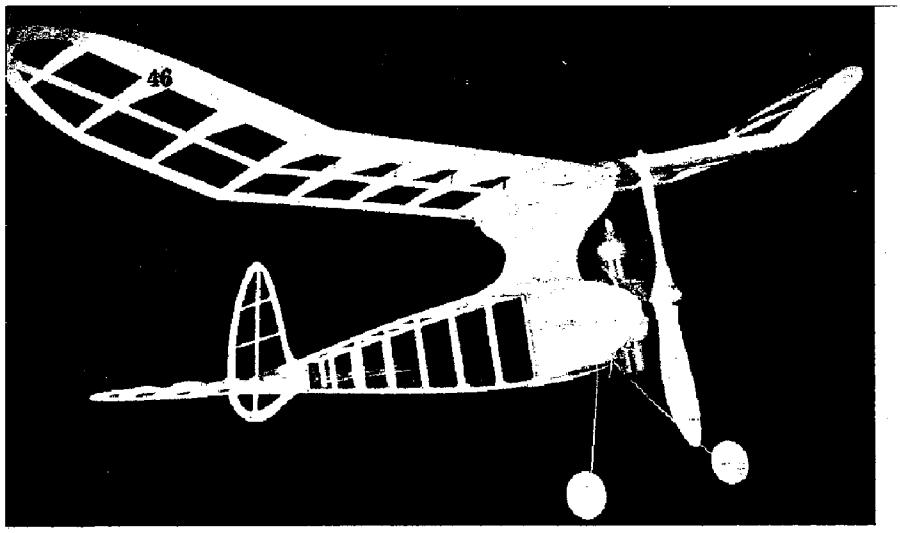

Simple design and sturdy construction makes for better performance.

BUILD THIS ZIPPY

SPARROW

A treat for both gas and rubber power modelers. This model may be converted within a few minutes.

by CLAUDE D. McCULLOUGH

HERE'S A HIGH-CLIMBING contest dandy that shouldn't strain even a model builder's pocketbook. Depending on the amount of scrap wood you have around the workshop, it should cost you 25 to 50 cents to build. Further, it can be powered with an Atom, Super-Atom, Elf, Madewell, or any other engine in the lower Class "A" bracket. If you haven't an engine, you can build the Sparrow as a duration rubber job or a gas-type rubber model with a ratchet motor roar device.

The same plans may be used for the construction of ships for larger size engine. Engines in the large Class "A" bracket and in Class "B" from .15 to .30 cu. in. piston displacement may be used by enlarging the plans 1½ times, that is, multiplying all of the dimensions by 1½. Doubling the plans will produce a fine Sparrow-*Hawk* for any Class "C" engine from .30 to .45 cu. in. Larger engines from .45 to .60 will fit a 2½ enlargement.

The only changes that need be made are around the nose to fit your particular motor and omission of the excessive negative incidence of the elevator which is necessary for the small model.

The old axiom "the bigger they are the harder they fall" certainly holds true in the case of gas models. Although the Sparrow has made more than 75 flights it still has the original prop! During this time it has hit all sorts of objects with the motor running and has even spiraled in with the throttle wide open with no more damage than a few rips in the tissue. What with the thimbleful of gas required and the low "juice" consumption, the Sparrow is very economical to operate.

After you've experienced the easy handling characteristics and seen the corkscrew vertical climb that takes the ship up for average flights of 2½ minutes, you'll be convinced that these vest-pocket jobs have just as good performance as the big ships and are twice as much fun. Look the plans over carefully and make sure you understand the construction details fully before starting on either rubber or gas powered models.

FUSELAGE, WINGS, TAIL

CONNECT the plates at "A-A" showing the side view of the fuselage. Build the sides of the fuselage, one on top of the other, directly over the plan using pins to hold ⅛" sq. longerons in place. Soak the longerons in hot water till they are pliable. They may be easily bent around the curve of fuselage outline. When sides are thoroughly dry, remove from the plan and carefully separate with a razor blade. Fasten together by cementing the tailpost and pining the front crosspieces in place. After it has dried, add the rest of the crosspieces, working front to rear until the rectangular frame has been completed.

The wing mount is built up from ⅛" flat and covered with 1/32" sheet as indicated on the plans. Streamline with fine sandpaper. Add the wing platform and cement to the fuselage. Two 1/16" dia. dowels are cemented in place as indicated and small wire hooks cemented to each side of the fuselage. These combine to hold the removable ignition unit solid.

The unit is detailed on the plan and needs no explanation. Drill holes in the 1/16" plywood firewall that correspond with the protruding dowels and loop a rubber band between the hooks on each side and the unit will be held in rigidly and yet will pull out to prevent damage in a crash.

The motor mounts are ¼" hard white pine cemented in place and strengthened with ½" long wood screws run through the back of the firewall. The landing gear is cemented in place after being bent from 1/16" wire. Fasten in the motor with wood screws, install the ignition unit and cowl in the motor with 1/16" sheet as indicated.

The rudder is built flat. Plans are self-explanatory. In building the stabilizer, first lay down the leading and trailing edge and spar. Then cement in the ribs which are cut from 1/16" balsa. Only the left half of the stabilizer is shown on the plan. The right side may be easily duplicated with carbon paper. Sand both to airfoil shape. The rudder and elevator are not cemented to the fuselage until they are both covered.

Scale up the wing plan and make a full size layout drawing on a large sheet of white paper. Cut out all the wing ribs for 1/16" balsa, using the patterns on the plan. Fasten the ⅛" wing spars to the plan and cement the ribs to them. Add the leading and trailing edges and sand lightly. Crack the spars and block up the wing to the indicated amount of dihedral. Cement well and insert small triangles of wood at the dihedral breaks. Let dry for at least 2 hours and plank the leading edge with 1/32" balsa, soaking in warm water to make it pliable.

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The completed craft which may be easily converted to rubber power.