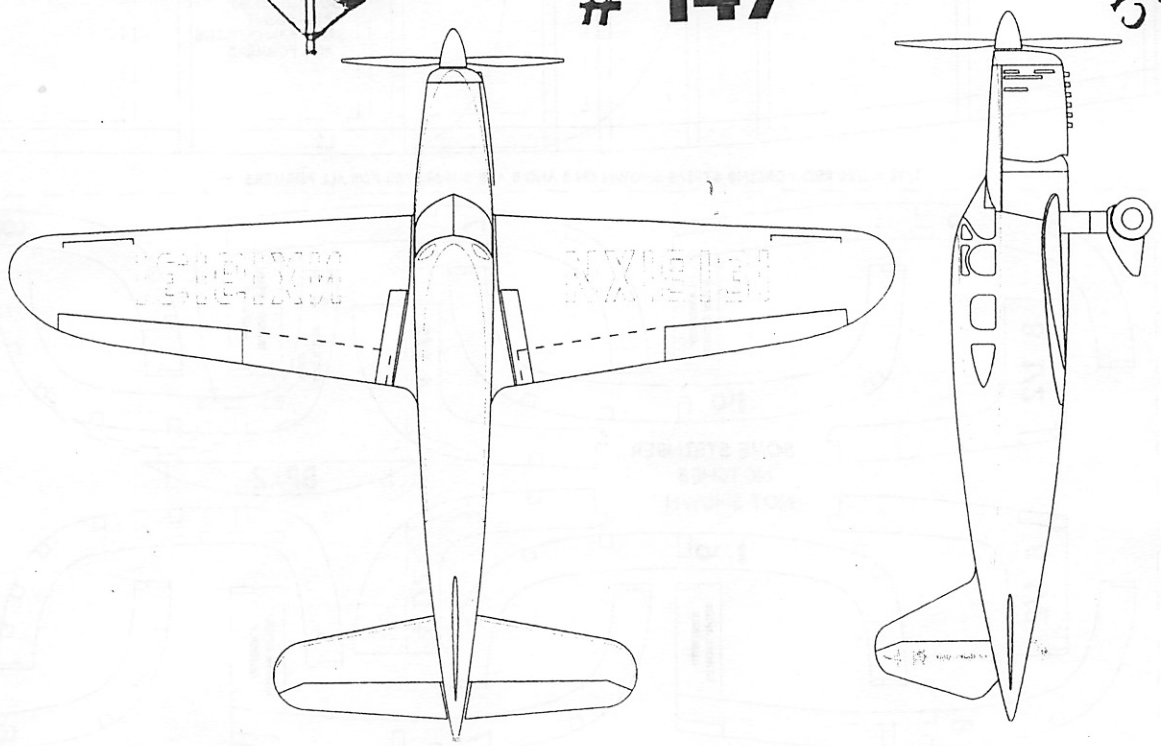
CROSSWINDS
147

CLEVELAND FREE FLIGHT SOCIETY

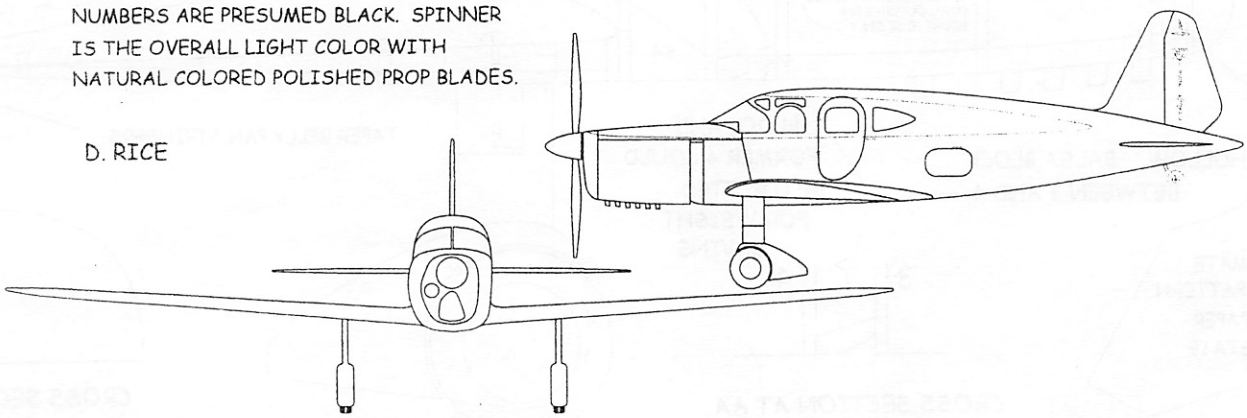


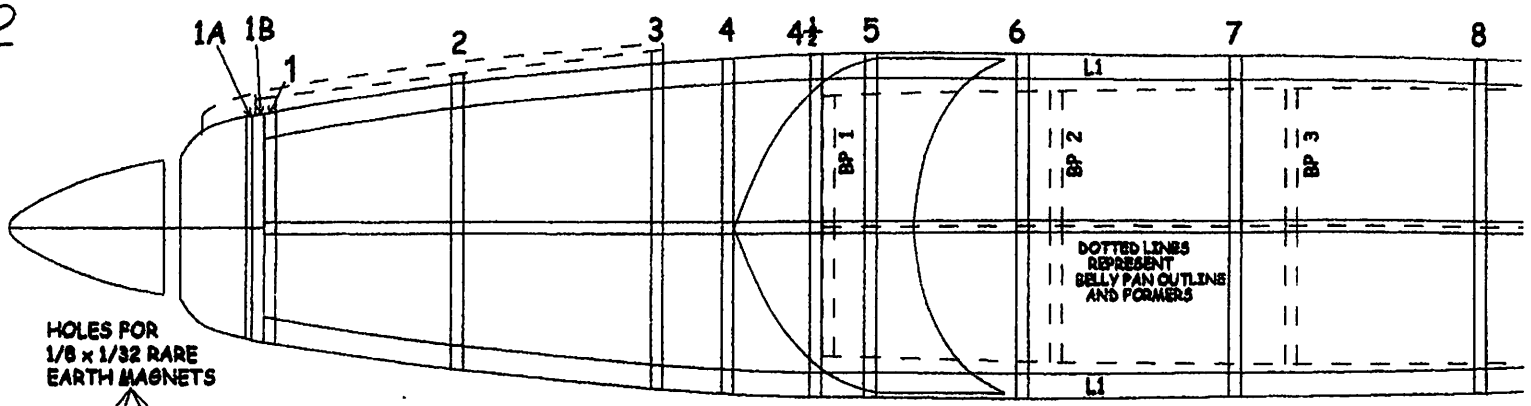
CROSSWINDS
RUSS BROWN
4909 N. SEDGEWICK
LYNDHURST,OH 44124

FAIRCHILD DURAMOLD F46 1937

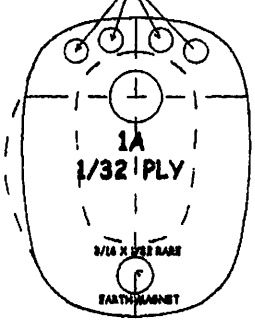
EXISTING BLACK AND WHITE PHOTOS SHOW A LIGHT OVERALL COLOR WITH A MUCH DARKER TRIM COLOR. REGISTRATION NUMBERS ARE PRESUMED BLACK. SPINNER IS THE OVERALL LIGHT COLOR WITH NATURAL COLORED POLISHED PROP BLADES.

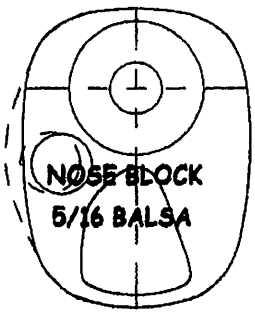
D. RICE



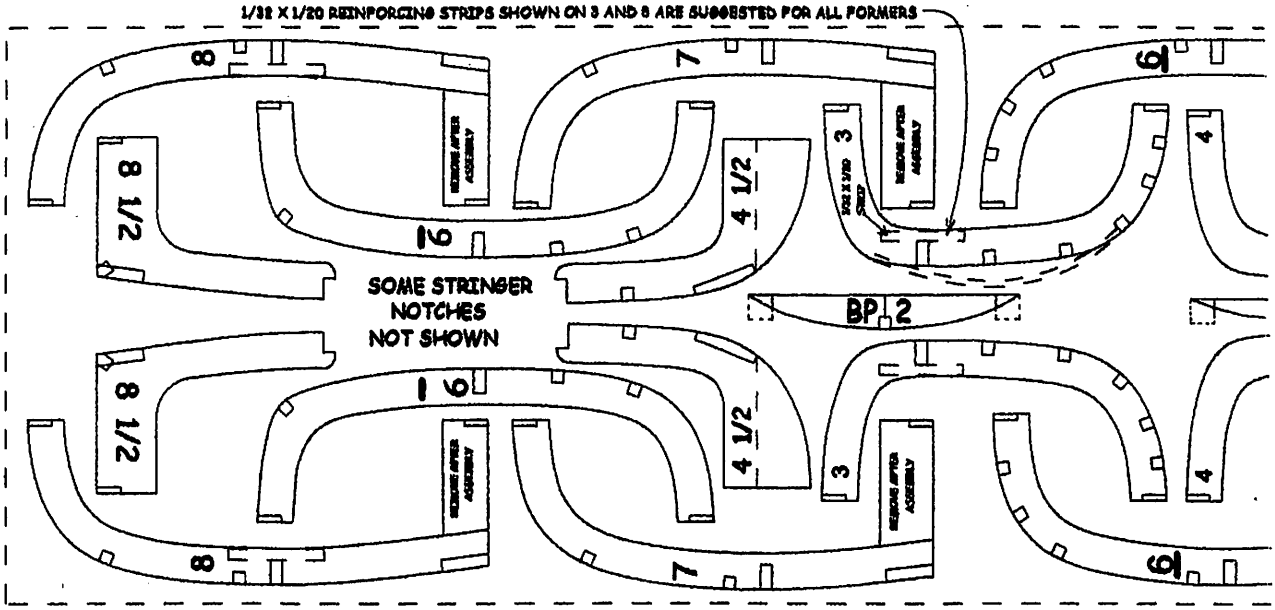


HOLES FOR 1/8 x 1/32 RARE EARTH MAGNETS





1/32 X 1/20 REINFORCING STRIPS SHOWN ON 3 AND 8 ARE SUGGESTED FOR ALL FORMERS

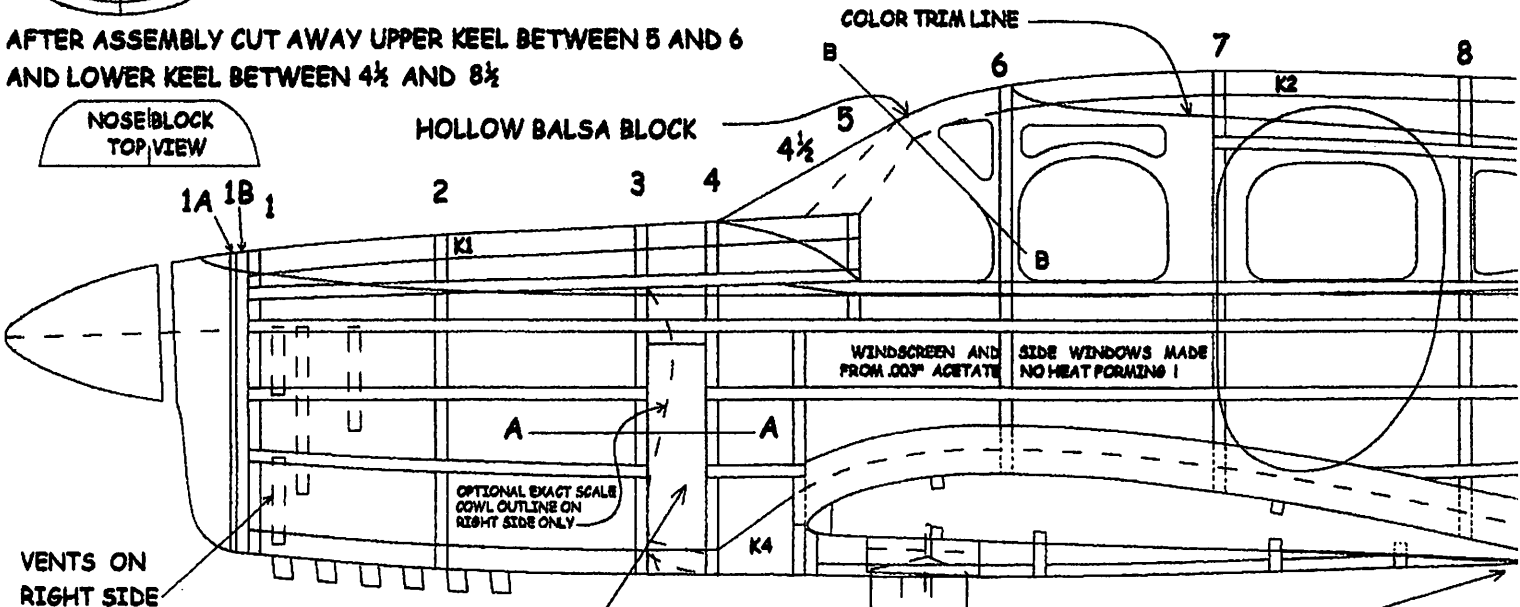


AFTER ASSEMBLY CUT AWAY UPPER KEEL BETWEEN 5 AND 6 AND LOWER KEEL BETWEEN 4½ AND 8½

NOSE BLOCK TOP VIEW

HOLLOW BALSA BLOCK

COLOR TRIM LINE

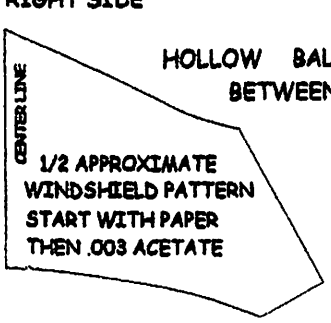


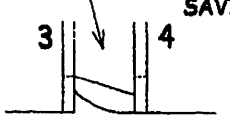
TAPER BELLY PAN STRINGERS

SHOWN

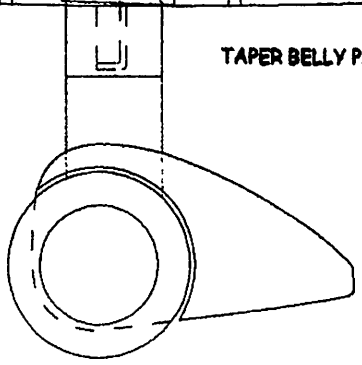
HOLLOW BALSA BLOCK BETWEEN 3 AND 4

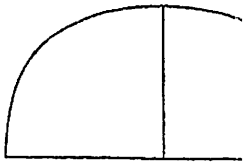
BLOCK AND FORMER 4 COULD BE OMITTED FOR WEIGHT SAVING





CROSS SECTION AT AA





CROSS SECTION A

FAIRCHILD DUROMOLD F46

This beauty jumped onto my "must acquire list" from a profile photo in the pages of an old and unremembered antique aircraft article in a magazine pile at a Stork Squadron meeting. That began a search for more information about this plane which I discovered was a one off experimental prototype. It was designed by Virginius E. Clark (yes, the Clark Y Clark) and featured a fuselage made of half shells of plywood heat pressed with plastic. This was called the Duramold process and was later used by Howard Hughes in the Spruce Goose. The fabrication of the F46 began under Fairchild auspices but soon went through a sequence of different sponsors until completion and first flight in 1938. Acquired after the war by one of the Fairchild test pilots, it was re engined with a 450 H.P. Pratt & Whitney radial. This probably made it a more useful aircraft but it destroyed most of the charming visual aspects that drew me to it. The original engine was an inverted V-12 Ranger SGV-770B-5 of 420 H.P. which in this and other aircraft had overheating problems at lower airspeeds, an extremely unfriendly characteristic. But the nose contours allowed by the Ranger remind me of the art work in the 1930's pulp comics we love so much.

The model is moderately complex but some simplification could reduce that and save some weight as well. The carved block representing the scale cowling air exit aft of former 3 could be eliminated and either former 3 or former 4 also, but leave one or the other of them. The clear plastic side windows and the small triangular window above the windscreen could be eliminated and represented by other less fussy means such as light grey tissue. But man those clear windows look great! The torsion bar landing gear could be replace with something simpler and perhaps lighter. Certailnly the bulge on the right side of the cowl could be left out and suggested with a ruling pen. I didn't discover this feature until Rich Weber found some photos that showed it and sent them my way.

The model flies with a good margin of stability with the shown dihedral and the center of gravity about 1/16" forward of the lower spar. I have kept the power fairly moderate as higher power levels would likely take it "to the trees" on our home field. Two loops of braided 3/32" Super Sport 21 " long and wound moderately with a 7" Peck prop is good for 40 to 50 seconds. With more cross section, a shade more decalage, and more winds it could no doubt bust a minute and be much more exciting. 50 seconds will win no contests but man is it beautiful and rock steady in the air with the current flight trim. I love to see them fly like that. And I do still have it after many flights.

The model was given a color scheme of cream overall with brown trim and black registration numbers. Color photos, or any description of trim colors, have yet to be found. I have just always liked cream and brown, which is a plausible guess. The brown trim on the model is white Esaki preshrunk on a frame, painted brown with Design Master floral spray, coated with glue stick on the back which is allowed to dry completely. The trim is then cut out and adhered to the model with 90% Isopropyl alchohol. It still has enough shrink and stretch left in it to allow for stretching slightly over the compound curvature in the fuselage. The black registration is black Esaki, frame shrunk, and chalked black on the back side for extra blackness. Glue stick is applied the same as with the brown trim. Then the letters are cut out with a sharp blade and a straight edge.

It's hard to beat the visual appeal of a lovely Golden Age model, gear hanging down, slicing through the blue in realistic fashion. This one will sure do it!

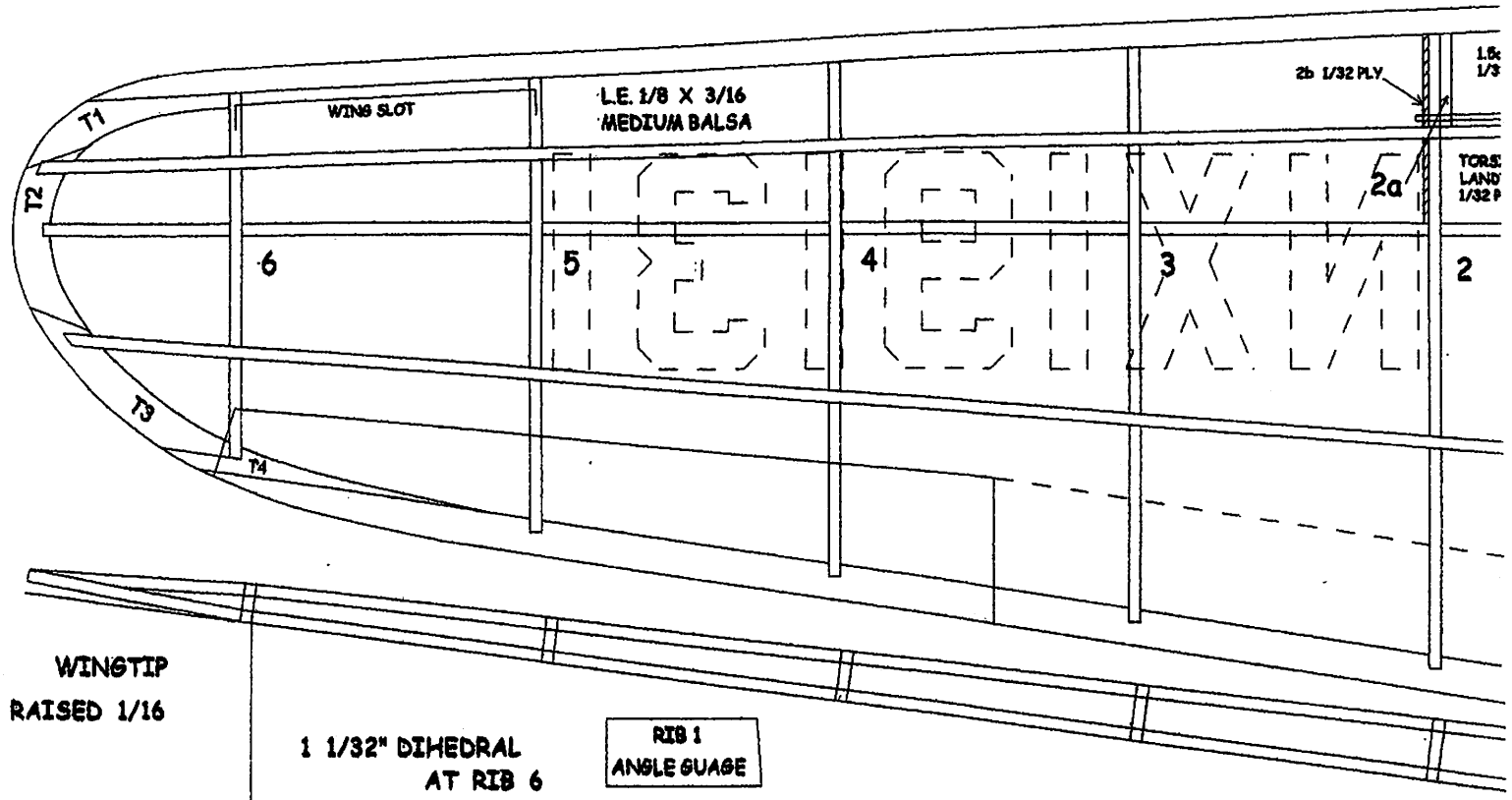
Dave Rice

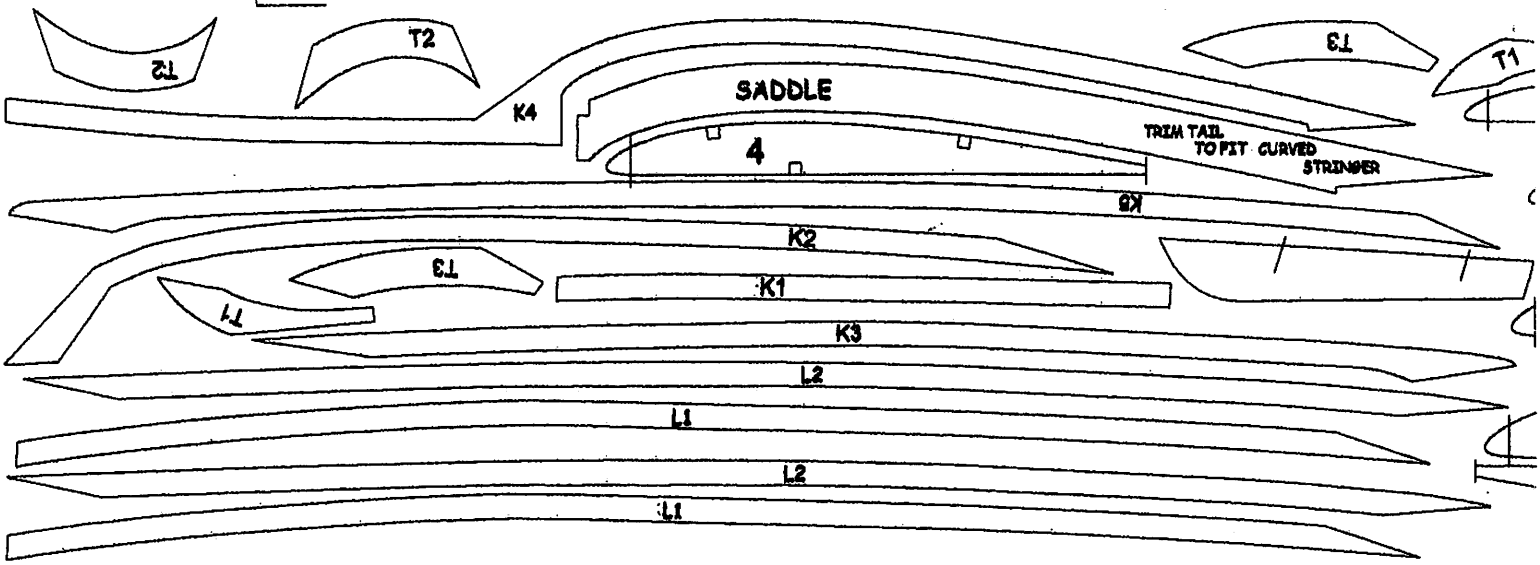
CFFS INDOOR AT KENT ST. 2015

- SAT. APRIL 25 RECORD TRIAL

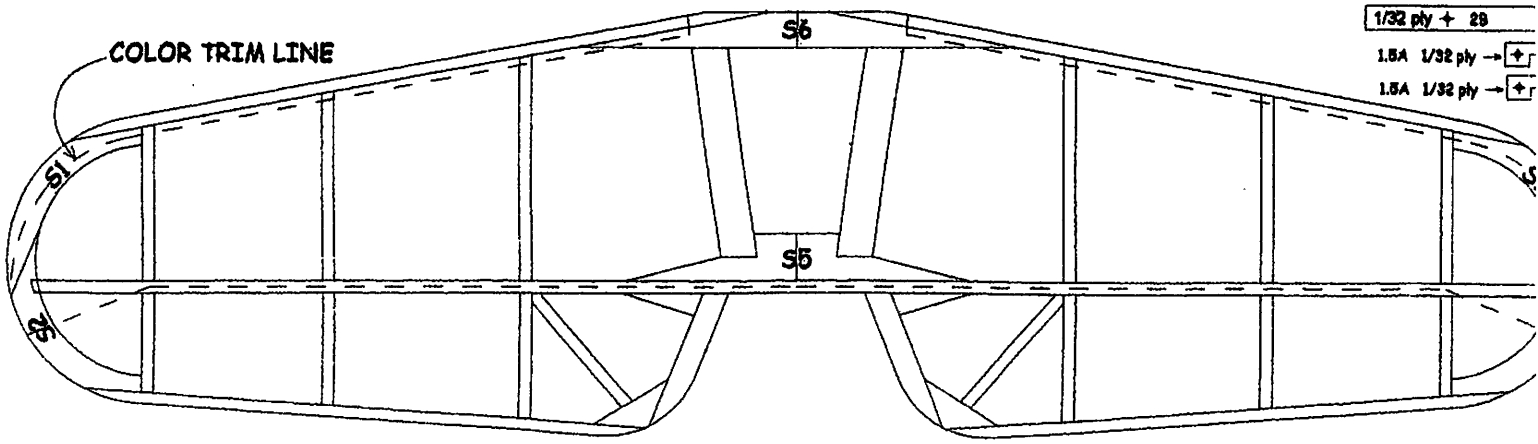
- SUN. 4/26 CONTEST

4





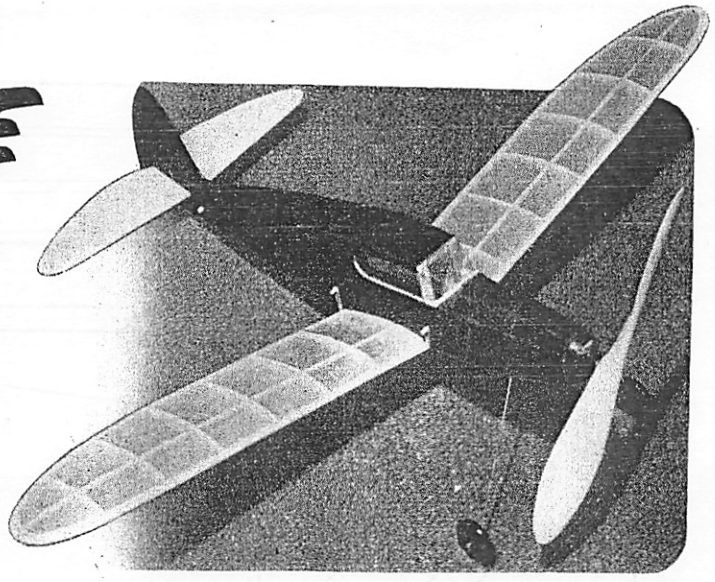
THE DOTTED LINES REPRESENT THE EDGES OF A 3" BALSA SHEET.
ALL WOOD IS 1/16" BALSA UNLESS OTHERWISE NOTED



SWOOSE

DESIGNED BY ALFRED CLEAVE

Here's an easy one for the Christmas holidays — a neat little low-wing rubber design —complete with full-size plans



THE low-wing *Swoose*—by American designer Alfred Cleave—is something quite out of the ordinary in beginners' rubber models. Low-wing types are usually regarded as " tricky " to trim, but this model definitely proves the exception to the rule. In fact, the *Swoose* is just as simple to fly as the conventional high wing breed—a fact that can be attributed to the ample dihedral and flight-checked fin area.

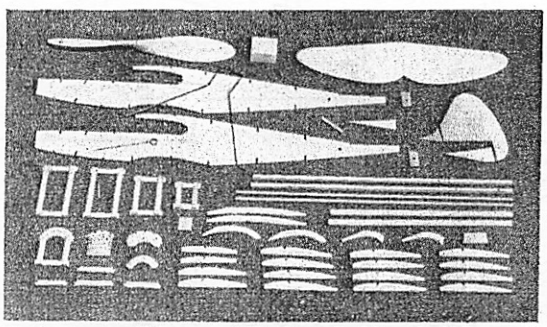
No need to write off for working plans or get out the dividers to scale up this one—as all drawings are provided full size Just detach the centre spread plan (protect with greaseproof paper), sort out the materials and you are all set to start building. Trace or pinprick the various patterns on to medium weight sheet balsa.

Fuselage

Begin by cutting out and making up the formers (1-10)—noting that some are made from $\frac{3}{16}$ in. × $\frac{1}{16}$ in. strip. Now cut out the sides from $\frac{1}{16}$ in. sheet and join by cementing formers 5 and 6 to them. Allow to dry, then pull in the sides at the tail—joining with the triangular shaped piece as shown. Insert formers 7 and 8, then pull in at the nose and install former 1. Add formers 2, 3 and 4, followed by the upper nose stringers.

The four horizontal spacers (shown on plan) are cut from $\frac{3}{16}$ in. × $\frac{1}{16}$ in. and notched at the ends. Add the upper fin support (10) and the $\frac{1}{16}$ in. sq. lower spacer—at the tail end. Cement the motor peg supports to the inside faces of the two sides. Cover the curved upper part of the nose (behind 4) with stiff drawing paper. Cut the one-piece windshield and windows from thin celluloid—after first making a paper pattern—and carefully cement in place.

Bend the undercarriage from 20 gauge steel wire (retain the wheels by binding with thread and cementing) and well cement to the front of former 3. Cut away one corner of a piece of $\frac{1}{8}$ in. sq. (sufficiently to clear the wire), cut in two and cement the pieces to the junctions formed by the sides and former 3. Fill in the underside of the fuselage nose—back to the first spacer—with $\frac{1}{16}$ in. sheet. Install the matchsticks which serve as pegs for the wing retaining bands.



The beginner will have no difficulty in building the " Swoose." Here are all the parts ready for assembly.

Airscrew and Nose Block

Any ready made duration type airscrew of $7\frac{1}{2}$ in. diameter (trim to $7\frac{1}{4}$ in.) is suitable. A wooden airscrew was fitted to the MODEL AIRCRAFT test model, but the new $7\frac{1}{4}$ in. diameter Keil Kraft plastic type would do the job even better.

Cement the nose plug (*P*) to the back of a 1 in. × $\frac{7}{8}$ in. × $\frac{1}{2}$ in. piece of balsa. When dry, lightly attach to the fuselage with two dabs of cement—then carve and sand to shape. Drill to take a piece of 20 gauge brass tubing and cement a cup washer to the front. Form the motor hook of the airscrew shaft from 20 gauge wire—thread on the block, followed by another washer and the airscrew—then bend over the front end to secure the assembly. Cut a notch in the nose block as shown on the plan.

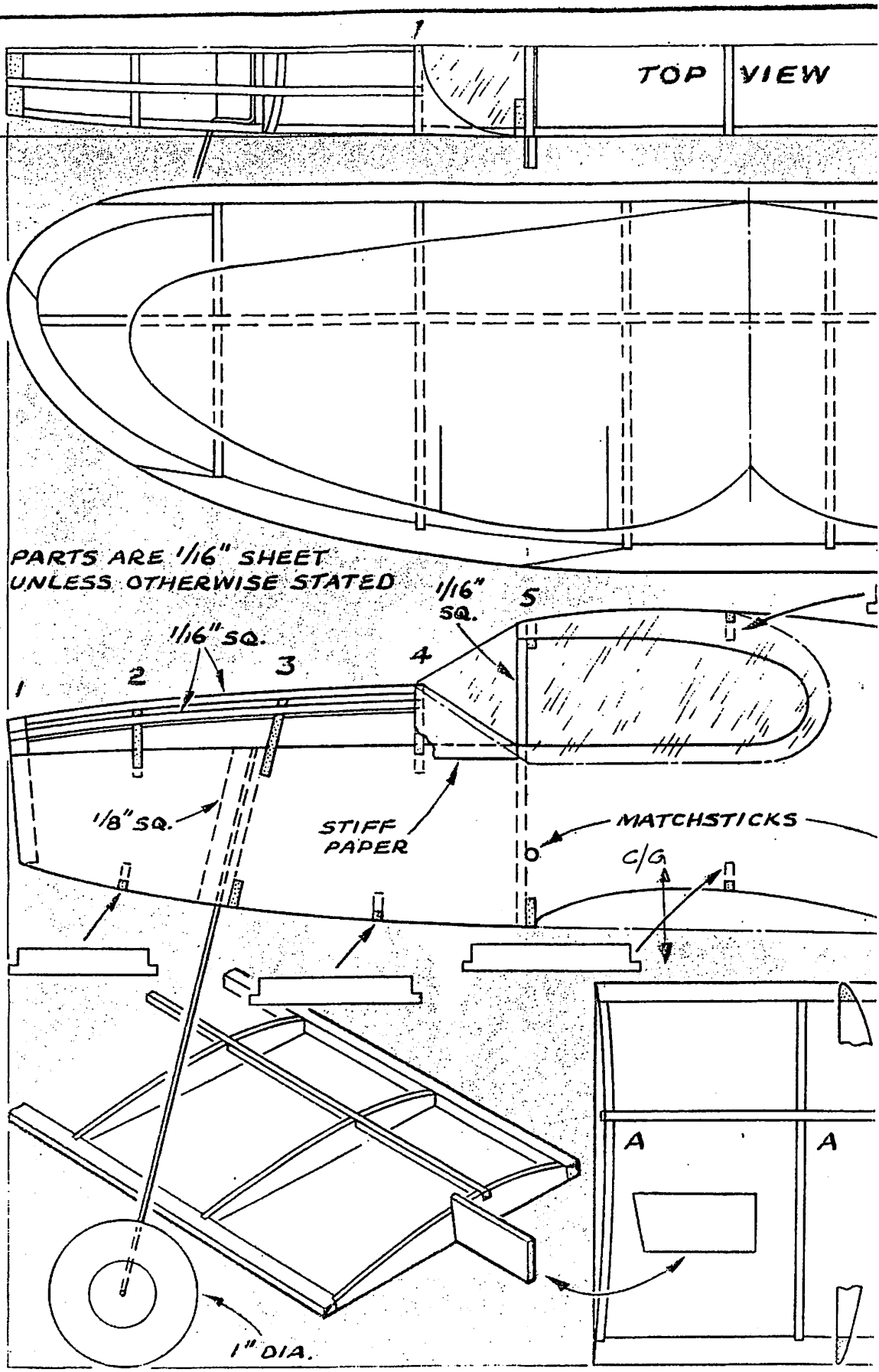
Flying Surfaces

Start with the right wing panel—pinning the leading and trailing edges over the plan. Add the tip pieces, followed by the wing ribs and the upper spar. Note that the root rib is tilted (check angle with template) to allow for the dihedral. The left wing panel construction is similar. Make the centre section, checking that the ribs are vertical, then cover the top surface with stiff drawing paper. Pin



Crosswinds readers with the **Dreaded Red X** at issue renewal code #147. or lower can avoid bitter disappointment by sending $20 to the address below for another year of Free Flight joy.

Russ Brown, 4909 N. Sedgewick , Lyndhurst, OH 44124


TOP VIEW
PARTS ARE 1/16" SHEET
UNLESS OTHERWISE STATED
1/16" SQ.
1/16" SQ.
1
2
3
4
5
1/8" SQ.
STIFF PAPER
MATCHSTICKS
C/G
A
A
1" DIA.

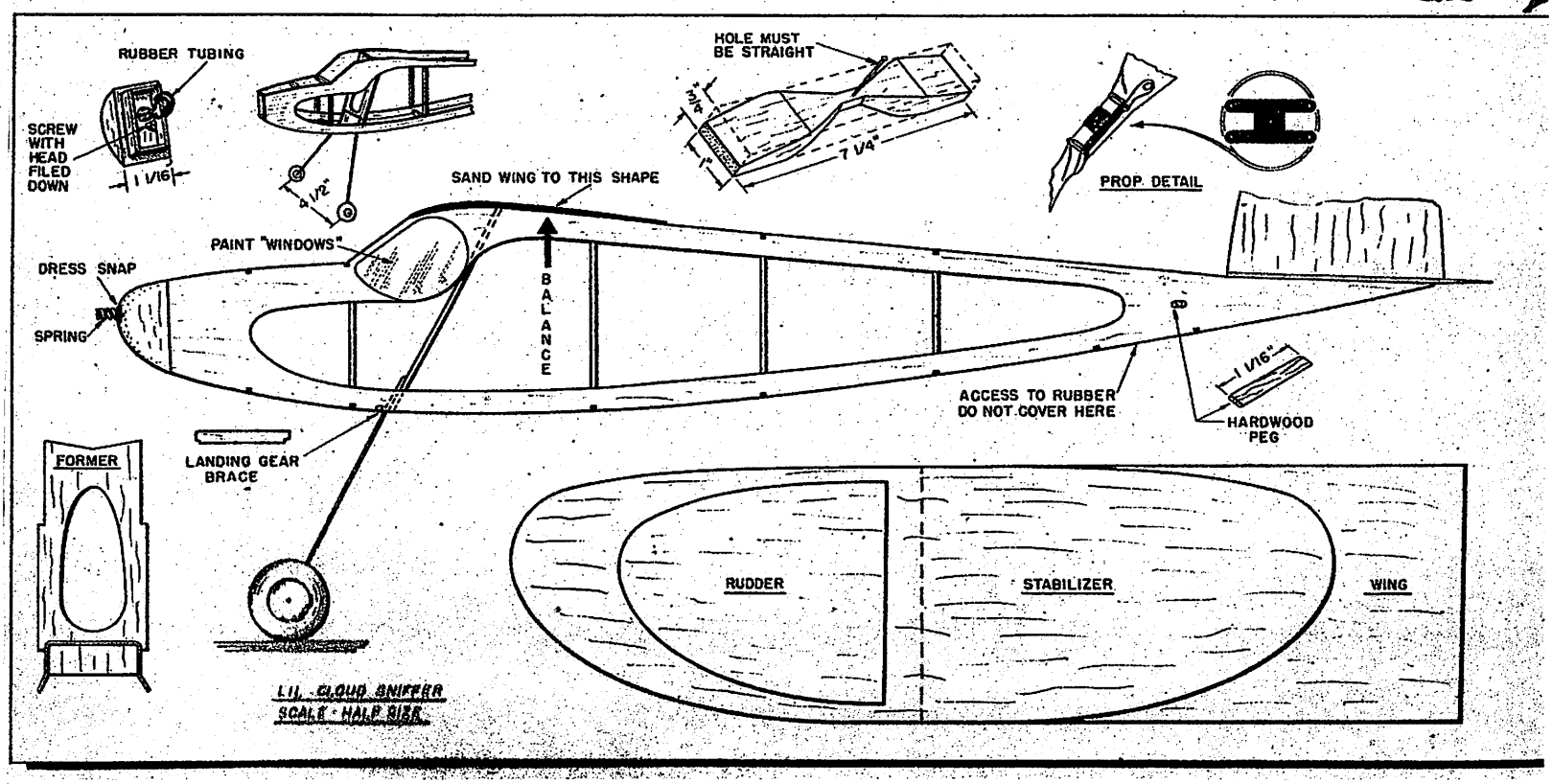
HI RUSS, 7/14/14 7

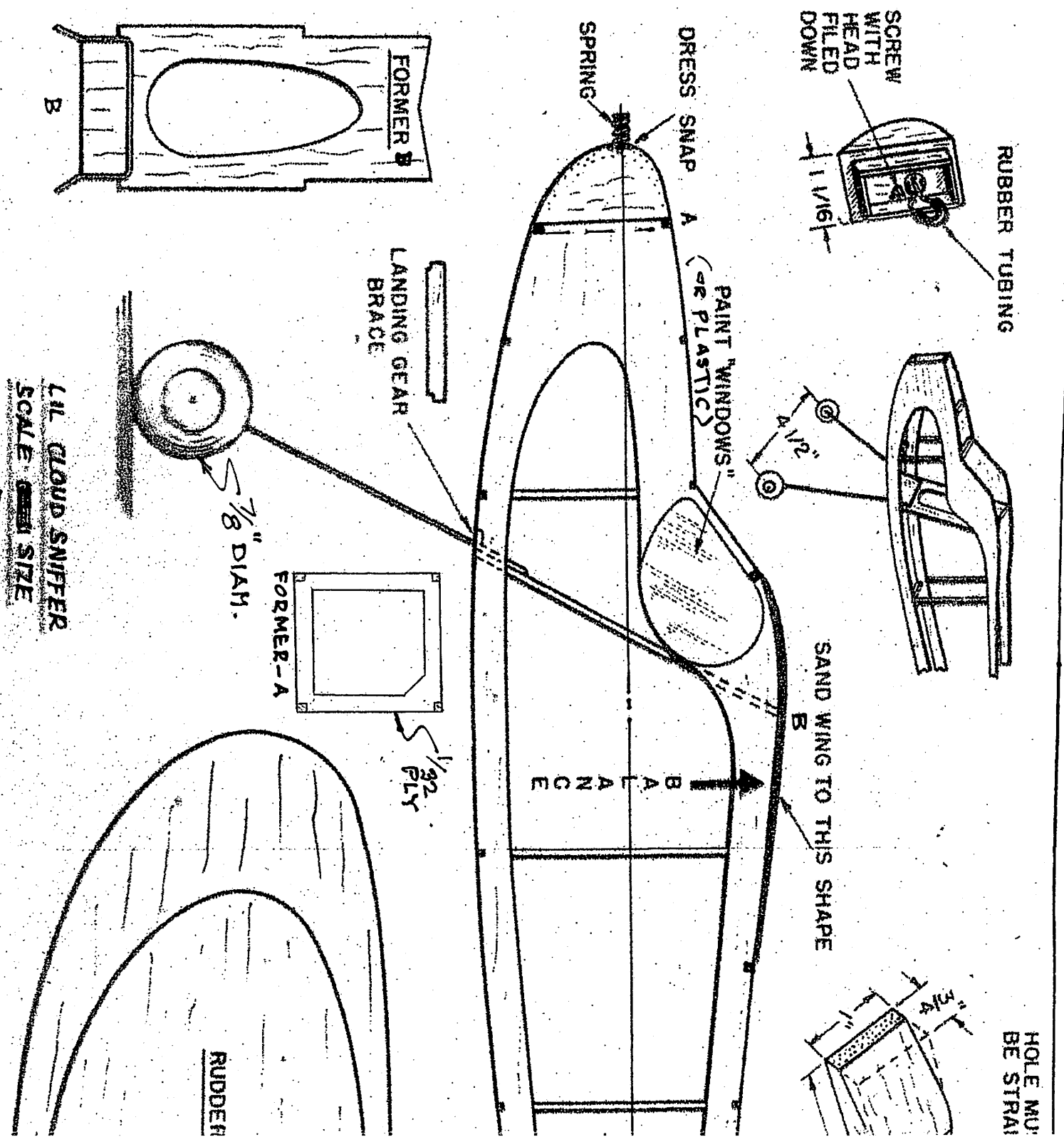
HERE'S A FEW SIMPLE JOBS FOR CFFS NEWSLETTER. I'VE BUILT THE SWOOSIE AND IT FLIES GREAT ON 4 x 1/8" BRAIDED. A NICE SMALL FIELD FLYER.

I'LL BUILT THE LITTLE CLOUD SNIFFER SOON BECAUSE THEY ARE SO SIMPLE AND CUTE THAT THEY BEG TO BE BUILT. MAYBE WE COULD USE THEM FOR THE SAT. BUILD DATES THIS WINTER ? THE CLOUD SNIFFER CAME FROM "AIR TRAILS AND SCIENCE FRONTIERS" — I ALWAY THOUGHT IT WAS JUST "AIR TRAILS"

Chris Radomsky

HALF SIZE





L'il Cloud Sniffer

(*Continued from page 57*)

For you technical-minded Joes, the following data on the propeller may prove interesting. The pitch was measured *after* the propeller was carved to check with calculations made before carving.

	Tip	¾	½	¼	Hub
Pitch in Inches		8.12	9.06	9.06	8.70
Pitch Diameter		1.12	1.25	1.25	1.2

You will note a lower pitch at the tip than elsewhere. Contrary to theory of helical pitch propellers, this type of propeller gives higher thrust, all other factors constant.

A week later, a 5 min. 50 second flight was made—complete with riser. An interesting sidelight on this flight was the fact that at the time of the flight, there was no covering on the fuselage. A bad batch of six-year-old rubber resulted in three broken motors in a row. These breaking-motors took *all* the covering off, but this did not weaken the fuselage any noticeable amount.

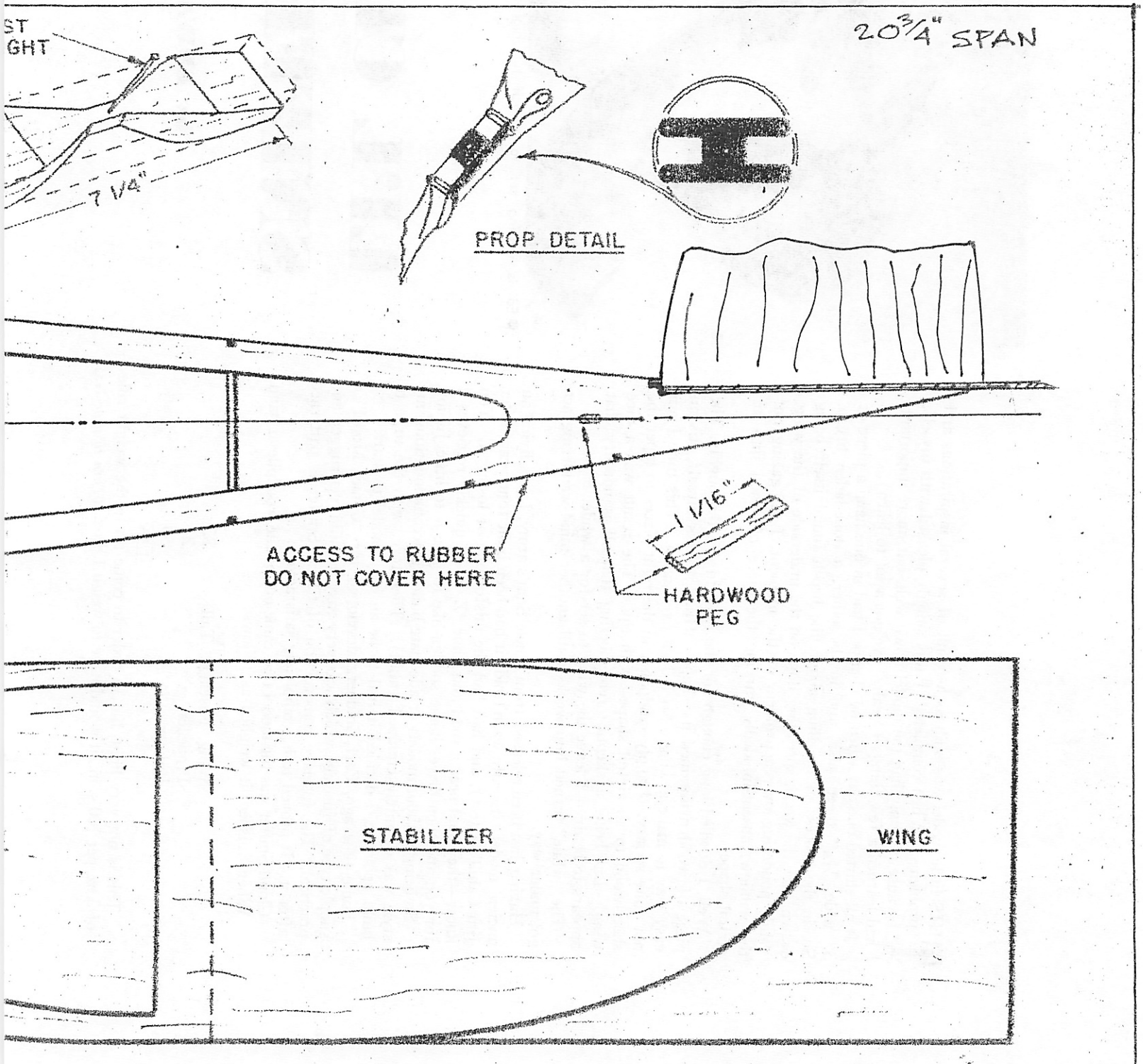
Best results were obtained with a seven-strand (2 loops of ⅛" and 1 loop 3/16" rubber) motor, 21" long. This motor, on good rubber, should take 1,100 winds. (*P.S. Use lubricant.*)

All together about a dozen motors were tried and the one above proved best.

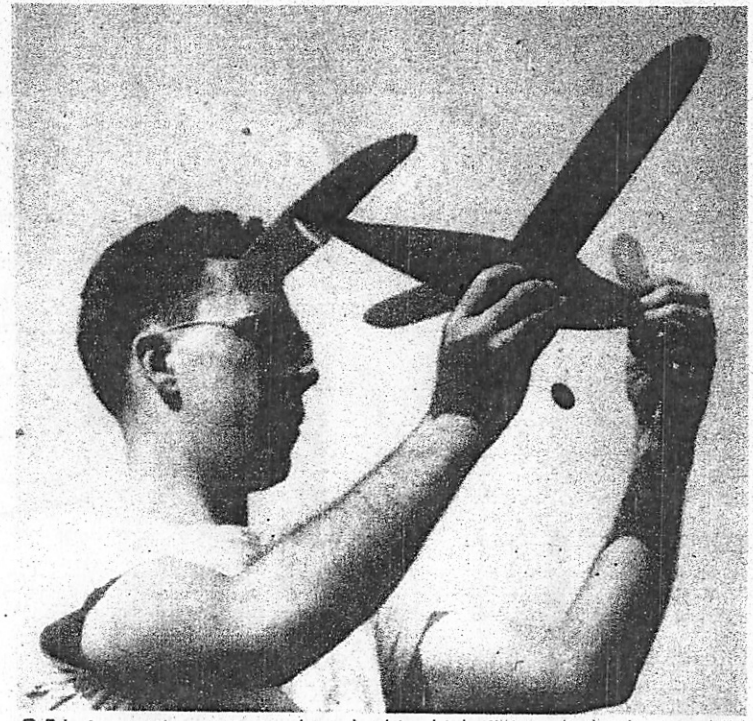
The model was flown in an Armory at one time on one 11" loop of ¼" rubber. It made some nice take-offs and landings.

LI'L CLOUD SNIFFER

by EDWARD LIDGARD



AIR TRAILS FEB. 1947 ED. LIDGARD



● Ed is getting set to launch his high-flying little brain child.

LI'L CLOUD SNIFFER

by EDWARD LIDGARD

THIS little model was built as a result of several inspirations and problems. When completed, I was smugly pleased with myself, because not only had the model flown well, but, more important, I had learned a few things (Yeah—I've got a lot to learn).

It all started one day when by chance I had in one hand a piece of 3″ wide, 1/16″ sheet balsa, and in the other, a dope-laden brush. So, in the process of doodling about, the brush found itself being drawn over the wood, spreading dope on the underside of the wing. While pondering over a problem of the moment, I sat gazing out the window, absent-mindedly curving the piece of wood into an airfoil shape.

Well, I doodled long enough for the dope to dry thoroughly. The piece of wood maintained its shape. Hmm, thinks myself, 'tis an easy way to make a wing. So I do it over again. This time I am not quite so lazy. I apply sandpaper in the right places to taper the sheet-wood to an airfoil shape—with tips. The result was a nice wing. But being a skeptic—remembering that all is not dry that appears to be dry—I leave the wing to set for a while.

The "while" turned into weeks until another mind-wandering act got under way.

Having just been released from Uncle Sam's army, I was flying an ancient model (it really wasn't old; it had been built four years after Jim Cahill's latest), and had had the misfortune of losing it. You know—they land near a road and some *Z/X'Z″ quickly retrieves it for you and then drives home sudden-like to give it to little Junior.

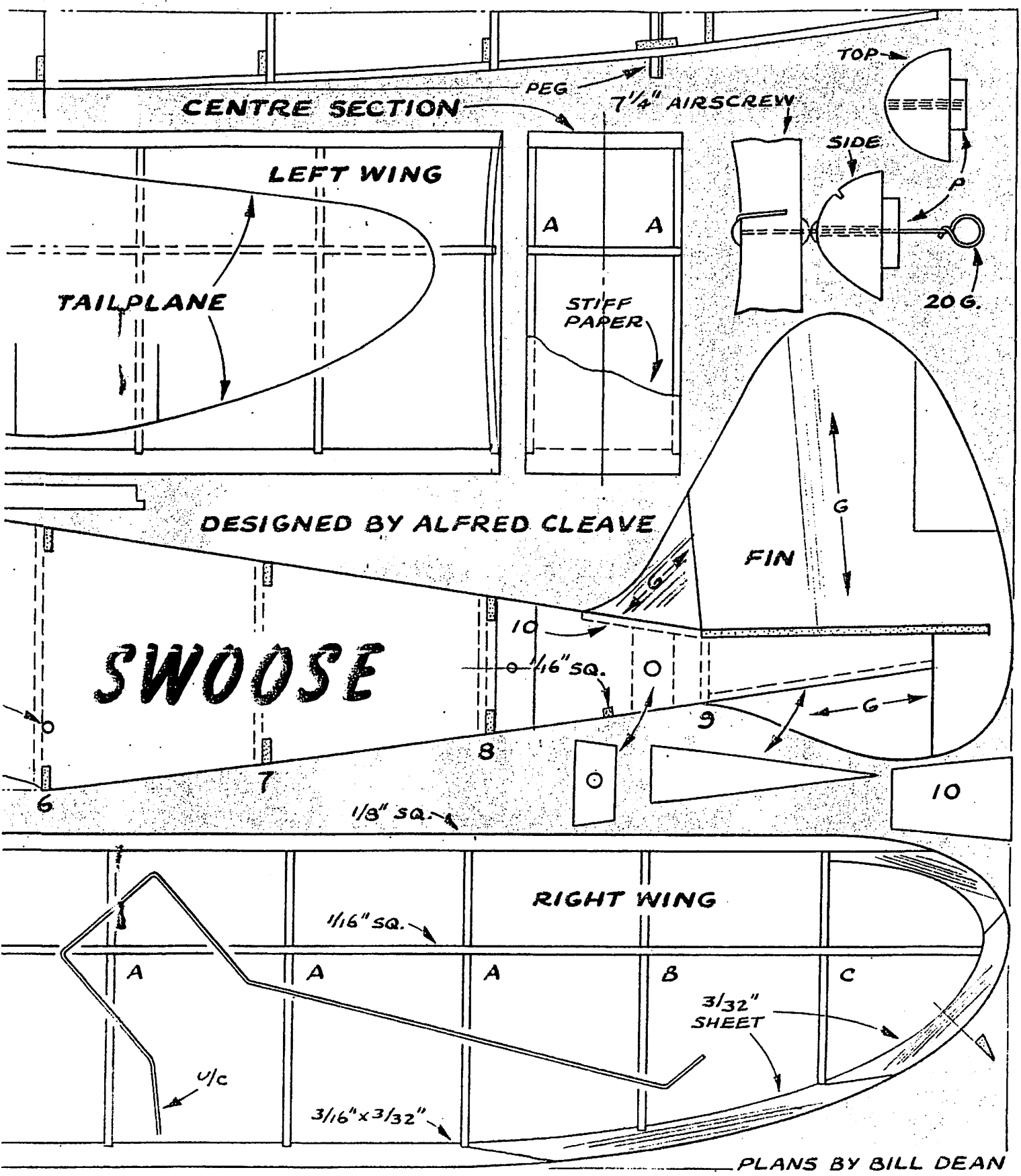
So being without models or adequate building accommodations, my style was definitely cramped (alibi). Therefore, with the urge to build upon me, I decided it had to be an easy model to start.

Some time ago, Earl Goldberg developed for "Comet Model" a simple type of fuselage which was very easy to build, yet rugged and practical. The fuselage construction of Cloud Sniffer is patterned after it. It proved to be completely satisfactory.

Cloud Sniffer was the model that came out of the woodpile at hand. When finished, it weighed as follows:

Wing, Fuselage, Tail	.85
Propeller	.21
Rubber	.50
	1.56

This is not very light, but in order to come up to the weight rule of 3 oz. per 100 s. in., it would have to weigh 1.8 oz. *(Turn to page 113)*



MODEL AIRCRAFT 52 SPAN = 20¾"

12

centre section to building board and cement the panels to it—packing up the tips of the latter 2 in.

Cut the tailplane from a single piece of $\frac{1}{16}$ in. sheet, round off the edges and make cuts as indicated to provide movable elevator tabs. Make the fin from three pieces of $\frac{1}{16}$ in. sheet (note grain direction) and join flat on plan. Attach the tailplane to the fuselage, followed by the fin.

Covering and Assembly

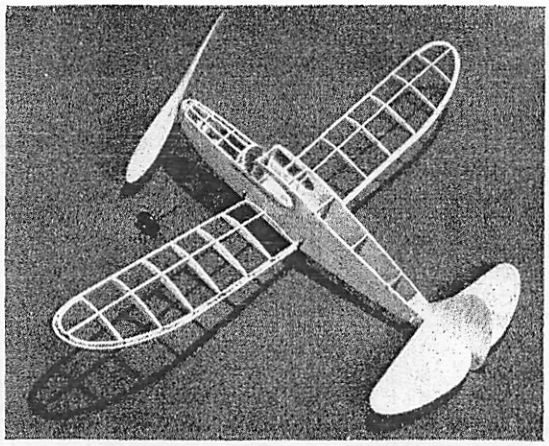
Cover the fuselage and fin with coloured tissue. Use white tissue for the wing and leave the tailplane uncovered. Attach the tissue to the " open " framework with tissue paste, but use clear dope as adhesive when dealing with the sheet portions. After water tightening, one coat of clear dope is sufficient for the wings, which should be pinned down to prevent warping. Give the fuselage, fin and noseblock two coats of clear dope.

Tie the ends together of a 21 in. length of $\frac{1}{4}$ in. flat rubber strip (lubricate) and pull through the fuselage by means of a piece of thread—retaining the rear (knot) end with a 3/32 in. diameter dowel motor peg. Loop the motor over the airscrew shaft hook and retain the noseblock with a rubber band looped from the undercarriage legs. Hold the wing in position with two rubber bands, looped *diagonally* from the matchsticks set in the fuselage.

Hold the model upside down and check that it balances level when the upper spar is resting on your thumb and forefinger. If tail heavy, cement a piece of old cement tube to the inside of the fuselage at the nose. If nose heavy, cut a small opening in the fuselage side under the tailplane and add weight there. Check that the tail surfaces line up with the wing and that both are warp-free.

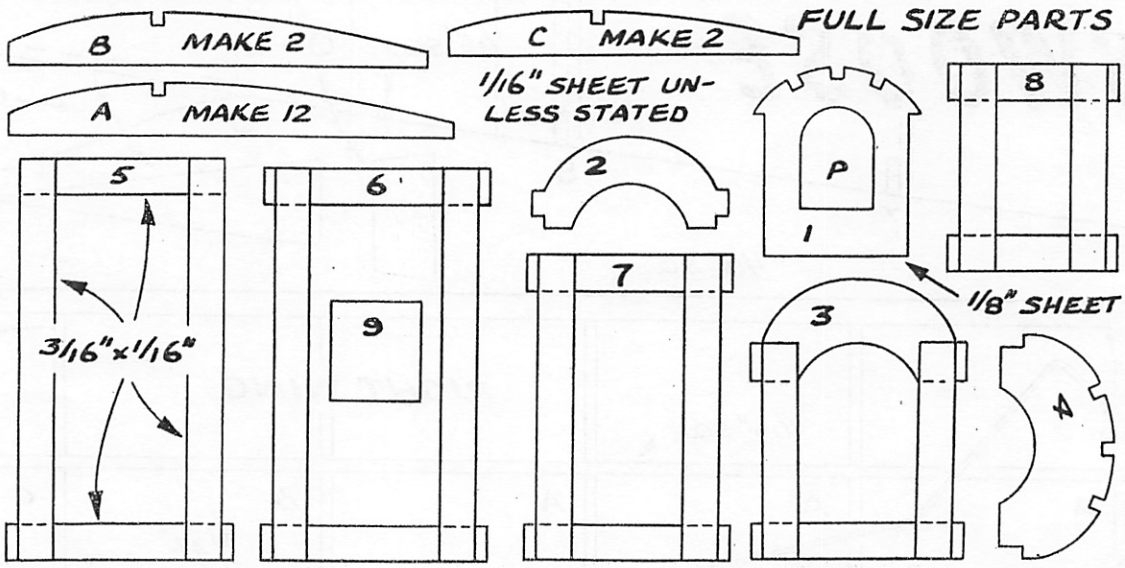
Flying

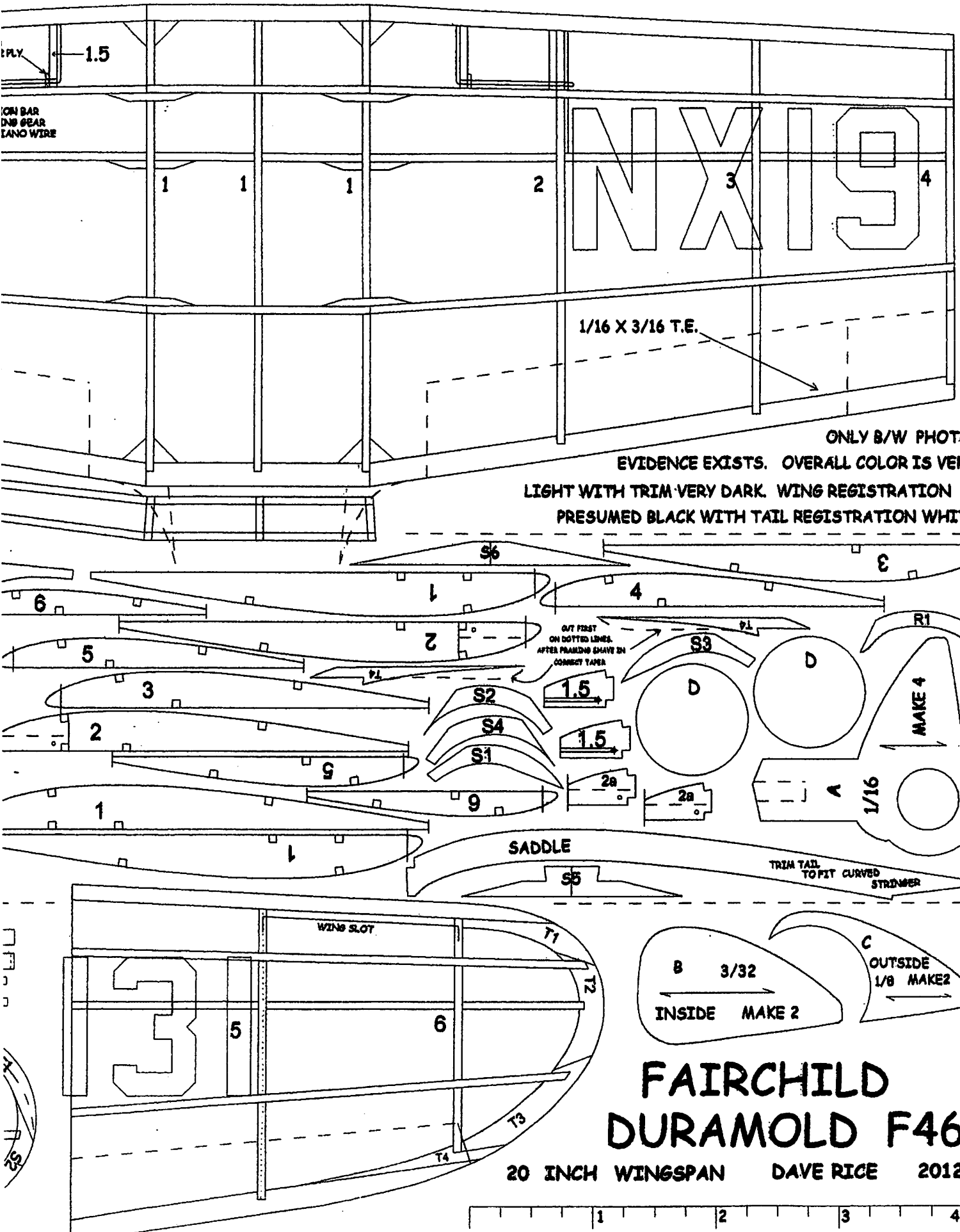
Gently launch the model into wind from shoulder height—over long grass if possible. If it dives or " stalls," correct by means of the elevator tabs set in the tailplane. If the model turns violently in either direction, this is usually due to warps. The model flies well in a shallow turn to either the left or right and under normal conditions will climb to about 40-50 ft. and turn in a flight of from 18-25 sec. The test model gave no trimming trouble and its rugged qualities were well demonstrated by the way in which it stood up to some far from gentle handling (on its first outing) by five-year-old Ray O'Taffy, who quickly learnt how to wind up the motor and make quite safe hand launches.



The completed framework assembled and ready for covering. Note the wing fixing by rubber bands.

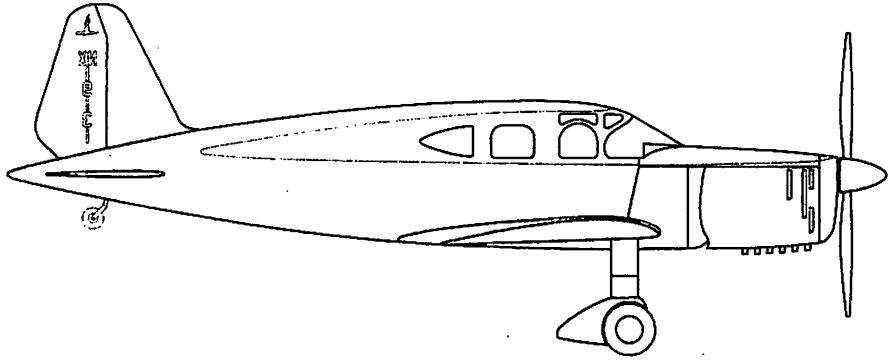
FULL-SIZE PLANS of this attractive little model appear on the following two pages . . . . .

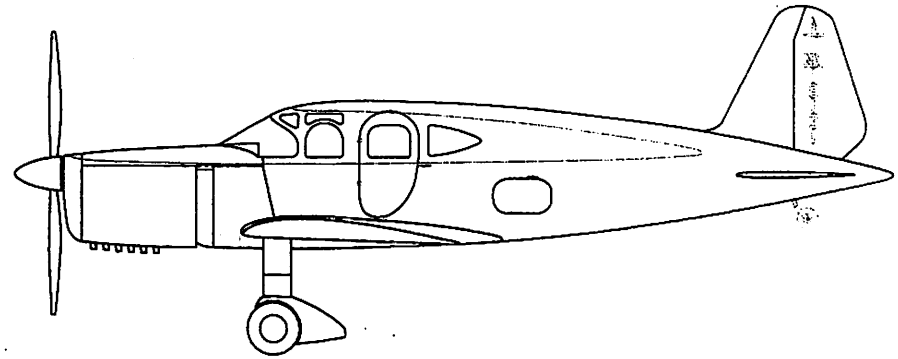




FAIRCHILD DURAMOLD F46

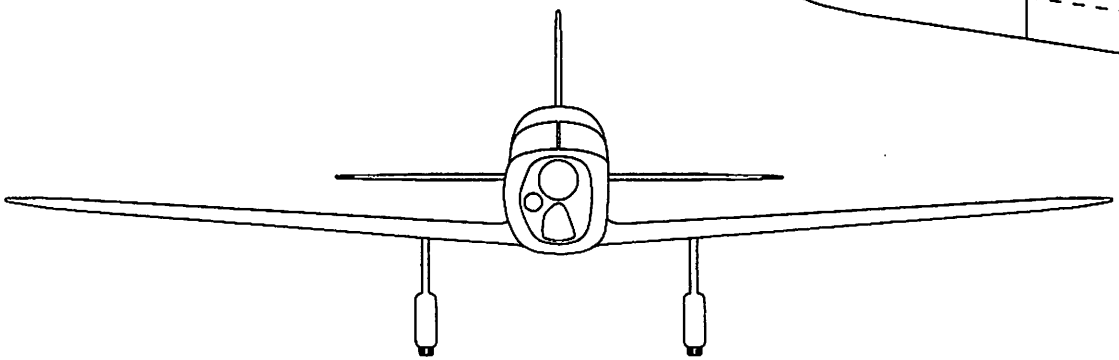
20 INCH WINGSPAN DAVE RICE 2012

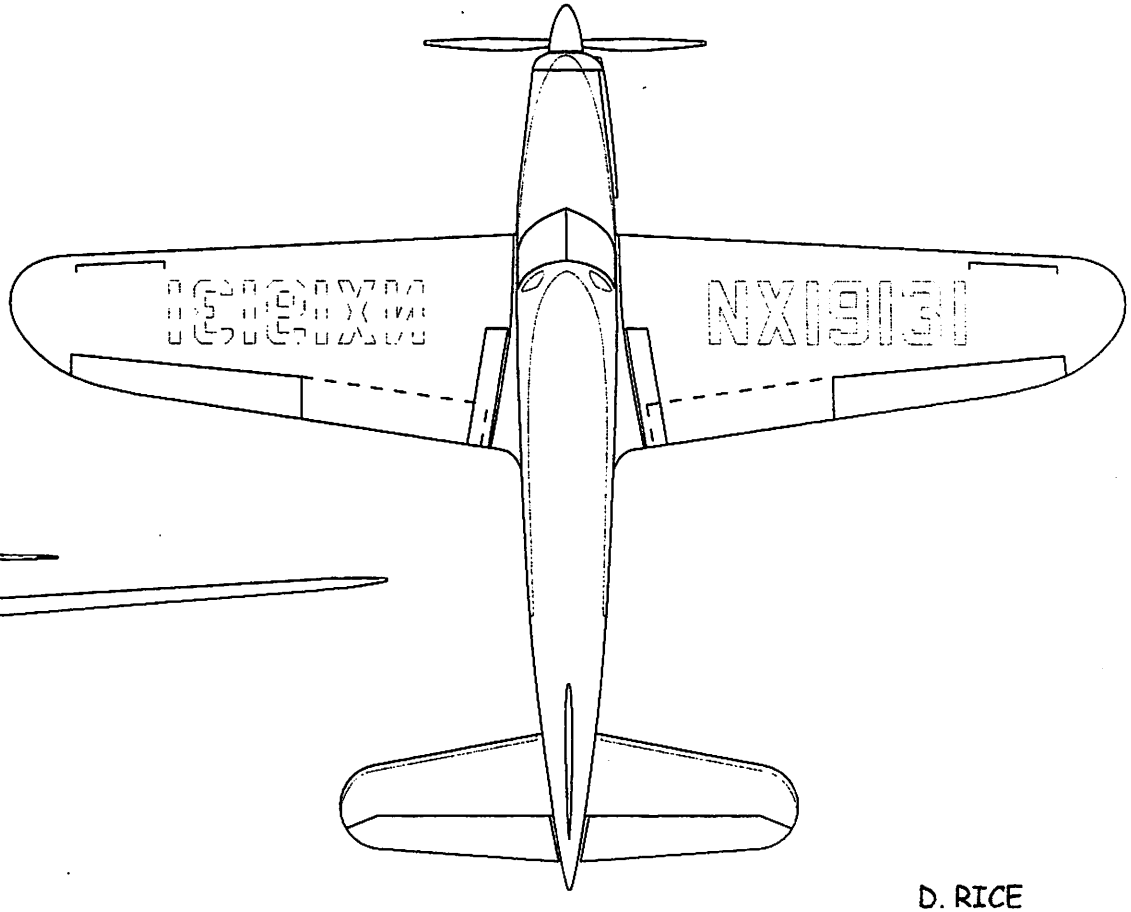




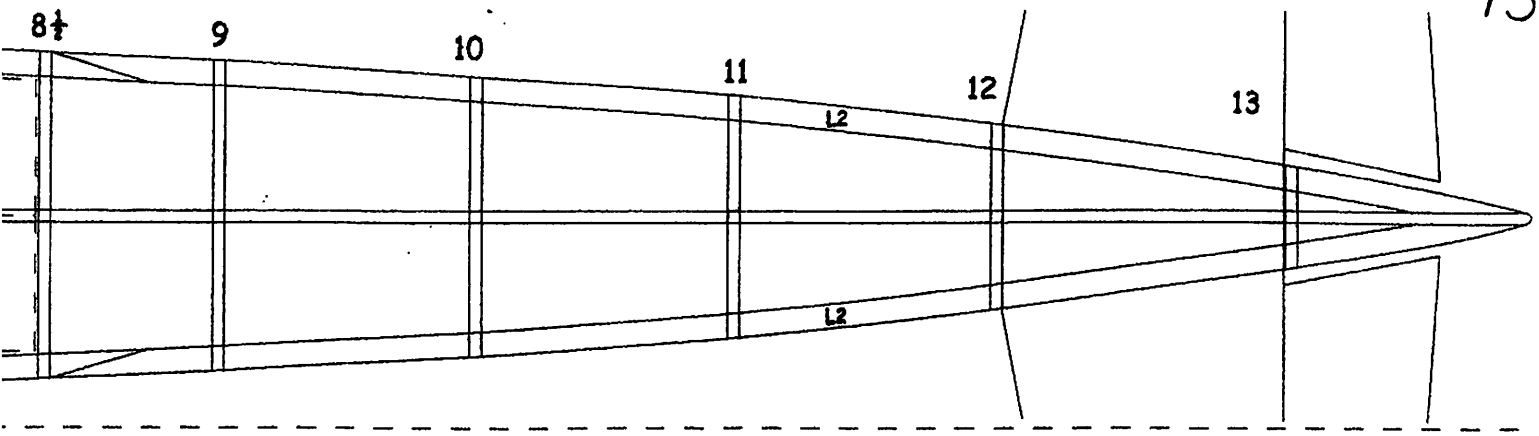
FAIRCHILD DURAMOLD F46 1937

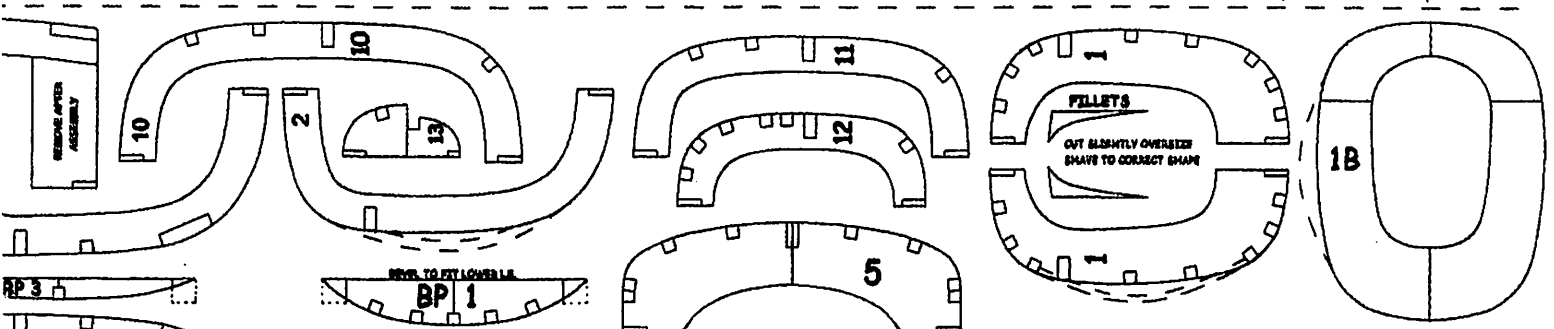
EXISTING BLACK AND WHITE PHOTOS SHOW A LIGHT OVERALL COLOR WITH A MUCH DARKER TRIM COLOR. REGISTRATION NUMBERS ARE PRESUMED BLACK. SPINNER IS THE OVERALL LIGHT COLOR WITH NATURAL COLORED POLISHED PROP BLADES.

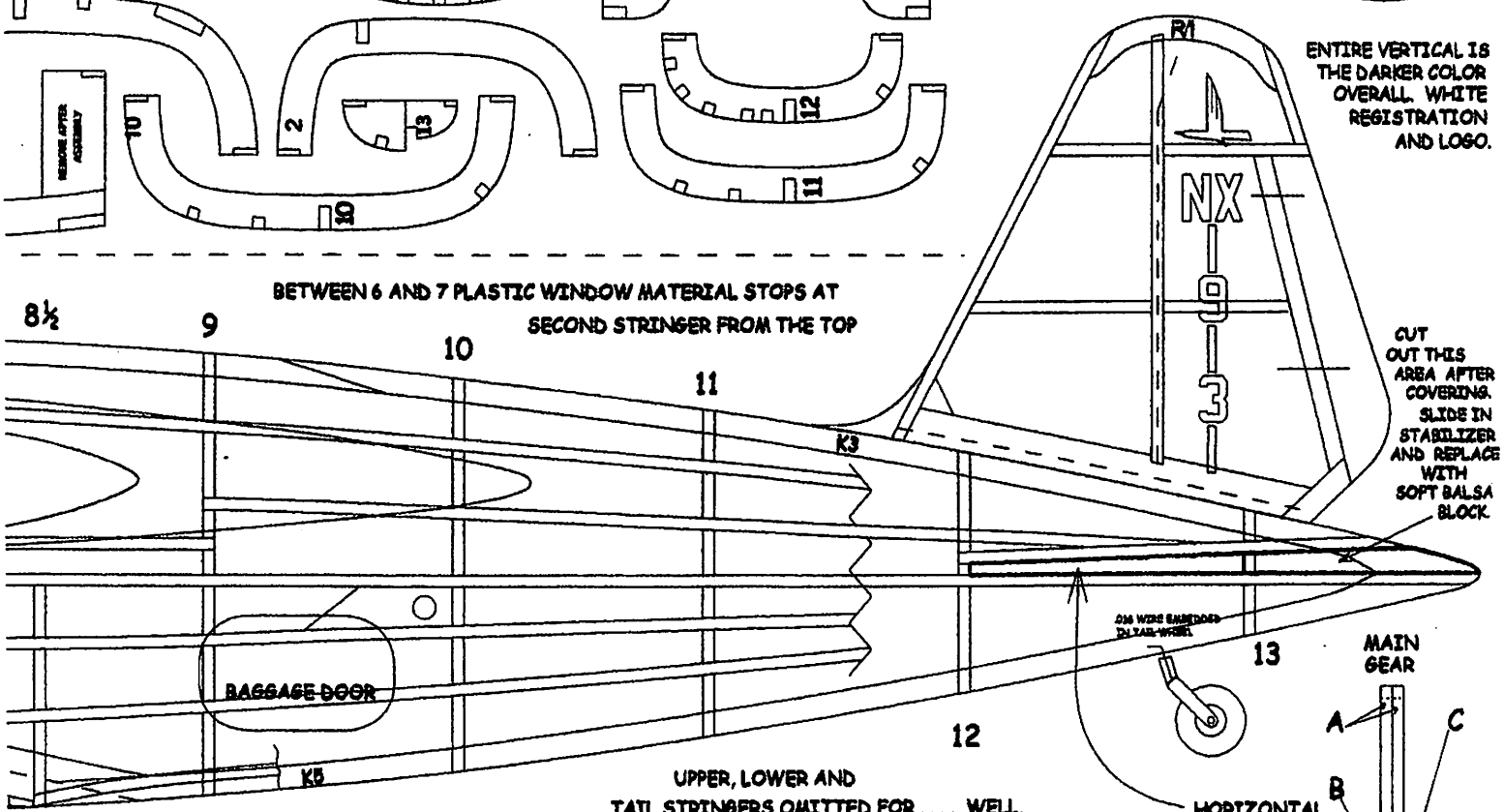




D. RICE



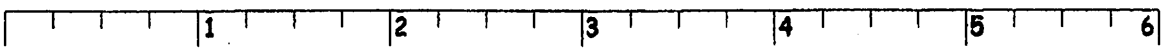




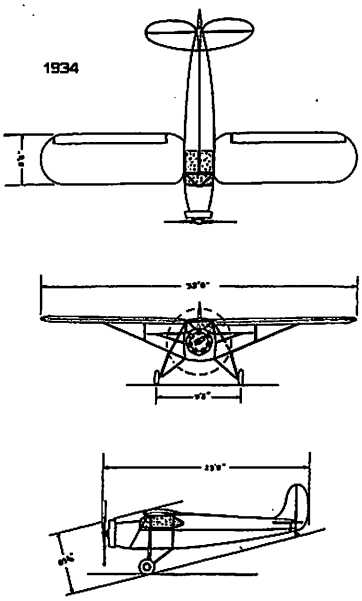
FAIRCHILD DURAMOLD F46

20 INCH WINGSPAN TVO .78 DAVE RICE 2012

T BB



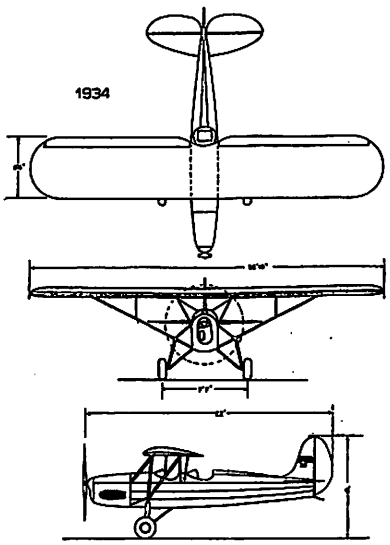
1934



KREIDER-REISNER AIRCRAFT COMPANY, INC.
Hagerstown, Md.
FAIRCHILD 24 —— 2 PLACE

MODEL C8	ENGINE: AMERICAN CIRRUS
C8-A	WARNER SCARAB
C8-B	MENASCO

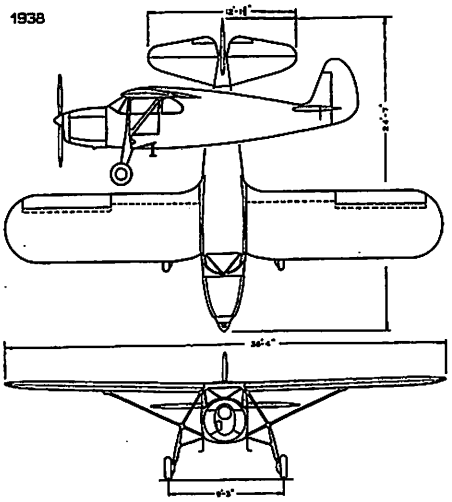
1934



KREIDER-REISNER AIRCRAFT COMPANY, INC.
Hagerstown, Md.
FAIRCHILD 22 —— 2 PLACE

MODEL C7	ENGINE: ROVER 75 H.P.
C7-A	AMERICAN CIRRUS 95 H.P.
C7-B	MENASCO 125 H.P.
C7-D	WRIGHT GYPSY 90 H.P.

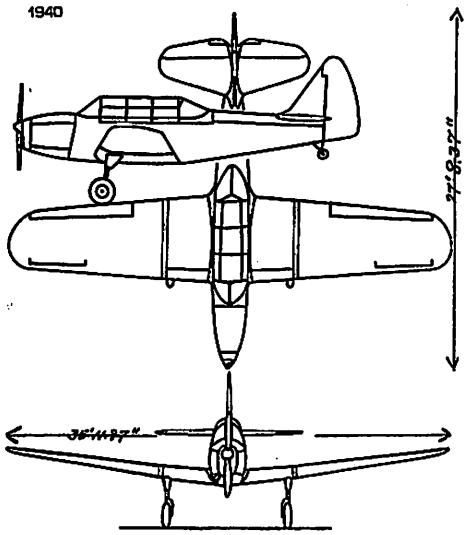
1938



FAIRCHILD MODEL 24

Ranger-powered four-place plane for the private flier. This plane is also available with a Warner Super Scarab engine.

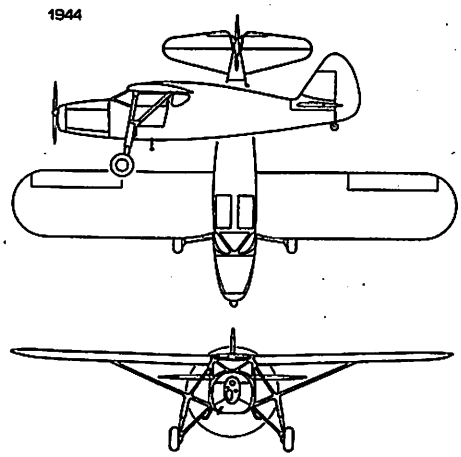
1940



FAIRCHILD M-62

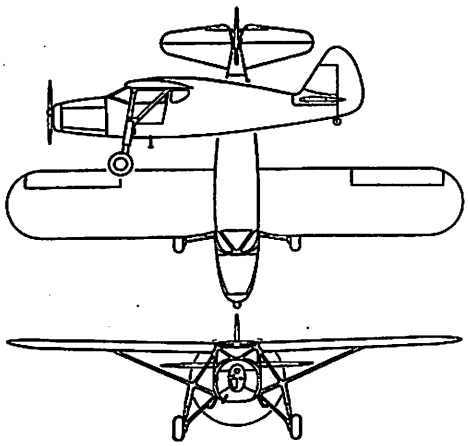
A Ranger-powered two-place military trainer.

1944



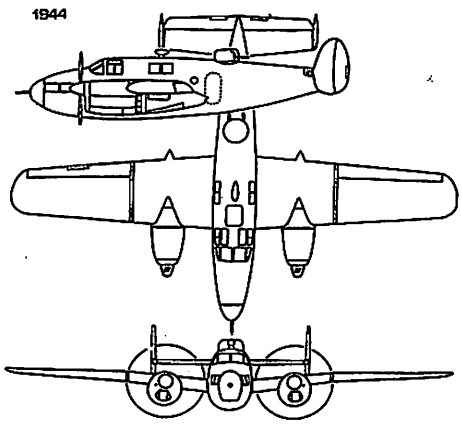
THE FAIRCHILD UC-61K FORWARDER

1946



FAIRCHILD F-24 PERSONAL PLANE

1944



THE FAIRCHILD AT-21 GUNNER

