

MAXFAX

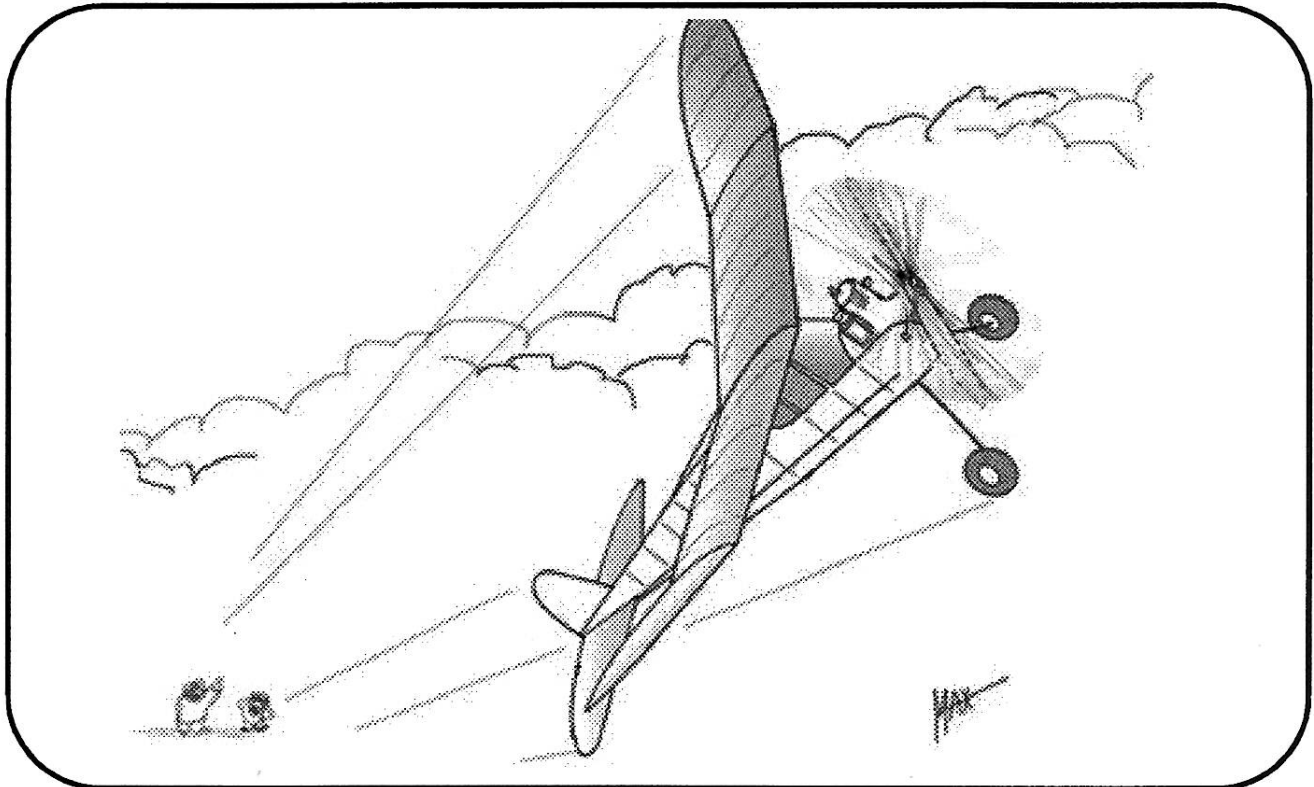


Journal of the D. C. Maxecuters

... home of the dreaded POTOMAC PURSUIT SQUADRON of the Flying Aces Club

Editor: Stew Meyers

NOVEMBER-DECEMBER 2001



COMING ATTRACTIONS

NOV 4, 2001
Sunday

FLYING AT THE NATIONAL BUILDING MUSEUM
10AM -4:30 PM SEE DETAILS IN THIS ISSUE

NOV 17, 2001
Saturday

SECOND MAXECUTER FLEA MARKET AT
THE COLLEGE PARK AIRPORT
9AM -12 NOON

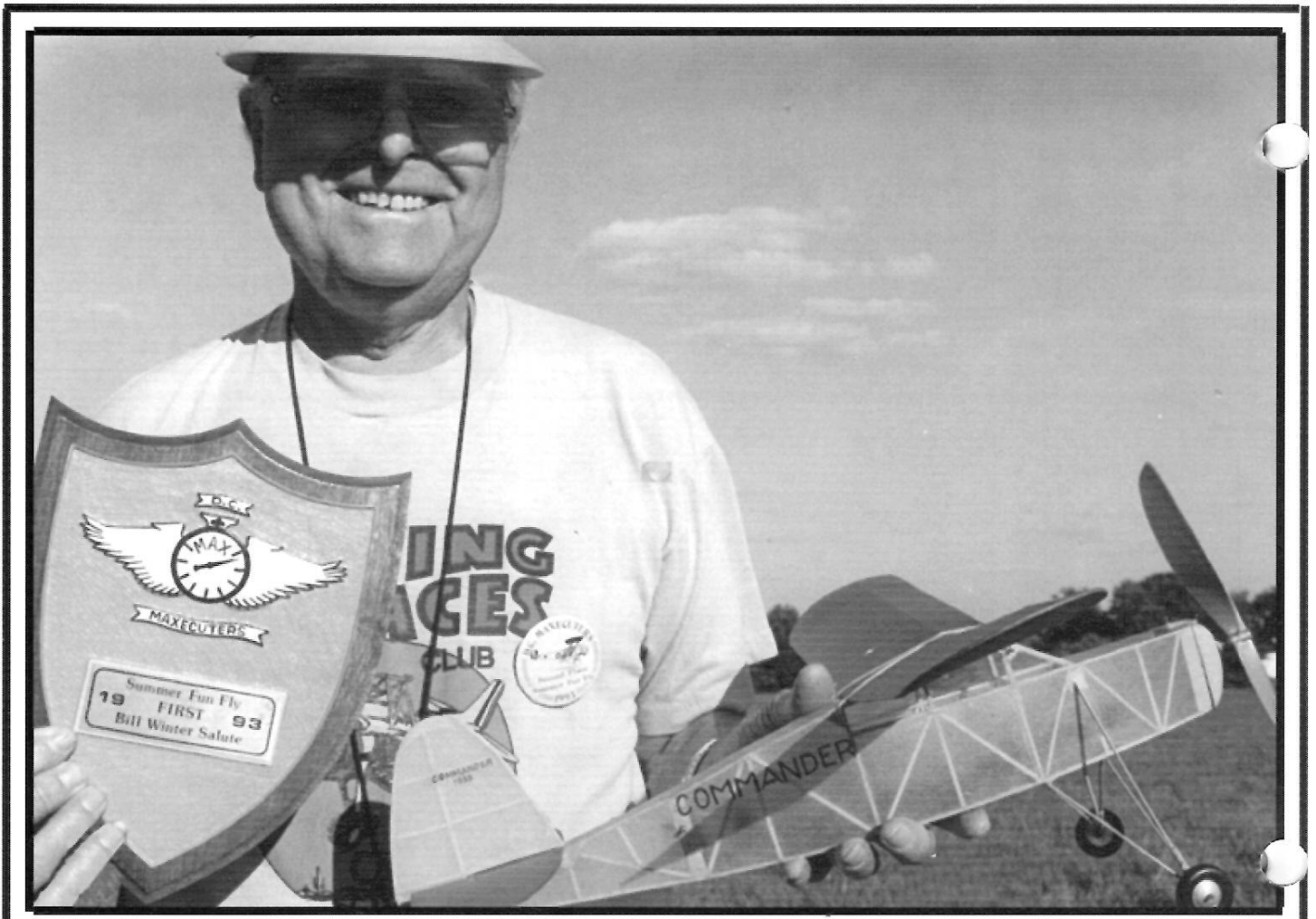
DEC 1, 2001
Saturday

MAXECUTER BULL SESSION AT ALLAN'S RESIDENCE
6:30 PM Map and Info in this MAXFAX Rendezvous at Hobby city

DEC 2, 2001
Sunday

MAXECUTER ANNUAL BANQUET
6:00 PM Bistro Francais 3124-28 M Street NW Georgetown, DC
For reservations please send a check (\$24 each) to:
Paul Spreiregen 2215 Observatory Place NW
Washington DC 20007 tel (202) 337-2887
email paularch@starpower.net

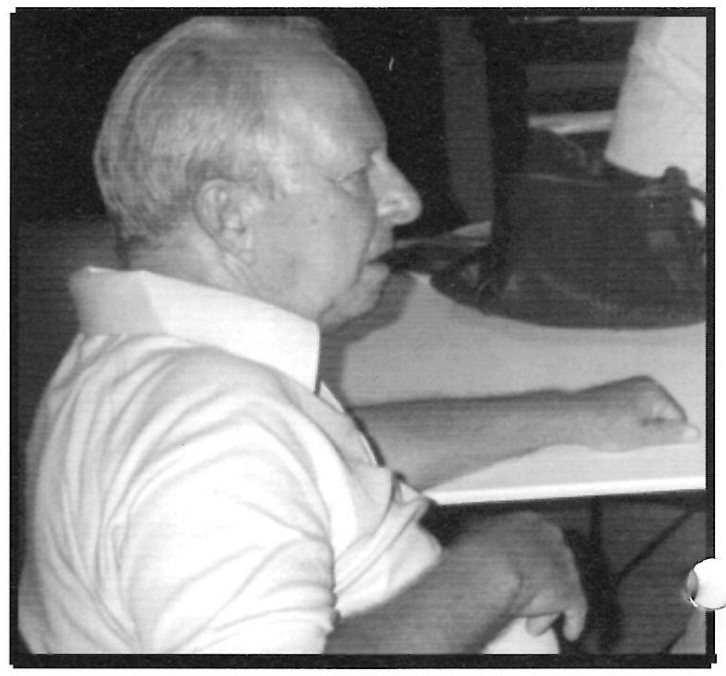
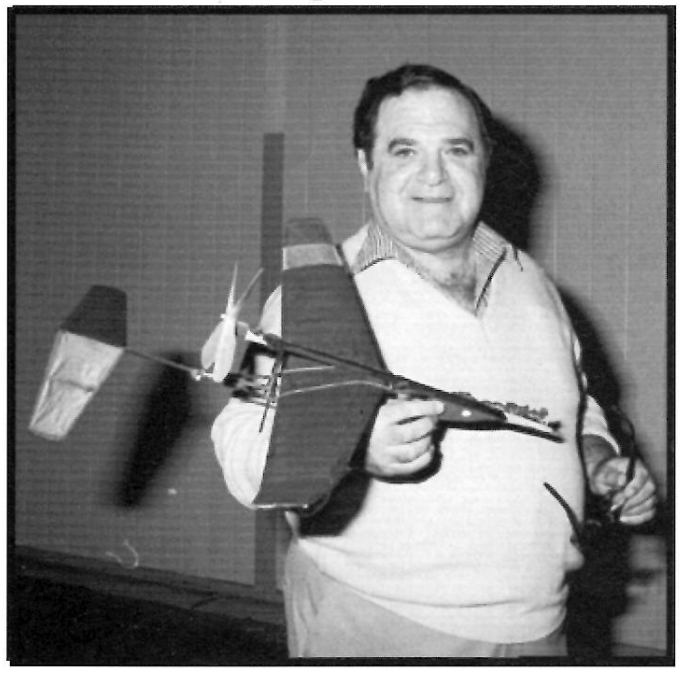
continued on rear cover



Doug Buchanan

Danny Sheelds

Frank Ehling



MAXECUTER MEMORIAL ISSUE

Stew Meyers

We dedicate this issue to several Maxecuters and friends that have recently passed on by presenting Frank Ehling's *Request* which originally appeared in the December 1941 *Air Trails*.

PHOTO PAGE

We wish to pause a moment with this photo page to remember some of our fellow modelers who have taken the journey to the heavens in 2001,

First there is Doug Buchanan a survivor of D-Day (on his Birthday) at Omaha Beach in the first wave with the Blue/Gray 29th Division. Doug has been a Maxecuter for more years than we can remember producing a great quantity of fine flying aircraft including this winning Bill Winter Commander at Shangrila in 1993. Doug's smile was infectious and it was painful to see him go.

Then who will ever forget our Baltimore 'Tin Man' Danny Sheelds the originator of the old time 'Twin Pusher' event for SAM who traveled to England many times for their SAM Champs. It seems there is little Danny did not do during his lifetime including keeping many of us in stitches with his many stories. Toledo and our local 'Collecto' will never be the same again.

Also the original innovator Frank Ehling is gone. He was for many years the Technical Director of the AMA and designed many freeflight models including some still being flown at SAM contests. Frank in a moment of quiet genius produced a design of a simple rubber band powered model for neophytes that has been built and flown by thousands of youngsters and adults. Of course that was the AMA Delta Dart and now a follow on design the AMA Cub is in use every where with a kit produced by SIG Manufacturing. We last saw Frank at a Comsat Maxecuter contest about 8 years ago. By that time he was not able to fly.

Before closing we should mention two other gentlemen who have also left us recently. John Pond who most consider the 'Godfather' of the International SAM movement has endowed the modelers with the passion of recreating their youth by building and flying the models that preceded WWII. Also Bob Aldrich of 'Nobler' fame is gone. He could easily be considered one of the great engine gurus of our time. Both of these fellows have achieved worldwide recognition for their many achievements in our favorite pastime.

The dastardly attacks of Sept. 11th 2001 and the resultant tragedy evokes the events of December 7th 1941 and our resolve to persevere and triumph over evil. Our thoughts and prayers are with those whose perished and their families.

Frank V. Ehling

by John Worth

On the evening of Sept. 5, over 50 friends gathered for a special Frank Ehling memorial in Laurel, MD, to tell of their personal experiences with Frank over the years. He died at home on August 21, just two days before his 87th birthday, about ten years after suffering a stroke that partially paralyzed him and dramatically curtailed his modeling activity that had spanned over 60 years.

One of the most prolific model designers, builders, and fliers of our time, Frank Ehling was also highly skilled as a carpenter, a gardener, and a breeder of birds and animals. Over the years he received numerous awards and accolades, including induction by AMA, NFFS, and SAM into their respective Halls of Fame.

AMA also designated their Muncie, Indiana, headquarters/museum facility as the Frank V. Ehling Complex. He served AMA for over 20 years as Technical Director, overseeing all aspects of aeromodeling competition and record activity, including several years as the U.S. Free Flight representative to the Federation Aéronautique Internationale (FAI) on its Committee of International Aero Modeling.

Famed for his extensive variety of model designs, involving all types of power, which appeared in many model magazines and kits produced by various model companies, Frank considered his most significant achievement to be his ultra simple but aerodynamically sophisticated AMA Delta Dart design (also known as the AMA Cub), which introduced thousands of youngsters to their first successful model flying experience.

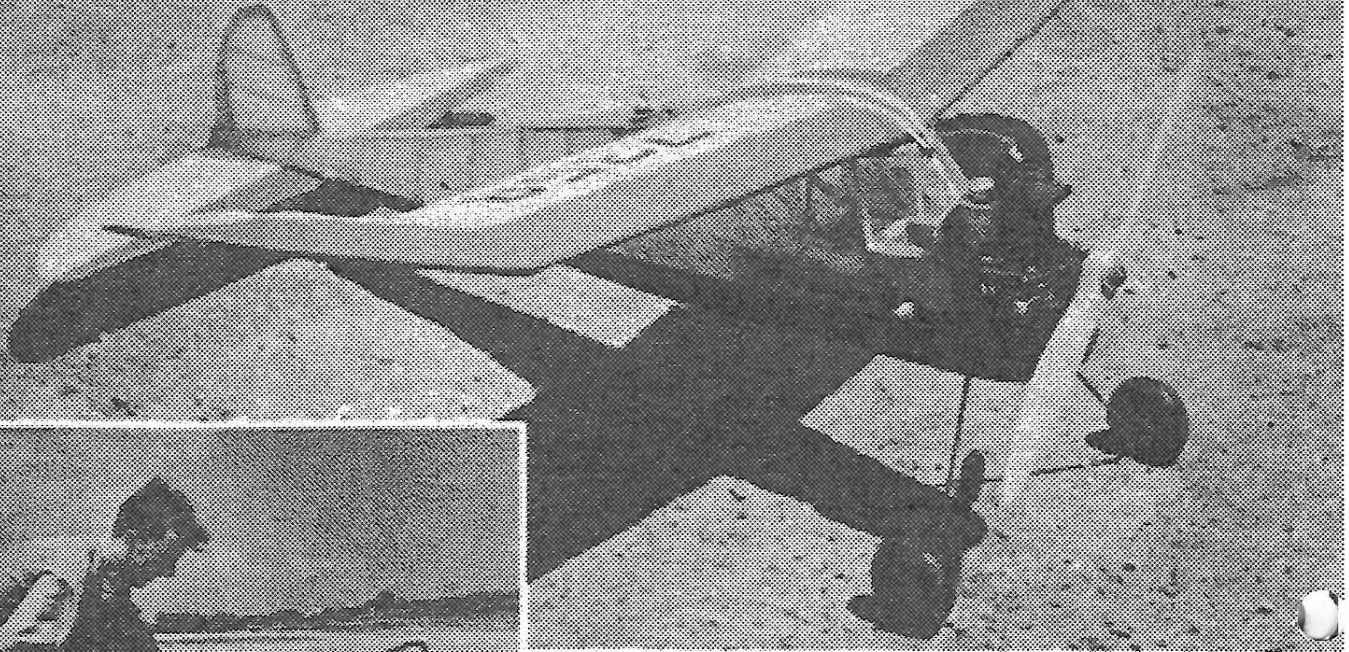
His royalty-free donation of this design to the model industry was recognized by the Hobby Industry of America's Award of Merit. He was also honored for his encouragement of youth modeling programs when the National Aeronautic Association named him as an Elder Statesman of Aviation.

Frank was one of us. Although bedridden for many years, he was always interested in what we were doing and enjoyed hearing from friends in the Maxecuters and CAAMA clubs. We'll miss him as we remember his many contributions to model aviation.

THE REQUEST

BY FRANK EHLING

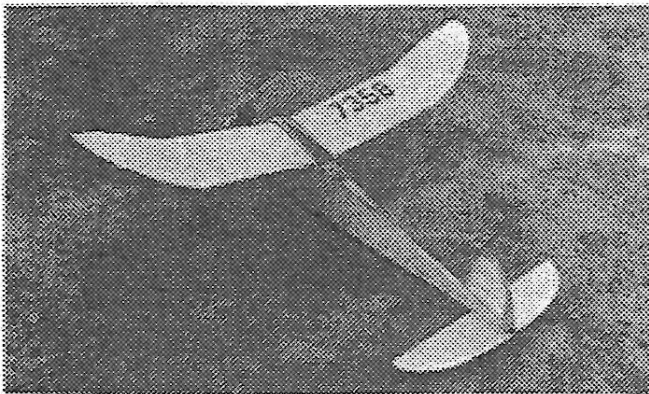
With the experience of hundreds of models, old-timer Frank Ehling created this rugged, flyable, A or B job.



Two fuselage sides are assembled on bench somewhat like "crutch" procedure. Bottom fairing is added later. Flight timer is set on top fuselage.



The author cranks the Request; used Bantam and Hi-Speed engines with success. Any large Class A or small Class B will do.



You can't beat the Request for climb. Won't loop, even when it is so adjusted. Teardrop fuselage section cuts drag in climb.

THE Request was designed to give good flying results. It lived up to our expectations in more ways than one. The ship was first flown as Class A with the new Bantam engine. This combination was considered hot. Later the ship was sold. The new owner used a Hi-Speed engine and the model's glide was improved despite the additional two ounces of engine weight.

The new owner was disappointed. It seems he wanted the model to perform like a real ship, and the only type of flight it turned in was that of a scientific model constantly pointing its nose to the sky and climbing until the ignition timer stopped the engine. Flights of this description were common even under low power. Under increased power the model would not fly at a greater angle but would climb at a faster rate of speed.

At a recent contest a stunt event was being run off. The Request was entered and adjusted to loop. Positive incidence was applied to the wing and negative to the tail. During the flights the engine was opened to the limit. The ship climbed with a terrific rate of speed yet showed no signs of looping.

And now a few words in reference to the construction. Streamlining was incorporated in the job if it provided. (Turn to page 5)

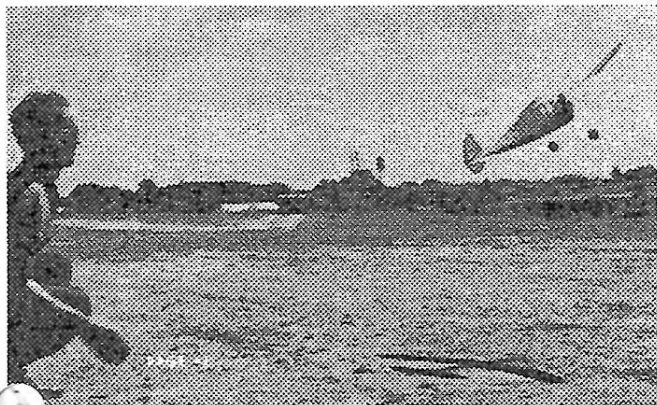
The Request

(Continued from page 4)

the strength. The large nose block added strength to the ship's nose. The fuselage brought to a triangle (cross-sectional view) at the rear gave strength to that portion. The round formers and their stringers built on the underside of the fuselage combined with the triangular-shaped top side gave the body a more or less teardrop cross section, which offers less resistance than a square or a rectangle. Additional streamlining is offered by celluloid windshield.

With regard to the aero-dynamical viewpoint. The thrust line is designed just high enough to make possible a fairly short landing gear, thereby cutting down considerable drag. The polyhedral wing gives the ship a "rolling" flight characteristic while the ship is climbing instead of the tight spirals that sometimes spin a model to destruction. The stabilizer is placed low in regard to the wing to afford a biplane effect, thus increasing stability. The main wing dihedral and the rudder combination are planned so that the ship can be made to spiral in either direction by simply using the rudder tab.

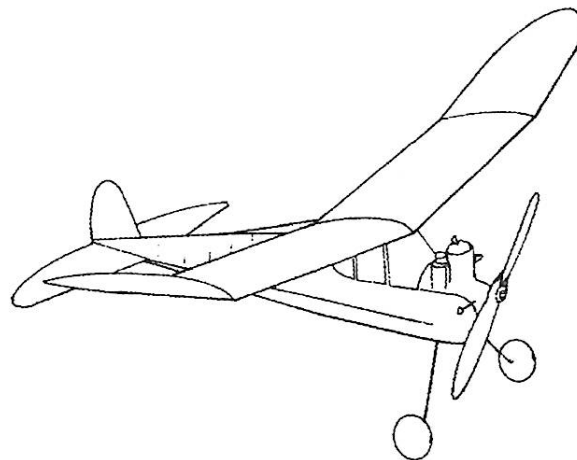
The fuselage is built in the conventional manner. One side is built upon the other. When dry, remove from the plan and separate the lower longerons and a portion of the top longerons (the short distance up to where the triangle starts). The cross-pieces are cemented in their respective places. The formers are cut out of stock, notched and cemented to the bottom side of the fuselage. The stringers are then added. The motor mounts are shaped and mounted in the fuselage with plenty of cement. The landing gear is bent to shape, then cemented and bound to the uprights and motor bearers. The nose block is cemented lightly in position and then carved to shape. After it is removed it is hollowed out until its wall thickness is about $\frac{1}{4}$ ". The windshield former is cemented in place and the windshield itself is made from a stiff grade of celluloid. The dowel (front fastener for wing) is cemented in position, and the ship is ready to be sanded and covered. The wing is of the two-spar-type construction. Make a full-size drawing. Cut sufficient ribs and wing-tip parts from the correct thicknesses of sheet stock. Construct wing and put gussets at each break in dihedral. The stabilizer is made of sheet stock and ribs. When dry, sand to a streamline section. The rudder is made in a similar fashion. The coil and batteries are then installed. The easiest way to find their location is to mount motor, wheels and stabilizer and then measure off 30 percent from the leading edge of the wing, placing the weights so that the model balances at that point.



Frank launching *The Request*

OLD TIMER of the MONTH

Sept 1986 Model Builder Review
by Bill Northrop



Frank Ehling's "Request" was published in the September 1941 issue of Air Trails. The article included one of the earliest offers by model magazines to supply full-size plans. The price was 25 cents! More about those plans later.

The Request spans 44 inches, and with 7-3/8-inch chord, the area is a little over 300 sq. in. Frank pointed out an unusual, yet positive characteristic of this model. As shown by the plans, the thrust line and stab are at zero, while the wing has a pretty fair amount of positive incidence relative to the thrust/stab line. The ship, regardless of the power used, would climb at a steep angle, but showed no tendency to loop. Even when Frank tried to make it loop (for a looping contest) by shimming more angular difference into the wing and stab (negative in the stab, more positive in the wing) the only result was a steeper and faster climb, but no loops! The ship could easily handle hot Class A engines, such as the Bantam, as well as Class B. And now about those plans.

There's a bunch of errors. After blowing up the plans to full-size, we've taken the liberty of making some obvious corrections. If you count the half-inch squares on the stab, you'll find that the half-span is eight inches, not eleven, so the full span is 16 inches.

Checking the rib pattern, we'd say the front spar is $\frac{3}{16} \times \frac{1}{2}$, not $\frac{1}{8} \times \frac{1}{2}$, and don't believe the perspective view of the "wing spar joint! The gussets appear to be two-piece joined at the centerline.

As for the fuselage, the 'layout for lop of Fuselage' really shows the main bottom longerons, or crutch. You have to go by the photos, but the top longerons come together, we'd say at Station 8.

Where it says fuselage assembly "Step One" that 4-5/8 dimension should go to the bottom of the bottom longeron, which also doesn't stop at Station 5, but goes all the way to the aft end of the model!

Build two sides with full-length longerons, but only with verticals back to Station 5. Assemble the two sides over the "top view." Judging from the photos, Frank ran the two top longerons together as one $\frac{3}{16} \times \frac{3}{8}$ spine, matching them to the same "V" as formed by the bottom longerons. After finishing the top assembly, the bottom round bulkheads and stringers are added.

Oh well. . .who follows plans to the letter anyway! Right, Frank?

The Request

Stew Meyers

I have talked about my R/N kit 2/3 scale *Request* in past issues mostly describing the progression in performance from a rudder- motor control Mini-6 to the Puma powered rudder-motor-elevator model I am flying today. The original article appeared in the December 1941 Air Trails. Thanks to Tom Schmitt's archives, I have been able to reproduce that for you in this issue. I have also including a Model Builder review of it from September 1986. Bill Northrop's flippant article does point out some problems with the original plan. The accompanying plan shown was the same as the AT plan. Probably a money grubbing ploy by Northrop to get you to order the "revised" plan which is never shown. By the way, the AT plan in that issue had a red background which made it hard to reproduce and enlarge.

The R/N plan has its own problems. The wing is shown at zero incidence. At first I kept moving the CG back trying to get it to climb, it got squarely, but refused to fly. Finally I raised the wing to 3° and got the CG back to where it belonged and it flew. Interestingly enough the AT plans show 3° incidence. The AT plans also show a curved spacer to fit the under chamber of the wing on top of the fuselage. I had done this as well to better locate the wing. As a side note to the anti-looping characteristics mentioned in the articles, increasing the wing incidence increased the down thrust as well. If they had merely put in negative stab incidence it would have looped fine. The elevator is too small on my R/C version to loop unless a moderate dive is entered to gain speed by holding down stick; then full up will loop it.

I used CS-20 servos or rather a single CS-20, since I had only a light two channel system at the time. I hooked it up using the pull-pull method to the rudder and an ESC for motor control. I used a pseudo 9v nicad (6 x 80 mahr) and a high voltage Mini-6 with a 6" prop (using a motor that HiLine originally provided to be rewound a few years ago). This combo barley kept it aloft, but at least allowed me to sort out the wing incidence problem. At this stage, if I found any lift I could get a half decent flight, but otherwise performance was lacking. (20/20 hindsight suggest 8 cells might have made a real difference.) I installed a Puma and a 7" prop and things got much better. It would now climb. I replaced the Nicads with Nimh and got much longer flights.

I still had a problem with control in the wind. Without an elevator, I had to reduce power to lower the nose to penetrate the wind. I finally got an Alpex, a small four channel receiver. I then added another servo. Since the first servo was installed square in the middle of the fuselage, the second servo had to be added underneath this poking out the side. I again used a pull-pull system to elevator, with the controls running internally along the fuselage side. This worked fine and I now had full control and could fly in moderate wind. The rub came that I would grab the fuselage over the

elevator control lines and stretch them so that them became slack. This resulted in flaky pitch authority, not very desirable. I borrowed an idea from Don and removed the down pull and replaced it with a short rubber band return spring. Now when I grabbed the fuselage, the elevator would pop up a little, but when I released the model the rubber band would pull it back with no permanent set and the control was always positive. Now finally I replaced the 6 cell NiMh with 8 cells and the performance is all that could be asked. I also now have replaced the Puma with a Dymond products Max1 which uses the same motor, but with a stronger mounting (three- 2mm screws rather than two- 1.6mm for better crash survival). The gear box is different but the ratio and performance is the same.

The *Request* built as a free flight demands a de-thermalizer. The simplest way to do this is with a pop-up stabilizer. Split the stab in two pieces hinged at the front and joined at the rear by a bail. The stab needs to be moved back a little, so that the curve of the rear of the rudder will allow the bail to clear it when the stab is popped. Details of this are shown on a separate page. Mount a Tomy timer in the cabin side and run a line aft to the bail.

By reducing the plans 80% again you end up with a 24" 83 sqin model (64% of the original) which would be dynamite with a Micro 4. You might want to simplify the wing structure and don't forget the DT.

If you decide to use an .02 gas motor per the plan, you can still make a micro R/C. Simply put a 4cell Nimh battery pack behind the firewall and a receiver behind that. The servos stay in the same place as for the electric version. In any case you need to modify the incidence as shown on the modification sheet.

For an electric version you need to extend the longerons and put a motor mounting bulkhead at the very front as shown on my mods. You now don't need the plywood firewall. In fact, you want to put the batteries in that position for cg purposes. The landing gear is hot-stuffed to a small 1/32 ply bulkhead with a 1/16 hard balsa filler. This then is glued in place between the lower cowl balsa block and former one which is now made from 3/32 balsa.

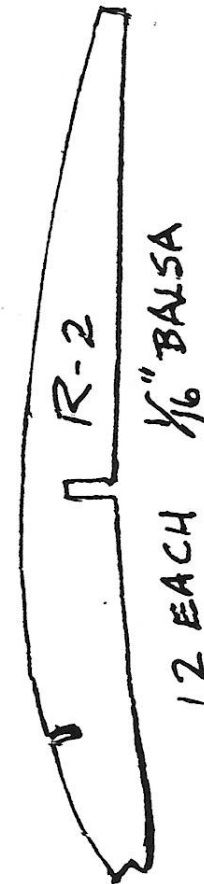
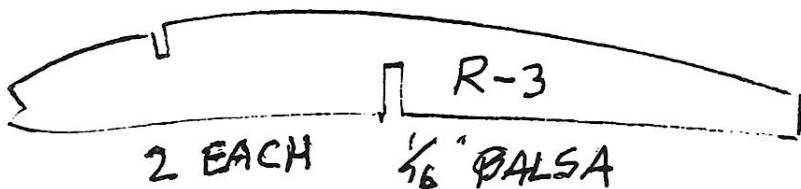
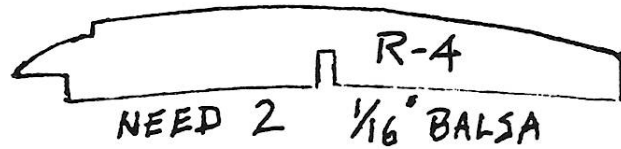
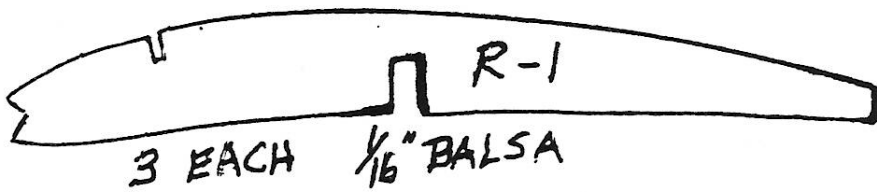
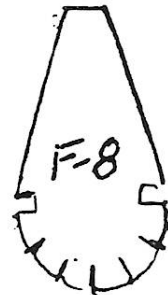
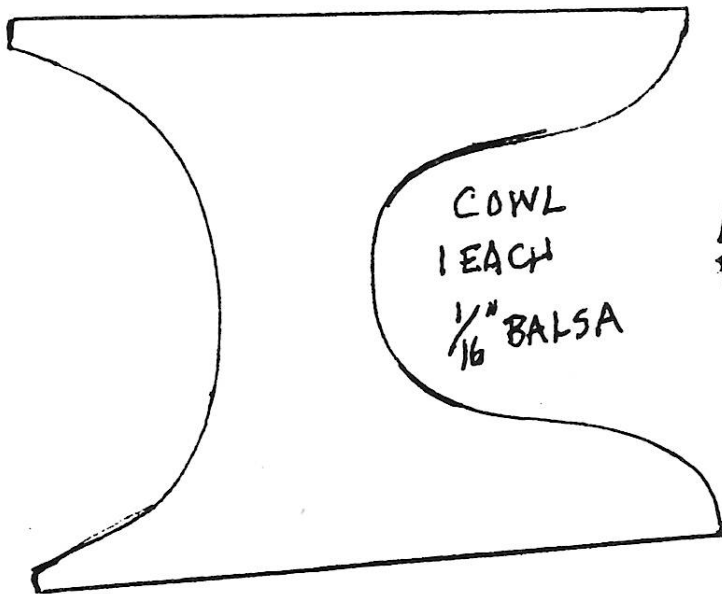
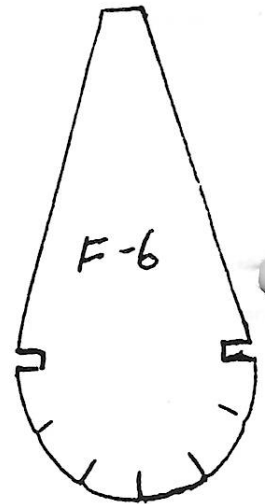
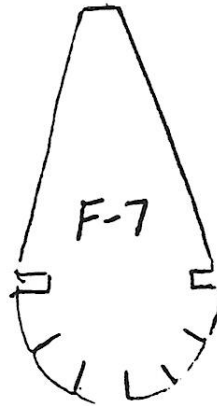
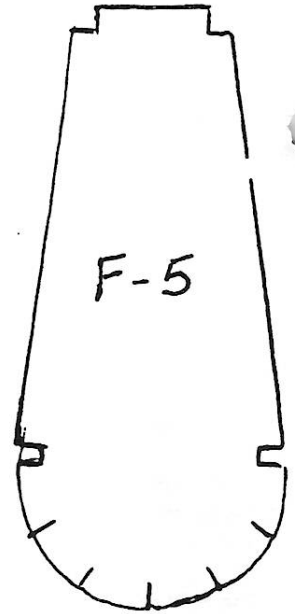
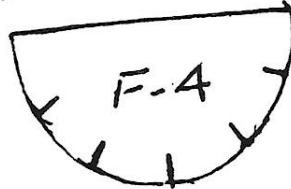
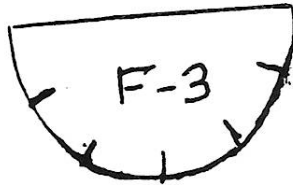
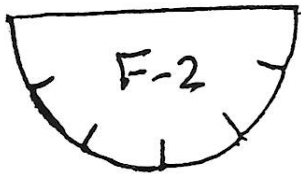
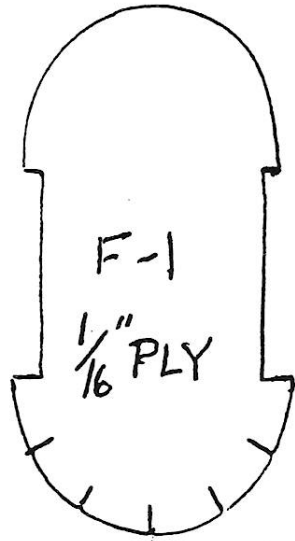
In addition to adding a 1/16 balsa sheet filler to the outside of the frame work from former 3 forward, put a floor flush with the top of the longerons from former 2 forward. This will allow you to mount your batteries and receiver. A shelf between formers 2 & 3 provides a mount for the rudder servo. The elevator servo can be glued to the inside of the sheet on the side with its bellcrank sticking out the side. You might want to do this before installing the rudder servo shelf.

If you decide to build a freeflight electric version the Max-1 motor, eight Nimh cells, and a Pico timer is a great ticket. You don't need to use an external 9v cell to start the timer. Hook the motor minus to the drain and the battery minus to the source. Tie the motor plus to battery plus. Momentarily connect the battery plus voltage to the gate with a push button to start. You still better have a DT!

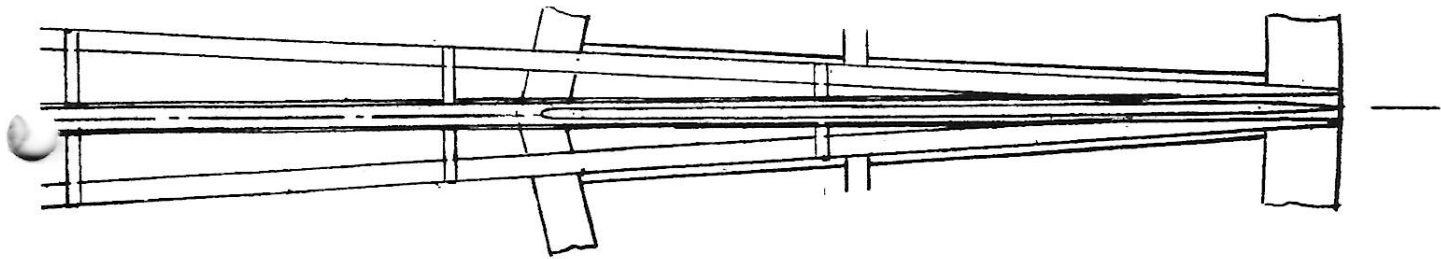
REQUEST SH. 1

FORMERS

F-2 THRU F-9
1 EACH
1/16" Balsa



THESE ARE TRACINGS OF THE PARTS IN THE KIT. THEY ARE A TRIFLE OVER SIZE. I FOUND I HAD TO MOD SOME PARTS TO FIT. THE REST OF PIECES CAN BE FOUND ON THE PLANS.



THE 1941 "REQUEST"

SCALE OLD-TIMER FREE FLIGHT

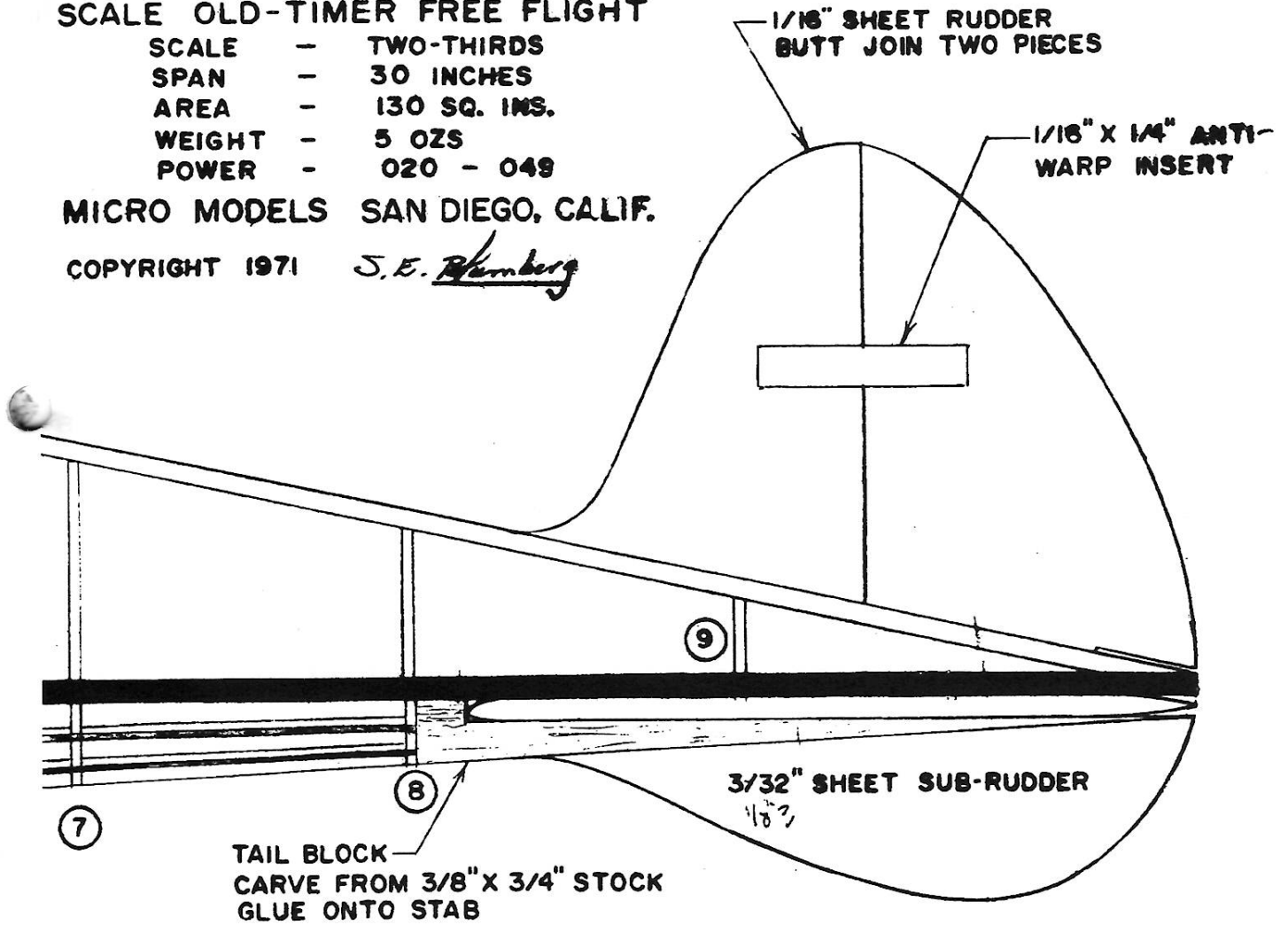
SCALE - TWO-THIRDS
 SPAN - 30 INCHES
 AREA - 130 SQ. INCS.
 WEIGHT - 5 OZS
 POWER - 020 - 049

MICRO MODELS SAN DIEGO, CALIF.

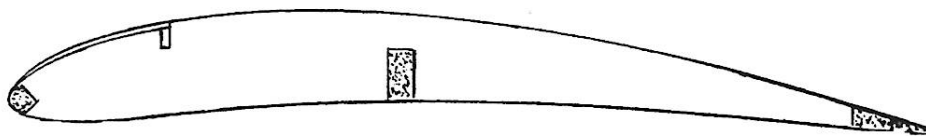
COPYRIGHT 1971 *J.E. Blumberg*

1/16" SHEET RUDDER
 BUTT JOIN TWO PIECES

1/16" X 1/4" ANTI-
 WARP INSERT



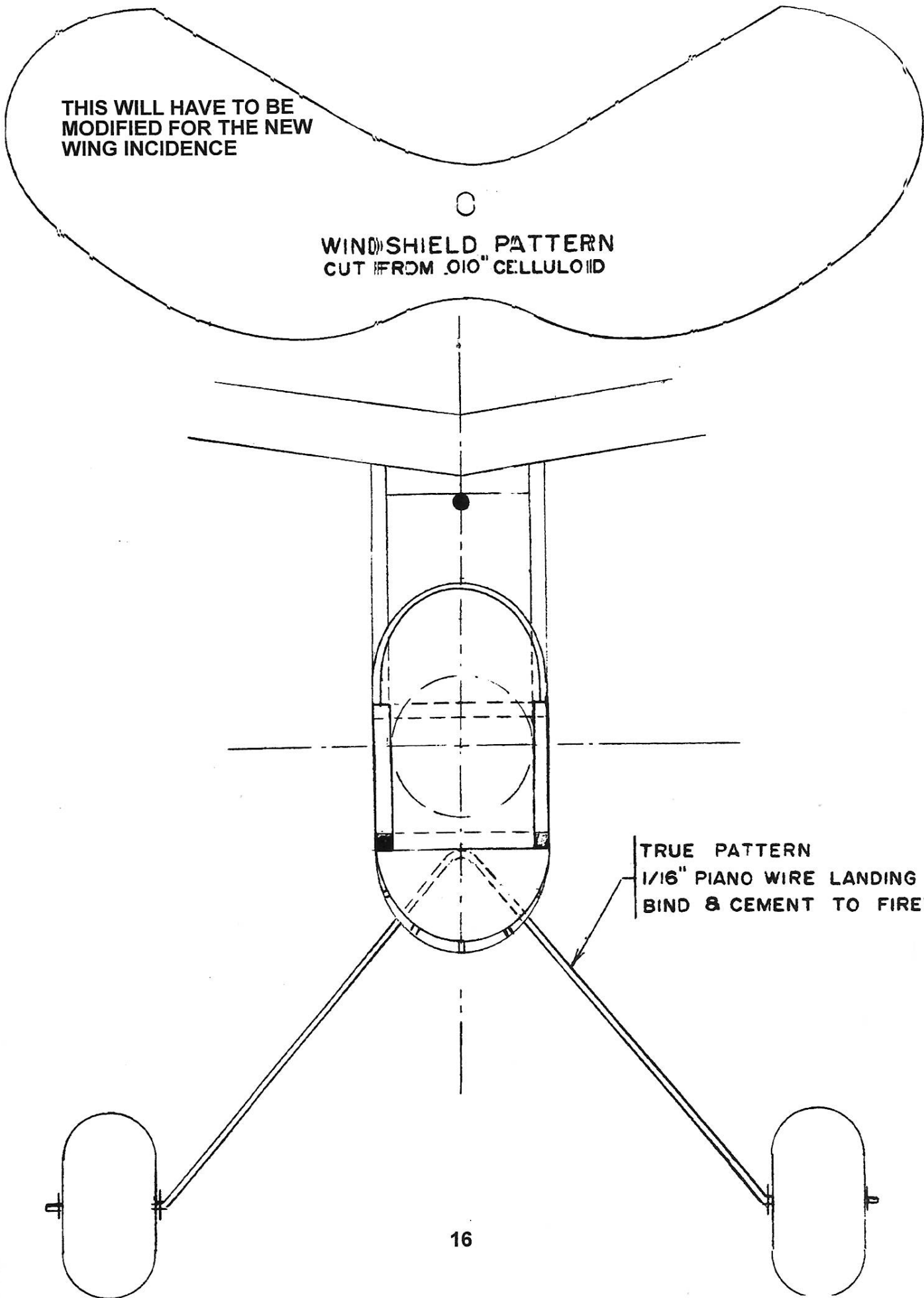
TAIL BLOCK
 CARVE FROM 3/8" X 3/4" STOCK
 GLUE ONTO STAB

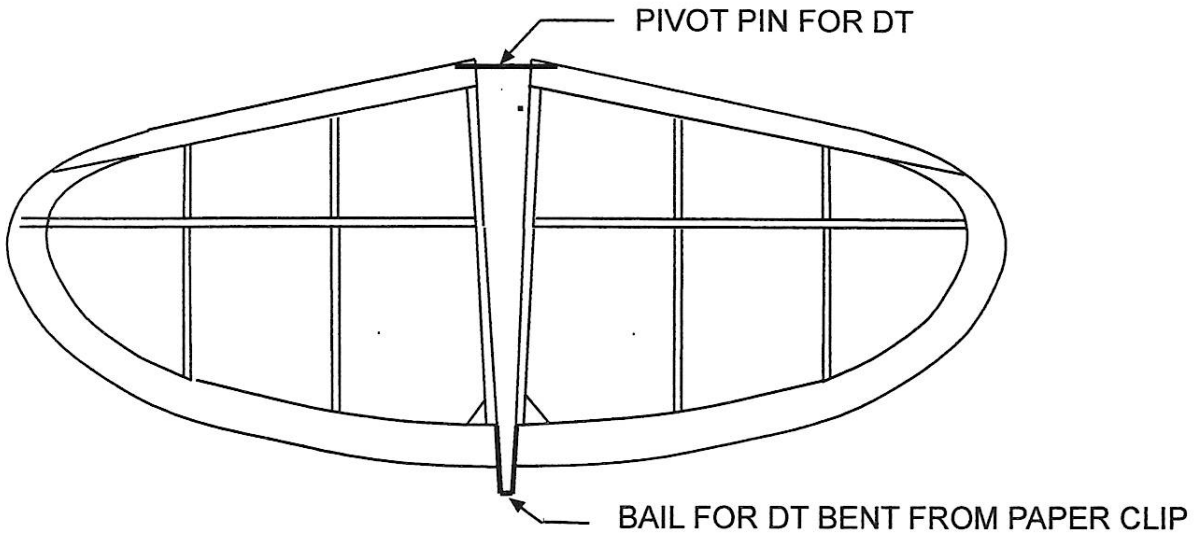


THIS WILL HAVE TO BE
MODIFIED FOR THE NEW
WING INCIDENCE

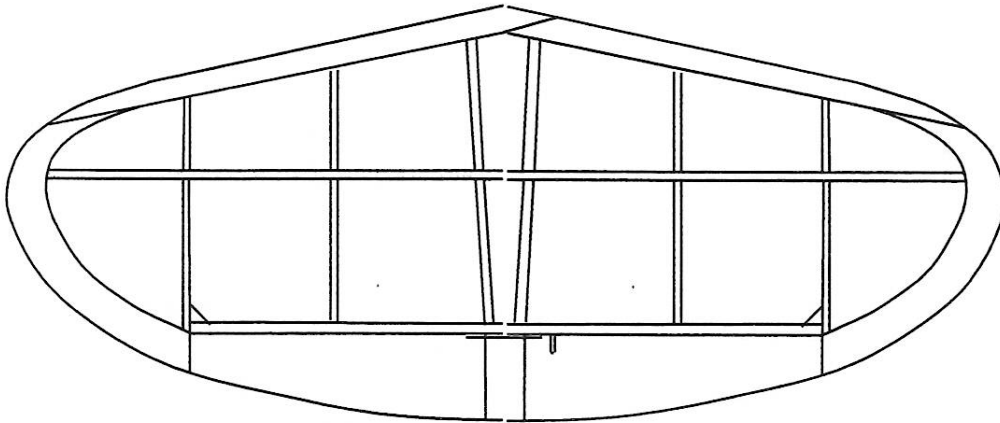
WINDSHIELD PATTERN
CUT FROM .010" CELLULOID

TRUE PATTERN
1/16" PIANO WIRE LANDING GEAR
BIND & CEMENT TO FIREWALL

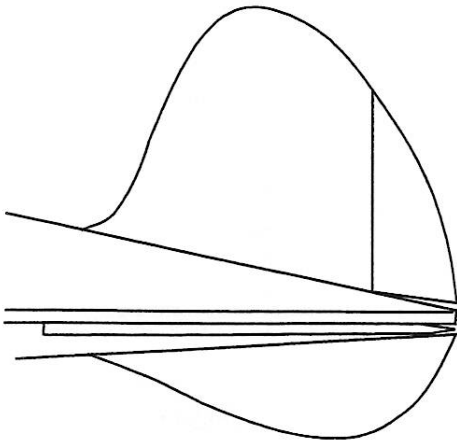




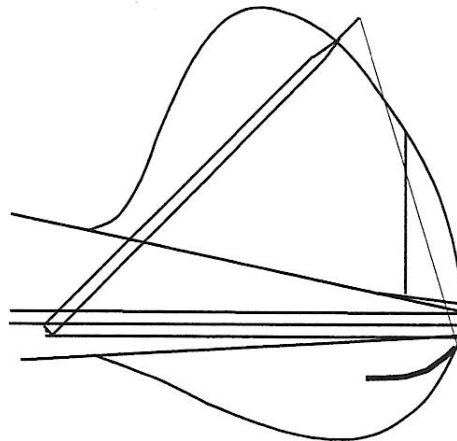
HALF SCALE FREE FLIGHT STABALIZER SET UP FOR DT



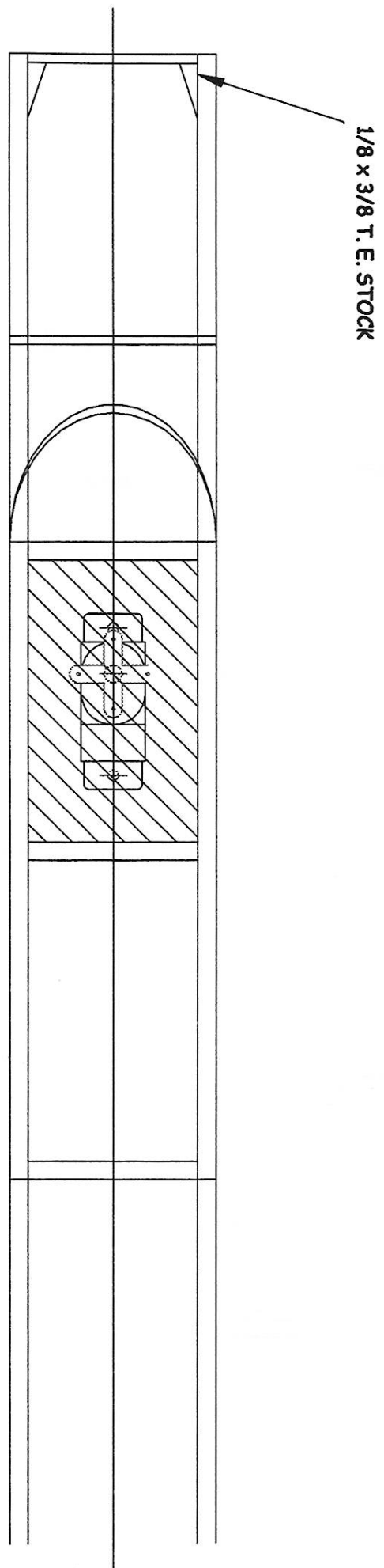
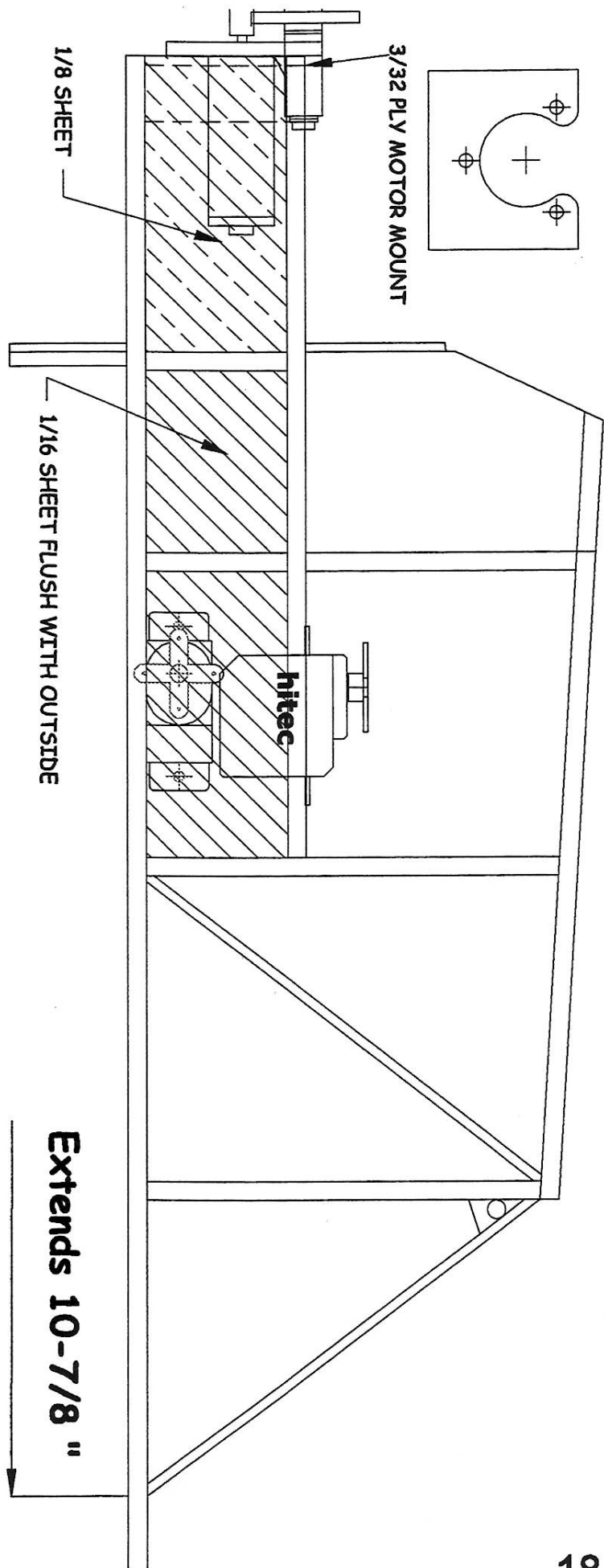
HALF SCALE STABALIZER SHOWING R/C ELEVATOR



HALF SCALE FIN SHOWING R/C RUDDER

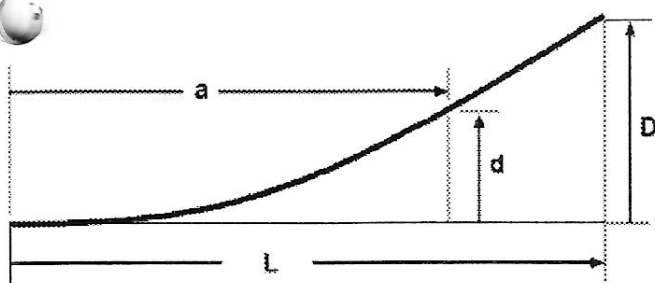


TAIL SHOWING POPPED DT



CUBIC SPLINES

Stew Meyers



The graceful curve assumed by the structure when you pull the fuselage sides together at the tail post is a cubic spline given by the formula $d=K(3a^2L-a^3)$. Where a moves from 0 to L and d moves from 0 to D . The constant K can be calculated at $a=L$ where $d=D$. Thus $K= D/(2L^3)$. This is the same formula as the deflected shape of a cantilever beam under a vertical load at the tip.

Unless you need to draw this up, you never need calculate this. Just pinch the ends together and glue with Ambroid (so you can part it with acetone if you don't like the results.) Measure the width of the cross members and glue them in.

However, if you need to replicate a missing side keel for a Guillow's model or like to draw everything up before you build it, this is handy and easier than trying to find the right shaped ship's curve.

When I drafted plans with a pencil on a drawing board I would use lead weights to hold a thin aluminum strip horizontal (cantilevered) and use another lead weight with a projection (called a duck) to deflect the strip to the desired shape and trace along it.

Since I now almost exclusively use Auto-CAD, I am much more critical and mathematically precise. I pop a few numbers in a spread sheet and plot the spline. The spread sheet used to plot the exaggerated curve above is given below. In practice the curve is much gentler.

input	a^2	a^3	$K(3a^2L-a^3)$
a	a^2	a^3	d
0.0000	0.0000	0.0000	0.000
1.0000	1.0000	1.0000	0.112
2.0000	4.0000	8.0000	0.416
3.0000	9.0000	27.0000	0.864
4.0000	16.0000	64.0000	1.408
5.0000	25.0000	125.0000	2.000
L=	5 input	$d=K(3a^2L-a^3)$	
D=	2 input		
K=	0.008	computed	$K=.5D/L^3$

PHOTO PAGE 23

4. Our Editor Stew's R/C version of Frank Ehling's request which is the model subject of this issue; by the way a great flyer but loves trees, just ask Terry and Ralph. (Note servo on the side of the fuselage)
5. John Ernst sent in some photos of his '10-Center' fleet. Here is a very pretty Mr. Muligan from a PennValley Kit.
6. Mark Fineman sent this photo of his rubber scale model of the Zenith STOL 801, one of many desirable and attractive subjects for free flight and even micro R/C.
7. Vance Gilbert caught in action at Geneseo this past summer with another Czech Transport aircraft; Vance must be running out of transport subjects by now.
8. A local Maxecuter, Dave Mitchell with a great looking Fokker Triplane for Micro R/C.
9. Jiro Sugimoto sent this photo of an interesting and pretty Savoia S13 seaplane by Mr. Nishima which uses a geared flexible wire drive to the prop.
10. An English correspondent and model designer Richard Crossley sent this photo of his 'Rapier' rocket propelled 'Skystreak'. Photos of Richard's other rocket propelled models such as the Bell XS-1 (a Ripmax Kit) and the Me 262 may be seen in of the British magazines.
11. Last but not least Bob Schlosberg has forwarded some great photos of more of his plastic model production line, here a Williams Sparrowhawk which is one this writer's favorites.

Un-attributed photos by Tom Schmitt of Course

MAXECUTER ANNUAL BANQUET

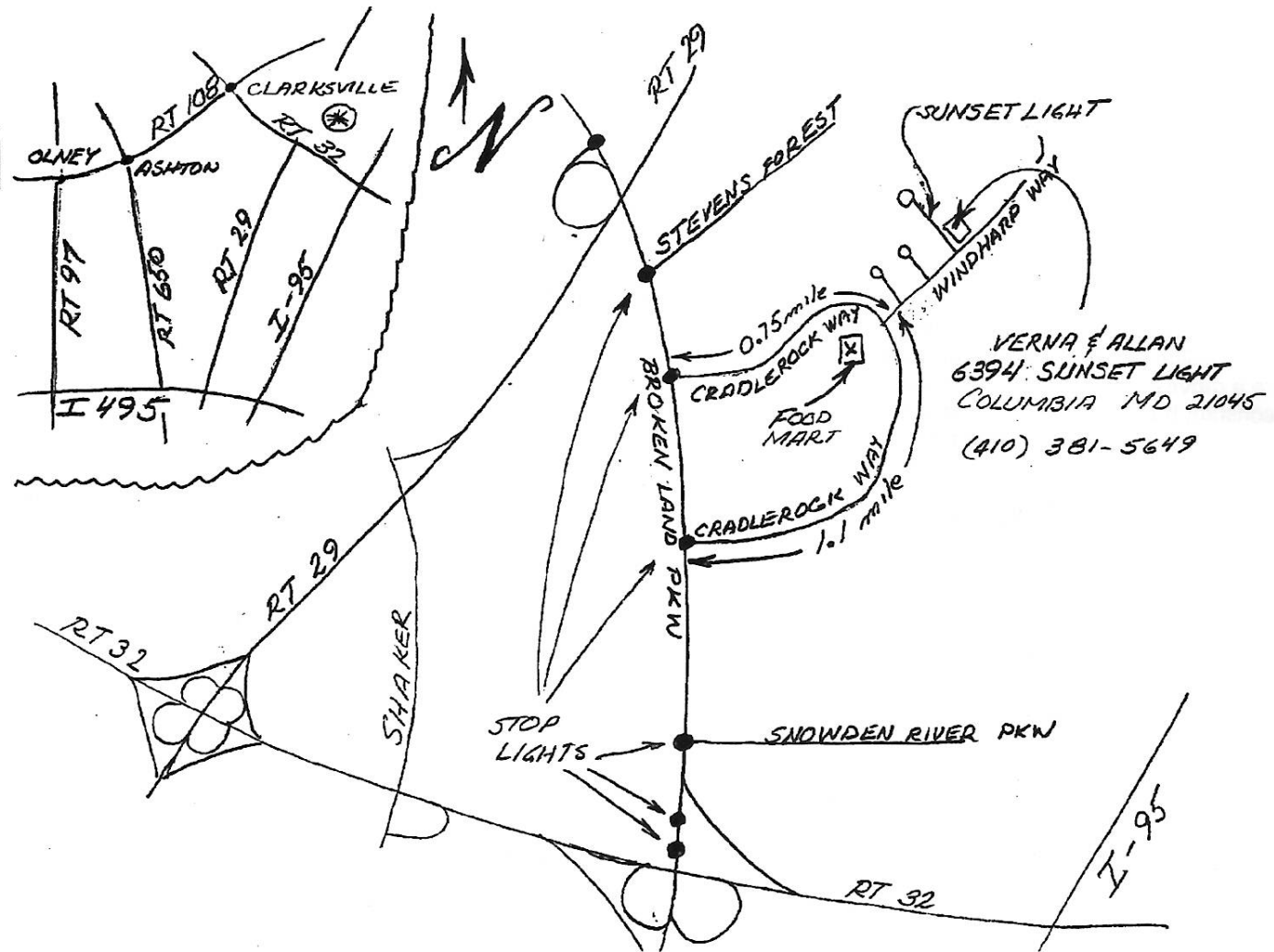
PLACE	Bistro Francais 3124-28 M Street NW Georgetown, DC tel (202) 338-3830
DATE	Sunday Dec 2 6:00PM for drinks, 6:30 or so sit down
MENU	Appetizer, main dish (choice of 4 or 5), desert, glass of wine (cash bar drinks extra)
COST	\$24 per person (same as last year)
PARKING	2 hours free parking in nearby garage under "Georgtown Park" on Wisconsin Avenue below M Street -- or parking on street

We will have a room to ourselves, but like last year it holds a maximum of 32 people.

For reservations please send a check (\$24 each) to:

Paul Spreiregen
2215 Observatory Place NW
Washington DC 20007

MAXECUTER BULL SESSION AT ALLAN'S RESIDENCE SATURDAY DECEMBER 1, 2001 TIME 6:30 PM
 See the map below or meet at Hobby City * on map at 5 PM and caravan to Allan's. The map is then a back up.



FLYING AT THE NATIONAL BUILDING MUSEUM Sunday November 4, 2001 10AM -4:30 PM

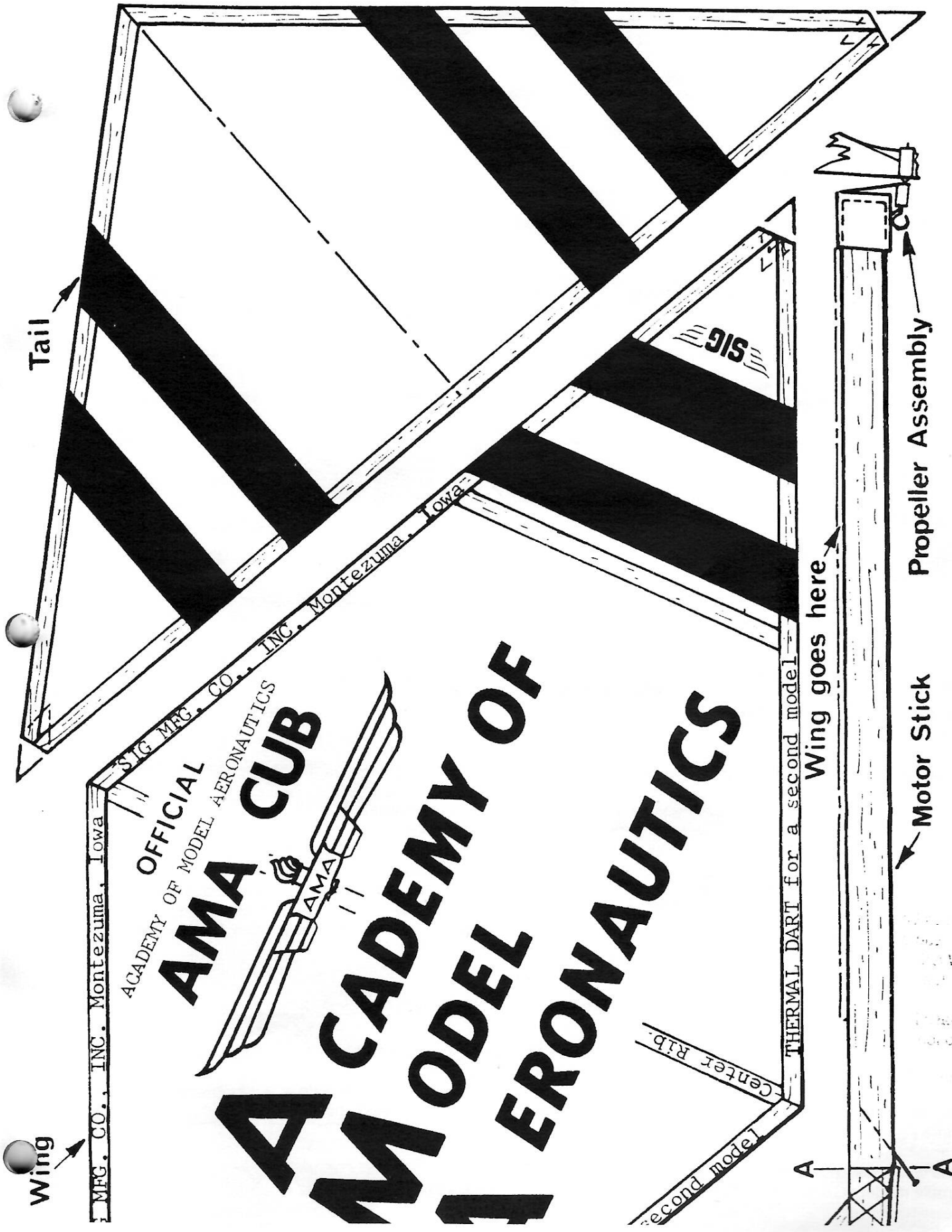
Mass Launch Events: WWII Fighter NoCal (operational aircraft, no clipped wing versions, in correct colors/markings, 6" plastic props, 13 gram minimum weight), FAC Combined Racers (Thompson, Greve, Goodyear, Bendix), FAC WWI and WWII, Bogus Bostonian (ROG), Delta Dart (if you build from the plans in this issue and cover with tissue it better weigh at least 10 grams).

Mass Launch Rules: (45 point minimum FAC Regs for Scale), 3 or 4 entrants per launch, 4 in the final fly-off, no repairs, no leaving the flight line, all winding at the flight line.

Timed Events (total of 3 flights): GHQ Peanut, Dime/Pseudo-Dime Scale, NoCal, Butter Fly, May Fly, Bostonian (ROG)

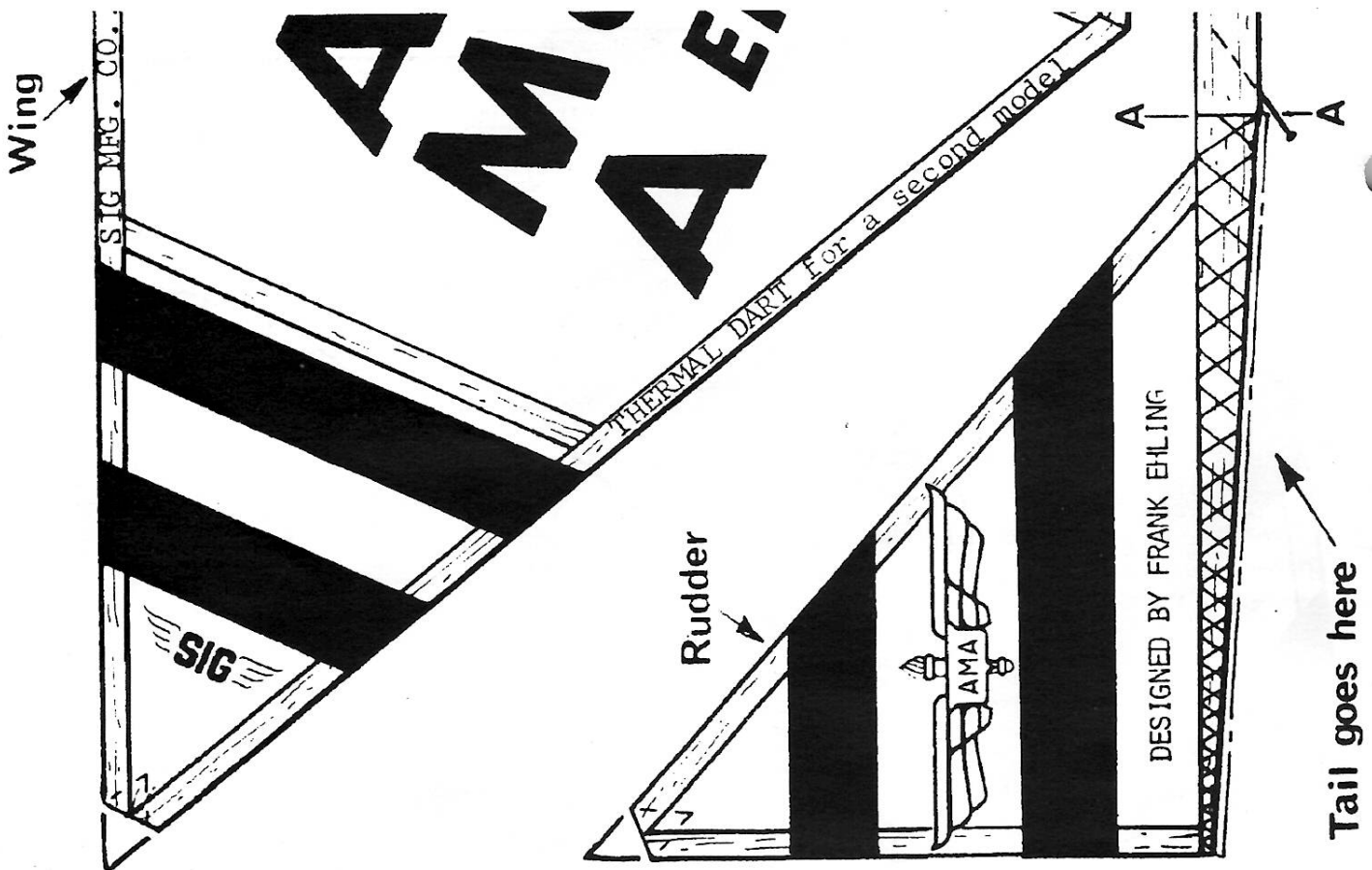
Sandusky NBM Rule: This year's winning models are eliminated for following year competition. Need at least 4 entrants per event.

As you can see Russ Sandusky has been busy in setting up events for the NBM. I bet if we show up with a few Dimers we can get up a non-Kanone Mass Launch or a ROG or "Pussycat" event.



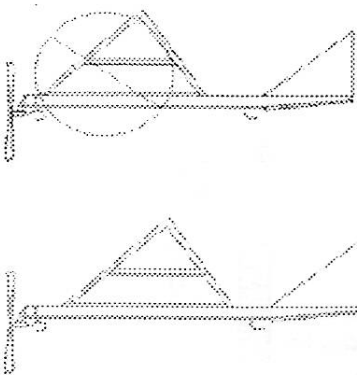
OFFICIAL
AMA CUB
 ACADEMY OF MODEL AERONAUTICS

ACADEMY OF MODEL AERONAUTICS



Most of the following tips are from the AMA Cub / Delta Dart web site which you can get to on the FF ring. If you are building over the plans in this issue, join the plans and pin them to a building board. Cover the plan material with wax paper to use tissue covering. With Japanese tissue, put the glossy side down over the plans, and glue the balsa sticks to the tissue. An UHU glue stick or white glue is best here. You should still be able to see the plans through the tissue.

A typical Delta Dart might weigh 10 grams with rubber. $10 \text{ grams} / 39 \text{ square inches} = .256 \text{ grams per square inch}$

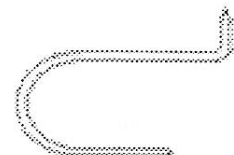


From the directions for the AMA Cub, it would appear that the wing is directly behind the prop assembly. This is not correct, it would take a big lump of clay to balance the plane, something that should be avoided. Proper location will probably be at 3/4" to 1" behind the front of the motor stick. One of the biggest problems that beginners have building the AMA Cub / Delta Dart, is gluing the wing to the motor stick with the proper dihedral angle. Rather than using the method shown on the instruction sheet, use plenty of Ambroid, pin the wing to the fuselage and jack up the wing tips 1 1/2". Use Ambroid to glue the stab on as well.

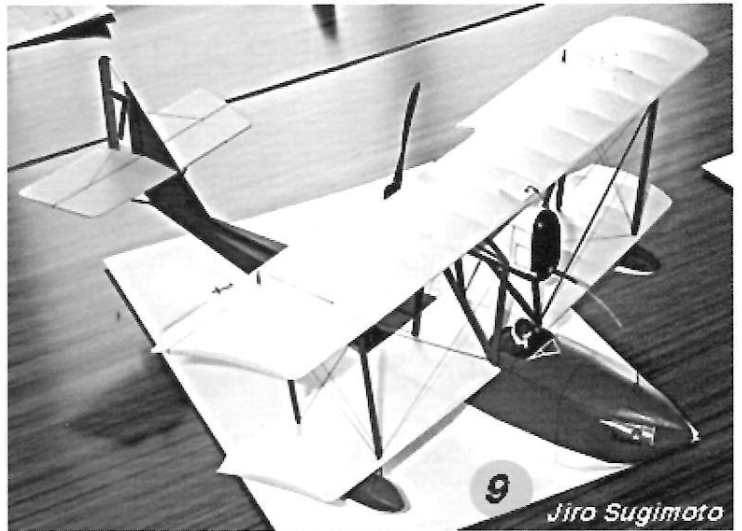
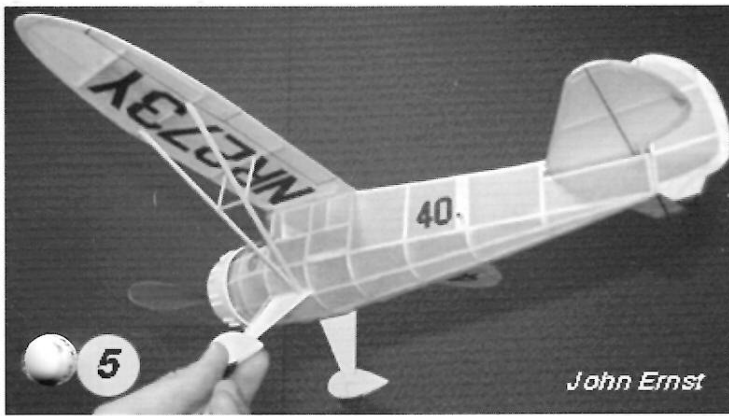
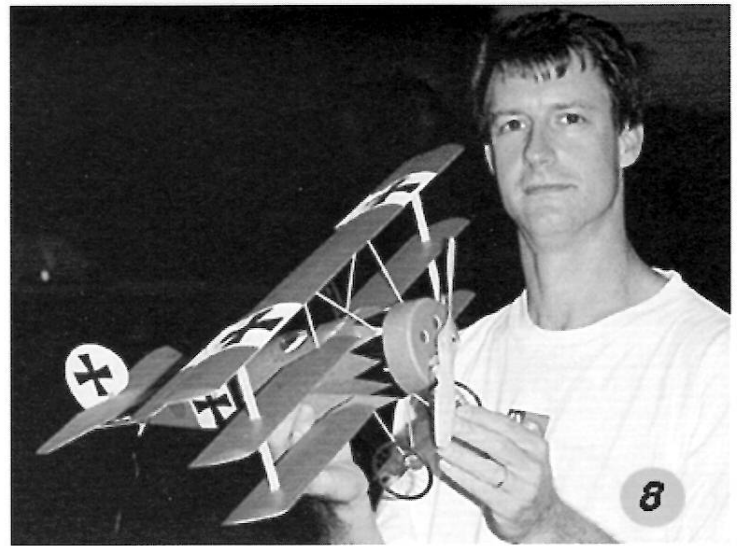
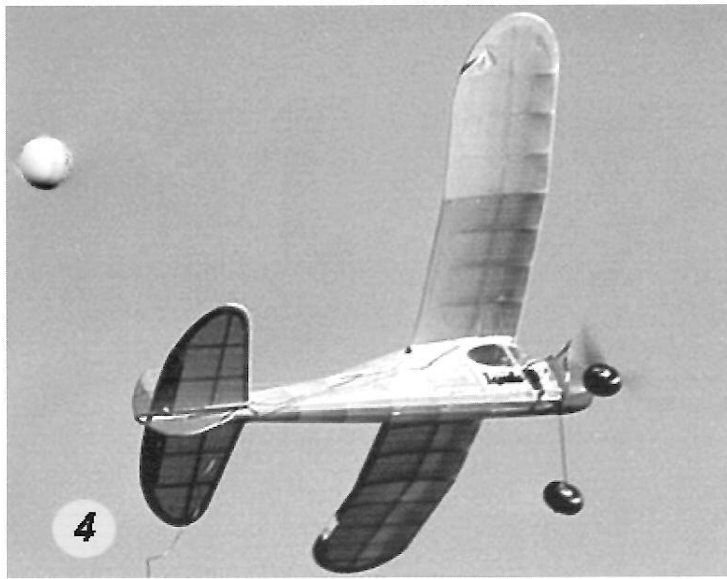


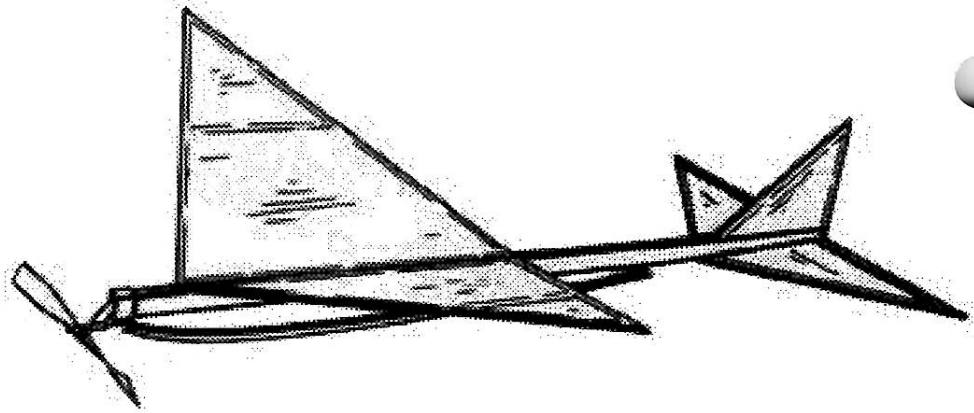
Rather than using a straight pin to fasten the rubber motor to at the rear of the plane, an improved rear hook can be made from a paper clip. With a longer loop of rubber, the loop can come loose when using a straight pin. The paper clip hook is made by cutting a paper clip and bending up one side at a 90

degree angle. Push the bent up section into the motor stick and glue. To make the hook even more secure, wrap thread around the hook and motor stick, then glue the thread.



You would also be well served by bending up a S-hook for the prop. Make a simple prop hanger like you would for a profile model. Get the thrust line 1/4" below the motor stick. Use a 10-12" loop of 3/32 or 1/8 rubber and a 5-1/2" prop.





COMING ATTRACTIONS

- | | |
|--------------------------|---|
| JAN 13, 2002
Sunday | FLYING AT THE NATIONAL BUILDING MUSEUM
10AM -4:30 PM |
| JAN 19, 2002
Saturday | MAXECUTER BULL SESSION AT PAT'S HOME
5 PM Pat's Phone --804-330-0825
Rendezvous at Aeroplane Books early afternoon. |
| FEB 23, 2002
Saturday | MAXECUTER BULL SESSION AT TOM'S HOME
7 PM Tom's phone -301-530-0327 |
| APR 14, 2002
Sunday | FLYING AT THE NATIONAL BUILDING MUSEUM
10AM -4:30 PM |



NOTE: Your Dues Are Due



CLUB OFFICERS - President: Hurst Bowers, 1649 Birch Rd., Mclean, VA 22101
Secretary: Bert Phillips, 1709 Crofton Pky, Crofton, MD 21114-2305
Treasurer: Norm Davison, 14008 Castaway Dr., Rockville, MD 20853
Editor: Stew Meyers, 8304 Whitman Dr., Bethesda, MD 20817

MEETINGS - The D.C. MAXECUTERS hold meetings at 8:00 pm on the first Tuesday of every month at the College Park Airport, the oldest continuously operating airport in the world. Daylight savings rule not in effect.

MEMBERSHIP - Dues for membership in the D.C. MAXECUTERS are \$15 per year for residents of the USA, Canada, and Mexico, and \$25 for all other countries.

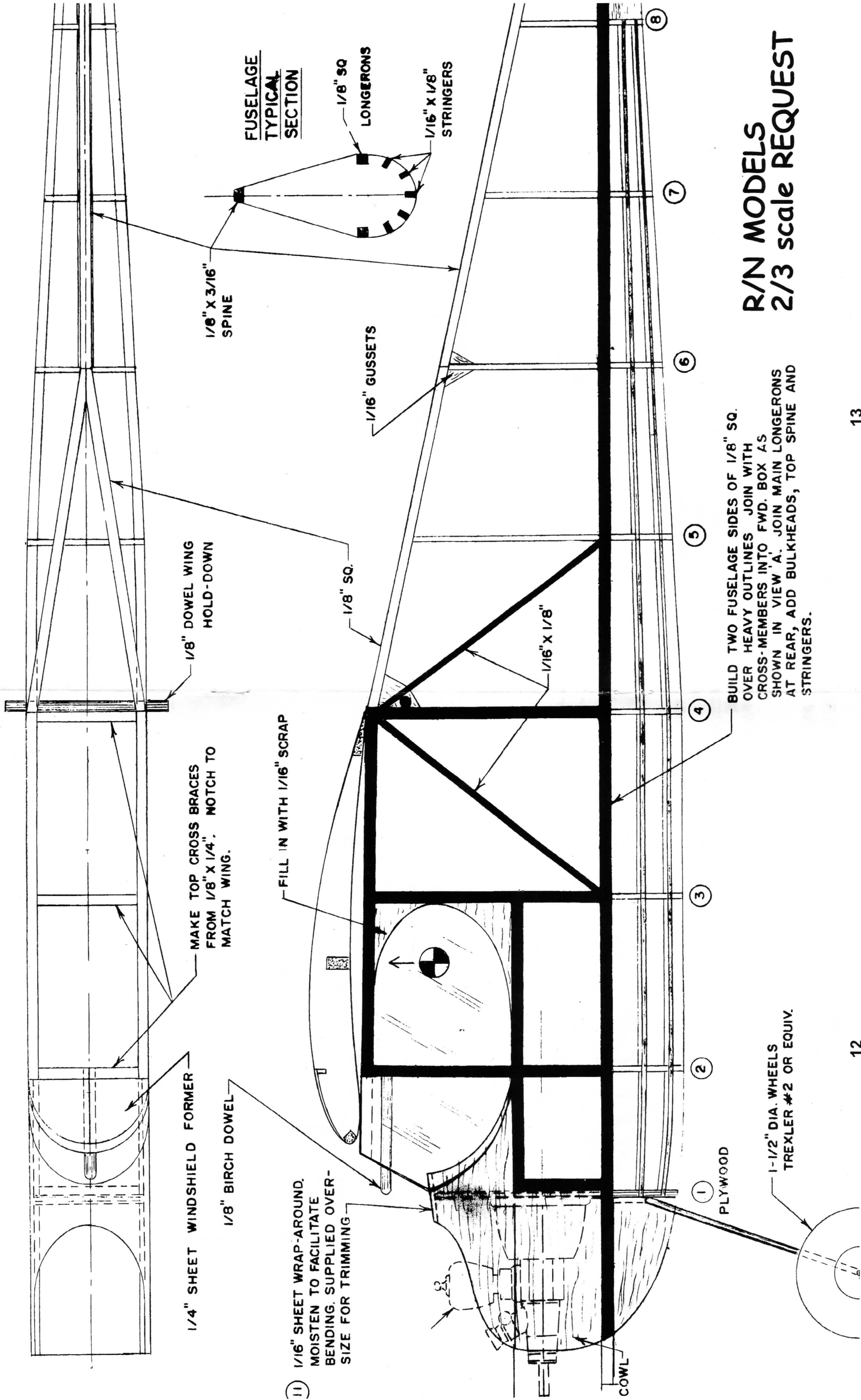
Your mailing label indicates the year and month of the last issue of your current membership. A red "X" in the box above is a reminder that your dues are due.

Send a check, payable to the "D.C. MAXECUTERS", to the treasurer, Stew Meyers.

PUBLISHING DATES - Six issues of **MaxFax** are sent each year as close to the nominal dates as possible, but since this is a volunteer publication nothing is guaranteed except that six issues will be sent to all members.

CONTACTS - Material for the newsletter and membership questions should be addressed to Stew Meyers phone 301-365-1749. E:mail gets immediate attention. stew.meyers@erols.com

Try www.maxecuter.com



1/4" SHEET WINDSHIELD FORMER

1/8" BIRCH DOWEL

MAKE TOP CROSS BRACES FROM 1/8" X 1/4". NOTCH TO MATCH WING.

1/8" DOWEL WING HOLD-DOWN

1/8" X 3/16" SPINE

FILL IN WITH 1/16" SCRAP

11) 1/16" SHEET WRAP-AROUND. MOISTEN TO FACILITATE BENDING. SUPPLIED OVER-SIZE FOR TRIMMING

FUSELAGE TYPICAL SECTION

1/8" SQ LONGERONS

1/16" X 1/8" STRINGERS

1/16" GUSSETS

1/8" SQ.

1/16" X 1/8"

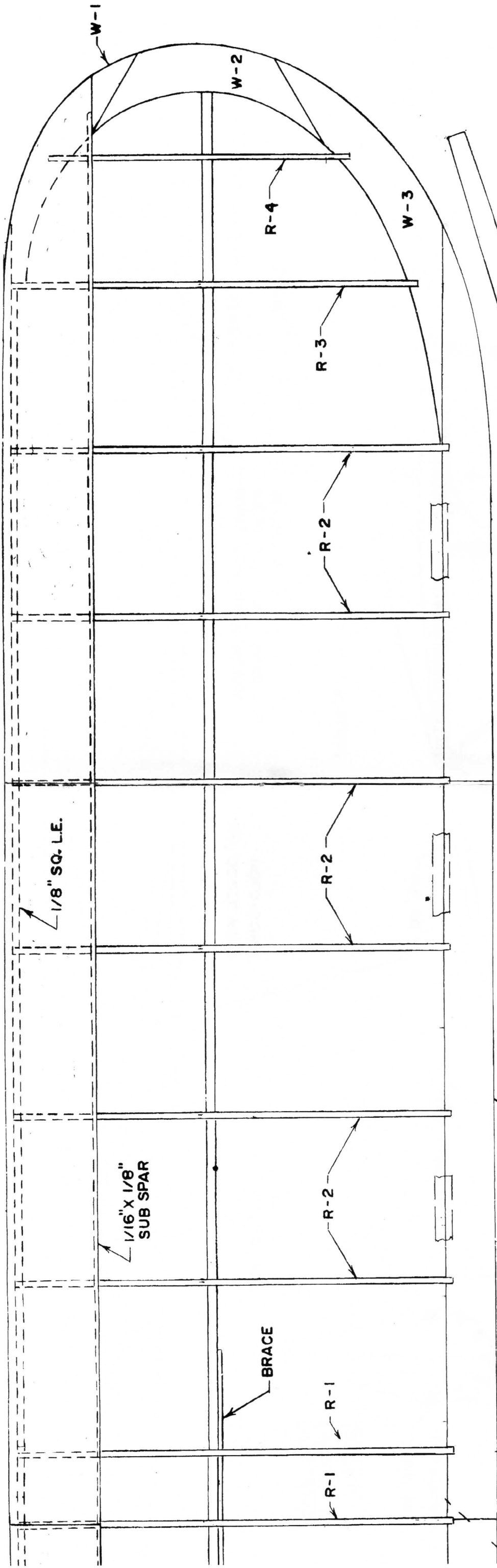
COWL

PLYWOOD

1-1/2" DIA. WHEELS TREXLER #2 OR EQUIV.

BUILD TWO FUSELAGE SIDES OF 1/8" SQ. OVER HEAVY OUTLINES JOIN WITH CROSS-MEMBERS INTO FWD. BOX AS SHOWN IN VIEW 'A'. JOIN MAIN LONGERONS AT REAR, ADD BULKHEADS, TOP SPINE AND STRINGERS.

R/N MODELS 2/3 scale REQUEST



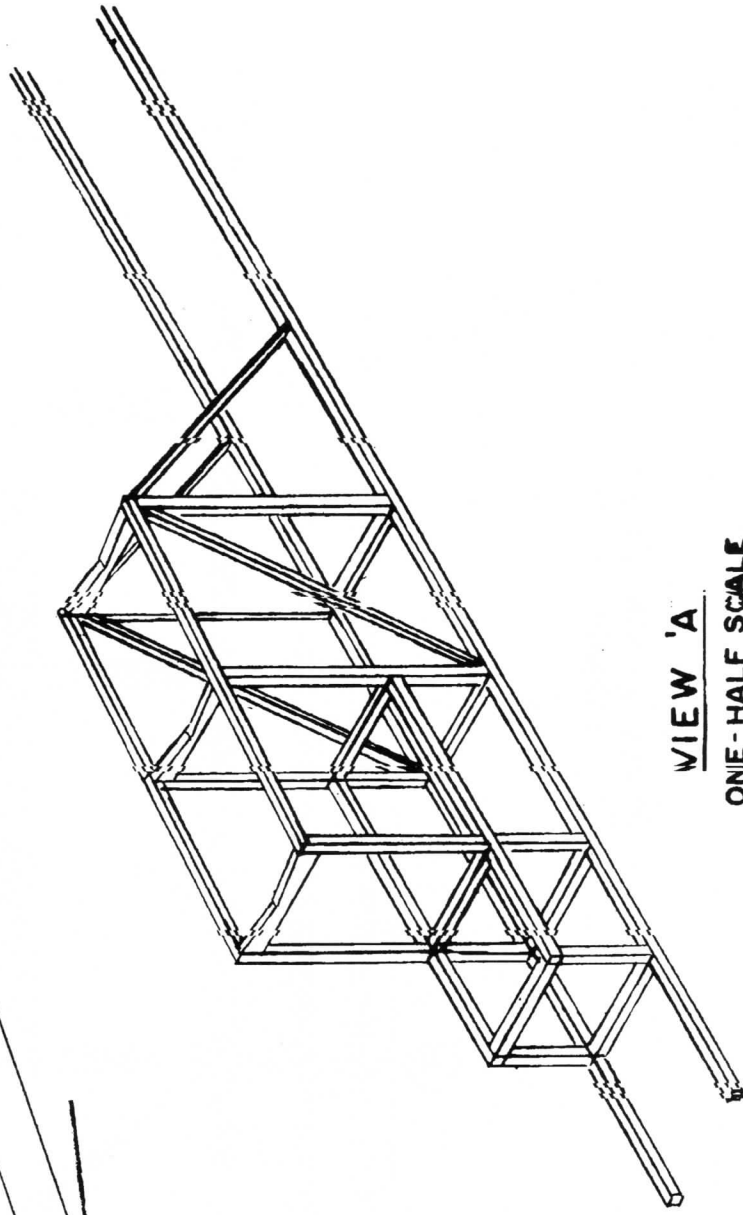
1/8" X 1/2" SHAPED TRAILING EDGE

1/4" X 1/8" MAIN SPAR. MAKE TWO (RH & LH)
PRE-ASSEMBLE OVER THIS VIEW

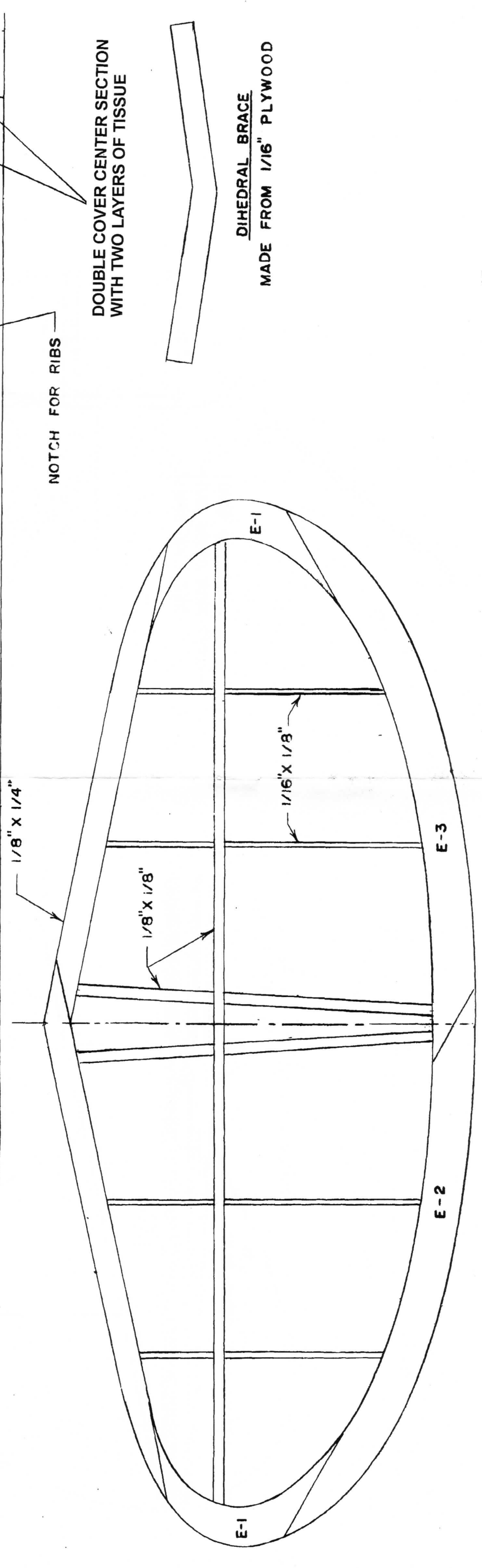
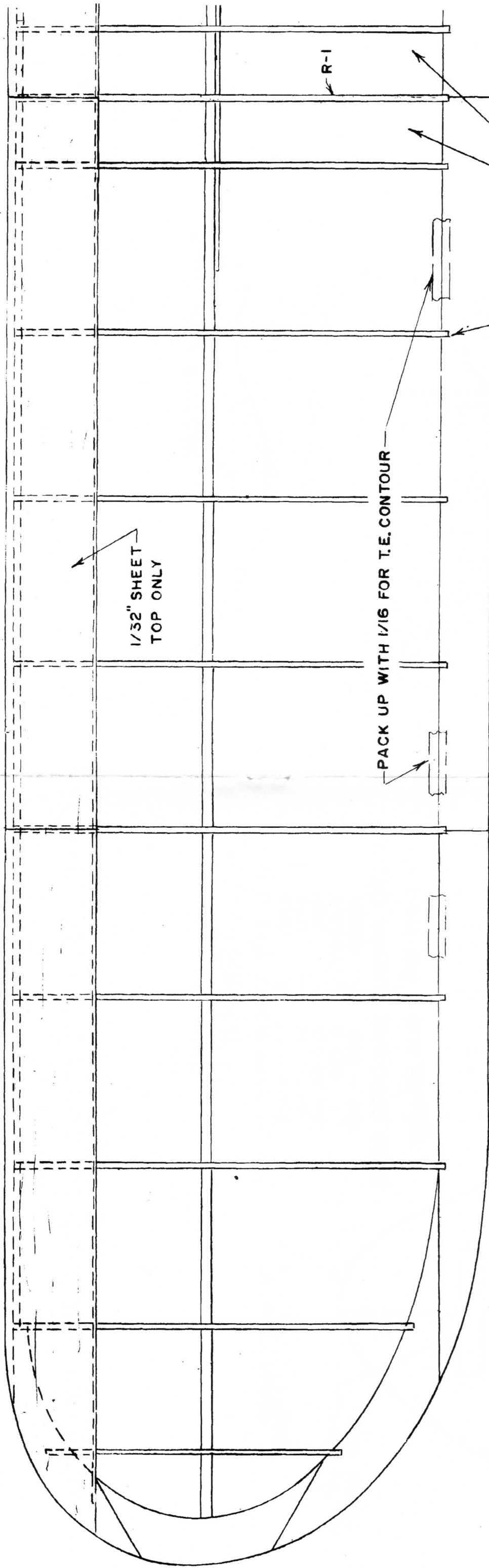
WING CONSTRUCTION

ASSEMBLE MAIN SPAR OVER PLAN. BLOCK UP ON TOP VIEW AND CONSTRUCT CENTER PANEL, THEN PROP UP & ADD TIP PANEL. MAKE RIGHT AND LEFT HAND ASSEMBLIES AND JOIN AT CENTER SECTION WITH DIHEDRAL BRACE AND R-1. ADD L.E. SHEET AFTER JOINING PANELS.

NOTE: TO ALLOW FOR NORMAL VARIATIONS IN STOCK SIZES AND BUILDING TECHNIQUES, PRE-CUT PARTS ARE SUPPLIED OVERSIZE. SAND TO FINAL SHAPE AFTER ASSEMBLY.



VIEW 'A'
ONE-HALF SCALE



DOUBLE COVER CENTER SECTION
WITH TWO LAYERS OF TISSUE



DIHEDRAL BRACE
MADE FROM 1/16" PLYWOOD

NOTCH FOR RIBS

PACK UP WITH 1/16 FOR T.E. CONTOUR

1/32" SHEET
TOP ONLY

R-1

E-1

1/8" x 1/4"

1/8" x 1/8"

1/16" x 1/8"

E-3

E-2

E-1