

of two separate panels. Each panel can be completely built, covered and finished, then plugged into the finished fuselage.

First, cut all ribs from medium soft quarter grained sheet balsa. W-1 is 1/16 inch sheet and all other ribs are 1/32. Next, cut out and taper the leading and trailing edges from straight-grained medium soft balsa.

Place trailing edge and bottom front spar strip on top of plan in proper locations and fasten down. Fit ribs W-2 through W-9 in place and cement to trailing edge and bottom spar strip, making certain that all ribs are perpendicular to work surface. Allow cement to dry thoroughly. Place rear spar strip in notches on top of ribs, allowing extra length to hang over location where W-1 will be located, and cement to ribs W-2 to W-9. Install front top spar in notches in top of ribs and locate W-11 spar joiner accurately at ribs W-3 and W-2. Now rib W-1 can be located and set accurately in place between trailing edge and all spars.

Remove wing from board and install 1/16 inch strips and oil cooler platform. Cement leading edge and wing tip in place, and complete careful final sanding of all wing elements. Brush on two coats of thin dope (50% thinner to 50% dope) on the structure where covering tissue will be attached. Sand very lightly, then brush on a coat of full strength dope.

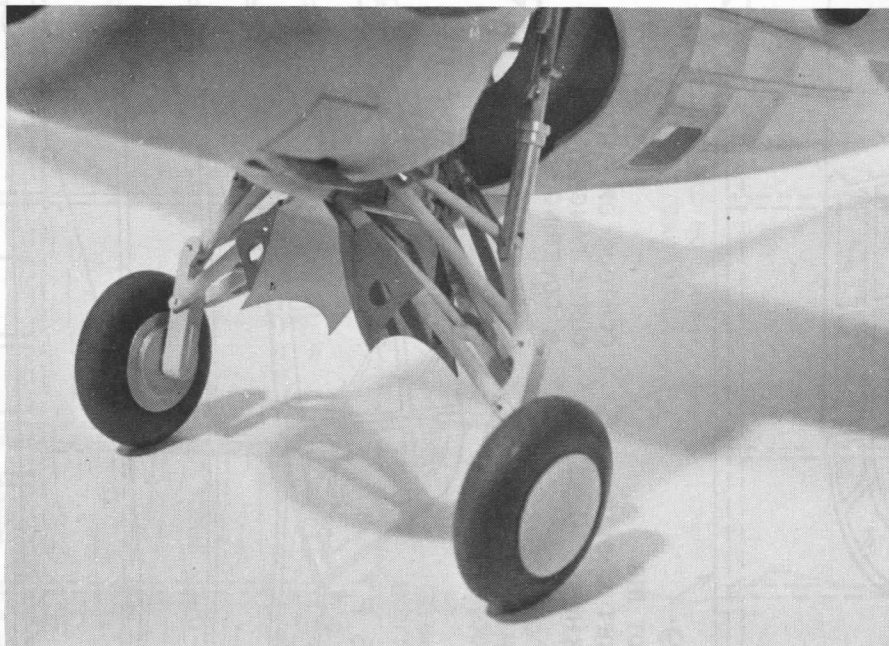
Covering each wing panel on this model is accomplished with standard blue Japanese tissue on the top surface, and white on the bottom. Apply only a light mist of water to eliminate possible warping. When wing is completely dry, spray or brush on two coats of thin clear dope. Add an adjustable tab to right wing (only) made from bristol board and thin copper wire for hinges. Color top and bottom to match wing.

HORIZONTAL TAIL SURFACES

These are made up of separate right and left panels in the same manner as the main wing. Each can be completely finished, then plugged into the fuselage vertical fin.

Much of the basic structure is cut from strips of 1/16 square balsa. The tips, trailing edges, and joining plates at centerline of airplane are all cut from 1/16 sheet to exact shapes shown. Add 1/32 thick by 1/16 wide cap strips to rib structures S-1 through S-5.

Cut 1/32 tip pieces to shape and cement to top and bottom of tips. Last, cut and cement 1/32 strips to top and bottom of trim tab intercostals between ribs S-3 and S-4 and top and bottom of plug-in boxes as shown. Now carefully sand the whole structure to a streamline airfoil shape. This is known as the "Stahl" type airfoil. Cover both panels in the same manner as the wing. Attach completed trim tabs with small, soft copper wire. Mark off control surfaces on main tail panels with India ink.



The familiar retracting gear, first used on the F3F and earlier Grumman biplane fighters, is a complicated bunch of arms and pivots, which may be simplified if you intend to fly it often.

FUSELAGE

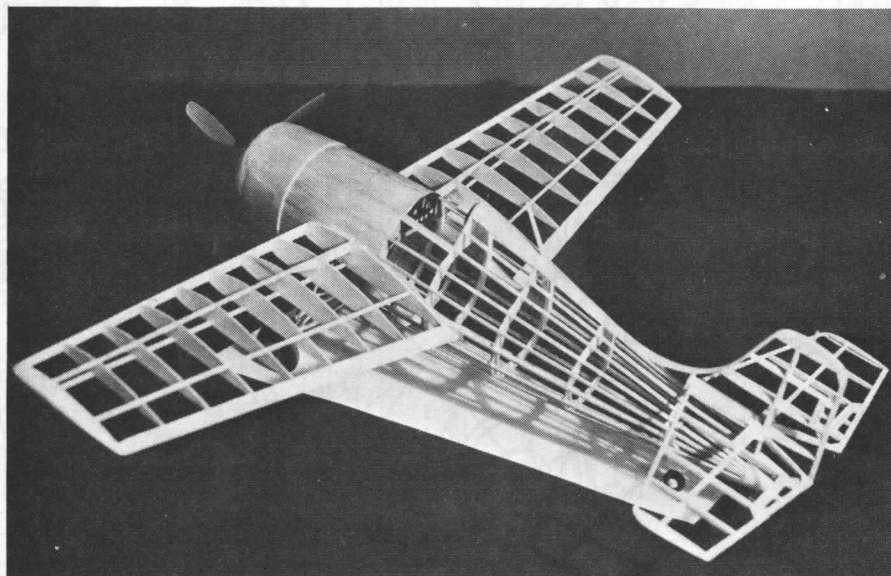
The fuselage structure shape for this model requires the building of the vertical tail surfaces as a part of the fuselage itself. The fuselage is of the half-shell type, complete with keels, stringers, and half-bulkheads.

Cut all bulkhead halves from quarter grained sheet balsa. Pin down the top and bottom keel pieces over the drawing. Note that portions of the fin and rudder are included in the half-shell structure.

Cement the left side half-bulkheads F-2 through F-5, and F-7 through F-13 in place between top and bottom keels. Insert pre-cut side keel F-18 in bulkhead notches and cement in place. Add top partial bulkhead F-6 between top and side panels as required. Install 1/16 square stringer that is located immedi-

ately above side keel F-17 and cement to bulkheads F-5 through F-9 only. Cement root rib piece F-19 in place after pre-trimming inside top edge to clear stringer just mentioned. Cement bottom piece of root rib, F-20, in place in area shown. Cut to length and install the 1/16 square horizontal tail support pieces between bulkheads F-12 and F-13. When dry, remove this left side assembly from the plan.

Lift the tracing of the plan, turn it upside down, and refasten to work surface. Invert the left fuselage assembly and set with top and bottom keels on 1/4 inch thick, 1 1/4 high by 1 inch wide spacer blocks mounted on edge at intervals around the plan. Check alignment, pin fuselage assembly to spacers, then proceed to add the right side half-bulkheads (also F-6B) and the amount of



Wing and stabilizer panels are built separately, and may be completely finished before plugging into appropriate slots and glued. Inlaid 1/32 sheet is glued over bulkheads, between stringers.