

(see McClain)

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 BUNGEZ CORD. Sample issue \$ 1.-. Membership \$ 10.- per year.

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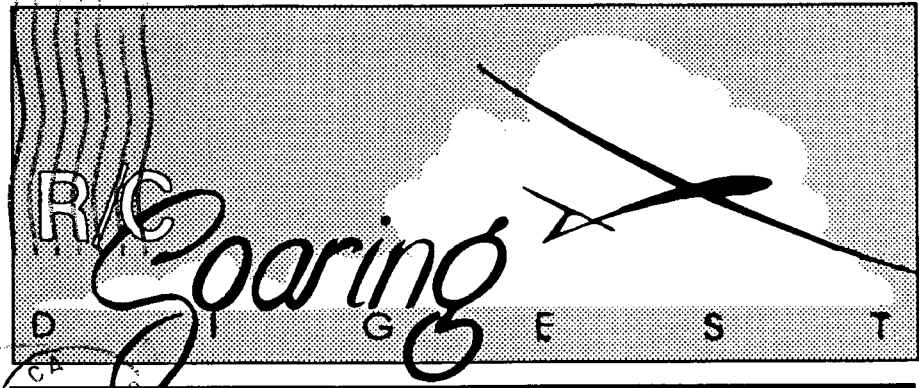
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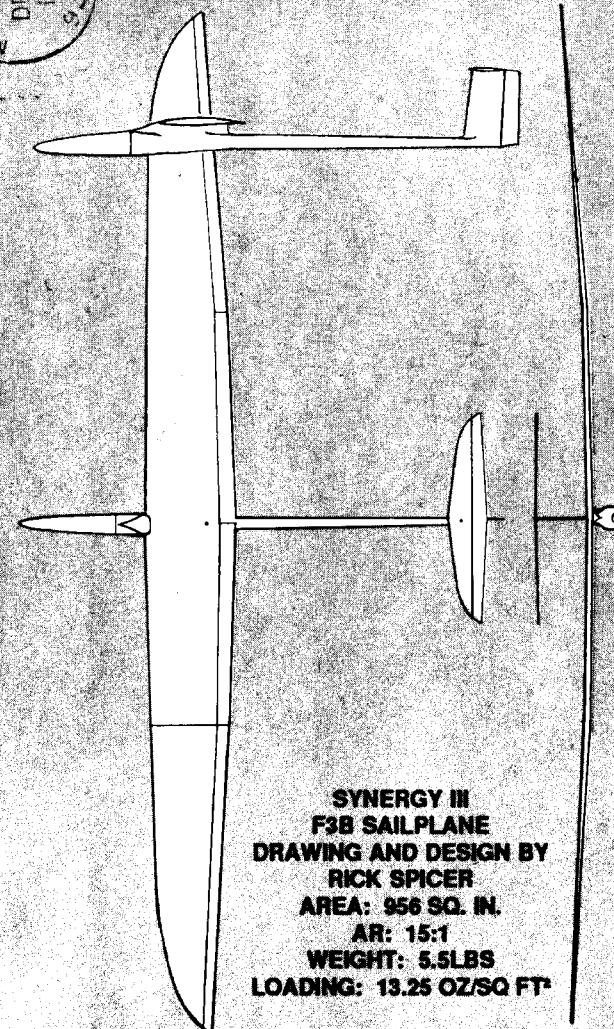
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No. 12

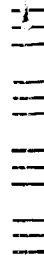
December 1988



**SYNERGY III
F3B SAILPLANE**
DRAWING AND DESIGN BY
RICK SPICER
AREA: 956 SQ. IN.
AR: 15:1
WEIGHT: 5.5LBS
LOADING: 13.25 OZ/SQ FT*

Featured on page 11

SEASONS GREETINGS



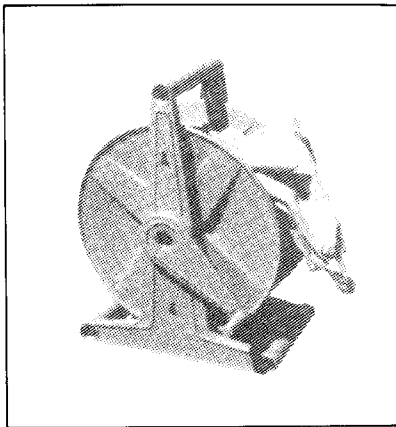
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High Start

The BIG question this month concerns RCSD itself: as we go into our sixth year of publication what would YOU like to see? Some writers tell me they'd like to see 150 pages of material. . . and frankly, so would I. Others tell me they'd like color covers and slick graphics, but agree that if money is an object, content wins over appearance every time. Surely, money is an object, and - yes - we can improve RCSD as time goes on. That's part of my plan for RCSD and for you. One way we can improve RCSD together is to get more subscriptions and more advertising — and, of course, that means more income. Right now, we stand within 'spittin' distance of 1,000 subscribers — a goal I had originally set for us in our first year of publication. Nope, we didn't make it then, and we haven't yet, BUT WE WILL! With your help, it's within our capability for 1989.

I've given some thought to the possibility of making a DOUBLE ISSUE every once in awhile, perhaps once or twice a year. In that way I could make use of some dated material I am now forced to hold for several months. Some of it needs to be published NOW, and I try — BUT, with a double issue now and then, I can phase it in more quickly. Of course, that sword has a double edge: suppose, as often happens, we receive something "hot" just after a double issue has gone to press. That means we'd have to wait two months until the next one, UNLESS you'd be willing to pay more for a subscription. Would you prefer a BIG FAT DOUBLE ISSUE if we did only ten a year instead of twelve? What is better: a thinner issue every month, or a big one now and then? What about six BIG issues per year instead of twelve smaller ones? Think about it and let me know. I want RCSD to develop along the lines YOU suggest, and I want you to tell me if we should keep it the same or change it. If we should change it, tell me how. Already, I've heard that some of you want more cross-country, more hand launch and more scale. What else do you want?

Now's the time to let me know, because the January 1989 issue begins our 6th year!

EVERYMAN'S SAILPLANE - AN 'ENTRY LEVEL' FOR F3B?

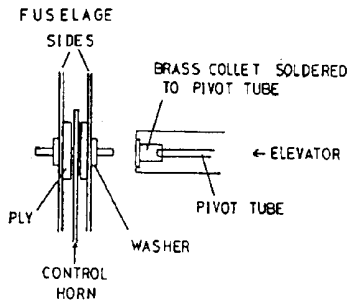
Recently we've heard a lot of mumbling about one-design sailplanes and about an entry-level sailplane for F3B; one that wouldn't be as expensive to build and fly as the present ships, yet a 'plane that would have excellent performance overall. I think such a machine could be just around the corner. It needn't be stodgy and dull, either; it can be sleek, exciting and sophisticated — yet within the reach of all. One thing, though: WE CAN'T RELY ON THOSE ALREADY INVOLVED IN F3B TO DO IT FOR US. Someone ELSE must take the bull by the horns and do it NOW. Let's have a GOOD inexpensive kit capable of being built for speed, duration and distance. Some years ago, Ed Slobod suggested such a machine, and he called it his MTS: a multi-task sailplane. That idea ought to be carried a step further. Modern materials are here, so let's use them. Don't let wimpy wing loadings deter you: build the ship that has to be built, using all the design techniques and new airfoil data you can get your hands on. Yes, I know about COST as well as PRICE, too. BUT, wouldn't you pay 10-15% more to gain a 50% increase in performance? Have you watched an F3B sailplane thermal lately? Wanna bet that it can't outclimb a TD ship? You bet it can. . . and out-run and out-distance it as well. Who says an entry-level machine can't be a fun flier AND a one-design as well? Of course it can, and European designers and builders have proved it! Trouble is, we don't seem to be interested in doing it over here — or at least not yet. The ship I am dreaming of can be stable, smooth and responsive; "twitchiness" doesn't have to be a design ingredient. New radios with mixing capability to combine functions are HERE and NOW. You can produce such a machine, and ask your radio to make flying a lot easier than you ever thought possible for an (continued on page 2)



Tailplanes

...by Richard Yates

During the construction of your latest creation you will most likely be giving a lot of thought to the way in which you will attach the wings of the model so that there is no movement of the essential bits during launch or any manoeuvres which are likely to move the wings. However, how much extra thought have you given to the tail-end of the model? Like the majority of us I also paid little attention to this area as long as the tailplanes (the other essential parts) stayed on the model, until recently when I was talking to John Stevens who pointed out his method of actually stabilizing the stabilizers. (See diagram.)



Instead of stopping the pivot tube at the sides of the fuselage, if you extend the tube by about 1/4" on each side and attach the pivot tube to the fuselage as in the diagram, you will increase the bearing surface by two or three times. The pivot tube in the tailplane has a brass collet soldered on it but this extends by a 1/4" beyond the end of the tube, hence fitting over the pivot tube that sticks out of the side of the fuselage. The increase in the firmness with which the tailplanes are attached to the fuselage is quite remarkable and for the extra bit of effort during construction it is well worth it. Since I saw this method of attachment all my models are slowly

being converted to this type of tailplane attachment.



from "Verbals" newsletter
of the Soar Valley Soarers
(England)
furnished by courtesy of
Tony Beckett

HIGH START continued...

"F3B" sailplane. WHO will be the first to design, manufacture and market one? The USA is waiting!

AN RCSD CHALLENGE TO OUR READERS

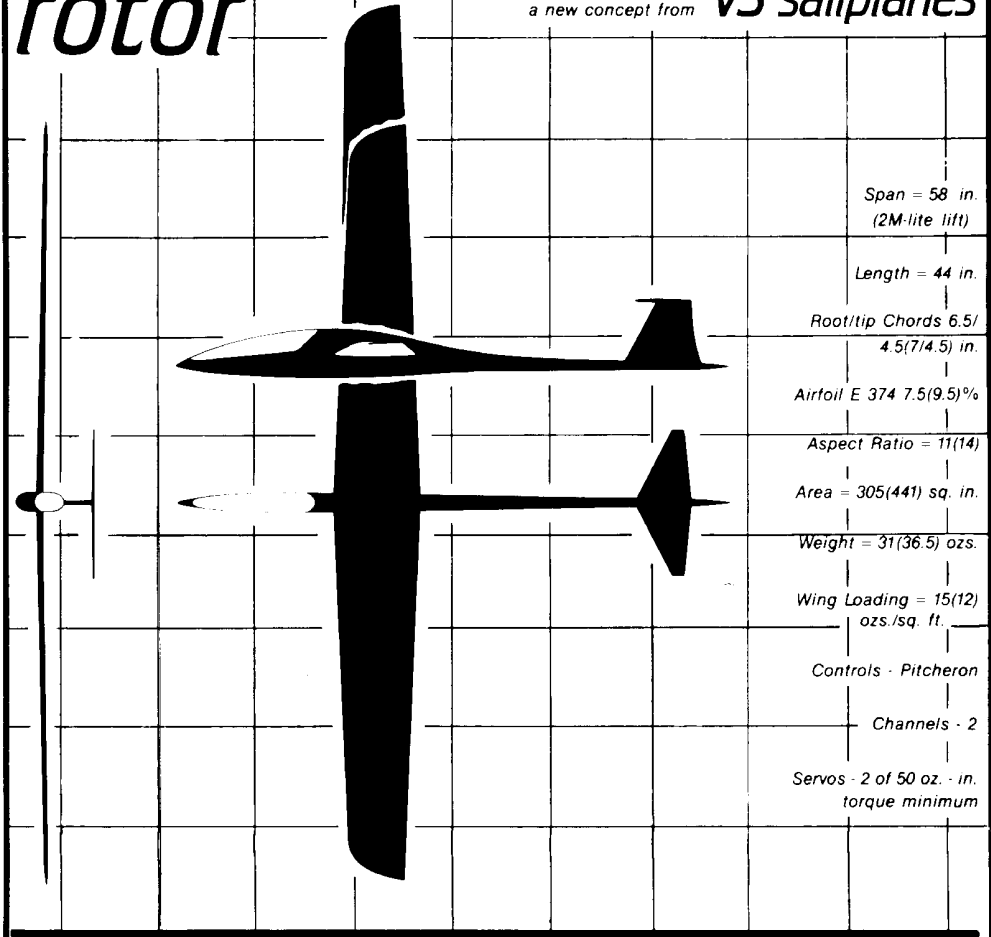
I PROPOSE A CHALLENGE TO DESIGN AND PROTOTYPE A ONE-DESIGN, ENTRY-LEVEL F3B-TYPE SAILPLANE. IN FACT, MAYBE WE COULD CALL IT THE CHALLENGER. I FORESEE OUR READERS BEING AT THE FOREFRONT OF THIS PROJECT. Here's how it might work. I will set June of 1989 as being the "due date" for such a machine. RCSD will furnish a prize to the winning design — as judged by a select committee from among kit manufacturers, F3B pilots, and - yes - someone like a Sunday flier; maybe me. Please work up your design with these criteria in mind: capable of qualifying for F3B elimination trials in terms of performance; use of modern materials; best aerodynamics available (airfoil and overall 'clean' configuration); use of a "standard" radio flight pack; wing area under 1,000 sq. inches; weight under 5 pounds; suitable for launches by a conventional sport winch; and a price in the marketplace of \$150 for a kit. Anyone interested? Get in touch with me!

Jim Gray



rotor

a new concept from VS sailplanes



Span = 58 in.
(2M-lite lift)

Length = 44 in.

Root/Tip Chords 6.5/
4.5(7/4.5) in.

Airfoil E 374 7.5(9.5)%

Aspect Ratio = 11(14)

Area = 305(441) sq. in.

Weight = 31(36.5) ozs.

Wing Loading = 15(12)
ozs./sq. ft.

Controls - Pitcheron

Channels - 2

Servos - 2 of 50 oz. - in.
torque minimum

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- Simple, robust all-wood body structure that anyone can build.
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- Wings and tail Monokoted. Fuselage Monokoted or painted.

PITCHERON CONTROL SYSTEM

- Pitcheron definition: A total control system based on all moving wing halves. When moved together leading edge up or down, elevator function results. When moved in opposite directions, aileron function results. Mixing the motions results in a mixed airplane response, as you would expect!
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- 2 channels required perfect for electronic mixing (Elevon). Sliding servo mixer shown on plans if electronic mix not available.
- Rotor may be built as a conventional aileron-elevator airplane or a wingeron-elevator airplane. Alternate installations shown on plans.

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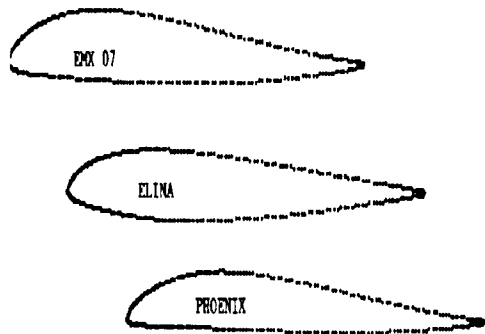
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On the Wing

... by B²

Some new flying wing airfoils this time! These come courtesy of DELTA, magazine of FSV Versmold, a club in the Federal Republic of Germany devoted solely to flying wings. These sections appeared in issue #6 and all three were designed by Dr. Martin Lichte of VFW Fokker, a German aerospace company. Dr. Lichte is also the author of a book on flying wings entitled "Nurflugelmodelle, Grundlagen für Entwicklung und Einsatz" (Only-wing-models, Foundations for Development and Use), published by Verlag für Technik und Handwerk GMBH in Germany and available through Wilshire Model Center.

The EMX 07 and ELINA sections require wings with aspect ratios of 10 or more and sweepback of 10 degrees. Set up this way neither will require geometrical twist. A wing loading of 9.5 to 13.5 oz./ft² is recommended. The EMX 07 is a good profile to use for thermal flying and has a low sink rate. The ELINA is simply "a hellishly fast" section, probably best suited to the slope. The PHOENIX airfoil is for lightly loaded (under 7.5 oz./ft²) wings designed as floaters. Again, 10 degrees of sweep should be used, and about 3 degrees of geometrical twist added (with sweepback the tips should be at a lower angle of attack than the root). The L/D of this airfoil should be excellent.



X	EMX 07		ELINA		PHOENIX	
	Y _u	Y _l	Y _u	Y _l	Y _u	Y _l
0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.25	1.82	-0.87	1.75	-0.94	1.60	-0.60
2.50	2.73	-1.12	2.53	-1.32	2.41	-0.71
5.00	3.99	-1.43	3.58	-1.84	3.57	-0.83
7.50	4.94	-1.62	4.33	-2.24	4.43	-0.88
10.00	5.67	-1.77	4.86	-2.58	5.10	-0.92
15.00	6.71	-2.01	5.56	-3.16	6.08	-1.01
20.00	7.24	-2.21	5.87	-3.59	6.62	-1.10
25.00	7.45	-2.39	5.94	-3.90	6.87	-1.19
30.00	7.34	-2.54	5.82	-4.07	6.83	-1.28
40.00	6.60	-2.75	5.30	-4.04	6.21	-1.45
50.00	5.47	-2.82	4.55	-3.74	5.21	-1.60
60.00	4.20	-2.76	3.72	-3.25	4.06	-1.66
70.00	2.94	-2.52	2.83	-2.62	2.87	-1.58
80.00	1.78	-1.97	1.92	-1.84	1.76	-1.33
90.00	0.83	-1.26	1.06	-1.04	0.78	-0.89
95.00	0.45	-0.76	0.61	-0.61	0.42	-0.49
00.00	0.15	-0.15	0.14	-0.14	0.09	-0.09

Delta is published by: Reinhard H. Werner, Schloerstrasse 4, 4802 Halle/Westfalen, F.R. Germany

"Nurflugelmodelle" available from: Wilshire Model Center, 2836 Santa Monica Blvd., Santa Monica, CA 90404

Bill & Bunny Kuhlman
P.O. Box 975
Olalla, WA 98359-0975

Masker Blaster

...by Rob Caso

There's no doubt that masking and painting letters, numbers and insignia on a model is a time consuming and tedious task. Although there are many decals on the market that may do the job, nothing quite matches painted insignia. Here's a couple of "school of hard knock" tips that require the following materials and tools:

- * "Contact" brand A-21, non textured sticky backed shelving paper.
- * #320, 600 sandpaper, masking tape.
- * Sharp Xacto or Uber (preferred) knife.
- * Clean glass surface.
- * 12" cork backed and 6" small rules.
- * Cheap aluminum foil or wrapping paper.
- * Kit stick-on decals, or similar.
- * Single action airbrush.

From : *Hear-ye*
Valley Forge
Signal Seekers

Start by selecting the most offending color of non textured single color contact paper with A-21 adhesive. This adhesive allows repositioning and easy removal of the mask without pulling any paint off your plane. Tape the mask (with backing still on) to the plate glass and tape it securely around the edges. Duplicate the masks of larger insignia or series of letters may be cut together, one atop the other. However, the bottom mask should be cut a little larger to allow taping to the glass. Stick on decals from a kit or hobby store will provide an accurate template to cut the letters out of the mask. Peel and stick the letters to the mask while aligning them parallel with one edge of the mask as this will enable proper positioning on the plane later. Reference lines can be drawn on the mask with a pointed felt pen to aid alignment of the letters or to create insignia. A pair of dividers also helps here. Make sure you have a bunch of razor blades on hand as the glass and the mask eat them up. The cork backed steel rule will not slide around on the mask and allows you to see where the template-letters begin and end. Two masks cut at the same time require more exact and forceful cutting, but will save a lot of time and will be more accurate.

When you're ready to place the mask on the plane, make sure you've wet sanded the plane with #600 very lightly. Do not get lazy and omit this step as sanding will eliminate much of the dust already painted on the plane and smooth the paint nicely. My WACO biplane only took about 15 minutes to completely wet sand, from nose to tail. Wipe the plane down with clean paper towels, then with a tack rag. By the way, make sure your paint is completely dry - at least 48 to 72 hours before sanding, masking and painting. Have a helper hold one end of the mask up and away from the plane while you remove the backing and place the mask on the plane, one letter at a time. Don't worry as even the most tangled mess can be sorted out if you are patient. Once the mask is down, wrap the rest of the part with aluminum foil, taping the foil only to the contact paper mask. This will eliminate any possibility of masking tape touching the plane and pulling off the paint. Fold and seal the aluminum foil all over to obtain a good paint barrier. Run a finger along all the exposed edges of the mask to adhere the mask properly to the plane. A covering iron set on LOW heat can be used carefully on compound curves.

Painting can only be done with an airbrush and compressor as spray can paint is too thin, not fine enough in spray texture or pattern and too unpredictable. Brushing, of course, is out of the question. Sorry about that. Airbrushes are not as expensive as you might think, so check with the local hobby store. If you don't want to buy a compressor, improvise with a tire tube or borrow one. Mix your paint to the consistency of (continued on page 6)

Simon Says

...by Martin Simons

I'm not convinced about the spar designs shown by George Voss (RCSD a few issues back). Figure 1 would be weak if there was no shear webbing to prevent secondary failure by buckling of the (spar) flanges. But no one should build a spar without shear webbing between the flanges, and by the bending and shear resistance calculations known to all engineers, for an equal weight, the Figure 3 or Figure 4 spars should be superior. Secondary failure can occur also with the vertical type of spar flange. I grant that gluing area is important, but with modern adhesives and a well made joint, there should be no advantage to spar No. 5.

About Flying Wings, here is a pic of mine. It has flown several times now, on the slope, with success, and I like it despite my earlier doubts. I don't think its performance is superior to orthodox models but it is fun to fly. With the c.g. well forward it is smooth to control and stable. I have a parachute air-brake fitted but have not yet managed to get it to pop out when I need it; it persists in jamming. More work is needed. It would not surprise me at all to see an F3B flying wing. The saving of parasite drag at high speed might give this type a competitive advantage in speed and distance, and this would probably make up for



any slight loss in soaring (duration) performance.

Martin Simons
13 Loch Street
Stepney, South
Australia 5069

My flying wing. Neighbor's cat, also tailless, approves!



Masker Blaster continued...

cream and test spray against the aluminum foil. If it does not run after a light spraying on the foil, then it probably won't run on the plane either. The order of the day is "light". Lightly dust the paint around the edges of the mask (where the plane shows through, dummy) and gradually cover all the open area with a DUSTING of paint. You should be shooting at about 20 - 30 lbs. of pressure with the airbrush needle set to allow a lot of paint to come through as the paint consistency is a little on the thick side. After dusting once, put the brush down for about 3-5 minutes to allow the paint to set on the plane. If you want, pull the airbrush off the paint container and clean the tip. Now go back and respray in a lightly dusting fashion and repeat until the areas are covered. Remove the mask while the paint is still wet, using all four hands. Cut the mask with a scissor as you pull it over itself to keep it in manageable sizes. We're almost there!

Any overspray can be removed now with a paper towel and thinner, or later by scraping with a dull knife blade and lightly wet sanding, but you shouldn't have much of this to do. Overspray can be prevented at the outset by first spraying with clear and then later (while the clear is still tacky) with color; this works real good with small masks. When you're all done, spray the entire plane with a clear overspray, dusted on. This will blend in the insignia nicely and help to protect it at the same time. I hope I've been able to assist you in your painting efforts. There's no question that this is a lot of work, but it's worth it when you see the results. Besides, this is how they paint the real ones anyway!



Sig "Riser 100" Report

... by Kenneth Moore

I just finished up Mike Pratt's Sig Riser 100. I extended the fuselage 4" behind the wing, leaving the stab & fin the same size, and leaving the wing dihedral and polyhedral the same as shown on the plans.

It flies like a champ! Great speed range and penetration, and can flip her up on a wing tip or make very flat circles it.



I'm using 4 channels: rudder, elevator, spoilers and releasable tow hook. Watch those spoilers, though, because there is a strong nose-down pitch when you go to full deployment. I fly mine on low rate all the time, and I think she would fly great right out of the box!

The only weak point that has showed up is in the fuselage, so I used triangle (strip) stock at all the former (bulkhead) locations, and have since added the same to my own ship.

The all-up weight is 3-3/4 lbs. Oh yes, I also changed the nose configuration slightly and put a built-up balsa canopy on her to enhance the front-end looks. I used the bolt-on

Kenneth Moore
House of Hobby's
204 Main Street
Milford, OH 45150
(513) 248-9220

wing configuration.

This model is a good one, and I believe it will be the one I have been looking for to recommend to beginners and to those looking for their 2nd or 3rd model. We've needed something like this to take the place of the Windrifter & Olympic II. I think this is it.



TOSS and the 5TH Annual F3H (Cross-Country) International Meet ...by M. Searcy

Once again, Thousand Oaks Soaring Society is hosting an International Cross-Country soaring meet. Because this is an "International" Meet that will be AMA/FAI sanctioned, three countries must participate, and there must be three days of flying, minimum. The first TOSS attempt had only fliers from two countries: USA and England. If only one other country - say, Canada for example, had participated, the Meet would have been "International" by definition. In 1989 we already have a promise from two former contestants from England: Peter Stevens and Robin Sleight, to enter again. Bravo! We'd like to see teams from Mexico, Canada, Australia, South Africa, and others visit and fly with us:

JULY 7, 8, and 9, 1989

For the FIRST truly INTERNATIONAL F3H Contest
Dedicated HOST Club: Thousand Oaks Soaring Society
CD: Chuck Griswold (805) 495-1409

Hours of Flying FUN! Hours of Championship and Friendship! There will be DANCING - REFRESHMENTS - BANQUETS - PRIZES
LET'S GATHER AT THE RIVER SINNERS — I'M EXCITED!*!*!

For additional information and entry forms write Marshall R. Searcy, AMA 3554, P. O. Box 1508, Porterville, CA 93258 - 1508. YOU can help make this a really INTERNATIONAL event!



Flyweights Vs. The Lead Sleds ...by John Hohensee

I read the discussion of light vs. heavy sailplanes in the July issue with great interest. Dave Batey, Tom Gressman, Bob Johnson, Tom Kunath, Lee Murray and I have been trying to make sense out of this for almost a year. At one point Tom Gressman asked if MaxSoar could determine the optimum weight to maximize the lift/drag ratio of his Prodigy. The result of that analysis is embodied in the two charts (generated by MaxSoar) that I have enclosed. They show the sink rates and lift/drag ratios as a function of flight speed for the Prodigy at five different weights. The number after the name Prodigy indicates the weight. Prodigy25 corresponds to a wing loading of 6.93 ounces per square foot, Prodigy45 is about 12.5 ounces per square foot.

Wayne Angevine is correct in his discussion of the sink rate polar for our models. If you look at the sink rate chart, the 25 ounce Prodigy has a minimum sink rate of about 1.00 feet per second, while the 45 ounce Prodigy has a minimum sink rate of about 1.35 feet per second (assuming dead air). The Build 'em Light contingent will say, "See, it sinks 35 percent faster!" and they would be correct. Let's see what happens when the wind kicks up to 20 miles per hour.

To stay over the field, (a tactic of light airplane fliers in windy weather) both planes must fly at 20 mph. If we follow the 20 mph line up to the curves for both planes and then read the sink rates on the left, we find an interesting development. Prodigy25 has to put its nose down and sink at 1.6 fps while Prodigy45 is just to the right of its minimum sink point and is coming down at 1.4 fps. This very heavy Prodigy is now sinking 12 percent slower than its lighter competitor. If the flier of Prodigy45 wants to, he can trade his 12 percent reduced sink rate for an additional 3 mph of speed and fly upwind or to the side to look for lift. In a 30 mph wind, Prodigy25 must sink at 4.9 fps to stay over the field while Prodigy45 is only sinking at 2.6 fps. Now the Build 'em Heavy contingent is looking smug.

Turning to the lift/drag plots, I would take issue with Wayne's comment that the maximum lift to drag ratio goes down with increasing weight. Our work here in Milwaukee, with MaxSoar, tends to indicate that the lift/drag ratio in this case actually increases, although slightly, with increasing weight when everything else is held constant. The maximum L/D ratio for Prodigy25 is about 21.0 at 16 mph, while Prodigy45 peaks at about 22.5 at 22 mph. The only explanation we could come up with, after several hours of head scratching, is this is due to the higher Reynolds numbers achieved by the heavier model.

MaxSoar calculates the aircraft polar by determining the Reynolds number at each point of interest and interpolates the correct drag coefficient from the airfoil polar being

used. This is one of its unique capabilities. Because of the Reynolds number regime in which our gliders operate, their efficiency is greatly affected by increases in Reynolds number, ie. speed, if all else is constant. If you doubt this, take a look at the results of the Althaus wind tunnel tests.

Being fairly new to RC soaring and an ex-free flyer, I built my first sailplane, a Sagitta 600, fairly light at 32.5 ounces and set it up per Larry Jolly's suggestions (CG at 38 percent, etc.) in Model Aviation. It flew very well its first season and I managed to place 6th in the state (Wisconsin) thermal duration competition (combined scores of all contests flown in Wisconsin) in 1987. However, it was tricky to land in the wind and I watched with consternation as Antares went anywhere in the sky in search of lift.

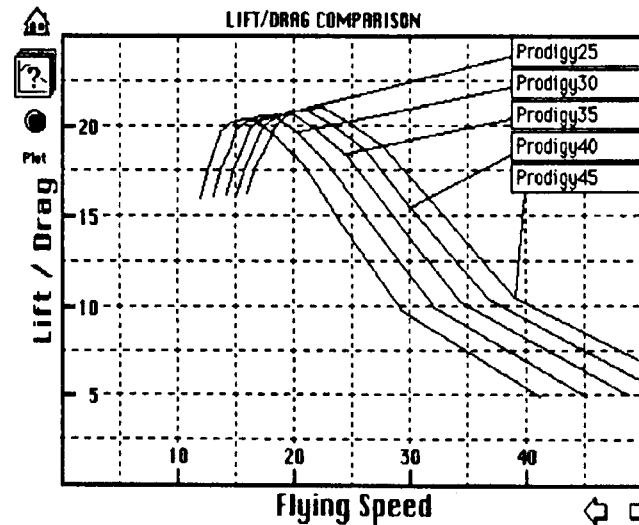
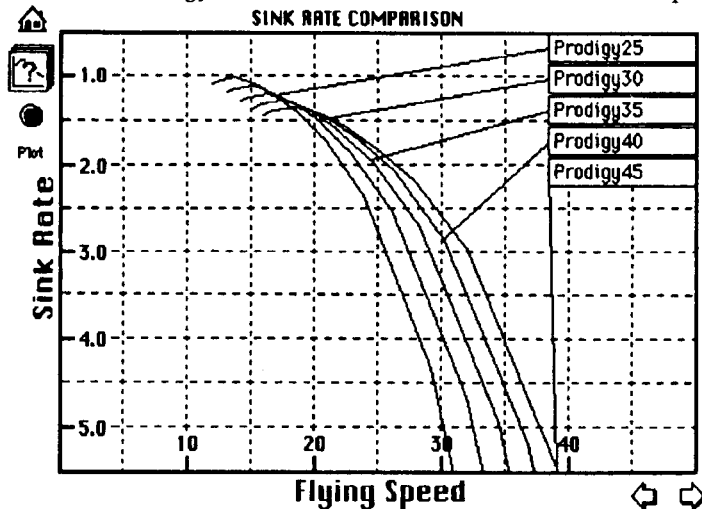
At the start of this season, I asked Dave Batey (probably holds record for most Sagittas flown in a single life) to fly my plane and he agreed with some suspicions I had about this plane. As originally trimmed, the Sagitta flew slowly and had a tendency to stall the inboard tip in a turn. This was very pronounced during landing. His advice was to bring the CG back to the plan location (about 28 percent) and let the plane fly faster.

The results were dramatic. The Sagitta now handles much better in all but the calmest weather (I recently made the nose weight removable to handle calm days). It will now penetrate with very little ballast (4.5 ounces) into a 25 mph wind. In 1987, the total of all my landing points in four contests was about 160. During the last contest of this season I scored about 400 landing points. Almost a factor of 10 improvement!

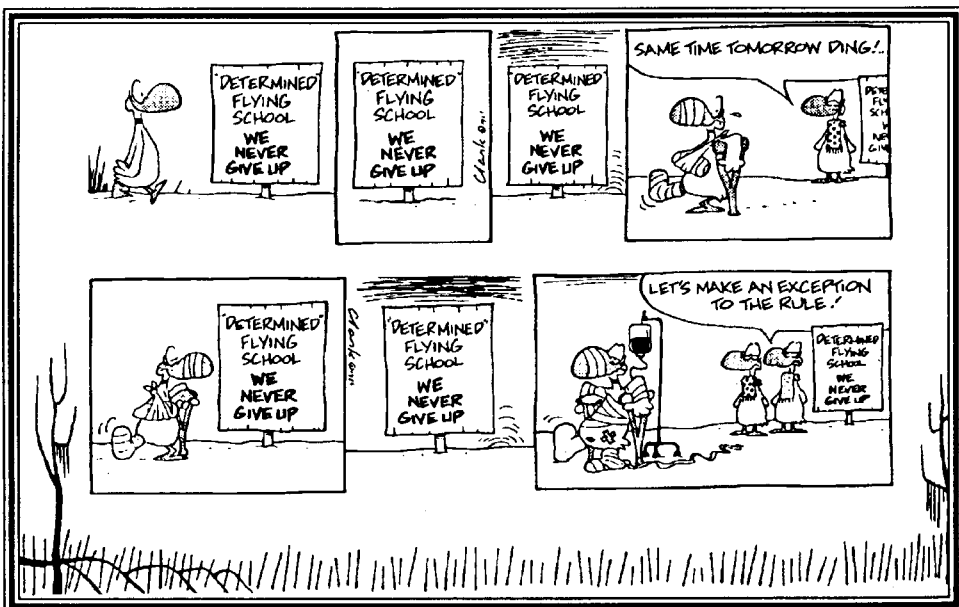
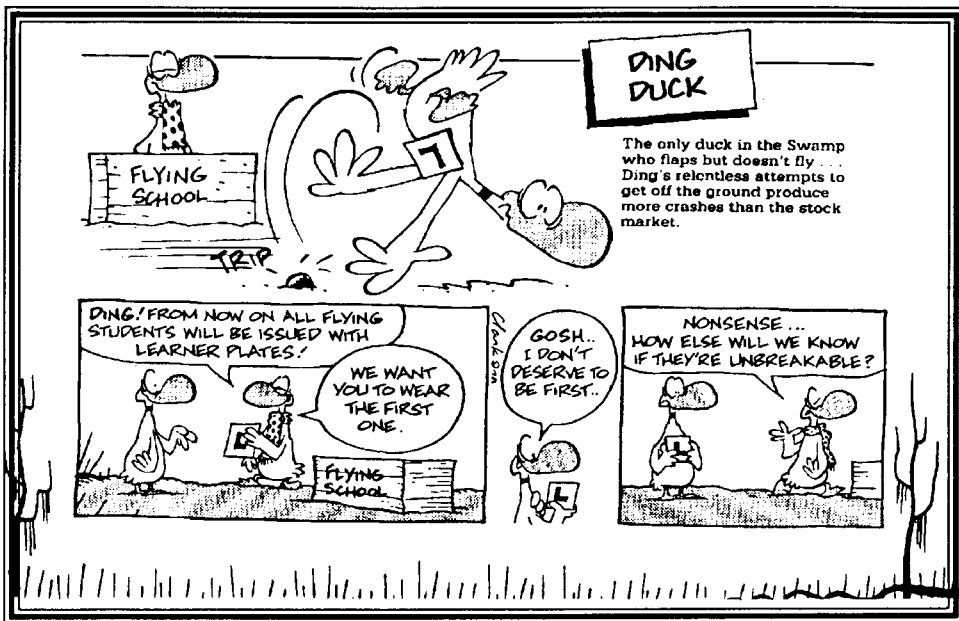
So where do I stand in this? Right in the middle. I would suggest building a structurally efficient plane, which seems to be about 7.5 to 9.0 ounces per square foot of wing. Then, learn how to fly this plane in various conditions with ballast up to 10 to 12 ounces per square foot.

My limited experience to date seems to indicate that on average, a good pilot that knows his plane and knows how to go find lift, will beat an average flyer with a better plane by out flying him. Isn't that what this is all about?

John Hohensee
9924 West Metcalf Pl.
Milwaukee, WI 53222
(414) 464-7095



The use of Gary Clark's humorous cartoon characters has been by kind permission of Gary Clark himself and by Swamp Productions Pty. Ltd., P.O. Box 22, Paddington, Queensland 4064 Australia. The following strips are a first in any soaring magazine, and we hope to bring you some of SWAMP's characters each month. Somehow, "Ding Duck" seems peculiarly appropriate to my own flying efforts! (JHG)



GENERAL

Synergy III was designed as a lighter, smaller airframe to take advantage of new winch rules. The overall size and weight was 25% less than Synergy II: 6.6 sq. ft., 5.5 lbs., wing loading 13.25 oz./ft.2. The airframe was stressed for 30 G's.

CONFIGURATION

Fuselage: standard T-tail design with removable nose cone for access to R/C components.

Wing: three piece with flat center section, 2 degrees dihedral at each tip. Airfoil designed by Michael Selig and Seth Dawson.

Stabilizer/elevator airfoil: NACA00065.

Wing Platform: double taper trailing edge, leading edge approximates a parabolic curve from root to tip.

R/C components installed in fuselage and wing. Ailerons and flaps activated by 4 servos in wing.

CONSTRUCTION

Separate molds were made for the fuselage and for all surfaces: flaps, ailerons, rudder, stabilizer, elevator, wing sects.

Fuselage: molded fiberglass/epoxy resin/composites, removable nose cone covers R/C area.

Hollow Molded Wing: 3 piece, flat center section, composite sandwich, vacuum bagged.

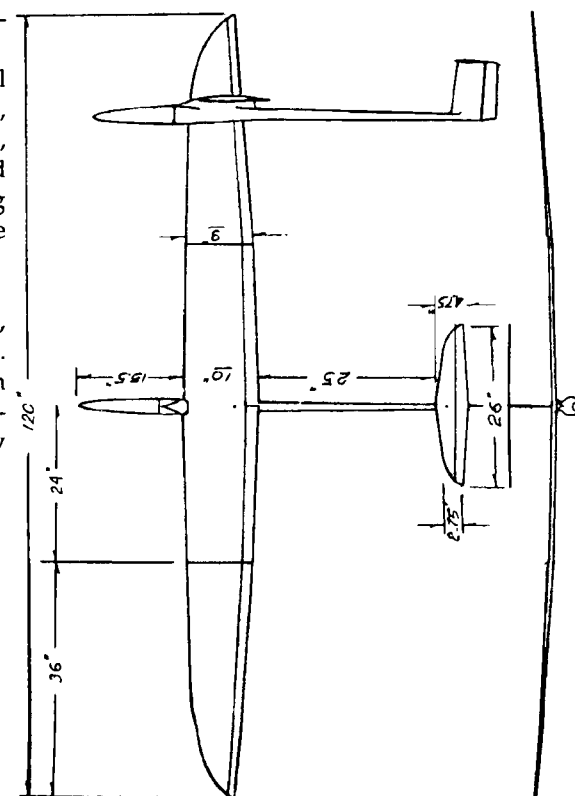
Wing Surface Layers: 1. "gel coat", 2. epoxy resin and glass cloth, 3. one inch wide carbon fiber toe, 4. Rohacell foam, 5. epoxy resin and glass cloth. Top and bottom wing surfaces epoxied together while aligned in mold.

CONTROL FUNCTIONS

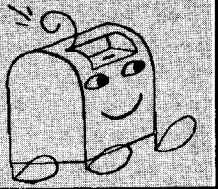
General: 6 surfaces, 6 channels, 6 servos. Camber control. Crow. Transmitter: Airtronics modified with ATRCS. Advanced Technology Radio Control System developed by Gene Englegau and Tom Mroz.



from the South Bay Soaring Society (SBSS)
"Silent Flyer"



The Gray Area



A couple of issues back, reader George Voss suggested some changes in spar construction to provide a stronger structure, and made some comments about spar cross-section design, soliciting readers' comments in reply. Now we have two readers who wish to add their thoughts to the analysis of spar strength and design. (JHG)

Dear Jim,

Just wanted to set things straight concerning George Voss' article in the August '88 issue of RCSD, "Is There A Better Way To Install Wing Spars?"

Spar construction is governed by a number of simple equations. The amount of stress in a member is determined by the equation:

$$\sigma = \frac{Mc}{I}$$

where M is the moment at that cross section, c is the half the depth of the spar, and I is the area moment of inertia.

Since M and c are determined by the wing planform and airfoil selection, it is the area moment of inertia which impacts the stress in the spar. The bigger the area moment, the smaller the stress.

For a symmetrical spar, the equation for the area moment is:

$$I = 2 * (bh^3/12 + Ad^2)$$

where b is the width, h is the height, A is the area, and d is its offset from the centroid. This is a combination of the area moment for a rectangle, $I = bh^3/12$, and the parallel-axis theorem, $I = Ix + Ad^2$.

Based on upper and lower spars of 1/4

by 1/8 and the configuration in the figure:

$$I_{\text{horizontal}} = 1.204 \times 10^{-2}$$

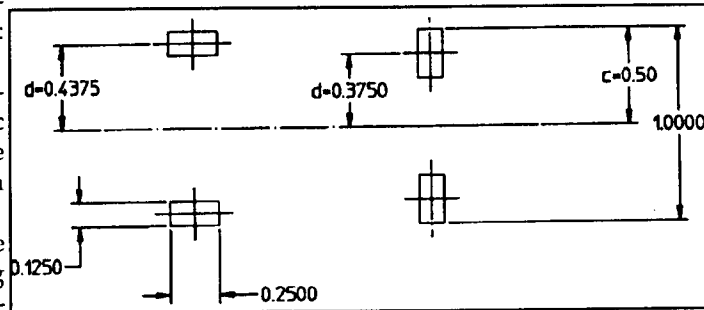
$$I_{\text{vertical}} = 9.115 \times 10^{-3}$$

As $I_{\text{horizontal}}$ is the larger, it will result in lower stress in the spar for a given wing planform.

When calculating this, you will see that the Ad^2 is the dominating component in I. Since d will always be smaller in the vertical configuration of a fixed height spar, the area moment of inertia will always be less.

Martin Connell
15 Phoenix Drive
Mendham, NJ 07945

P.S. I know that your readers are very particular, so must add that AD^2 does not always dominate, especially at extremely large values of b & h. However, these are not likely in model aircraft structures.



Moment of Inertia (I) (Stiffness)	Section Modulus (Z) (Strength)
$\frac{bd^3}{6}$ Cases 1,2	$\frac{bd^2}{6}$
$\frac{bd^3}{6} + \frac{bd}{2}(h-d)^2 + \frac{t}{12}(h-2d)^3$ Case 3	$\frac{1}{h} \left\{ \frac{bd^3}{3} + bd(h-d)^2 + \frac{t}{6}(h-2d)^2 \right\}$
$\frac{bd^3}{6} + \frac{bd}{2}(h-d)^2 + \frac{t}{12}h^3$ Cases 4,5	$\frac{1}{h} \left\{ \frac{bd^3}{3} + bd(h-d)^2 + \frac{t}{6}h^2 \right\}$

Dear Jim,

I am writing in response to George Voss' comments on wing spar design in the August '88 issue of RCSD. He makes good points, but does not tell the whole story, which could lead to some confusion. His calculations refer to a spar in which the top and bottom spar caps are unconnected by a shear web, and do NOT apply to the cases in which a shear web is included. This makes a great difference in spar stiffness and strength (which most modelers probably know by experience). Without becoming too technical, the effect of the shear webs is to cause the top and bottom spar caps to bend as one unit. Without this, they bend independently about their own axes and, as a result, the wing is much more flexible (and weaker).

I have made some comparisons between various spar/web arrangements on the basis of both stiffness and strength. Cases 1 through 5 are the same as George Voss used. Spar caps are 1/4" X 1/8" and the section thickness is 1". The web thickness is 1/16". The accompanying table compares strength and stiffness on the basis of unit values for case 1.

Case	Stiffness (Moment of Inertia)	Strength (Section Modulus)
1.	1.0	1.0
2.	4.0	2.0
3.	175	43.75
4.	212	53
5.	176	44

As one can see, the webbed spar is about 200 times stiffer and 50 times stronger than the unwebbed version. Not only that, it makes little difference which way up the spar caps are installed (Cases 3 & 5). Personally, my preference is for Case 4, which is the conventional arrangement and is also the best performer.

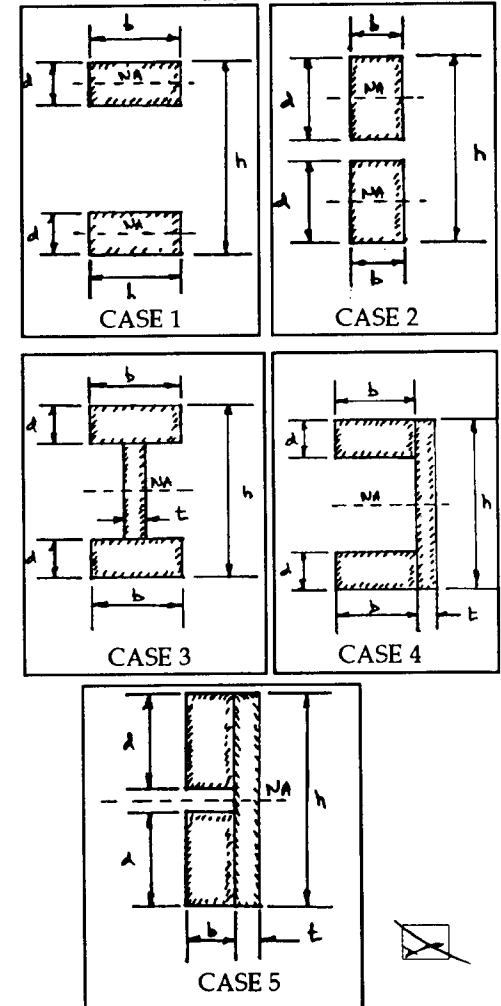
Let me close by saying how much I

enjoy RCSD. Keep up the good work!

Kevin Thomas
RD8 Spring Valley
Greensburg, PA 15601

P.S.: In the sketches, the dashed lines indicate the location of the axis of bending (NA=Neutral Axis for engineers). I also included the formulae from which the results of the table were calculated. My professional credentials are stated on the enclosed business card. Finally, I also enclose my subscription renewal for RCSD.

...Bending of Built-up Spars



OPEN LETTER TO David E. Darling
District 10 VP, National Soaring Society
2705 Harvest Road, Modesto, CA 95355
Tuesday
July 5, 1988
Dear Dave,

Recent events have convinced me the RC soaring community can no longer afford to see the AMA as "our organization". The AMA does a good job for model aviation generally and soaring has benefited from many of their programs. But they don't interpret and apply the international trends in soaring in order to put us at the cutting edge of those trends, they don't place our prominent members in positions of responsibility and authority, and they constantly assert that the small membership of the NSS means they have nobody to listen to about concerns in soaring.

It seems to me that the future growth and excellence of RC soaring in this country depends on the soaring community becoming strongly organized in their own NSS — sailplaner for sailplaners. We'd better start taking care of ourselves. Nobody else will do it.

I look at the current NSS and I see an organization that is not active at the individual pilot and club levels. The AMA is active at those levels with insurance; with an Associate Vice President network; with CD's and their one required contest per year; with a chartered club program; and with a national championships. It's a scanty but effective overall program.

I'd like to see the NSS mimic each of those program items. But I'd also like to see us add program items just especially for the soaring pilot and the soaring club.

MIMICKING THE AMA

The authority to credential Contest Directors, to hold major events at regional/national/world levels, and to forward world record claims directly to the FAI might be granted to the NSS by the AMA. But I think

the NSS should seek the status of "national RC soaring representative" from the same National Aeronautic Association (NAA) that gives the AMA its "national aeromodeling representative" status. With such a status for the NSS, a number of problems would easily resolve themselves. Not the least of which would be the selection of representatives to the CIAM.

If the international rules from the FAI don't allow the NSS to have the status of "national RC soaring representative" in the US, then let's get moving to change the FAI's rules. If the NAA's rules prohibit more than one national rep in model aviation, then let's get moving to change the NAA's rules.

As you know, I've already written to the NAA, asking for the copies of the appropriate regulations and documents. Depending on the completeness of their response, we should know how to proceed on this issue soon.

As you mentioned in your May 23 letter to me, NSS liability insurance for NSS members might be available right now through the same company that insures the Western Associated Modelers and NAMBA — one of the power boat groups. NSS should contact that insurance company directly to see if we could add NSS members on a flow basis. It would be a great advantage doing it that way rather than waiting until we have thousands of members and initiating our own group insurance somewhere.

There's no doubt that the NSS should have a 'chartered club' status. I suggest that the status be based on "either NSS or AMA membership required" and on some number of NSS-sanctioned events held per calendar year. One or two should do. In order to receive the NSS sanction, the club would have to pledge \$1 or \$2 per participant to be paid directly to the NSS within some reasonable time following the event. Payment

...continued on page 20

Jim,

I received my Algebra 3M about 4 months ago. The choice of this plane was based in part on your RCDSD construction articles and part on information in an RC soaring book from Zenith Publications.

The model was built as per plans with the exception of a releasable tow hook (Rocket City) and Multiplex spoilers. I installed a World Engines "Expert" radio with 2 Futaba S-48 servos and 2 S-33 micro servos. The expert radio mixes spoiler with elevator for a no-pitch descent. I am also using the High Sky Thermal Navigator but, have not perfected the technique yet. One thing that has helped with it's (the T.N.) operation was the installation of a momentary push button on the transmitter for on/off control. By using this button, I can verify lift or sink rather than having to counter the turn induced by normal loss of altitude. This seems to work better for me.

With four channels and the Thermal Navigator, the fit was a clock maker's NIGHTMARE. But, it all works great. The plane is a dream ship. Although not a F3B type, it is fast or slow.

Another interesting thing about the Algebra line is that all use the same fuse (2, 2.5, 3 & 4M). If built with this in mind, the plane presents a systems approach to soaring as all spans can be built with poly or ailerons and all joiners will fit. Note also that Edmonds sells wing kits separately (any span).

If you hinge the rudder with a removable pin, the rudder and stab could then be changed to compensate for the span difference.

This presents the possibility of 8 different planes using the same fuselage. There are also 2 wing sections to choose from: S3021 & E394. Sixteen plans is just too much.

Unfortunately, black and white photo just can't do justice to this plane as the color scheme is white top with alternating pink and blue stripes that decrease in width toward the

fuse.

Thanks for your help in answering questions, publishing a great journal and connecting me with this plane.

Chip Gibbs
6300 Old Canton Rd. 13-207
Jackson, MS 39211
(601) 956-8711

Jim,

I have recently purchased one of the HIGH TECH encoders from Emulation Electronics and have scratch-built (using ACE parts) a transmitter for use with sailplanes. This little dandy incorporates a microprocessor (read computer).

I have talked to the folks at EE and have let them know that I am using their product with sailplanes. It is possible, that with any support from the soaring community, that we might be able to get them to develop a soaring-oriented ROM for the unit. (ROM is READ ONLY MEMORY)

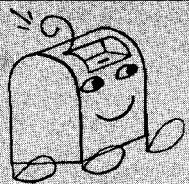
I am considering doing an article (perhaps in several parts) having to do with not only construction of the transmitter, but the installation and use in a flap/aileron sailplane.

If you would be interested, please drop me a line or give me a call.

D. O. Darnell
4227 E. 83rd St.
Tulsa, Oklahoma 74137
(918) 492-9025 (days 10-6 CST)
(918) 481-5855 (evenings)

Also. . . My poor old eyes have to really strain trying to read the little print in your rag. If you must use condensed print, please consider using sanserif font as small print in sanserif is much easier to read! THANK!

The Gray Area



Dear Jim,

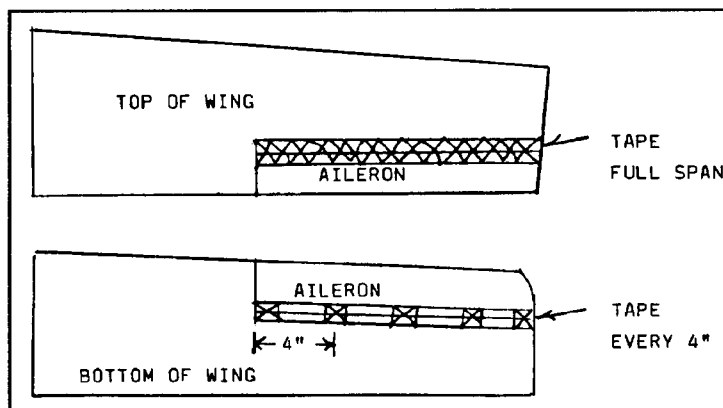
I finally finished my Multiplex Fiesta. I modified it by adding flaps (22% of wing chord) and aileron servos (Airtronics micros) in the wing. Even though the Wortman FX 60-126 wasn't designed

for camber change, it does allow me to slow down this big bird to a crawl from altitude without having to use spoilers which I feel degrades the integrity of the upper airfoil. A slight amount of reflex helps penetration in high winds while a slight amount of camber increases the L/D at low levels upon landing, etc. The aileron servos eliminate any control linkage slop/misalignment which is a common problem with the Fiesta if the wing blade joiner loosens up after a few landings.

After inverting the stab I found that it does help the L/D as other Fiesta owners have reported. However, either way, I found that the positive or negative lift (depending on which way you have the stab mounted) generates very unpredictable flying characteristics as air speed increases or decreases. I built an identical stab of the same dimensions and used a NACA 009 and found that the symmetrical stab does much better. The Fiesta flies much more predictably over its entire speed range and the flying altitude is affected more by thermal activity rather than by air speed. By the way, I'm using an Air-

tronics 75P radio which makes tweaking the control adjustments a dream. I have the controls set up ala Bob Dodgson's Wind-song with full reflex, and crow capability on ailerons and flaps. I also use electronic mix of aileron to rudder and elevator compensation for flaps. Up front I have an ACE thermal sniffer. I have the CG set at 37% - 38% MAC with 1/4 oz. in the nose. I use the hands off dive test to get a nice smooth recovery.

As I told you on the phone, all of the

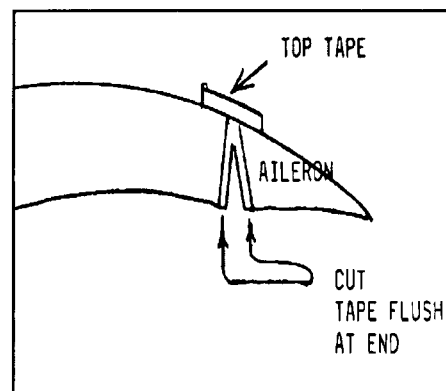


flying surfaces are hinged with tape. While this is nothing new, I'd like to pass along the source of some great hinge tape material. It's called "Crystal Clear Tape", manufactured in Switzerland by Moore Corp., sold by Miller Blueprint in Austin, Texas, toll free 1-800-252-3469. The tape is 3/4" wide, sticks great, is very thin, and will not stretch unlike some other hinge tape. The cost is a whopping \$1.85 for a 36 yard roll. What a deal.

Recently, I have found what I consider to be an even better tape that may be more readily available. It is known as 3M #5 polyester electrical tape. I buy mine from HISCO PRODUCTS, 4318 CENTERGATE, SAN ANTONIO, TX. The telephone number is: (512) 657-4110. HISCO is a distributor, not a dealer, and they have

every kind of tape imaginable. So, if you have other tape needs, it might be worthwhile to ask HISCO.

I finally have my bow cutter working hands off thanks to some help from Bob Sealy on a few key points and a bunch of experiments. Since I already have my vacuum bagging system set up I'm now ready to create either some great flying fiberglass wings or, if that doesn't work out, some Quabeck or Eppler-shaped surfboards.



Crystal clear tape 3/4" wide

Note: Tape bottom strips first using small strips every 4" then bend aileron to full down position and apply tape to top with full span strip. This will give about 1/32" gap to allow aileron to flex down.

Good Flying,
Bart Como
9918 Spruce Ridge Drive
Converse, TX 78109



Dear Jim,

The following contains my own feelings concerning the AMA. After having read Dave Darling's commentary in the September issue, I feel moved to throw in my two cents worth!

Almost every time I have gone to the NATS I have found that the soaring site was horrible, thirty miles from nowhere, etc. I chuckled when I read this year's coverage in Model Aviation! Same old story! Whenever two hundred people pay fifty bucks to fly at a national event, it seems that the site should be world-class.

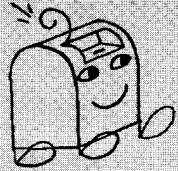
I don't have any beef about the contest administration as it has generally been good, (with the exception of "stand-off" scale. . . . the judges obviously have never read the rules. . . . but sites are usually terrible. (i.e., Lake Charles LA, Lincoln NB, Hemete CA, etc.)

I have achieved LSF level 4. I have participated in two F3B team selection programs and have made the team-selection finals both times. I am interested in the program, even though I no longer aspire to that genre of competition, I feel that is very important as it contributes to the use of new techniques and materials for construction of models. I contribute to the FAI team fund. I am VERY angry with the fact that John Worth, without any consultation of the FAI sponsors, organizers or especially participants, withdrew the USA's bid for the FAI World Championships. Who in the hell does he think he is. . . Oliver North? We all pay very high dues to join the AMA and then get letters in the mail asking for Worth's proxy so he can represent us with the NAA. (Fat chance, John! . . . YOU GOT TO GO!)

All the folks at the AMA seem to be concerned about is obtaining our money to build new buildings so they can have more space from which to poorly administer the

...Continued on page 18

The Gray Area



Continued from page 17

organization and otherwise participate in self-serving politics.

All this stuff about what the AMA has done for US? How many radios do you have that are now obsolete (read illegal) because of the wonderful things the AMA has done to procure new frequencies. I think that almost everyone will agree that it could have been handled much better.

The bottom line is that we just can't afford to let the CLOWNS running the AMA handle the future or our sport anymore! It's just too risky. Some fine day we will awake to find out that the sport as we know it just can't be pursued due to some obscure, largely symbolic goal, rule or policy made by, or perhaps more likely some oversight by the bureaucrats at the AMA who purport to represent us.

I agree with Dave Darling. Join the NSS today and let's see if we can't develop the kind of leadership in an organization that supports US and understands what WE want.

D. O. Darnell
AMA 6067
LSF 249/4
4227 E. 83rd ST.
Tulsa, Oklahoma 74137
(918) 481-5855



Fly Specs

Comments on the F3B Team Selection Finals

...by Byron Blakeslee

At the end of the contest the score showed Larry Jolly 5.1 points ahead of Seth Dawson. A later re-check showed an error in Seth's 3rd or 4th round score, so it was corrected, and the following are the corrected scores. As you can see, it was a very close contest. The top three guys were just a bit more consistent (than the others) and they will make a strong team.

Gene Engelgau really impressed - especially for his first "big" contest. He is the designer of the ATRCS program, and six flyers used the module/ATRCS radio. Very impressive for the short time it's been out...and it works extremely well. Gene has done a great job on the program.

Joe Wurts flew quite well, not far behind. Don Edberg probably could have made the team except for the fact that he got a zero for his 5th round speed run because he ran out of working time. They had trouble with lines breaking and (I think) he made four tries for a launch with time running out before he could complete the course.

...Byron is Soaring
News editor for Model Aviation magazine.

1988 F3B TEAM SELECTION FINALS

ROUND	1	2	3	4	5	6	THROWOUT	BEST 5	AVERAGE	POINTS	PERCENT	
										BEHIND	BEHIND	
1	SETH DAWSON	2972.9	2082.5	2957.0	2650.0	2260.4	3000.0	2260.4	14471.2	2094.2	0	0.00
2	LARRY JOLLY	2035.1	2963.7	2636.4	2520.6	3000.0	2952.0	2520.6	14300.0	2077.6	83.2	0.57
3	RICH SPICER	2604.2	2933.3	2908.2	2655.7	2027.9	2041.3	2655.7	14194.9	2039.0	276.3	1.91
4	GENE ENGELGAU	2013.9	3000.0	2793.5	2620.0	2691.9	2045.2	2620.0	14164.5	2032.9	306.7	2.12
5	DON EDBERG	2921.2	2533.0	2022.2	2973.2	1735.6	2095.1	1735.6	14145.5	2029.1	325.7	2.25
6	JOE WURTS	2032.4	2613.1	2664.9	2960.5	2759.2	2921.3	2613.1	14130.3	2027.7	332.9	2.30
7	MIKE BANE	2475.1	2037.6	2508.7	2031.0	2664.3	2770.3	2475.1	13619.9	2024.0	051.3	5.00
8	STEVE REA	2239.3	2679.9	2745.4	2632.4	2706.3	2740.5	2239.3	13504.5	2009.9	966.7	6.60
9	GARY ITTNER	2400.6	2506.0	2502.2	2530.0	2627.7	2932.1	2400.6	13107.6	2037.5	1203.6	0.07
10	JOHN WYSS	2406.7	2533.6	2908.2	2400.9	2570.4	2336.5	2336.5	12099.0	2000.0	1571.4	10.06
11	DUCA GOLE	2574.0	1030.2	2719.0	2300.2	2349.9	2622.6	1030.2	12566.5	2513.3	1904.7	13.16
12	RICH BURROWSKI	2397.0	2544.5	2600.4	2563.7	2162.0	1054.1	1054.1	12340.4	2469.7	2122.0	14.67
13	LENNY KEER	2723.1	2671.4	2212.0	2011.6	1940.7	2430.5	1940.7	12049.4	2409.9	2421.0	16.74
14	JACK HINER	2454.9	2414.9	2403.3	1967.3	2230.2	2346.2	1967.3	11057.5	2371.5	2613.7	10.06
15	JACK SASSON	2407.9	2130.0	2577.2	1961.7	2300.4	2406.0	1961.7	11022.3	2364.5	2640.9	10.30
16	SCOTT DUKES	2170.9	1620.9	2404.0	2305.0	2351.9	2407.3	1620.9	11720.7	2344.1	2750.5	19.01
17	BOB EDSON	2053.5	2511.0	1907.0	1777.1	2290.9	2107.2	1777.1	10950.4	2191.7	3512.0	24.27
18	JIM MCCARTHY	2530.4	1604.0	2409.1	1517.0	541.9	2292.3	541.9	10433.6	2006.7	4037.6	27.90

1988 F3B TEAM SELECTION FINALS - STANDINGS AFTER EACH ROUND

ROUND	1	PLACE	2	PLACE	3	PLACE	4	PLACE	5	PLACE	6	PLACE	BEST 5	
DAWSON	2972.9	1	5055.4	1	0013.2	1	11471.2	1	13739.6	5	16739.6	5	14471.2	1
JOLLY	2035.1	3	5790.0	3	0435.2	4	10955.0	6	13955.0	2	16900.6	1	14300.0	2
SPICER	2604.2	7	5617.5	4	0525.7	3	11181.4	4	14009.3	1	16050.6	2	14194.9	3
ENGELGAU	2013.9	5	5013.9	2	0607.4	2	11220.2	3	13920.1	3	16785.3	3	14164.5	4
EDBERG	2921.2	2	5455.0	5	0277.2	5	11250.4	2	12906.0	0	15081.1	7	14145.5	5
WURTS	2032.4	4	5445.5	6	0110.4	6	11070.9	5	13030.1	4	16751.4	4	14130.3	6
BANE	2475.1	11	5312.7	8	7021.4	0	10652.4	7	13316.7	6	16095.0	6	13619.9	7
REA	2239.3	16	4919.2	12	7664.6	9	10297.0	9	13003.3	7	15743.0	0	13504.5	8
ITTNER	2400.6	10	5075.4	9	7577.6	12	10116.4	11	12744.1	10	15676.2	9	13107.6	9
WYSS	2406.7	14	4940.3	11	7040.5	7	10329.4	0	12099.0	9	15236.3	10	12099.0	10
GOLE	2574.0	0	4412.2	16	7132.0	14	9432.2	13	11702.1	12	14404.7	11	12566.5	11
BURROWSKI	2397.0	15	4941.5	10	7621.9	10	10185.6	10	12340.4	11	14202.5	12	12340.4	12
KEER	2723.1	6	5394.5	7	7607.3	11	9610.9	12	11559.6	13	13990.1	13	12049.4	13
HINER	2454.9	12	4069.0	13	7273.1	13	9240.4	14	11470.6	14	13024.0	14	11057.5	14
SASSON	2407.9	13	4530.7	15	7115.9	15	9077.6	15	11370.0	15	13704.0	15	11022.3	15
DUKES	2170.9	17	3791.0	10	6196.6	10	8502.4	16	10054.3	17	13341.6	16	11720.7	16
EDSON	2053.5	10	4564.5	14	6472.3	17	8219.4	17	10540.3	16	12735.5	17	10950.4	17
MCCARTHY	2530.4	9	4135.2	17	6624.3	16	8141.3	10	0703.2	10	10995.5	10	10433.6	18

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received completes the obligation for maintaining chartered club status.

By making the rule "either NSS or AMA membership required", we'd allow for both individuals and clubs to maintain a primary affiliation with AMA while crossing over into RC soaring occasionally. It would allow AMA chartered clubs to also be NSS chartered clubs. The real sine qua non for NSS chartered club status would be fielding one or two NSS-sanctioned events per year.

The NSS should also have an Associate Vice President network. It's not at all clear to me how the AMA uses theirs but the NSS should use it as a support staff for their District Vice Presidents. If we're going to have any good national application of the programs that'll encourage the growth and excellence of RC soaring, we need to provide the District VP's with enough volunteers to handle the administrative tasks.

Like many of the ideas here, the AVP network is not one of mine. I'm just the listener tugging it together and writing it down. But it seems to me that the AVP network would allow us to make good use of a tremendous resource in our community — our retired seniors. Men and women who have time that none of us working types have — and who have plenty of experience with real people and real problems. We need to make use of that resource.

It's clear that the AMA is not going to field a National Championships that includes both thermal soaring and slope soaring events. They're grudgingly making F3B an add-on, non-event again this year but their heart and site selection isn't in it.

We've got many places along the west coast where excellent thermal sites are only 20-30 miles from excellent slope sites. And I'm sure that such places can be found on both sides of the Rocky Mountains as well as on the east coast. It's time for the NSS to start planning a true, RC Soaring National Championships at one of those places.

Seems to me that such an RC Soaring Nats would include precision thermalling, slope racing in scale and non-scale, two levels of F3B, and a cross-country race. Six or seven days of events spread across a work week and two weekends. It'll take more than the AMA is willing to give. And it's time it started happening.

FOR THE INDIVIDUAL SOARING PILOT

This needs lotts a brainstorming among lotts a people. Even if my thin experience in RC soaring were much fatter, the ideas of one individual are not likely to ring the gong.

One notion I've been playing with though, is for a system of participation patches to go onto caps, jackets, vests, or whatever.

Take a basic, circular NSS patch issued with membership.

Add ring-size one. In this size, make rocker and surround patches that, respectively, fit under and completely surround the basic patch. Both rockers and surrounds are made up with two separate legends: THERMAL SOARING and SLOPE SOARING. The legends on both the rockers and surrounds would be in identical lettering for fitting around the bottom of the basic NSS patch but the surround would have a blue field with gold stars above and around.

Add ring-size two. In this size, make rocker and surround patches that, respectively, fit under and completely surround the basic patch plus either rocker or surround patches in ring-size one. Both rockers and surrounds in ring-size two are made up with two separate legends: THERMAL SOARING and SLOPE SOARING.

Copy-cat the LSF affidavit system. The NSS pilot carries the affidavit issued by the NSS. At each NSS-sanctioned event in which the pilot participates, the CD signs the affidavit. When the pilot has participated in his/her first NSS-sanctioned ther-

mal event (contest or fun-fly), he/she can buy the THERMAL SOARING rocker and sew it on. Ditto for the first slope event. Since rockers are available in both ring-size one and ring-size two for both THERMAL SOARING and SLOPE SOARING, it won't make any difference which type of event the pilot participates in first.

When the affidavit shows the pilot has participated in five, NSS-sanctioned events of one type, he/she can buy the gold-star-studded surround patch. Since surrounds are available in both ring-size one and ring-size two for both THERMAL SOARING and SLOPE SOARING, it won't make any difference which type of event the pilot gains ACE status in first.

You get your THERMAL ACE or your SLOPE ACE surround patch first — but you're really gunning for DOUBLE ACE.

Too trite — too cute? I don't think so. I think it's an idea that will appeal to the very young — who we need to take into account at every step along our way — as well as to the not so very young who already know the value of an individual's support of the national organization which opens his sport to a wider and smaller world. I don't assume that this idea will be a winner in the competition of ideas to enhance the individual's involvement in the NSS — but it's the sort of idea that I think should be implemented as soon as possible.

And I think we could have similar participation patches for the two levels of F3B and for cross-country racing. But however we promote the activities that make us a community, we'll need a thorough, responsive administration of those promotions. It'll take more than the AMA is willing to give. And it's time it started happening.

FOR THE SOARING CLUB

One of the great blind spots in AMA operations is the just-forming and newly-

formed RC soaring club. AMA just does not help in any way. Put this blind spot together with the NSS need to be active at the club level and you have a great opportunity for the NSS.

We know RC soaring will grow. The baby boomers are inclined to this sort of leisure activity. They like doing it yourself, the challenge of personal proficiency, the challenge of pitting one's skill against the elements, and doing these things while using a minimum of natural resources. RC soaring has it all. Will there be enough new clubs to warrant a special project? Just put the help where it's needed and watch the growth happen.

A "new club starter package" could include sample by-laws; a CD's handbook with suggested safety rules and discussions of unsafe conditions; a newsletter editor's handbook with a mailing list for the District's other-club editors; and launch and retrieval systems handbook; a building class handbook; and a site acquisition handbook. Established clubs could be asked to submit entries for each handbook and the handbooks could give by-line credits to the submitting clubs (and individuals actually doing the writing and illustrating).

Editors for the individual handbooks could be recruited from among our national media soaring columnists and editors. They just naturally see and deal with more of this type of information than anyone else in our sport.

I don't think we'd have to worry about paying the handbook editors. Such an opportunity doesn't surface many times in one's life. But the handbooks could be individually put on sale by the NSS and small royalties paid to the editors from those sales. A little dollars and sense incentive for them to do the sterling, long-term-effective sort of editing and even writing of which they're so capable.

I think there should be only a very small charge to the groups who ask for the starter package. Something to cover shipping and

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handling. Nothing even close to what it costs to print the handbooks. Have the group send a letter to the NSS District VP and let him do whatever verifying he thinks sufficient to establish that the request for the starter package is genuine. Keep it loose and helpful. Advertise it through the national media columnists and editors as well as through the established clubs' newsletters and hobby shop bulletin boards.

Just put the help where its needed and watch the growth happen.

MISC. SUGGESTION—NSS 1988 CLUBS & EVENTS TABULATION

Does NSS District 10 have a "special case" situation in regard to RC soaring? How would the NSS District VP's feel about doing a 1988 listing of RC soaring clubs, the number of their members, the number of thermal and slope soaring events fielded, and the number of participants in those events?

A district-by-district tabulation of such numbers could be very useful. On one level, it would suggest a fair reorganization of districts. Even if RC soaring remains directly affiliated with AMA—as we are now—I see no reason for NSS to duplicate the AMA districts. Especially not if it means overburdening some District VP's and underburdening others.

A district-by-district tabulation of such numbers will be very useful on other levels, too. But those other levels will suggest themselves when the numbers are available.

WRAPPING IT UP

Just one voice here. A voice with some mighty thin experience in RC soaring. Maybe I'm misjudging the foresight and determination of RC soaring enthusiasts. Maybe I'm trying too hard to get from the ought to the is. Maybe what ought to be gotten to for a bright future in RC soaring can't be gotten to for the lack of interest this year or next decade. Its up to the majority of RC soaring pilots.

We've got a cardinal rule in my club: the pilots make the rules.

If the majority of pilots step up with the \$12 for NSS membership and either generate or support ideas that'll make NSS be what they want it to be, then we're on our way from the ought to the is. If the majority hangs back, then we stay with AMA and the way things are now.

It's up to the majority.

Sincerely,
Stephen Neitzke
S3 Ex Officio
11542 Rocky Mt.
Reno, NV 89506
702/972-7319

Editor's Comment: The opinions expressed herein are not necessarily those of RCSD or the publisher. They are, however, worthy of publication and consideration by soaring pilots everywhere. (JHG)

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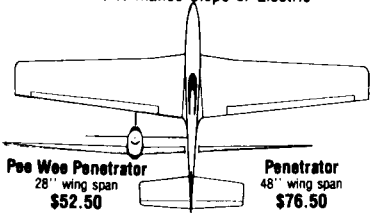
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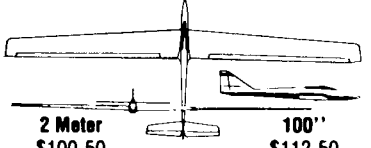
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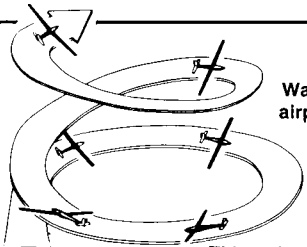

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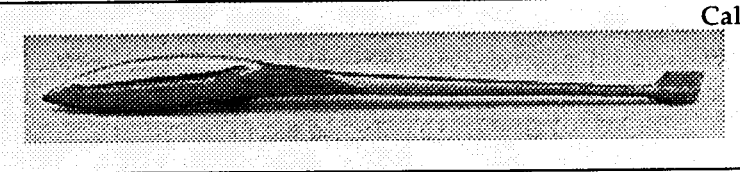
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