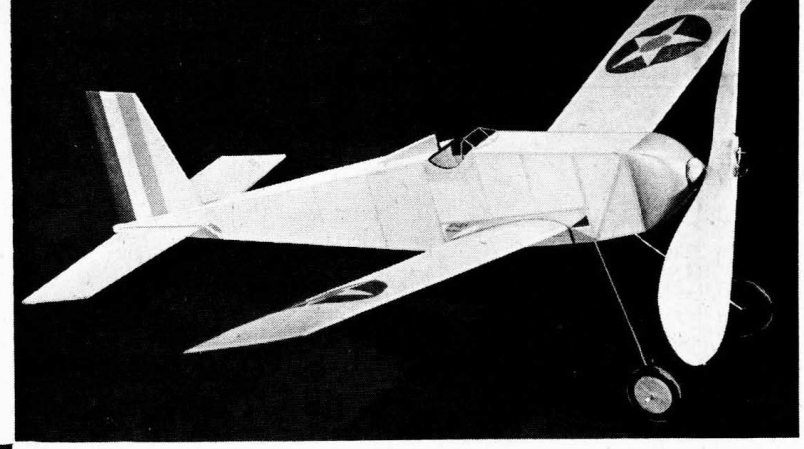
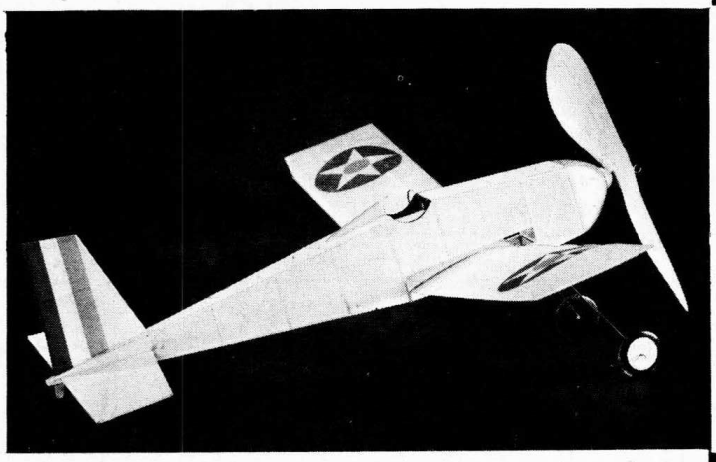
THE FIGHTER FLY



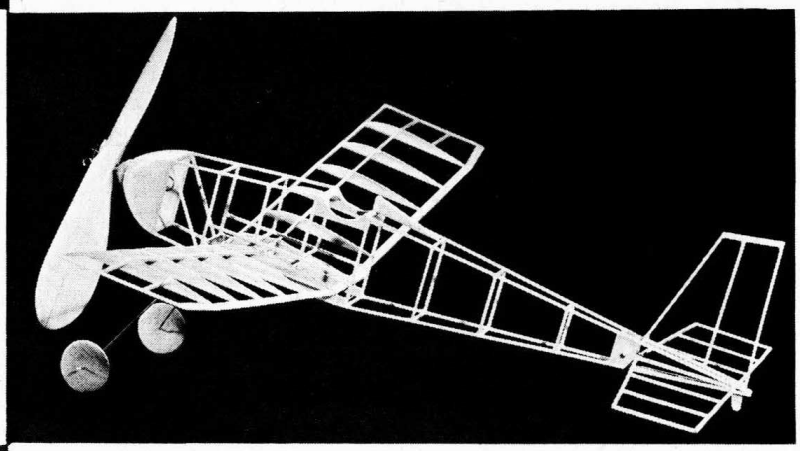


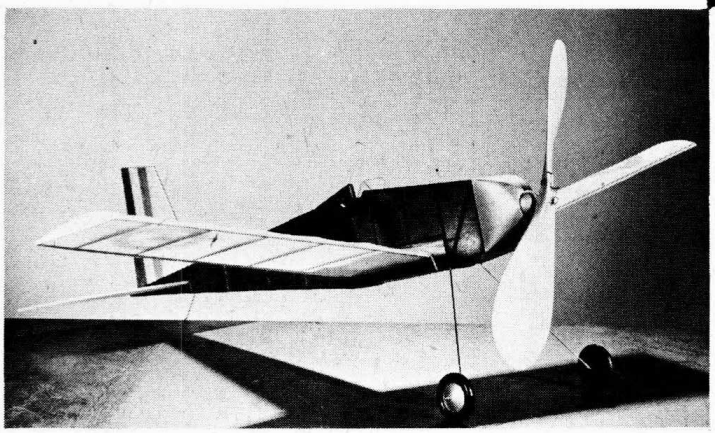
Above: Have you seen one of these models lately? It seems that a few escaped from their builders and are now roaming the wide, open skies. This little rascal can pick up thermal currents as well as many high-flying contest models. Longest flight was 2 minutes 54 seconds o.o.s.

Left: The insignia and color markings are strips of colored tissue doped to the wing and rudder. It's really worth the effort to dress up the model, though it adds nothing to the flying ability. Note the detachable wing which makes it easier to store the model or adjust it.

Have some real sport-flying fun with this inexpensive model. It looks like the Interceptors of the early 30's and flies like a contest model.

by Sherman Gillespie





Above: Yike—all bones and no skin! This gives you a peek at the simple internal structure. Your local hobby shop can supply all of the materials you will need, including a machine-cut propeller. The wire fittings are shown so that you can fabricate the free-wheeling mechanism.

Left: For less than one American buck you can build this rugged semi-scale rubber-powered sport model. The rubber motor which is made up of six strands of 1/8" flat rubber costs less than a dime! It's a natural for club contests that require quicky projects. An evening's work to make.

● The Fighter Fly is an easy-to-build rubber-powered sport model suggestive of the open-cockpit Interceptors of the early 1930's. Though of light construction, it will prove a durable, stable ship that will give you some fine flying pleasure. In cool evening air, the prototype was hand-wound and turned in flights of up to 32 seconds. Warm air conditions brought many flights of over 1 minute duration, with the top time to date a whopping 2 minutes and 54 seconds—out-of-sight behind some trees!

Study the full-size plans, pictures and construction notes thoroughly before laying out any parts.

FUSELAGE: Select hard straight-grain 1/16" square balsa for the basic fuselage construction. Sand all wood lightly with very fine sandpaper. Cut the cockpit sides, the wing slot pieces and the rear motor-pin receivers from medium-hard 1/16" sheet before placing the longerons and cross braces. Fit these pieces accurately as they assure a strong job. Build one side at a time, cementing all joints carefully.

Being of equal width from nose block to cockpit, the nose section is an ideal point for starting assembly of the two fuselage sides. Cut fourteen crosspieces to the proper length, as indicated in the top view of the fuselage. Pin and block the sides firmly over the top view and put in the crosspieces top and bottom. Cement and allow to dry thoroughly, then tip the rear of the fuselage down on the plans. Pull the sides together over the top view and cement at the end.

Again, it is easier to have the crosspieces, top and bottom, cut to size and ready to put in place. Strive for a strong, accurate fuselage; it is essential for easy alignment of wings and tail surfaces.

The nose block is carved from medium-soft balsa. Drill it to receive the hardwood thrust button, and hollow out the back as shown. Cement the block lightly to the fuselage and finish shaping and sanding. When completed to satisfaction, cement the unit permanently in place. Apply two coats of sanding sealer to provide a smooth finish.

FIGHTER FLY

The landing gear may be formed and installed now. The wheels are two-ply cross-grain lamination of medium-hard 3/32" sheet balsa, with 1/16" diameter aluminum tube bushings. Sand the wheels to a streamline shape. The 1/16" sheet balsa tail skid may also be added now.

TAIL SURFACES: The stabilizer and rudder may be made next. Both are flat—no airfoil section—and built from hard 1/16" square balsa. Sand wood lightly before cutting it to the various lengths required. Pre-sanding is easier with these lightweight parts.

WING: The wing is built in left and right panels. The left wing is shown on the plans. No separate center section is made. Cut ten ribs from medium-hard 1/32" sheet and two wing root ribs from medium 1/16" sheet. Sand and finish these ribs uniformly. Lay out the leading and trailing edges for the left wing panel and set the ribs in place. As simple butt joints are used, good cementing is essential. Allow ample drying time.

Reverse the wing root and wing tip position and construct the right wing panel in similar fashion. Shape the leading and trailing edges of right and left panels before joining into center section.

Pin and block the panels over the center section detail with both tips raised 1¾" to form the proper dihedral angle. Cut and shape the leading and trailing edge pieces and cement them in place. Add the double center-section spars of 1/16" square. By careful fitting and proper

cementing a strong yet very light wing can be built.

PROPELLER: The propeller was finished from an 8" machine-cut blank of hard balsa with blades 1½" wide. Shape and sand to airfoil section; leave the hub fairly thick. Finish and balance prop with care as a vibration-free motor run gives better power performance.

Any small, lightweight free-wheeling device may be used. The tubing and pin unit shown works very well. Cut a small piece of 1/16" diameter aluminum tubing and insert and bend a piece of straight pin. Bends are made at right angles to each other; the top spur will face left and the bottom spur will point out parallel with the prop shaft when the unit is installed. Bind unit to prop with fine thread and cement securely.

Bend the winding-hook connecting-pin part of the prop shaft and insert the shaft through the prop, washers and thrust button. Form the motor hook after inserting. Use rubber tubing to keep the hook from cutting the rubber motor.

COVERING: The model shown was covered with Jap tissue, but rubber-weight (00) Silkspan may be used. Use clear dope as adhesive. Cover the fuselage *except* for the side sections at the stabilizer position. These sections are covered after installing the stab. Water-shrink the tissue and give two coats of thinned clear dope.

The stabilizer and rudder are covered on both sides. Pin the surfaces down flat on a small drawing board to minimize warping, and water-spray lightly. Give one coat of thinned dope.

Cover the wing in sections to avoid

FIGHTER FLY

wrinkles. Do the center section, then the main panels. Dope the paper to the edges only and work as taut as possible. Use small pieces to cover the wing tips. Again, pin and block wings firmly before spraying to minimize warping of structure as the paper shrinks. Apply one coat of thinned dope.

Before final assembly, details may be added as desired. The wing stars and rudder stripes were cut from Silkspan and doped on. The cockpit edges were doped black and the windshield trimmed in black tissue for emphasis. The nose and headrest were doped silver to harmonize with the white fuselage. Paper discs doped silver were cemented to the black wheels for added realism.

ASSEMBLY: Insert the stabilizer in position in the uncovered section. Cement lightly but securely. Cover the open slots above and below the tab, but do not attempt to shrink or dope them. Cement the rudder directly to the fuselage with the most cement strength at the contact points of the crosspieces and fuselage end. With careful work no braces will be needed for the tail surfaces.

The wing is held firmly in place in the fuselage slot with a light rubber band.

FLYING: Make up a six-strand, 11" long motor from 1/8" flat T-56 rubber. Lubricate the motor thoroughly with a mixture of 1 part glycerine and 2 parts tincture of green liquid soap. Remove excess lube before installing. Hold the motor in place on the prop hook with a small rubber band.

The flying weight of the model should be approximately 1 ounce and it should fly right off the board with but minor adjustments. If the ship comes out slightly nose-heavy, try moving the wing full forward and increasing the angle of incidence rather than weighting the tail. Test for glide first; it should be long, slow and flat. Adjust thrust to right for right circle in climb and warp rudder slightly for right glide.

Test flying was done with a hand-wound motor and the flights were spectacular. The climb is very steep and the power-to-glide change is extremely flat. If a winder is used to pack in the turns, use caution until proper handling is learned. A well lubed six-strand, 11" long motor should safely take 500 turns with a winder when stretched, but build up to top winds very carefully. Remember, the Fighter Fly is no heavyweight!

BILL OF MATERIALS
(Balsa unless otherwise specified)

5—1/16" x 1/16" x 36" (hard) Fuselage, tail, wing spar
1—3/32" x 3/32" x 22" (medium) Leading edge
1—1/16" x 3/16" x 22" (medium) Trailing edge
1—1/16" x 2" x 8" (medium) Cockpit sides, wing slot
1—1/32" x 2" x 12" (medium) Wing ribs
1—1/16" x 1/8" x 10" (medium) Wing tips, rudder tip
1—3/32" x 2" x 8" (medium) Wheels, headrest
1—1 1/4" x 1" x 1 3/4" (soft) Nose Block

Jap tissue; 8" machine-cut balsa prop blank; 5/8" diameter hardwood thrust button; .030" diameter wire; 1/16" diameter aluminum tubing; two 1/4" diameter copper washers; two 1/8" diameter brass washers; 68" of 1/8" flat T-56 rubber; rubber lubricant; cement; clear dope; thinner; colored dope; sanding sealer; colored Silkspan; celluloid.