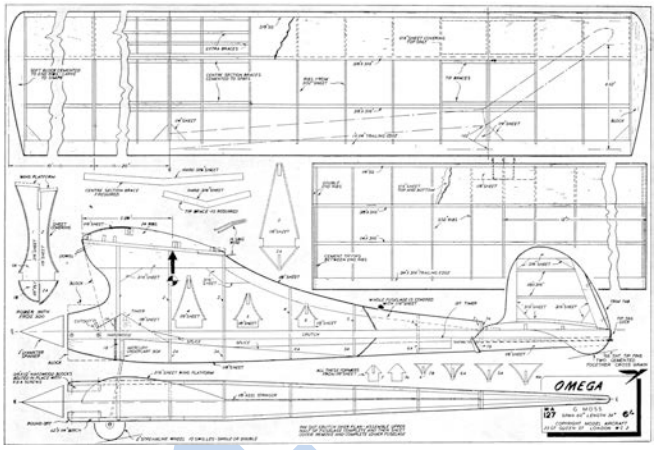
Omega





A high performance P/D G. Moss.

Omega has been designed to strike a happy medium between the extremes of pylon layout and incorporates the best of post war design trends. It has a particularly impressive flight performance, and is unusual in that it employs a single leg undercarriage. Twin endplates complete the " tricycle " for take off and unlike many models employing a similar layout it manages to r.o.g. with complete success.

Omega takes off dead straight and true from its single leg, picking up speed rapidly and travelling straight forward. From this attitude it goes into a steep, wide-circle climb of moderate angle which has proved safe under all conditions, Particular care had been paid in trimming to making the transition from power to glide as smooth as possible. There is no vicious stall, so common in power duration flying. Omega simply flies " over the hump " when the power cuts into a smooth gliding turn in the same direction. This is partly due to good design proportions, but more especially to good trimming technique in obtaining the correct balance between rudder and torque reaction. The trim employed is a left circle on both power and glide. The glide circle is obtained by left rudder and this left circle is prevented from becoming dangerous under power by using offset or right thrust, patient trimming determining the correct amount required.

Initial glide adjustments must be for a slight nose-down attitude. This is good practice in trimming all power models. A " floating " glide trim in the initial stages may well lead to stalling under the first power-on flights. Once the proper power trim has been established it is generally possible to improve the glide trim slightly.

Designer Geoff Moss lays particular emphasis on using the right type and pitch of propeller, his comments applying equally well to all types of power duration models. Recommended propeller is a 10X4 for the Frog " 500 " power unit a very much lower pitch than usually employed. Possibly this accounts in part, at least, for the excellent takeoff characteristics with the mono-wheel under carriage. Change of propeller may well mean a change in trim, which is a point many modellers might well bear in mind. All high performance power-duration models should be trimmed on the propeller on which the contest flights are to be made —and spare propellers should be of identical size and manufacture.

Construction of the model should present little difficulty. After the 1/2 X 1/4 crutch members arc laid out over the plan the formers can be added, then the top keel of 1/8 sheet and the whole of the upper part of the fuselage covered with 1/16 sheet. Removing from the plan, the lower formers, lower keel, undercarriage box and ply front former completes the assembly. Again this is sheet covered.

Wings are of orthodox two spar construction, made easier by the fact that the wing section has a flat undersurface. Outline is purely rectangular, with carved block for the tips. Spar joiners at dihedral breaks are cut from hard 3/16 in. sheet.

Tailplane construction is similar to the wings, only both top and bottom leading edge sheeting is used. The endplate fins each consist of two laminations of 1/16 sheet. These fit in between the double end ribs

Omega

and are cemented in place. The fin is cemented to the tail plane after covering.

The front cowling blocks are of fairly soft balsa, carved first to the required outline shape, and the two bottom blocks then hollowed out to accommodate the motor being used. The motor bolts on to the two hardwood blocks secured to the birch extensions of the balsa crutch. The nose station should be finished to circular section to blend in with a 2 in. diameter spinner.

The c.g position shown on the plan represents the most forward position permissible. The model should trim out at this c.g. position with the tail- plane rigged as shown. A more rearward c.g. is quite acceptable, when some positive incidence will have to be added to the tail plane. The original wing incidence of five degrees allows the c.g. to be moved back to the trailing edge, if desired, and 'till retain sufficient longitudinal dihedral.

Model Aircraft Magazine May 1952

Hisat