

REARWIN SPEEDSTER

A NATIONALS FLYING SCALE WINNER



Most of the details of construction are explained in the drawings, but a few of the more important points will bear a little verbal explanation. It will be noted that the basic framework has been shaded in for clarity, and that the two top main longerons are perfectly straight in the side view, as the thrust line runs directly along the top portion of these longerons. This means that after the two sides have been assembled, the fuselage can be built in an inverted position on the workbench to insure absolutely perfect alignment. Note also that there are no cross braces in the upper portion of the fuselage. Temporary braces are used until the bulkheads and stringers have been cemented

BY HENRY
THOMAS
NATIONAL CHAMPION



Above—The author and the championship model. Right—With trophies at 1939 Nationals. He also won Air Trails flying course.

in place. Later on, they are sliced away, as there would be no room for the rubber motor if they were left in place.

Use the hardest $\frac{3}{32}$ " squares that you can get for longerons to obtain maximum strength. The fuselage comes apart (just like a cabin model) between Formers 11 and 12. A cross brace is used under Formers 11 and 12, and the tail hook is secured to the rear of the cross brace under Former 12. The portion under Former 12 should be filled in with $\frac{3}{32}$ " sheet, as this part of the fuselage must stand a lot of handling. The nose block can be made removable as in a cabin model, but the original was cemented in place and sanded to fair into the $\frac{1}{16}$ " soft balsa planking which extends back to Formers 2 and 5. A hardwood plug, as illustrated, should be used if the nose block is cemented in place. By using air wheels and connecting the upper ends of the landing gear struts to the fuselage with wire, shocks due to landing or a dive can be taken care of most efficiently. The wire should be cemented to the leading and trailing edges of the landing gear struts, and should be covered with a small patch of silk, which will serve to conceal the wire and to strengthen it. If plastic wood (cement and balsa sawdust mixture) is used, there need be no fear of the wire loosening, as the wood and cement shrink, forming a viselike grip around the wire. Be sure to allow the plastic wood at least an overnight drying so that it may harden well before you attempt to sandpaper it to shape.

The entire wing may be made of medium-soft balsa, as the struts give the wing plenty of extra strength. The ribs can be lightened considerably by removing the eraser from a pencil and punching small holes in each rib. The tail surfaces are $\frac{3}{32}$ " deep throughout, and all the necessary strips and curved parts may be cut out of medium sheet balsa, $\frac{3}{32}$ " thick. Do not forget to add the wire hinges between the control surfaces before covering, as these should be cemented in place from the inside.

For best visibility, the model should be covered with dark-blue or red tissue paper. A silver trim will help for visibility and will catch the judge's eye when he is considering the model for points on finish. Use a soft brush that is about $\frac{3}{8}$ " wide for color doping, as the dope can be applied more quickly with a wide brush, lessening the amount of brush streaks that are readily discernible to the eye. Silver dope has a bad habit of settling quickly, so keep a small length of wire handy to stir it up regularly. Keep the dope properly thinned out so that it flows off the brush well. Above all, keep neatness

PLANS BY PAUL PLECAN

During the 1939 Nationals, Akron's pride and joy, Henry Thomas, became National Champ. Netting a first, second, fifth and eighth place in four events, he ran up the highest score of points among the 700-odd entries to win the Air Trails flying course award. The most important of Hank's placing was the first in the Open Class Flying Scale event. His Rearwin Speedster, built to a scale of $\frac{7}{8}$ " = 1', stayed aloft for approximately 50 seconds on the first two official flights. On the third attempt, over one minute was made, thanks to adjustments on the first two tries.

Due to the "beefy" construction, the Rearwin came up to weight rule without the addition of clay, a notable point to keep in mind, as every ounce of weight is used for strength or flying power. Many model builders like to bring along an old model for the flying scale event, loading it up with clay to bring it up to weight rule. This may be the reason why flying scale contests in the past have showed poor flight averages, since the models carried "payloads."