AERO MODELLER

MAY, 1940
VOL. 5 No. 54

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GIVEN FREE IN THIS ISSUE ARE FULL SIZE PLANS FOR BUILDING THE HEINKEL: He.112. SINGLE-SEAT FIGHTER

HEINKEL He.112

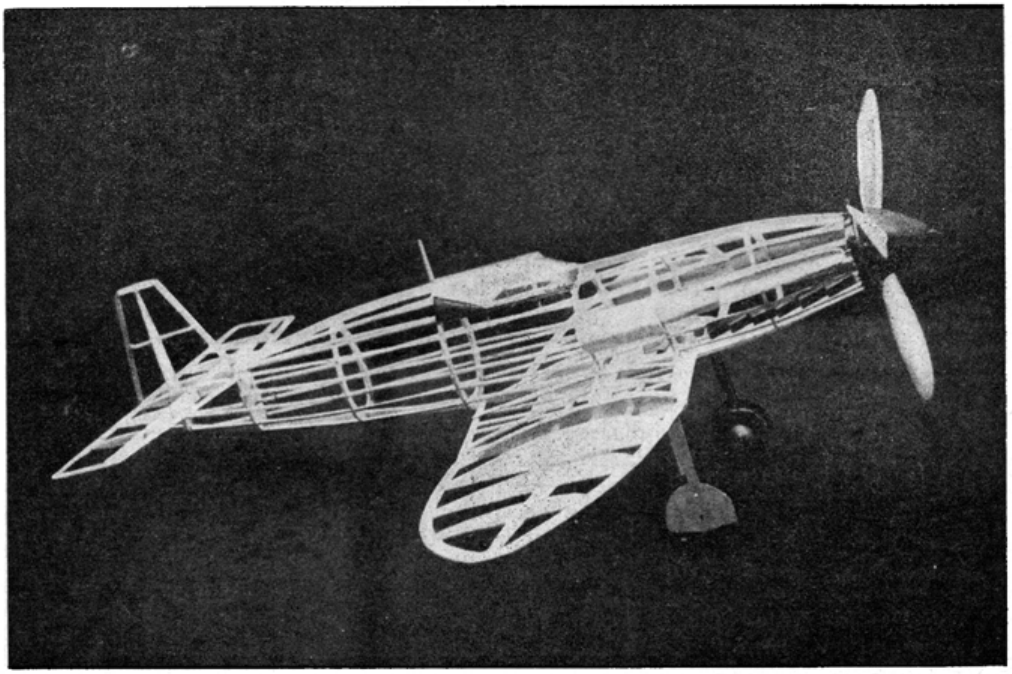
FLYING SCALE MODEL
SINGLE-SEAT FIGHTER

A FLYING SCALE MODEL OF THE HEINKEL He 112

Designed by

C. A. H. POLLITT,

"Aero-Modeller," Staff Draughtsman



This fine photograph shows the clean lines and easy-to-build construction incorporated by Mr. Pollitt in his model.

SINCE the outbreak of war we have heard a great deal about the German Heinkel; in fact, the name has become inseparably associated with the abominable raids on our fishing fleets. However, the model I am dealing with this month is the Heinkel fighter, as distinct from the Heinkel bomber.

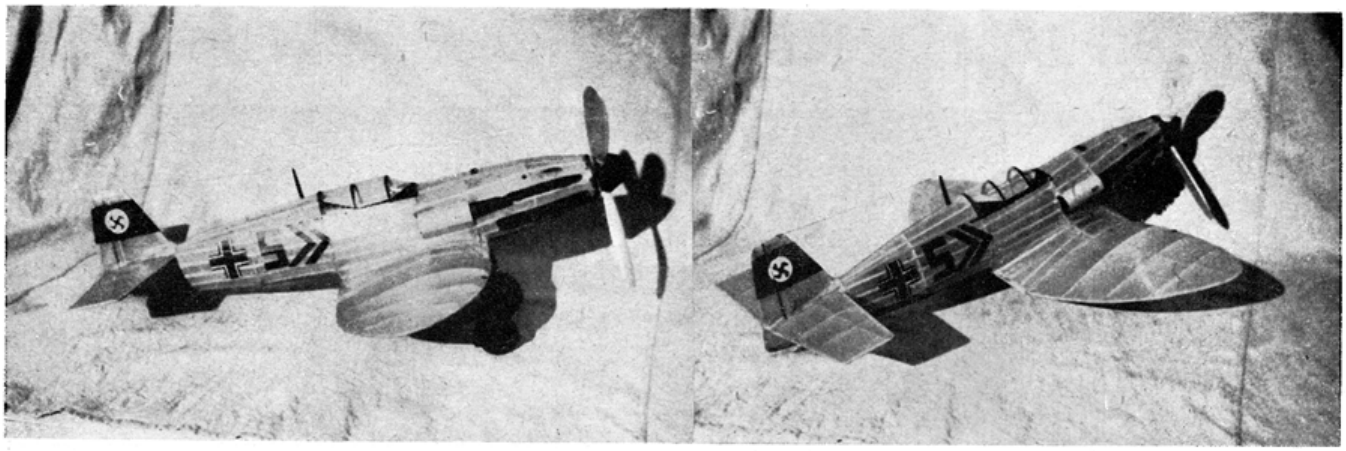
Dr. Ernst Heinkel, the German aircraft designer, has produced a variety of designs, varying in purpose from single-seat fighter aircraft, of which the He.112 is the most recent development, to the He.116, which is a trans-oceanic mail 'plane—four-engined job. What may have been the forerunner of the He.112 was the He.70, a commercial monoplane with saloon accommodation. One of this type was bought by the British Air Ministry for experimental and development work some years ago. I myself have actually worked on this machine, and it is my considered opinion that it is, to all intents and purposes, a demilitarised He.112. The general proportions of each are identical, and both are characterised by the gull wing. The tail units differ slightly, as do the cockpits. In the air the Heinkel is a remarkably "clean" looking job, though to my mind the elevator spar appears to be rather on the big side. It is interesting to recall that it was a Heinkel He.112U which established a world's speed record of 464 m.p.h. in March, 1939. This record was very short-lived, for it was again raised to a slightly higher figure by, if I remember rightly, a Messerschmitt. The disposition of the fuselage machine-guns rather mars the effect of an otherwise well-faired fuselage, though the slight loss has been obviously minimised.

Those of my readers who built the Messerschmitt I described in the February issue of THE AERO-MODELLER will quickly recognise the structural similarity of the Heinkel to it. The Heinkel is hardly as simple a model to build as was the Messerschmitt, yet all that is needed is the usual patience and, of course, time!

This, the Heinkel, is the first model to which I have chosen to fit detachable outer wing panels. There is nothing new about this, I know, but I have found that the benefits derived from this arrangement amply justify the extra time (and energy!) spent in making it. With this type of wing fixing it is not possible, or even intended, to guard against the wing being damaged in the event of a bad landing. Nevertheless, the arrangement does make for ease of replacement, and enables the entire model to be packed away comfortably in a box no larger than an ordinary shoe box. Strangely enough, shortly after I had completed this model I was, one morning, waiting outside a railway station, when a party of schoolboys meandered by. They had obviously just come off a train, in from the country, and were on their way to school. Slung across his back, one of the boys had a large cardboard box. I should say, fully thirty inches deep and about twelve inches square, and protruding from the top of the box—it had no lid—were the fuselages of several models—mostly duration models, I believe. The thing that struck me was the infinite care and attention the boy must have taken in order to save his models from damage, particularly in the crowded hall of the station. The region in the immediate vicinity of his back and shoulders appeared to be a positive mass of elevators and wings, plaintively asking to be "wiped off." The incident instinctively brought to my mind the detachable wings of the Heinkel, and I felt finally satisfied as to my choice.

And now to the building of the Heinkel.

After having cut out the fuselage formers and attached to them the main top and bottom members of the fuselage, the $\frac{1}{16}$ in. square stringers may be fitted, taking note that it is on two of these stringers that the pilot's "glasshouse" is carried. On to the appropriate stringers the gun fairings on the fuselage sides can be fitted, and also the radiator fairing, which again is carried on two



The attractive lines of the Heinkel are revealed in these two photos of Mr. Pollitt's model. Duration is from 20—35 seconds, according to weather conditions.

stringers, this time specially prepared for the purpose and extending from No. 4 fuselage former to the wing trailing edge. The exhaust manifolds also sit on the stringers and can be added at this stage, though personally I always prefer to fit them after having covered the model.

One point calling for particular attention is the trough extending forward of the gun fairings, as far as the nose-block. This trough, of course, is purely intended to give a clear path for the machine-gun bullets as they speed from the gun and away through the propeller. On the model it is made from a length of solid balsa, shaped as shown on the drawing, and with the trough becoming gradually shallower as it nears the nose-block.

Again, as on the Messerschmitt, and for the same reason, don't finish the construction of the rudder until the elevator is in position, or else it will be found that the elevator " just won't go on."

The elevator—notice the span—is a separate unit, built in one piece and comprising a main spar and six elevator ribs. The spar, it will be observed, is well forward and picks up with the top rear member of the fuselage.

A feature that I was unable to show on the drawing, owing to insufficient room (in turn due to economy of paper) is the method of carrying the trailing edge of the stub wings right into the centre of the model; in fact, picking up with the main bottom member of the fuselage.

Before completing the fuselage, cover the leading edge of the stub wings with 1/64 in. sheet balsa, and finally fit the undercarriage.

Next come the wings. Now these are in themselves quite a simple and straightforward job, comprising a single main spar and four wing ribs. The point to watch is the alignment of the bamboo dowels with the cardboard tubes accommodating them. The tubes should make a reasonably firm, though by no means a tight, fit with the dowels, and I would lay particular stress on this point. Frankly, I feel, on reflection, that it would perhaps have been better had I arranged to fit a shorter length of tube than that shown on the drawing, for the longer the tube—and the dowel—the greater the risk of their warping, and so resulting in too tight a fit.

In covering the model, the under surfaces of the wings and fuselage should be done with a white tissue, and the remainder covered with black tissue. The insignia is as shown on the drawing.

LIST OF MATERIALS.

Fuselage.

Two sheets of $\frac{1}{16}$ in. × 3 in. × 3 ft. balsa, for fuselage formers, rudder, elevators, wings, air intakes, etc.

Sixteen lengths of $\frac{1}{16}$ in. square × 3 ft. balsa, for stringers, etc.

Small piece of block balsa for propeller spinner.

One sheet of $\frac{1}{32}$ in. balsa, approximately 3 in. square, for wheel covers.

Several pieces of tonkin bamboo for undercarriage ($\frac{3}{32}$ in. diameter).

Several inches of wire, for motor hooks.

One pair of $1\frac{1}{4}$ in. diameter celluloid wheels.

One $\frac{1}{2}$ in. diameter celluloid tail-wheel.

One $7\frac{1}{2}$ in. diameter three-bladed Paulownia or Howood propeller.

Cup washers and small hardwood nose-plug.

One small piece of thin three-ply, for detachable nose-piece.

Wings.

Ribs cut from $\frac{1}{16}$ in. sheet balsa, used for fuselage formers.

Tail-plane and Rudder.

See fuselage.

Sundries.

Tube of cement. Tissue paste.

One sheet of white tissue.

One sheet of black tissue.

One bottle of clear shrinking dope.

Eight strands $\frac{1}{8}$ in. flat rubber, 3 in. longer than the fuselage. Cellophane for cabin.

One sheet of thin white paper for insignia.

One small tin of black drab for ditto.

FULL-SIZE SCALE PLANS GIVEN AWAY FREE WITH THIS ISSUE . . .