THE HANGAR PILOT

STILL WITH US

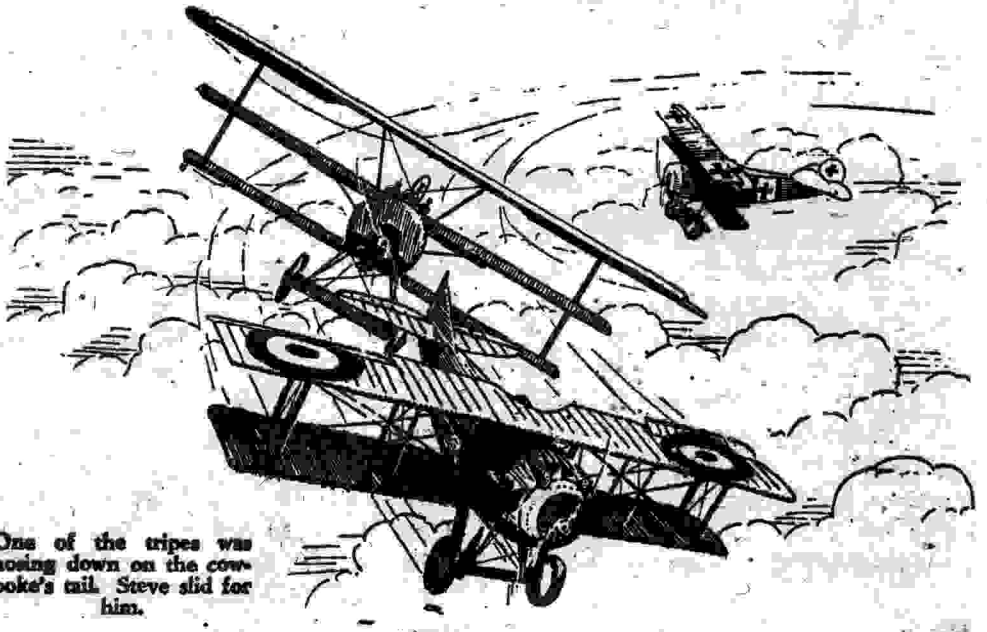
16TH YEAR OF PUBLICATION

- NEWS FROM ENGLAND

ISSUE 117
OCTOBER 1987

- INDOOR SEASON #17 OPENS - JOIN THE FUN
- MOONEY & MACE —
- TWO PISTACHIO PLANS
- HADLAND TRIM ADVICE

16 COVER FROM DARE-DEVIL ACES MARCH 1934



One of the tripes was nosing down on the cowpoke's tail. Steve slid for him.

FIRST M.I.A.M.A INDOOR MEET:

SAT + SUN OCT 17+18 9-5 CLEARWATER, ST PETE AIRPORT COAST GUARD STATION CAT II

CD TONY BECKER 813-634-8572

BIG M.I.A.M.A. AWARDS DINNER

SAT. NIGHT OCT 17 AFTER DAY 1.

"LIKE A LETTER FROM HOME" - WHELAN

(1)



THE HANGAR PILOT

Is published 8 (or 9) times a season for a bunch of middle aged guys who refuse to grow up. MIAMA (Miami Indoor Aircraft Model Association,) AMA Club 986, is the only active all indoor free flight club in AMA. Our Mottos: "It must be fun.", and "Indoor isn't for everyone." For $10.00 a year you will receive all copies. We solicit your contributions since we are always running out of material. Letters, plans, 3-views, articles, gripes, and Money to: Dr. John Martin Pres./Editor. 2180 Tigertail Ave. Miami, Fla. 33133 USA Phone: 305-858-6363 We want to hear from you!!! Send material!!!

PROSPECTIVE FLYING SITES: WOULD SOME ONE CHECK OUT THE NEW DAVIE RODEO ARENA LOCATED JUST BEHIND CITY HALL? SOUNDS PROMISING - LET HANGAR PILOT KNOW!

1ST INDOOR MEET

OCT 17 + 18 9 TO 5 SEASON 17 OPENER

BRING YOUR AMA CARD 

EVENTS: FAC SCALE, AMA PEANUT, EZB, PENNY, INDOOR EMBRYO (10gm), BOSTONIAN (7gm), FEDERATION ROG (3.1gm)

FAC MASS LAUNCH EVENT - WWI SAT 5 P.M.

TO GET THERE: CLEARWATER - ST. PETE AIRPORT ROUTE I-4 TAMPA BECOMES ROUTE 275. GO WEST AND AT END OF HOWARD FRANKLYN BRIDGE TURN RIGHT ON ULMERTON ROAD. RIGHT ON 686 ROOSEVELT BLVD. GO PAST AIRPORT + GO RIGHT AT TRAFFIC LIGHT. IN 400 YARDS RIGHT AGAIN + CHECK IN AT GATE-USCG

PLAN ON ATTENDING BANQUET SAT. NITE

(2)

THIS ARTICLE, REPRINTED FROM ENGLANDS SAM 35 YEARBOOK #4, GIVES THE INDOOR SCALE MODELER A LOT OF GOOD ADVICE. BY BUTCH HADLAND

AS we all know, small FF scale jobs can be tricky little beasts to fly. So, since many vintage designs fall into this category, we asked indoors ace BUTCH HADLAND to pass on a few of his secrets. Our advice: Read, mark, learn, inwardly digest - and then beat the minute at Crawley!

INDOOR TRIM

MY indoor flying scale models have been very successful in the past, mainly due I think, to my previous freeflight duration experience. Other contributory factors are flying competitively in the United States, membership of the Flying Aces Club, and letters to and fro across the "pond" to my bosum pal Doc Martin of the Miami Indoor Modelers Association. Of course, watching and listening to other scale modellers is also a superb passtime for furthering one's information and experience libraries.

I should stress that the following is my way of trimming and flying. You may have other ideas, but I can guarantee that my way will get your models flying satisfactorily, and that's what it's all about.

The main difference between indoor and outdoor flying is that indoor we don't glide! The whole flight is "power on", although towards the end of the flight the propeller is in a "no-man's land" condition; that is to say that thrust and drag just about cancel each other out, so a "powered glide" may be the correct phraseology. Another factor to be considered is that in calm indoor conditions the model does not become unstabilised by changes in air speed, as can happen outdoors with gusts and general turbulence, so that generally a scale-sized stab will suffice. To overcome the small stab syndrome I usually locate my C.G.s far further forward than usual. This effectively lengthens the tail moment and makes the stab more effective. I use this technique on all my models, both rubber and CO-2 and have found it to be safe and pretty-well foolproof.

My high-wing types (rubber) are flown either left or right depending on the type of competition entered! If the model is to be judged for "SMAE flight" then I fly right. This involves a straight take-off, and as the torque dies off, the model settles into a right-hand cruise and eventual descent. The model's trim is as follows:

1. Slight wash-in (1 deg.),right-hand wingtip.
2. 2 - 3 deg. downthrust.
3. Right rudder, 2 - 3 deg.
4. Slight up-elevator to counter (6).
5. Corresponding wash-out, left-hand wingtip.
6. C.G. position approximately 10 - 15% from L.E.

Incidentally, most of my models are built with separate elevators and rudders. The weight penalty is negligable, but the control that can be effected on the mod-

NEXT PAGE

(3)

is immeasurable. I don't like Sellotape or masking tape trim tabs.

Flying high-wing models left is very exciting. Take-off is usually followed by a very tight left-hand turn, gradually widening out until the model assumes circles of wall-banging proportions: OK outdoors, but frowned upon indoors.

High-wing rubber: F L Y S A F E, F L Y R I G H T!

My low-wing rubber ships, on the other hand, always fly left. Flying right against the torque is suicidal and should be avoided at all costs. My current stable of low-wingers includes a Heinkel HE 100 V8 (the 1939 world speed record holder), a Mew Gull, and Howard Hughes's H.1. in short-wing configuration. All utilise the same trim and all fly really well (all are Peanuts). The set-up is:

1. 1/8in. - 3/16in. wash-in, left-hand wingtip.
2. 1.16in - 1/8in. wash-out, right-hand wingtip.
3. 2 - 3 deg. left rudder.
4. Forward C.G. (10 - 12%).
5. Up elevator (1.16in. - 3/32in.).
6. 3/32in. - 1/8in. downthrust.
7. Some models may need 1 deg. left thrust.

If you examine the above you will see that virtually every "tweak" works in opposition, resulting in a constant diameter left circle under full power, and approxiamately the same diameter circle under cruise and approach conditions. Very safe and predictable. Using this trim is for power-on complete flight only. If your motor becomes non-productive at altitude (above ground!), then your model will spiral to the right, coupled with deep stalls. I cannot comment on low-wing CO-2 as yet because I haven't built one. However, high -wing and bipes I have.

Always turn left with CO-2. Trying to fly right, fighting all that torque from a relatively high-pitched prop, is a tremendous waste of energy. I still use the forward C.G. coupled with up-elevator configuration on CO-2, once again because it is so safe. This set-up was discovered accidentally when I built a Sig. Mr. Mulligan with standard Telco power. What used to be a fairly willowy flight pattern was transformed after the model hit the wall. The CO-2 bottle on board moved forward about two inches due to the impact and was (of course!) innacessible. To offset this change in C.G. - now about 10% - the elevators were adjusted up about 1/8in., and the model flew great, indoors or out. It has now worn out two Telcos, and is flying as well as ever.

As there is no power burst with CO-2, trimming is less tricky than with rubber models, but unfortunately nearly every charge differs, changing power and weight. However, my models seem to cope with these changes, and provided that you gas cylinder is on or near the C.G., no significant flight changes should occur. My high-wing CO-2 models have the following trim:

1. Slight wash-in, left-hand wing.
2. Slight wash-out, right-hand wing.
3. Forward C.G., 10 - 15%.
4. Up elevator to counteract (3).
5. 2 deg. right thrust - to counteract torque.
6. 1 - 2 deg. downthrust.
7. Straight, or slightly left rudder.

This trim gives constant diameter left-hand circles on power and "flight idle".

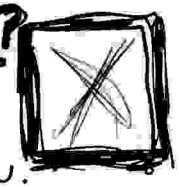
CO-2 rubber biplanes are trimmed in a similar fashion except that wash-in and

CONT. ON P(17)



HEY, PILOTS ④

IS THERE AN 'X' IN THIS BOX?



IF THERE IS IT IS MIAMA RENEWAL TIME FOR THE NEXT SEASON.
SEND YOUR $ 10.00 TO 2180 TIGERTAIL AVE, MIAMI, FLA 33133
ALSO SEND IN YOUR COMMENTS, IMPROVEMENT SUGGESTIONS, 3-VIEWS, PLANS, ETC. THIS IS YOUR PUBLICATION!

RULES FOR OUR MIAMA EVENTS - INDOOR SEASON 17

THE "CORRENT" BOSTONIAN RULES - MIAMA

TRY ONE! INDOOR ★

1) Maximum projected wingspan(s) 16".
2) Maximum wing chord(s) 3".
3) Maximum propeller diameter 6".
4) Power limited to one or more rubber motors.
5) Minimum weight, without rubber motor (s) is { MONO PL. 7 GM / BIPE. 10 GM
6) Maximum overall length is 14" measured from front of prop bearing.
7) Fuselage must contain a theoretical 'box' measuring 1-1/2" x 2-1/2" x 3" or larger, the longerons of which must both support the motor(s) and form, or exceed, the box requirement. No motor stick allowed. Fuselage must have a forward windshield and a window on each side, each of which must equal or exceed 1" square area.
8) Landing Gear must be fixed, with two or more min. diam. 3/4" wheels, and rigid enough to successfully support the model to a hand-glided landing.
9) HOG take-offs are required on all official flights.
10) Charisma Factor: The judge rates each model depending on how the model appeals to <u>him</u>, based on construction neatness, scale-like details, uniqueness of design, etc. A 1.00 to 1.10 rating is used. Two or more models may be given the same rating. The models are <u>not</u> rated against each other, but against the 1.00 to 1.10 scale.
11) An unlimited number of official flights are allowed, with the total in full seconds of the best 1 multiplied by the Charisma Factor.

PENNY, EZB, MANHATTAN, PEANUT ARE ALL IN AMA RULE BOOK

FEDERATION AOG - SEE P. ⑥

FAC SCALE: ANY SCALE MODEL LARGER THAN 13" WITH A 3-VIEW + PHOTO

PISTACHIO - SIMILAR TO AMA P-NUT WITH FOLLOWING CHANGES: SPAN 8" OR OVERALL LENGTH 6" SINGLE COVERED SURFACES O.K. ALL FLIGHTS HAND LAUNCHED

MODEL OF A MODEL: PISTACHIO SIZE MODEL OF ANY OUTDOOR FUSELAGE MODEL,

PEANUT RULE AMA 51(B)

INDOOR EMBRYO: 10 gm. all R.O.G.

1. NOT OVER 50 in² WING AREA FOR MONOPLANES, OR 70 in² FOR BIPE. 45 in² MAX FOR BIG WING. STAB. NOT TO EXCEED 50% OF WING AREA.
2. FUSELAGE TO ENCLOSE A BOX 1¼ X 1½ X 3 OR LARGER. 3. WING & TAIL BUILT UP & COVERED BOTH SIDES WITH JAP TISSUE. RUBBER POWER NO FOLDERS.
4. L-G. HAS 3/4" OR LARGER WHEELS. 4 ATTEMPTS FOR 3 OFFICIAL FLIGHTS - TOTAL OF 3 FLIGHTS COUNT. BONUS POINTS - RAISED CABIN OR WINDSCREEN & HEADREST - 5 PTS. WHEEL PANTS 3 PTS. EXHAUST PIPES - 1 PT.

(5) WALT MOONEY'S LATEST CONTRIBUTION:- THANKS, WALT!

THE THIRTY-SIX PLANS IN THIS BAG OF NUTS, 'NUMBER 6', ARE NOT PEANUT SCALE, BUT HAVE BEEN REDUCED TO PISTACHIO SCALE SIZE, (8 INCH WING SPAN). THEY WERE SELECTED BECAUSE WALT MOONEY LIKED THEM THE BEST OUT OF SEVERAL HUNDRED OF HIS RUBBER SCALE DESIGNS.

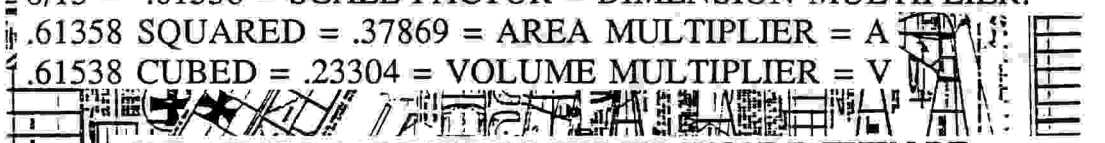


WHERE THERE ARE DIMENSIONS, PLEASE RECOGNIZE THAT, THE ACTUAL SIZES OF THE COMPONENTS ARE 8/13TH AS LARGE AS CALLED OUT. WHERE SHEET SIZE IS CALLED OUT AS ONE SIXTEENTH, USE ONE TWENTIETH OR ONE THIRTY-SECOND SHEET BALSA. SUBSTITUTE ONE TWENTIETH SQUARE FOR ONE SIXTEENTH SQUARE, ETC. WHEEL AND PROPELLER DIAMETERS SHOULD MATCH WHAT IS SHOWN ON THE PLANS. USE THE LIGHTEST WEIGHT TISSUE, OR CONDENSER PAPER FOR COVERING. USE VERY THIN TRANSPARENT PLASTIC FOR THE WINDOWS AND WINDSHIELDS. DON'T OVERDO PAINTING OR DOPING YOUR MODEL.



IF ALL THE STRUCTURE ON THE MODEL AND THE COVERING COULD BE SCALED DOWN, THE MODEL WEIGHT WOULD GO DOWN BY THE CUBE OF THE SCALE FACTOR WHILE THE SURFACE AREAS WOULF DECREASE BY ITS SQUARE AND WING LOADINGS WOULD DECREASE. FOR INSTANCE:

8/13 = .61538 = SCALE FACTOR = DIMENSION MULTIPLIER.
.61358 SQUARED = .37869 = AREA MULTIPLIER = A
.61538 CUBED = .23304 = VOLUME MULTIPLIER = V



THE WING LOADING MULTIPLIER WOULD THEN BE V/A = .61538 AND THE WING LOADING WOULD TURN OUT TO BE LESS THAN TWO THIRDS OF THE ORIGINAL PEANUT'S. SUCH A MODEL WOULD BE CAPABLE OF LONGER FLIGHTS THAN ITS PEANUT SCALE PREDECESSOR. UNFORTUNATELY THINGS LIKE TISSUE PAPER WILL ONLY DECREASE IN WEIGHT BY THE AREA MULTIPLIER. EVEN SO, THESE MODELS HAVE THE POTENTIAL FOR LONG DURATION FLIGHTS, AND THEY'LL FLY SAFELY IN SMALLER INDOOR SITES.

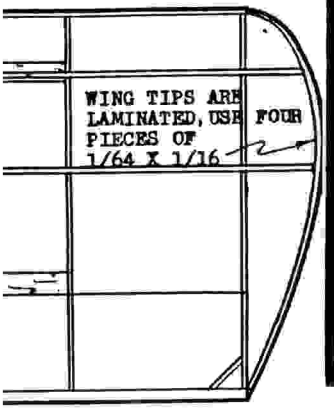
BAG # 6

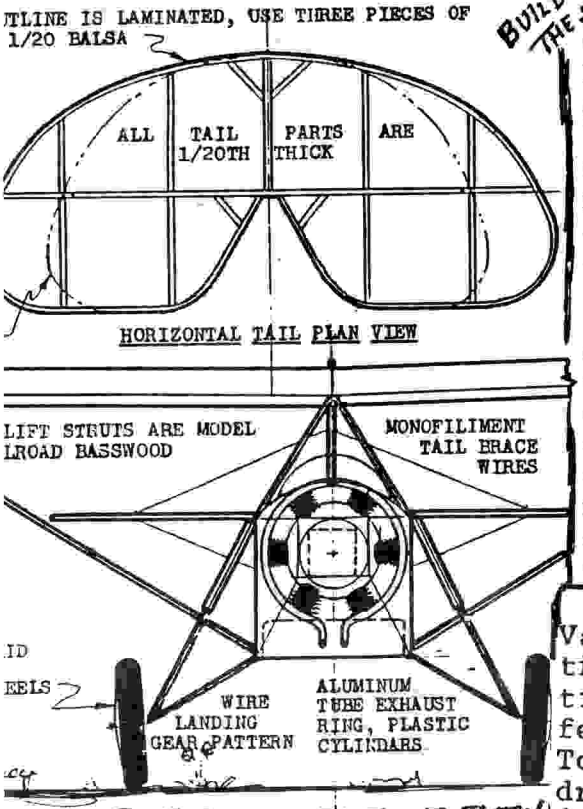
(6)

THIRTY-SIX OF WALT MOONEY'S FAVORITE PEANUT SCALES REDUCED TO EIGHT INCH WING SPAN ********** $ 5.00 POST PAID

What a great buy! Doc - SEMPER PISTACHIO!

WALT MOONEY P.O. BOX 231192 SAN DIEGO, CALIF. 92123 *** FIRST FIVE PEANUT SCALE BAGS STILL AVAILABLE AT $ 5.00 EACH.





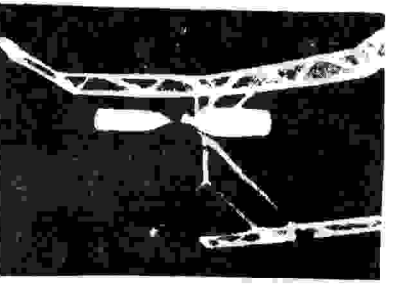
TAKE OFF A COUPLE OF EVENINGS, DRAW UP AND BUILD A FEDERATION ROG + ENTER IT ON OCT 17 OR 18... FUN!

BUILD THE FEDERATION PLASTIC PROP, PENNY ROG

Here it is...the new MIAMA event... good for Juniors, Seniors, Open members, experts, and novices. It is the plastic prop penny ROG event. The rules are as follows

[MAYBE A SMALL PHANTOM FLASH?]

(I) Rubber power.
(2) All flights ROG
(3) Weight, without rubber, 3.1 gm.
(4)PROP- 1 piece molded plastic 6" diameter or less. Bushing OK. Sanding thinner OK. NOcut outs.
(5) Projected area: 30 in. Sq. or less.
(6)Stab area: 50% or less of wing Area.
(6) Landing gear: 2 wheels and support model.. 1/2" diam or more..turn free. subject to gear and wheel test.
(7) Any type covering OK.

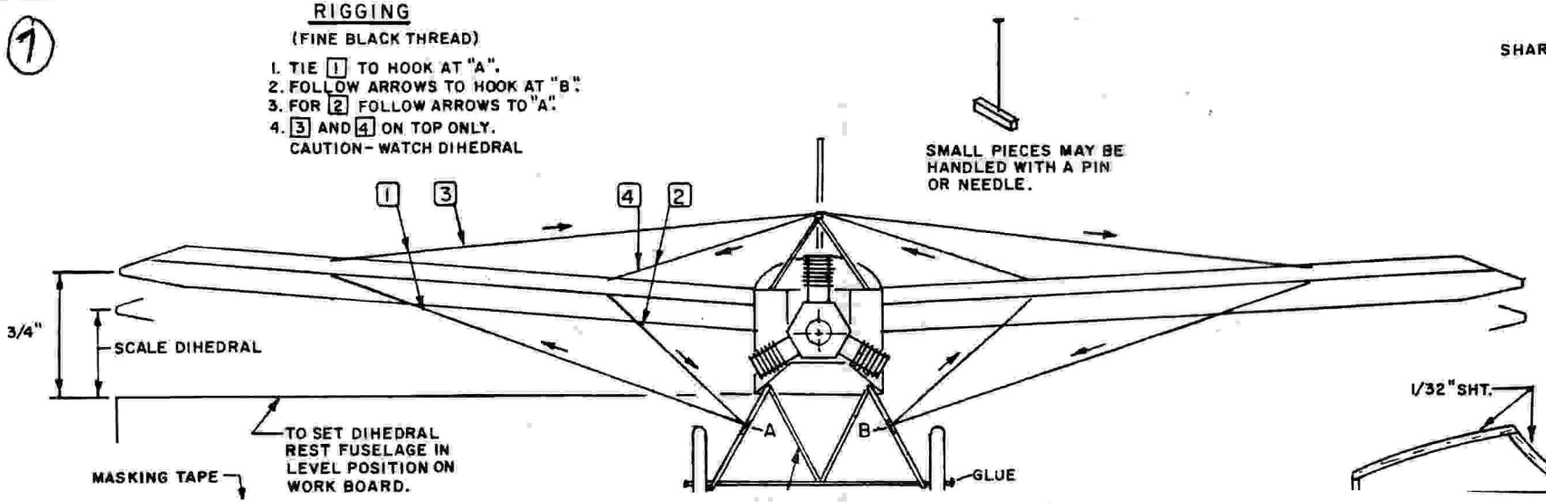


The Delaware Valley Federation's "Federation ROG" was featured in Tony D'Alessandro's article in the May '87 issue of MODEL AVIATION with full rules, plus plans and details for Tony's "Skinny Minnie". Don't miss it.

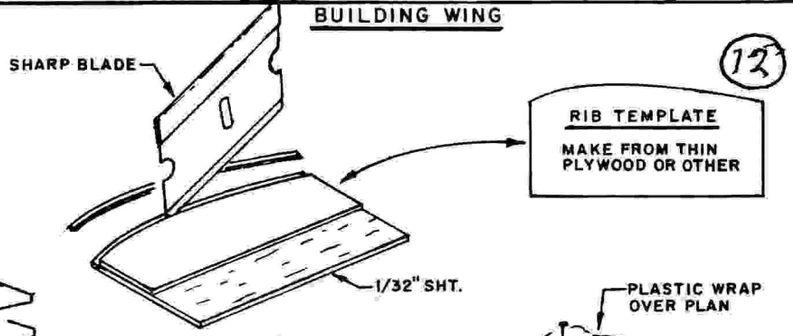
RIGGING

(FINE BLACK THREAD)

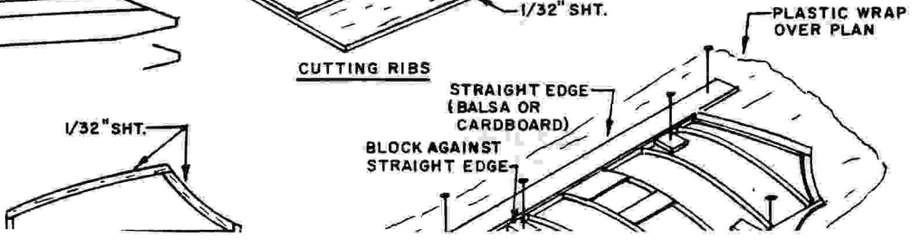
1. TIE 1 TO HOOK AT "A".
2. FOLLOW ARROWS TO HOOK AT "B".
3. FOR 2 FOLLOW ARROWS TO "A".
4. 3 AND 4 ON TOP ONLY.
   CAUTION- WATCH DIHEDRAL



BUILDING WING



CUTTING RIBS



THE ABOVE PLAN GOES WITH THE REST IN THE CENTER PAGES TO MAKE UP ANOTHER FINE SHIP BY DON MACE. HE'S SURE THOROUGH ISN'T HE, PILOTS? THANKS LOADS, DON! HE HAS A GREAT PLAN FOR A 24" STICK MODEL THAT IS JUST PERFECT FOR BEGINNERS - THE P-24 "CONDOR."

"DEAR DOC":

ANOTHER TIP FROM BURR STANTON

Just finished shaping in a Pistachio Contester noseblock in HARD balsa (needed the weight up front) with one of a set of sanding sticks and it was so slick, I thought I'd write you about it.

They came from Brownells Inc. a gunsmith supply house (don't know if you knew that was the origin of my "Five Corners Sports"—gunsmithing) but I'll guarantee that any modeler that doesn't have their current catalogue handy in his shop is handicapping himself to the extent of doing a lot of jobs the hard way. Their catalogue is full of little items to make the modeler's life easier. They call these "Polishing Sticks" and they come in a set of three different grits. Each has a belt that you rotate as the grit wears down.

Brownells is in the same town as the other modeling biggy: Montezuma, Iowa also is home to SIG! Three bucks gets their 166 page catalogue and a whole bunch of ideas.

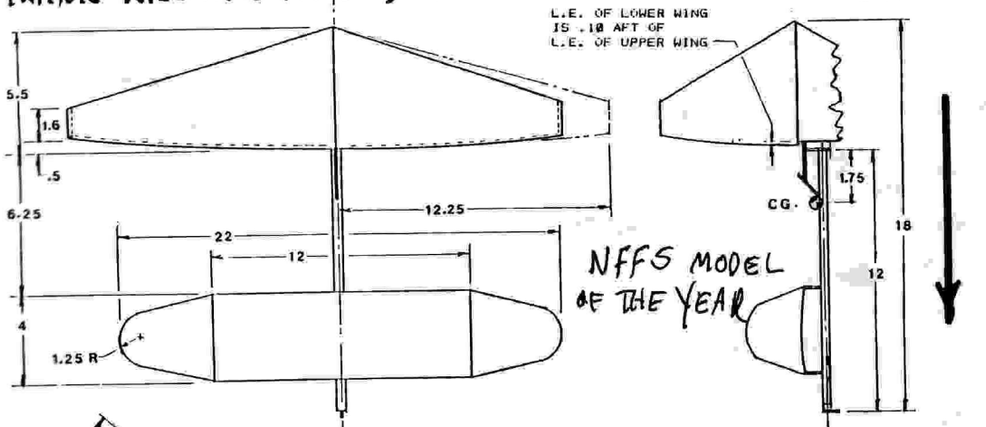
Yours,

Burr

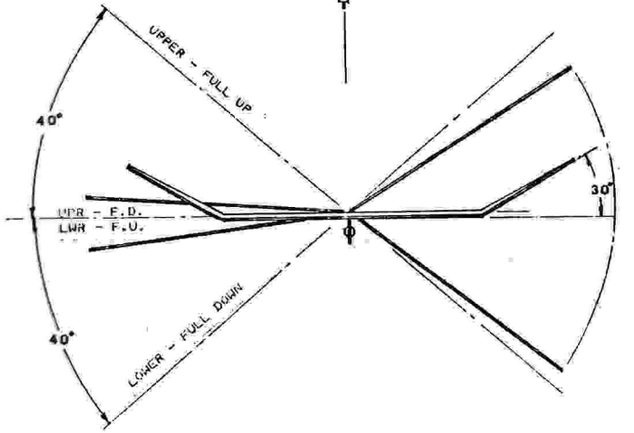
Burr Stanton

Write: Brownells
Montezuma, IA 50171

FRANK KIESER'S RECORD ORNITHOPTER - FANCY GIRL III



NFFS MODEL OF THE YEAR



FANCY GIRL III

CANARD PUSHER ORNITHOPTER
BY FRANK KIESER

WING AREAS (SQ IN):	
UPPER WING FLAPPING	87.2
LOWER WING FLAPPING	82.6
TOTAL WING FLAPPING	169.8
TOTAL WING FIXED	0
PROJECTED FLAPPING 169.8 X COS 20°	159.6
STABILIZER AREA (SQ IN)	77.3
STAB./PROJ. FLAPPING (%)	48.5

WEIGHT - 1.31 GRAMS
POWER - 18 IN LOOP PIRELLI - 1.19 GM
COVERING - HARLAN "ULTRAFILM"
NOTE - ALL WING AND STAB. DIMENSIONS ARE FLAT PATERN
BEST TIME - 8 MIN. 28 SEC. (CAT III)
ROTUNDA OF COLUMBIA UNIV. LIBRARY
APRIL 19, 1987

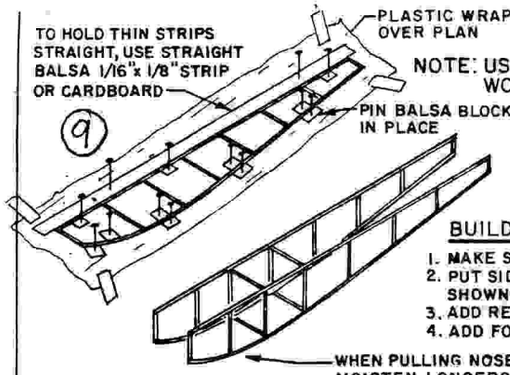
MIAMA ANNUAL BANQUET®

SAT OCT. 17 LAS FONTANAS RESTAURANT NEAR CLEARWATER - ST. PETE AIRPORT - AFTER MEET I - COCKTAILS 6:30, DINNER 7:30 AWARDS & SPEAKER - 8:30. IF YOUR NAME IS TUDOR, MACENTEE, LEFFLER, MARTIN, WELLS, BECKER, OBARSKI, BERTON, ANDREWS, CRISS, KIESER, BEITZ, NAT MILLER, ALLISON, PEPPIATT, SLATER, OR SMITH YOU OUGHT TO BE THERE FOR YOUR AWARD & ALL OTHER HANGAR PILOTS JUST TO BE SOCIABLE. WE HAVE OUR OWN ROOM & HAVE TO MEET A GUARANTEE. CALL 305-858-6363 TO CONFIRM YOU'RE COMING.

THE YEAR AHEAD LOOKS GOOD FOR INDOOR ALTHOUGH NOT TOO MUCH IS FIRM YET. THE "PILOT" HAS A LOT OF ORIGINAL ARTICLES TO BE PUBLISHED. LOCALLY WE HAVE A NEW & EXCELLENT CAT I SITE & MILLARD WELLS WILL HAVE AN ROW MEET THIS SPRING. PLANS FOR A SUCCESSFUL ROW WILL BE PUBLISHED LATER. THE JAN 3 & 4 MEET AT THE FINE DELTA HANGAR (CD DICK OBARSKI) IS CONFIRMED, JUNE 3,4,& 5 IS FIRM FOR THE NFFS U.S. INDOOR CHAMPS. AT THE ALREADY FAMOUS MINI-DOME IN TENN. CHECK THE BACK PAGE FOR INDOOR & OUTDOOR EVENTS

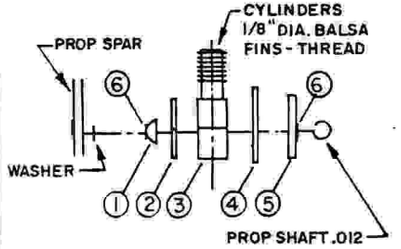
ARAK WINS BELGIAN PISTACHIO!

NOW TO THE MIAMA INTER-GNATS, THE FLEMALLE MEET IS THE BIGGEST PISTACHIO EVENT — ARAK 1ST, WELLS 3RD & 6TH, HANNAN 10TH & DOC 11TH. SEMPER PISTACHIO! BIG FIELD!



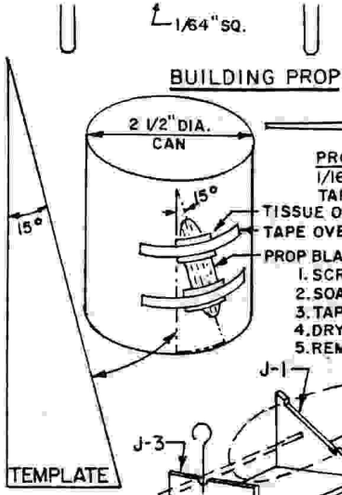
BUILDING FUSELAGE

1. MAKE SIDES AS SHOWN.
2. PUT SIDES TOGETHER AS SHOWN & LET DRY.
3. ADD REST OF CROSS MEMBERS.
4. ADD FORMERS & STRINGERS.



NOSE BLOCK

1. ROUND BALSA (GLUE TO 2)
2. 1/32" SHT. BALSA (GLUE TO 3) (USE ENGINE FRONT VIEW PATTERN)
3. BALSA BLOCK (GLUE TO 4) (SAME PATTERN AS 2)
4. 1/32" SHT. BALSA (GLUE TO 5) (FIT FLUSH TO FRONT OF FUSELAGE)
5. 1/16" SHT. BALSA (NOT GLUED TO FUSELAGE) (FIT SNUG INSIDE NOSE)
6. WASHERS (GLUE IN PLACE)



BUILDING PROP

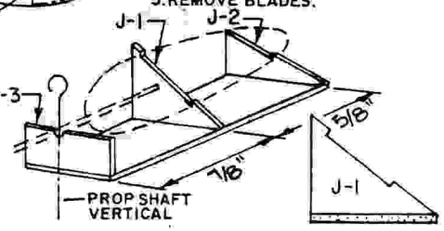
PROP SPAR - MAKE FROM 1/16" SQ., SAND ROUND & TAPER TO 1/64"

TISSUE OVER BLADE

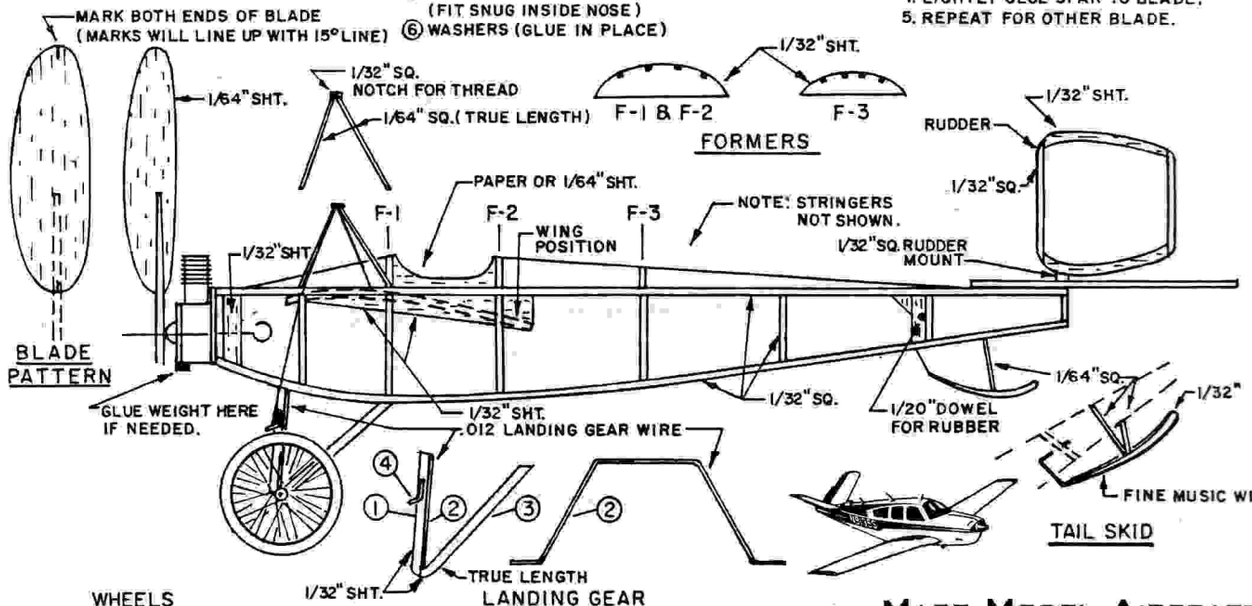
TAPE OVER TISSUE.

PROP BLADES

1. SCRATCH 15° LINE ON CAN.
2. SOAK BLADES IN HOT WATER.
3. TAPE BLADES TO CAN.
4. DRY IN SUN OR OVEN (20 MIN. AT 250°)
5. REMOVE BLADES.



1. MAKE PROP JIG FROM 1/16" SHT.
2. CUT J-2 AND J-3 TO FIT.
3. PLACE BLADE IN JIG.
4. LIGHTLY GLUE SPAR TO BLADE.
5. REPEAT FOR OTHER BLADE.



WHEELS

1. MAKE FROM 1/16" SHT.,
2. PAINT TIRES BLACK.
3. SPOKES CAN BE DRAWN ON LIGHT PAPER AND GLUED TO WHEELS.

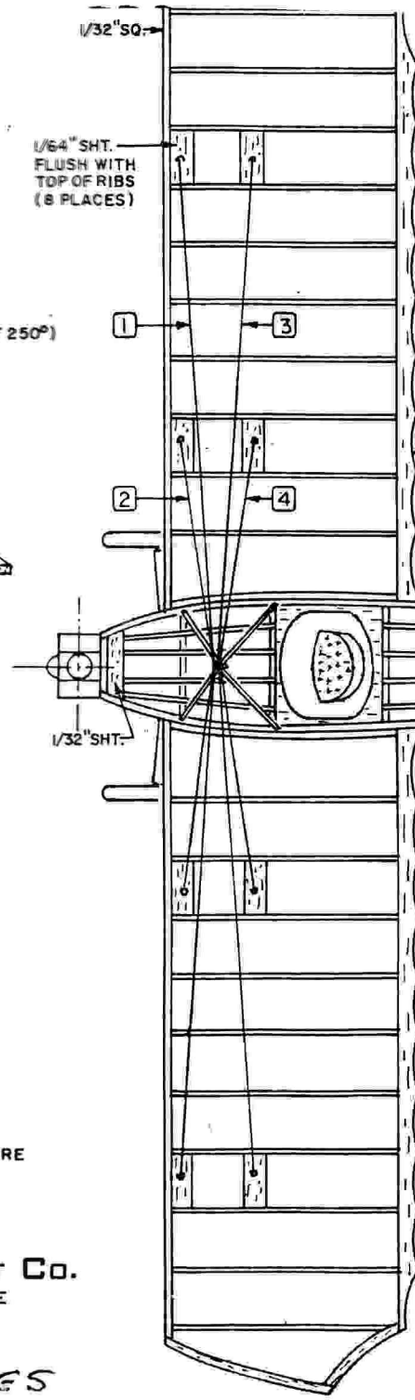
NOTE: THERE IS A WAY TO MAKE SPOKE WHEELS BY MAKING A JIG. ALSO FULTON HUNGERFORD SELLS WIRE WHEELS.

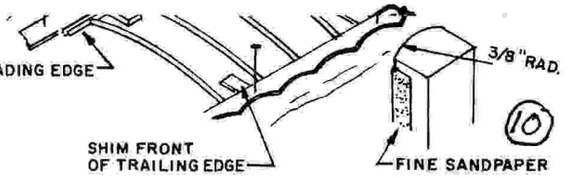
LANDING GEAR

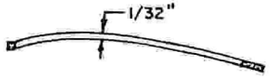
1. GLUE 1 TO 2.
2. GLUE 1 & 2 TO FUSELAGE.
3. GLUE 3 IN PLACE.
4. GLUE AXLE & STRUTS IN PLACE. (SEE FRONT VIEW)
5. GLUE 4 (.012 WIRE) IN PLACE. (FOR THREAD HOOKS)

Write: MACE MODEL AIRCRAFT CO.
359 SOUTH 119TH EAST AVENUE
TULSA, OKLA. 74128

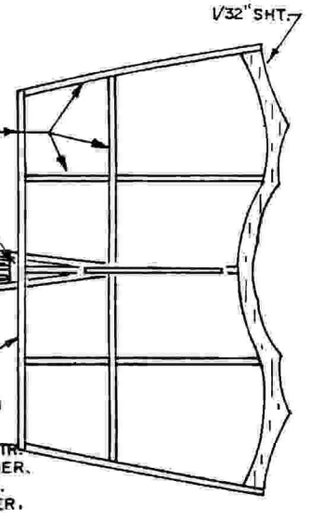
PLANS, KITS, SUPPLIES







WING SECTION



COVERING (USE POINTED BRUSH)

1. WHITE JAP TISSUE OR EQUAL
2. THIN WHITE GLUE (1 PART GLUE 2 PART WTR.)
3. COVER FUSELAGE & BOTH SIDES OF RUDDER.
4. COVER WING & STABILIZER ON TOP ONLY.
5. ALCOHOL SHRINK FUSELAGE AND RUDDER. THEN ADD 1 COAT OF VERY THIN NITRATE DOPE. (BEFORE SHRINKING TISSUE IT IS A GOOD IDEA TO MAKE A TEST STRUCTURE OF 1/32" SQ. TO SEE HOW MUCH TISSUE WILL SHRINK.)

WOOD

1. ALL WOOD LIGHT BALSA EXCEPT 1/64" SQ.,
2. 1/64" SQ. IS HARD BALSA OR BASS WOOD.
3. APPLY GLUE TO WOOD WITH A TOOTHPICK.

POWER

8" LOOP .030" RUBBER

REFERENCE

BILL HANNANS' "PEANUTS & PISTACHIOS" VOL.2 (HARRY ROBINSONS' FINE 3-VIEW)

1911 CAUDRON TYPE N MONOPLANE

POWERED BY 30 HP ANZANI ENGINE

8" WINGSPAN - PISTACHIO SCALE

DESIGNED & DRAWN BY DON MACE 9-10-87

NEW PRODUCTS: JUST BACK FROM ENGLAND YOUR EDITOR GIVES YOU BILL DENNIS' REPORT ON SOME GREAT NEW PRODUCTS. THE KNIGHT ELECTRIC MOTOR IS SO NEW IT DIDN'T GET MENTIONED IN DON SKULL'S EXCELLENT ARTICLE IN OCT. MODEL AVIATION ON "MINI-ELECTRICS!" IF YOU HAVEN'T READ DON'S ARTICLE, DO SO, IT'S A LANDMARK··· FULL OF NEW STUFF.

Electric Power

Until recently there has been relatively little interest in electric propulsion for F/F models in this country because, of course, suitable units have been scarce. Motors *are* available in the USA, where electric power is very popular, but by the time you have imported one it becomes a rather expensive proposition. The only electric Scale models I have seen have been the efforts of 'do-it-yourself' experimenters. The late Alan Palfrey's Airspeed Ferry, equipped with three Mabuchi A-1 units, was a dramatic and noisy performer which sounded like an industrial vacuum cleaner! In this case I believe Alan had to do considerable reworking of the motors, including armature rewinding.

The good news is that a new British product is now available from Derek Knight. This has been under development for some time and Derek has shown its potential in the best possible way by using it to win the Scale Electric/CO_2 classes at the Outdoor and Indoor Nationals. Derek has sent me a sample of the production motor to test.

The electric motor is mounted in a cleverly-moulded plastic body which incorporates propeller shaft bearings and a flange for a radial three-point attachment to a bulkhead. The shaft itself doubles as an ingenious on/off switch. The propeller is pushed back when charging whereupon a collar on the shaft opens a pair of contacts. When ready to launch, the flier pulls the propeller forward to make the circuit. Power is supplied from three 50maH rechargeable cells carried in a moulded tubular extension at the rear, with a jack plug and socket for charging. In addition, the sample I have just received incorporates a small variable resistor to act as a speed controller. The propeller is geared down in the ratio 4:25:1. Although a Telco type is presently supplied, an improved version - more rigid, yet with thinner blades - is being developed.

It is not considered necessary to fit a fuse in the wiring circuit to protect the motor. By the end of a flight the batteries are discharged and in any case the fore-and-aft 'switching' movement of the shaft means that it should get knocked 'back' on landing, breaking the circuit.

Inevitably, comparison will be made with CO_2 power. The major drawback with CO_2 is its variable power output at any given throttle setting because of changes in temperature and humidity. At Indoor meetings it is common for power to drop right off and for icing-up to occur, while equally disconcerting outdoors on a warm sunny day is the tendency for a motor to run on and on until the model is a speck in the distance! Also, the cost of CO_2 bulbs is not inconsiderable. With electric power performance can be repeated again and again; and running costs, after the initial outlay for the charging system, are effectively zero.

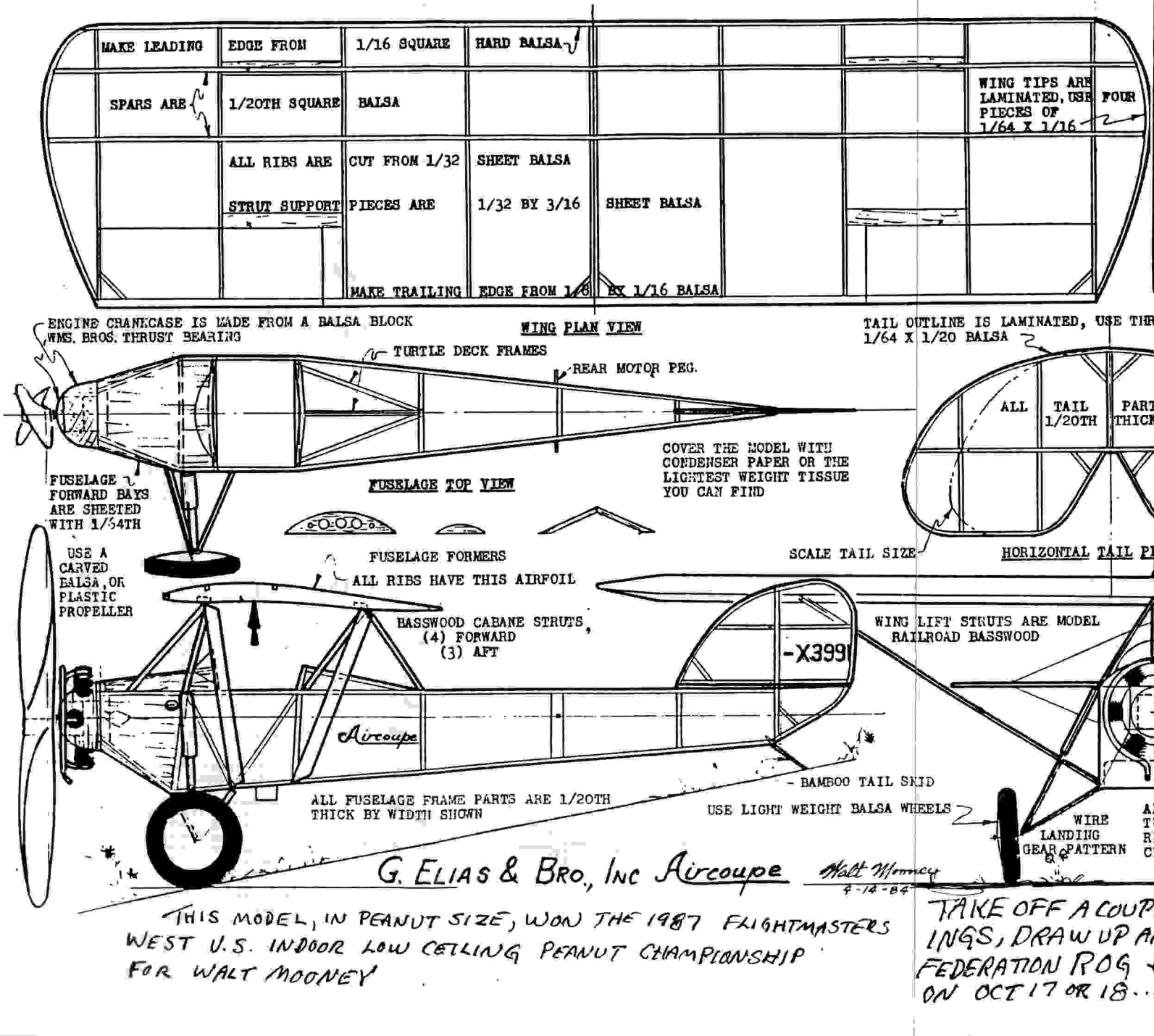
Derek's motor weighs 32.5gm, which is about one gram heavier than a charged Telco 6000 and about twelve grams more than a standard Telco. The electric motor delivers somewhat more power than the Telco and will be suitable for slightly larger models.

The example sent for test arrived in a neat and compact plastic case designed to survive the rigours of a trip through the post, since initially the motor will be available only direct from the makers. There is a specification sheet with operating instructions and a circuit diagram for the matching charging system, which at the moment is not quite ready; but all that is necessary is a six-volt rechargeable battery plus an ammeter and rheostat from a radio component supplier. In my tests I used a YUASA NP6-6 motorcycle battery.

The first run was at full speed. Performance seemed to match that given in the specifications; namely an initial speed of about 4000rpm falling very gradually after approximately 35 seconds

CONT. P. 16

(13)



THIRTY-SD
PEANUT SCA
WING SPAN

What a g

WALT MOO
CALIF. 9212
BAGS STILL

BUILD THE

THIS MODEL, IN PEANUT SIZE, WON THE 1987 FLIGHTMASTERS WEST U.S. INDOOR LOW CEILING PEANUT CHAMPIONSHIP FOR WALT MOONEY

TAKE OFF A COUPLE OF EVENINGS, DRAW UP AND BUILD A FEDERATION ROG + ENTER IT ON OCT 17 OR 18... FUN!

(14)

Here's the Greatest Series of 50c Kits Ever Offered!

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18" Wing Span

BOEING TRANSPORT 247

18" Wing Span

CURTISS SWIFT 18" Wing Span

HOWARD RACER "PETE"

HAWK P6-E 15" Wing Span

VOUGHT CORSAIR 15" Wing Span

LOCKHEED SIRIUS

15" Wing Span

BOEING P12 15" Wing Span

PUSS MOTH 18" Wing Span

BAT 18" Wing Span

AFTER ALL—There Is No Substitute for QUALITY

Never before have such values been offered. Professionally designed and flight tested for performance, these are the best flyers Selley has ever produced and at such a low price.

EACH KIT Postage 10c **50c**

EACH KIT COMPLETE WITH FINISHED SAWCUT PROPELLER

Knife Cut Balsa	Colored Jap Tissue	Cement
Printed Balsa	Wing Adhesive	Rubber
Ribs and Bulkheads	Music Wire	Bamboo
Colored Insignia	Celluloid	Reed

FULL SIZED PLANS, building instructions and everything to build a complete model.

STINSON RELIANT
CURTISS SWIFT
HOWARD PETE
BOEING TRANSPORT
PUSS MOTH
} 18" WING SPAN

15" WING SPAN { HAWK P6-E, BOEING P-12, VOUGHT CORSAIR, LOCKHEED SIRIUS

BAT
SWALLOW
SPORTSTER
} 18" WING SPAN

These new models are sensational in their flight performance. Flights over 300 feet are GUARANTEED with these snappy LARGE, long distance flyers, with their slow-winding propellers and bright colors. These models are the choice of the most critical model builder and judge.

SEND FOR YOURS TODAY

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SPECIAL 15 DAY FREE GIFT OFFER

A gift on orders of 50c or more. The larger your order the larger our Gift.

GUARANTEE: IF YOU ARE NOT SATISFIED YOUR MONEY WILL BE REFUNDED

The LINDY Sensation TINGMISSORTOG SOLID WOOD REPLICA

FREE 5"x7" photo of Col. and Mrs. Lindbergh flying this plane, free with TINGMISSORTOG KIT.

The Colonel himself would be delighted with this replica of his history-making Lockheed Sirius Monoplane. A beautiful decorative display model for the radio, bookcase or den.

15" WING SPAN

COMPLETE KIT

$1.25 Postpaid

TORPEDO BOMBS
13/16" . 5c
1¼" 10c
3" 15c

DEALERS: WRITE FOR DISCOUNTS

New Guns with Ring Mount

1¼" long 25c
1½" long 30c
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1" long 5c
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2" Double Action 15c
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Just what you want to make your model perfect. 3 lights to a set. Packing & Postage 3c Set

For 12" model...10c Set
For 15" model...15c
For 24" model...20c

Propellers

HAWK TYPE 2 Bladed	HAWK TYPE 3 Bladed	STANDARD STEEL 2 Bladed	STANDARD STEEL 3 Bladed
.....	.....	1½" 10c	1½" 10c
.....	.....	2½" 15c	1½" 15c
3¼" 25c	.....	3¼" 20c	.....
4" 30c	3" 30c	4" 25c	4" 30c
4½" 35c	4½" 45c	4½" 25c	4½" 40c
5" 50c	5" 35c	5" 30c	5" 45c
5⅝" 40c	5⅝" 60c	5½" 35c	.....
6¼" 40c	6¼" 70c	6" 40c	.....
7" 55c	7" 80c	6½" 45c	6" 60c
		6¾" 50c	

Postage 3c each

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Set of 16 War-time Planes on Bristol board. 25c

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THE ICONOCLAST'S CORNER

LACEY

Couple dies laughing

A couple found dead in their water bed apparently died of suffocation after inhaling laughing gas, according to investigators.

Cops in Lansing, Mich., said the bodies of Randy O'Dell, 32, and his pretty 31-year-old wife, Shanna, were discovered by their two children.

Police found a two-foot tank containing nitrous oxide, commonly known as laughing gas, in bed with O'Dell and his wife.

Sheriff Art Kelsey said the nitrous oxide was the type used to boost the performance of race cars, not the type used as an anesthetic by dentists and physicians.

Model plane hits & kills hang glider

Hang glider Ronald Steadman was killed tragically when he swooped through the air near Brighton, England — and crashed into a model plane.

The 44-year-old pilot fell 200 feet to the ground after hitting the 4-foot model plane, which was controlled from the ground.

"I tried to turn my aircraft to port to give greater clearance, but it didn't have time to respond," said the model plane's operator, engineer David Pullinger.

Steadman's death was ruled an accident.

GI says sorry to old enemy

Veteran Frank Clark felt so bad about bombing the hell out of Germany during World War 2 that he wrote letters of apology to 32 German cities!

"It did me so much good I didn't believe it," said Clark, a former Army Air Force bombardier.

Clark, 60, lives in Fort Atkinson, Wis.

DEAD DOLL

Police and rescue officials in Neustadt, West Germany, were pleasantly surprised when they fished out the body of a naked woman floating in the river — and it turned out to be an inflatable love doll.

Dear Pet Talk: My precious kitty has gone on to the other side, but he is still with me in spirit. Big George communicates from the beyond, telling me where to find things my friends have lost. Once he told us where to look for a lady's diamond ring, even though it wasn't exactly where George said it was — but it was only a block away.

A DOUBLESPEAK QUIZ

1. Frame-supported tension structures
2. Engaging the enemy on all sides
3. Tactical redeployment
4. Controlled flight into terrain
5. Non-goal-oriented members of society
6. Negative patient-care outcome
7. Television with nonmulticolor capability

ANSWERS

Answers: 1. Marine Corps tents; 2. defending against an ambush; 3. retreat; 4. airplane crash; 5. the homeless in Milwaukee; 6. death in a hospital; 7. black and white.

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FEATHERLIGHT ACCESSORIES VACFORMED IN ACETATE AND STYRENE, FOR THE DISCERNING FREE FLIGHT SCALE ENTHUSIAST. RANGE OF WHEELS, PILOTS AND RADIAL ENGINES TO GIVE YOUR MODEL THE EXPERT TOUCH AVAILABLE FROM STOCK. CUSTOM VACFORMING SERVICE AVAILABLE FOR THOSE AWKWARD PIECES.

SAE for price list to: The Red House, Oxborough, Kings Lynn, Norfolk. PE33 9PS
Telephone: 0366 21 431

to around 3000. Thereafter the power drops off very quickly and the motor stops within seconds. A quarter-turn on the variable resistor resulted in a slower run of 2 1/2 minutes with thrust levels fairly low. In between was something like the ideal power setting, with a run of respectable power for just over a minute. This degree of speed control is very useful and indeed, almost essential indoors where there is a fine line between burbling around three feet off the ground or hitting the ceiling. As yet, Derek has not decided whether or not his choice of potentiometer will be included as a matter of course because they are not rated for the level of current used here and tend to break down over a period, giving a 'jagged' response. However, for the record, it is Radiospares part No. 8336.

To try the motor in the air I made a rapid and unsubtle conversion of my Bristol Monoplane, featured in the May issue, which I thought would be a suitable model, if a little small. The overall weight remained similar to that in its previous existence as a rubber model since the motor simply replaced the rubber and the hefty lump of nose ballast. Flight tests were entirely satisfactory, and at Old Warden Scale Day the model made twenty flights of around 30-40 seconds duration, attracting much favourable comment.

In conclusion, this is an excellent product, and I am sure it will be very successful; even more so when an off-the-shelf charger is available. It has the major advantage over CO_2 of being entirely consistent and cheap to run. Its compact frontal aspect and geared motor make it very suitable for scale use. It is heavier than the Telco which will limit its application to the shorter-nosed subject, although as the battery holder is removable the battery pack could be relocated to achieve correct balance with little difficulty. As for size of model the recently published Bristol M1D matches the motor perfectly, so you could use that as a guide, adding a little for a cleaner monoplane, and going rather smaller for a biplane!

The price is £19.50; very reasonable indeed.

See Ad →

Small Scale Custom Services

Lindsey and Jane Smith have started producing vac-formed items for the scale modeller under the name 'Small Scale Custom Services', and their range was on display at Lindsey's trade pram(!) at Old Warden. The moulds are from Doug McHard, and comprise pilots, wheels and dummy radial engines. The mouldings, which are supplied made-up or in the raw state, are excellent value. The average modeller would be hard pressed to produce these items in traditional fashion at the same weight. Lindsey will also produce mouldings from customer's blanks; for a price list of his services contact him at The Red House, Oxborough, Kings Lynn, Norfolk PE33 9PS.

(16)

We recently saw some cockpit canopies freshly produced for Butch Hadland; accurately and crisply moulded they really looked the part. Lindsey's new venture deserves support - launched under the wing of the government's Small Business Scheme it will, of course, depend for survival upon consumer demand. Give him a call...

(BIG ZERO)

THE KP 01 ELEC. MOTOR:

35-40 SECONDS RUN AT AN AVERAGE 3700rpm.
32gm WEIGHT WITH PROPELLER.
REMOTE BATTERY ADAPTOR. 3-50mah CELLS.
INTEGRAL SWITCH.
1st 1986 OUTDOOR NATIONALS F/F SCALE CO_2/ELEC.
1st 1987 INDOOR NATIONALS F/F SCALE CO_2/ELEC.

KNIGHT & PRIDHAM LTD,
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CONTACT DOC FOR MORE INFO. ON THESE ITEMS

wash-out are applied to the lower wings only. When setting biplane rigging angles I use the American method. Only the leading wing has incidence; the trailing wing is set at zero. This method and a forward C.G., coupled with elevator, will cure the average biplane's tendency to be over-elevated and crazy.

Do not forget to charge your gas cylinder, or to put enough turns on your rubber motor to make it taut, before you adjust for C.G. position. A charge can weigh up to 6gm (Brown twin, 6cc tank) which in my Lacey's case is 20% of the model weight, and I should think that rubber is comparable. Keep sparklet cylinders in your pocket to generate some heat for they dispense gas much more efficiently when warm. Use no other method, though, to warm cylinders.

Use as long a rubber motor as is practicable. This minimises high initial power bursts, gives a more even power curve, and allows many more turns for longer flights. My Peanut Lacey uses a 24in. loop of .083in. rubber and takes 2,100 turns, resulting usually in a 60 - 70 second flight. My Heinkel HE 5 (with 6in. Peck Polymer propeller trimmed to 5¼in) flies about 45 seconds on a 17in loop of .110in. rubber. The Mew Gull is similar. As a comparison, my inch-to-the-foot Lacey with dual noseblocks (rubber and CO-2) uses four strands of .100in. in a 36in. loop and flies for 70 seconds, while the Brown twin with 6cc tank has flown 2min. 24sec. in the Lacey at West Baden, Indiana, in 1980. The Sig. Mr. Mulligan flies about 1 minute with the standard Telco.



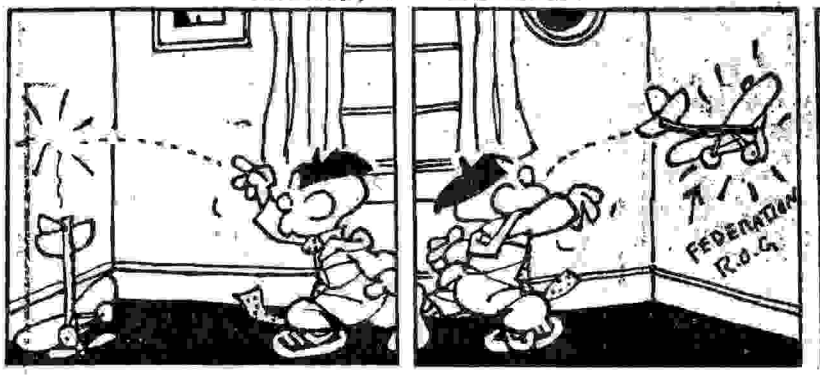
Dave Day shows the way at Crawley. Picture: Model Flyer.

I hope that this information has given food for thought and clubroom discussion, and that should you use any of my methods that they will work as well for you as they have for me. I would welcome any comments or hints (tell me your results) on Maidenhead 72402 almost any evening.

Have fun, and good, safe flying...

Butch Haddad

TIGER - THE INDOOR MODELER





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AMA
Academy of Model Aeronautics

Dear Editor,

It's election time. Election time is when you keep the good guys, get rid of the bad guys with new guys. I'm up for re-election. Would you consider including this attached 2 line slip in your next newsletter? Enclosed below is the pitch I'm putting in the mag, next issue. There is a great deal more to the AMA Exec VP job than monitoring our money and investments and so reporting it. One thing in particular I'm still working on is our AMA Nat'l Newsletter. I created it 6 years ago, eased it in the side door as a vehicle to aid communication between editors and help them with their newsletters. It's just now, this year, beginning to really catch on, thanks to John Worth, Lou Ward, myself, and others, but we're still working on it. I need your help to survive, to stay in office, to perfect it. Thank you.

The Hanger Pilot enthusiastically endorses → Jim

Jim McNeill

WHAT'S GOING ON ?

OCT 23+24 PENSACOLA - 10TH ANNUAL JIM KLOTH MEMORIAL AND GATHERING OF THE TURKEYS MEET CD BOB JUNK 984 WILLIAMS DITCH, CANTONMENT FLA, 32533

OCT 4 OUTDOOR FREE FLIGHT RECORD TRIALS - MELBOURNE FL. CD RON SHARPTON 1290 COUNTRY ROAD DAYTONA FLA. 1-904-767-6138 <.....

OCT. 17+18 1ST MIAMA INDOOR MEET CLEARWATER - ST. PETE AIRPORT COAST GUARD STATION CAT II SAT+SUN 9 TO 5 ALL EVENTS ALL DAYS: CD TONY BECKER 1-813-634-8572 - CONFIRMED

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JAN 1,2,3 KWG ORANGE FF CD FRANK MOCK - MELBOURNE FL CD

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THE HANGAR PILOT

EDITOR: DR JOHN MARTIN, JR
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