



Archivo Arcangel Armesto

Stinson ★★★ Trimotor

by Bruce L. Paton

THE Stinson Trimotor, although a fine ship in the early 1930's, did not see many years of service with the nation's airlines because of the advent of the faster low-wing transports. Originally intended to supplant the "Old Tin Goose" of the airlines, the venerable Ford, its speed could not compare with that of the Boeing 247 and the early Douglas DC's, and it quickly took a back seat to these two transports.

The proportions of this Stinson, with just a slight increase in tail area, make an excellent flying scale model, and with a winder packing in the turns you can give the contest jobs a run for their money. There is still nothing to compare with the thrill of seeing a scale model R.O.G., circle lazily up and up, and then settle into a slow, flat glide. You old-timers especially will get a kick out of this model's looks and performance.

FUSELAGE The construction of the fuselage is started by laying out the two sides of 1/8" balsa. After these are thoroughly dry, cement in the top and bottom cross members, the dimensions of which are given in the half size top view. The formers are now cut out and installed. When these are dry, the 1/16" sq. stringers and cabin frame are added. It should be noted here that the former N8 on the fuselage has a 3/4" sq. cut out of the exact center and this square is later cemented to the rear of the cowl for locating purposes. This cutout need not be made on the formers for the nacelles. The side windows are cut out of 1/16" sheet balsa and installed as shown on the plan. The tail wheel may be attached now or after fuselage has been covered.

NACELLES The first step in building up the nacelles is to cut out and install formers N1 and N3 on the fuselage structure. Only half of these two formers have been shown on the plan; however, for purposes of strength they should be cut out in one piece. While these are drying in place, start constructing the landing gear. The three pieces making up each wheel cover are cut out and cemented together; make sure to provide slots for music wire as shown. When these are dry, form a U of wire around each wheel and insert the top of each U up through the pants, then bend the top ends of this U in toward each other as shown on the plan. The gear is then bound and

cemented securely to the back of former N1. The slight forward angle of the landing gear as shown on the fuselage side view should now be incorporated. The main landing gear struts should be streamlined and installed at this time. Note that these struts are slotted to receive the landing gear wire. The next step is to install formers N2, locating them with N9 and N10. The 1/16" sq. stringers are then put in place. The N8 formers are cut out and assembled and the soft balsa blocks at the rear of each nacelle are cemented in place and when dry, are shaped. The trailing edge of each sub-wing, N4, and the ribs N5, N6 and N7 are cemented in place. The leading edge is cut from 3/16" sheet and is shaped to conform to the taper of that section of former N1 on which it is cemented. A soft balsa block is cemented to N7 and the leading edge, and sanded to fillet shape when dry.

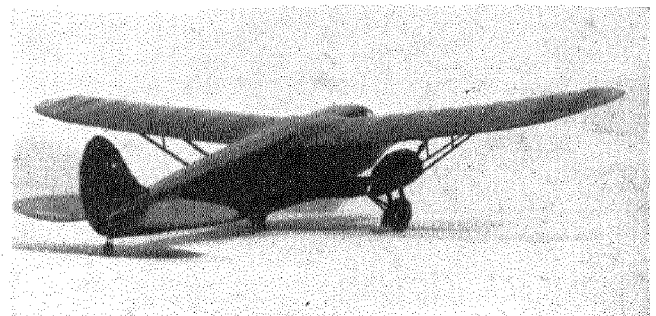
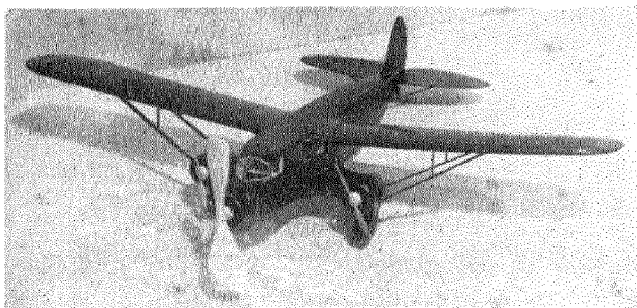
If you have a lathe available the cowls can be made in nothing flat, but if you don't, they may be made up by the sandwich method, using 1/8" soft balsa sheet. The outer cowls may be hollowed out to as thin a wall as possible to save weight, but don't hollow out the nose cowl any more than is shown on the fuselage side view because this will weaken the nose and there will not be enough material left to attach the square cut from former N8, as mentioned previously.

WINGS: The centersection out to and including ribs W2 is constructed first. It should be noted that the 1/16" sq. spars in the centersection are installed two over and two under the top fuselage longeron. This will insure the correct incidence angle. Soft balsa blocks are cemented between ribs W1 and W2 at both leading and trailing edges and shaped when dry. Outer wing panel drawing is enlarged and then reversed to allow building both panels on the plan. Be sure to make four W3 ribs of 1/8" sheet for strut attaching ribs.

TAIL: Both rudder and stabilizer may be constructed directly over plan as these are flat surfaces. Scale outlines have been shown in dotted lines should you desire to build a non-flying scale model. Note when attaching the stabilizer that it is installed parallel to the thrust line, giving it 0° incidence.

PROPS: Scale props should be made of hardwood. The two outboard props may be left in place when flying and if properly balanced, will windmill, creating the illusion that all three motors are pulling. Good results have been obtained with the flying prop shown. However, if longer flights are desired an 8" diameter single blade folding prop is recommended; this necessitates an increase in length of the landing gear legs for R.O.G. flights.

ASSEMBLY: Cover all components with a high quality of tissue and attach wings and tail to fuselage with a good grade of cement, preferably *Ambroid*. Be sure to remove sufficient paper at strut attaching locations to insure a firm wood-to-wood cement joint. Do not water dope wings until they have been fastened in place, otherwise the tissue will bow the in-board end ribs and make cementing difficult.



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Two coats of dope on the entire model will suffice, and will assure you of a very good looking model. The prototype was a dark Stinson blue, if it is desired to color dope the model.

FLYING: Four strands of 1/8" flat brown rubber was used to power the original model with excellent results. Glide the model with a few hand turns on the rubber to obtain a flat mashing glide (with the scale props removed, if model is to be flown without these in place). Model may be made to turn in either left or right circles by removing only one of the outboard props. It will turn toward the remaining prop because of the drag of the prop windmilling.

After getting the desired glide results, put the winder on and watch the admiring glances of the other modelers when the ship is airborne after a very realistic take-off run.