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HOW TO BUILD A Scale Model of the Stinson "Junior"

A 2 ft. 4 in. Replica of this Popular Monoplane

THE Stinson *Junior* is one of the most popular four-seat enclosed monoplanes of today.

The Stinson Aircraft Corporation, builder of this plane, was founded by Mr. E. A. Stinson, one of the oldest and most experienced pilots in the United States. He first flew in 1911, on the early Wright machines, and since then he has earned the distinction of having taught more men to fly than any other instructor, as well as having served as a test pilot for ten years.

FUSELAGE

To make the fuselage, cut or saw it to shape of balsa wood, 18" x 3" x 2 1/4". First trace the side view of the fuselage and cut as shown in Number 1. Then trace the top view and also cut carefully, as shown in Number 3.

Be sure to get the nosing perfectly round up to the windshield. Then, using rough sandpaper, curve all the edges of the fuselage from the cabin down to the tail. After that is done, go over the whole thing with fine sandpaper so it will be ready for painting.

Hollow out the cabin with a small sharp chisel or knife. Install instrument board, three seats and dual controls, which are all made of balsa, and paint the interior gray. Let the cabin dry thoroughly.

WING

Use a piece of 28" x 4 1/4" x 3/4" balsa. To obtain the shape of the wing, use a sharp knife and coarse and fine sandpaper wrapped around a block of wood. (Number 4.) Then cut a place in leading edge for skylight. When finished, place a light made of balsa at each wing tip. (Number 5.) Then draw with lead pencil ailerons (Number 5) and press heavily so as to make grooves.

TAIL UNITS

To make the rudder and elevators, use 1/4" thick balsa wood. For measurements, see Number 2. Draw line heavily on both sides to separate rudder from fin and elevators from stabilizer. Attach a light slightly smaller than that of the ones on the wing to the top of the rudder. (Numbers 1—3.) A razor blade is preferable to cut the tail units to shape.

ASSEMBLY

Find the middle of the wing and place a dot and attach with ambroid to the two vertical struts on sides of fuselage, shown in Numbers 1—5, (Continued on page 37)

Side view of a real Stinson
Junior plane



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which are to be put on after the paint dries in the cabin. Take plenty of time and be very careful to see that the wing sets perfectly straight across the fuselage. Allow about half an hour for the ambroid to dry. When it dries, attach the other four windshield struts as shown in Numbers 1—5. Paint the inside of the six panels or struts gray, same as the rest of the interior. Let the paint dry for a few hours.

LANDING GEAR AND WING STRUTS

It is best to make the landing gear of spruce, white pine or other hard wood. Full size drawings of struts are shown in Numbers 5—6. You may streamline them with a razor blade, knife or sandpaper. After streamlining, drill a hole at one end in the two Number 1 struts and fasten a wire in each about one inch long in order to hold a wheel. After that is done, turn your plane upside down and fasten it in place with plenty of ambroid (Number 5). Then put the opposite struts, Number 2, in position. Continue with this procedure until all sixteen struts are in place, using blocks and sticks to keep them in position. It is very important that they are straight. The ambroid of the first one must be dry before you attempt to put on the next. Also attach steps. When you are all through, go over the connections with some more ambroid to make them firm.

TAIL UNITS

While you are waiting, connect the tail skid, using wire and a small wheel. Copper wire is the easiest to work with because of its flexibility. The wheel may be taken from a little lead toy truck which may be purchased at a "Five and Ten Cent Store." Drill a small hole in the end of the fuselage in order to let the tail skid fit tightly. Number 1 shows how the tail skid may be built and placed on fuselage.

Do not ambroid it so that it may turn in its socket. By that time the landing gear will have dried and you may turn the plane right side up. Then place the rudder and elevators on, after cutting a groove in the fuselage for them to fit. (Numbers 2—4.) Allow to dry half an hour and attach braces.

NOSE

The cylinders of the motor are cut from $3/8" \times 1/2" \times 3 \ 3/8"$ balsa wood. Number 4 shows how this may be done. There are nine cylinders to be cut in shape. After that is finished, ambroid cylinders in place and attach the eighteen vertical struts (Number 4).

Make propeller while motor is drying, of $3/8" \times 1/2" \times 4 \ 7/8"$ balsa wood, as shown in Number 3. Sandpaper to give a smooth finish, drill a hole for pin and paint the propeller silver. Cut a piece of aluminum with scissors and wrap it around nose. (Number 6.) Fasten with pins and then put on propeller. Use transparent paper, which may be obtained from a candy box, for the windows.

PAINTING

The wing should be painted red and white. The fuselage is red with two white lines painted down the side and one around the nose. Paint the landing gear and all other struts red with the motor, of course, black. Paint all the tail pieces red except the bottoms of the stabilizer and elevators, which are white. Use special colored dope.

MATERIALS

The dimensions and kinds of material to be used for this model are given in the text. Make up each part as you go along. Work carefully, and an excellent model will result from your efforts.