

spoiling the picture. Twice as much would even be better if the walls of the room were dark. If you use a paper reflector instead of the tin one, put the lamp at three feet instead of four. The symbol *f.11* denotes the diaphragm or "stop" on the lens, and if the camera is a popular cheap one like the No. 2 Brownie you need take no notice of it.

Should the model be dark practically all over, the exposure would need increasing by about 50 to 100 per cent.

Making tin reflectors to fit on tripods may be too much trouble if we do not want to use our photographic apparatus indoors very often, but it is a simple matter to make a reflector out of thin card or thick paper. It can be made from a disc about 18 in. diameter, cut from the edge to the middle, and rolled into a cone, so that we have two thicknesses all round with an overlap about $\frac{1}{2}$ in. wide fastened with a paper clip. We can then make a hole through the side about $3\frac{1}{2}$ in. from the open end, through which we put the brass end of the bulb, with an ordinary bayonet socket on the outside. This "floodlight" can be hung up by its flex. Instead of a tripod, we can use a broomstick tied to a chair. Since a picture can speak louder than words, Fig. 78 shows just how things are set up, with the model in position and the lights in place. Please note that in this picture a shade has been used over the ordinary room light. This was because a light shining on the camera lens may cause a "flare" or bright

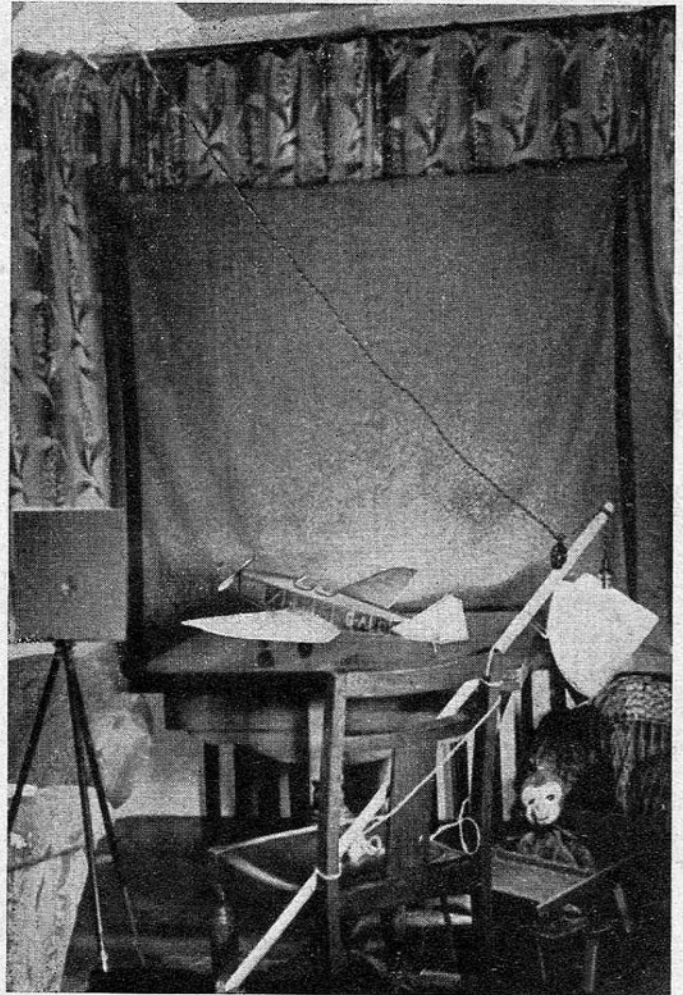


Fig. 78.

streak on the photograph. Always see that the lens is in the shade. It may sometimes mean getting a friend to hold up a piece of cardboard or their hand between the lamp and the camera. See that the card is kept outside the picture.

Taking the case of a high-wing model, look at the three-quarter front view of the Lysander on page 94. One light was used down low to the right, again to light up the side of the fuselage and pick out the wing-tip and edge of the tail-plane. Instead of the room light another bulb in tin reflector was used close up and shining down at about 45 degrees on to the nose. This lit up the leading

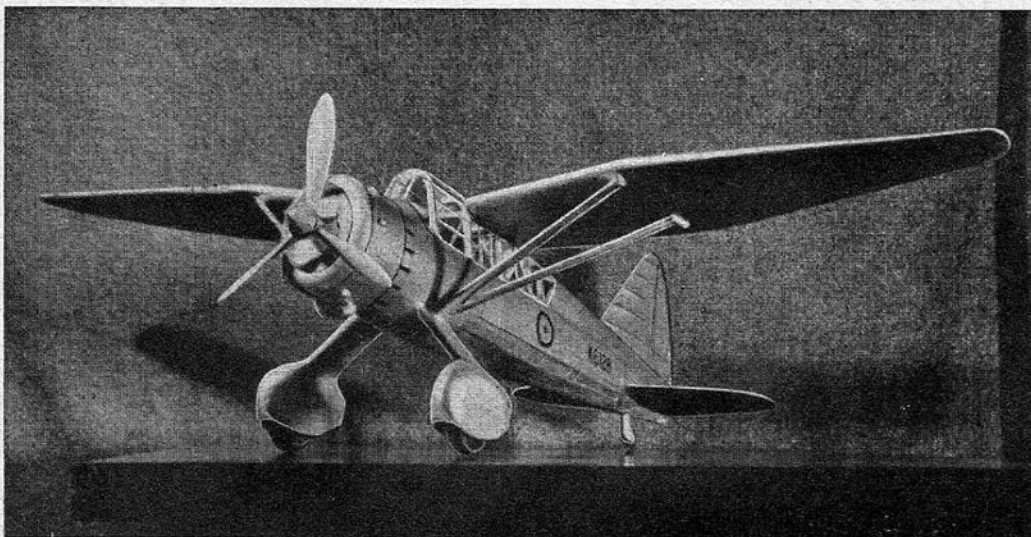


Fig. 79.



Fig. 80.

edge of the wings, struts, undercarriage and fuselage formers. The lamp to the right was four feet away again, but the one on the left was only three feet away. The exposure was the same as before. The Lysander was silver all over.

This is the general idea of the lighting and exposure used by the writer in most of his photographs of models; it is just varied slightly to pick out certain features. Where a view is a bit more to the side, like Fig. 80, a lamp is often placed a bit on the other side of the model, to show up the rounded top. We can be pretty sure of getting a pleasing result every time by using a general light about four or six feet from the model, with another light about three or four feet away, to pick out spots of high light. In another view of the Lysander, Fig. 81, one lamp was placed a little to the left and just below the camera, to give the general light, and the other lamp was placed round to the right, and higher up, and served mainly to light up the fuselage formers. The position

of the lamp on the left was finally chosen where it cast a shadow from the exhaust pipe on to the fuselage. Without working round to that position, the exhaust pipe would not have shown up. Sorting out the lights is very interesting, and the writer usually takes about ten to twenty minutes on the job before being satisfied. It is often best to switch one light off while the most suitable position is found for the other. Sometimes we

shall have to stand objects up in front of the lamps so that they cast a shadow on the background.

As an object lesson on what can be done in arranging lights and shadows, two more photographs are shown with the following notes. Fig. 82 is the first one taken, and shows a model Lysander set up for glueing the tail-plane and fin. We can see that the tail-plane is held in place with glasses and blocks of wood, and we can just distinguish a piece of black thread holding the fin. The tail-wheel shows up beautifully against the edges of the books, but it is not at all obvious that the books

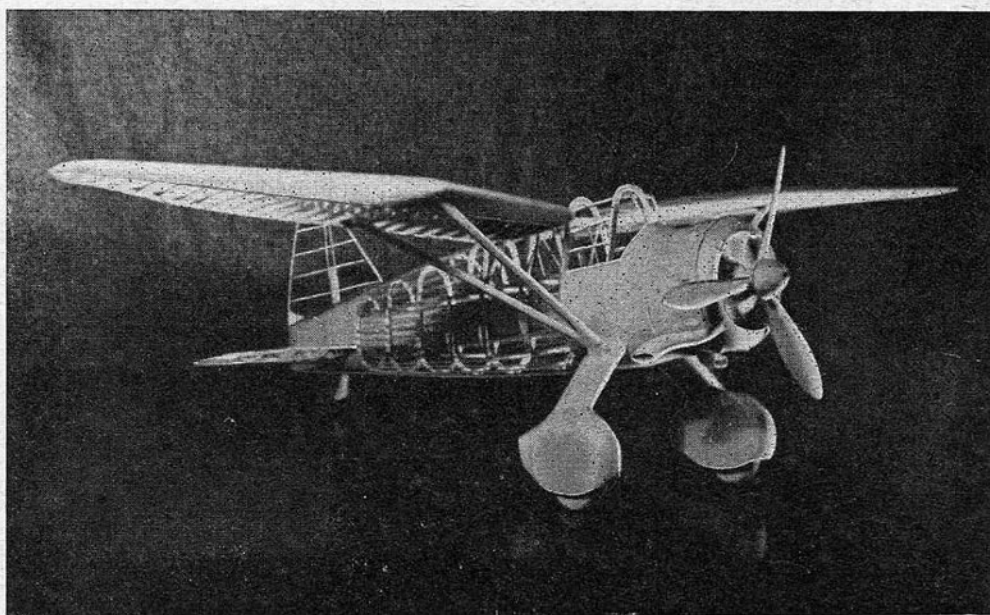


Fig. 81.

are holding up the rear end of the model. Having made a print of that set-up, the writer decided that he could make a clearer picture by re-arranging the lights and fittings. Fig. 83 shows the second attempt, and to get it the writer spent a most instructive and interesting two hours. The first thing to do was to show that the fuselage really was held up, and this was made clear by supporting the tail-wheel. The lights were arranged with one on the right, close up, and one on the left a bit farther away. The right-hand side of the tail-plane was next packed up, using a glass so that there would not be too much shadow about. For the left-hand side a pile of books were used to cast a shadow on the table, under the stern of the fuselage. The books were all placed with their backs to the camera so that the edges of the leaves would not show a blank white space as in the first photograph. Of course, the books chosen were such that if the titles could be read they would give a good impression of the writer's cleverness! White thread was used to hold the fin, since the black had not shown up very well. The light on the right was then moved about to get the best effect. In its final

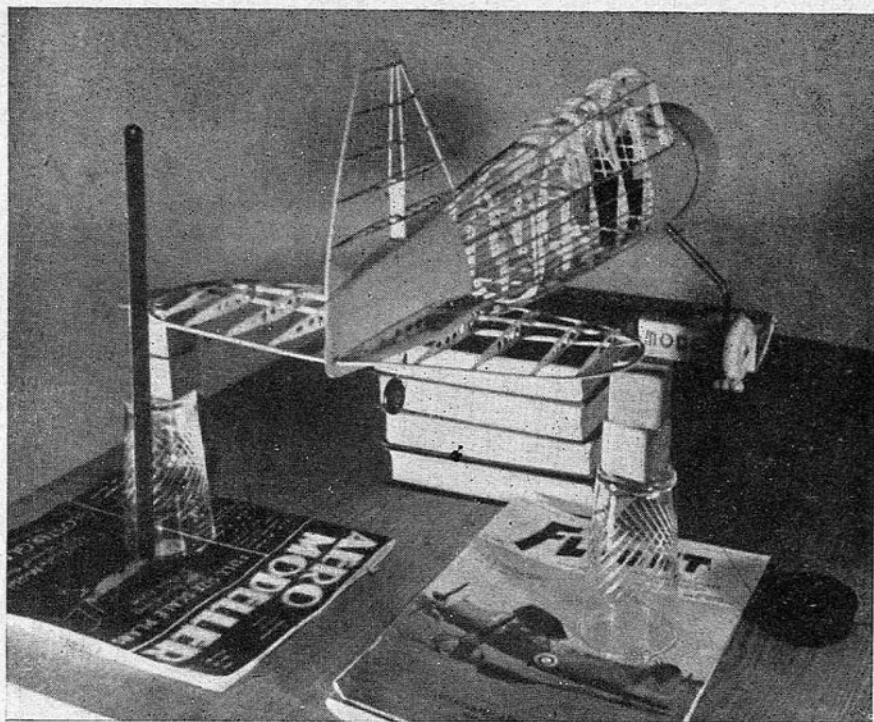


Fig. 82.

position it cast a shadow from the fuselage on to the wall that passed behind the tip of the fin so that the background would be the darker. This meant moving the whole outfit a bit nearer to the wall. The light on the left was next taken in hand and moved to such a position that it lit up the fuselage formers and tail and fin main spars. The background behind the left side of the tail-plane was a bit light and the tail-plane did not show up very well, so something had to be done about it. A shadow

was wanted from the light on the left, so the writer hunted round for something suitable. Eventually the baby's pram was pushed into place, with the baby's dressing gown on the handle. This gave a shadow in just the right place. The exposure was then made in perfect confidence of a satisfactory result. For those who wish to know, the exposure was 2 sec. at f.22 on S.G. Pan plates, using two photoflood lamps in tin reflectors at two and three feet from the stern-post of the model.

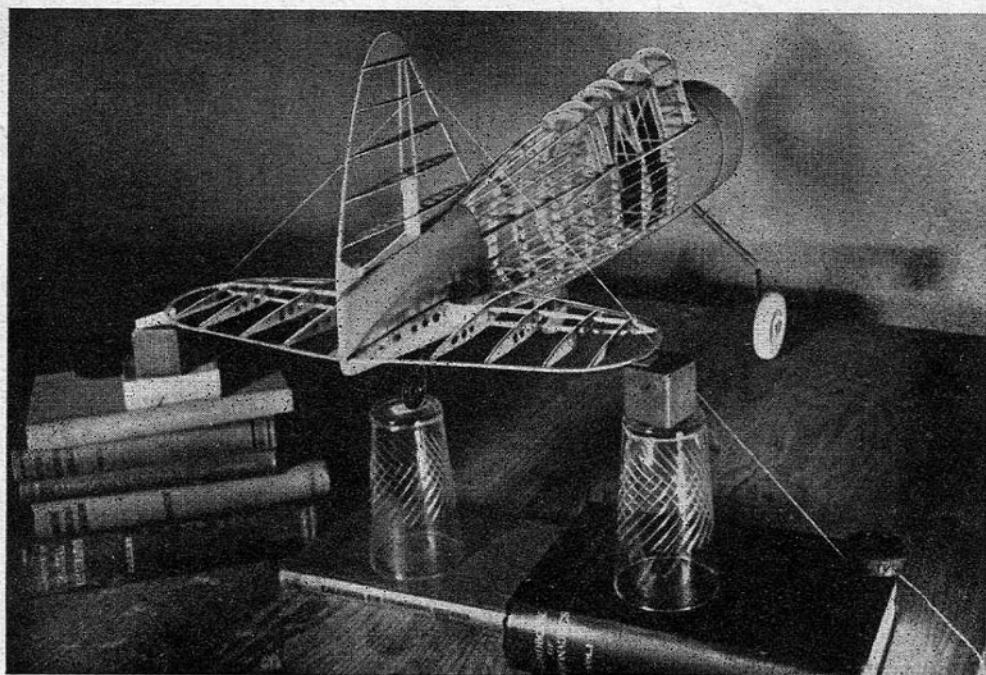


Fig. 83.

THE AERO-MODELLER

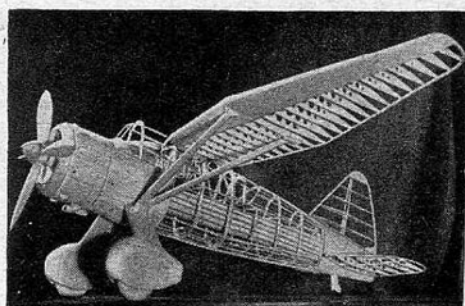


The "G-ADAR"

(By D. A. Russell, A.M.I.Mech.E.)

A high-wing cabin petrol-engined Monoplane suitable for most types of engine of from 9 cc. to 14 cc. Three large drawings. Span, 8".

Price 10/6 post free.



The "WESTLAND LYSANDER"

(By Howard Boys)

A finely designed, large flying scale model of one of the most popular types in this class of model. Span, 56".

Price 5/- post free.



The "D.H. MOTH MINOR"

(By G. W. Day)

A simply constructed replica of the new De Havilland training machine. Strong yet light construction makes a useful flying model, with an average performance of 45 seconds. Drawing 30" x 22". Span, 35".

Price 2/- post free.

MATERIALS REQUIRED FOR BUILDING

THE T.K.2.

Sheet.

One $\frac{1}{16}$ in. x 2 in. x 36 in. balsa (medium).

One $\frac{1}{32}$ in. x 2 in. x 12 in. balsa (medium).

Block.

5 in. x 1 in. x $\frac{3}{4}$ in. hard balsa for propeller.

One 12 in. x $\frac{1}{2}$ in. x $\frac{3}{4}$ in. soft balsa for fillets, tail blocks, etc.

One 12 in. x $\frac{1}{8}$ in. x $\frac{1}{2}$ in. medium.

Strip.

One $\frac{1}{8}$ in. square by 18 in. medium.

Bamboo.

6 ft. of $\frac{1}{16}$ in. square by 12 in., for stringers.

Tube.

1 in. 20 s.w.g. brass. Length of 20 s.w.g. wire.

Rubber.

6 yards of $\frac{1}{8}$ in. flat.

Sundries.

Tube of cement. One sheet of white tissue.

Small bottle of clear dope. Two $\frac{3}{4}$ in. dia. wheels.

Drinking straw. Used negative or cellophane.

Strip of thin aluminium.

THE GLOSTER "GLADIATOR."

Sheet.

One length of $\frac{1}{16}$ in. x 3 in. x 3 ft. (ribs, formers).

One length of $\frac{1}{64}$ in. x 2 in. x 3 ft.

Strip (all 3 ft. lengths).

Four lengths of $\frac{1}{16}$ in. square balsa strip (longerons, etc.).

Two lengths of $\frac{1}{8}$ in. square balsa strip (leading-edge, etc.).

Two lengths of $\frac{1}{8}$ in. x $\frac{1}{16}$ in. balsa strip (spars, etc.).

Sundry pieces of small block balsa for details, etc.

One length of $\frac{1}{8}$ in. diameter reed, for exhausts.

One pair of celluloid wheels, $1\frac{1}{2}$ in. diameter.

One small wheel for tail.

2 ft. of 18 s.w.g. piano wire.

Block of balsa, $\frac{1}{2}$ in. x $1\frac{1}{4}$ in. x $6\frac{1}{2}$ in. (propeller).

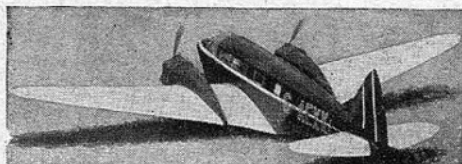
Thin card for cowling. Thread for bracing.

Two sheets silver tissue. Piece of cellophane.

One bottle of dope. 6 ft. of $\frac{1}{8}$ in. flat rubber.

One tube of cement. Tin tissue paste.

Nose bush to fit 18 s.w.g. wire.

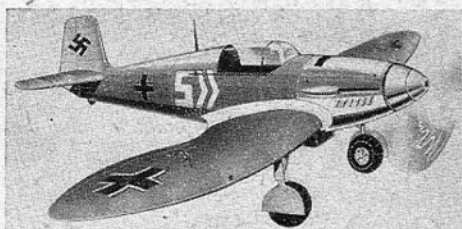


The "AIRSPEED ENVOY"

(By H. J. Towner)

A beautiful flying replica of the twin-engined low-wing Monoplane, designed by a recognised expert in this class, and containing many interesting features. Drawing 40" x 29". Span, 52".

Price 3/6 post free.



The "HEINKEL He 112"

Another German Fighter type model, featuring detachable wings. Average performance 35 sec. Drawing 23" x 18". Span, 18 $\frac{1}{2}$ ". Price 1/3 post free.



The "MILES KESTREL"

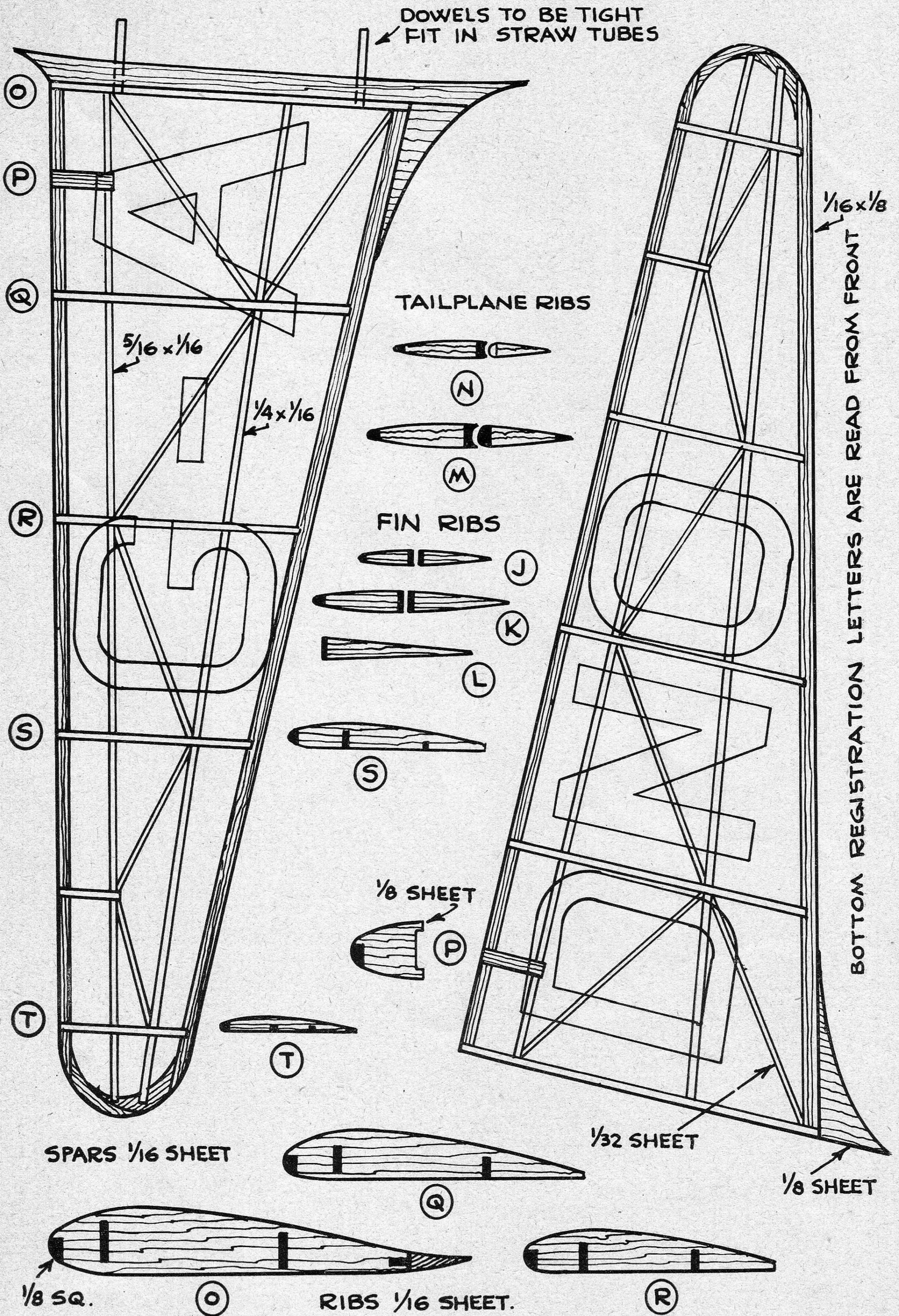
(By H. J. Towner)

A triple-gear replica of the popular low-wing Monoplane, this is one of the finest flying scale models yet built. Drawing 40" x 27". Span, 39".

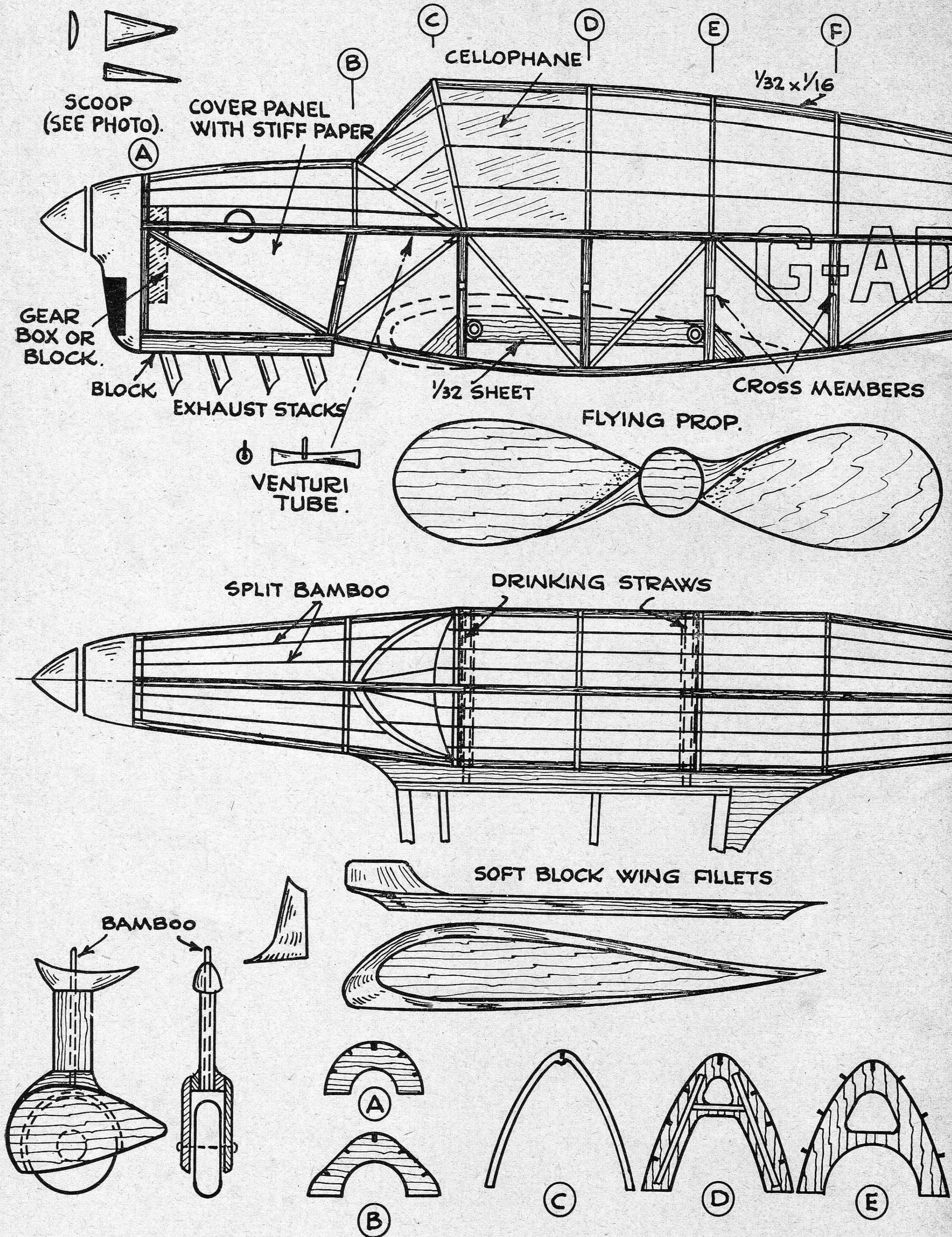
Price 3/6 post free.

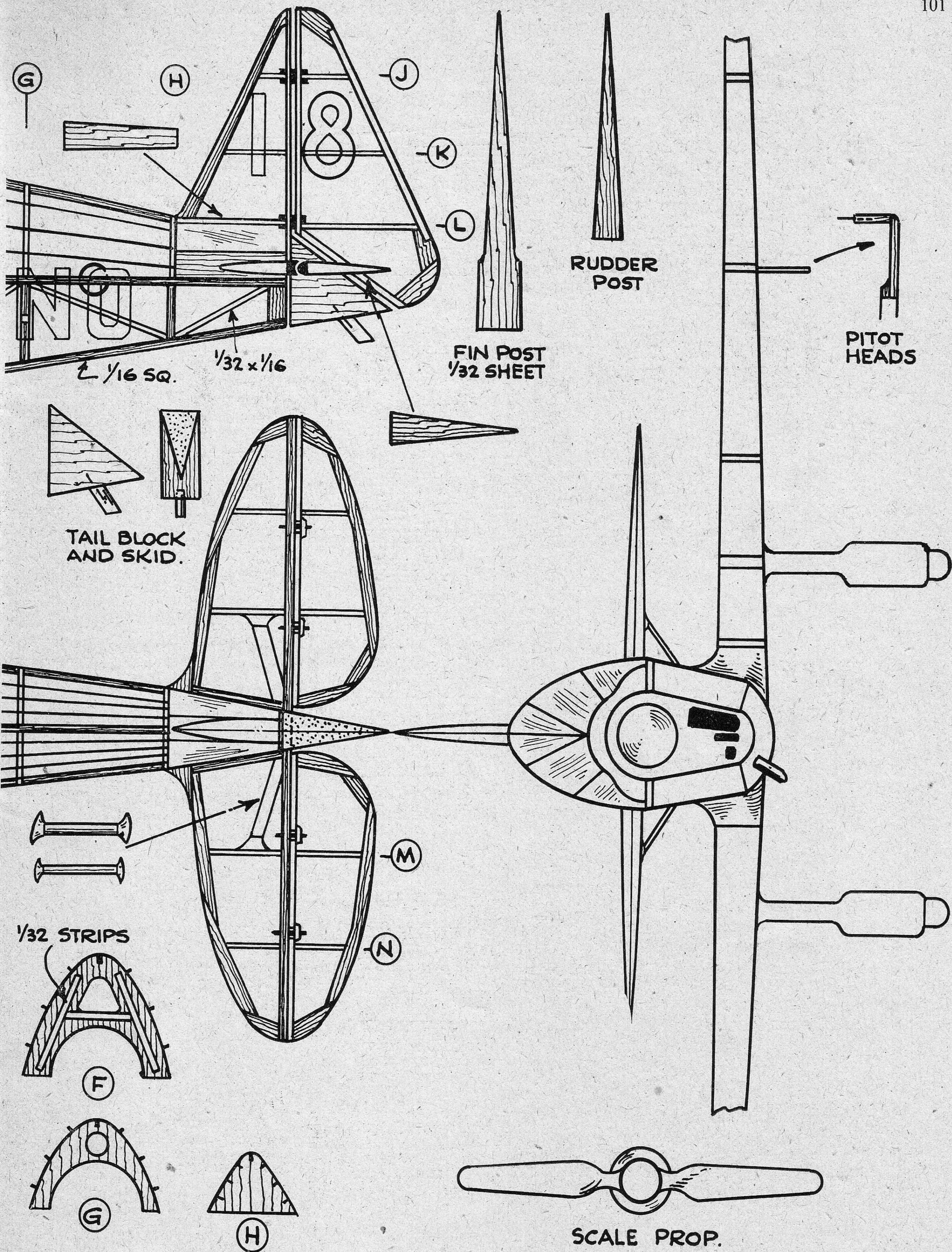
PLANS SERVICE LTD.

ALLEN HOUSE, NEWARKE STREET, LEICESTER

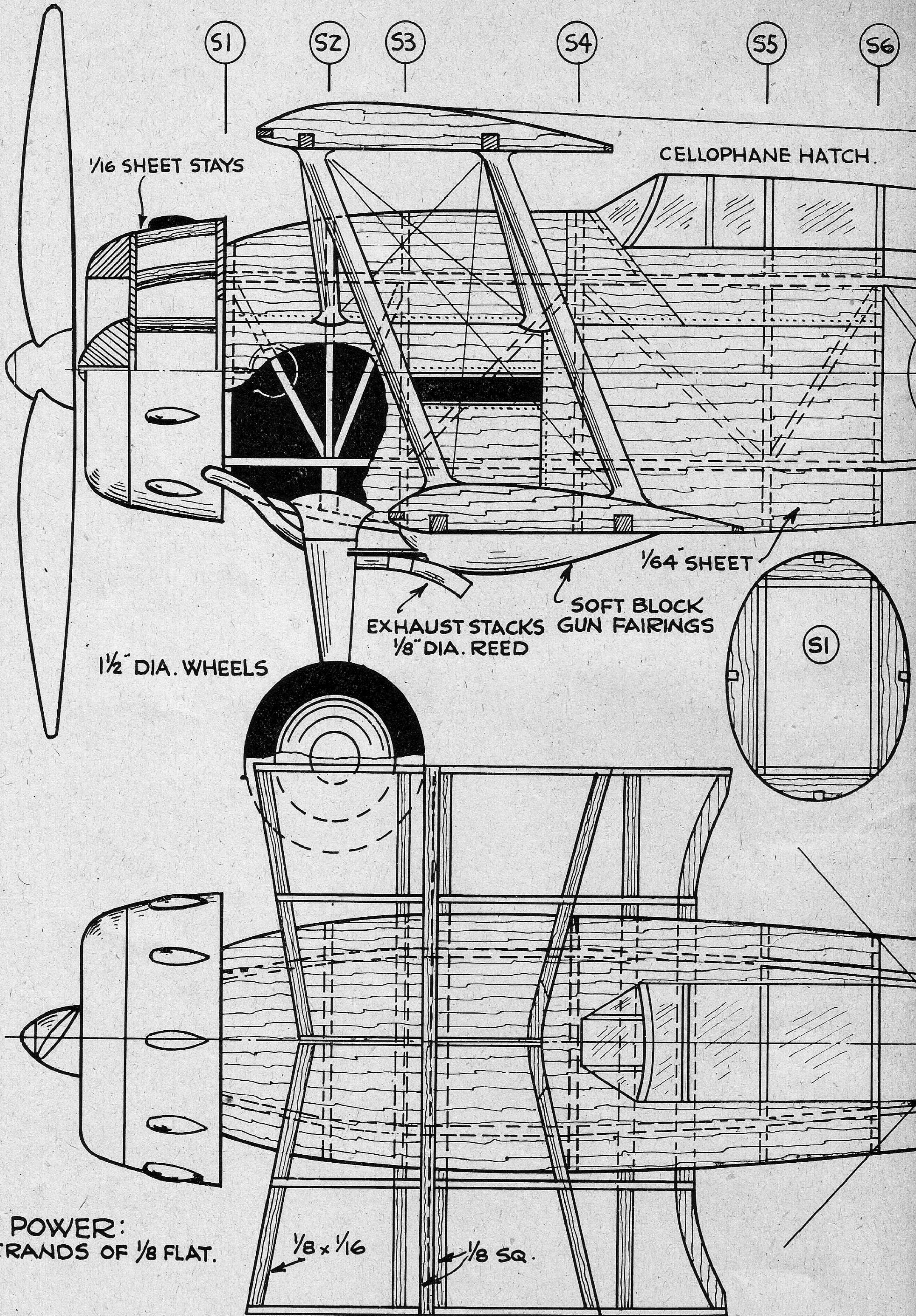


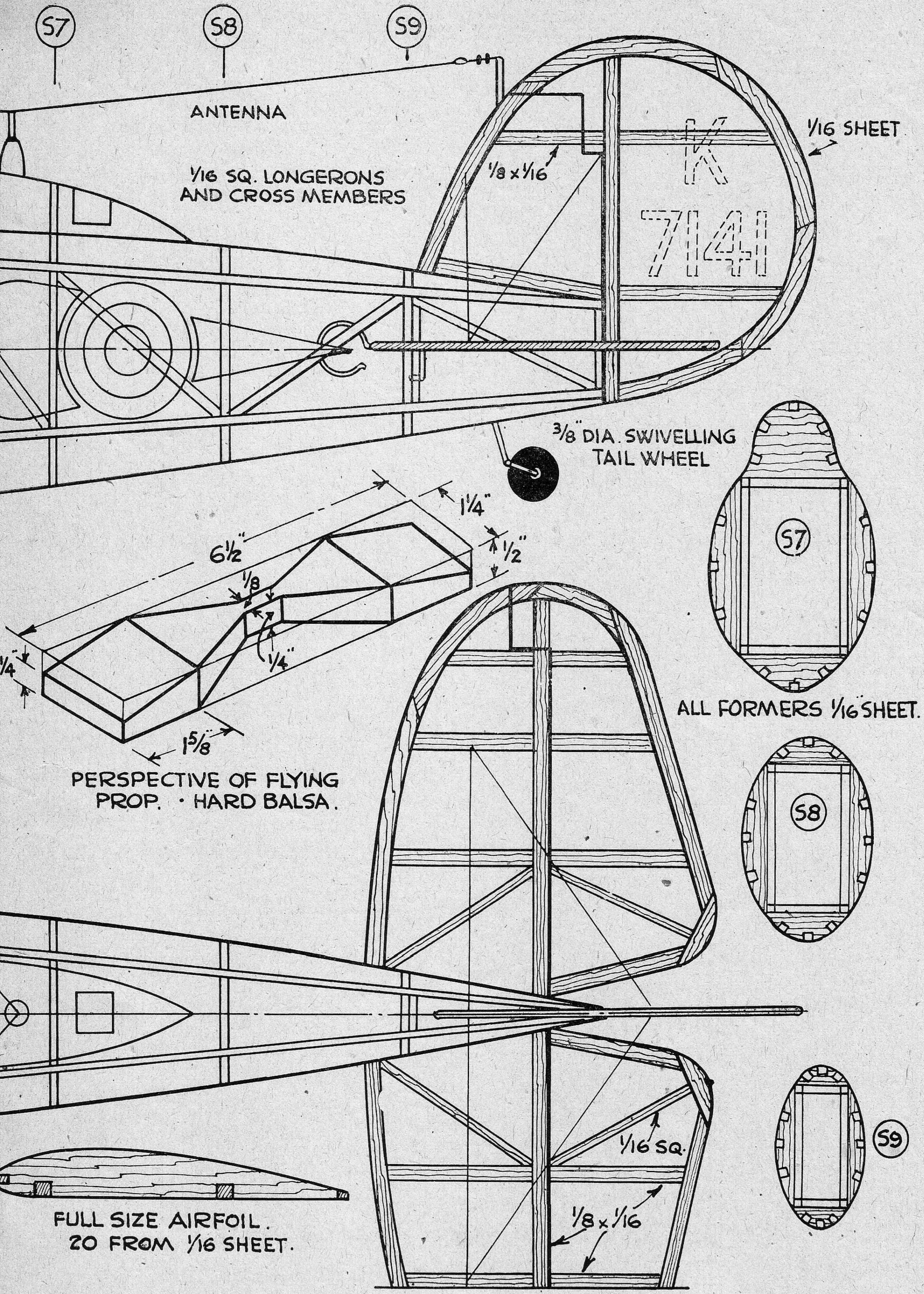
THE DE HAVILLAND "T.K.2"



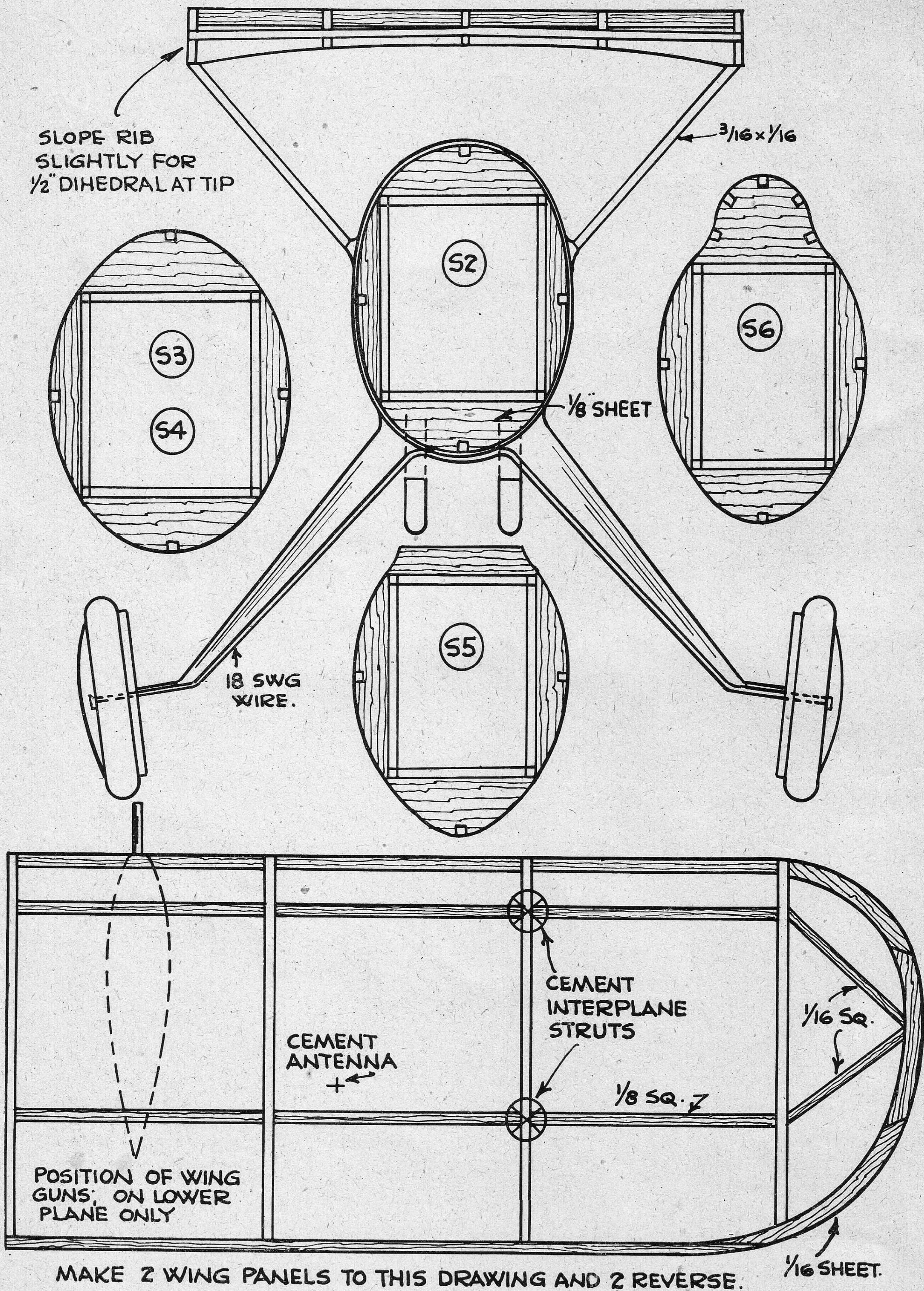


THE GLOSTER "GLADIATOR"

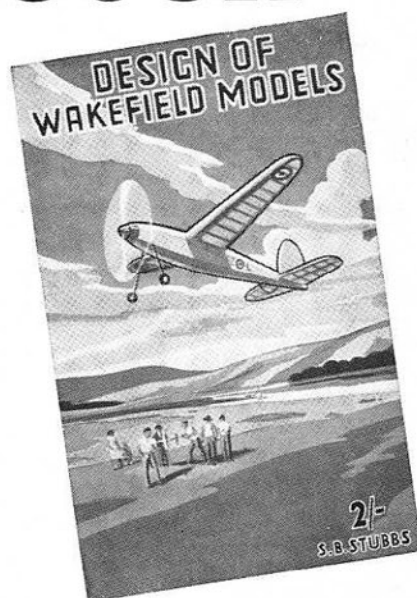




THE GLOSTER "GLADIATOR"



HARBOROUGH BOOKS



WHICH OF
THESE ARE
MISSING
FROM YOUR
COLLECTION?

The Harborough Publishing
Company Limited
Allen House, Newarke Street
Leicester



“FOR WANT OF A NAIL —”

Increasing store is set in authoritative circles on the ability to identify aircraft.

Every one of you should know how to do it. Your life may depend upon it. The lives of others may depend upon it. Ultimately even the fate of your country may rest upon it.



Compiled by H. J. COOPER and O. G. THETFORD.
Edited by D. A. Russell, A.M.I.Mech.E.

This book contains photographs of 87 aircraft; of each full particulars of development from prototype, dimensions, power unit(s), performance figures, armaments, colourings and identification markings are given, as well as a set of accurate 3-view scale drawings (scale 1/72 full size).

Direct from the Publishers, 13/6 post free
THE HARBOROUGH PUBLISHING COMPANY LTD.
Allen House, Newarke Street, Leicester