

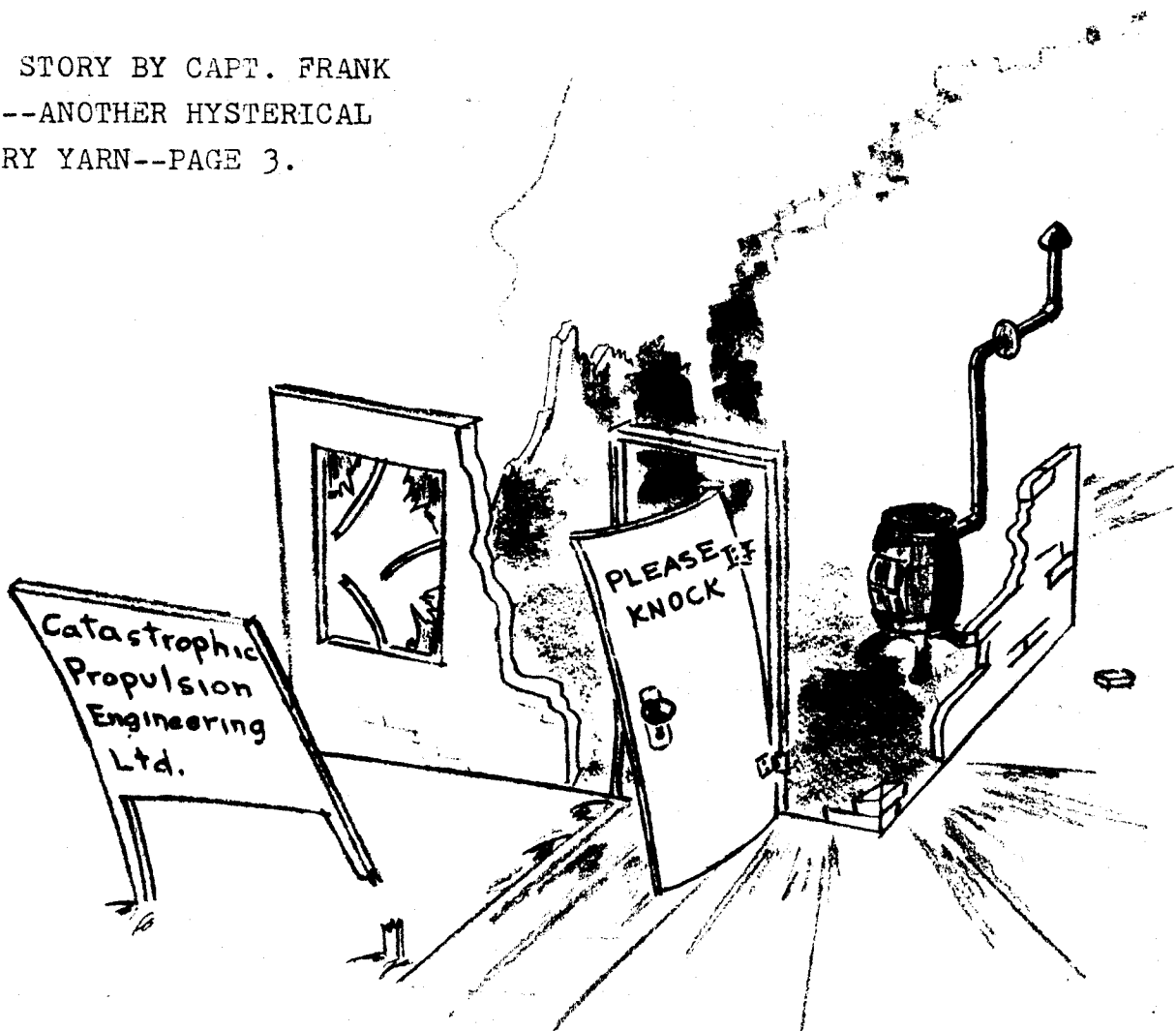
FLYING ACES

ISSUE ~~1~~ SEPT.-OCT. 1982

Club News

(82)

COVER STORY BY CAPT. FRANK
SCOTT--ANOTHER HYSTERICAL
HYSTORY YARN--PAGE 3.



NEWS ON THE WING!

Before we get too far into this issue, I have to apologize to a couple of clubsters. In my haste to get out the last issue, I carelessly left out the names of Joe Barna and Ross Mayo as the recipients of The Distinguished Service Medal. I am just glad that they are both members of the GHQ Staff, I can handle them!

The subject of our feature plan this issue was sent in to us from Dave Stott. This is the Mandley-Page J8f, which won for Dave the Best Scale Model award at the FAC Nats Mark III. It takes a lot of pages, but we think the loss of some of our other features is well worth it to bring you the plan of this beauty! Thanks a lot, Dave. Anyone out there with the guts to try this one?

There once was a model company back in the 1930s that was known as the TOLEDO MODEL CO.(TOMASCO), and they put out a kit of the Waco F-3. Does anyone have this kit still laying around the old workshop? If you do and can copy the print-wood, will you please do so and send it to GHQ as soon as you can?

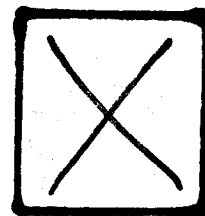
Once again, thanks to Don Assal for the photo page. These are all from the FAC Nats Mark III as were the ones in the last issue. Nice going Don!

Contest Calendar

- Sept. 26 13th Annual Midwest Scale meet at Erie, Pa. Flyer in this issue.
- Oct. 17 FAC at Durham, Conn. Contact Bob Thompson, Box 90, South St., Roxbury, Conn. 06783
- Nov. 21 E.M.A.A. Indoor meet at McComb Feildhouse, Edinboro, Pa. Easy-B, HLG, Unlimited Rubber, FAC Scale, Peanut GHQ Scale, WWI Dogfight, No-Calscale
Lin Reichel, 3301 Cindy Lane, Erie, Pa. 16506

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WESTLAND WHOOSH

The ending of World War 11 brought to a close the developement of many promising aeroplane types, the most spectacular of these being the rocket-propelled target defence interceptors such as the Soviet BI and the German ME 163 Komet. Aero developement at the Prangmore aerodrome (near Humpty) continued apace with the hitherto undisclosed Westland "Whoosh", a follow-on to the only slightly better known Gloster "Squish" jet float-plane.

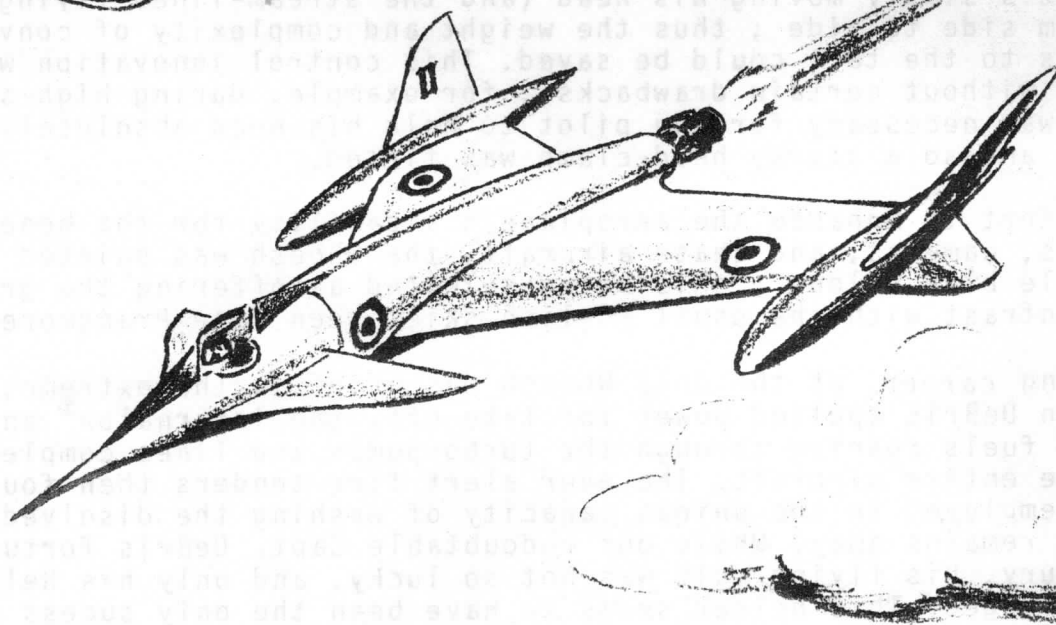
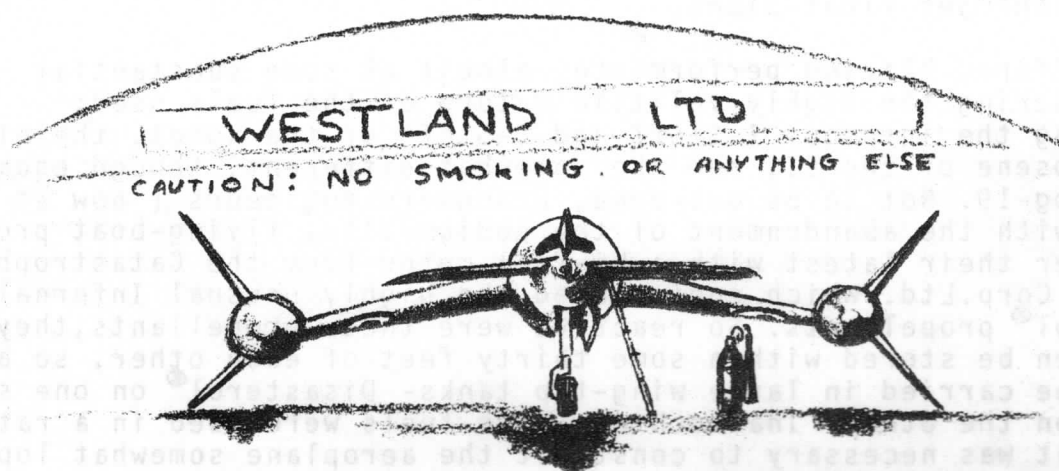
Rockets offered blazing performance, albeit at some substantial risk , considering the highly volatile nature of the fuels used; examples being the infamous T-Stoff and C-Stoff of the Komet, the nitric acid and kerosene of the BI, and the somewhat different, though equally hazardous Grog-19. Not to be out-done, Prangmore engineers (now at loose ends, with the abandonment of the sodium-alloy flying-boat project) chose to power their latest with a bi-fuel motor from the Catastrophic Developement Corp.Ltd. which engine used the highly unusual Infernalon® and Disasterol® propellants. So reactive were these propellants, they could not even be stored within some thirty feet of each other, so all fuel had to be carried in large wing-tip tanks- Disasterol® on one side, Infernalon® on the other. Inasmuch as these fuels were used in a ratio of two to one, it was necessary to construct the aeroplane somewhat lop-sided.

With the strict economy imposed by the demobilization following the ending of the war, the "Whoosh" was reduced in concept from a twenty-ton three-seat night interceptor to a more economical single-seat research craft. Indeed, budgetary restraints were so severe that no funds could be allocated for the provision of power assisted controls, and so the canard control surfaces were directly operated by the pilot. The pilot in fact sat in an economy directed open cock-pit, thus making the Whoosh the world's only open cock-pit super-sonic aircraft. Wasting no opportunity, Westland employed an elderly armourer from the War Museum to produce a beautifully stream-lined, spot-welded, stainless steel flying helmet. A great aerodynamic side benefit resulted serendipitously when it was discovered during wind-tunnel testing that the aeroplane could be yawed by the pilot's simply moving his head (and the stream-lined flying-helmet withal) from side to side ; thus the weight and complexity of conventional control-runs to the tail could be saved. This control innovation was, however, not without certain drawbacks ; for example, during high-speed flight, it was necessary for the pilot to hold his head absolutely motionless, and so a sturdy head-clamp was fitted.

In an effort to enhance the aeroplane's visability for the benefit of observers, cameras, and chase aircraft, the Whoosh was painted in a striking pale blue colour ; this being selected as offering the greatest possible contrast with the usual English skies seen over Prangmore.

The flying career of the only Whoosh was brief in the extreme; for when Captain DeBriss applied power for take-off, the Infernalon® and Disasterol® fuels roaring through thr turbo-pumps and lines completely dissolved the entire aircraft. The ever alert fire-tenders then found themselves employed in the unique capacity of washing the dissolved aeroplane's remains away. While our redoubtable Capt. DeBriss fortunatly escaped injury, his flying suit was not so lucky, and only his helmet could be salvaged. This helmet seems to have been the only sucess of the entire project as it has seen considerable subsequent service in the cinema in both mediaeval and science-fiction films.

Any Air Ministry interest in rocket aeroplanes disappeared with the disappearance of the Westland Whoosh, and the project team too, was dissolved.



*****JUMBO RUBBER SCALE*****
 Mumbo Jumbo from the Glue Guru

Why Jumbo rubber scale? Does size really matter?

It does if you are interested in the scale-like quality of flight. The Peanut is a practical, fun model, but nobody would characterize its insect-like darts and dashes as resembling airplane flight.

The particular combination of large size and low speed that define the Jumbo produces a strikingly realistic flight trajectory. Climbs are true ascents, with every foot of altitude truly earned. Cruises are leisurely affairs and the final glide is controlled and gentle. Turbulence is taken in stride, for the momentum of a half-pound model is capable of shrugging off even powerful transient air blasts.

Jumbo offers good aerodynamics: wing chords are sufficiently large to offset those low velocities and still develop good flow. Configurations that we associate with a hopeless glide--biplanes, triplanes, and all those pioneer crates, truly fly and glide in Jumbo. In other words, scale effect is alive, real, and on the side of Jumbo.

The demands of craftsmanship ease off with Jumbo. The large size tends to mask small errors. Should one Peanut fuselage side be somewhat larger than the other, you will have a forever lopsided result. In Jumbo, with typical fuselage cross-sections running 3" by 5", an error of one-sixteenth of an inch cannot be seen.

Construction is simpler with Jumbo. You dispense with the magnifying-glass-and-tweezers routine. You hew relatively mighty timbers and fasten them with gap-forgiving epoxy.

What then is the catch? Why don't Jumbos fill the skies?

There are two potential catches, each of which is capable of embittering your days. The first is high wing loading, leading to the weak rock syndrome; the second is the explosive nature of stored rubber power. Let's consider these in detail.

The single most important factor in rubber scale flight is wing loading. Not only is duration powerfully influenced by the weight (grams) carried by each portion of wing area (square inches), but so is stability, flight sensitivity to warps, and damage upon landing. At 0.5 grams/square inch, almost any configuration can be coaxed into several minutes of flight while shrugging off warps and happily landing downwind. However, as you exceed 1.0 grams/sq. inch, it becomes difficult to achieve twenty seconds of flight, warps become critical and downwind landings turn disastrous. There is only one way to offset poor flight times resulting from high wing loading and that one way--increasing the amount of rubber--further increases the model weight and thereby boosts the overall twitchiness and downwind damage. In short, once the wing loading gets out of hand, you've had it.

Unfortunately, Jumbo size has a natural tendency to increase the wing loading of any model, unless brutally restrained. For example, let us say that you have a Peanut that goes well at a wing loading of 0.5 grams/sq. inch. Suppose you convert the Peanut to a Jumbo by simply scaling up by a factor of three. What happens to the wing loading? If every stick and glue joint are scaled by three, the result is that the length, width, and thickness of everything is multiplied by three. That is, the total weight goes up by a gain factor of 3 by 3 by 3, or 27. Fortunately, the wing area also increases. The new wing area has a correspondingly greater span and chord, so that the area gain factor is 3 by 3, or 9. Finally, our new wing loading is $27/9$ times the old wing loading, or three times 0.5 grams/sq. inch, or 1.5 grams/sq. inch. But as we said above, any wing loading over 1.0 grams/sq. inch is undesirable; at 1.5 grams/sq. inch, the model is doomed.

6.

You have just received a demonstration of how wing loading can sneak up on you. Simply scaling up small models to Jumbo size does not work--each element in a Jumbo must weigh a great deal less than the corresponding scaled-up weight. In the example above, each element must weigh only one-third the scaled-up weight in order to preserve the wing loading.

Perhaps the most widely used balsa cross-section in the construction of Peanuts is $1/16$ square. To preserve wing loading in a corresponding Jumbo, you must use $3/32$ square. Unhappily, that's a mighty skinny stick with which to frame a 3" by 5" fuselage cross-section. Indeed, a $3/32$ stick across a 3" gap is a lot weaker than a $1/16$ stick across a 1" gap. In other words, if you choose to preserve the wing loading of the scaled-up Jumbo by reducing the size of each member by the proper amount, the resulting construction will be relatively weaker than the corresponding Peanut.

Our dilemma is now complete. If we simply scale a Jumbo from a Peanut on a stick-by-stick basis, the resulting model will be robust but rock-like in flight. Conversely, if we choose to preserve flying ability by carefully altering each stick subject to the constraint of retaining the Peanut wing loading, the resulting model will be impractically fragile.

Compromise, you say? Of course, but unless the design compromise is carefully done, the result will reflect the worst aspect of the dilemma. Such losing compromises will be of the weak rock type.

Do not despair; there are solutions to the wing loading problem and we shall develop these in some detail. Right now it is sufficient for us to put aside those dreams of mighty timbers and note that wing loading is a big problem.

Rubber energy storage is another headache. Flight time is almost directly proportional to the ratio of rubber weight to the total flying weight. Which is to say, if you double the amount of rubber in a given model, and use the additional amount of rubber weight effectively, you will almost double the endurance. (This is strictly true only for small amounts of rubber weight relative to the total flying weight, say 10% or 20%. However, that is where the rubber scale crowd lives.) The trouble with this line of reasoning is that the destructive power of a bursting motor increases proportionally with rubber weight. Any attempt to liven up the performance of weak rock models by stuffing in more rubber will result in carrying a Wakefield load (40 grams) or more of pure dynamite. Inevitably, the motor will burst, and the resulting damage can be awesome, despite the use of tube protectors.

There you have the two rubber Jumbo nightmares, the weak rock design and the bursting motor. In future articles we shall describe means of avoiding these disasters.

EDITORIAL NOTE: The Glue Guru is currently being sought by agents of the Environmental Protection Agency in connection with the appearance of a mushroom-shaped cloud of rubber dust over the Warminster NAS at the time of FAC III. He informs us that the difficulty arose from the lack of his favorite lube (rancid Yak butter) and that he is currently seeking a fresh (i.e. rancid) supply. In any event, and especially Jumbo, it is understandable that he prefers to remain anonymous under these unfortunate circumstances. Good luck, G.G., wherever you are!

On returning from the Detroit Aero Show in the Spring of 1929, Adrian from the one room Comper Aircraft office in London was busy on Nick's requests to deal with sales agents for the Swift and to help in finding new capital.

After the visit of John Love, Chairman of Allied Aviation, Inc., of St. Louis (May-June '82 issue) a hectic summer was spent in pushing sales at Flying Club meetings by ace-pilot Snaith - a master demonstrator of the Swift's remarkable close-to-the-ground aerobatic capabilities.

Other sales promotion included a Swift on the stage for the escape of a matinee idol in a popular London musical comedy, and one in the famous Selfridge's store window in busy Oxford Street - a pedestrian traffic stopper at a time, remember, when peacetime aviation was just taking off. The future for the sale of small privately owned 'planes never looked better.

But then came the autumn of 1929. The Hatry scandal (a British financier) shook the London Stock Exchange. Shortly after, John Love cabled Adrian to forget any plans for a merger - a few days later came the Wall Street crash. That a man, while seeing his conglomerate crumbling to financial ruin, was thoughtful enough to take a time off to warn his potential foreign partners was typical of John Love, a fine gentleman and businessman.

The months preceeding the New Year were months of upheaval - 1930 saw Adrian, his American wife and their two babies back in the United States to help cope, but unsuccessfully, with family financial disaster. His brother's company along with other new and small aircraft manufacturers faced a disturbed economy in England.

Thus for Adrian years in the aircraft industry as an engineering draughtsman, and later in aircraft sales, came to an end in favor, through a totally unexpected route, of a career of designing and manufacturing (Comper Mfg. Co. of Pittsfield, Mass) surgical and medical equipment.

Before leaving England, however, on what then was thought to be only a short leave of absence, Adrian was at the factory near Liverpool while a standard Swift with one of the first production Pobjoy engines was being readied for C.A. Butler's record-breaking promotional flight to Australia. The Swift's short run and slow take-off and landing speed made it a logical vehicle for ranchers in Australia and elsewhere in the colonies to oversee their vast acreage of cattle, sheep and crops as proven by foreign orders.

Butler's epic flight brought to light that the Swift powered by the 75 hp Pobjoy engine was the most remarkable aerodynamic and structurally designed small single-seater ever built. It is unlikely that this will ever be disputed - it follows from the statistics Britain's magazine "Flight" had to say:

"We point out that machine and engine were absolutely standard, apart from the fitting of extra tankage. The latter consisted of one 14½ gallon and one 27½ gal tanks which brought the load carried up to about the equivalent of two passengers in addition to the pilot; the cruising range was 1,025 miles. With the petrol carried, were 1½ gal of drinking water plus 5 gal of oil bringing the gross weight of the Swift to 1,160 lbs. In spite of this it took off in a run of 125 yards in 8 seconds." For the 10,425 mile trip, Butler averaged 1,000 a day.

The next installment will tell of the "Streak" with the powerful de Havilland engine, and the side-by-side two-seater "Mouse".

HANDLEY PAGE W8.F Transport.

by Dave Stott

Well Clubsters, if you already have a hangar stuffed full of good flying crates and are looking for a good way to while away the long hours of a coming winter, this bus ought to be right down your runway. Yep, at a glance any rib slicer can see there is a lot of time to be spent in the shop 'ere you slide the hangar door open wide to trundle this trimotor out to stand proudly in the shining sunlight. But you can bet that same sun that glints on this beauty's silver wings will also reflect the wide smile or satisfaction on her builders physiognomy. Are you ready for it? Then let's take a closer look.....

Built at Cricklewood in 1924 for the infant SABENA airline for use in the Belgian Congo, "O-BAHG" was a trimotored version of the Handley Page W8.b. The W8.F was powered by a Rolls Royce Eagle of 360 h.p. and two Armstrong Siddeley Puma engines of 240 h.p. each. The gang at SABENA hoped the big liner would keep out of range of rocks and spears chucked by the unfriendly locals even with one engine on the fritz. But, lets get on to the model.....

Now I know most of you longeron layers are going to incorporate your pet ideas in this bus, so I am not going to go into any long winded speech on how to put this heap together. I will just point out a few of the more important features not readily apparent on the drawing.

The fuselage longerons were made from 1/16 square basswood, while the uprights and cross members are from medium balsa. Another important aspect to the fuselage construction is the the 1/32 sheet balsa lining on the inside from station "B" to the motor peg. The reason for this is to keep the rather long motor that is confined to a fairly small space from battering through the fuselage covering during unwinding. The lining also serves as a built-in winding tube, protecting the fuselage in case of motor breakage.

The next point I would like to bring out concerning structure is the method of attaching the struts, both wing and landing gear. One of the pages of the plan illustrates the method. It may seem like a lot of trouble, but believe me, it is worth it. I have been using the system for over a decade on bipes, tripes, and even monoplanes. It saves many unpleasant hours of repair that not only robs you of time to spend on new projects, but leaves scars on your model should misfortune befall it.

The illustration explains it pretty well, but you must bear in mind that you will have to cover the bottom surface of the top wing, and the top surface of the bottom wing before you install the wire loops. Like attention to covering sequence must be given for the installation of wire to fortify the landing gear and any other areas needing such attention.

The first model of this Handley Page Transport was built in 1972. It served well for many years, but it was evident improvements could be made. The second model was built during the winter of 1981-82. The tail surfaces were enlarged slightly, and a change of airfoil from what I remember to be an NACA 6409 to the Rhodes St. Genese 26. Another significant change was the repositioning of the motor peg from under the leading edge of the stabilizer to the location shown on the plan. This greatly reduced the ballast carried in the nose. This feature coupled with more selective wood density earned an 11% weight reduction for model #2 in spite of lining the inside of the fuselage with 1/32 sheet.

Number one model used 10 strands of 5/32 Firelli turning a 1X1 $\frac{1}{2}$ X10 inch prop. Number two model uses only 8 strands of 3/16 Sig turning a 1X1 $\frac{1}{2}$ X11 inch prop. The all up weight of the latest version is 3.87 ounces.

There is still much to be learned from "C-BAHG" #2, as it continues to ply the airways. She is much more bouyant than #1, but still retains the urge to slip to the left after the initial climb out. Perhaps a smaller prop....?

COLOR SCHEME

SILVER- Basic airplane, engine crankcases, valve covers, intake manifolds and carburettors, radiator shutters and shutter control rod, windshield outline.

BLACK- Nose of fuselage from station "B" forward. Top fuselage longeron from forward cabane to stern post. Bottom longeron from wing cut out to stern post. Outline of verticle tail. Handley Page logo. Tail Skid. All control horns. All struts and landing gear. Wheels. Tires except for white walls!! All registration lettering. Cabin window outlines. Prop bosses. Oil Tanks. Fuel tanks. Radiator shells and caps. Door handles. Engine cylinders. Cabin vents above rear windows.

WHITE- Registry blocks on fuselage and rudder. That portion of wings where registry appears as indicated on plans. Walls of the tires.

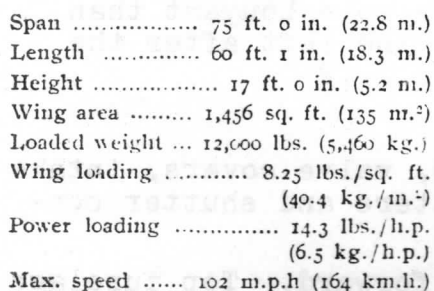
GRAY- Exhaust pipes.

Props are natural wood finish...probably walnut or spruce. Cockpit coaming might have been brown, tan, or black. Fuel lines and oil tank vents are copper. Rigging black or grey.

Reference used in creating models both #1 & #2 was "The Aeroplane" for April, 1924. This issue contained the 3-view, text, and excellent photos of "C-BAHG" as well as some very nice sketches that did not quite agree with what was seen in the photos, alas.

Well, gang, it is up to you....do you want to try to navigate the crocodile infested Congo River, then penetrate the steaming jungle with it's savages, wild animals, etc. for a glimpse of the spectacular Stanley Falls, or will you set to work to build this stout ship of the skies and view the Falls from the cool comfort of your wicker chair while sipping a gin and tonic?

THE HANDLEY PAGE W8.F

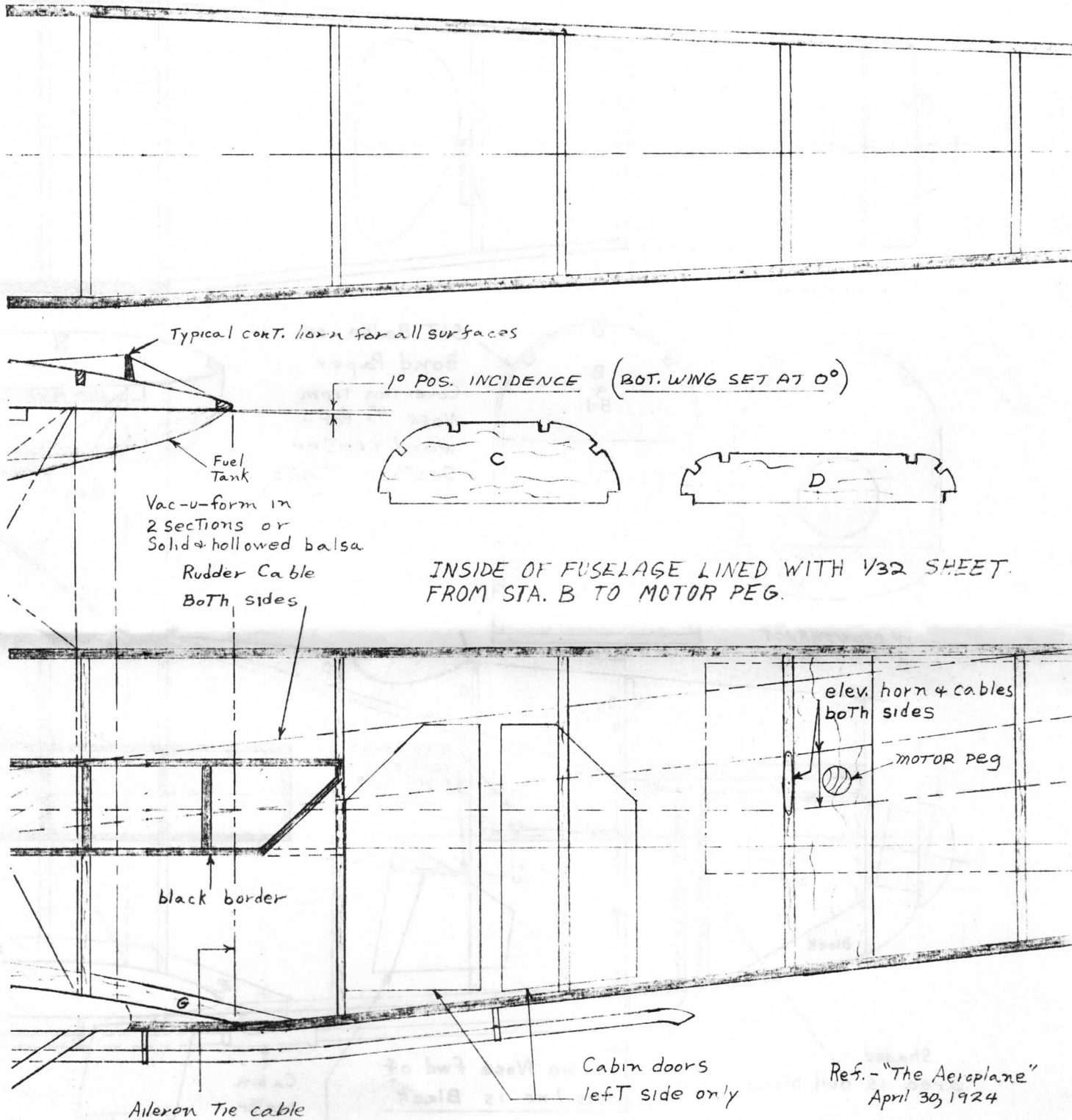


HANDLEY PAGE W.S.F.—1 Rolls—
Royce Eagle IX (360 h.p.) 2 Siddeley
Pumas (210 h.p. each).



Photo above is the first model built in 1972. Pic to right is model #2 over Durham Meadows. Both were good flyers, but #2 is lighter with other subtle modifications to increase performance. Span is 29.5 inches...not quite a Jumbo.





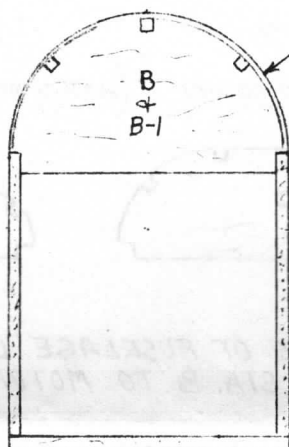
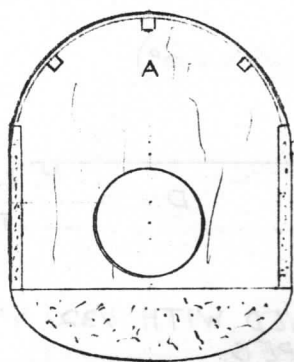
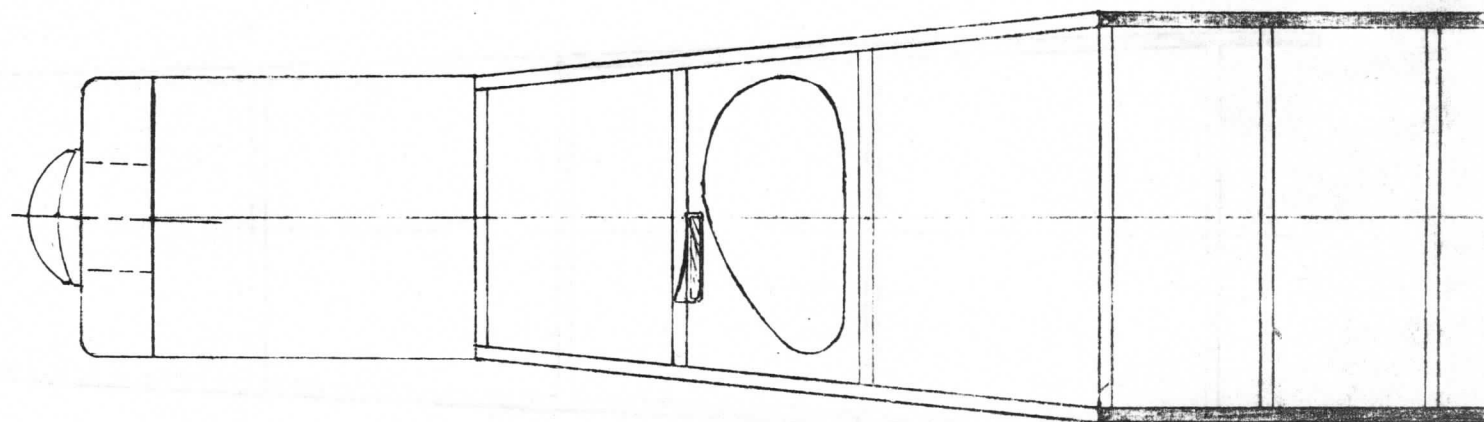
Handley-Page W8-F
Tri-motor Transport
for S.A.B.E.N.A.
1924

A FLYING ACES club Plan

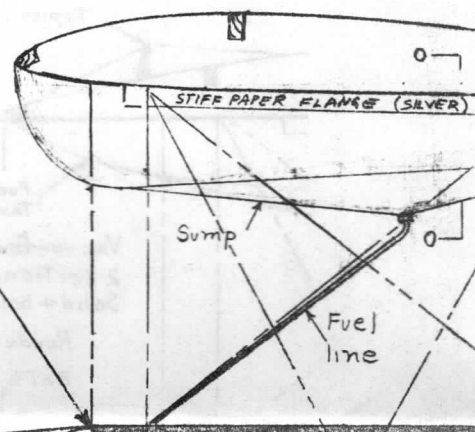
6-69

D.A.S.
✱

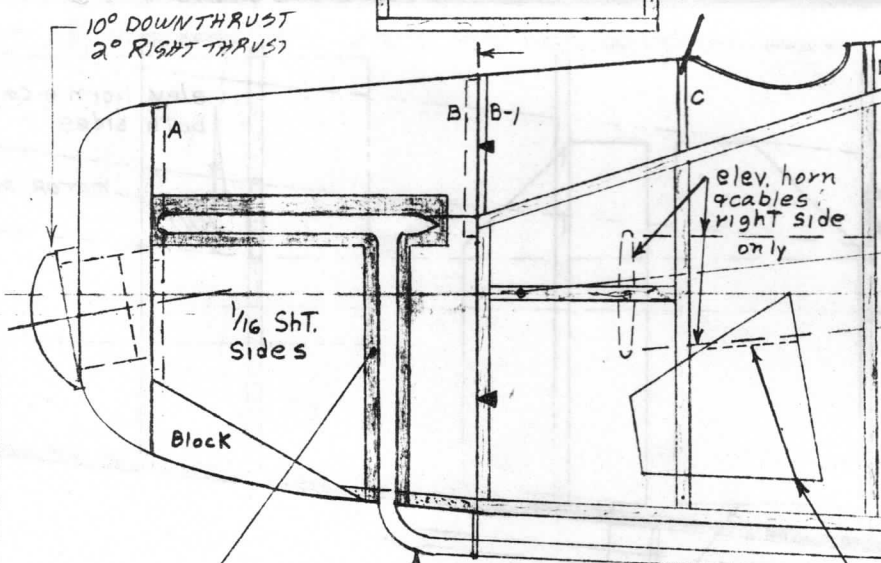
REVISED 1982 D.A.S.



Sht. Balsa or
Bond Paper
Covering from
Nose To for-
ward center
Section Struts



10° DOWNTHRUST
2° RIGHT THRUST



Shaded
area is dull black

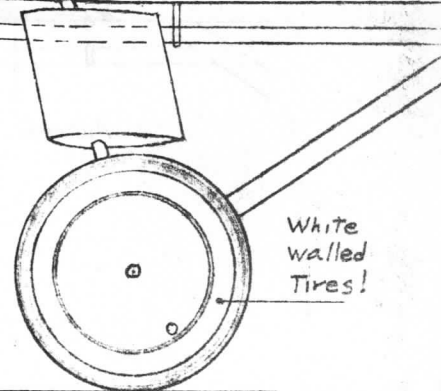
Area forward of
Triangles ◀ is
gloss black

Grey exhaust
pipes

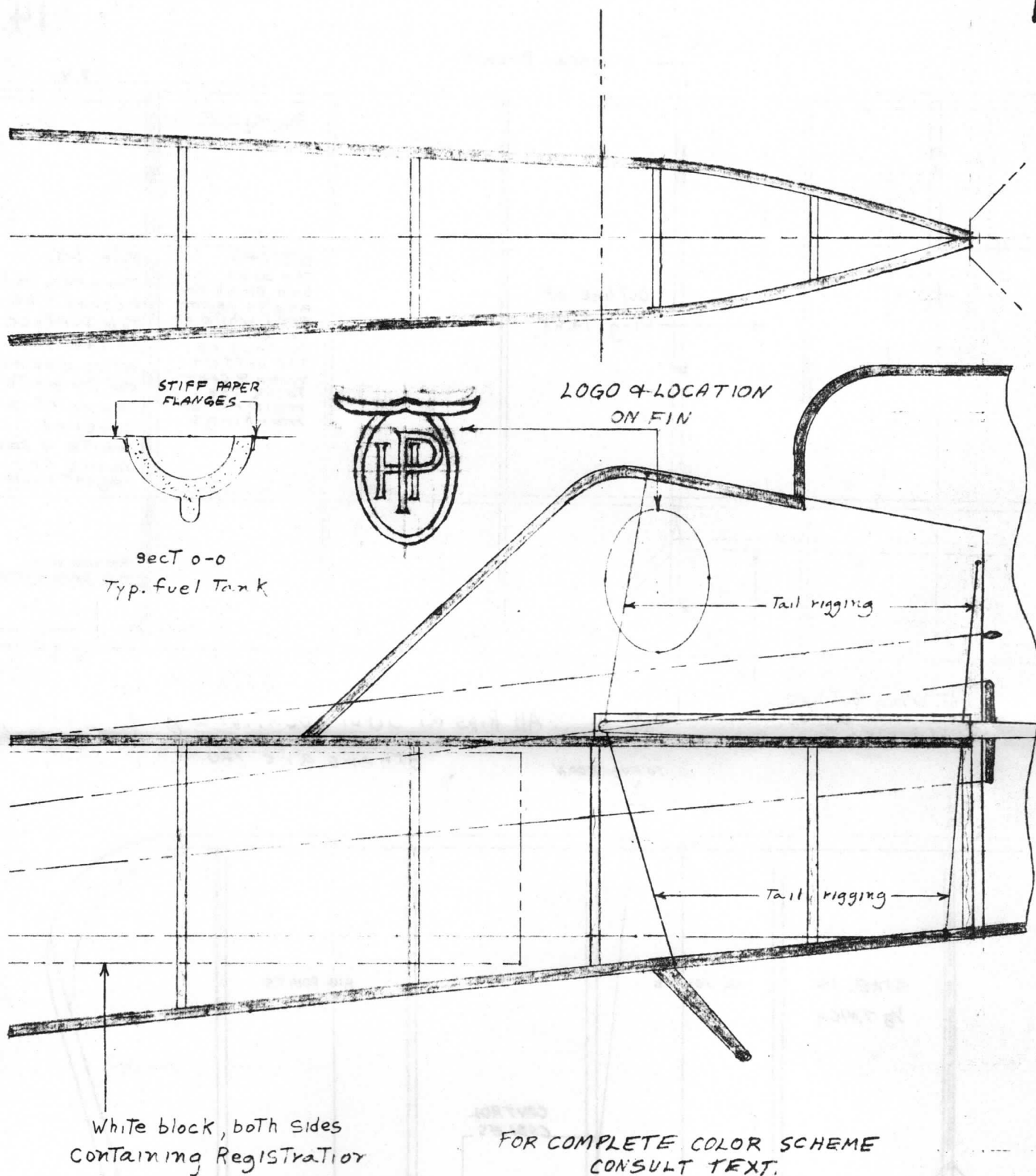
Entire Nose fwd of
this line is Black

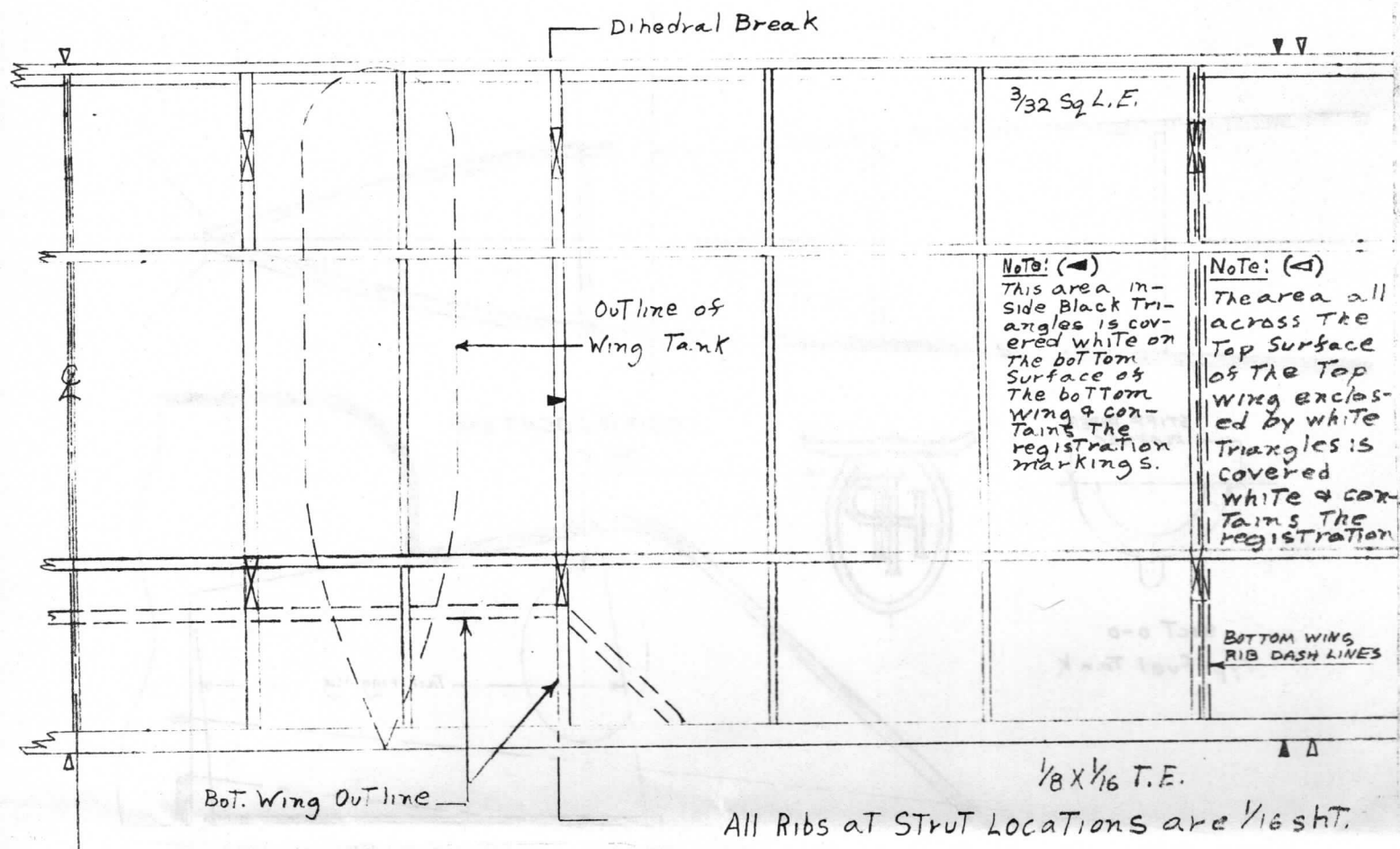
Baggage Comp.
door - left side.
Right side
dotted line

Cabin
heater
intake

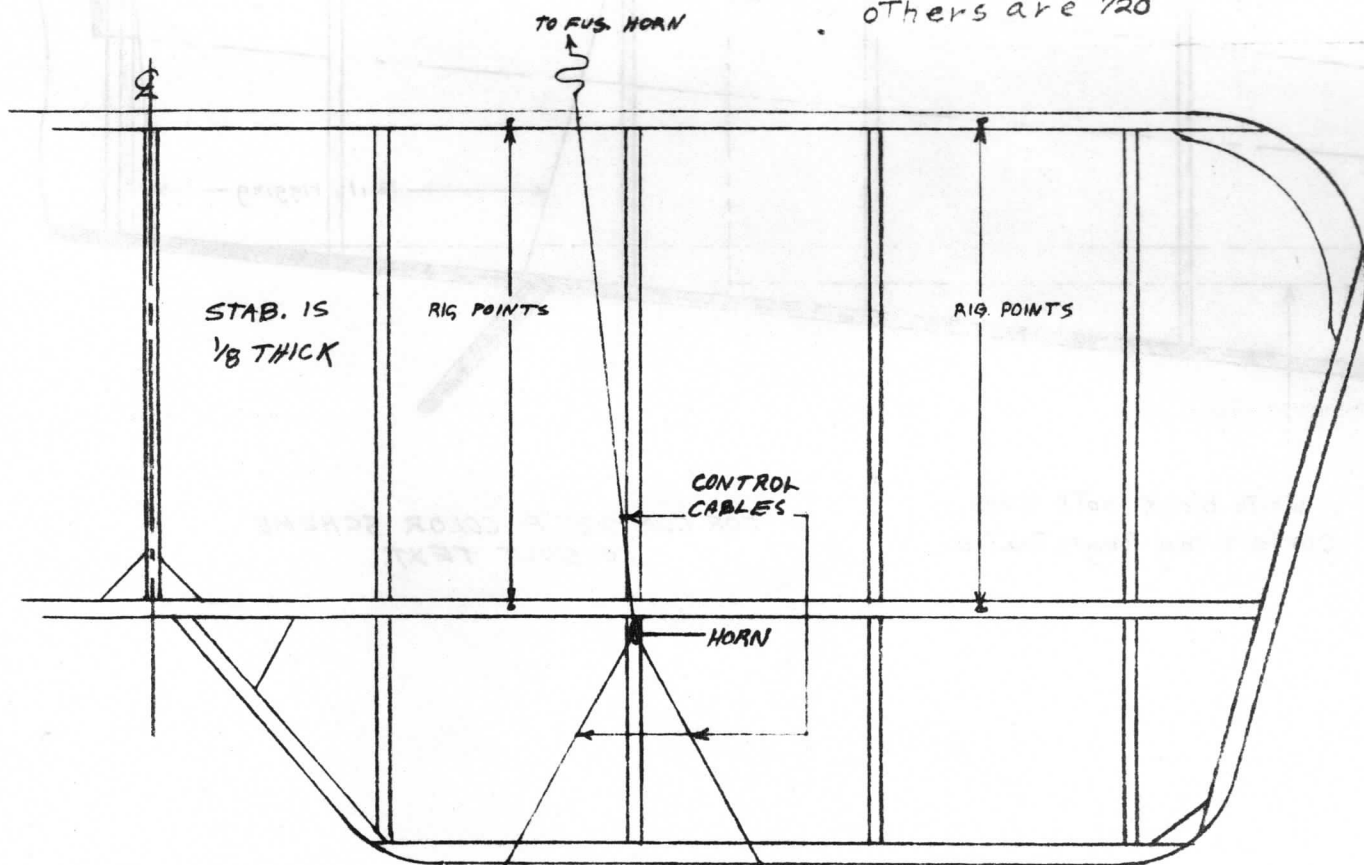


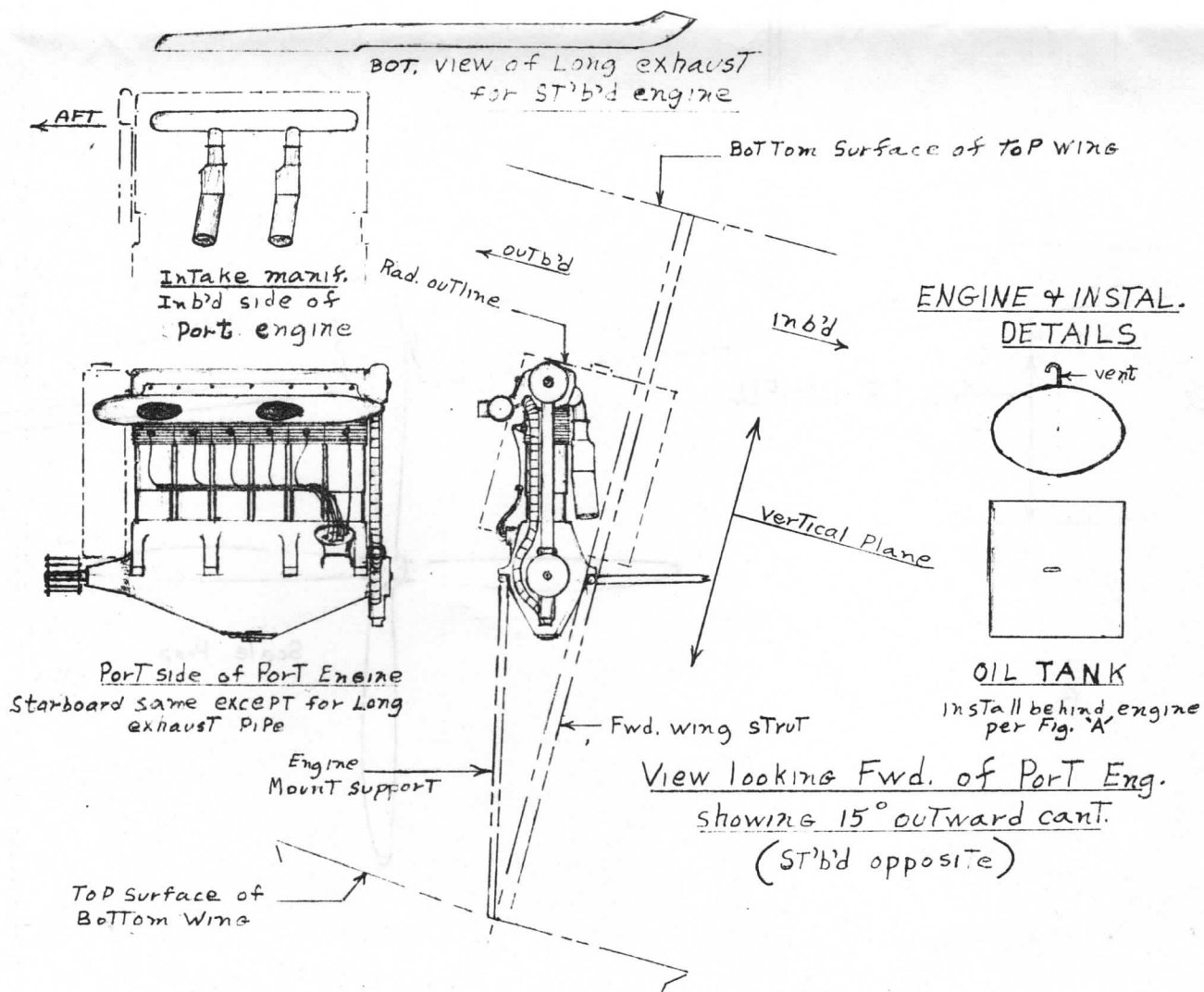
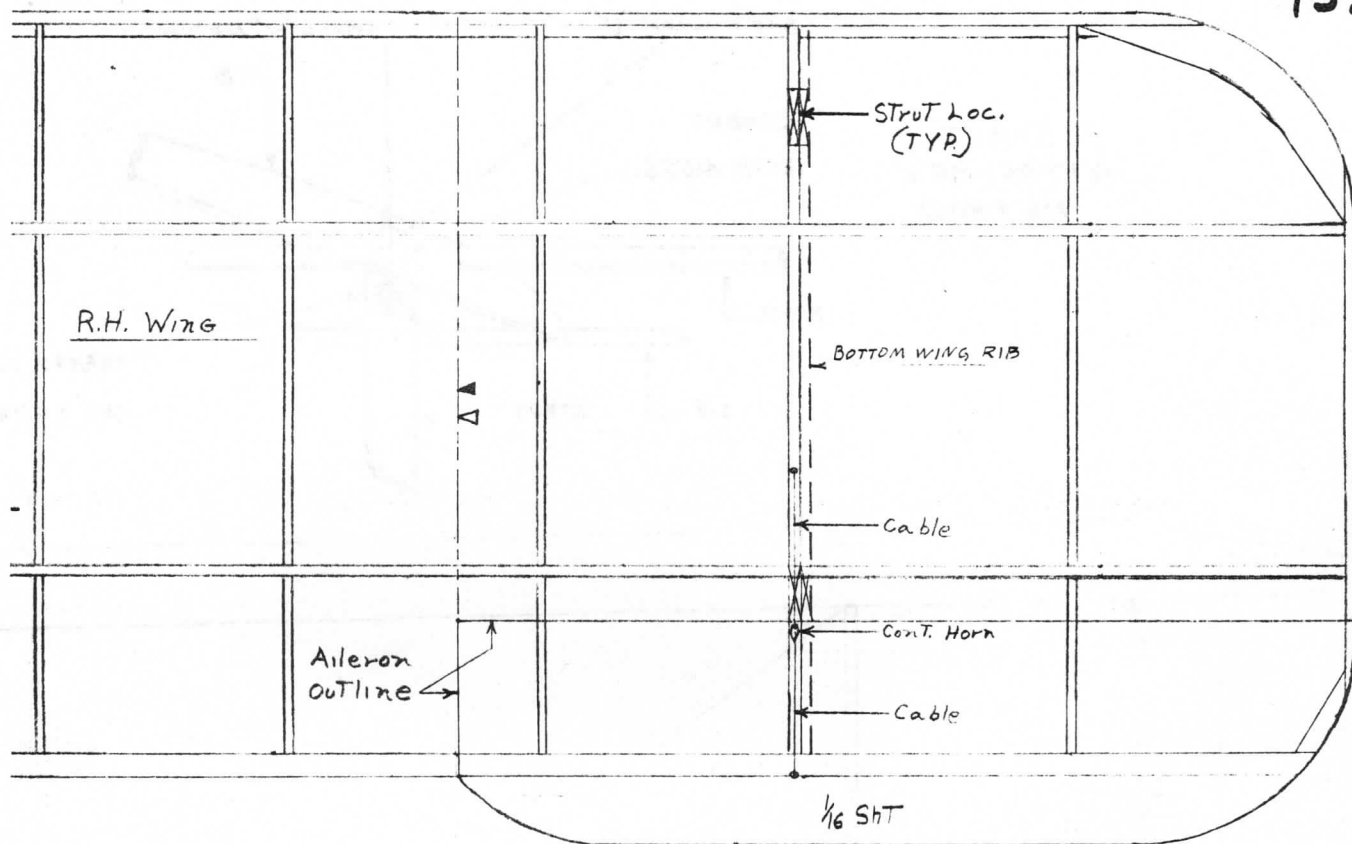
White
walled
Tires!



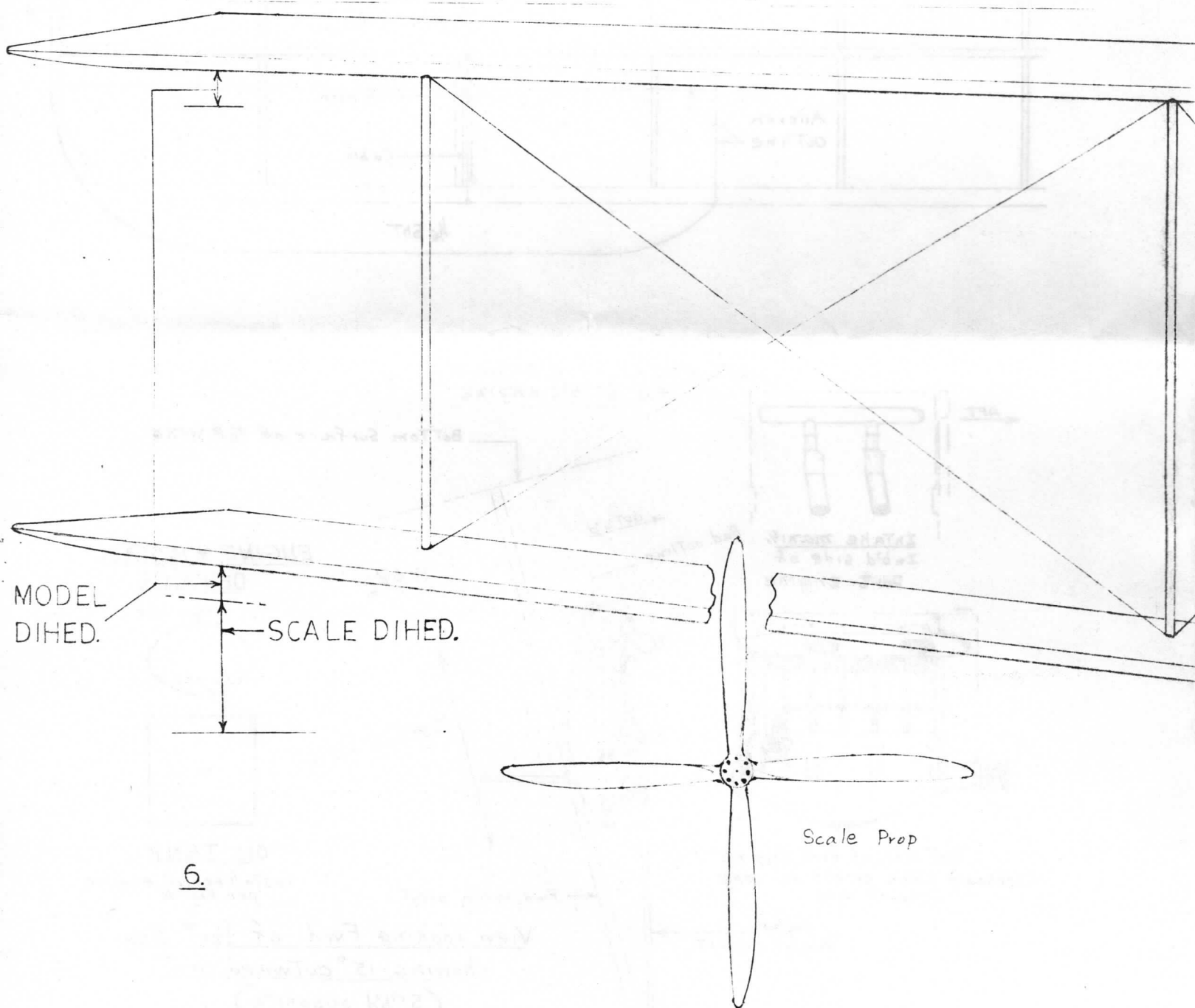
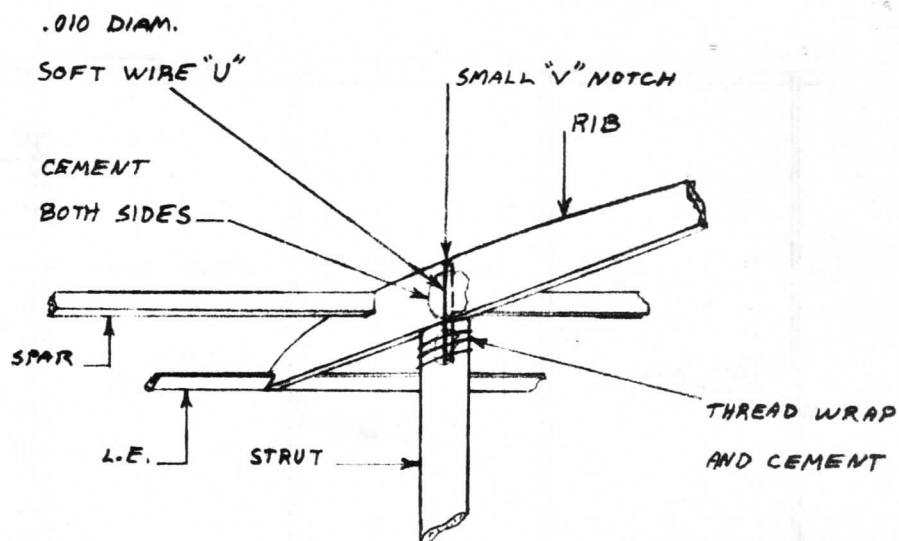


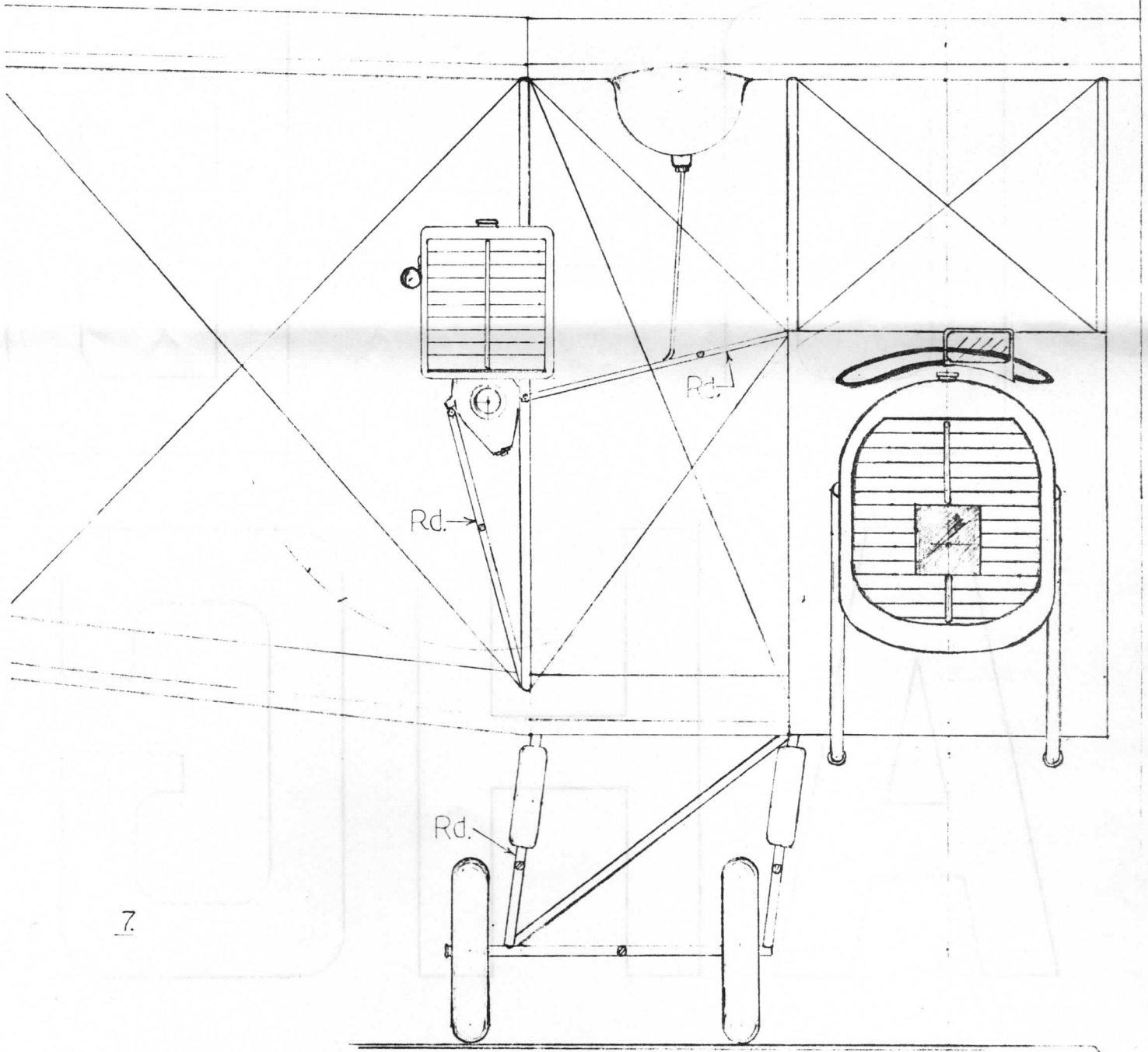
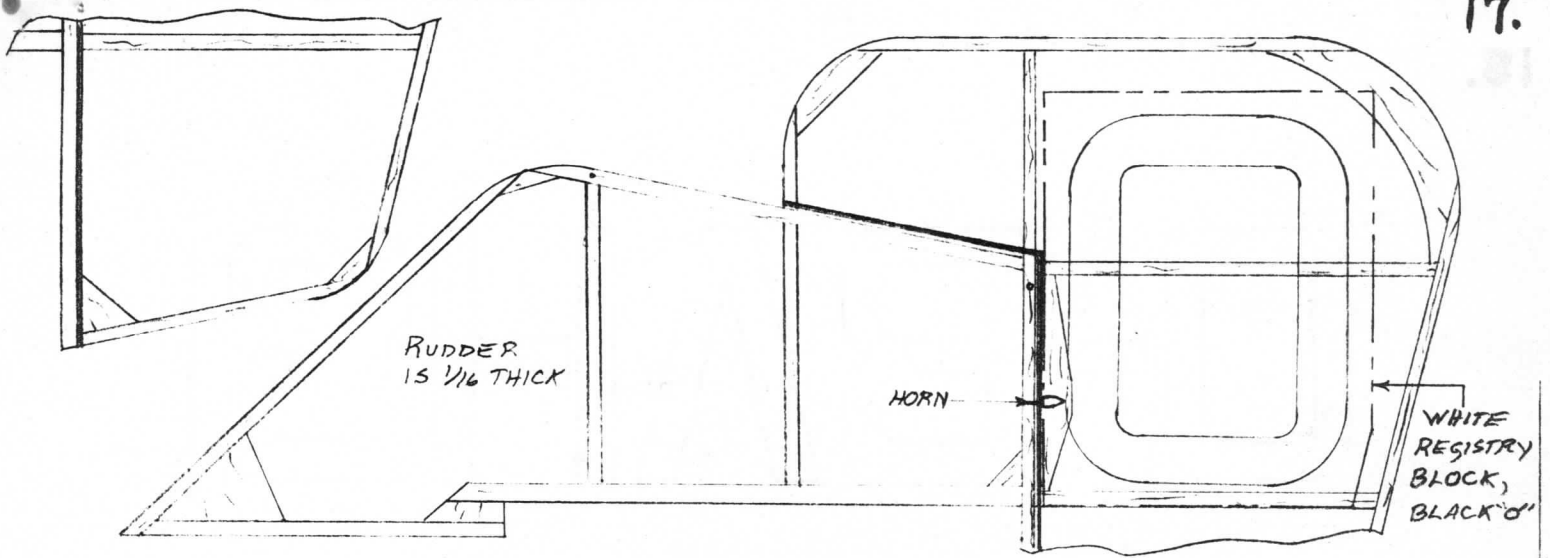
All Ribs at Strut Locations are 1/16 SHT.
Others are 1/20





STRUT ATTACHMENT METHOD





O-BAHG

O-B

AHG

PHOTOS FROM THE 1982 FLYING ACES CLUB NATIONALS AT
JOHNSVILLE NAVAL AIR STATION. WARMINSTER PA



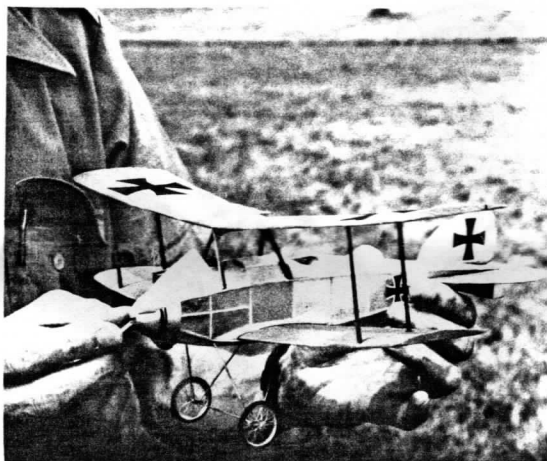
COLORFULL FOKKER E III BY JOE WACHTER
FROM THE HOST SOTS CLUB.



DENIS NORMAN FROM CLEVELAND HAD THIS
PRETTY SE-5 IN THE WW1 COMBAT EVENT.



WACO SRE P-NUT STERLING KIT
BUILT BY BILL NESBITT FROM
TOMS RIVER NJ



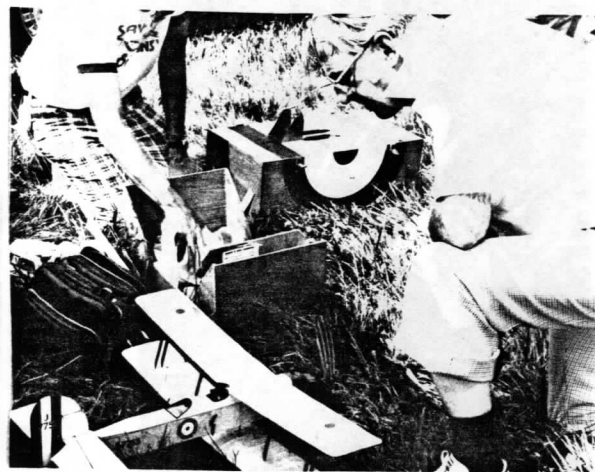
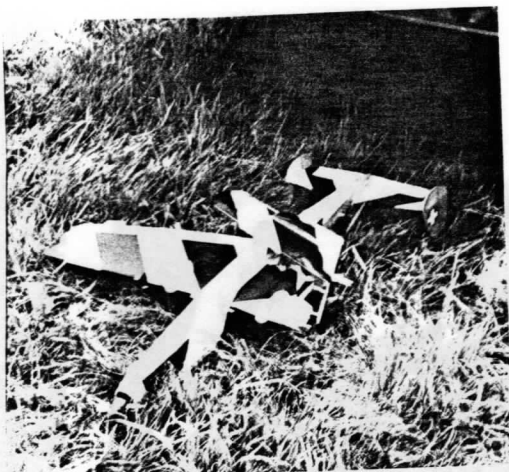
ALBATROS D-I BY DAVE REES OF
FLYING MODELS MAG.



F.A.C. AIR MARSHAL GORDON ROBERTS
FLEW THIS HUGHS RACER IN THE THOMPSON
TROPHY EVENT. JIM HYKA IS CREWMAN.



JUMBO SCHLEPP BY JACK MOSES LOOKED GREAT IN THE
AIR. SECONDS LATER IT TRIED TO ENTER A VAN. SORRY
ABOUT THAT JACK.



NOTED DESIGNER-BUILDER OF THE 1940'S
EARL STAHL, EXAMINING BILL NOONAN'S
ARMSTRONG-WHITWORTH APE.



EXCELLENT BRISTOL SCOUT BY
MIKE ESCALANTE FROM CLARKSBURG
MARYLAND.



FERNANDO RAMOS EXAMINING
ROLAND HOOT'S SANTOS-DUMONT.
MODEL FLEW BEAUTIFULLY.

DICK BENNETT CLEVELAND OHIO HAS BEAUTIFUL MODELS. HALL RACER IS VERY
COLORFUL. SIEMENS SCHUCKERT P-NUT WITH CAMOUFLAGE WILL HIDE WELL IN
THE GRASS. LAMINATED WALNUT AND BASSWOOD PROP IS REALISTIC.



STEARMAN P-NUT FROM STERLING
KIT BY NICK REGGIO. NICE COLOR.



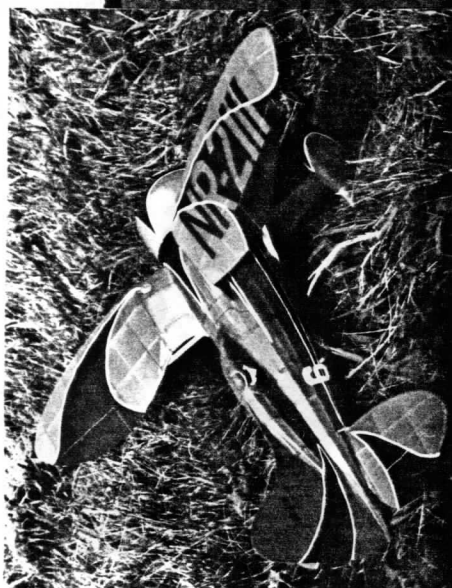
YELLOW & RED SIMOUN
CAUDRON BY DAVE REES



BOULTON PAUL DEFIANT FLOWN
BY GORDON ROBERTS IN WWII
COMBAT.



RYAN PT22 BY TOM SANDOR
FROM CLIFFTON NJ



13th Annual Midwest Scale Meet
Sept. 26, 1982

Site; Erie, Pa. just off I-90 (exit 5) On route 832

Time; 10:am till 5:pm.

AMA Sanctioned

- | | |
|------------------------------|------------------------|
| Events: 1. Flying Aces Scale | 5. Jumbo Scale |
| 2. Peanut Scale | 6. Thompson/Greve Race |
| 3. Embryo Endurance | 7. Old Timer Scale |
| 4. HLG | 8. Old Timer Rubber |

All events to be flown according to FAC rules.

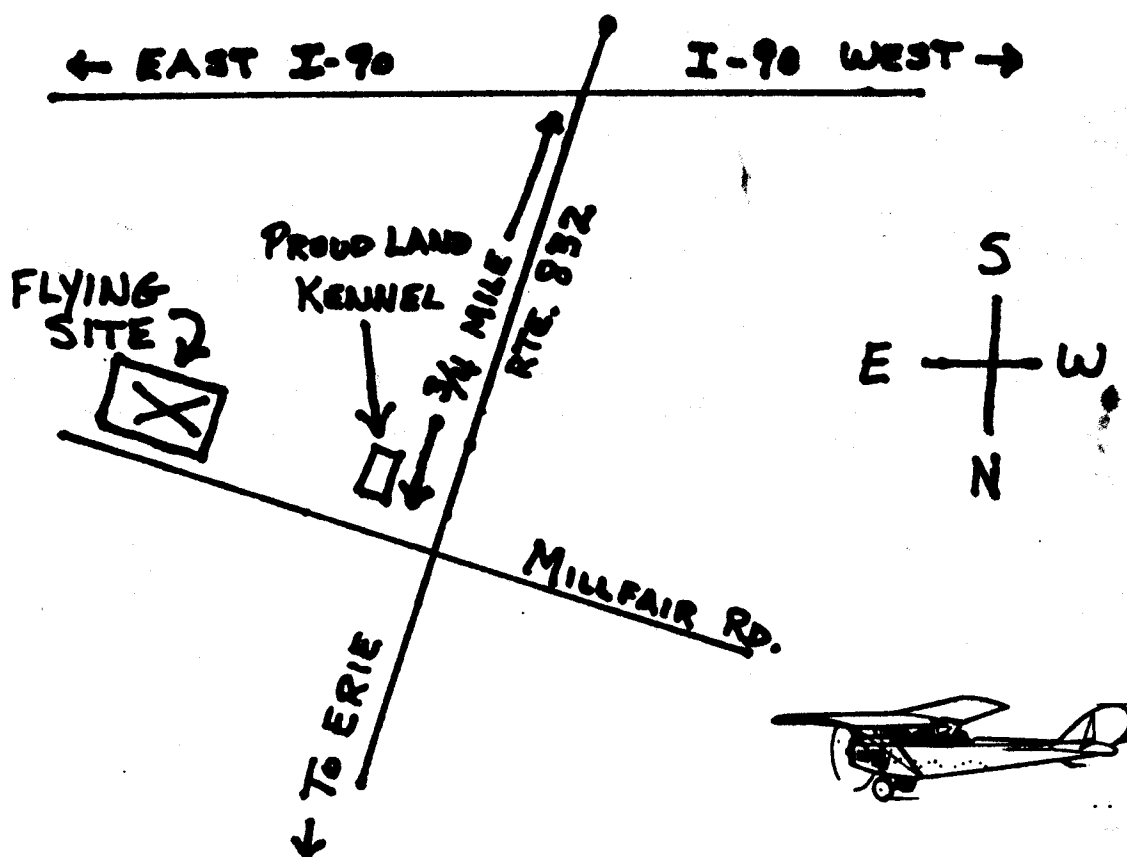
No condenser paper covered models.

Prizes to be kits or merchandise.

Prizes through third place, except event #6, first place only.

Entry fee will be \$3.00 first event, \$1.00 each add. event, max. fee \$6.00
Jr. & Sr. \$2.00 flies everything.

Contest Director, Vic Didelot, 4410 Lorna Lane, Erie, Pa. 16506
phone 814-838-3263



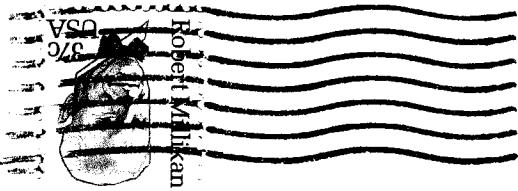
FLYING ACES PATCHES

We still have a good supply of patches that are suitable to be worn on the back of your shirt or jacket. For those of you who do not have the patches that were sold at the FAC Nats, we have some of those too, these are smaller in size and can be worn on the front of your shirt. Both patches can be had for two dollars each and can be ordered from FAC-GHQ, 3301 Cindy Lane, Erie, Pa. 16506. Start a collection of FAC memorabilia, order now! IF ONLY ORDERING

ONE PLEASE SPECIFY!

FIRST CLASS

Claude Powell
P.O. Box 454
Ridge, Md. 20680



Flying Aces Club G. H. Q.
3301 Cindy Lane
Erie, PA 16506

