



RAZOR BLADE '64

KING OF THE 'WINGS'
UPDATED BY PETER TRIBE

FIRST INTRODUCED to AEROMODELLER readers in May 1959, *Razor Blade* has been one of the most popular combat models in the AEROMODELLER Plans Service. In the intervening five years Northwood club members have won many contests, with only basic modifications to the original design, now revised in a less 'square', and even faster flying version of 1964.

The original conception was for a fast, extremely tough model with reasonable manoeuvrability. To this end a flying wing was chosen as it dispensed with the vulnerable rear fuselage of conventional models. It was thought that if the trailing edge did not fracture in a crash the leading edge and spars would remain intact, and this is why a $\frac{1}{2}$ in. x 3 in. hard balsa trailing edge was used. The idea proved sound with practically all casualties resulting from mid-air collisions or broken engine bearers.

At the end of the 1960 and the beginning of the 1961 season, the very lightweight "all-moving elevator" and *Dongus* style models appeared, and modifications had to be made to bring the *Razor Blade* up to their performance. This was achieved with the 1961 variant, which had the same 3 in. x $\frac{1}{2}$ in. trailing edge but of a much lighter wood. The spruce $\frac{1}{2}$ in. x $\frac{1}{4}$ in. spars were tapered towards the tips, and the balsa/obechi leading edge structure was changed to balsa/spruce. Wing thickness was increased to 1 $\frac{1}{2}$ in., and the aspect ratio increased by reducing chord and increasing the wingspan.

The resulting model was lighter, and produced tighter manoeuvres. Successes with this model were quite notable, the most important being 1st and 2nd places at the 1961 Criterium of Aces in Belgium. This model was used successfully in 1962 as well, but after the combat trials for the 1963 Criterium of Aces a few modifications were made, most important of these being the insertion of a $\frac{1}{4}$ in. x $\frac{1}{4}$ in. obechi strip in the softer trailing edge sheeting. The leading edge was also enlarged to $\frac{1}{2}$ in. x $\frac{3}{4}$ in., and half ribs added. This model retained all the characteristics of strength and speed from the earlier 'Blades', and added the advantage of greater manoeuvrability. Contest results for 1963 confirmed this with first places at the team trials, Nationals, International Criterium of Aces and several club rallies.

Heading shows Peter Tribe's model with an Oliver Tiger and illustrates the change of lines for attractive curves after the original functional 'Blade'. Close-up at right shows the engine installation with tank arrangement and angled needle valve. Some Northwood clubsters save needle damage by operating with loose fitted intakes in Oliver's. Note one tank vent blanked by setscrew.

Construction-wise the 1964 *Razor Blade* is within the scope of anyone who has built and flown a control line trainer. Commence by cutting out the $\frac{1}{2}$ in. sheet fuselage sides, and trailing edge. Thin cement the $\frac{1}{4}$ in. x $\frac{1}{4}$ in. obechi strip and $\frac{1}{2}$ in. x $\frac{1}{4}$ in. hard balsa strips to the innerside of the trailing edge sheet. Whilst this assembly is drying, cut the $\frac{1}{2}$ in. x $\frac{1}{2}$ in. bearers to shape and then cement and nail together as shown in sketch. The $\frac{1}{2}$ in. sheet fuselage sides should now be glued to the bearers, and the $\frac{1}{2}$ in. x $\frac{1}{2}$ in. filter strip added. Next cut eight W2 ribs from $\frac{1}{4}$ in. sheet, nine W3's from $\frac{1}{8}$ in. sheet and one from $\frac{1}{2}$ in. sheet. Also cut two of W1 from $\frac{1}{2}$ in. sheet. Now build up the leading edge from two strips of $\frac{1}{4}$ in. x $\frac{1}{4}$ in. balsa and one $\frac{1}{2}$ in. x $\frac{1}{4}$ in. spruce. Next cut the $\frac{1}{2}$ in. x $\frac{1}{4}$ in. mainspars to taper as shown on plan. Place all spars and leading edge over plan and mark off rib positions with a soft pencil (not a ball as this will bleed through the dope and show on the finished model).

Slide spars and leading edge through cut out slots in fuselage sides and cement well into position, making sure the spars are true by temporarily cementing the tip ribs and checking with a set-square. When set, remove tip ribs and slide in all ribs and riblets cementing firmly and re-cement tip ribs on. Mark off position of ribs on trailing edge and cut out notches, then slide in trailing edge from rear and cement, giving a final check that everything is square.

Fix the $\frac{1}{2}$ in. x $\frac{1}{4}$ in. spruce bellerank support in place and mustard tin tank. Bolt bellcrank in position, complete with leadouts and pushrod. Cement all ribs and riblets, and re-cement tip ribs on. Slide

