Best of THE HANGAR PILOT

COMPILED BY DAVE LINSTROM 1994

VOL 1: 1971-78

NOTE: VOL 4 + 5 TO BE PUBLISHED SOON!
A 1993 READER SURVEY BY EDITOR DOC MARTIN SHOWS PREFERENCE FOR PLANS, SCALE DOCS, HOW-TO AND FUNKY FORMAT: DOC'S ORIGINAL LO-TECH DESKTOP PUBLISHING METHODS IN USE SINCE 1972!

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	EASY ONE IHLG	RON WITTMAN

1971-94 YOU'VE COME A LONG WAY, BABY!

VOLUME UNBOUND TO EASE COPYING FLAK!

BE WATCHING FOR VOL 4 (1991-92) AND VOL 5 (1993-94) TO BE PUBLISHED SOON!

Best of the HANGAR PILOT

COVER SHOWN 90% TRUE SIZE ARTIST: D. LINSTROM

VOL 1: 1971-78

JUNE 1994 IS ISSUE #165!!!

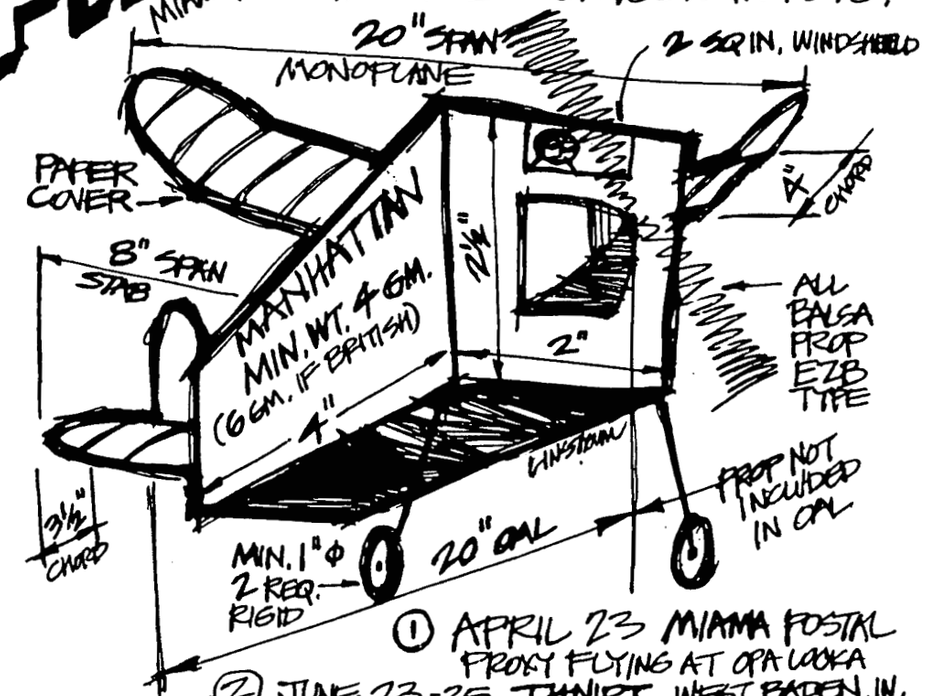
YOU SAW IT IN THE ONE AND ONLY **THE HANGAR PILOT**

MIAMI, FLORIDA USA

THE MIAMI INDOOR AIRCRAFT MODEL ASSOC. — MIAMA

ISSUE NO. 46
FEBRUARY '78
AMA CLUB 986
M.I.A.M.A.
AMA'S ONLY INDOOR CLUB
THE FAINT VOICE OF INDOOR

BUILD YOUR MIAMA MANHATTAN NOW FOR THE BIG 3 CONTESTS IN 1978!



① APRIL 23 MIAMA POSTAL FROXY FLYING AT OPA LOCKA

② JUNE 23-25 THNIRT WEST BADEN, IN.

③ JULY 28-30 AMA NATIONALS LAKE CHARLES, LA.

THIS IS A 3-D CARTOON OF MANHATTAN RUBBER CRITERIA - NOT A DESIGN CONCEPT!!

UDET U2 PEANUT BY CARL HEDLEY ISSUE #51 BEGAN A LONG SERIES OF FULL SIZE PLANS BY CARL - A PROLIFIC DESIGNER

The Udet U.2 (30-hp Haacke). Back in [illegible] an American, William Pohl, Ernst Udet Germany's popular ace, began building sportplanes at Munich in 1922. The U.2 was his first commercial success.

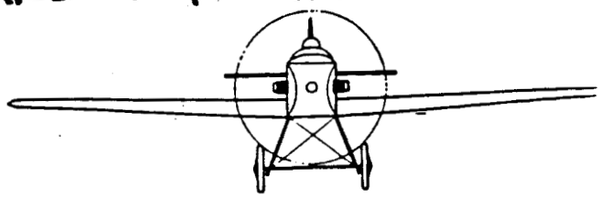
NOTES BY DOC!

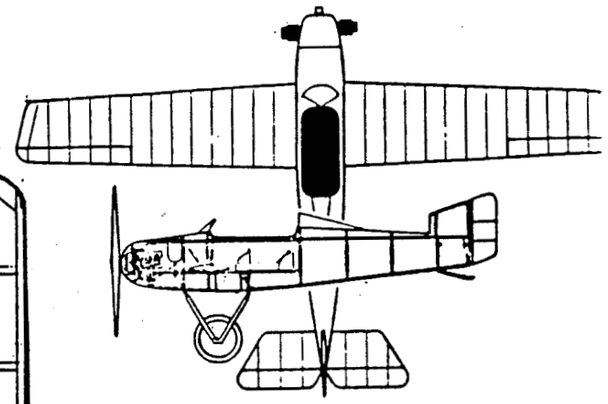
- SLEEK 'STREAK' PLASTIC ~~STRETCH~~ PROP CUT DOWN SLIGHTLY

FLIGHT TESTED - IT GOES!

15" LOOP OF .085 PIRELLI

RUDDER AREA WAS INCREASED ON PROTOTYPE





Udet U2: 35-hp Haacke; span, 29.3 ft; length, 18 ft; area 95 sq ft; empty weight 460 lb; gross weight, 900 lb; top speed, 90 mph; rate of climb, 500 fpm, range, 200 miles

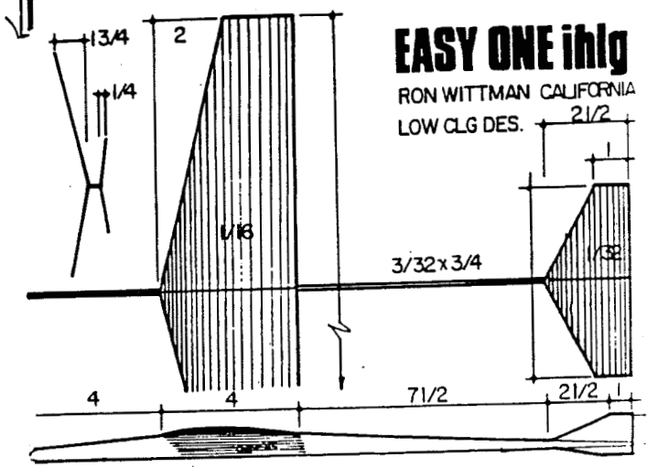
WILLIAM'S CYLINDERS OR ELBOE STRAWS

HUNGERFORD'S 1 1/8" STEEL BELTED

ANYONE KNOW THE CORRECT COLOR SCHEME? CARL'S WAS RED W/ BLACK TRIM.

3-VIEW - FROM "THE LIGHTPLANE" BY UNDERWOOD

AND FINALLY, FOR THE GLIDER FA

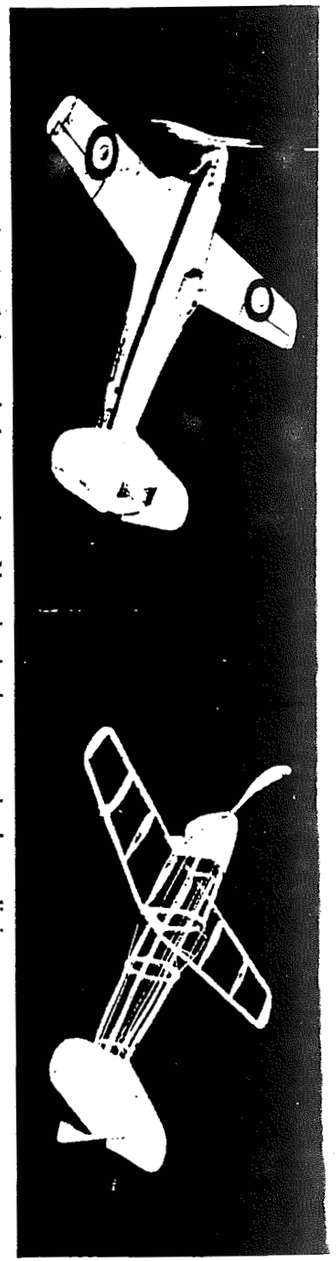


HERE IT IS, HANGAR PILOTS, ERNIE UDET'S FINE FLYING U-2 BY CARL HEDLEY THE 3-VIEW + PUT THE PROPER # OF WING, STAB + RUDDER

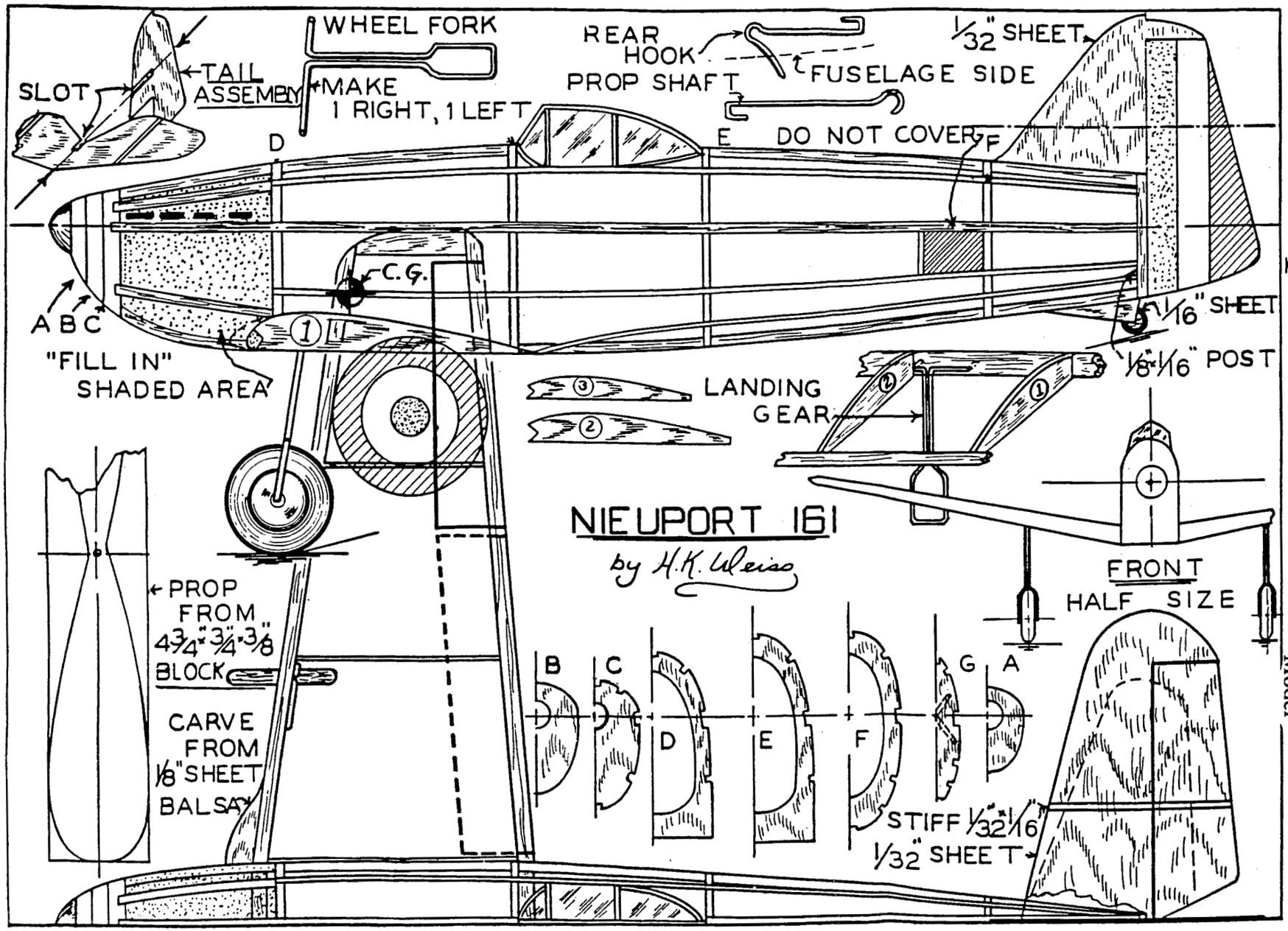
FULL SIZE PLANS FOR A 1938 PEANUT SCALE ANCESTOR! ISSUE #50

Build A Minute Model of the Nieuport 161

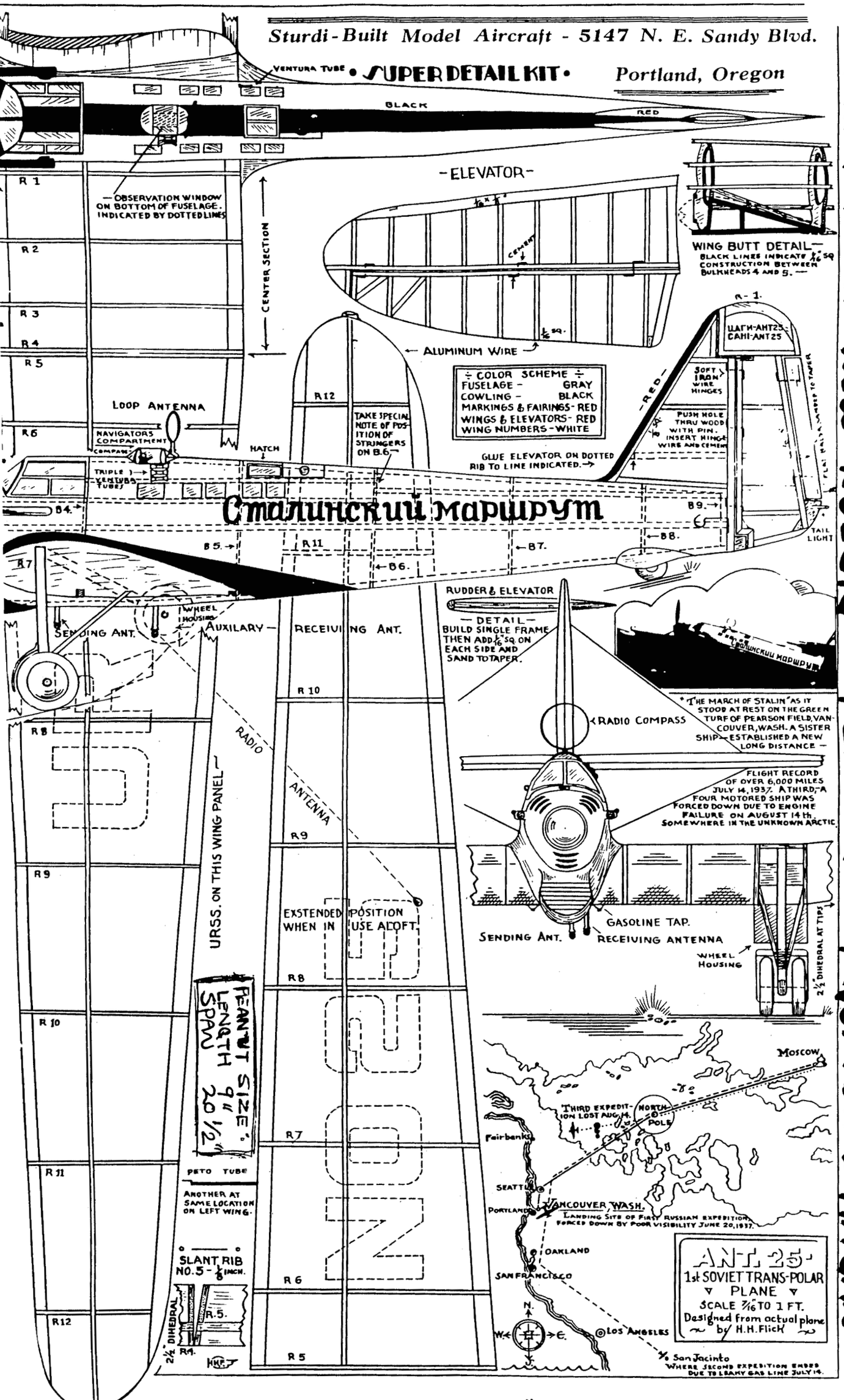
A Realistic Plane Easily Built by the Novice in Half the Time Required to Build the Regular Type of Flying Scale Model



The plane before and after covering. Note the simple construction but realistic appearance.



REPRINT FROM JUNE 1938 MODEL AIRPLANE NEWS

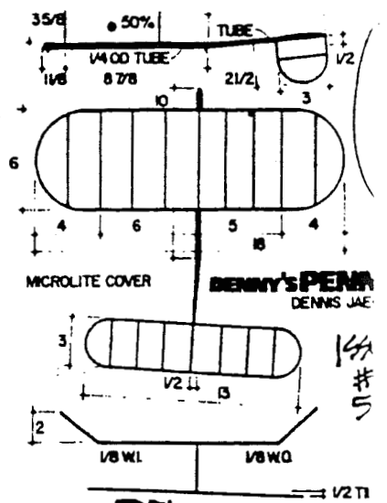


PETERS TO 9" ON-A 'NEW RULER' PEANUT - FROM DAVE HAGAN

RUSSIAN ANT-25 PEANUT 9" GAL RUVE ISSUE #49

DOC MARTIN PNUT ISSUE #48 MAY '78 DESIGN YOUR OWN STRUCTURE!

9" OAL RULE

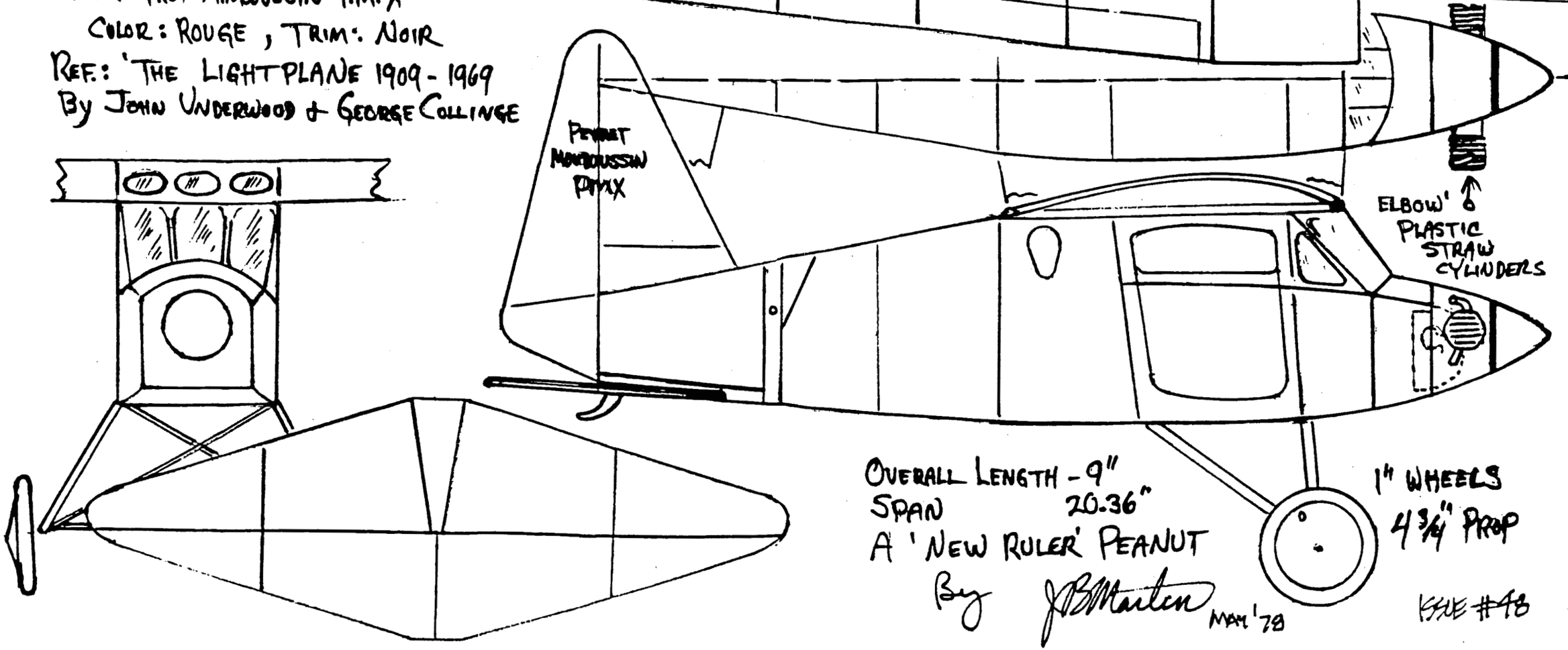


1928 PEYRET MAUBOUSSIN P.M.X

COLOR: ROUGE, TRIM: NOIR

REF: 'THE LIGHTPLANE 1909 - 1969

By JOHN UNDERWOOD & GEORGE COLLINGE



ELBOW' PLASTIC STRAW CYLINDERS

OVERALL LENGTH - 9"

SPAN 20.36"

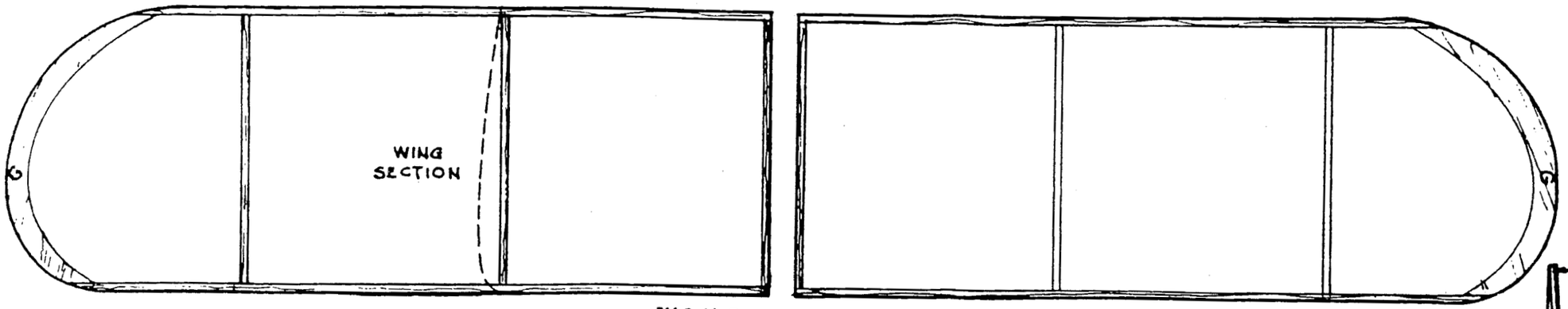
A 'NEW RULER' PEANUT

By J.B. Martin MAY '78

1" WHEELS

4 3/4" PROP

ISSUE #48



WING PATTERNS

~~PRINTWOOD PLAN KIT AVAILABLE FROM VINTAGE AERO~~ OUT OF BUSINESS

COCKPIT COVER OF CELLOPHANE OR CELLULOID

MACHINE GUN (BAMBOO)

HARDWOOD THRUST BEARING

PROP. SHAFT

NOSE BLOCK

STIFF PAPER

REAR HOOK

TAIL SKID

SIDE VIEW

LANDING GEAR STRUT

PIN THROUGH WHEEL PANTS & CENTER OF WHEEL WILL ACT AS AXLE

FUSELAGE FORMERS

HOLLOW OUT FOR WHEELS

MAKE WHEEL PANTS FROM SCRAP

MAKE TWO ELEVATORS

POSITION OF WING

SQUARE

COLOR SCHEME

BODY & LANDING GEAR — KHAKI

WINGS · RUDDER & STABILIZER - YELLOW

U.S. ARMY

ARMY · INSIGNIA · IS · PLACED · ON · UNDER SIDE · OF · WING, "U.S." ON · ONE · SIDE, "ARMY" ON · OTHER ·

ACCORDING TO "DOC" MARTIN, WHO LIVED DOWN THE STREET FROM FRED MEGOW IN PHILADELPHIA THIS WAS ONE OF THE 1ST MEGOW KITS. IT SOLD FOR A DIME AND CAME WITH A TUBE OF GLUE AND COLORED TISSUE. IN 1977, A SINGLE 1/16 SF COSTS A DIME!

DIHEDRAL

~~OUT OF BUSINESS~~

~~OTHER VINTAGE AERO "FLYIN THINGS" CATALOG NOW: FULL OF GOODIES FOR THE SCALE FLIER. SEND $1 TO: BOX 318, SOUTHAMPTON, MASS. 01073~~

FULL SIZE PLANS!

CURTISS 'SWIFT' PURSUIT

1932 PEANUT SCALE

MEGOW'S MODELS

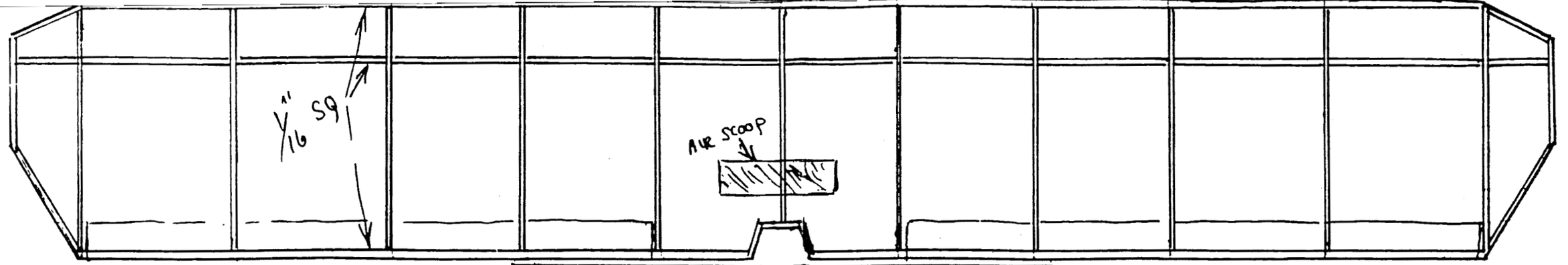
PLAN COURTESY PHIL KOOPMAN VINTAGE AERO

FRONT VIEW

ISSUE #44

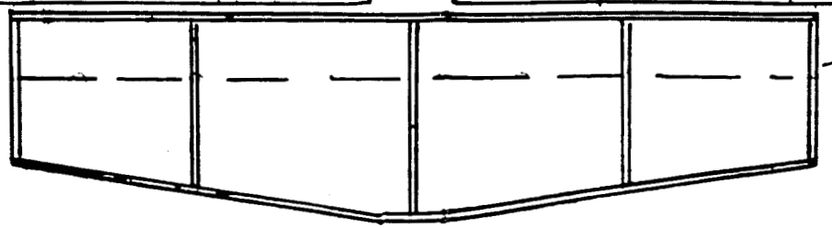
MEGOW'S MODELS

MIDGET "SWIFT" PURSUIT



GOLDEN AGE PEANUT by J B Martin

WEL 10
DOC MARTIN
ISSUE #38

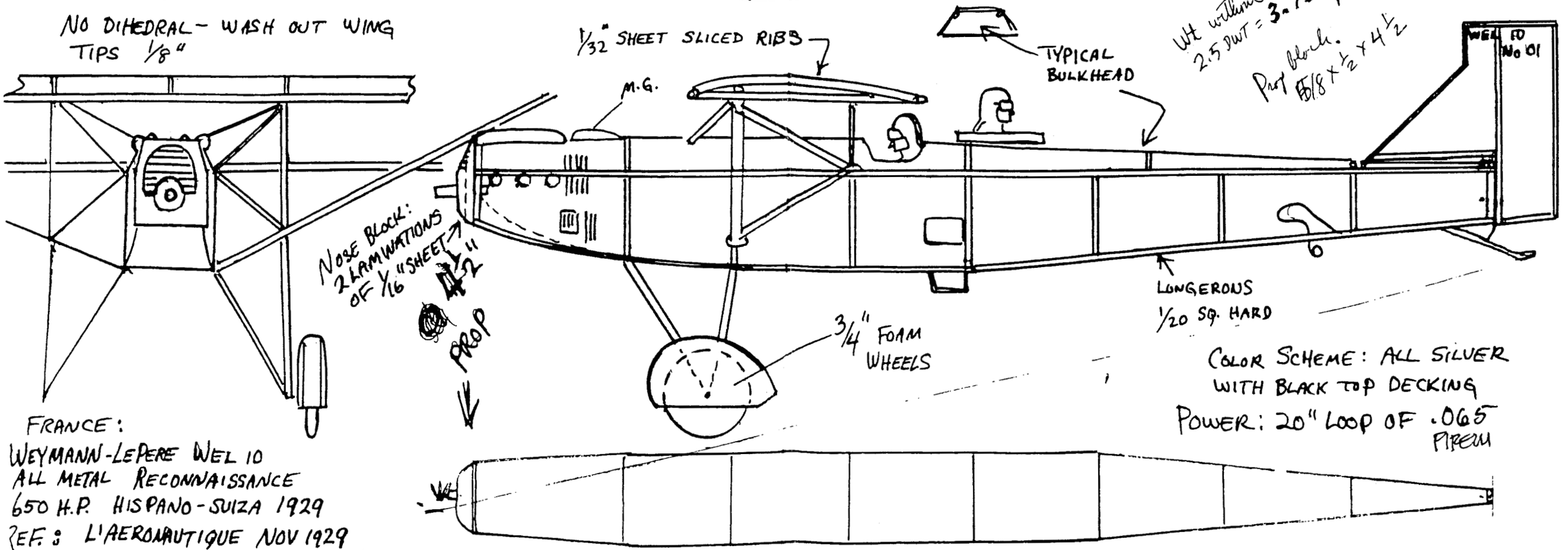


COVER: SILVER MICROLITE OR CONDENSER

Wt without ballast 2.5 DWT = 3.75 gms

Prop block. 5/8 x 1/2 x 4 1/2

NO DIHEDRAL - WASH OUT WING TIPS 1/8"



COLOR SCHEME: ALL SILVER WITH BLACK TOP DECKING

POWER: 20" LOOP OF .065 PIREM

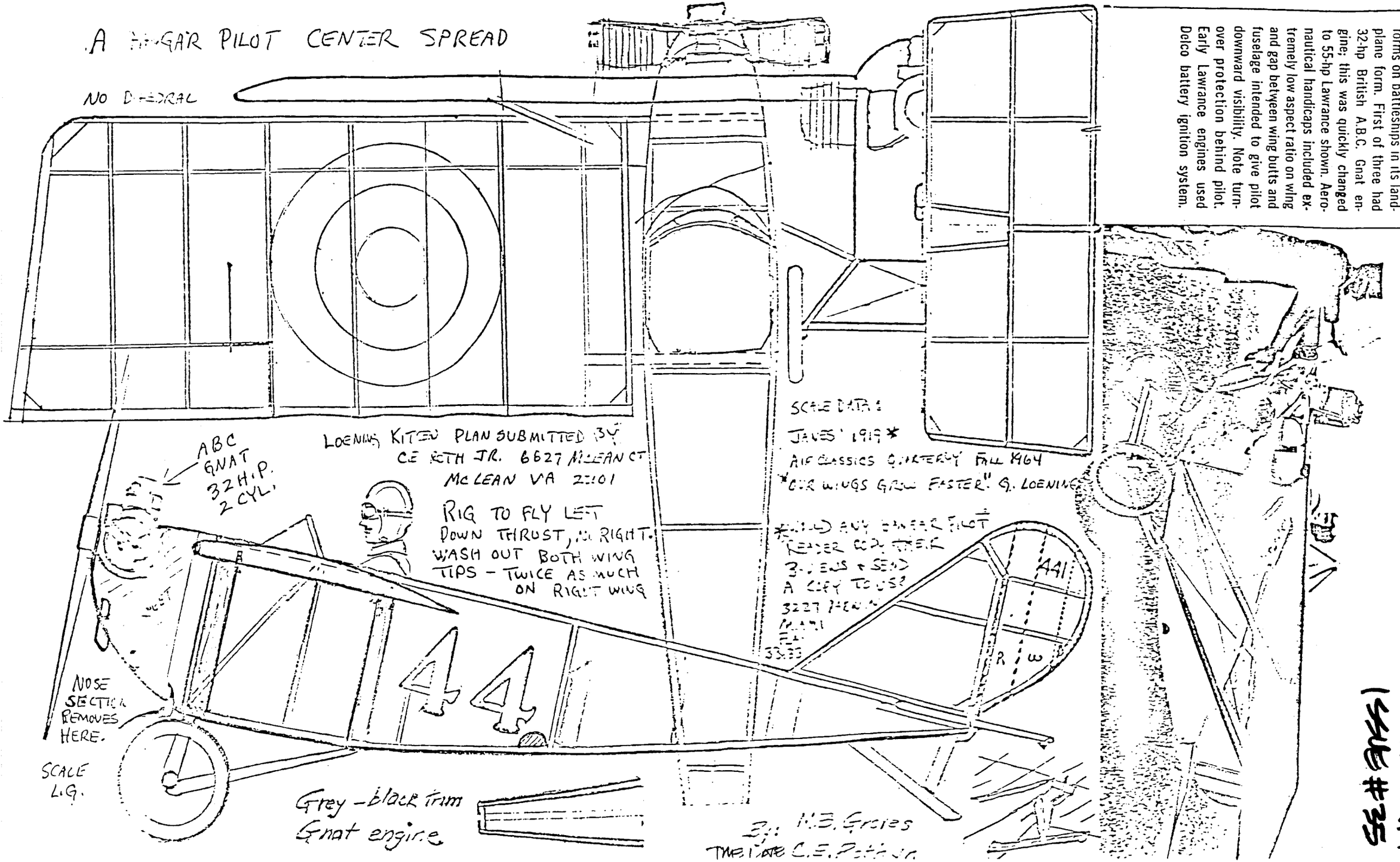
FRANCE:
WEYMANN-LEPERE WEL 10
ALL METAL RECONNAISSANCE
650 H.P. HISPANO-SUIZA 1929
REF.: L'AERONAUTIQUE NOV 1929
FLYING + GLIDER MANUAL (FM) 1934

A HANGAR PILOT CENTER SPREAD

LOENING KITTEN PEANUT BY C.E. ROTH JR

SCALE #35

Loening Kitten was a 1917 design intended to fly from platforms on battleships in its landplane form. First of three had 32-hp British A.B.C. Gnat engine; this was quickly changed to 55-hp Lawrance shown. Aeronautical handicaps included extremely low aspect ratio on wing and gap between wing butts and fuselage intended to give pilot downward visibility. Note turnover protection behind pilot. Early Lawrance engines used Delco battery ignition system.

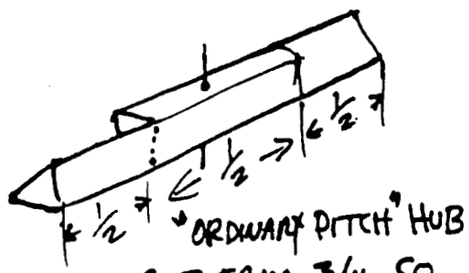


DOC MARTIN: PEANUT POWER ISSUE #24 1975

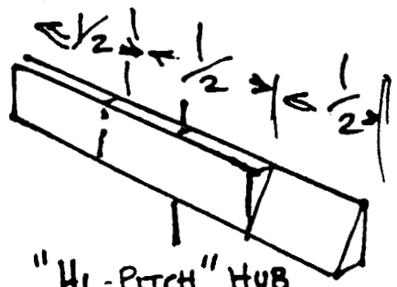
PEANUT POWER: OR, HOW TO GET YOUR PEANUT UP + KEEP IT UP AS LONG AS POSSIBLE

This article is inspired by Dave Linstrum, who got me into this mess by mentioning in one of his VTO Columns that I had discovered some fantastic rubber that was idealfor flying peanut planes. At the time I talked to him, over a couple of drinks at the Miami Airport as he changed planes for Arabia, I thought I had come up with something, but this has proved disappointing, but the quest goes on. As a matter of fact Butch Hadland writes from England about a 'lead' in Nippon that has great promise so the search for the Holy Grail is endless. This article is for all those who were promised some of the super peanut power elastic, who would otherwise be disappointed. Instead of rubber, here are some of the hard facts I've learned. This article is more imperical than scientific, but give it some consideration.

It is no secret at all that the major consideration for indoor peanut performance is weight... or rather lack of it. Some of us seem to have the knack of building LIGHT, and some have to work very hard to keep the weight down. The best I can manage is a plane of about 3 grams, and when I get it trimmed with enough nose clay to balance it, it gets near 4 grams. Since our rules require planes to ROG our props are 3½ to 4½ inch diameter, and I use 2 kinds of hubs to achieve 2 pitches:

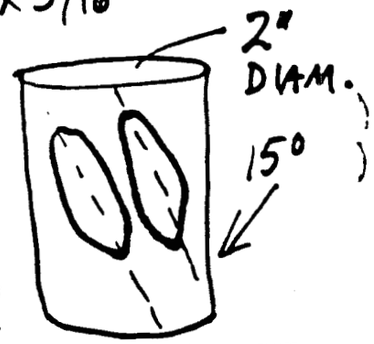


"ORDINARY PITCH" HUB
CUT FROM 3/16 SQ.



"HI-PITCH" HUB
⅛ x 3/16

I use the prop hubs above in combination with blades bent on a 2" diameter breakfast juice can. After soaking the blades 15 min. in water I put a layer of tissue over them when I fasten them to the can at a 15 degree angle using masking tape to press them tightly to the curved surface. Then into a 250 degree oven for ½ hour. Make up several props of varying diameters & pitches for your model since you do not know which will be the most successful until you try 'em. Don't be afraid to experiment by changing props. Also Don't be afraid to make them from



NOTE: SOME RUBBER DISCUSSED IS NO LONGER AVAILABLE IN 1994

hard balsa for strength, because lightness is never a factor in a scale model prop. Show me a scale model, and I'll show you a plane that needs nose weight (Except canards). As long as you're making blades, try varying the area. In small props like these the prop pitch has far more affect on duration, than area, so you can try some different hubs too, to change the pitch. When all was going well with my models I could achieve ROG flights from 55 sec. to 1:05 with peanut planes that weighed 3½ to 4½ grams. The props varied in diameter from 3½ to 4½ inches, and the power was a 15 or 16 inch loop of .050 to .065 Pirelli rubber. Maximum turns achieved was 1,600 or a bit more if I was brave. To achieve these light weights I used either dyed condender paper, silver microlite, in combination with jap tissue on fuselage only. Naturally, with such a long loop of rubber, there must be a corresponding use of ballast on the nose to achieve balance.

The lightest tissue covered peanut I've made was the one I built for the last Nats, was covered on both sides by some good superfine, and was lightly built with good 4 lb. indoor wood. It weighed 4¼ grams, but by the time I got it balanced was over 5. Since this was a hand launched event, I used a 5 3/4 inch prop and a 19 inch loop of Sig 1/8. With 1600 turns it did 1:33 on its best flight. Incidentally I've found that Sig 1/8 (.120) rubber produces about the same power as good .080 Pirelli, but can take more turns and is over 1/4 heavier.

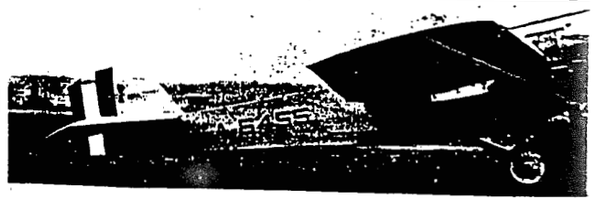
The average indoor peanut, if double covered with Japanese tissue, and reasonably detailed will turn out to be between 7 and 9 grams. If a 4½ to 5 inch prop is built using these hubs, a 16 inch loop of Sig 1/8 will fly your model overa minute/, or a 17 inch loop of .090 Pirelli. If your peanut is over 10 grams, fly it outside, you're a menace to the local EZB's. Remember, the higher the pitch the longer the motor run, but the heavier the cross section of rubber need ed, the heavier the overall weight, and the harder to trim. The lower the prop pitch, the smaller and lighter the rubber needed, the shorter the motor run, but the easier it is to trim (Less torque). Some are trying low pitch props with a motor length 3 to 4 times the distance from prop hook to tail post. It is hard to get going right but try it to see if you can get results. See if your results fall within the framework of the above data, and be sure to let the HANGAR PILOT know of your results.

Make up a lot of motors from your supply of rubber, of varying cross section and loop length. Stretch them 4 times their length between 2 nails for a couple of days. They are now broken in and ready for maximum winds. Once wound to maximum your motor will not produce maximum torque again for many hours, so replace it in your contest model with another similar, and broken in motor. Have several proper size rubber motors ready to produce maximum endurance for your contest peanut.

VINTAGE AERO has some exciting new Japanese rubber. Send $1.00 for their catalog: ~~1 the Glen~~ Tenafly, ~~N.J. 07670~~. Looks like the best substitute for Pirelli. OUT OF BUSINESS - RETIRED TO FLORIDA!

ISSUE #7 1973





USE MICRO-X INDOOR WOOD, PIRELLI RUBBER

AMBROID CEMENT FOR FRAME

HOLD MICRO-LITE TO FRAME WITH ELMER'S GLUE.

1/32 SHEET

2° RIGHT THRUST

3/4" WHEELS: FOAM, VACUFORM OR BALSA

CEMENT AFTER WING IS ON.

GLUE 1/8" SHEET NOSE PLUG BEHIND NOSE BLOCK TO FIT INTO HERE

1/16 HARD

1/16" PROP BLADE SANDED

HUB

SIDES CUT FROM 1/32" SHEET, CENTER SECTION CUT OUT AND REINFORCED WITH FIVE SPACERS

ALUMINUM RIB TEMPLATE

TRAILING EDGE 1/16 X 1/32

TRIM: WILL NEED NOSE WEIGHT - FLYS BEST IN RIGHT CIRCLES

WEIGHT: 3 GRAMS WITHOUT PIRELLI

BALLAST: 2 COPPER TACKS (OR 3)

BUILT-UP RIBS - 1/32 SQUARE TOP + BOTTOM WITH SPAR BETWEEN

WASH-IN RIGHT WING TIP 1/4"

SPAR

THRUST: 1/16" ALUM. TUBING

2/14/73 0 Martin

SPREADER - FRONT VIEW

LANDING GEAR, MAKE 2

1/32" SHEET TIPS AND RIBS

LEADING EDGE 1/16 SQ.

3RD PLACE NATS 1972

BEST FLITE TO DATE @ 1:17.3 DADE YOUTH FAIR 12/10/72

1/32" SQUARE

SLIGHT RIGHT TURN TO RUDDER

.015 WIRE PARTS: NOSE & TAIL HOOK, LEFT SHOCK ABSORBER AND AXLE.

COVERING: WING - YELLOW JAP TISSUE; BODY, TAIL AND ALL SHEET + STRUTS SILVER MICROLITE

POWER: 14" LOOP OF .051

ADD DETAILS, RADIATOR, INSIGNIA ETC. FROM DRAWING + 3-VIEWS

RIB LOCATIONS

WING SPAR	MAKE 2	1/32" SHEET

ALL METAL - FABRIC COVERED

CHROME YELLOW TOP ONLY

CHROME YELLOW TOP ONLY

SILVER

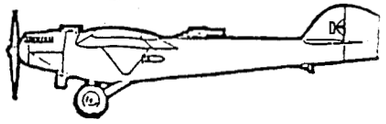
ALL SILVER UNDER

SHIPBOARD OBSERVATION PLANE

SCALE DO NOT PUBLISH IN ISSUE #

3-View

NATIONAL ARCHIVES 80-G-1192



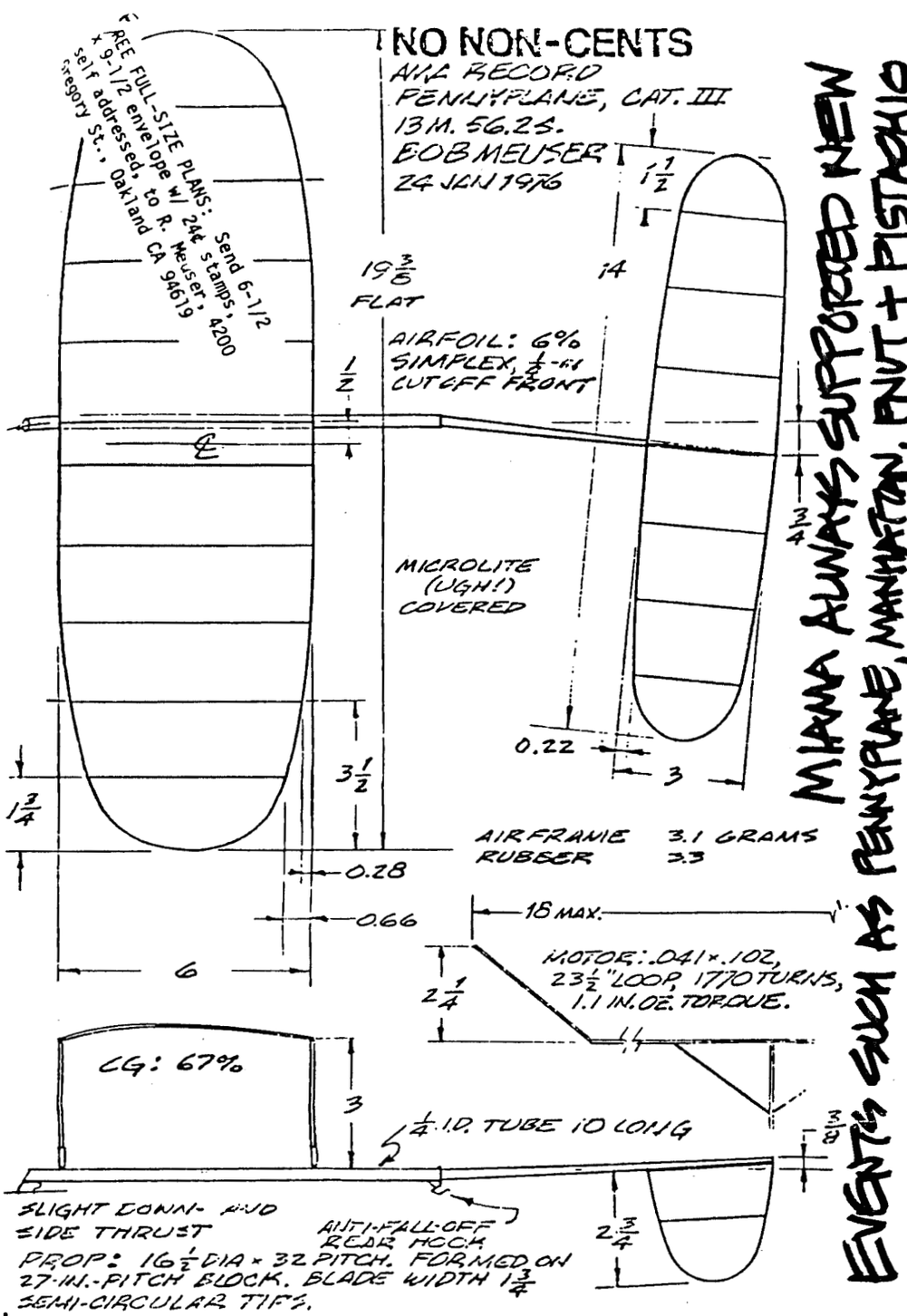
THE GLENN L. MARTIN CO.

TYPE: NAVY SPOTTER

ENGINE: CURTISS D-12 350 H.P.

THIS 1973 PNUT AND A LARGER AMA SCALE VERSION BY DOC INSPIRED DAVE LINSTRUM TO BUILD THE MO.1 IN PISTACHIO, PNUT + COCONUT! THE PNUT IS KITTED BY M.A.L.

FIRST PUBLISHED MO.1 PLAN PNUT ISSUE #7 MAR '73 DESIGN/DRAWN DOC MARTIN



MIAMA ALWAYS SUPPORTED NEW EVENTS SUCH AS PENNYPLANE, MANHATTAN, PNT + PISTACHIO

STOLEN FROM FREEFLIGHT

WELL, HERE GOES DOC CUTTIN' UP HIS DIGEST AGAIN TO BRING YOU THIS FINE PENNY PLANE

YOU BUMS BETTER GET A SUBSCRIPTION SOES I CAN KEEP MY ISSUES INTACT, AND YOU CAN BUILD SOME OF THESE GEMS. ALLEN HONEY HAD THIS MODEL FLYING AT OUR LAST JFK FLY-IN AND IT REALLY GOES!

Free Flight, the National Free Flight Society Digest, is published monthly at 707 2nd Street, Davis, California 95616. Subscription rate of $6.00 per year, or $11 per two years. Change of address, orders for subscriptions, and mail pertaining to orders for subscriptions should be sent to 707 2nd St., Davis, CA 95616. Mail pertaining to Editorial content should be sent to 4200 Gregory St., Oakland, CA 94619.

ISSUE #33

PENNY PLANE AT NATS: SUN AUG 1

ALSO - SAME DAY: MANHATTAN CABIN PEANUT SCALE (+NAT'L AMA SCALE EASY B + GLIDER)

A BUSY DAY!

MORE LOCAL FUNDS CUTBACKS

WHAT HAPPENED TO OUR MONTHLY AWARDS?

A GOOD QUESTION . As has been common with many public services, the County Park and Recreation Dept. has cut back on available funds and the felt jacket patches that were designed for this year have NOT been funded. We were running out of MIAMA badges that had been presented along with Blue, Red, White, and Yellow ribbons, and most monthly winners had enough anyhow, of this item. We do still have a few badges left, and monthly winners are entitled to them along with the place ribbons. Please get in touch with awards secy. Julias Sirilo for yours. Needless to say, the annual trophies will be very impressive , and the contests in these catagories are as yet undecided, so come on out to the last two contests and give it the old college try.

INDOOR ISN'T FOR EVERYONE --- SUPPORT YOUR CLUB. WERE NUMBER ONE (AND ONLY)

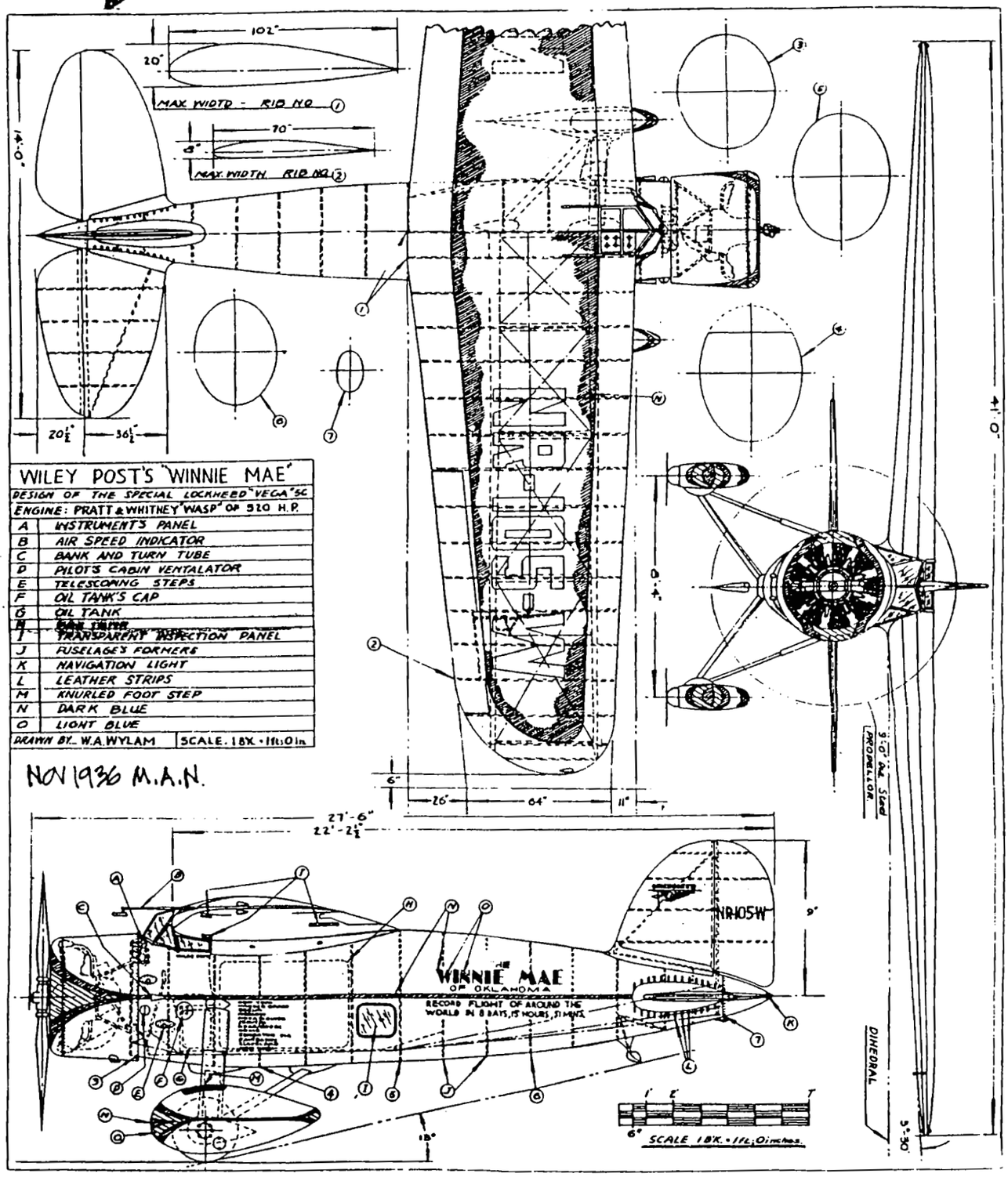
I LIKE THE FLYING ACES CLUB, MIAMA HAS ALWAYS BEEN A FUN CLUB WITH A STRONG CADRE OF EXPERTS

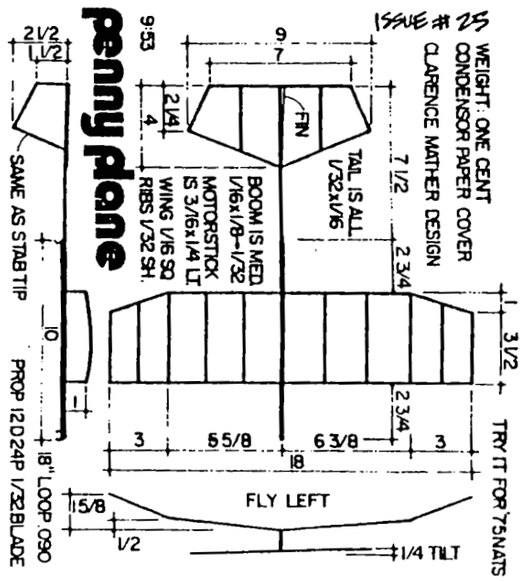
NEWS FROM FLYING ACES CLUB: This is the King Kong of the fun clubs, and I get the impression that at every fly in the members belabor each other with inflated pig bladders, and electric cattle prods, to say nothing of seltzer bottles and custard pies. Get the idea? Any super serious guy gets flung out, I think. At any rate the last issue of FA reveals that Col. Dave Stott won outdoor peanut with a flight of 9:47, followed by Lt. Doc Martin's Luton Minor at 95.0, Fritz Wunche's Drurine at 81.0, Jim Stewart's Voyager at 70.0, Bill Hiscock's Waco E at 67.0, and at least ten other entries. Indoor Peanut was won by Doc Martin's Lacey M-10 at 90.0 sec over 22 other entries Rich Ivers Volksplane (81.0 sec.), Jim Stewart, Cessna C-37 (69.8 sec.), Bill Hiscock(waco E 67.6 sec) , Butch Hadland, Wittman Tailwind 59.8 etc. etc. so you see that the boys from MIAMA were very highly placed in the lists and the South will definetly rise again. The newsletter features 3-views of ships worth modelling and has inspired the Ed. to do likewise in Hanger Pilot in addition to our policy of publishing buildable indoor ships of all classes.

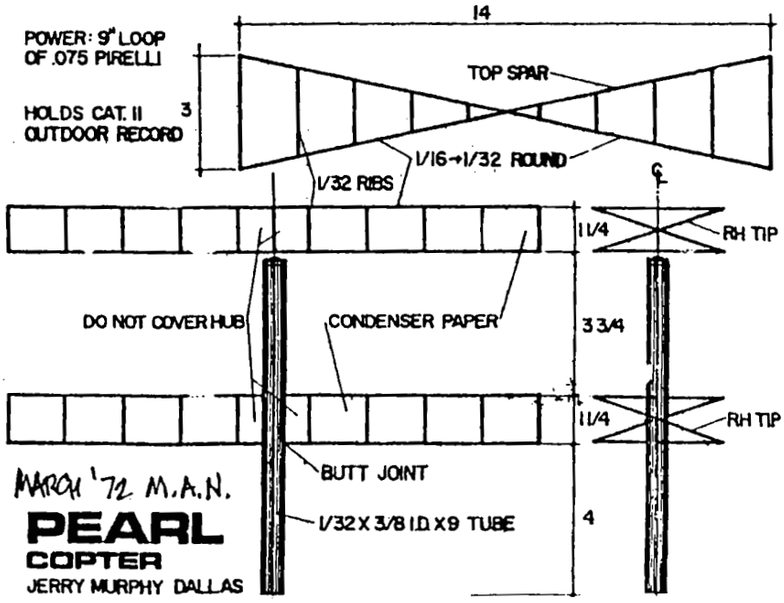
THE HANGAR PILOT

ISSUE # 25 MAY 1975
PUBLISHED BY METRO DADE COUNTY PARK+REC. DEPT.
CLUB 986 FOR. MIAMI INDOOR AIRCRAFTMA

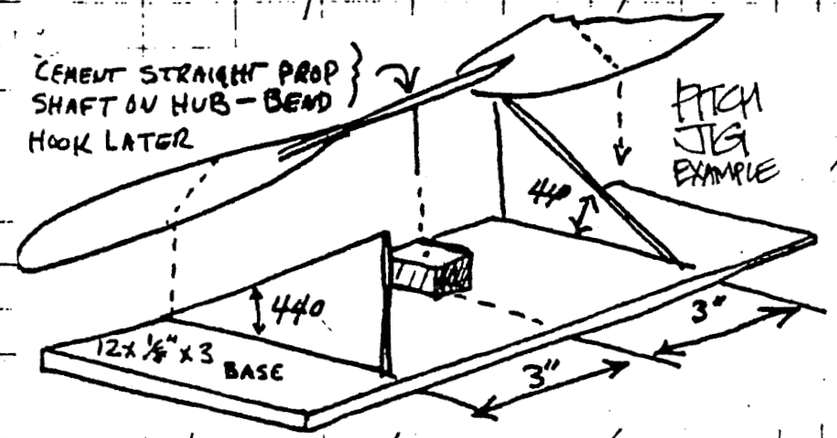
HANGAR PILOT COVERS BEGAN WITH SKETCHES BY DOC MARTIN - AND THIS PLAN BY W.A. WYLAM FROM MAN LATER COVER ARTISTS INCLUDE MILARD WELLS AMS, MARK ALLISON, JERRY BOCKIUS AND DAVE LINSTRUM - BUT DOC STILL PACES HIS UNIQUE COVERS!

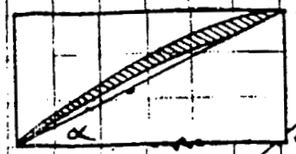




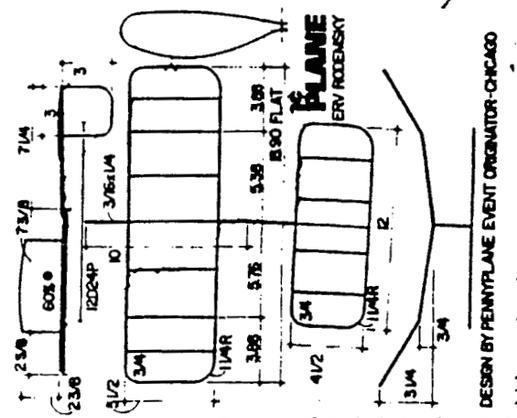


HADLAND PITCH CHART





EXAMPLE SHOWS 18" PITCH AT 3" RADIUS = 44° SETTING TRIANGLE



PROP RADIUS – INS.

PITCH – INS

THIS IS A KEEPER!

CAN ALSO APPLY TO ADJ. HUB OUTDOOR PROP

This chart greatly simplifies all problems relating to setting up the correct pitch on all props be they EZB, Peanut, FAI, or Wakefield.

The sketch shows a typical jig for an easy B or Penny Plane prop with a diameter of 12 inches, and a 18" pitch. The nominal pitch templates are set up 3" from the prop center. (I.E. 3 in. radius—Left vertical column on the chart) Looking horizontally from the 3" radius position to the vertical line corresponding to 18" pitch. Note that the angle required on your jig triangles is 44 degrees. For greater accuracy you may install pitch triangles at 1" intervals for the complete diameter of your prop. A good "Norm" for most props (to start with) is pitch at 1½ times diameter i.e. EZB 12x18, F1D 20x 30, Peanut 4 x 6½ 5 x 7½

My own EZB weighs 1.1 grams, has a 12 x 18 prop (5" blades 1" wide) as described above, and uses a loop of .040 Pirelli weighing .75 grams. Times under a 35 ft. ceiling are around 9-10 minutes and in Cardington 14-15 minutes are

INDOOR PROPS
BUTCH HADLAND U.K.