

THE ROSS RANGER II

By VERNIE G. ROSS

IN AUGUST 1944 I decided to design and build a high performance sailplane. After considerable thought I went to work at my drafting board and finally evolved the Ross Ranger II, a mid-wing cantilever ship with a pod and boom tail. The wartime shortage of materials forced me to delay the construction and when I did start I could obtain material only from local dealers handling scrapped Army aircraft.

The pod and boom are fabricated of 24 ST aluminum alloy with the bulkhead rings and the boom .035" thick, and the skin .020". The pod is shoulder height and the canopy is of the greenhouse type giving the maxi-

mum visibility. The pendulum type elevators are of conventional wood construction. The fin is aluminum alloy, while the rudder is of wood.

The wing is cantilever with an 18% section and 40 inch chord at the root and a 9% section and 16 inch chord at the tip. A geometric twist of 3° was incorporated for stability. The structure is the conventional box spar and plywood torsion tube. The box spar has spruce cap strips with webs of 45° 3/32 thick mahogany plywood from the root to the aileron and 3/64 birch webs from there to the tip. I was unable to obtain grade A fabric for the remainder of the wing and at the suggestion of Mr. Charles King I used nylon fabric which I was able to obtain from a friend. After thoroughly testing this material I have found it suitable in every respect because of its strength and light weight and believe that it is the most desirable fabric for covering high performance sailplanes.

The preliminary tests of the Ranger II by Wally Wiberg show it to be all that I hoped it would be. It will be flown in the contest by Paul Tuntland.

