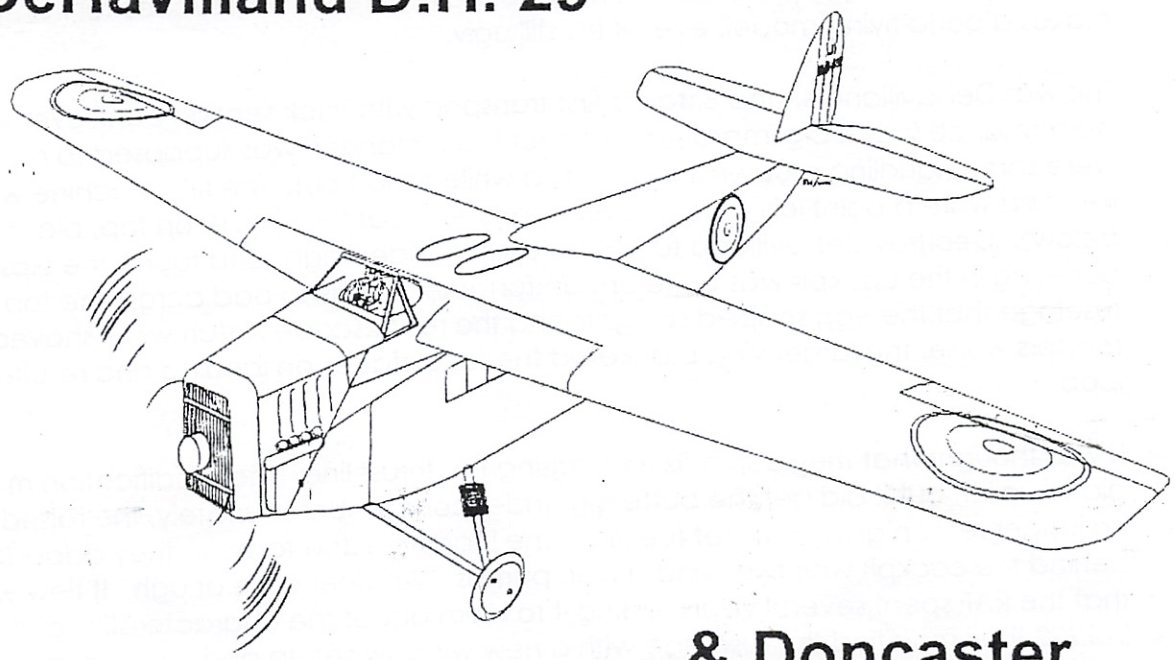
CROSSWINDS #126

21" DeHavilland D.H.29 and Doncaster

DeHavilland D.H. 29

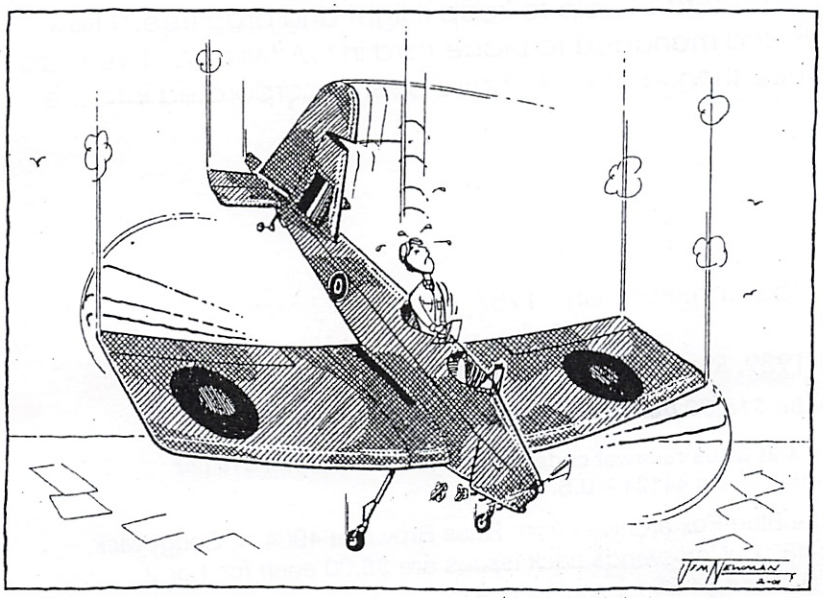


& Doncaster

CROSSWINDS
RUSS BROWN
4909 N. SEDGEWICK
LYNDHURST, OH 44124

CLEVELAND FREE FLIGHT SOCIETY
CLEVELAND OH 441 PM

Miles M.18 *by jim newman*



44094$8476 R001

DeHavilland D.H.29 Doncaster

I've heard it said that DeHavilland never built an ugly aeroplane. The guys who said that obviously never saw the D.H.29. It may not have been a very successful transport, but it makes a good flying model, even if it's still ugly.

This was DeHavilland's, and Britain's first transport with thick section cantilever wings. While performance was a big improvement over the biplanes it was supposed to replace, there were some handling problems that took a while to sort out. The first machine was built for the RAF and wore a paint job carried over from the Great War (PC10 on top, plain varnished linen below). Geoffrey DeHavilland took it up on its maiden flight and found the slipstream buffeting in the cockpit was quite uncomfortable. It was so bad across the top of the fuselage that the egg shaped skylights and the rear escape hatch were shoved in. To make matters worse, the large wing blanketed the tail surfaces on landing and resulted in a ground loop.

It was thought that they could fix it by raising the thrust line. The modification made an ugly plane uglier, but it did get the buffeting under control. Unfortunately, the raised engine could no longer rely on gravity to get fuel from the leading edge tanks so they added a header tank behind the cockpit with two wind driven pumps. Another dose of ugh. It flew well enough that the RAF spent several years testing it to learn about the characteristics of the new wing. In 1922 they modified the fuselage with a new window set up and a rear gunner's position equipped with a Scarf ring. At this time it also got repainted with the new RAF standard aluminum dope and acquired the designation "Doncaster." Somewhere along the line it got a set of horn balanced elevators. Hard to make them out in any of the photos, but two reliable sources say it happened and the 3v from *Flight* magazine shows it.

The other D.H.29 was built as a commercial transport. Daimler Hire Ltd. was very interested in the ten passenger machine. DeHavilland painted it in the Daimler colours (overall red, with white registrations) anticipating a sale, but the machine's problems caused Daimler to buy biplanes instead. It went to join the Doncaster at Martlesham and was used in the test program.

Perhaps not much of an aviation career, but as a Free Flight model, it has much to recommend it. No struts, and a simple undercart help to keep it light and drag free. I flew mine for the first time at the 2006 Nats and managed to place third in GA Military. I've made a few minor changes to the model since then, and these have been incorporated into the plan presented here.

Sources:

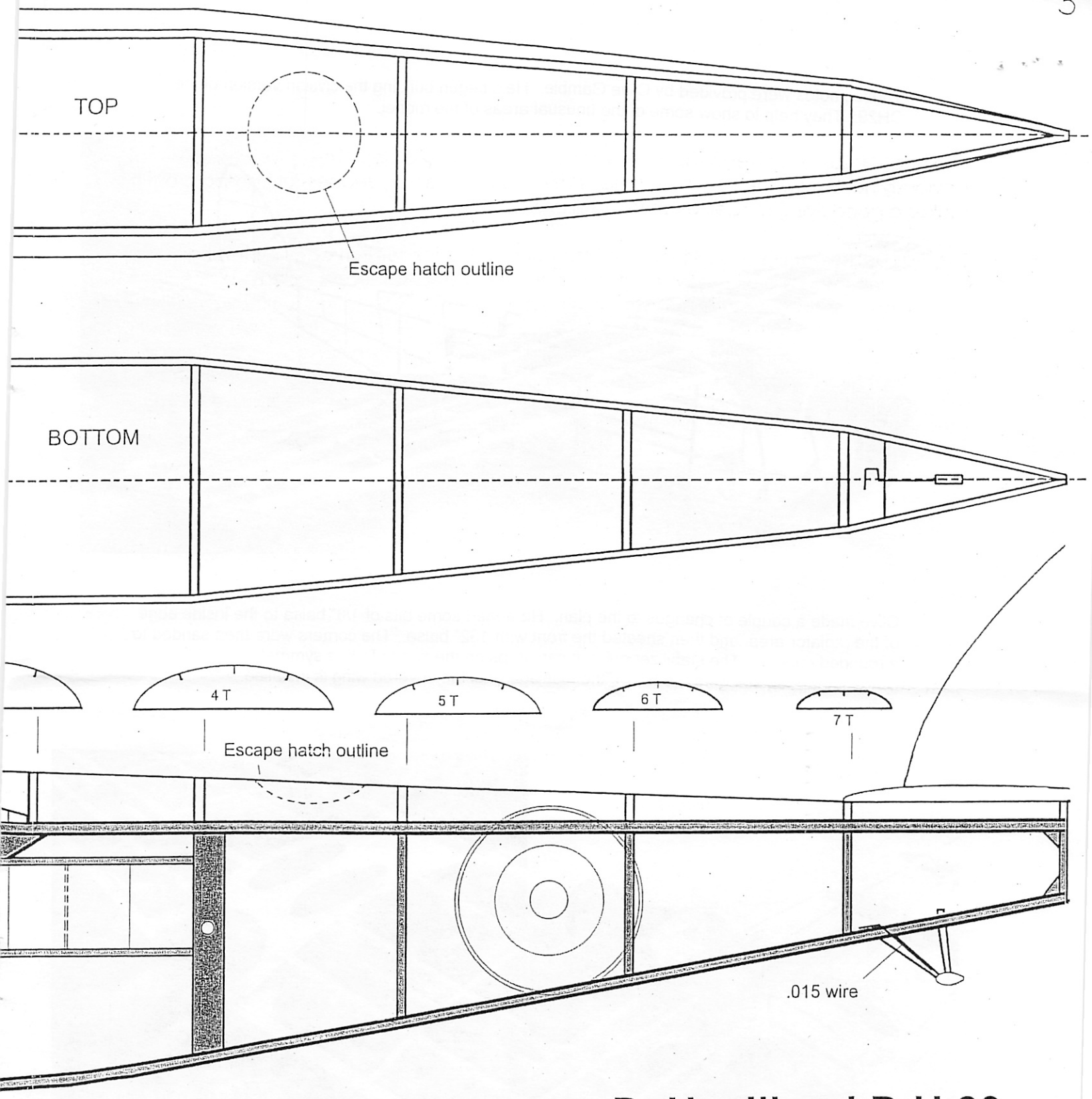
De Havilland Aircraft Since 1909, A.J. Jackson, Putmam, 1987

de Havilland, the Golden Years 1919-1939, Richard Riding, IPC Transport Press, 1981

Renewal rate for "Crosswinds" will now be $18.00 per year, (same as FAC Club News).

CROSSWINDS Readers with the dreaded red X at issue renewal code #125 or lower can send $18 per year to Russ Brown 4909 N. Sedgewick, Lyndhurst, Oh 44124 – U.S. A.

Crosswinds back issues are available in the Blue Fox archives from Russ Brown at 4904 N. Sedgewick, Lyndhurst, OH 44124 - - phone (216) 382-4821. Crosswinds back issues are $5.00 each for 1 or 2 issues; three for $14.00; $4.50 for four or five and $4.25 for six or more.



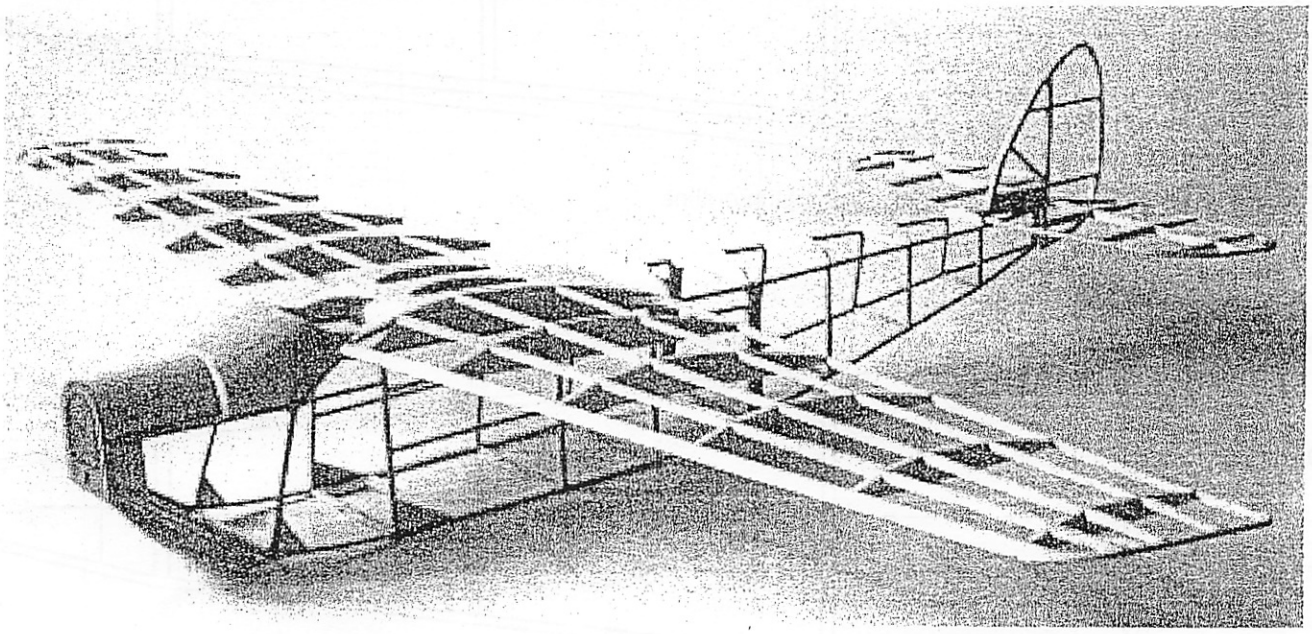
DeHavilland D.H.29

RAF Transport **21" span**

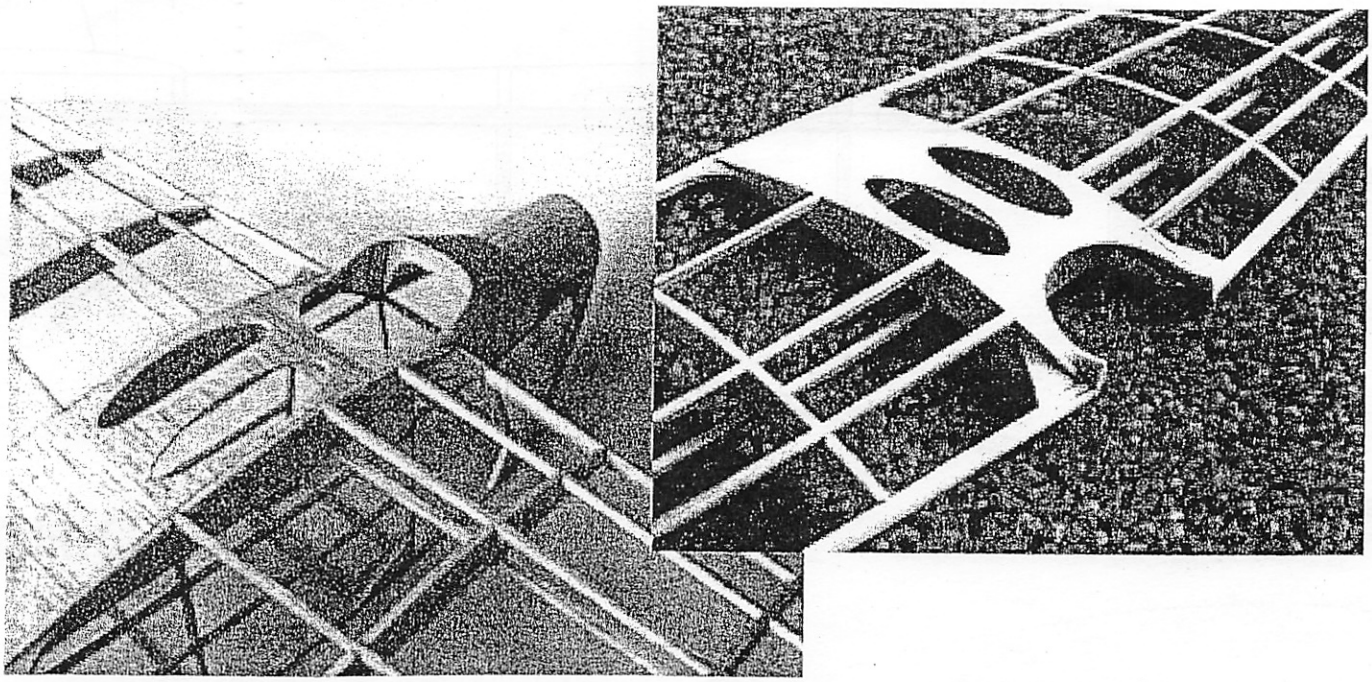
a is 1/16" stock except as noted.

Wingnut Aero Works, Ltd.
Rich Weber 2006

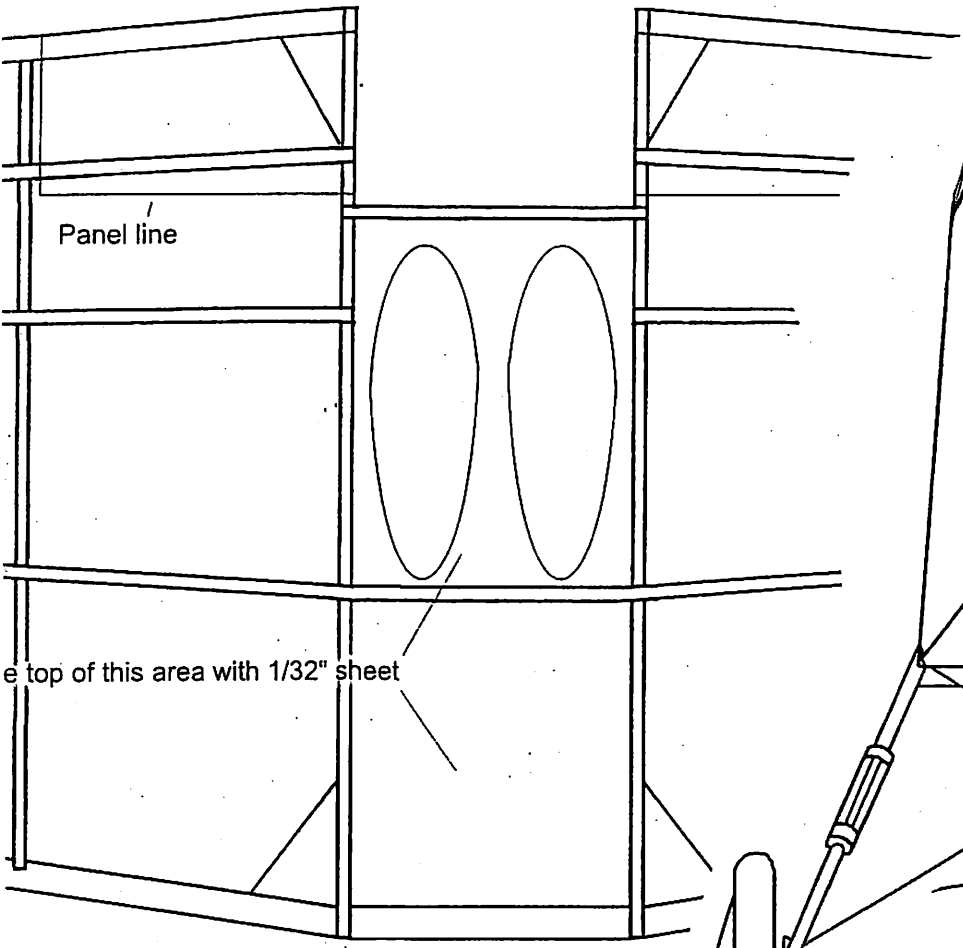
These photos were provided by Clive Gamble. He's begun building the civilian version of the DH29. They help to show some of the unusual areas of the model.

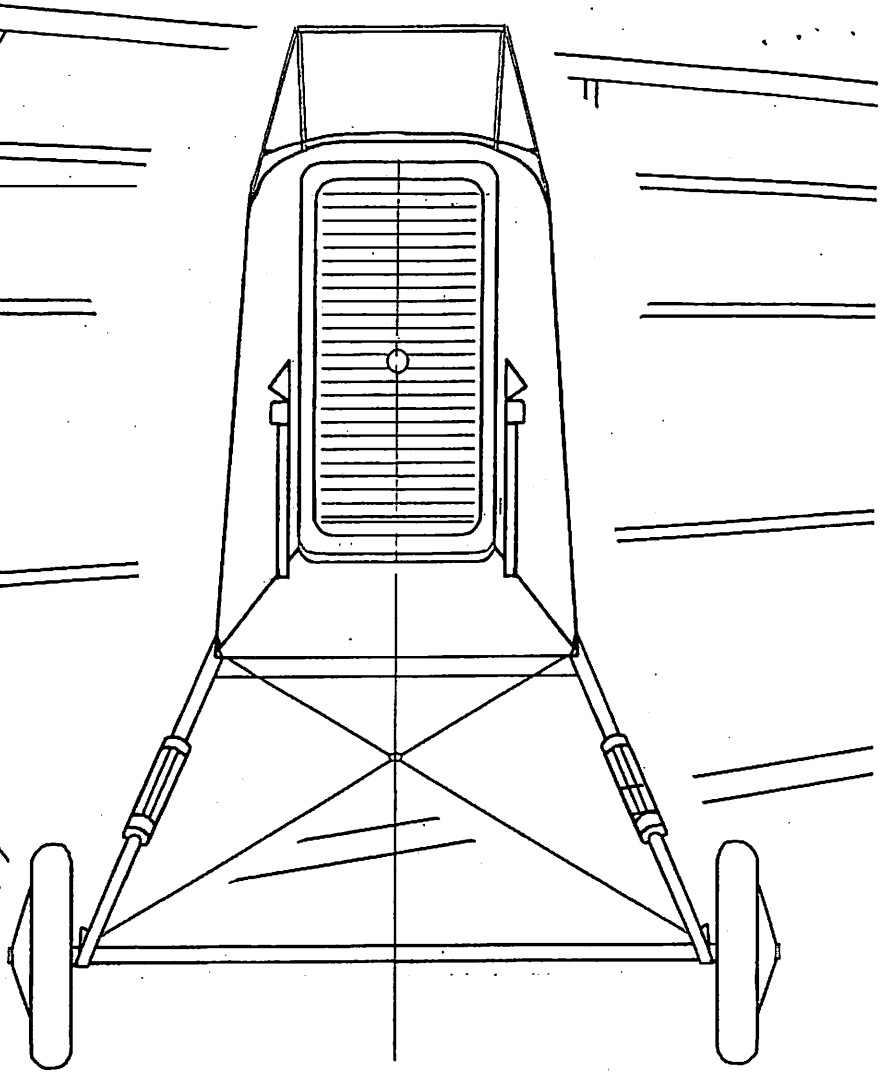


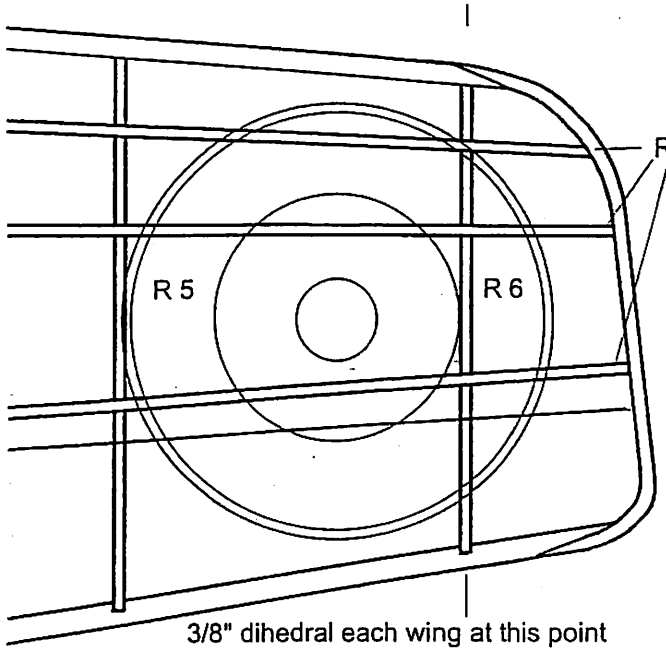
Clive made a couple of changes to the plan. He added some bits of 1/8" balsa to the inside edge of the radiator area, and then sheeted the front with 132" balsa. The corners were then sanded to a rounded contour. The stabilizer got soft cap strips on the ribs to form a symmetrical airfoil. Note that the top stringers are left off the fuselage until the covered wing is installed.

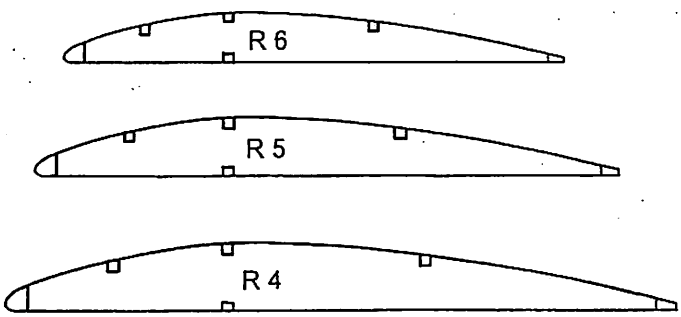


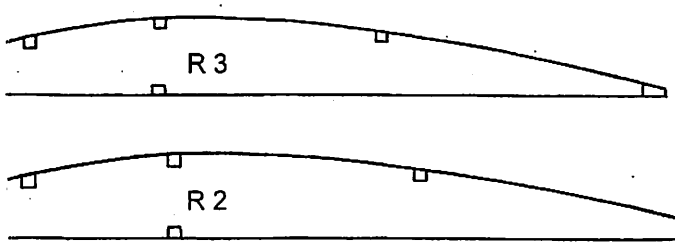
Soft balsa bits added around the cockpit opening allow the compound curves to be sanded in.







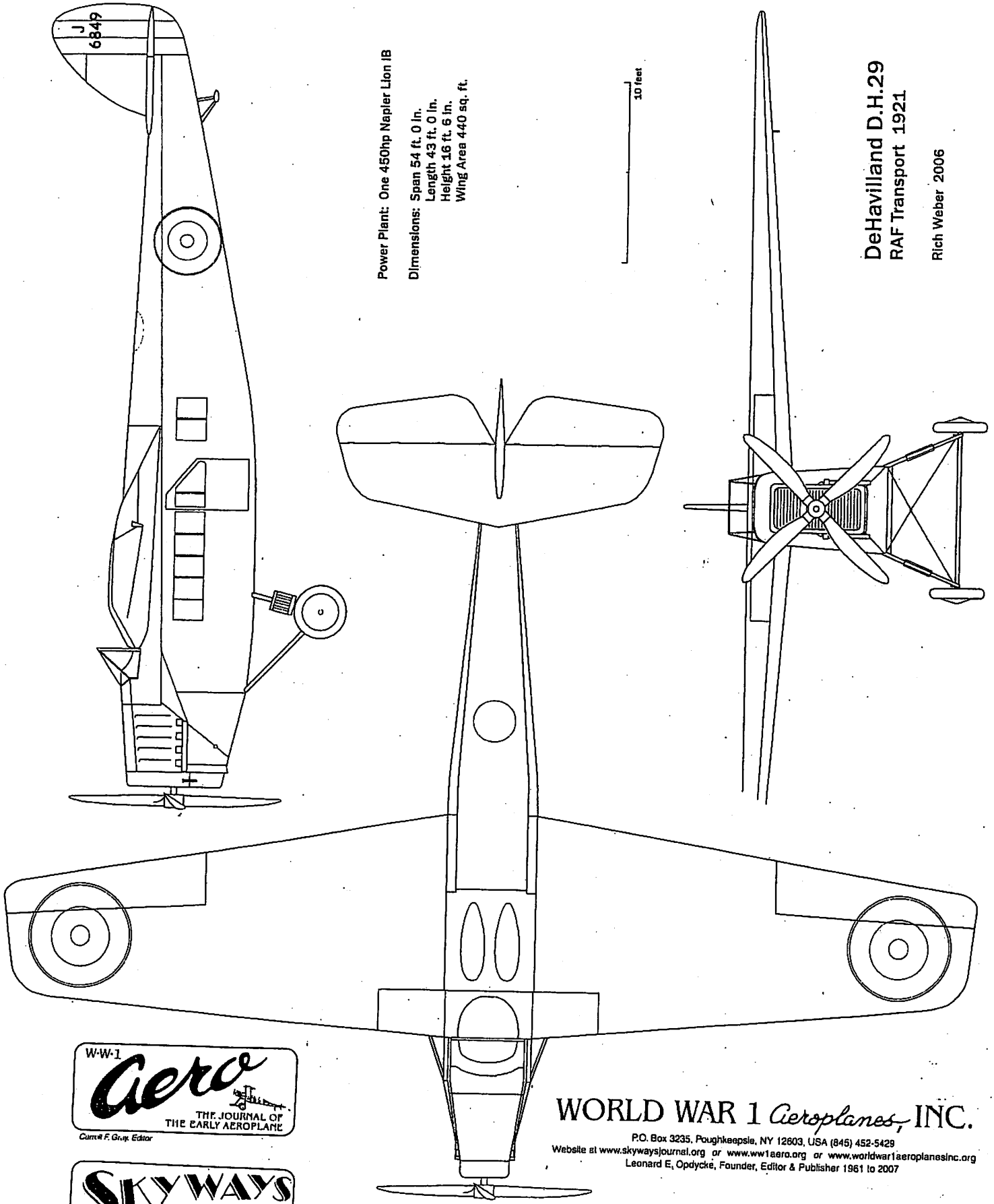




DeHavilland D.H.29

RAF Transport **21" span**

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Rich Weber 2006

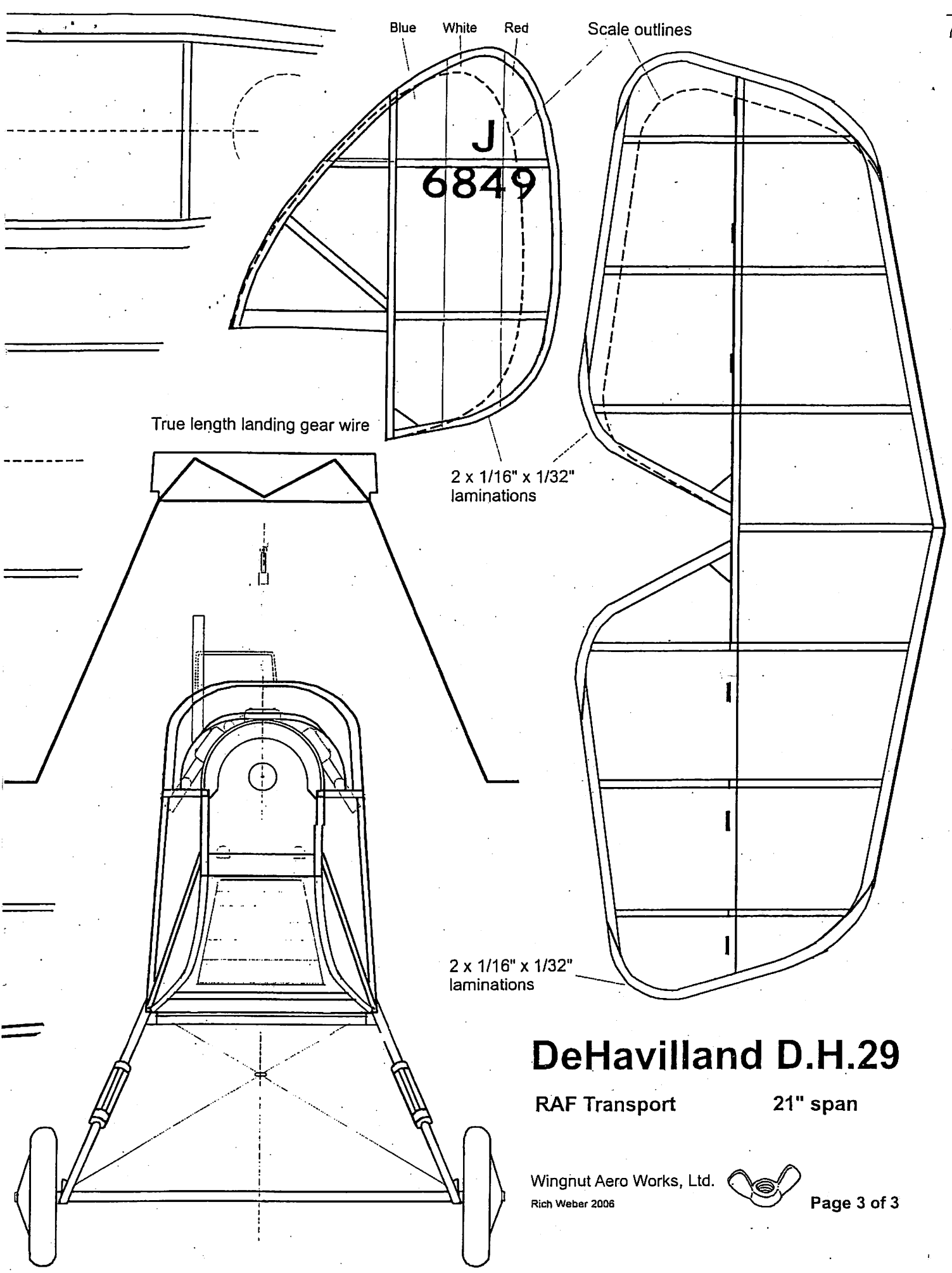


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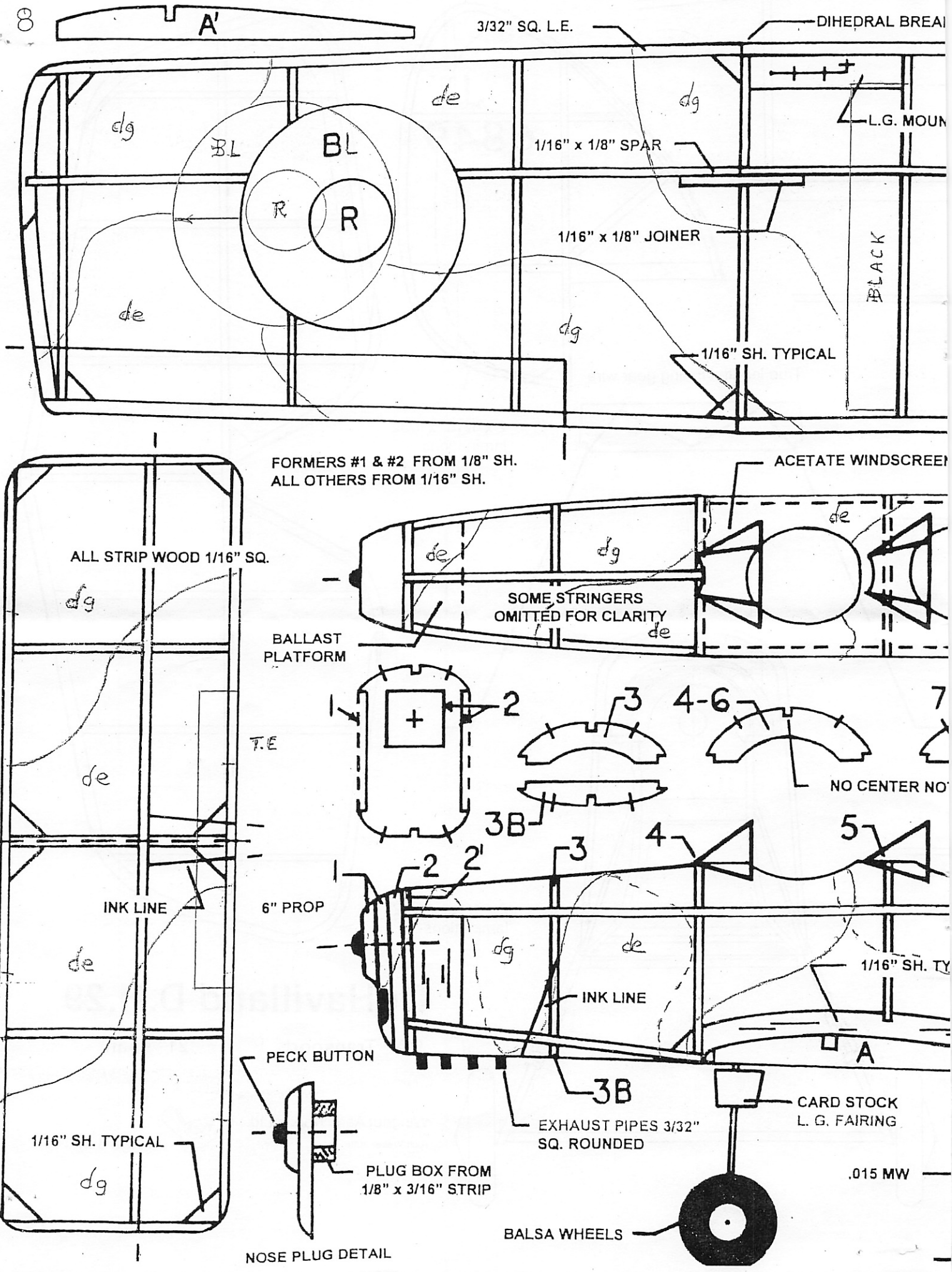
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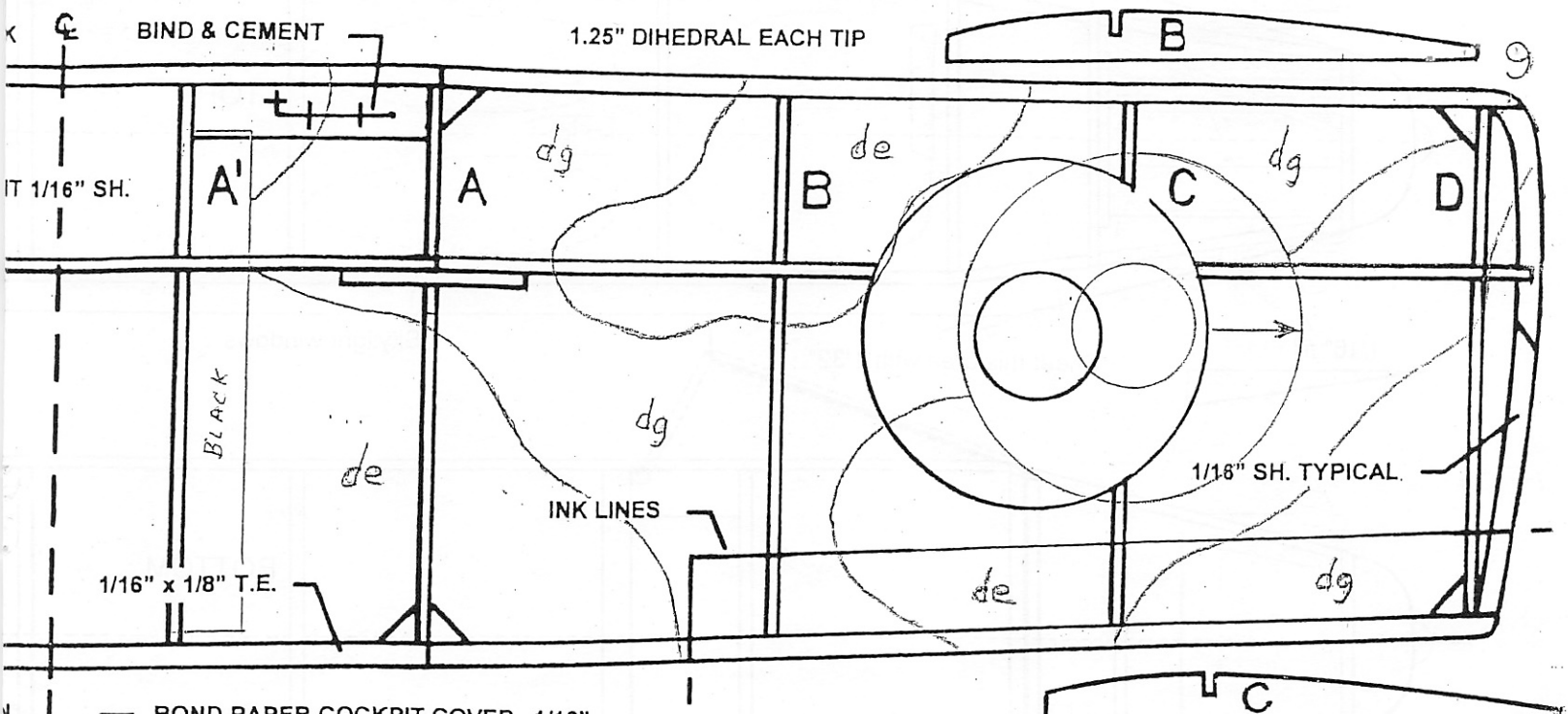


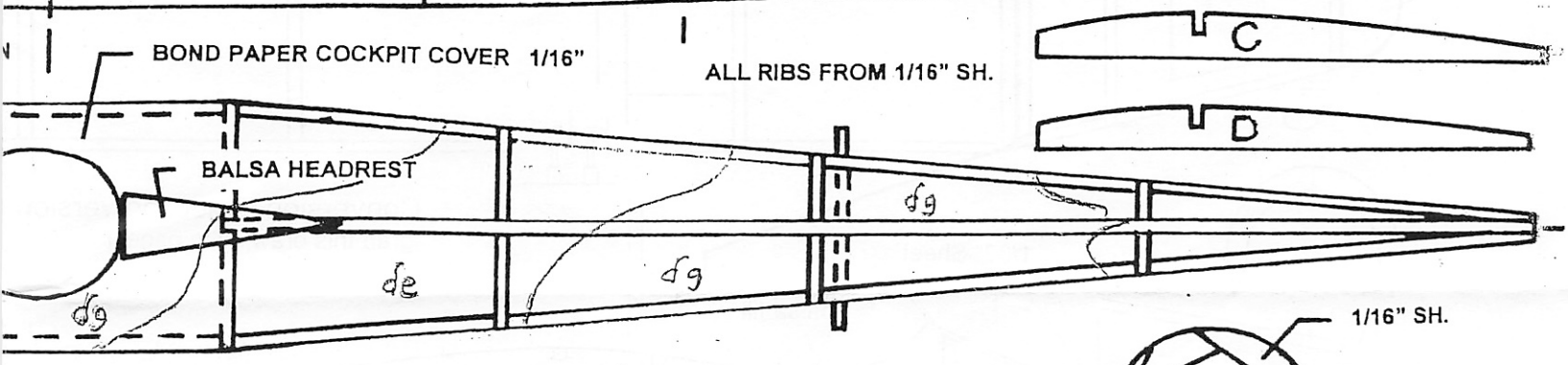
DeHavilland D.H.29

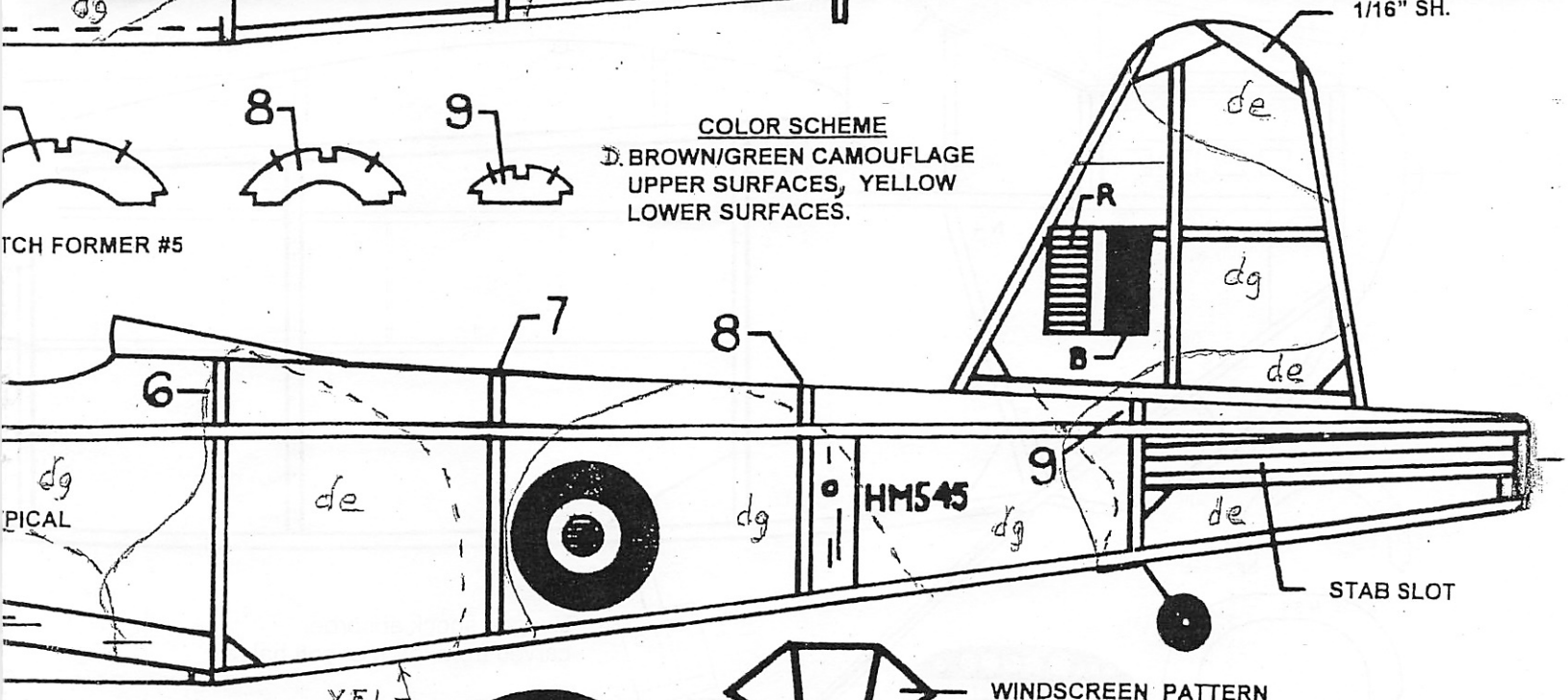
RAF Transport **21" span**

Wingnut Aero Works, Ltd.
Rich Weber 2006


A'
3/32" SQ. L.E.
DIHEDRAL BREAK
L.G. MOUN
1/16" x 1/8" SPAR
1/16" x 1/8" JOINER
BLACK
1/16" SH. TYPICAL
BL
R
dg
de
FORMERS #1 & #2 FROM 1/8" SH.
ALL OTHERS FROM 1/16" SH.
ACETATE WINDSCREEN
ALL STRIP WOOD 1/16" SQ.
SOME STRINGERS
OMITTED FOR CLARITY
BALLAST
PLATFORM
T.E
1
2
3
3B
4-6
7
NO CENTER NO
INK LINE
6" PROP
2'
4
5
1/16" SH. TY
A
PECK BUTTON
PLUG BOX FROM
1/8" x 3/16" STRIP
NOSE PLUG DETAIL
EXHAUST PIPES 3/32"
SQ. ROUNDED
CARD STOCK
L. G. FAIRING
.015 MW
BALSA WHEELS







L.G. STRUT PATTERN
(LEFT & RIGHT NEEDED)

OPT A WING BOTTOM ROUNDEL
ALT. C ROUNDELS, BOT.

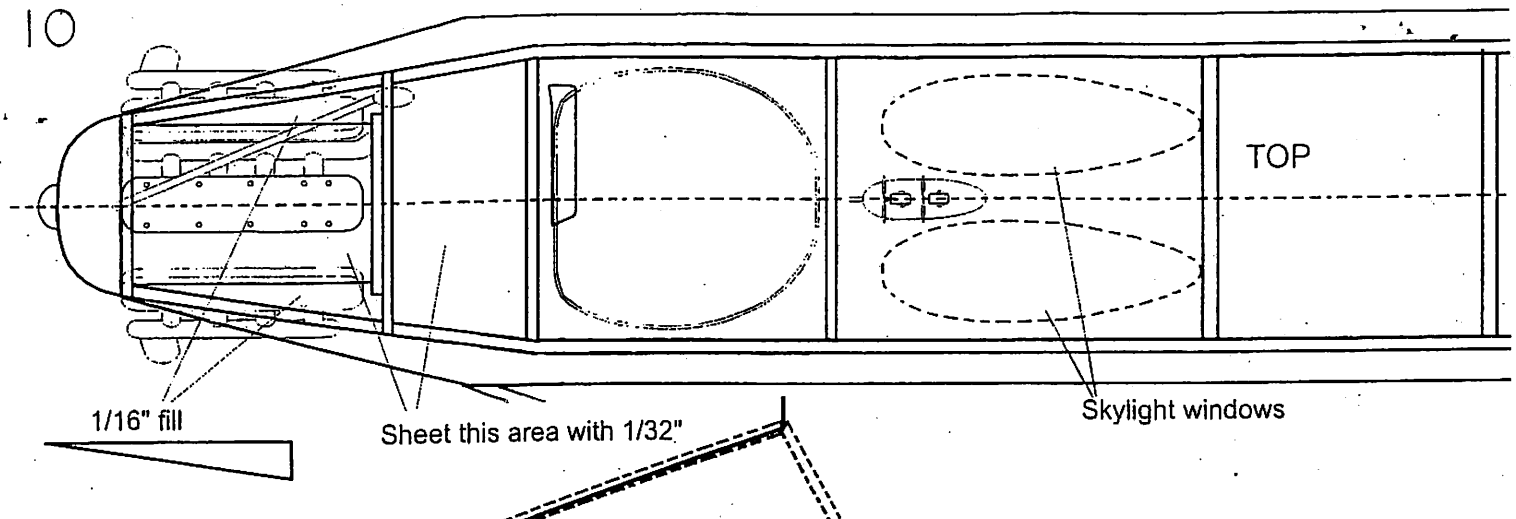
XW 126 M.18 b/s B 10/5/08

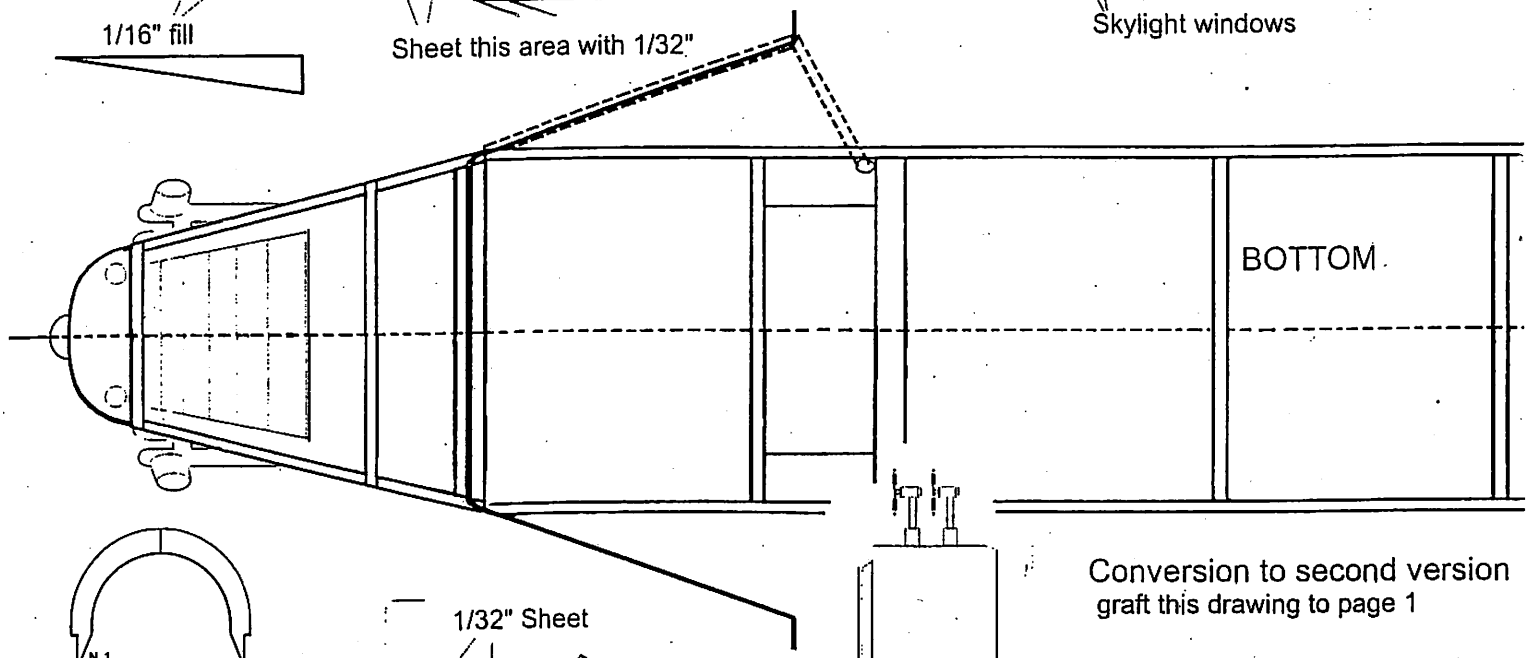
BAY STATE MODEL CO.

BRITISH MILES M.18 10-CENTER

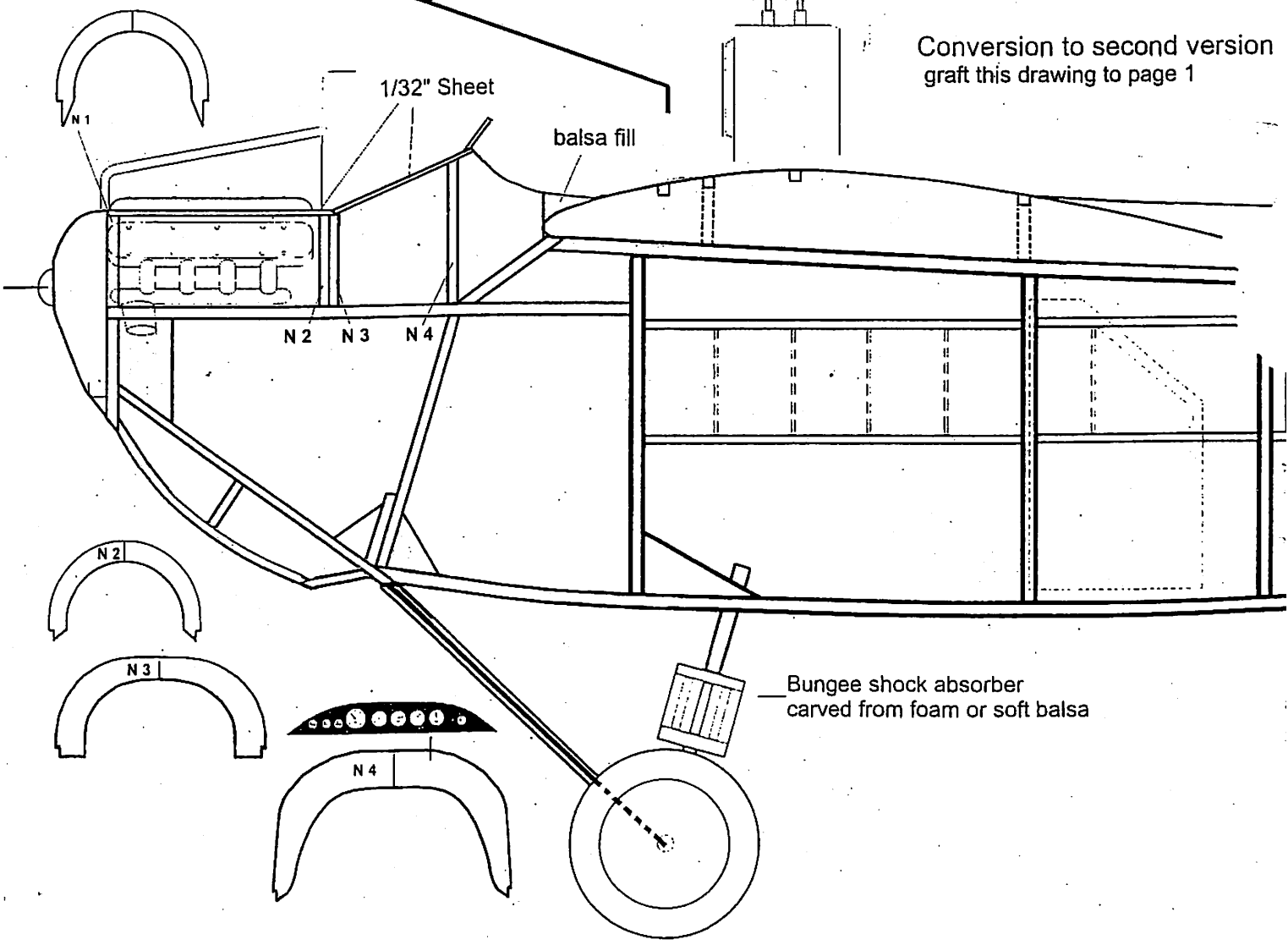
Wingspan 16" **Length 13.25"**

Designed & Drawn by Mike Nassise, 3/08





Conversion to second version
graft this drawing to page 1



FLYING MODELS
P.O. BOX 700
NEWTON, NEW JERSEY 07860

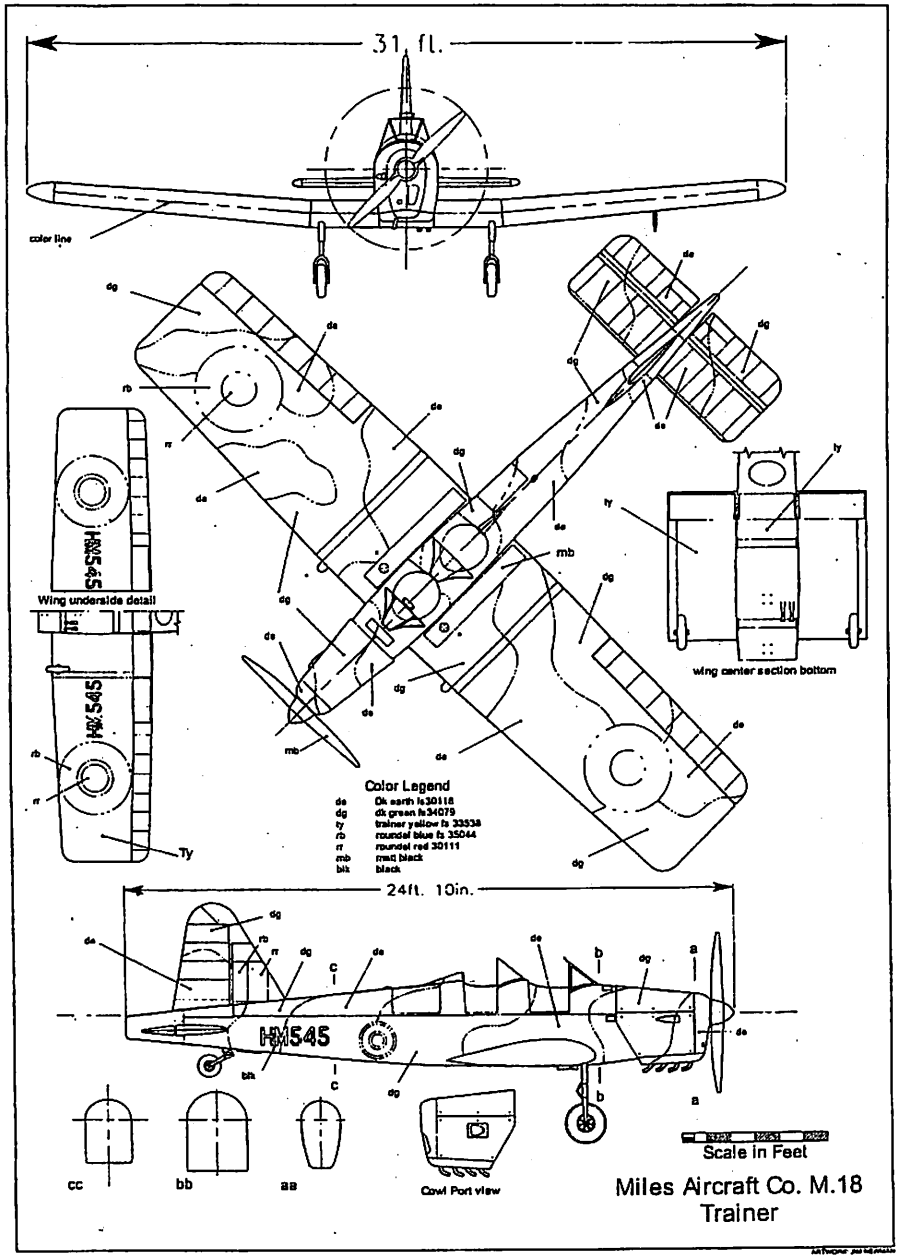
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2 years, 24 issues 69.95
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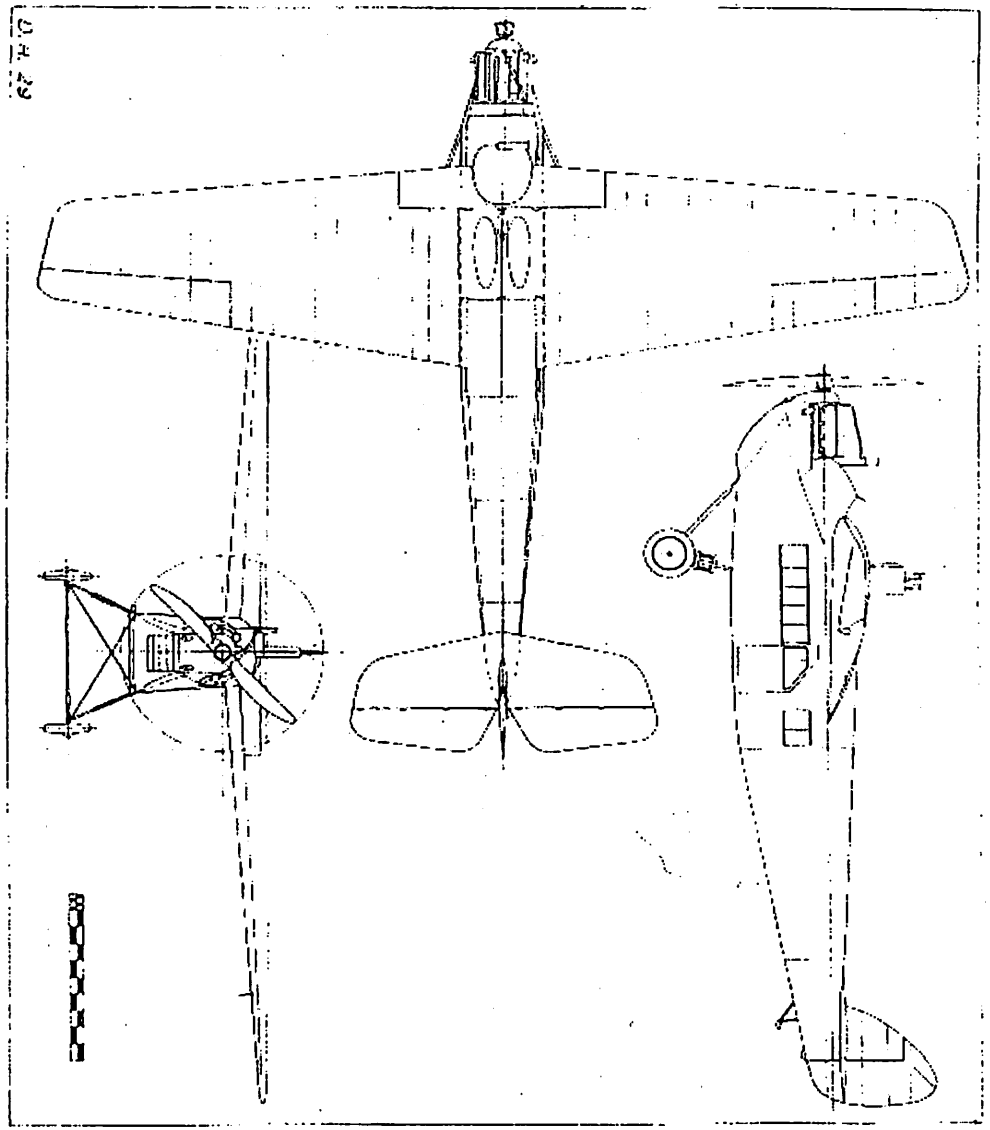
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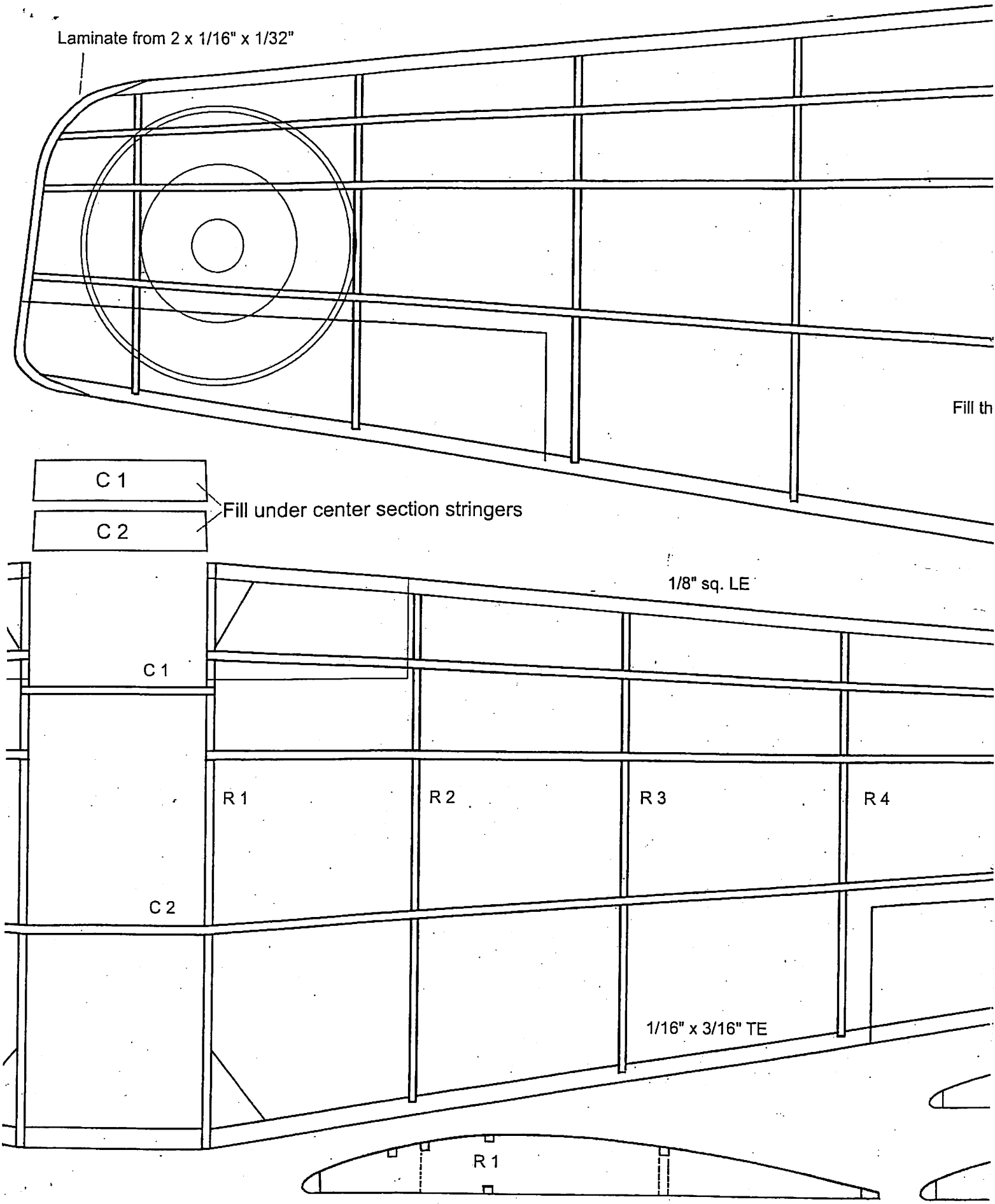
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3 years, 36 issues 136.00



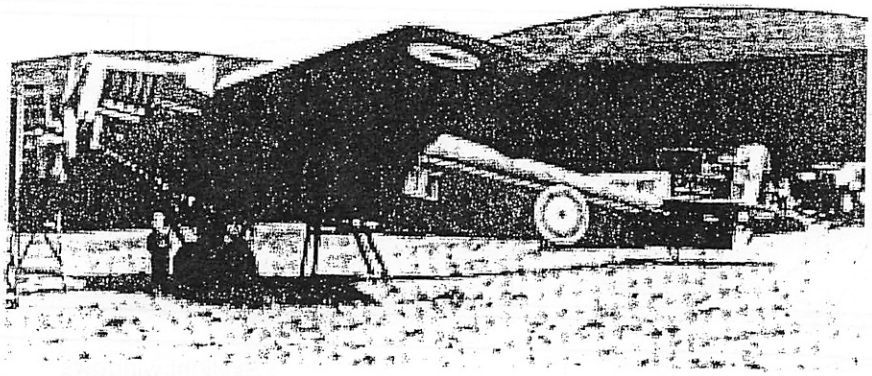
Miles Aircraft Co. M.18 Trainer

Jim Newman art from FLYING MODELS May 2001 courtesy Frank Fanelli.



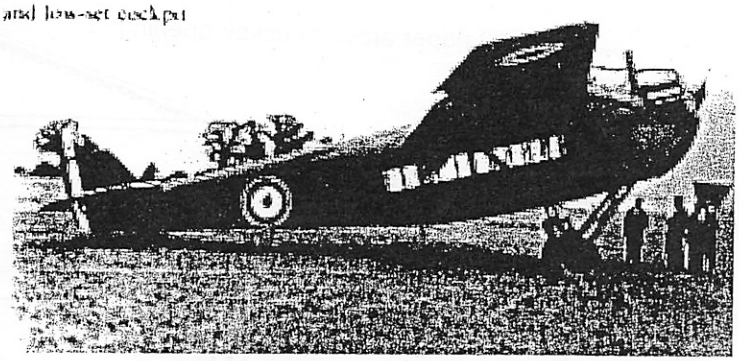

Laminate from 2 x 1/16" x 1/32"
Fill th
C 1
C 2
Fill under center section stringers
1/8" sq. LE
C 1
R 1
R 2
R 3
R 4
C 2
1/16" x 3/16" TE
R 1

< First version.

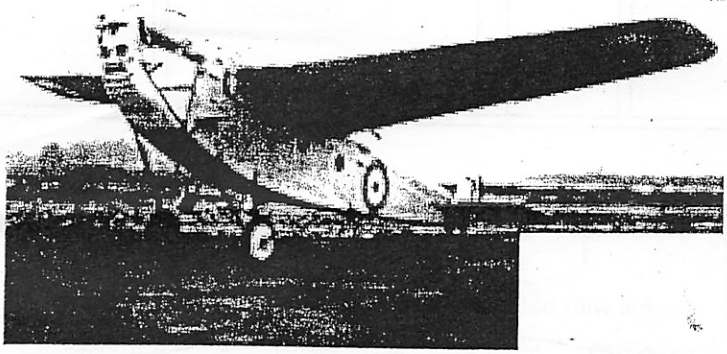


The D.H.29 J6849, c/n 7, in its original form with frontal radiator and low-set cockpit (Aerofilms Photo)

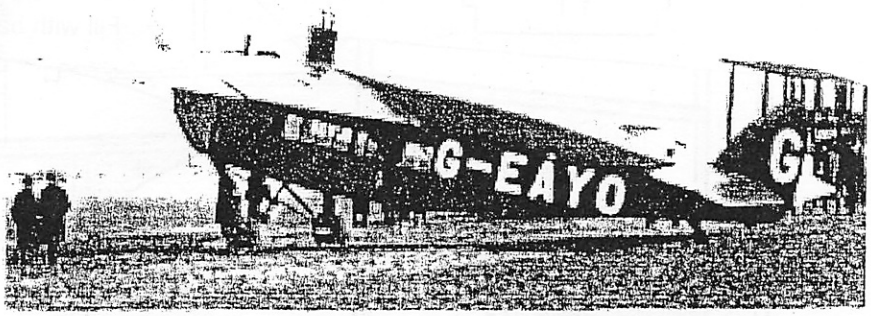
As modified with raised engine mounting. >



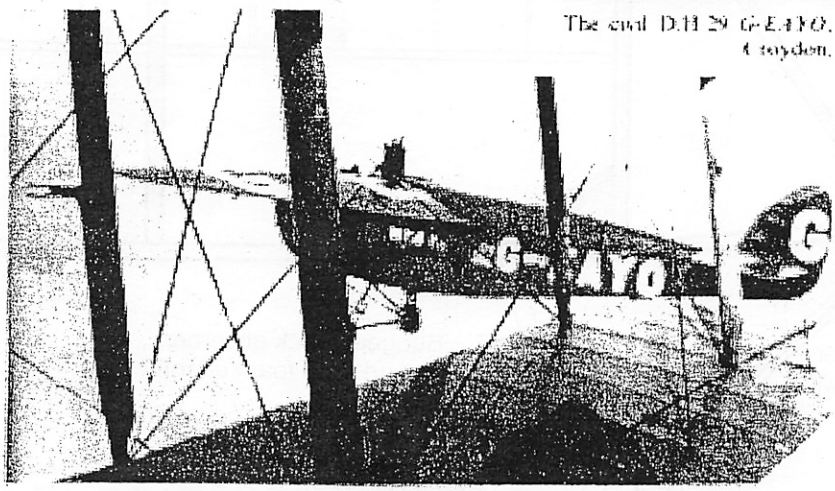
< Final version with rear gunner's postition. Silver finish. Note larger wing roundels.



Second machine built as a commercial transport. >

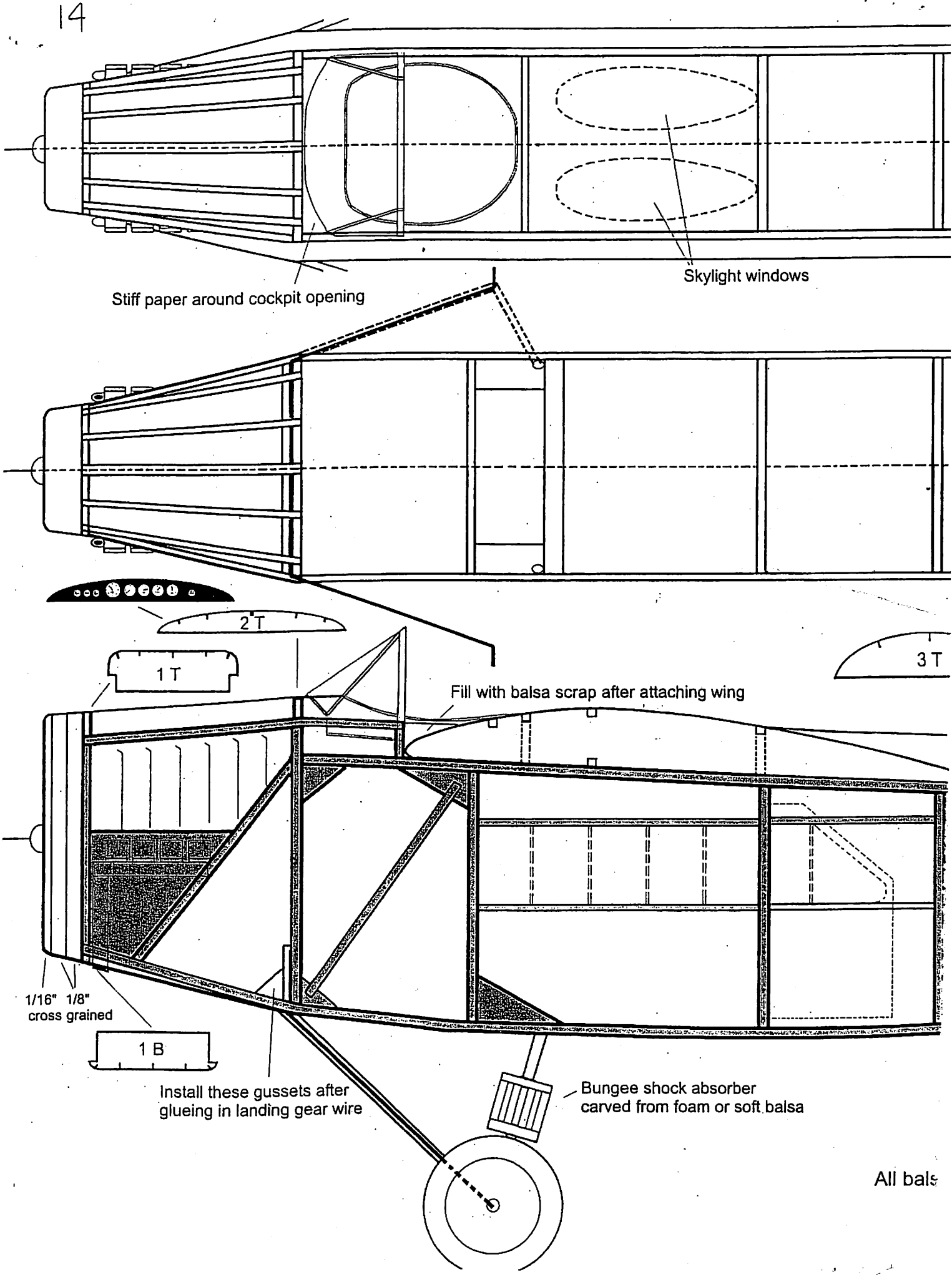


The civil D.H.29 *G-EAYO*, c/n 8, at the Imperial Air Conference demonstration at Croydon, February 3, 1922 (*Flight* Photo 1632)



Rare air-to-air photograph taken from a D.H.9 chase plane of the civil D.H.29 on an early solo test flight by Capt. Geoffrey de Havilland. (H. R. Mackenzie Photo)

Interesting to note the difference in the appearance of the registration letters on the fuselage. Probably due to retouching the photograph.


Skylight windows
Stiff paper around cockpit opening
2 T
1 T
3 T
Fill with balsa scrap after attaching wing
1/16" 1/8"
cross grained
1 B
Install these gussets after
glueing in landing gear wire
Bungee shock absorber
carved from foam or soft balsa

All bals

Building the D.H.29

Construction is conventional in most respects, but there are a couple of things to note. The plan has been presented with a full page drawing of the fuselage showing the top, side, and bottom. This is because the fuselage is not rectangular in cross section. The top is narrower than the bottom so you'll need to be extra careful to avoid a lopsided structure.

The rear portion of the wing center section gets a sheet of 1/32" on top so there will be a place to end the top fuselage stringers. Cover the sides and bottom of the fuselage, and the wing, then attach the wing before adding these stringers. I used balsa sheet to fill in around the leading edge next to the cockpit before adding the paper cockpit opening.

The trickiest bit on this model is the fuselage glazing. There are two oval shaped skylights in the center section which are fairly simple to handle with 1/32" sheeting. The school bus windows along the side can be stick framed and handled conventionally too. I saved a little weight by leaving out the framing and covering these areas with light plastic before the tissue went on. The openings in the tissue were pre cut over the plan and layered over the plastic. I used gluestick to do the job. First step is to coat the tissue with glue and let it dry till it's just a little tacky. Stick it on a piece of wax paper so it's easier to handle and cut out the openings. Don't lose track of the pieces you cut out. They will come in handy as masks when you spray on your finish. The tissue is laid in place and the glue is activated with alcohol applied with a brush.

If you want to build the later military version or the easy-to-find-in-the-weeds civvy machine, you'll have to graft the drawing from the third page onto page one. (The rest of the structure for all versions is the same.) The nose area can get a little crowded if you don't keep the formers out of the way as much as possible. I used formers made from two sheets of cross grain laminated 1/32" . These little ply pieces won't split or crack. I sheeted the top of the nose to avoid weakening them with stringer notches. This also gives you a place to put your engine detail.

Flying the D.H.29

My model finished up tipping the scales at a little under 27gm. That included a big glob of clay in the nose. You probably won't need that because I moved the rear peg forward on the plan. (I should do some surgery on mine and move the peg forward and lose the clay.) I used a 7" North Pacific prop and a 30" loop of 3/16" Tan. It needed a couple degrees of down and right thrust to get it to fly in a nice slow scale like fashion in big right hand circles.

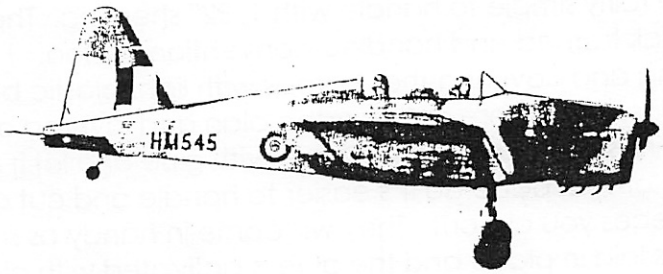
For FAC flying, it's considered a shoulder wing airplane because the pilot sits over the wing, It makes a great entry in GA Military, and a colorful entry for CA Civil. Go into production and build one of each. Like an ugly dog, you get used to it and learn to love it.

Rich Weber
Wingnut

Miles M.18

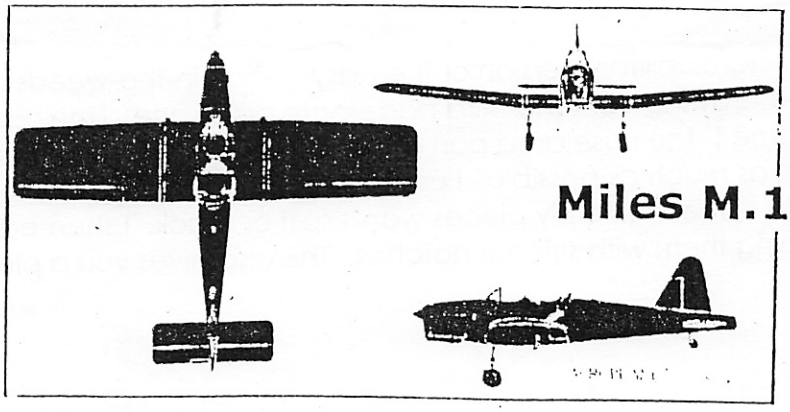
The Miles M.18 Dime Scale plan included here is by courtesy of Mike Nassise and the Bay State Model Company.

The M.18 was a trainer which first flew in December 1938 and was intended as a replacement for the Miles Magister used by the RAF as a trainer. The wing and tail surfaces differed from the Magister, although the fuselage was similar. It was powered by a 150 hp. Gipsy Major engine and had a top speed of 145 mph. The ceiling was 19,000 ft and stalling speed was 39 mph. Due to cancellation of orders, very few model M.18's were built.
Two color schemes were used on the plane. The camouflage scheme featured dark green and dark earth on the upper surfaces and yellow undersides. The civil scheme was all yellow and would be much easier to produce and would also make the model easier to find in the tall grass!
The M.18 should be a good flyer as a model subject because of its large wing area and relatively long nose moment.

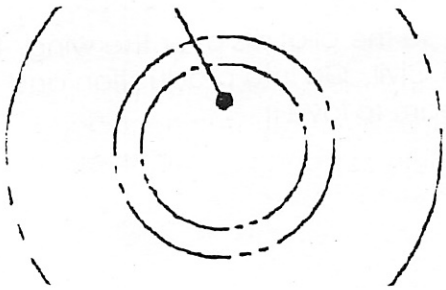


HM545

HM545



The Miles trainer was published in the New England Flying Aces News Journal of the Bay State Squadron's Pilgrim Flyers, May/June 2008. The Journal is published bi-monthly at a subscription rate of $12 per year USA ($20 foreign). Make checks payable to Mike Nassise, 22 Greenfield Street, South Easton, MA 02375. It is highly recommended for plans, craft and New England sector events.



HM545

HM545

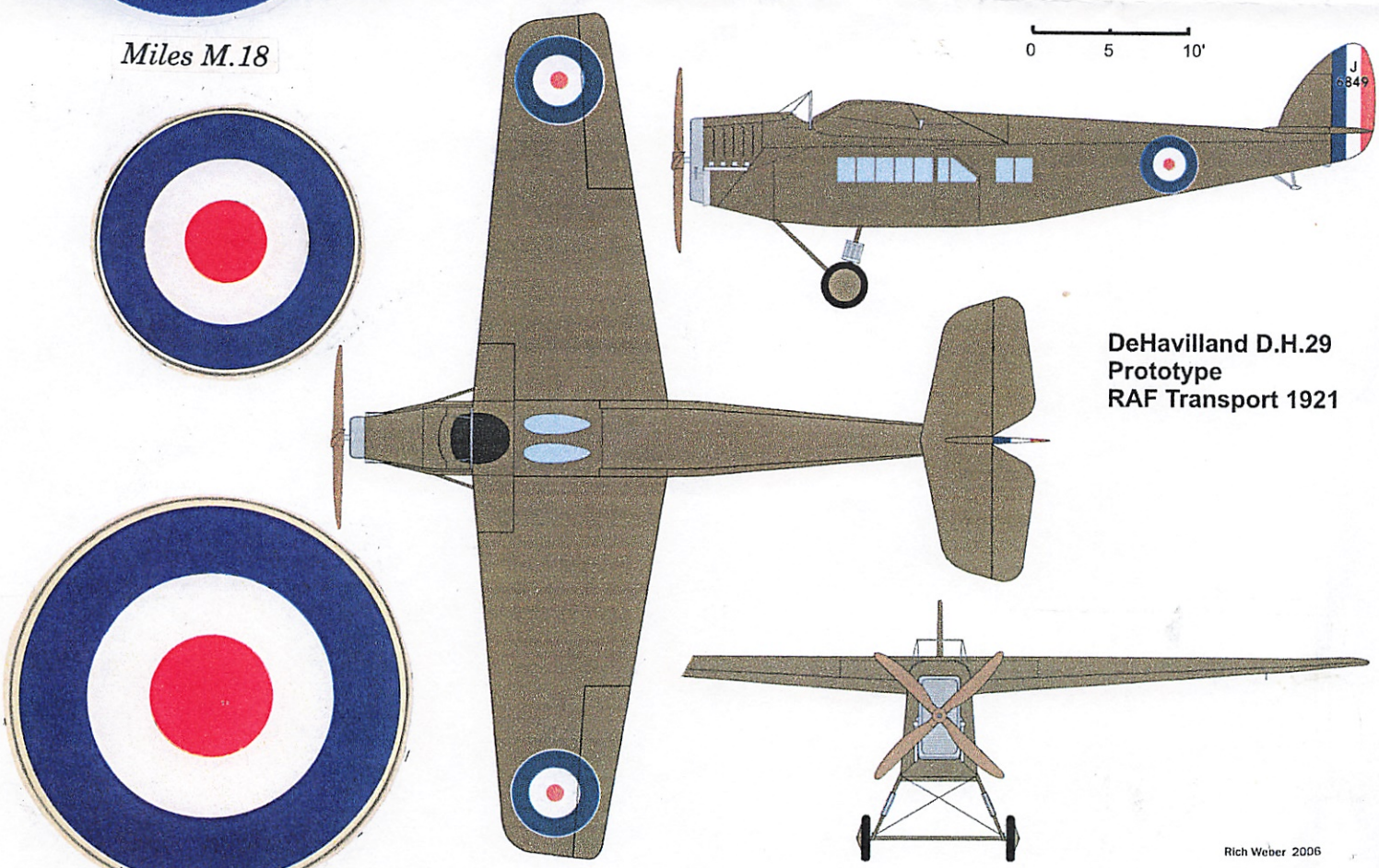


DeHavilland D.H.29
Doncaster
Civil Transport

Power Plant: One 450hp Napier Lion IB

Dimensions: Span 54' 0"
Length 43' 0"
Height 16' 6"
Wing Area 440 Sq'

Miles M.18



DeHavilland D.H.29
Prototype
RAF Transport 1921

Rich Weber 2006