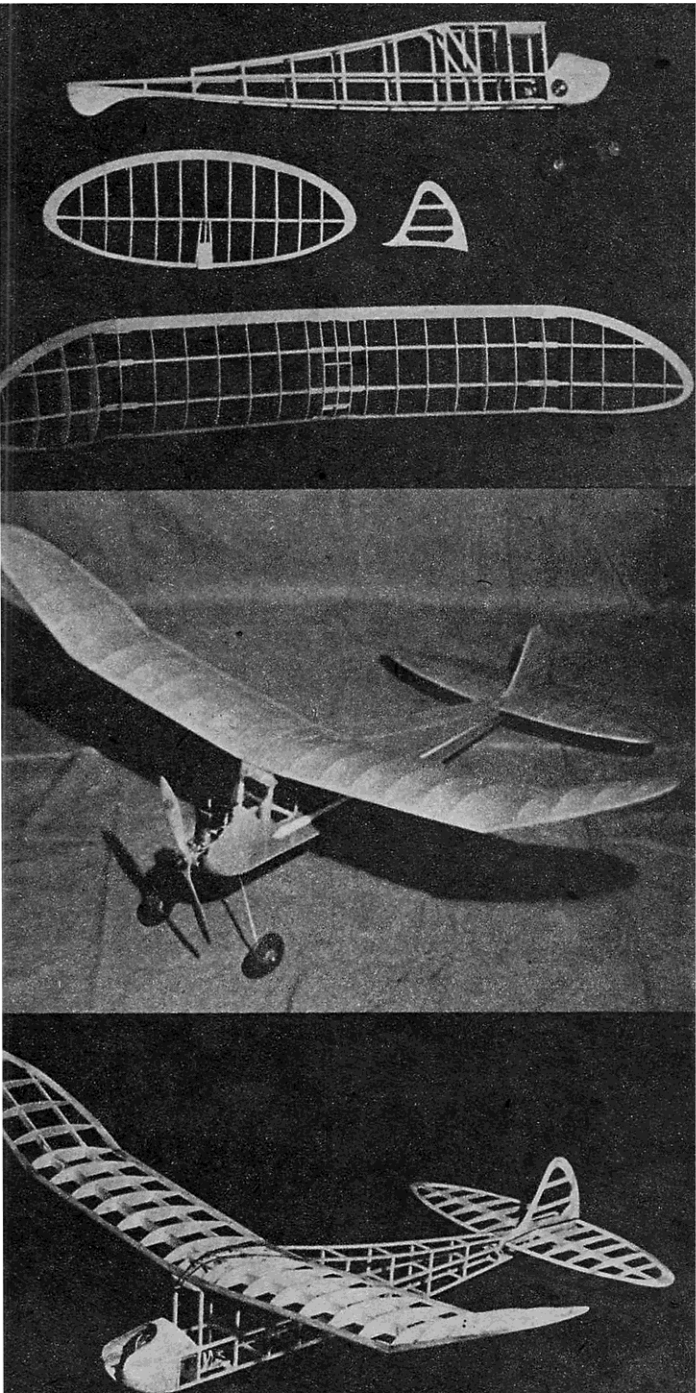


# THE CADET

A "standard" type of model with simple lines that will give good performance and is easy to build



**T**HE *Cadet* represents everything that is needed for fine performance, plus a fast zippy climb and slow flat glide; it is of standard square construction which should make it easy to build for both beginners and experts. This ship is the result of years of practical building and flying gas models. I think the average model builder will get much enjoyment in building and flying the *Cadet*, so let's get busy.

Before attempting construction, the plans should be scaled up to full size as this will give a better idea of what the *Cadet* looks like and may clear up any little doubts in construction.

**FUSELAGE**—The fuselage is built of 3/16" sq. hard balsa. Build the two sides at once, one atop the other; extend the center longeron out about 3" past the last fuselage brace at the nose, then trim it off even with the motor mounts when they are installed. After the sides dry remove them from the board and give them an extra coat of cement. To assemble the fuselage first cement the tail together and install the two plywood nose bulkheads, then install the fuselage spacers directly under the wing trailing edge. Let this set and when dry insert the rest of the fuselage spacers.

Build the battery box and cement in place flush with top of fuselage. The batteries were located at this position so they would be easily accessible and eliminate the worry when flying (will the batteries stay in the box or not?), the bottom of the wing acts as the cover for the battery box. Next cement the motor mounts in place and then the side nose blocks. Before the bottom nose block is installed set the motor in the mounts and drill the bolt holes. Insert bolts in the holes and tighten the bolt until the nut makes a slight impression on bottom of the mount. Cut out this impression until the nut is completely countersunk in bottom of motor mount; cement two or three times and remove the bolt; then you never need worry about holding the nuts in place when installing the motor.

Bend the landing gear to shape from pattern shown on plans and fasten to the firewall as shown; now cement the bottom block in place, then the two top bulkheads. The top cowling is not cemented in place until the ship is completely wired; cement a piece of 3/16" sheet in side of fuselage for the timer. The coil is wrapped to a piece of 1/4" sheet balsa and then cemented to bottom crossbraces. Location of the coil will be determined by the way the ship balances; if it is tail heavy move the coil forward; if nose heavy move it back. Cement the top cowling in place then the top celluloid fairing, and drill holes for dowels in fuselage.

Note that the wing leading edge dowel goes right through the center of the battery box; sheet gussets hold the wing trailing edge dowel and the stabilizer leading edge dowel in place. Cement the sub rudder in place. The fuselage is now ready for covering.

**WING**—Cut out the required number of main ribs and tip ribs and taper the spars as shown on plans. Pin the leading and trailing edges and tips in place, placing a rib at center section of wing and one rib at the polyhedral section. This will help line up the two main spars. Pin the spars in place, slip all the ribs in place,

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cement and let dry. When dry, remove and repeat the procedure for the other half of wing. Sand both wing halves and insert dihedral as shown on plans. Note the center section is flat and not V'd. Insert wing holding rubber braces in the center section ribs.

**RUDDER AND STABILIZER** — The rudder is built from 3/16" sheet balsa and 3/16" sq. stock. Cut out rudder outlines and pin in place then cement braces in place, let dry, remove and sand smooth.

Cut out all stabilizer curved parts and pin in place. Taper the spar as noted on drawing and pin it and the leading edge in place; fit and cement the ribs in place; let dry, then cut the ribs to shape as noted on drawings, sand all over, cement the fuselage fairing to stabilizer. Rudder and stabilizer are now ready for covering.

**COVERING**—The original model was covered with white Silkspan and painted with red dope. The stripe down the fuselage is optional; stripe on the original was white.

**FLYING**—Wait for a nice calm day before test hopping; it pays to wait a few days and still have an airplane.

Glide the model until a smooth flat glide is obtained. If it stalls, add a bit of incidence under leading edge of stabilizer; if it dives, add a little under the trailing edge.

Start the motor and launch. Do not use more than half power on the first flight; after you have familiarized yourself with the model give it a little more power each flight until it is wide open. Under full power the model should turn to the right in a wide climbing turn, and on the glide it should circle in a tight right bank. Good Luck!