THE HANGAR PILOT

ONE AND ONLY!

CLUB 986

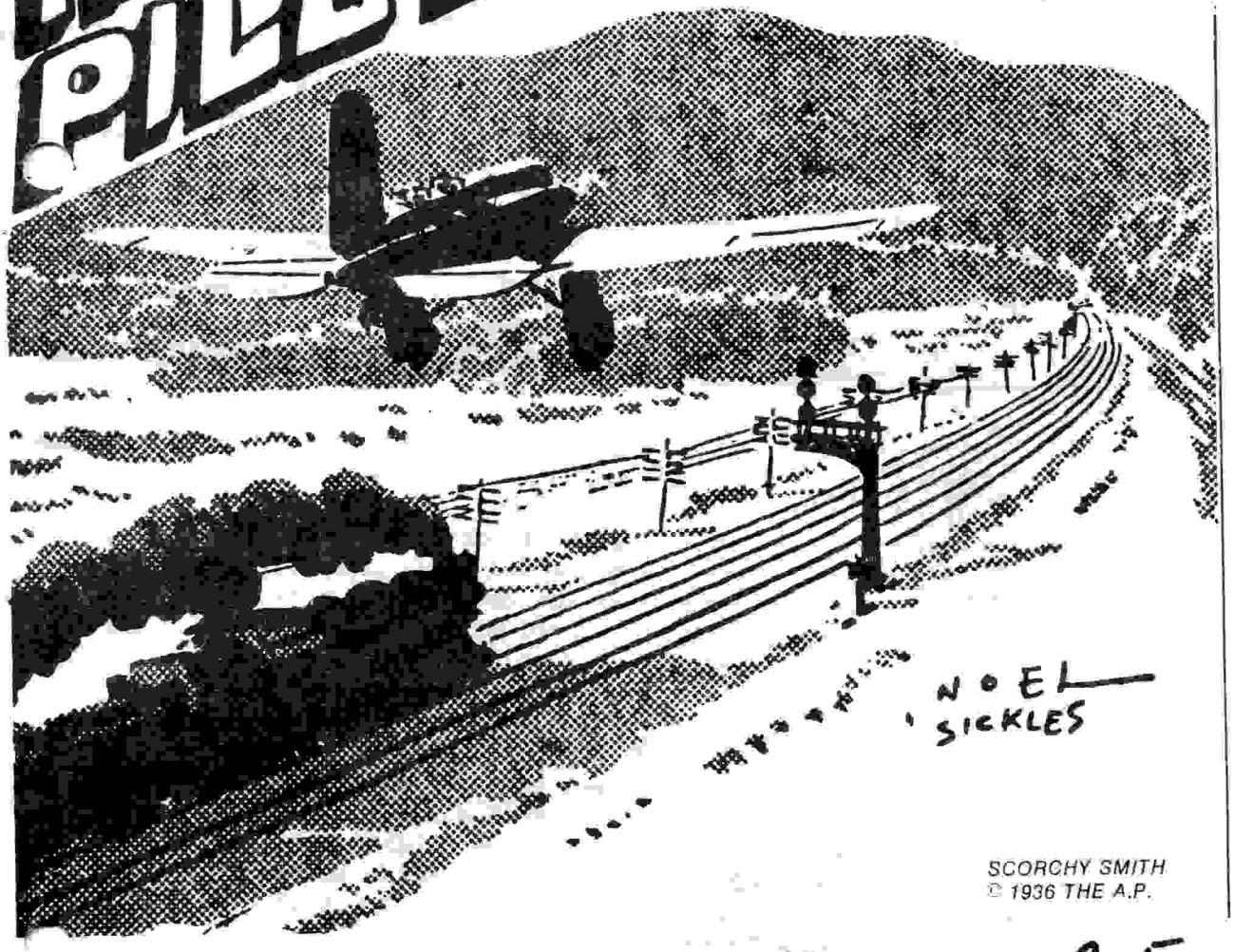
THE MIAMI INDOOR AIRCRAFT MODEL ASSN.

MIAMI

ISSUE 75

JAN. 82

Happy New Year



SCORCHY SMITH
© 1936 THE A.P.

NEXT MEET: JAN 10 9-5 OPA-LOCKA

FLY-IN: JAN. 17 9-5 MIAMI/DADE SOUTH

THE HANGAR PILOT

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Youth Activities:
Mike Arak, and Ernie Clark



ON MY VACATION, DADDY TOOK ME TO AN ALL-NIGHT SNART AT A PLACE CALLED FRENCH LICK.

PAUL McILRATH

MEET 3 DEC 6 — OPA-LOCKA

Ninteen peanut entries! The multiple entry idea seems to be very popular. As usual Millard wells had some new & sensational peanuts. A P-38 Lightning at 12 grams with both booms and the pod from hollowed out balsa blocks flew beautifully. A new Easy B record from Ft. Myers' Dick Obarski...did 12:58.5 and never touched the ceiling! Both Wells and Kiefer built their first Easy B, and Penny Plane models, and were quite turned on by them. Kelso had his best day in ten years of flying.. everything flew well and nothing broke.

"Roscoe Turner" Wells broke the 10 second barrier in Peanut Speed with a 9.1 second two lap run, from R.O.G.

Walt Everson came within a second of setting a peanut endurance record. His two flights totalled 2:51.1 (Fla. record 2:52 set May '75 by Martin with a Lacey) Walt's very light(4 gm) Taylorcraft had a plastic prop(!) and was powered with a 22 inch loop of .055 rubber into which he cranked 2600 turns ! It did 1:26.9,& 1:24.2

The entire Bal family were out with their gliders. Don's eliptic "70" is featured in this month's issue of Model Airplane News in Dave's VTO column. Earl Pressett kept peeling the wing of his Fokker D-8 after each successful flight.

RESULTS - MEET 3

DEC 6 - (2)
OPA-LOCKA

PEANUT EVENT:

1. 5 Pts. J.Martin (Ansaldo 30.5) 2 Static,3 Flite 91.8 (47.6)(44.2)
2. 6 Pts. D.Kiefer (Lacey 29.9) 4 Stat .,2 Fly 113.6 (53.4)(60.2)
3. 9 Pts. C.Hedley (Lacey 29.8) 5 Stat. ,4 Fly 90.7 (43.3)(47.4)
4. 9 Pts W.Everson(Taylorcraft 26) 8 Stat.,1 Fly 171.1(1:26.9(1;24.2)
5.14 Pts. M.Wells (PAMA)(27.6) 7 Stat., 7 Fly 76.6 (40.0)(36.6)
X 14 Pts. M.Wells (Mulligan 23.5)9 Stat.,5 Fly 90.5 (46.5)(44.0)
X 17 Pts. M.Wells (P-38 Twin 30.5)2 Stat.,15 Fly 28 (13)(15)
X 17 Pts. Everson (Waco SRE 28.0) 6 Stat., 11 Fly 43.1 (One flight)
X 18 Pts. M.Wells (Lark 24.5) 10 Stat.,8 Fly 58.5 (31)(27.5)
6.20 Pts. J.Stewart (Church 23) 11 Stat.,9 Fly 46 (22)(24)
X 22 Pts M.Wells (Voyager17.6) 16 Stat.,6 Fly 87.8(45.8)(42.0)
7.25 Pts. Bill Hiscock (BD-4 22) 13 Stat.,12 Fly 39.4(18.4)(21.0)
8.26 Pts D.Kelso (St.Louis 22) 13 Stat.,13 Fly 32.5(13.5)(19.0)
X 26 Pts D.Kelso (Found 19.5) 16 Stat.,10 Fly 45.7(21)(24.7)
X 28 Pts.D.Kelso(Ryan Brougham 21.5)14 Stat.,14 Fly (15)(14.2)
Did Not Fly: Martin 17-C 37.0, Arak Lacey 34.5
Add to above list in in 6th ~~XXXX~~ place with 16 Points:Dave Kiefers Triplane
FIRST JUNIOR: Carl Linstrum's Lacey proxy flown by Heather Arak(26)(37.8)

SCALE EVENT: 1.J.Martin Alco Sport 79 Static, 62.3 Av. 141.3
2.D.Kiefer Lacey 80 Static, 60.6 Av. 140.6
3.D.Kelso R.Brougham 65 Static, 15.5 Av. 80.0

Peanut Speed: 1.Millard Wells Andreason BA-7, 1 Stat.,1 Flight 9.1 sec.
2.D.Kiefer BD-4 , 3 Stat.,2 Fly 11.2 sec.
3.J.Martin Cessna A&W 2 Stat.,3 Fly 14.8 sec.

EASY B:1.Dick Obarski 12:58.5
2.Jim Stewart 9:24
3.W. Everson 7:05.6
4.C. Hedley 6:12.1
5.D.Kiefer 3:42.8
6.M.Wells 3:39
1st Jr.:Heather Arak 54.6

Penny Plane:1.W. Everson 7:23.4
2.C. Hedley 6:25
3.J. Stewart 5:41

Jr.Penny Plane:1.Carl Linstrum 2:01
2.Heather Arak :51

Manhattan:1. W. Everson 28.9

Old Timer ROG 1. J. Martin 2:19
JUNIOR 2.Heather Arak 34.8

Glider: 1.Don Bal (55.1)(53.5)
2. J.Stewart(31.4)(33.0)

Junior Glider:1.David Bal (22.6)(21.0)
2.Steve Bal (14.9)(12.4)
3.Heather Arak(4.0)(5.8)

WORLD PEANUT G.P. III
VIII NART INDOOR NATS
(WEST BADEN, IND)
PLAN YOUR VACATION JUNE 19 → 26 '82

(3)

FAST R.O.G.

BUILT AND DESCRIBED BY DAVID HOWELL,
DETROIT, MICHIGAN.

THIS husky and speedy little monoplane (Plan 39) is simple, yet really scientific.

Carve a five-inch propeller in the usual way and balance it over the blade of a knife to get both blades exactly the same weight. Push propeller shaft through a hole in the center, bend it over and give the whole hub a thin coat of ambroid. When dry, slip two washers on.

Glue the metal fittings to the motor stick, the thrust bearing in front, the can in the center, and the rear hook at the extreme end.

For landing gear bend a piece of wire in the center so it just fits motor stick. Cut the ends of the wire the same length, three and one-fourth inches, and bend small loops. The wire should then be bent so the loops will be three inches apart. The axle may be either a small piece of bamboo, or a wire three inches long. Put it through both loops, and push it through the center of the wheels. Glue the axle to both wheels securely. Wheels and axle should turn easily together. Make the rudder of bamboo, as shown in drawing. Put a drop of glue on the spot where the two ends of the frame come together. One of these ends must project out from the frame one-fourth of an inch, to be glued to the bottom of the motor stick later. With a small brush or match-stick paint one side of the frame with banana oil, and lay it down on a flat surface wet side up. Lay a piece of tissue, about two inches square, on top of that, and it will immediately stick and dry. Trim the extra tissue off with a sharp razor blade, and glue your finished rudder to the motor stick.

The stabilizer is made of either balsa or bamboo, $\frac{1}{32}$ inch square, 4 inches long. Cover it with tissue 4½ inches by 3. Coat the bottom of the motor stick, and part of the rudder, and let the tissue dry on there first. Then paint the cross-member and let the tissue dry on that. Trim the extra tissue off with a straight-edge and a razor blade.

The wing has a span of twelve inches; and a chord of two inches. It has positive rake tips, the most efficient and simplest

CONT. ON P.8

MATERIALS

5 inch block for propeller
8 inches by $\frac{1}{8}$ by $\frac{1}{16}$ motor stick
12 inches by $\frac{1}{2}$ by $\frac{1}{16}$ strip for wing
Bamboo
Ambroid
Banana oil
Japanese tissue
$\frac{1}{16}$ inch square rubber motor
Propeller shaft
Thrust bearing
Can
Washers
Rear hook
Wing clips
¾ inch balsa wheels
Small roll .015 wire

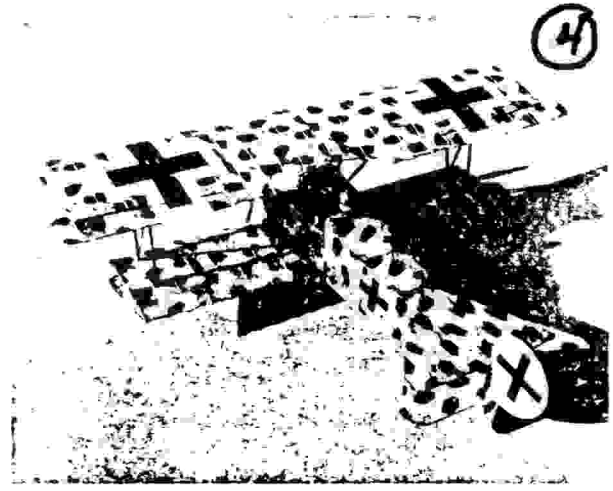
ANOTHER OF OUR SERIES OF OLD TIME ROG's FROM "PRIZE WINNER'S BOOK OF MODEL AIRPLANES" BY CARL CLAUDY 1930!

If you remember this one you are getting long in the tooth.

A "SAM" INDOOR FF

PAPER Flying Models PART 2

by Michael Hetherington



The Author's Fokker D6

PREPARATION OF PAPER

Use smooth paper, free from creases. Pads of A4 size I find most suitable, but if larger sheets are required, select and store with care. It is better to prepare and finish painting all the sheets required for the complete model, at one time.

Tape the individual sheets on to corrugated cardboard or similar, and clear dope well on both sides with dope thinned so that it soaks well into the paper. When thoroughly dry colour dash one side. I use aerosols of car spray, but one could use the paint/dope finish that works best for you. The finished weights for paper, shown in the Table, is for a good standard of finish, but remember, more paint, more weight, less flight performance. If coloured paper of the right quality can be found, this could be used, clear doped only.

DETAILING PANELS

As the developed panels for the various sections of the aircraft are cut out, virtually all the finished detail can be applied to them. Using a ball-point or pencil, lines can be scored on the inside face, which from the outside, realistically reproduces the effect of fabric over ribs and longerons. 'Rivets' can also be applied in a similar manner, by a series of dots along the straight edge. If you get carried away with this idea, you can make a useful gadget for rivetting, from a suitable brass gear wheel, filed to shape at the teeth, and fitted into a simple yoke so that it can be used like a rotating pen. On the finished painted side, lines can be scored and marked in, to simulate panel lines, ailerons and other details. For these marking operations, the paper panel should be laid on a resilient undersurface such as newspaper or cardboard to allow the marking to be effective. A little experimenting with the grade of paper you choose to use, will soon show how to obtain the best results. Lettering and additional details such as transfers can also be applied at this stage. Colour supplement magazines, leaflets and catalogues are a useful source of material, not just small areas of colour that can be cut out and used, but shading and markings which can represent louvres, oil coolers, radiators, footsteps and wing walks etc.

ADHESIVES

For glueing paper to a balsa framework, and for a paper to paper joint, I have found 'EVO-STIK' to be most suitable. This is used as a straight forward balsa cement would be used, and NOT by the recommended method of pre-coating and bringing the two surfaces together, when instant adhesion is obtained. You need to work quickly with it, particularly with larger panels, but it does allow you quite a few seconds to align joints and smooth down, before it starts to 'grab'. The rapid drying time helps as panels need to be held in position with the fingers until the adhesive has taken hold. 'EVO-STIK' should not be spread too thickly at panel edges as any surplus squeezed out, will react with the finish on the face of the adjoining panel. I also find it satisfactory, and of course, convenient, to use it as a balsa glue on wing and tailplane construction.

EVO-STIK IS ENGLISH CONTACT CEMENT
HETHERINGTON CEMETS BALSA TO BALSA WITH AMBROID.

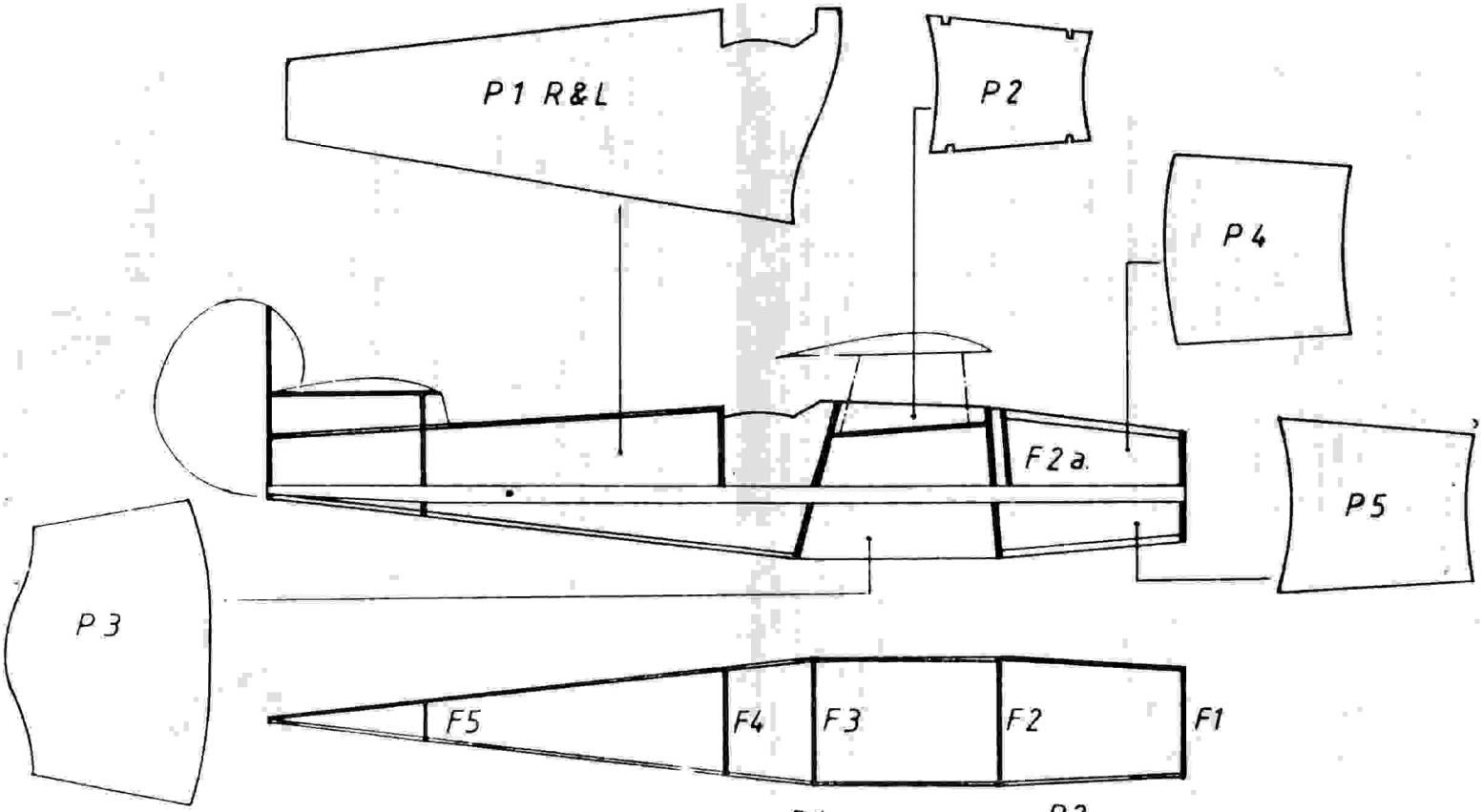
FORMING PANELS

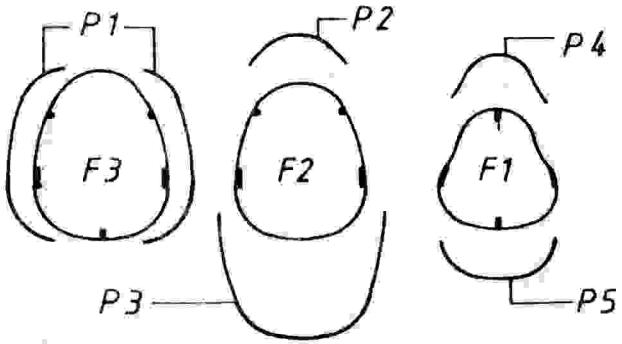
It helps considerably to pre-form panels to near the final shape, before applying to the fuselage or wing framework. For this I use a selection of various diameter dowels and rollers, though it is surprising what can be achieved with a round pencil, together with a piece of plastic foam about ½" - ¾" thick. The foam and the roller must be larger than the panel to be formed, which is placed (outside) face downwards on the foam. Slight pressure with a suitable roller will soon produce beautiful curves and shapes. A little practice will soon make you an expert.

FUSELAGE CONSTRUCTION

A basic fuselage frame consists of two main longerons running the full length of the fuselage and a number of formers positioned to follow the outline required. Lighter section stringers or formers are included to provide strength and mounting points, where tailplanes wings and undercarriages are located. From drawings of the actual aircraft subject, natural positions for locating formers and panel joints, present themselves. These are where a change in fuselage shape occurs and where there is an actual panel line in the design. Once the framework has been assembled, paper panels are developed, cut from pre-finished paper, and formed and glued in position. For ease of alignment I overlap panels slightly, and although the paper is quite thin, I work from the tail forwards.

A typical basic fuselage frame and panel shapes are shown on the 'STOSSER' drawing. Both the Peanut and the 34" version models use similar structure layouts, the additional strength required for the larger model, coming from the heavier paper grade used. Panel joints may be positioned vertically, as in the case of P1L and P1R, or horizontally as with P4 and P5. Sometimes the joint can be positioned elsewhere with advantage such as between P2 and P3 where a member for the parasol mounting is located. As a draughtsman by profession I am able to develop the shape of a panel on the drawing board, but this can easily be determined by using thick plain paper wrapped around the frame, held against the light and marked out with a ballpoint pen. The correct panel shape is then transferred to pre-finished paper. Sometimes intermediate formers are required to support the paper skin, such as with F4 which forms the rear of the cockpit. These formers must not interfere with the natural 'line' of the paper and must be checked with a strip of balsa used as a straight edge, before fitting the appropriate panel in place.





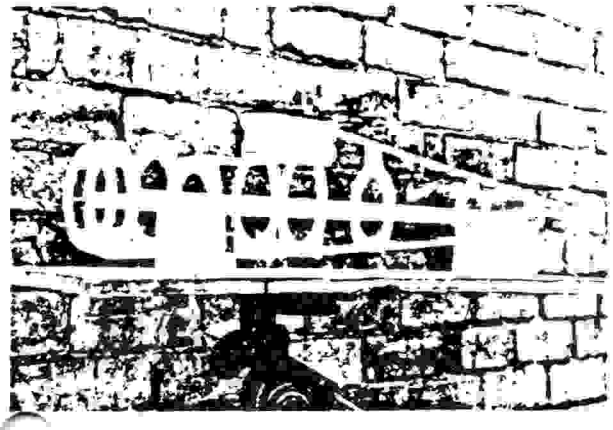
FW STÖSSER.

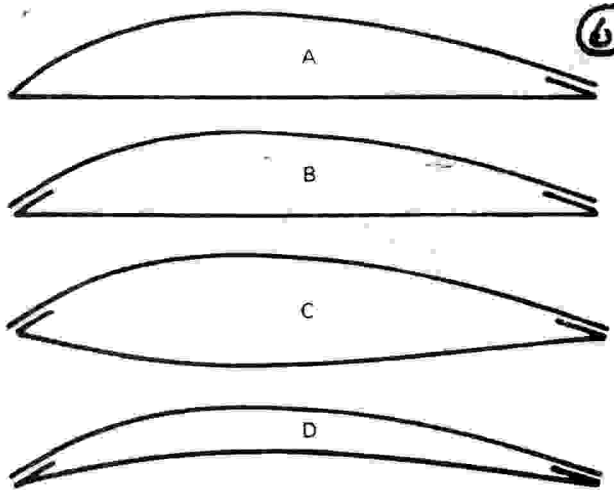
Basic fuselage frame.

Panel patterns.

5

Simple fuselage framework ready for applying paper panels. Jig to set formers square. Note paper strips around inside of formers.

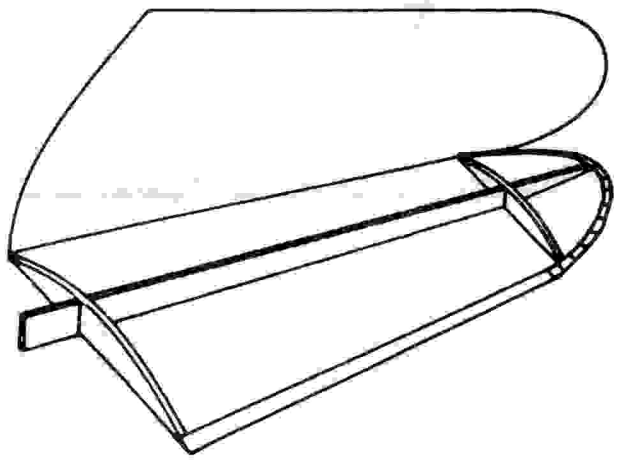




WING CONSTRUCTION

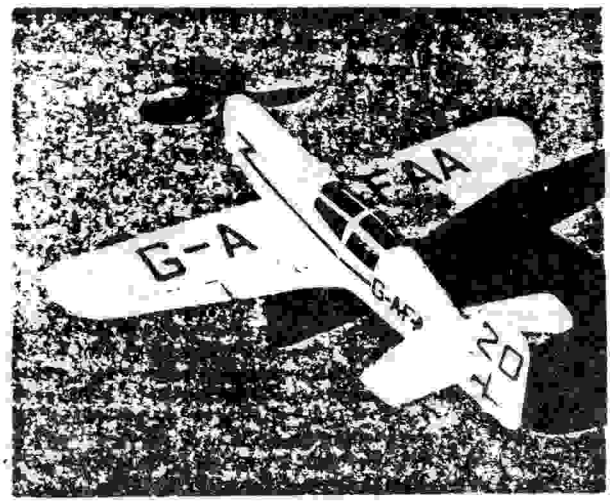
I find wings perhaps the most satisfying components of all, to make from paper. I have already referred to the precise, warp free construction that can be achieved, which together with accurate edges and wing sections, ensures a smooth consistent flight pattern.

A wing structure in its simplest form, consists of a single mainspar and several ribs. Unlike the fuselage framework which is built complete as a unit and then covered with panels, the components of the wing structure are assembled directly onto the bottom wing pattern. The Basic Wing Construction drawing will make this clear. This method is of particular help in building delicate and light wings for indoor models as the wing can be completely finished *before* it is removed from the building board or jig. Wing plan forms with a straight leading edge allow the wing patterns to be in one piece, creased or formed, along the L.E. as shown. When the wing structure is complete the top half pattern is glued down into position. Wing Section 'A' is this method of construction. Larger or more complex wing planforms, such as elliptical, require the wing patterns to be made in separate halves, as shown in Wing Section 'B'. Wings to both these designs can be built on a flat board. However Wing Sections 'C' and 'D' require simple card jigs to allow accurate assembly.

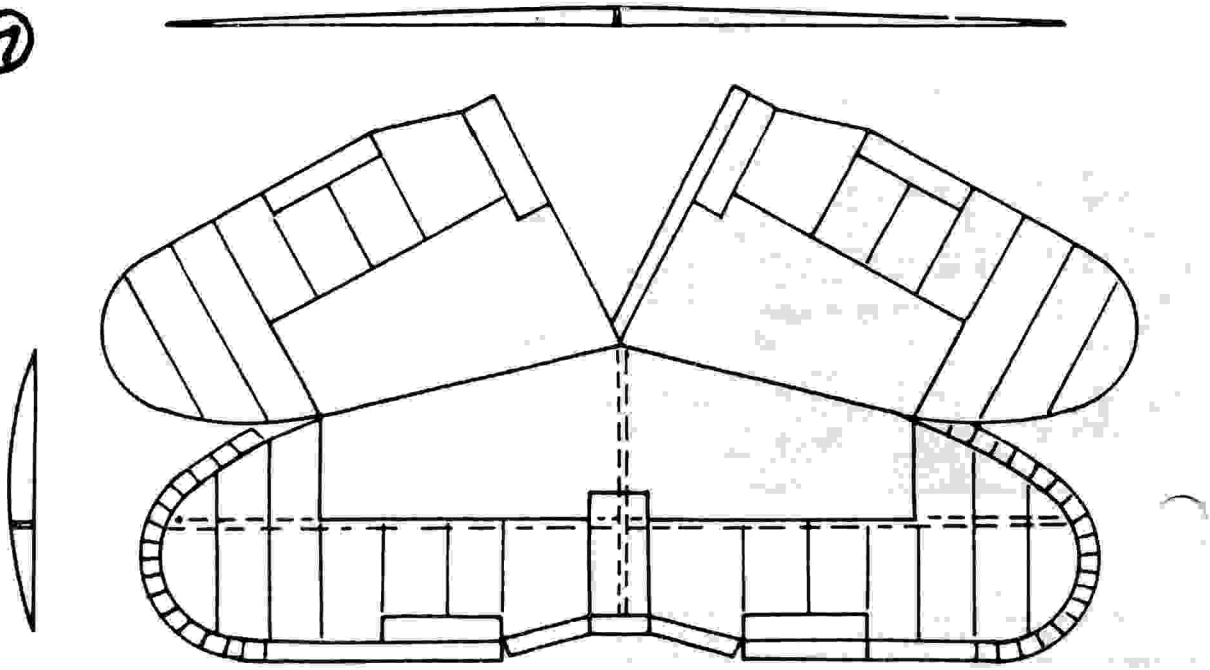


I use spars from 1/32" to 1/16" for small models and up to 1/8" for larger models. Ribs are from 1/32" to 1/16" in thickness. It is preferable with discretion, to use a lighter balsa of greater thickness as this presents a larger glueing 'face' between the structure and the paper. Remember the strength of paper wings is in the use of a full depth spar, firmly glued along its edges, to the paper covering.

The 'Mew Gull' wing pattern has a mainspar and 4 ribs positioned to allow undercarriage location and separate ailerons. The bottom wing pattern being a true plan of the wing to scale dimensions. The top half is increased across the chord, to allow for the curvature over the rib section. You can cut out ribs and roll e along the drawing to obtain the true length of a pattern. ice the glueing flange along the T.E. and tip outline. The drawing can be traced on to the inside face of pre-finished paper and cut out. On the outside face the lettering is traced and painted in and rib lines etc. are scored in as described. At this stage curvature can be rolled into the top half panel, and if separate ailerons are required these can be cut out for building up and re-insertion later. You might even try what Anthony Fokker did with his delightful plywood covered wooden wings, which was to build the wing complete with ailerons, and saw these out afterwards!



(7)



FW STÖSSER Tailplane pattern.

THESE PAPER ARTICLES APPEARED IN "MODEL FLYER", ENGLAND. MR HETHERINGTON IS A MIAMA MEMBER

TAILPLANE CONSTRUCTION

This is really a smaller version of the wing construction, but using a very simple basic structure. As the example of the 'STOSSER' tail pattern shows, these can invariably be made in one piece. In the Peanut version I use only a mainspar and one rib, and the larger 34" version has three ribs.

PROPELLERS

Paper propellers are a practical, if intriguing, proposition, and again can be considered as a small wing (which indeed they are). In order to obtain the helical twist in each blade, the paper pattern is made in separate halves. In fact the elliptical shape requires this to be so. The pattern for the top half is again larger across the blade width to allow for the curvature of the section, just as with a top wing pattern. The pattern for the bottom of the blade has a glueing flange all round the edge which must be cut through to allow it to be turned up and in to present a glueing face to the top blade pattern. A single spar from fairly hard wood is used with several ribs at suitable points. The spar and ribs are assembled on to the bottom pattern and then transferred, fairly smartly, on to a suitable former shaped to the helical twist required, such as the blade of a large plastic propeller, and then the top pattern is glued on as the whole assembly is smoothed down and shaped with the fingers to follow the former. The two half blades are joined together using the spar stubs and a simple jig to set the pitch, a paper spinner or boss is formed, and there you are. A 6" diameter propeller made in this manner, with a generous blade width from Grade 4 paper, and painted to a gloss finish weighs 1.5 grammes, considerably lighter than the plastic equivalent.

SUMMARY

The preceding article is not intended to be a detailed explanation of constructing paper flying models. The object has been to arouse the interest of the modeller in the technique sufficiently perhaps to attempt his own designs and experiments. The fascination for me is that each new model presents further ideas and improvements on ones previous worked. I am sure, therefore, that readers will soon develop even further the use of what is surely a neglected constructional medium for flying models.

In conclusion may I recommend a series of model card kits made by, Meta Model, P.O. Box 221, Batavia, N.Y. 14020. U.S.A. These model aeroplanes are not intended to fly, but for s' display only, and are printed in colour in book form for cutting and assembly. The detail of the shaping of the panels and how the form of the aircraft is obtained is very well explained. Making up one of these kits must be the nearest thing to panelling a full size 'plane. Superb drawing and design which will be of great assistance to the aeromodeller intent on designing his own 'Paper flying models'.

NEXT ISSUE we conclude this series with a 'paper' design by Mike for Model Flyer readers.

TERIALS
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tor stick
trip for wing

notor

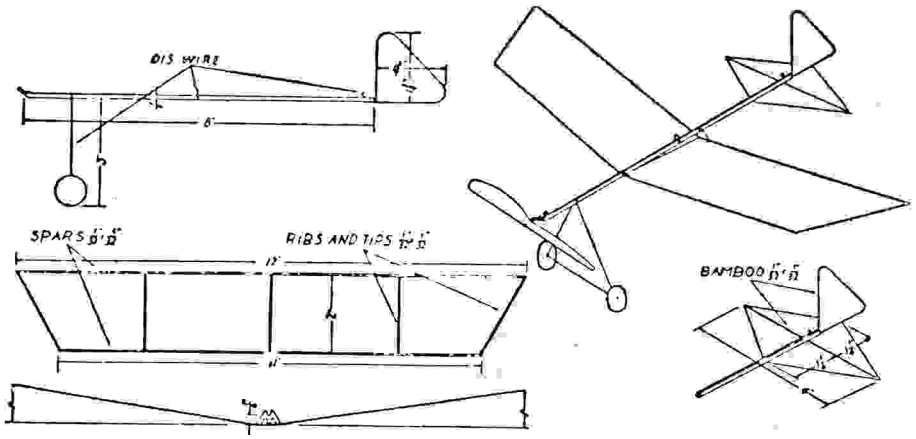
to make. Wing spars are split off a strip of balsa and sanded down to the size indicated in the drawings. With a pencil mark them in the middle and three inches out. Hold them over the spout of a boiling teakettle, and bend them in the center to form the dihedral angle. Glue the ribs and tips in on one-half of the wing first, allow to dry, and then glue the rib and tip on the other half.

If wing sticks to your working surface, run the razor blade between the glued joint and the surface. To cover the wing, paint the center wing with banana oil, and stick the paper to that. Then work out a section at a time. Don't stretch the paper, just smooth the wrinkles out. Trim the wing with a razor blade, and glue the wing clips on (see drawing) the short one in front.

Tie the rubber together and loop the knotted end over the rear hook, through the can and the opposite end over the propeller shaft. Pull the wing half-way between landing gear and tail. Look at your plane from the front; the right-hand wing half should have a little more incidence than the left. The rudder should be bent with the back to the right of the front.

Glide your model gently; if it dives, set wing forward; if it climbs and stalls, set the wing back.

Wind propeller until the rubber shows a row of knots. If the rudder is bent sharply, it will circle in a room. If wound tightly and the wing moved forward, it will loop-the-loop. If wound with an egg-beater winder, in a large place, it should fly fifty or one hundred seconds. I have flown this Baby R.O.G. for two hundred and fifteen seconds, a record at the time.



PLAN 39

⑨ P-NUT RULES ROUND-UP

Now that we have heard from many peanuteers in many parts of the world, (But not from YOU, as yet), the only sure agreement is on the 13 inch span rule. Actually the 9 inch overall lenght rule has been accepted all over the world also.

Butch Hadland WRITES that his new rules, that appeared in Issue 73, Hangar Pilot, have been tried in England and were well received in a field of 43 models. His mail from the USA is less enthusiastic. The West Coast still likes their simple Mooney "ranking" rules. In New England USA they still prefer the original Flying Aces rules. Butch says he personally favors the rules he used when Contest Director of World Grand Prix 1 and 2, but is looking for an acceptable world formula. The world Grand Prix rules are the MIAMA rules (AMA 59) with the addition of a workmanship multiplier, and points for "Judges Appreciation". This gives a total point value to the score, not just ranking points. Good judging is a MUST here due to the arbitrary nature of these considerations. Your judge may not "appreciate" all the extra work you did on your autogyro.

Jack Carter wrote a detailed and lengthy letter. By the way, Jack, we are all anxious to see your series of seven indoor models of graduated complexity. Jack likes AMA peanut rule 59 (MIAMA rules). The fact that a contestant can pre-judge about 80 per cent of his score appeals to him, and to many others.

FROM BILL: HANNAN



We circulated a copy of Butch Hadland's World Peanut rules proposal during the Flightmaster Annual, and had comments written on it by anyone who cared to. Sent it off to Butch, who may wish he hadn't asked! Sure is hard to get any three modelers to agree on anything. Ah well, at least we tried.

Perhaps the main thing is that everyone understand the rules, which in itself can be q ite an achievement.

Another possible proxy Peanut meet on the horizon. Friends in Australia are considering such a meet, to be sponsored by their "Airborne" magazine. More info later.

We're currently again fiddling with Autogiros. We have the non-scale ones going pretty well, but the scale jobs are a bit frustrating! Best regards, Bill

SOME FROM BOB CLEMENS:

Let's talk about peanut rules: Butch's new proposal, and your MIAMA Rules... This letter is my reply to your request in the Nov. Hangar Pilot for "a little mail (not input) on this."

(10)

A.) Hadland Peanut Proposal

Pro: Abolishment of bonus points; "stand-off" judging; unlimited number of flights; complexity scoring (take that, Fikes and Laceys!); average flight score cannot exceed static score.

Con: ROG requirement. Should be optional, with bonus points (10?) for those that do want to ROG. Ships with retract gear could be made with gear simulated in "up" position.

Flight/static max scores too low. Add 5 points to workmanship and complexity categories to give a 90 static/ 90 flight max.

Low and midwingers get too generous handicap factors. Midwings don't need any, actually; they are as easy to trim as a cabin job. Tripes and bipes need more help. Solution: Give 1.1 factor to low wingers; 1.2 to biplanes and triplanes.

Additional thoughts/questions: Do we really want to make peanut, under whatever rules, an F.A.I. event? If we must have an F.A.I. rubber scale event, why not open it to any size model up to 24" span?

B.) MIAMA Peanut Rules

I've the same feelings here re. the ROG requirement as above. Make it an option; allow "gear up" models as does FAC scale. ROG requirement restricts choice of subject unless you're willing to take a point beating by lengthening you landing gear. Why should retract types have to fly around with their gear down?

Rubber scale, either peanut or other kinds, has traditionally honored colored tissue as a bona fide method of showing the real airplane's colors. To get a top score with MIAMA rules, opaque finishes are required. This I object to. No one should be forced to buy an air brush; not everyone who is otherwise a good peanuteer is capable of using an air brush skillfully. I think the opaque score should be dropped.

Bob had more but we ran out of room. We will submit our world Grand Prix rules with the change making R.O.G. an option with a 10 point bonus. I hope Butch will also submit his rules with some changes. Either set of rules make for a very enjoyable meet permitting multiple entries, re-entries, unlimited flying, and proxy flying, none of which are permitted by AMA rules.

THE LATEST INDOOR NEWS INSIDE

THE HANGAR PILOT

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TO:

JIM MILLER
827 YORKHAVEN RD
CINCINNATI OH 45240

1ST CLASS
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COMING EVENTS

JAN 1,2+3 - KING ORANGE INTERNATIONAL
JACKSONVILLE FLA. CD JOHN PRIMENTEL 1914 43
BLAIR ROAD JACKSONVILLE, FL 32221 (THU 2-FRI EVENTS)

BLIMP HANGAR MEETS, OPA-LOCKA

SUNDAYS 9 T & S

Jan.	10
Feb.	14
Mar.	14
Apr.	11
May	9

MONTHLY FLY-INS MIAMI/DADE S.

SUNDAYS 9 T & S

Jan.	17
Feb.	21
Mar.	21
Apr.	18
May	16

AMA INDOOR NATS
JUNE 19 TO JUNE 26
III NART TIME TRIALS
WORLD 24 HR PENNUT GRAND PRIX III
WEST BADEN