



There's no doubting the "model" lines of the Nipper prototype. Bottom view shows detachable wing feature and sketches aid simple construction

Add weight to the nose or tail until the model balances where indicated on the plan (no weight was required on the prototype). Check the washout and the greater angle of incidence on the port wing. Now bend the rudder trim 1/16 in. to port (left) and test glide.

Launch the model fast and level. The glide from a hand launch should be straight and quite flat. When the glide is reasonable (the prototype required 1/16 in. "up" on each elevator) try a short power flight. Use full power from the beginning with a 6 x 4 in. nylon air-screw on back to front (the actual engine used was a D.C. Dart .5 c.c.). Launch the model level again and it should go away in a climb to the left in circles of about

# Build a TIPSY NIPPER

full-size plans overleaf for C. C. Badger's model

AS A MODEL PROJECT the Nipper catches the eye because of its simple lines and ideal proportions. Though rather heavy at eight ounces for its 24-in. span, the model flies fast and is tough enough to withstand those early trimming prangs.

Construction of the wings is quite straightforward following the normal ribs over spar technique, trailing edge, then leading edge additions. Ensure that correct amount of washout ( $\frac{1}{4}$  in.) is in each wing panel (made separately) when pinned down for dopping. Note that the rear wing dowels are short and the dowel holes in the fuselage are at different heights so that the port (left) wing has a greater angle of incidence.

Start the fuselage construction with F.2 and glue the dowel box to it, next fit the 3/32 in. thick sheet balsa sides to the former and also add F.3. Whilst this assembly is drying, glue the ply nose former and engine bearer onto F.1. Now bring the two assemblies together and fill the space between the engine mount and the fuselage side with soft balsa block.

Next pull the rear ends of the fuselage together and add F.4, F.5 and F.6. At this stage the rear dowel plates and the ply support for the rear u/c legs should be glued in position. Now bind and glue the nose leg and the rear leg into position. Next stage is to add the stringers on the top of the fuselage and also the soft block fairings to the base. The Nipper is now ready for the top cowling, instrument panel and the remaining undercarriage leg.

One of the three legs to each rear wheel on the real aircraft has been omitted to save a little weight.

Hinges for the elevator trim tabs can be made simply by pushing a pin right through the tab and into the tailplane and then snipping off the head. The tab can then be bent up or down and will stay fixed. Hinge the rudder tab in a similar way.

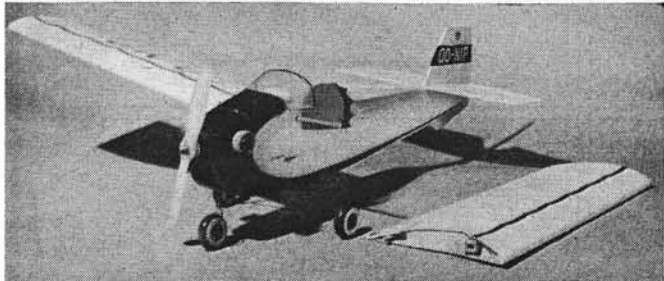
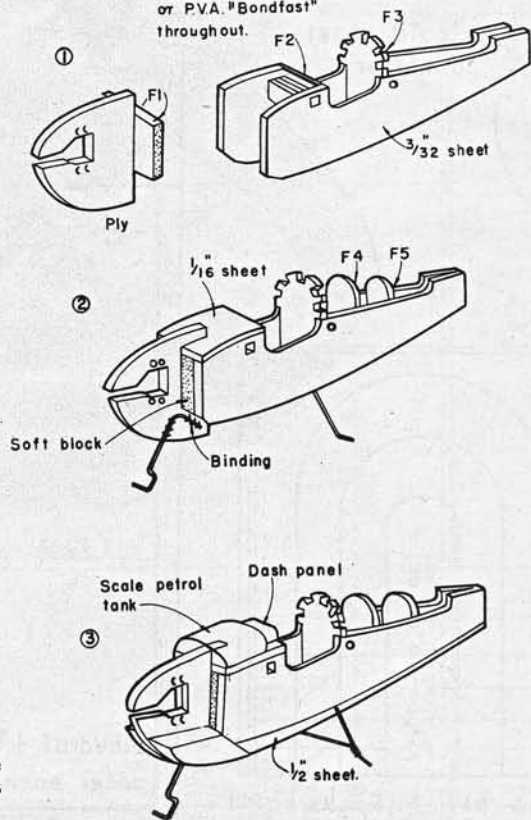
Finish the model with two coats of clear dope for flight trials.

80-ft. diameter. When the motor cuts the model will settle into a gentle right hand turn. Correct any stall with the motor running by increasing the left rudder, then trim out the glide with the elevators.

When flying is to a satisfactory stage, the model may be fully decorated. On the prototype model, Powder Blue and Black Valspar was used for the two-colour scheme with green lettering on the wings and white on the fin. Tyre walls are rings of drawing paper!

The  $\frac{1}{8}$  in. square aluminium welding rod for use as the main wing dowel, is easily obtainable from garages or engineering works, where welding is carried out, but can be replaced by round wooden dowel in the event of difficulty.

Fuselage construction. Use Croid "Universal" or PVA "Bondfast" throughout.



Detailed plans for a 36-in. version to suit 1 c.c. are available as plan FSP/731, price 5s. 6d. from Aeromodeller Plans Service.