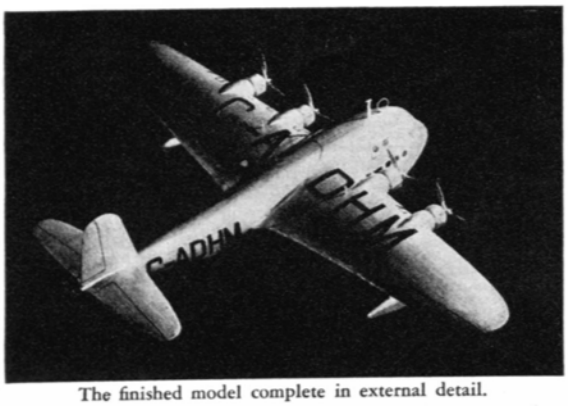
Modeling the Short Sky Liner

Highlights of Britain's New Trans-Atlantic Flying Boats and

How to Build a Solid Scale Model of One

By NICK LIMBER



The finished model complete in external detail.

When carefully finished it is exceedingly realistic.

DETERMINED to gain supremacy in the air, Great Britain has entrusted to Short Brothers Ltd., the building of her new super flying boat fleet.

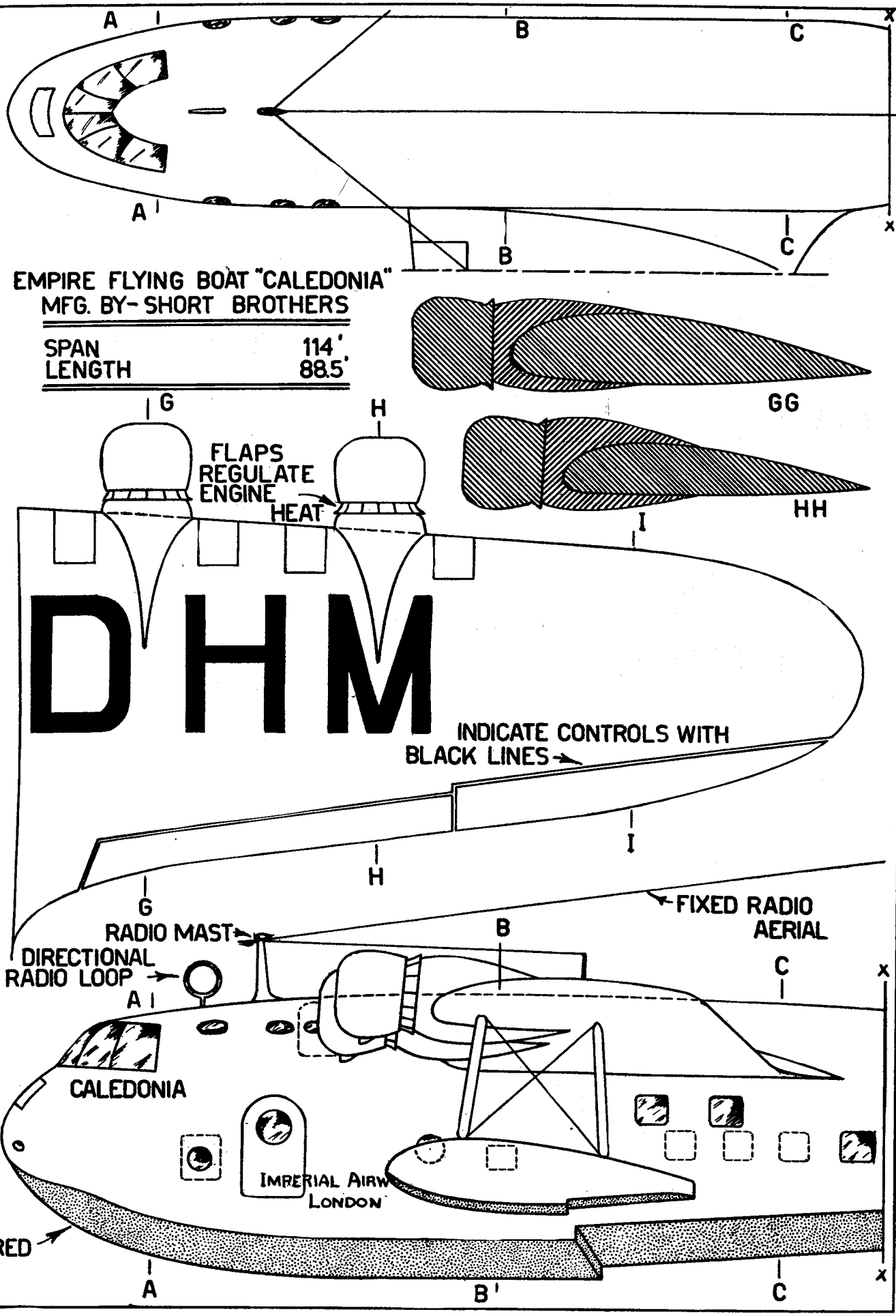
The flying boats will embody the latest equipment available so as to insure safety, speed and economy. The boats are in the opinion of experts, the finest all-round flying boats in the world. This however is readily understood after considering the achievements of the "Caledonia," the second of the fleet of twenty-nine.

Powered with four Pegasus engines and equipped with De Havilland variable pitch propellers, the ship maintains a maximum speed of 200 m.p.h. It carries 24 passengers and a crew of five. It has spanned the Atlantic and its performance has shown that trans-oceanic flights are soon to become a safe and profitable venture. Its fine design and construction is indeed a triumph for British aeronautical skill.

It has also proven itself ideal for carrying the tremendous amounts of mail that will result from the government's decision of all mail by air scheme.

The new flying boats are two deck affairs with the passengers in the lower deck and the crew in the upper. Promenade deck, wide view windows, salons, smokers' lounge and model kitchen may be found on the lower deck. The ships boast a wing span of 114' and a length of 88.5'. Their tremendous speed is expected to reduce all schedules on the Imperial Airways route.

Journeys from England to India are expected to require only 2 days instead of 6 as at present. Singapore and Cape Town will be brought closer by a reduction of 50 in the time required to fly between


A
B
C
X
A
B
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EMPIRE FLYING BOAT "CALEDONIA"
MFG. BY- SHORT BROTHERS
SPAN 114'
LENGTH 88.5'
GG
G
H
FLAPS
REGULATE
ENGINE
HEAT
HH
I
DHM
INDICATE CONTROLS WITH
BLACK LINES
I
H
G
FIXED RADIO
AERIAL
RADIO MAST
B
DIRECTIONAL
RADIO LOOP
C
X
A
CALEDONIA
IMPERIAL AIRW
LONDON
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A
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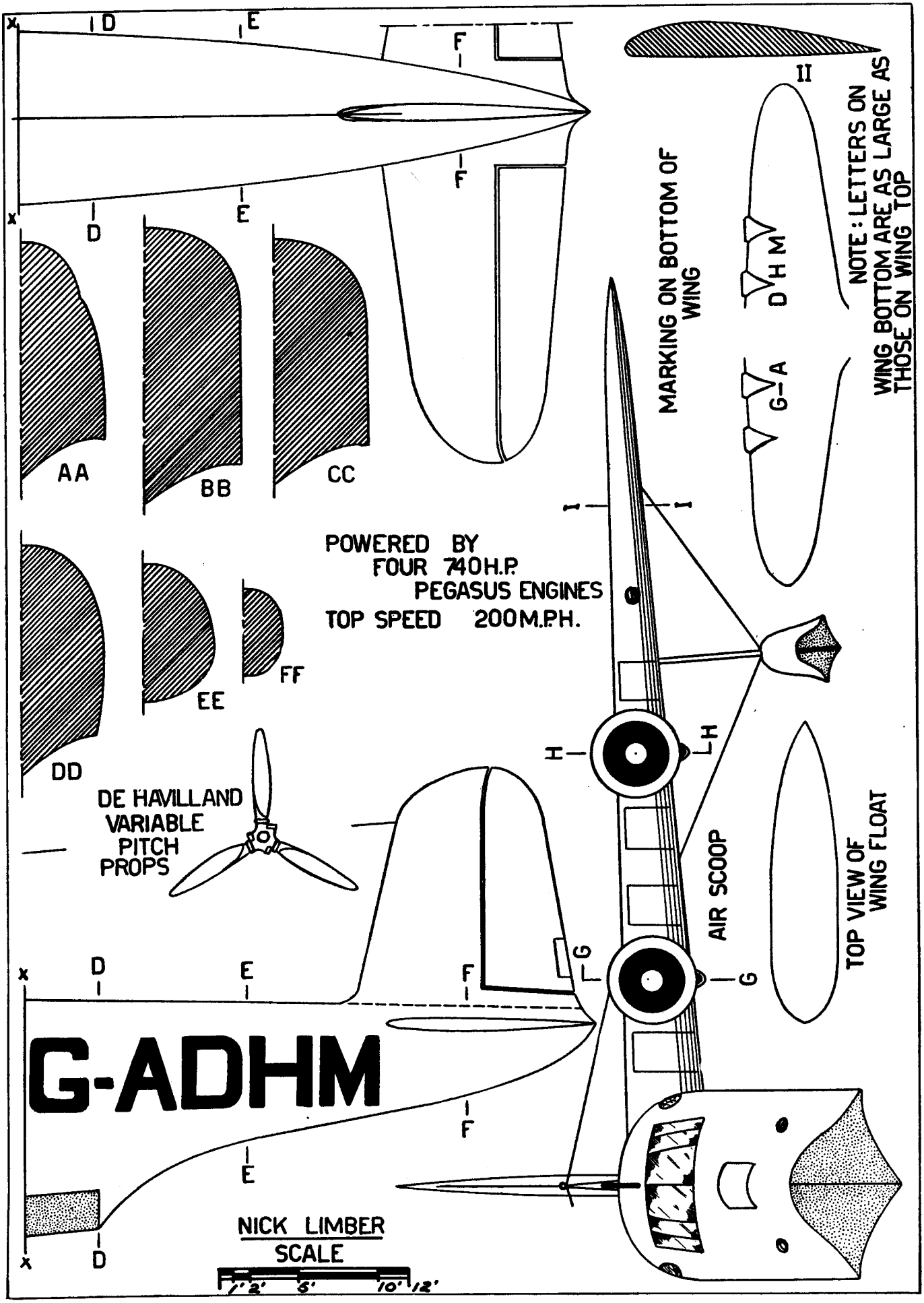
X
D
E
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X
D
E
F
AA
BB
CC
DD
EE
FF
DE HAVILLAND
VARIABLE
PITCH
PROPS
POWERED BY
FOUR 740H.P.
PEGASUS ENGINES
TOP SPEED 200M.P.H.
I
I
II
MARKING ON BOTTOM OF WING
G-A
D H M
NOTE: LETTERS ON WING BOTTOM ARE AS LARGE AS THOSE ON WING TOP
H
H
G
G
AIR SCOOP
TOP VIEW OF WING FLOAT
G-ADHM
NICK LIMBER
SCALE
1' 2' 5' 10' 12'

the two points. Australia will be brought about a week away from England and the entire British Commonwealth will be in closer contact with the mother land than ever before.

Speed, safety, comfort and economy, all embodied in these super liners of the skies. Is it any wonder that experts proclaim them the world's best flying boats?

Drawings of the Caledonia are 1/8" scale and can be considered as full size for the model.

Fuselage

First we carve the fuselage. A block of balsa 11 1/4 x 2 1/4 x 1 1/2 is used for the body. Trace from the plans to the block and the side view of the fuselage. After this is accomplished cut away the excess wood and proceed to sandpaper the newly cut surface. Now trace the top view and follow the same process.

The next step is to shape the fuselage as shown in the cross sections. (Note that only half of each cross section is furnished in plans.) This is accomplished by cutting away as much excess balsa as possible and then sanding it down with rough sandpaper. Now finish the operation with smooth sandpaper and start making the wings of the ship.

Wing

The wing of our craft is constructed of two pieces of balsa 6 1/2 x 3 1/2 x 5/8 each. Trace the top view of the wing and then after cutting away excess balsa, taper the wing as shown in the front view. This may be accomplished with very rough sandpaper.

A sharp knife is used in shaping the wing as shown in the cross sections but sandpaper is again used to complete the operation. When the wing is completed, work on the motor nacelles and cowlings.

Engine Nacelles and Cowlings

Engine nacelles and cowlings must be made of soft balsa. Note that the engine cowlings also incorporate the cooling flaps. By referring to the sectional diagrams of the cowls we find that a sand-papered groove will produce the required effect in the making of the cowls and cooling flaps. Also note that air scoops are cemented at the bottom of each cowling.

Engine nacelles are now constructed. Care and patience must be exercised or the nacelles will not be constructed properly. The same process used in making the fuselage may be used in making the nacelles. After top and side views have been completed and sanded to shape cut out a slot into which the wing is fitted.

Should the builder experience difficulty in cutting out the slot, he may slice the entire nacelle horizontally in half and proceed cutting out the slot on the upper and lower half of each nacelle. The two halves are then cemented together and the completed nacelle cemented to the wing. The engine cowlings are then cemented to the nacelles and construction is then

begun on the tail assembly and wing floats.

Tail Assembly and Wing Floats

Rudder and elevators are traced and cut from 3/16" sheet balsa. Smooth sand-paper is utilized in the finishing of the surface. When both surfaces have been completed, cement them to the fuselage as shown in the diagram.

We are now to begin construction of the wing floats. Views of the floats may be obtained from the side and front views of the ship. A top view of the float may be found on the second plate of the plans. The same process as used for the construction of the fuselage is used in the construction of the floats. Struts supporting the floats are made of bamboo and their true length may be obtained from the front and side view of the airplane. After cementing struts to the floats we must assemble the ship.

Assembly

The wings are first cemented to the fuselage. These are held in place by cement and if the builder chooses, by dowels or bamboo strips. The additional supports are inserted into the wing and fuselage and then the cement is applied. As the wing itself is designed to incorporate the fillet, very little plastic wood or filler is required to fillet the wing and the fuselage. The wing floats may also be cemented to the wing at this time if so desired, but the builder will find it wiser to paint the model before attaching the floats to the wing.

Painting the Model

The entire ship is painted silver. The bottom of the hull is painted red as shown in the diagrams. The amount of paint applied to the ship will depend upon the wood used and the type of surface desired by the builder.

It is advisable to sandpaper the model after each coat of paint has dried. After the proper finish has been obtained we indicate the control surfaces with a thin black line. This line may be made with a ruling pen and India ink. The windows are then cut out of black paper and cemented to the fuselage as shown in the plans. The plane markings may also be cut out of black paper and cemented to the wings and body. Black paper discs are cemented to the front of the cowlings before the propellers are put into place. Note that the propellers are three bladed metal props and may be bought ready made. Pins are used to hold the props to the plane. The name of the plane may be written on the fuselage with India ink. Radio mast, directional radio loop and the aerials may now be added to the model and a clear coat of lacquer is applied. Allow the lacquer sufficient time to harden before handling the model. With the drying of the lacquer you have completed your model of the Caledonia.

Model Airplane News, February 1938