

**A**S THE big brother of LeRoy Grumman's famous "cat family," the F7F Tigercat has the added distinction of being the only operational twin-engine U. S. carrier based aircraft of the war. Fast, maneuverable and packing fire-power equaling that of land-based attack bombers, the Tigercat made a late entry into the war, specializing in night-fighter and attack-bomber operations. As a twin-engine control-line model, the F7F is equally outstanding. Powered with two Bunch Tiger engines, the job is extremely realistic, maneuverable and fast. What's more, once in the air, it flies equally well on either engine, the only difference being a decrease in speed.

**WING AND NACELLES:** The construction of the wing is relatively simple, consisting only of a heavy leading edge, a wide trailing edge and covered completely with balsa. First cut the ribs notches in the leading and trailing edges and then cut out the wing ribs. The holes in ribs No. 1-4 are for the control lines. Next, pin both the leading and trailing edges on the plans and before cementing the ribs in place, insert a piece of 1/8 in. scrap balsa under each rib to allow for the planking. After the cement has dried, remove both panels but do not join until the nacelles are complete. Cut the line spacer from 1/8 in. plywood and glue in place, as shown.

Bulkheads K and M are 1/8 in. plywood and the motor mounts 1/2 x 3/8 in. spruce. Cement both in place and cut a block of scrap balsa the approximate shape of the tail cone. Add the cone and anchor the coil to the mount with thread and cement. The space under the wing between bulkheads K and M is filled with scrap balsa blocks, the approximate width and angles of which can be determined from the front view. After the blocks have been cut, cement all permanently in place except the one inboard of the motor mount, which is spot-cemented. This block is later removed in order to secure the landing gear. Carve the blocks to the desired shape, drill a 1/8 in. hole and insert a 1/2 in. piece of dowel having a 1/8 in. hole drilled through the center for the gear wire. Then, using the hole as a guide, drill a 1/8 in. hole through the motor mount and remove the balsa block inboard of the motor mount. Obtain a piece of 1/8 in. piano wire for the landing gear and make the top two 90° bends. Drill the rear mount hole for the short arm of the gear and slide the gear through the motor mount. Set the dowel in place and secure with thread and cement. The inboard balsa block is now cemented permanently in place. After the cement has dried, bend the gear axle.

The unfinished panels of the wing are now joined together. Bevel the leading and trailing edges to form a flush joint when each tip is raised 2 1/4 in. Cement the two halves together and then add the leading and trailing edge reinforcements. Before covering the wing with balsa, solder all the ignition wires.

The control plate should also be installed before the wing is planked. Cement a piece of 1/8 in. plywood between the two center ribs and mount the .040 aluminum or 1/8 in. plywood control plate with a 6-32 bolt. Place two or three brass washers between the plate and the base to insure smooth movement. Next, run the control line leads through the wing and bend a 90° angle about 1/8 in. from the end. Insert the end of each lead through the control plate and solder brass washers to each tip.

**COWLINGS:** The cowlings are built on the same principle as the nacelles. First cement bulkhead J lightly into position on bulkhead K and then cut 4 pieces of 1/2 x 3/4 in. balsa. Cut the cowl ring from 1/8 in. thick sheet stock and cement the pieces together between bulkhead J and the ring. Next, carve a piece of balsa to fit over the leading edge of the wing and to join the top of the ring. Cement the top piece into position and once dry, carve to shape. The top rear portion of the cowling is stationary, the remainder removable and held in position by two No. 6 countersunk wood screws 1 1/2 in. long. These screws are inserted through the 1/8 in. dowel and into the motor mounts. Openings for the cylinder head, needle valve, etc., are now cut and both cowlings sanded lightly to a smooth finish.

**FUSELAGE:** The construction of the fuselage is the type many control-line fans prefer; solid balsa. Consult the drawing for the block sizes and cut the templates from sheet balsa or cardboard. After the fuselage is carved, separate the halves and hollow out to the indicated wall thickness. The cutout for the wing in the upper section is now made and the removable battery box hatch cut in the bottom half of the fuselage. The two ignition switches are installed and top cut away for the canopy. The battery box, which holds eight penlite cells, is constructed from 1/8 in. plywood and cemented in place. The batteries are held with rubber bands stretched between four hooks, two on each side of the battery box. By constant experimentation, it was found that two separate ignition systems give the best results. Each engine is hooked to four batteries so don't let the double battery box confuse you. Each gear strut can be used for a positive booster lead for that engine and the negative booster hooked to the engine.

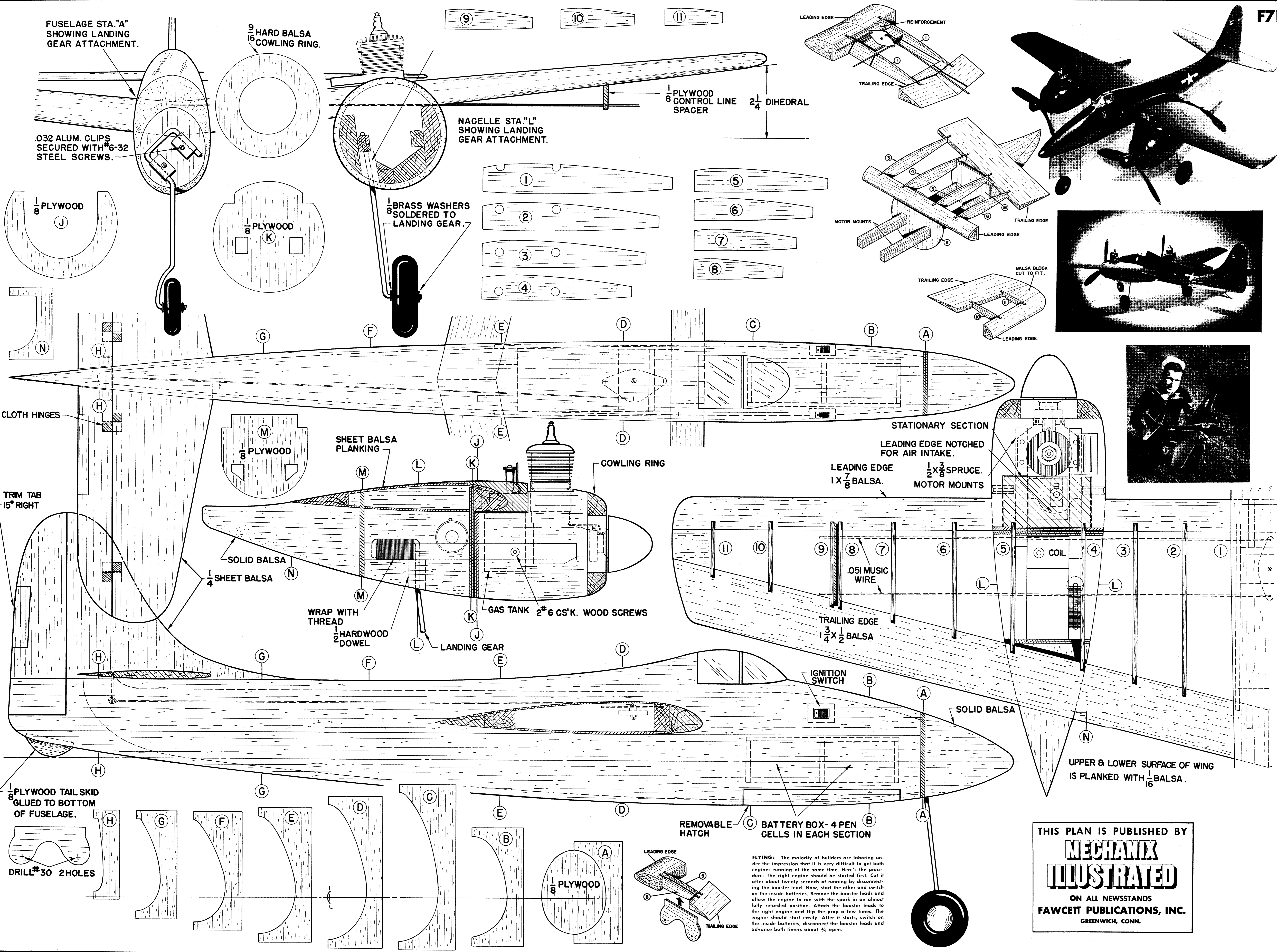
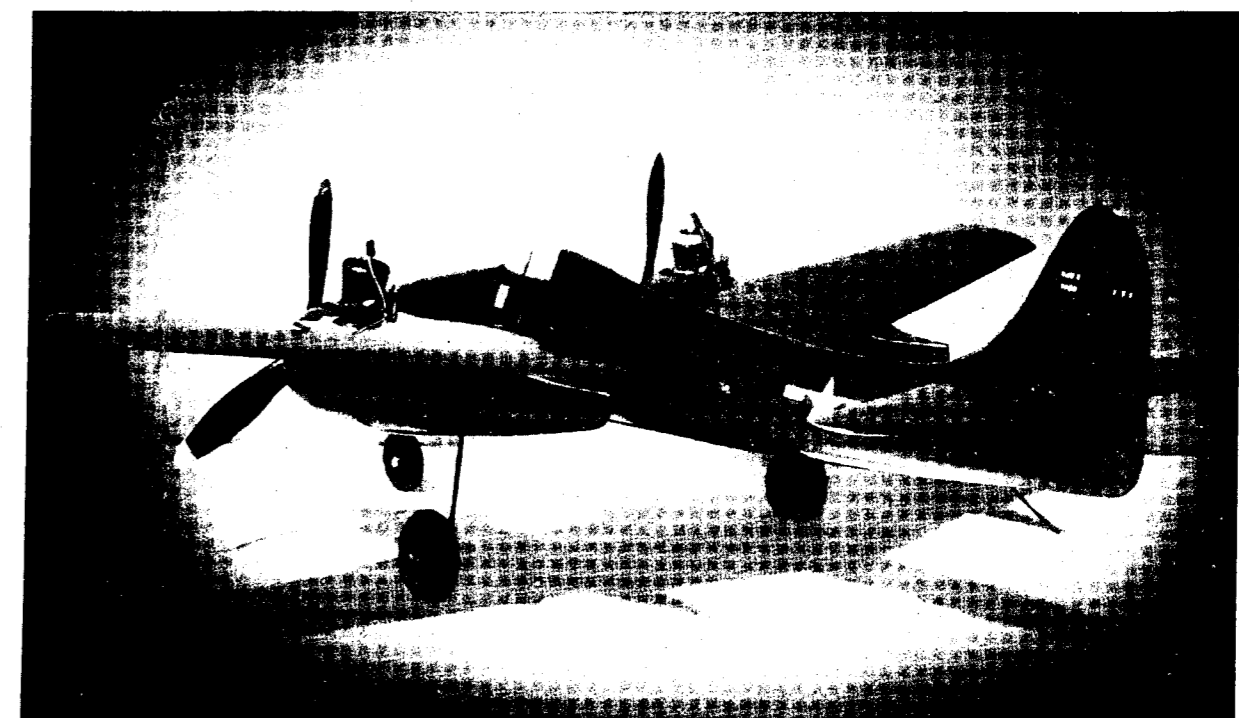
**STABILIZER AND ELEVATORS:** The stabilizer and elevators are cut from 1/4 in. sheet balsa. Carve to the indicated shape then sand until a smooth finish is obtained. The elevator horn is bent from 1/8 in. wire and the elevators attached to the stabilizer with cloth hinges. Connect the stabilizer to the top half of the fuselage and then attach the control arm to the elevator horn. Next, cement the wing on to the lower fuselage half and run the ignition wires from both nacelles to the battery box and switches. After completing the wiring, attach the control arm to the control plate by bending a 90° bend 1/8 in. from the end of the arm, inserting it through the hole in the control plate and soldering a brass washer to the tip. The two halves of the fuselage are now glued together. Cut bulkhead A from 1/8 in. plywood and bend the nose wheel landing gear strut from 1/8 in. piano wire. The landing gear is attached by two .032 aluminum clamps mounted on bulkhead A with two 6-32 steel bolts. After bulkhead A is cemented in place, carve the nose block.

**FINS:** The tail fin and rudder are cut from 1/4 in. sheet balsa. Make the cutout for the stabilizer and cement the rudder to the top of the fuselage.

**CANOPY:** The plastic canopy is made from 1/8 in. thick Lucite or Plexiglas. The male form should be carved 1/8 in. smaller than the desired size of the finished canopy. Heat the plastic in an oven until it becomes pliable and then stretch it over the form. Hold in this position until it cools.

In finishing your F7F, take your time—and extreme care. The wing and tail fillets are made from plastic wood and sanded. Fill in all cracks with plastic wood and sand with No. 400 wet or dry sandpaper. Cover the model with silk or Silkspan and brush on 3 coats of clear dope, sanding between each coat. Next, apply four coats of filler. After the desired smoothness has been obtained, brush or spray on three coats of right-fighter (dark blue) lacquer. For display purposes, use three-bladed props but for flying conventional props are recommended.

The center of gravity should be located on the front line. If the model does not balance, add lead to the nose or tail, as required. The model should then be balanced on the nacelle landing gear. Place on the ground and pick the nose up until the nose wheel is about 1/2 or 2 in. above the ground. Then release the nose. If the landing gear is bent at the proper angle the nose should drop slowly. If the tail or nose drops too quickly, correct this by bending the landing gear.



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