

By E. Clutton

# KWOD

Full size parts and  
simple dimensioned  
drawings for a .8 c.c. sportster

NEEDLESS TO SAY, this flying foursome with a fuselage like that of a ruptured duck is the cunning work of a modeller with a sense of humour! Cartoonist Clutton has produced a novelty in all-sheet design that should satisfy the rib-tired sports flyers and fall right into line with the constant search for something unusual.

Actual size parts are drawn opposite and for those able to use a ruler, dimensions are quoted here for the basic fuselage and wing to be "planned" directly on to the sheet balsa, or on to the building board in the case of the tailplane. It's an easy one to make and ridiculously easy to fly — why not try it — here's the list of materials you need.



### MATERIALS

- 1 strip  $\frac{1}{8}$  in. x  $\frac{1}{8}$  in. x 36 in.
- 1 strip  $\frac{3}{16}$  in. x  $\frac{3}{16}$  in. x 36 in.
- 2 sheets  $\frac{1}{8}$  in. x 3 in. x 36 in.
- 2 sheets  $\frac{3}{32}$  in. x 3 in. x 36 in.
- 1 sheet  $\frac{1}{4}$  in. x 3 in. x 36 in.
- 3 sheets  $\frac{1}{8}$  in. x 3 in. x 36 in.
- 1 soft block  $2\frac{1}{2}$  in. x  $1\frac{1}{2}$  in. x  $2\frac{1}{2}$  in.
- Scrap  $\frac{1}{8}$  in. ply,  $\frac{1}{4}$  in. and  $\frac{3}{8}$  in. sheet balsa
- Piece  $\frac{1}{2}$  in. ply 12 in. x 6 in.
- 10 in. of  $\frac{1}{8}$  in. x  $\frac{1}{8}$  in. engine bearer
- 36 in. 14 in. ring wire
- Sheet Celluloid 4 in. x 4 in.
- 1 pair  $\frac{1}{2}$  in. rubber wheels



THOSE WHO PREFER TO WORK FROM FULL SIZE PLANS CAN OBTAIN DRAWING SET 787 PRICE 5/- inc. POST FROM AEROMODELLER PLANS SERVICE.

First cut the fuselage basic sides from  $\frac{1}{8}$ -inch sheet add the tailplane incidence sliver and join with formers F5 (the 14 s.w.g. undercarriage being sewn to F5 beforehand) and F6, draw the tail together and insert formers F7, F8 and F9 then F3 and F4. Fit engine bearers.

All four wings are identical and are cut from three sheets of medium  $\frac{1}{8}$ -inch sheet balsa. Carve them to section, groove the three "whole" wings along the centre line, add  $\frac{1}{8}$ -inch ply dihedral keepers in their centre slots, cement well to hold dihedral of  $\frac{1}{2}$ -inch under each tip. Fourth wing is made from two off-cut panels. It is advisable to tissue cover the wings at this stage, simply by pasting tissue to the outline, water shrinking, and applying clear dope over all when dry. The two lower wings can now be cemented in position on the fuselage and the  $\frac{1}{8}$ -inch sheet fuselage upper sides, top and  $3/32$ -inch sheet underside pieces added, together with nose planking between F3 and F4. Add tailplane mount and underfin with skid.

The  $\frac{1}{8}$ -inch wing interplane struts are cut out and cemented into the wings which are already fitted (through the slots provided), ensuring that both wings and struts are perfectly aligned. The two top wings can now be added, taking care to line up accurately and when set, the  $\frac{1}{8}$ -inch square centre-section struts can be glued in position in the form of supporting trestles to hold up the top wing. The tailplane is quite straightforward, but cover the frame with tissue before attaching the three fins.

Fit the engine and tank, then complete the nose cowl with F1, F2 and planking and cover fuselage with tissue. Allow sufficient clearance of cowl around engine for cooling. After doping, balance the model in the position shown and test glide over long grass. Power turn is safest to the left.

KWOD was built partly because the designer was curious about induced drag and partly because he disliked making built-up wings. The induced drag experiment was very successful — the poor glide being ample proof! This is a desirable feature of a small field sport plane, however, so cartoonist E. Clutton may now try a quintuplane or even a sextuplane!

The prototype has flown with both an old Amco .87 and a new D.C. Merlin, ideal prop being a Frog 7 x 4.

One final tip — do not try to cut out the cabin windows in the fuselage as this particular part is highly stressed.

