, slope soaring is as much fun as any other kind of soaring - perhaps more. I have slope soared on Harris Hill near Elmira, New York, and on other hills nearby, and from Torrey Pines near San Diego in California. These are among the most famous soaring sites in the country because of the full-scale soaring that goes on there as well as the model soaring. Sadly, I've not had the chance to soar any of the other well-known slopes...but I hope to correct that as soon as possible. There are sites in Michigan, Pennsylvania, Tennessee, Florida, and in just about every state you can name, save perhaps some of the "flat" states where hills aren't the usual topographical feature. Even there, I have heard of pilots slope soaring RC models from barns and grain elevators!

Slope soaring can have infinite variety: races, aerobatics, combat, power scale, cross country (as is practiced in England), pylon and scale...and even others I haven't heard about. Duration, of course, as mentioned above. In those parts of the world where wind and lift is smooth and consistent on conveniently located slopes, it's just a matter of stepping up to the crest of the hill, throwing the sailplane out into lift, and going up! What you do after that is pretty much dependant upon the kind of machine you are flying and the extent of the lift. At Torrey Pines, for example, you can soar out over the ocean for several hundred yards or more, finding good, smooth and consistent lift way out, and you can soar close to the beaches and high above them...say 500 or 1,000 feet or more. On inland slopes, the lift is not quite as smooth or consistent because of the hills and trees - and buildings too - which tend to break up the lift, or at least make it more turbulent...but there's a lot of excellent soaring to be had.

As I see it, the biggest problem of slope soaring from inland sites is a place to launch from and a place to land. Some of my friends in New Hampshire went slope soaring in Vermont, along Interstate 91, where there were some beautiful open slopes rising above the highway, easily accessible from the road. Less than 15 minutes later, perhaps 30 or 40 cars had stopped alongside the Interstate so their passengers and drivers could watch the fun. Well, you can imagine what happened then...a Trooper came by and chased them away, stating that glider flying constituted a traffic hazard! Once, I flew in Rhode Island from a beautiful but small slope overlooking the bay, accompanied by a young herring gull that flew in formation with me for over ten minutes. In England, I flew from the site of an old iron age hill fort where the lift was barely sustaining, and my companion gave me a good lesson in soaring in marginal conditions.

In Europe, you see the quarter-scale giants slope soaring...and flying wings... all the way from the Baltic coast to Italy. Europe is THE place where slope soaring is a way of life...and the thing that keeps nagging at me is the fact that the US has that potential. True, our slopes tend to be more heavily wooded than most of those in

Europe, but there IS land available and there are slope sites, if only we would look for and try them. Yes, you may have to drive or walk a few more miles than you do for a thermal site...but it's worth it. Slope soaring has a GREAT future here, and all we have to do is seize the opportunity.

Happy soaring, *Jim*

Letters from the troops...Kale Harden writes from Sunny Florida

You may remember Kale Harden from the many letters he has written about the Postal Competitions over the years...a worldwide participation event by mail which Kale organized and ran for many years. Now, he sends us a letter telling about his recent activities. I met and flew with Kale back a couple of years ago when I was visiting Florida for some R & R.

"Enclosed is my subscription to the Digest. Stil enjoy it very much.

"The 'Postals' are still going strong, but I had to turn over the reins to someone else. Reinhard did the last one, and New Zealand is doing the current one.

"We head for 'down under' again next month (November 87) to visit our daughter, and will be gone two months.

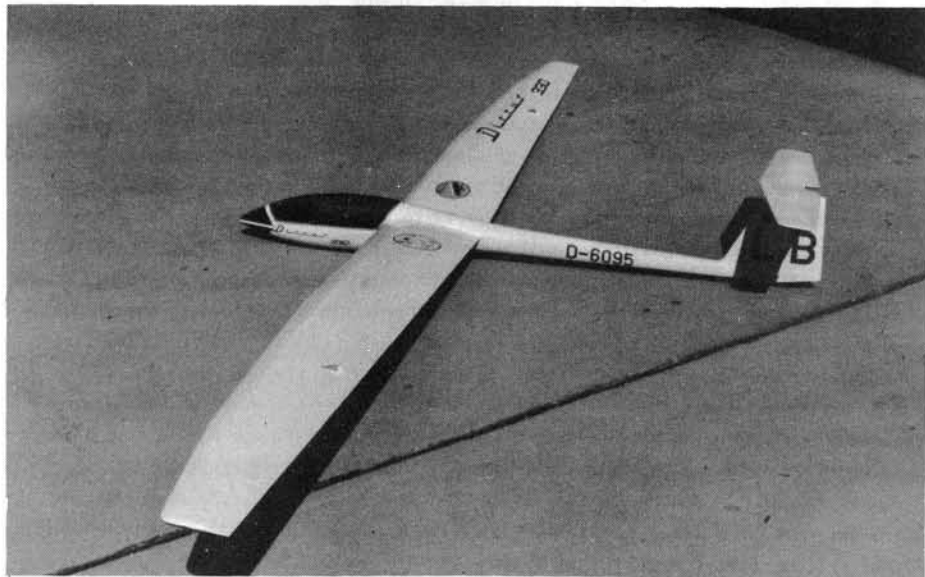
"I have a 3.4-meter DISCUS just about ready to turn loose (see pic) but am having a slight problem with the aileron linkage. It's almost solved, however.

"Rich bonnell gave me his old WINDSONG and I am flying it now, but I still prefer my EUROPA which I brought back from 'down under'. It flies great!

"Walt (Good) is fine; leaves tomorrow for the symposium (The MARCS symposium, reported in an earlier issue of RCSD). You will see him there, no doubt. (No, Kale, I didn't, because I didn't attend. As usual, was in deadline for one magazine or another at that time, and undergoing a last-minute flurry of activity...JHG.)

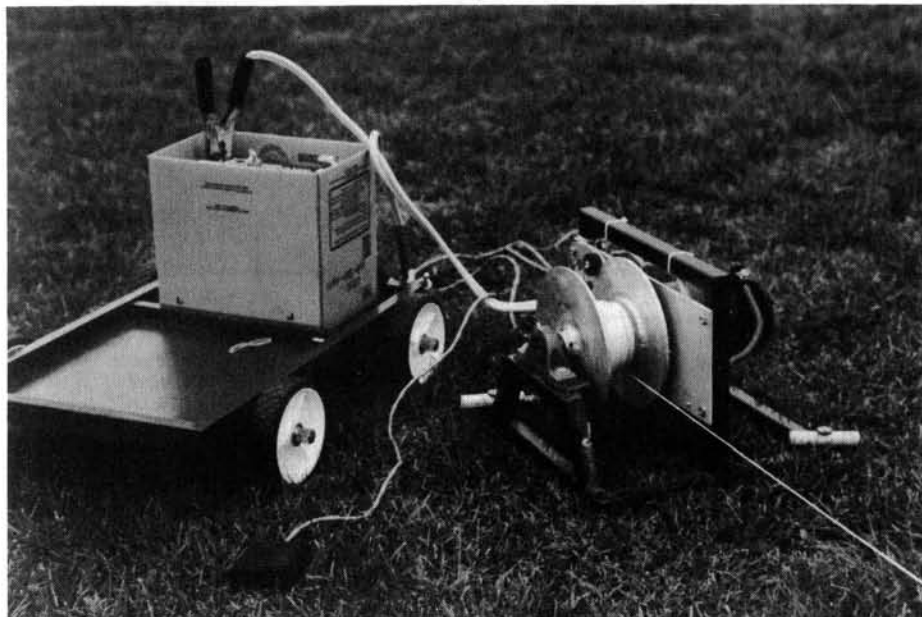
"Haven't heard from Sean Walbank (neither have I). See ya, Kale"

Readers, judge for yourselves about the new 3.5-meter DISCUS shown below. Note the discus-shaped wing leading edge from which it got its name. Klaus Holighaus - a well-known competition pilot in the full-scale soaring world, and also chief engineer and designer for Schempp-Hirth in Germany, designed the DISCUS and named it. It was the first production sailplane to feature this new wing planform as it came from the factory.



WINCH POPULARITY.....GERRY KNIGHT

Gerald A. Knight, 360 Bunting Road, St. Catherines, Ontario, Canada L2M 7L6 wrote some time ago about the winch that he and two friends built (see pic below). John Westhouse built the "dinky little cart" and the winch itself was constructed according to the plans and instructions in the June '86 Model Builder magazine. It works "great" according to Gerry...so, if you are looking for winch information and a good one to build -- have a look at MB for June '86. I should also mention that MB magazine has a superb soaring column written by Bill Forrey. If you haven't seen it, you should look for a copy of Model Builder and find Bill's column. You can't lose!



"Dinky little cart" holds winch frame and battery box. Note the "T"-shaped ground spikes that secure corners of winch frame to ground. Welded square tubing forms the frame of the winch. At left, pillow block is bolted to frame member and supports shaft of the drum. Starter motor fastened to vertical frame member at center. Heavy-duty "jumper" cables attach battery to motor. Foot switch in foreground. Winch frame is painted dark blue-black. Drum and plate are aluminum. Cart is fire-engine red.

More letters.....Ed Devlin talks about the Girsberger 'foils and a design

"I'm almost finished with the ruff drawings of a new 100-plus incher...for ME! I do like the general shape of the Adante body, but I've changed the nose bulb to a parabolic curve rather than the ship's curve shape of the Adante...adding a bit to the nose bottom to lower the servos below the canopy line. (I might add that Ed likes a pilot figure in the cockpit - usually Donald Duck...but, hopefully Orville - a goose or swan that isn't seen here in the US, but still a Disney character...JHG). I am incorporating more stab area, a taller fin and rudder, but am leaving the stab thickness at 9%, or about a half inch...no more thickness needed there. The airfoil is a Girsberger #15 upper and #12A lower on a wing with 1024 square inches of area. If I did my homework right, the Cl will be 0.615 and the Cd will be 0.0141. The quarter-chord pitching moment ought to come out about 0.066, and the center of pressure somewhere around 35.7%. The root chord will be 11 inches, and the tip chord 8 inches. The planform will be pretty much Aquila/Sagitta. The above figures are at a 3° angle of attack...or 4.2° angle of incidence to the waterline, thrust line, center line, or whatever word is used.

"These translate into about 4.5# lift from the wings, at only 3.2 ounces of drag. Max camber is at 34.9% chord where the camber value is 1.748%. Total thickness is about 8.884% chord, and the pitching moment will be about -79.8 inc/oz.. Using Eric Lister's formulas, she should fly at 29.4 feet per second (20.06 mph) at a Reynolds Number of 162,616.6 taken at the M.A.C. Although not as thick as the Quabeck 2.0/9 airfoil, it is very similar, although the curves are more parabolic than Quabeck's.

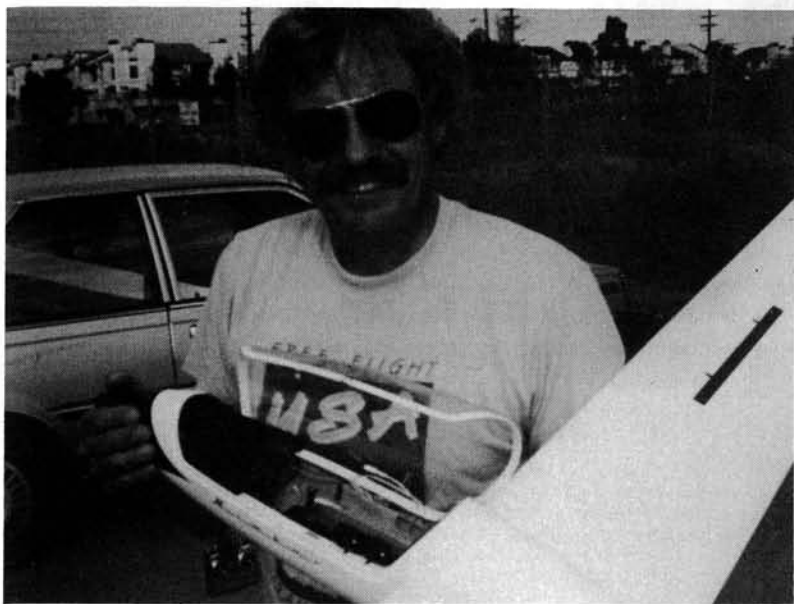
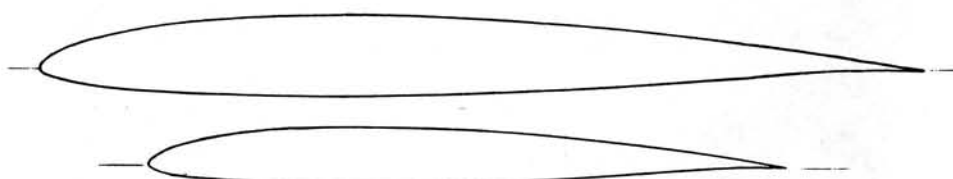
"I plan to use all the mixing and compensating I can get hold of on this machine. The ailerons will throw up to 60°, flaps up and down with ailerons as full-span flaps. This design will be an all-wood, built-up fuselage, and not fiberglass and foam wings, too.

"By the way, when you take your walks each day, get in a little hand-launch practice of 20-minutes or so, but take a tip from Bob Owens: make up a high start to save the arm at first. Use a piece of SIG 1/4" or 3/8" flat rubber about 50 feet long. Double it, and attach to it a 50-foot piece of monofilament line. It worked with Bob's ZEPHYR, and oughta work with whatever you fly. (Mine is a Dodgson PIVOT...JHG).

"Oh, by the way...back to Girsberger. I started with 14 combinations of 'foils and figures in chart form for the new design, and boiled it all down to 4 possibilities. One was a 3% camber, 0.68 Cl; another was a 1.045% camber and 0.635 Cl; a third was 1.66% camber and 0.56 Cl, but I finally decided on the above data. I'll get back to you later.

(Signed) Ed."

Eds airfoil plots are shown below in rough sketch form to show what the Girsberger hybrid airfoil looks like.



SULA'S MODELER OF THE MONTH -----Hugo Sandroni

Several months ago, Hugo Sandroni - a member of SULA, the Soaring Union of Los Angeles, won the award for Modeler of the Month for his 7-pound MINI NIMBUS sailplane. According to the SULA newsletter, Hugo's sailplane "has one of the most fully detailed cockpits ever seen in an

operational RC glider." RCSD was fortunate to have some pictures and correspondence with Hugo, and we'd like to share some of his comments.

"Enclosed are some pictures of my MINI NIMBUS, made from a very old Graupner kit. It has rudder, elevator, ailerons, spoilers and retractable landing gear. I just flew it today for the first time, and she did very well except for the landing gear which collapsed on the second landing.



"I'm a scale enthusiast and I think this will be my main event in the future. Now, I'm flying free-flight Wakefield in competition, and scale gliders for fun. Back in the early 50's, I flew the full-size Grunau Baby in Argentina which was my home. I remember they had many Grunau II, III and VII, Olympia Meise, Kranichs and Skylarks... as well as others...so my next project will be a Grunau Baby.

"The MINI NIMBUS in the pictures has a foam/balsa wing construction, and -yes- I fixed the landing gear, drilling holes in all the shafts (tubing) and putting drill bits inside...and it collapsed!!! So, I replaced all the brass shafts and drill bits with steel bolts -- and will let you know if it works or not.

"The guy with the glasses in the picture is me, and the field is the SULA field in Los Angeles." Hugo Sandroni, 1617 W. 135th St., "C", Gardena, CA 90249.

Thanks, Hugo, for letting us know about your project. I'd like to see your bird fly sometime, and wonder if maybe you'll be going to that Scale Fun Fly up in Washington at the end of May? JHG.



MORE LETTERS.....Bill and Bunny (B²) Kuhlman...flying wing experiments

Recently, Bill Kuhlman and I have been corresponding about serodynamics and other interesting subjects. Last November, Bill sent me a letter describing his "Wing" work, so I thought I'd let him tell you about it. "B²"'s address is P.O. Box 975, Olalla, WA 98359-0975 in case you'd like to find out more. JHG.

"We know that you're interested in flying wings, and thought that perhaps you would be interested in a recent experience of ours.

Dave Jones' Blackbird 2m has held a special fascination for us for quite some time. We have previously built it with only one exception to the plans; we tapered the main spar. Being the sorts of people who do a lot of reading, however, we decided that the basic design had some other possibilities. What came from this was an FAI maximum wing area (2325 square inches), 9+ pound flying wing!

Our original intent was to construct a XC machine that would be visible at high altitude, be immune (by definition) to horizontal stabilizer blowoff at high speed, and be just as maneuverable as a "standard class" model. We used the CJ25₂09 airfoil.

The first "flights" consisted of some hand launches (!) at a Portland Area Soaring Society XC meet. Due to being tail heavy, this amounted to controlled crashes, however. Our next attempts, with another pound of lead in the nose, took place at a local slope site - SUCCESS!

We had a highly modified Metrick (Selig 3002 airfoil on straight foam core wings, R E A F) and our Blackbird 2m with us. The wind was blowing pretty good, but from an angle, so that the planes flew "upwind" and "downwind". You could really get some ground speed going one way, but had to fight your way back going the other. The Blackbird flies very well in thermals, but it's a real joy to fly on the slope, and the Metrick flies MUCH better on the slope than our previous modified kit. The enlarged Blackbird, however, was AWESOME!

Thrown over the edge, it immediately started climbing - much faster climb than either of the other two ships. In just a few seconds it was higher than either of the other two ships had gotten in nearly two hours of flying. Previous experience with the 2 meter version really cut down the learning time, and within a few laps it was really performing. Here was an airplane with a span of over 9 feet, whipping up and down the face of the slope like there was no diagonal vector to the wind at all. Some down trim and the speeds were phenomenal; we made some very close passes and there were no shrieks, no whistles, not even a whisper. If there was any noise at all, and there

was some controversy, it could only be described as a soft hum. Beautiful, graceful loops. The turns were unbelievable - 75 to 80 degree bank, some up elevator, and the inner wingtip was close to being the pivot point. In nature films you often see flights of birds in which the birds flip directions. The only difference here was the absolute smoothness with which this airplane moved. If ever the term "like it was on rails" applied, it was here.

One of the difficulties that we have is that at times our piloting skills do not quite meet the challenges of situations that we run into. Such was the case here. We lost sight of her below the edge of the cliff and lost control. Next thing we knew there was nothing but the shattered hulk in the water below.

It seems like when we finish building an airplane we always say to ourselves, "if we ever build this thing again, we're going to ...", and so it is with this one, too. We'd be

happier with thicker sheeting over the leading edge, and a lighter fin structure, and both of these changes will be incorporated into the new one.

A couple of nights ago we spent some time watching the computer draw out the 26 new wing ribs and then cut them out, and tonight we used the table saw to cut the tapered spars; we're making rapid progress on the replacement. Still, the emotional high that we experienced during that 20 minute flight of the original will never be forgotten. What an experience that was."

Good soaring, *B²*

38 OR NOT 38? THAT IS THE QUESTION.....Earl Levin *

Earl Levin responded to "Hi Start" in the previous issue, and I'd like to let you in on what Earl has said about the subject. Frankly, I couldn't have said it as well... Take it away, Earl... *(8356 Charbono Court, San Jose, CA 95135)

Dear Jim:

After reading your HI START article on F3B, in your latest issue, I'd like to submit the following comments. F3B or not F3b, that is the question, and a good one. This should stir up a lot of comments as you say, one way or the other.

My club, the South Bay Soaring Society (SBSS) regularly holds 3 F3B contests per year, and has for several years. We believe ours is the only club in the country that holds that many regular F3B events. There is a subgroup, Team Synergy, that has been heavily involved in F3B for several years. I was part of the original group that built a series of the original Synergy I's, and in fact, have one partially built. Anyway, SBSS's Rich Spicer and Steve Lewis made it to Germany this past summer. Unfortunately, the Synergy II was not suited to the weather conditions, nor had the US Team had the advantage of participating in that level of competition before. The Team was unhappy that they did not fare better for the good old USA, but they came back undaunted, feeling good about having eliminated some of the earlier team problems and attitudes. Spicer is already well along with the design of Synergy III.

To try to stir up some more interest and to try to promote a higher level of competition on the West Coast, George Paige, our club president, contacted flyers in the LA area as well as some up in Washington state. His intent was to promote regional competitions up and down the coast, but, his efforts were unsuccessful, which is indeed unfortunate. Our geography prevents us from having the level of competition that is prevalent in Europe.

While in Germany, team member Lynn King took the time to visit Alexander Schleicher (I hope that's the right spelling), and have a tour of the factory where the full-scale ASWs are built. He reported that it is amazing how our building techniques for F3B ships match with those processes used for the real thing. This is really a compliment to our technology and expertise.

Where F3B will go in the US is anyone's guess, but I'm sure we will continue to pursue it in this area. It is such a challenging aspect of our sport, I'd hate to see it languish for lack of support.

Earl Levin

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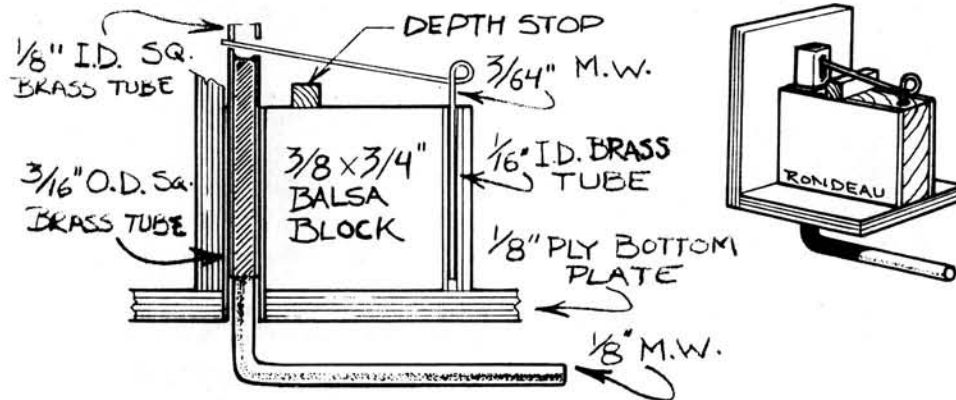
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RETRACTABLE TOW HOOK.....Don Mulligan

Many glider guides are not satisfied with a fixed tow hook hanging out on the bottom of their aircraft, yet they do not feel safe with the foibles of releasable tow hooks.

THIS tow hook retracts flush with the body after release, uses standard tools to build, and does not require servo actuation! Release from tow is identical with a fixed tow hook. The hook is more robust than the usual releasable or retractable types, does not twist sideways, and doesn't wear out by grinding on hard surfaces. I've encountered no problems with mine, yet I've found it easy to build and very reliable.

Basic construction employs 1/8" wire for the hook, and is soldered with low-temperature silver solder into a 1/8" I.D. square brass tube. The entire assembly slides up and down inside the next larger size square brass tube. A look at the sketches will show how the hook is built and how it functions. Try it, I think you'll like it!



REQUEST FROM THE VINTAGE SAILPLANE ASSOCIATION.....Jan Scott

The VSA (an RCSD advertiser) is making an appeal for YOUR input about scale for Scale sailplane models. Here's Jan...

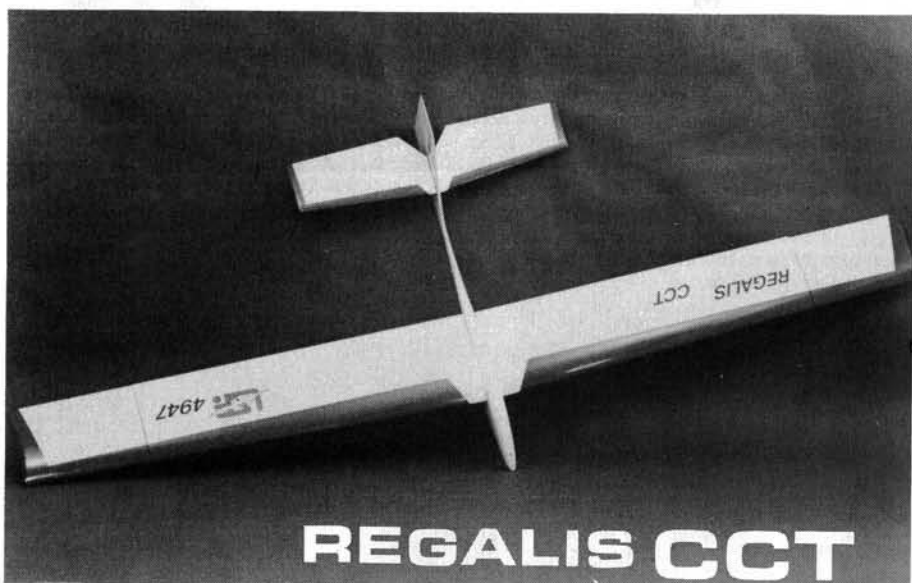
VSA has recently experienced a large influx of scale model soaring enthusiasts, who are joining our ranks in order to obtain data and documentation on their current project. While those of us who run VSA used to be model builders, we are no longer active, and thus a bit at a loss as to how to best serve these new members. It seems that we should develop a documentation "Kit" for some of the more popular types, which would be easy to do if we only knew what to look for. We usually go to the large International Rallies, where almost every type of vintage sailplane in existence is represented, and could make color photos there.

Please give us the following information:

1. How many photos do you need, which angles, and what detail. (Please do not say "as many as possible!" Be exact.)
2. Do we need 3-views with paint schemes and markings? Can any of you make those for us?
3. What else should be included?
4. What would you be willing to pay for such a package?
5. List desirable sailplane types.

Send your response to:

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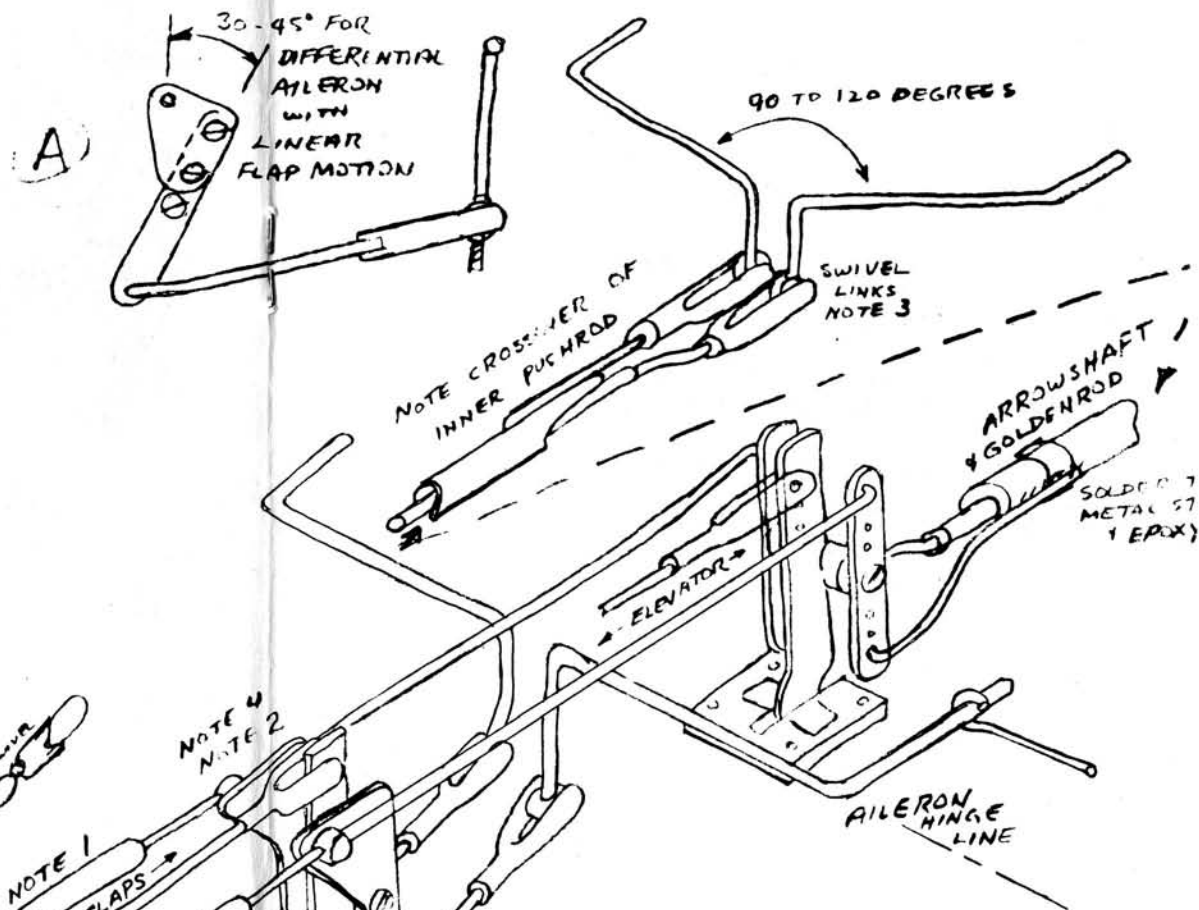
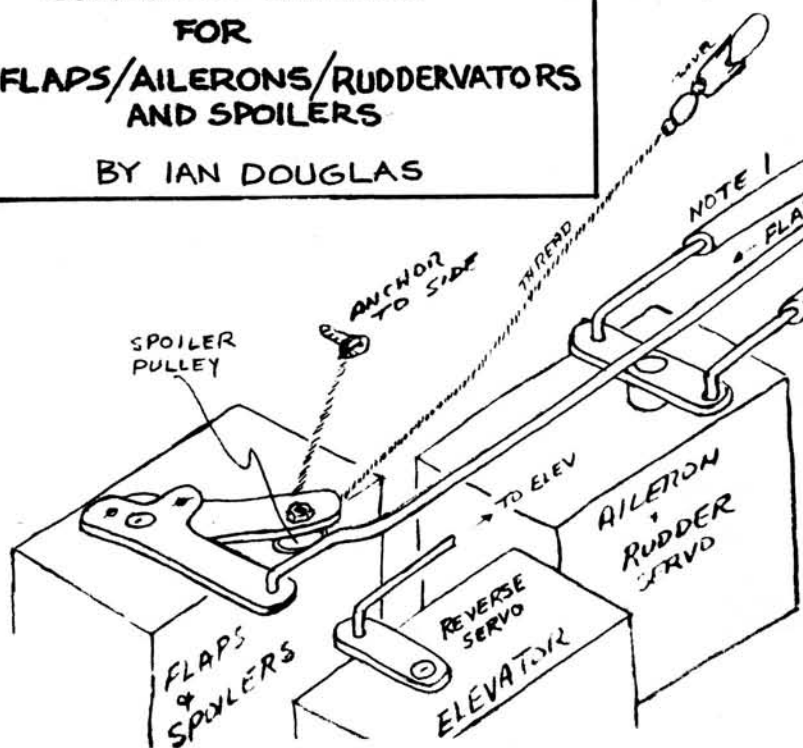


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- 2) SPECIAL ARM MADE BY ATTACHING TRIANGULAR PLATE TO OUTSIDE OF MIXER ARM SEE VIEW (A)
- 3) DRILL & TAP 2-56
- 4) DRILL & TAP 2-56



ALGEBRA - and other Arithmetical/Mathematical names REVISITED

Ian Douglas, an old acquaintance from the days of the Two Meter wrote to tell about his experiences with some of Bannister's designs, and reminded me of some things I had long since forgotten. Here's Ian... (912 Sycamore Drive, Claremont, CA 91711)

"Dear Jim: In recent newsletters you write about Sean Bannister's ALGEBRA series, and wonder who's going to come up with the name CALCULUS, etc.

"Back in '76 or '77 I scaled up a plan of Bannister's ALGEBRA II from RCM&E (English publication...JHG). By the time I finished drawing my plans, my ship had sweptback wings, a vee tail, flaperons, spoilers and two mechanical mixers on board. I re-named it TRIGONOMETRY, aptly so because of the linkages!

"I remember flying it in the '77 LSF tournament in Los Angeles. Al Kindrick published a picture of it in his column in RC Modeler, showing the linkages. Despite its weird shape, the plane was quite successful. It taught me a whole bunch about flying, tail flutter and how to correct it. It was fully aerobatic through over control, and could do consecutive snap rolls without losing heading. I finally blew off the tails doing one too many.

"In 1979 I built a two-meter version called GEOMETRY; it had a one-piece swept-back wing and full-flying vee tails. This plane was even more successful than the first, and also extremely maneuverable. It suffered from its first introduction to winches at the 1980 Two-Meter World Cup (I showed you the wreck in the trunk of my car). It was rebuilt and got me my 8-hour slope duration flight for LSF Level V. It suffered from linkage compliance problems, and finally failed the wing under negative G's on a hi-start launch.

"I have saved the pieces from both these sailplanes and plan to make an electric version out of them, as GEOMETRY was built for -- and could carry -- a heavy payload.

"CALCULUS? I am saving that for a cross-country ship unless someone beats me to it. Don't worry, I have **ten more** names on the wall! I dug up some photos of these planes and found them pretty expensive to have copied, so decided to send them to you and ask that you return them later. That way, I can send more pix to you so that you can see what I've been up to.

"I belong to three sailplane clubs: Pasadena Soaring Society (PASS); Silent Wings Soaring Association (SWSA); and Inland Soaring Society (ISS) at Riverside, and am currently President of the latter. This year I have entered over 40 contests, won two of them, and completed my contest points for LSF Level V. My score is improving at the bigger contests; 18th at Visalia and 10th overall at the 1987 year-end awards for the Southern California round-robin tournament.

"My contest ship is a 3-meter GEMINI modified with an Eppler 203 airfoil (yes he said 203, folks) metal-blade spoilers and a plywood split

flap which act together as dive brakes.

"My attention has turned to completing Level V for which I need the 2-hour thermal and 10 Km goal & return flights. So far, I have tried 12 days at the distance goal and got one way once. I believe I will make it next summer (with the Santa Maria flyers).

"Last summer, I CD'd a record-breaking session. Using two of my 'planes, three Junior and Senior age group fliers are claiming a total of 20 AMA National Records! But that is another story (and one RCSD would really like to have, Ian). Some of these claims are still in the approval cycle.

"An on-going project is a 2-meter generic sailplane called DONZEEL, named after the kid that helps a knight on to his horse. My design has been adopted by the Silent Wings club. Two are now flying and a few more are under construction by the members. The club is kitting 25 of them, and we plan a one-design contest next spring. Bill Forrey took pix at Visalia. Plans will be available through Garry Anderson (American Sailplane Designs - RCSD advertiser). Best Regards for the New Year. (signed) Ian."

(Readers, Ian was kind enough to draw that linkage for us, and we proudly present it here as an outstanding example of what the mind of MAN can conceive when inspired. Here it is for those who just might possible need something similar in future. It could conceivably save one from a serious nervous system complication. Thanks again, Ian for your great contribution, and - by the way - congratulations on your accomplishments. JHG).

WING ROD SIZINGMONTREAL AREA THERMAL SOARERS

The Newsletter of the MATS always provides some interesting and useful technical data. This month we find out how to select wing rods

Wing Rod Sizing

	Dia. in.	M ₁ lb in
- Based on the airtronics Aquila (the best ever).		
- Ignores the effect of the rear incidence rod (no back up structure).	3/32	25.4
	1/8	58.1
- Assumes music wire (QQ-W-470) yield stress.	5/32	109.0
	3/16	180.6
	7/32	275.0
	1/4	392.5
	17/64	460.5

- Method:

- Calculate $M_2 = \text{Airplane WT-lb} \times \text{span in.}$
- Pick the smallest wing rod that has the closest greater value of M₁ from the table.
- If you have a heavy foot on the winch - Pick a rod dia. 1/32" greater than above.

- Examples:

- Phlaneur 1 = W = 32 oz = 2 lb, b = 78". M₂ = 156 lb in.
d = 3/16". (Used 7/32" - overdesign again Currington).
- Aquila W = 44 oz = 2.75 lb, b = 100". M₂ = 275 lb in.
d = 7/32" (should be, as Aquila is base).
- L'Hirondelle 4 bis (proposed):
W = 74 oz = 4.625 lb, b = 150". M₂ = 694 lb in.

Here a single rod will not suffice, suggest

- 2 x 1/4" = 2 x 392.5 = 785 lb in.
- or - 17/64" + 7/32" = 460.5 + 275.0 = 735.5 lb in.

Note: The second rod must be contained by a fully adequate spar system.



CAM SHOW COMMENTS..........Editor

It's been quite awhile since I attended a trade show -- not out of choice, but of necessity and the pressure of other work. Therefore, when I received the announcement from the CENTRAL ARIZONA MODELERS about a trade show they planned to hold November 20, 21, and 22nd in MESA, ARIZONA I decided immediately (well, almost) to attend with an RCSD booth -- as an exhibitor! Peggy and I arrived Friday afternoon at the Mesa Community Center where the show was to be held, and we were pleased and surprised at the convenience and easy-to-reach location with lots (no pun intended) of parking. Paul Schutter and John Wisniewski greeted us at the door and showed us our booth which was a corner one, right across from the Central Arizona Soaring League booth. Couldn't have picked a better spot! Paul was CAM SHOW Executive Director, and a more genial, capable and attentive person you will never see. He was everywhere at all times, although I don't know how he managed to do that!

Our hotel was the Ramada Renaissance, only one block from the exhibit hall... in fact, in the same block. Very convenient and comfortable, and all facilities open early including restaurants and gift shop for guests' convenience.

The weather was as nearly perfect as one could wish, with temperatures in the high 70's and low 80's during the day, but cool at night for good sleeping.

Our booth was located right next to Bob Banks's **Scale Model Research -- an RCSD advertiser**. I think Bob had all of his stock of Foto Paaks with him - thousands of them. Of course the temptation was too great to resist, so we came home with a couple of his documentation packets - naturally!

One of the nice features for exhibitors was a group of young ladies who came around to each booth during the show, offering to get sandwiches and soft drinks for the booth attendants who couldn't leave. Thanks, Paul -- a nice touch. Show food? Not the usual, I assure you. Instead, such delicacies as ham and cheese croissants, piping hot from the microwave, and other such things...all delivered quickly and courteously.

There were approximately 50 exhibitors, with the booths separated by wide aisles, where the considerable crowd of attendees could stroll comfortably, stopping to see each exhibit, without interfering with others who wanted to walk by.

At one side of the hall there were large tables for static display models, and the mezzanine also had tables for static display. At one end of the main floor was the area for swap and sell items. In fact, an auction was held on Saturday, and it was well attended. Lots of good-looking aircraft (and cars and boats, too) changed hands.

Another welcome feature was an evening hospitality reception for exhibitors and guests, with plenty of time to relax and rest, to meet and talk, and to enjoy the show after the crowd had departed.

I think that the success of this show was due in part to the fact that the people who ran it left no stone unturned to provide for every need and almost every want of each exhibitor. They made an effort over a period of YEARS to attend other trade shows, accepting the good and making special note of the bad, so that the CAM SHOW would be a pleasant and exciting show for exhibitors and attendees alike.



JIM AND PAGGY GRAY AT THE RC SOARING DIGEST BOOTH.

The show opened to the public at 9:30 AM on Saturday and Sunday, and closed at 5:00 PM each day. However, the exhibit hall was open to exhibitors at 8:00 AM each day, to afford opportunity to walk around and see each other's exhibits and displays, and to talk with dealers and manufacturers. A very good idea, and one that ought to be followed at all trade shows. It also allows a chance for last-minute setups, adjustments and repositioning of displays, and photograph-taking.

You are obviously interested in sailplanes, right? Which ones were shown, and what is new? Okay, here we go.

SIG showed their new 100" span SIG RISER, an up-sized version of their popular 2-meter span RISER. A new company, Fiber Flight, showed its cardboard and foam slope soarer called the INDEXONE (pronounced index one) a neat little four-foot span ship intended for hand-launched slope flying. Tim Webb and his partners showed a video of this little machine flying the slopes, and it is impressive, especially when you consider the materials and the price. It is what you might call a slope combat glider, as it is tough and rugged and easily withstands rough landings and not-so-gentle handling. Not only that, it's kind of "cute" looking, as my wife puts it...but isn't going to win any static scale beauty contests. It's utilitarian, and exactly



ONE OF THE TWO CASL BOOTHS MANNED BY CHUCK WEHOFFER , IAN GLITHERO AND DON GOGGINS. THE SAILPLANES IN THE BACKGROUND ARE ALL A "ONE-DESIGN" BY ASHLEY OSBORNE. TWO-METER, STANDARD AND OPEN CLASS "SAPROQUILA" IS THE NAME.

what's been needed but not available before: an almost 'throwaway' glider that is cheap and has good performance. Besides all that, you can build one in about 15 hours.

Bob Martin, of Bob Martin RC Models, was there with his PUSSYCAT, TALON, and a flock of other ships including the BOBCAT. He also showed a new float plane - nice high-winged Cessna 150 look-alike on twin floats - which can be converted to a neat low-wing ship on a single main pontoon centered underneath the fuselage, and a pair of small wing-tip floats.

Joe Bridi with his BRIDI MODEL DESIGNS was there showing the hand-launch, 2-meter and standard class designs for which he is famous:



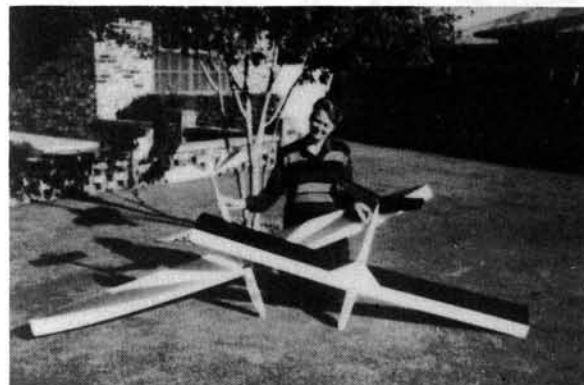
SMILING JOE BRIDI CONTEMPLATES ALL THE SAILPLANES HE'LL SELL TODAY. A GOOD RANGE FROM HAND LAUNCH TO 2-METER ON DISPLAY.

Some time ago I asked George Voss to do a review of the ALLURE, a vee-tailed sailplane with ailerons produced by Balsa USA and available at a very, very reasonable price. Here's George's review, with some insights about what you can expect from this 2-meter bird.

So you've decided to try ailerons. You've also decided you don't want to drop \$75-\$100 to find out it's not what you expected. This is exactly the reason I bought an ALLURE. The kit is by BALSA USA and at the time of this writing, the cost is \$23.99 + shipping. Interested, follow along and I'll give you some insight on what to expect.

After a short wait for my kit to arrive (I ordered during a production run), my local UPS driver left a rather large box at my door. It was a standard BALSA USA box which apparently all their kits come in (I have a power plane from BALSA USA which came in the same type box). You could have put 3-4 ALLURE kits in this box! Now for \$24, don't expect this kit to look like an AIRTRONICS kit. The only packaging within the box was for the control horns and such. Rolled plans-Yes, Banded balsa No, but no damage was discovered and I was ready to begin.

A few facts about the ALLURE are in order. The ALLURE is of 2M size, with a 36" fuselage featuring a "V" tail. There is no need to be



"Jimmie" Voss, wife of author George, shown with ALLURE (foreground) and Hobie Hawk.

ALLURE is a good flier, and lots of fun.

afraid of a "V" tail as the instructions concerning setup and installation are very acceptable and no problem was encountered during the construction phase. There are several ways to actuate the "V" tail. I feel the best way is to use a specialized radio that has "V" tail capabilities such as the AIRTRONICS 7 CHANNEL CHAMPIONSHIP SERIES. Another way is to use a sleigh. I chose to use the Du-bro "V" tail mixer. The ALLURE can be flown 2 or 3 channel per the plans, and flaps wouldn't be hard to adapt either. The kit supplies you with the appropriate dihedral brace depending on your choice of control functions. There are a few items you must purchase beside the obvious glue, radio and covering. No pushrods, hinges, fiberglass or rudder-levator controls are supplied.

TAIL

I always start on the tail surfaces and the ALLURE was no exception. The tail is typical geodetic construction so I won't go into any detail on it.

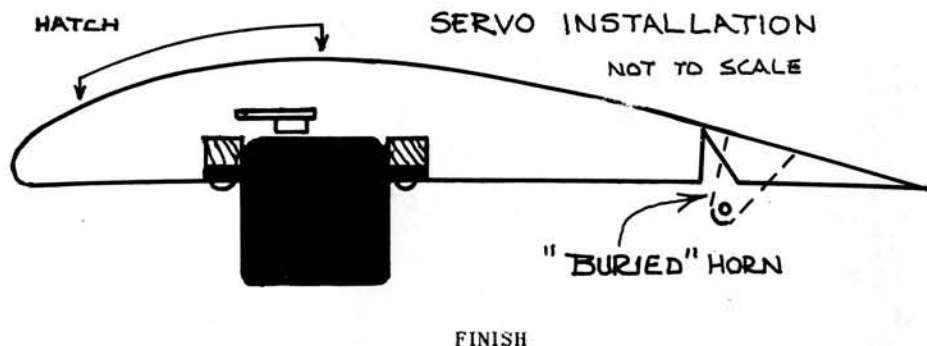
FUSELAGE

The fuselage is basically a box, with triangles to aid in creating a pleasantly round shape. I'll only touch on a few points that may help. Plan your pushrod installation before beginning construction. Drill all the necessary holes in the bulkheads for the pushrods and

antenna tube before installing them. A very pleasantly shaped fuselage can be obtained if you're willing to spend the time and sand it! I spent about 3-4 hours getting the fuselage ready for covering, and it was well worth the time spent.

WING

The wings are of "D" tube type of construction with leading edge and center section sheeting. Cap strips are used on all but the center 4 ribs. 2/3 of the wing has both forward and aft shear webs. This type of construction, along with the use of spruce spars make for a very strong and rigid wing. The only difficult portion of the wing is the aileron setup. The plans/instructions are vague in their installation so it's "do the best you can with what you've got". I'll explain what I did and what recommendations I have if you decide to build one. I routed the cables as shown on the plans. I think John Lupperger, the designer, had desired for the aileron servo to be mounted on it's side. This makes adjustments EXTREMELY difficult! I placed my servo in the wing as shown in the drawing. The main drawback of it is I've got a 2" X 2" hatch on the top of the wing. It looks odd and does reduce the strength some, although typical winch launches haven't shown any detrimental effects so far.



My ALLURE weighed exactly 32 oz with a Monokote finish. Looking back, I wish I'd painted the fuselage for duribilities sake. I may make that a winter project. I'm used to flying VERY LIGHT airplanes and was very disappointed at the finished weight. After some discussion with other sailplaners in the area, I came to the conclusion that this weight would be acceptable.

FLYING

Now I know this is the part you've all been waiting for! The first 10 flights or so were made with the ailerons and "V" tail electronically coupled via a "Y" connector. Using an AIRTRONICS SR4, this left me with no adjustment of throws other than control horn and servo arms. These flights were very exciting for me. The control response with ailerons is exceptional! I LOVED IT! Now to try for some good flight times. OOPS, I couldn't get the control rates down on the ailerons enough as I "buried" the control horn in the aileron. I couldn't fly the plane smoothly with this setup. I then switched to an SR6 with dual rates. This made the difference I needed. Using the Du-bro mixer, I could control the amount of "V" tail throw by moving the attachment points in or out on the shaft, and the ailerons with the dual rate pot on the TX. The main difference in flying an aileron ship is things happen RIGHT NOW!!!!!! No waiting for the rudder to yaw the ship and dihedral to cause the roll. In choosing the aileron version, you also choose less dihedral because the ailerons cause the roll, not the dihedral. From my limited experience with aileron gliders, they appear to need more elevator in turns. This takes some getting used to, but the extra control of the ailerons is worth the new learning experience. How does it fly? I'm very pleased with the ALLURE. I got

my 2nd thermal flight and my last 3 spot landings for my LSF level 1 with it so I can't complain. I really enjoy the ALLURE. It's quite aerobatic too, being short coupled and using lots of throw, it can be a very maneuverable ship.

CONCLUSION

In my opinion, the real determination of an airplanes worth lies in the answer to the question: Would you build another one? Concerning the Allure, an emphatic YES! Would I make any changes? Again, an emphatic YES! What changes would I make you ask? The improvements I would make are plug in wings. This will make the aileron installation/adjustment easier. This will also make transportation easier due to the shorter individual wing panels. This method will also allow a simple flap or spoiler setup if a person so desired. It will allow you to build an extra set(s) of wings. Try this for a thought, Build the standard set of wings for the 2M class, a set of 100" for the standard class, and a 60" symmetrical set for the slope! Of course this applies to ANY airplane with plug in wings

The ALLURE is an exceptional value in my opinion. If your looking to try an aileron ship without breaking the bank, give the ALLURE a try!



George Voss scratch-built a SENSOR shown here weighing 20 oz. The wing is geodetic construction while the fuselage is pod-and-boom. George says it's a "sort of" Sensor, much modified. Nice job.

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It's not too late to enter the Fun Fly in May, as mentioned a couple of issues ago in the general announcement of this unusual and bound-to-be-great new event. Here is a letter from Will Byers, the organizer of the event. (Excerpted comments...JHG).

"The Scale Fun Fly has generated more enthusiasm than I had even begun to imagine. We are receiving calls and letters from all over the USA and Canada, and I feel our turnout is going to be quite good considering this is our first year. Your good coverage ... can only help promote this event...and I am excited as this is the largest event I have ever put together, and the response just keeps me pumped up. Our club has put together some nice incentives, and we have received endorsements since and hope to add to the list. One contributor of interest is American Sailplane Designs which has taken over the 1/3-scale ASW-20 from Mark Smith. Gary Anderson, the owner, says that he will not only contribute, but will be there with one of those big birds; should be exciting! We have received support from our State Legislator and from the City Council (Richland,WA).

"So now you want to come to the Scale Fun Fly and need an airport to fly into. The Tri Cities has a good regional airport which makes connections with Salt Lake City and Denver. You also have three alternatives: Seattle (a 3½-hour drive), Spokane (2-hour drive), and Portland (3-hour drive). If you use Seattle (SeaTac Airport) then I'd suggest you rent a car and drive over Chinook Pass if it is sunny...the same distance as the Snoqualmie Pass route through the Cascade Mountains...but it is very beautiful on a sunny day with Mount Rainier standing out to salute your arrival, and mountains all around that appear to be pictures from a story book.

"Make note also, thatNWSS is hosting a contest on Sunday and Monday of that same weekendwhich you could also take in.

"The drive from Portland takes you up the Columbia Gorge, along the river which in itself is quite a spectacle. Now, you have to make a choice, but I'm sure any one you make will provide some good scenery and picture taking opportunities.

"Thanks to the generous help of the magazine editors in promoting this event, we may have a group of flyers that rivals anything coming out of Europe. Wouldn't that be a kick to finally see scale soaring take off like it has over the water? Specifically, a German manufacturer may come, primarily due to the work of my friend Peter Bechtel who has just ordered four beautiful sailplanes from him, including a 22-foot span ASW-22! I can't name the manufacturer until I am pretty sure he will come (but everyone will recognize him...JHG).

"Jim, could you do us a **big favor**? Please let everyone know that **anyone planning to attend could really help us by pre-registering early!** Our club would certainly appreciate getting a head start on planning in this way (Tri-Cities Soarers).

"We look forward to seeing you in the spring of '88 -- the year of the change! Enclosed you will also find a picture of hills we plan to use for the FUN FLY." (Cost is \$25 per entrant, including banquet.)

*William R. Byers, 632 Meadows Drive, E., Richland, WA 99352; (509)627-5224.



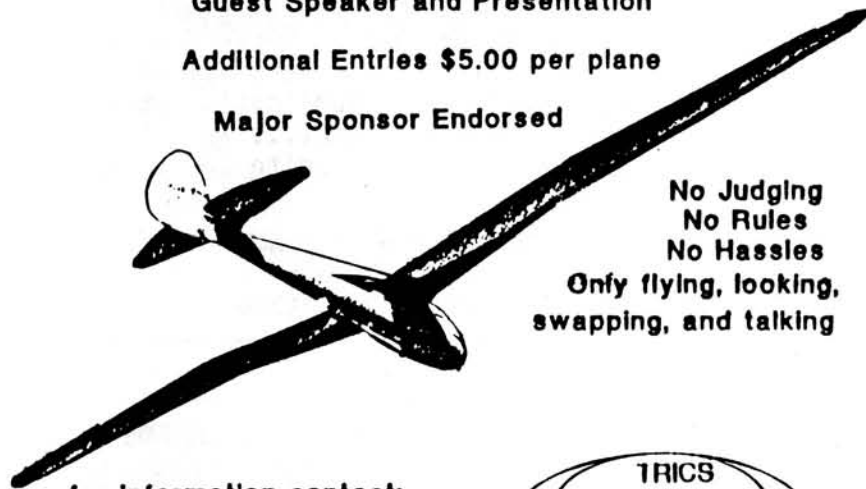
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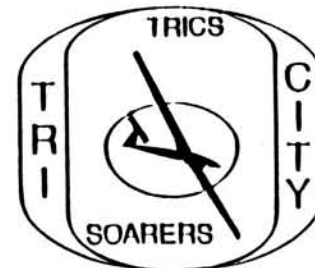
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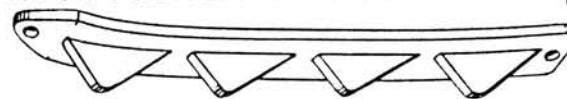
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