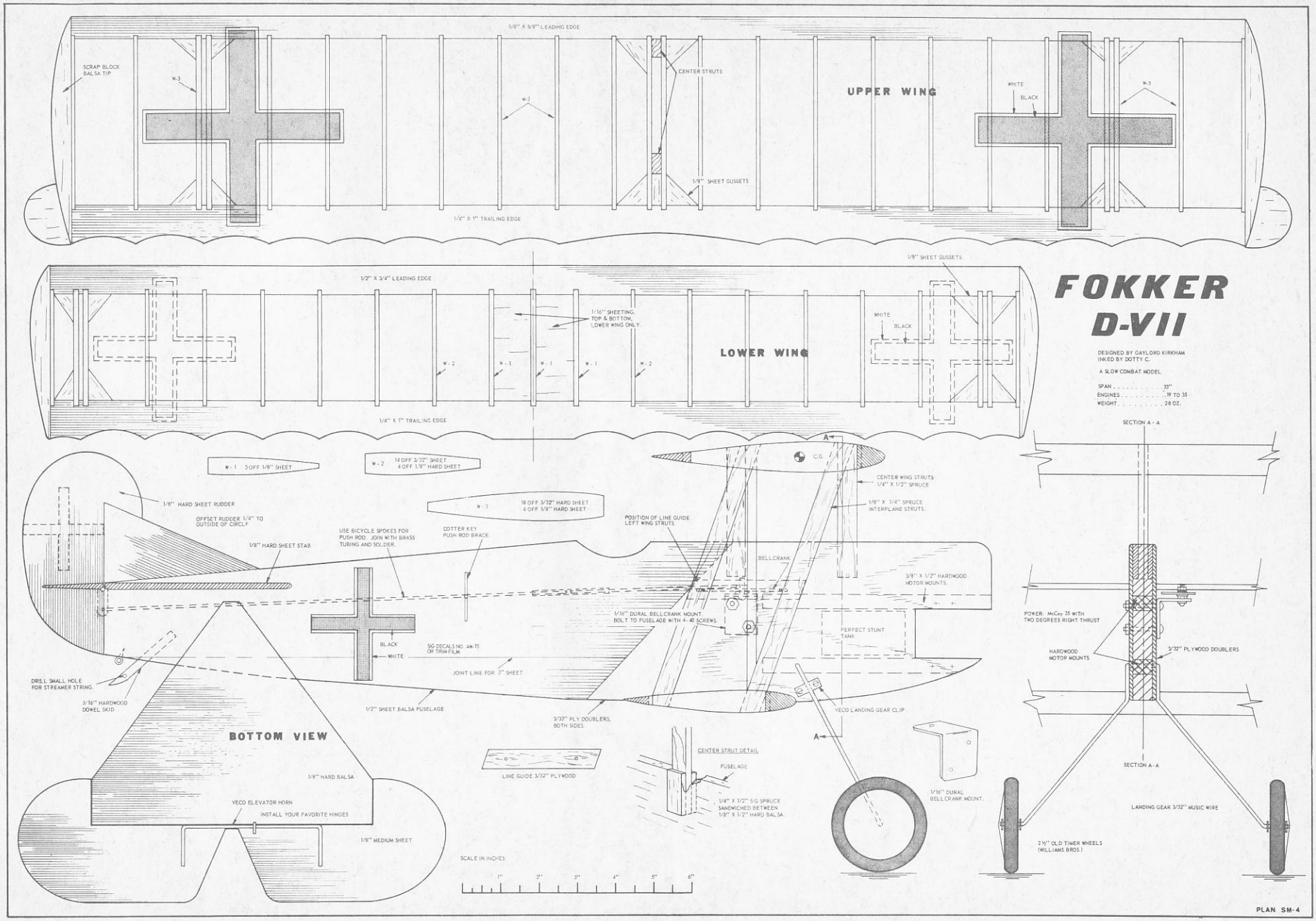
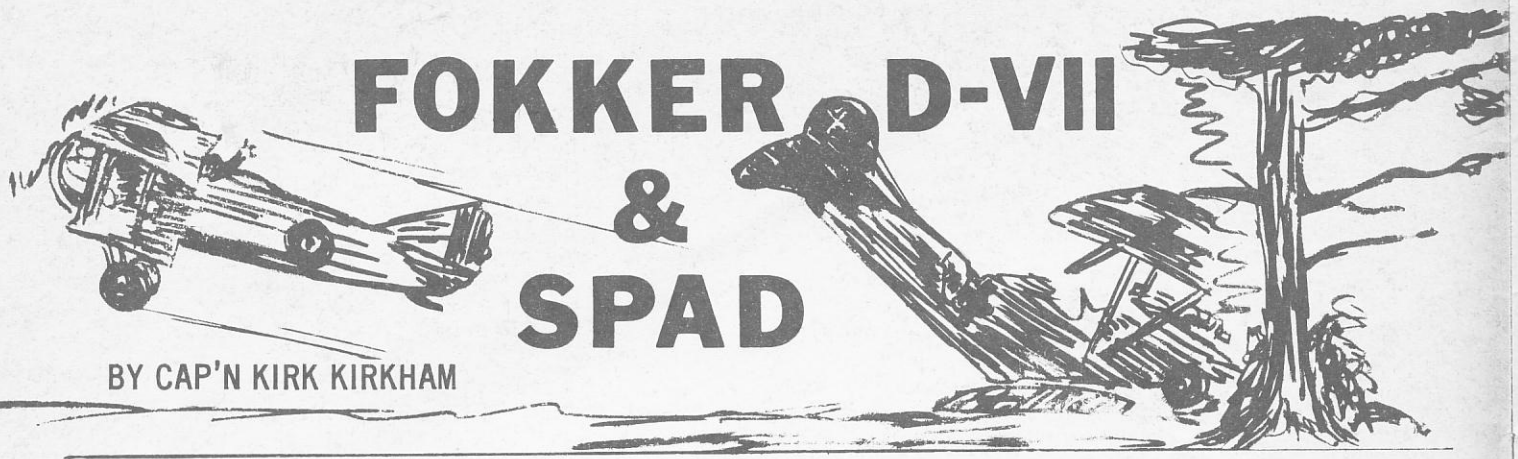


FULL SIZE FOKKER AND SPAD PLANS AVAILABLE. SEE PAGE 24.

FOKKER D-VII & SPAD



BY CAP'N KIRK KIRKHAM

BEGIN CONSTRUCTION by making patterns of all parts, then cutting out all parts and fabricating the hardware. I find building from plans a lot more fun if I make up a "kit" first, then all that is left is the fun of construction.

WING. If possible, cut the ribs for each wing from stacked sheet balsa, sawing them out on a band or jig saw. If a saw is not available, aluminum or plywood templates can be cut and the sheet balsa sandwiched between with the whole bolted together while the ribs are carved and sanded to shape. Fairly hard one-eighth inch sheet should be used for the ribs to which struts will be glued. All other ribs should be of soft sheet.

Construction of the models follows established patterns, but if you are attacking a biplane for the first time, there is a trick. The top of the bottom wing and the bottom of the top wing should be covered before the model is assembled. This permits easy access to assure a firm, exact fit of the struts. Both wings should have zero incidence and the best way to assure that the wings have equal -- if not zero -- angles of attack is to cut the struts to the exact length shown on the plans. When glued in position, the ends of wing struts should be flush with the bottom of the lower wing and the top of the top wing.

MOTOR MOUNTS. The fuselage is not complicated, but the model can become so if certain things are not done before assembly starts. Saw the fuselage to shape, then saw the slots for the elevator, the centerplane struts, and the motor mounts. Then saw out the fuselage doublers, make up the struts, and cut the motor mounts. Glue the left doubler on with white glue, slide the struts and motor mounts in place, then add the right doubler. Use plenty of glue and clamp -- preferably in a vice - overnight. Then use a medium wood rasp to round and smooth the edges of the plywood before sanding. Next bore the hole for and install and bend the landing gear to shape. Bore all holes for the motor mount bolts, the landing gear clips, and the tail skid before assembling the fuselage with the wings and tail.

ELEVATOR HINGES are standard. If the local hobby shop is out of them, scrounge some fabric scraps from the local airport. If you've used them before, skip the rest of this paragraph. If you haven't, there's a trick or two. Dope both the elevators and the stabilizer with clear dope a couple of times and let dry. Then glue the hinges to the stabilizer, alternating them from the top to the bottom. After they have dried, set the elevator in place and use a couple of large paper clamps to hold them together. Then glue the hinges to the elevator. Be sure that if one end is glued to the top of the stabilizer, the other end is glued to the bottom of the elevator, and vice versa. Be sure to pull the hinges tight.

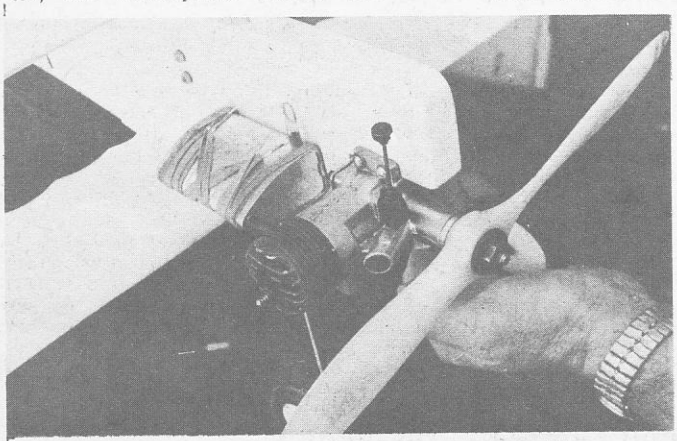
BELLCRANK location shown on the plans is only general and will vary from model to model. When the ship is finished, establish the C.G. as shown on plans (add weights to nose or tail). Then install the bellcrank mount so that the bellcrank pivot bolt is about an half-inch behind the center of gravity.

Where did I find a No. 40 drill long enough to reach down through that forest of wing struts? I made one by filing one end of an 18 inch long piece of 1/8 inch music wire to a chisel point, chucked in the drill, and started boring. Remember this the next time you find you forgot to cut the holes in the ribs for lead outs in the wing.

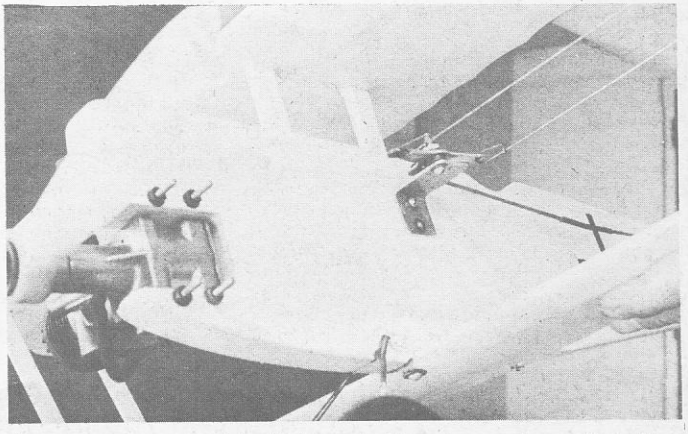
Bicycle spokes were used for the pushrod on the original. One was cut so that it came about one-eighth inch short of meeting the other. After being roughed up with coarse sand paper, they were joined by slipping a two-inch piece of copper or brass tubing over the joint and soldering it in place. A cotter key epoxied into the fuselage midway between the bellcrank and the control horn makes an excellent pushrod stiffener. Probably the mistake most frequently made by the novice in a control-line model is failure to insure that the pushrod will not bend under flight loads, resulting in lots of down but very little up, or vice versa.

GAS TANK. Two-ounce Perfect stunt tanks were used on the originals, but any stunt tank is acceptable. I thought my method was old hat, but still see tanks with tin-can stock mounting flanges soldered on them. Set the tank in place on the right side of the fuselage. Mark and bore 1/16 inch holes top and bottom about 1/4 inch from the ends of the tank. Then bend two pieces of 1/32nd music wire into U-shapes and slip them through the holes

(patrol to page 11)



Simple motor and tank installation keeps this ship easy to maintain. That's a 10-6 prop on the McCoy 35 powerplant, keeps those Allied pilots fanning their tail feathers.



As you can see this flying machine is pretty well bolted together. Bellcrank is mounted ½" behind center of gravity after that last black cross is slipped on. (Charles Teed photos)

(SPAD from page 8)

from the left side. The ends should stick out about an inch on the right side of the fuselage. Bend the ends into hooks and secure the gas tank with rubber bands. You may go down to the corner drug store for more rubber bands, but you'll never have to run home to solder a gas tank back on with this method.

The original was painted all white with black crosses, the color scheme used on a Fokker D—VII flown by Hermann Goering. German aircraft of World War I bore almost every conceivable color scheme and anything chosen by the modeler cannot be far wrong. The crosses can be applied with either black Trim-film or black jap tissue. The latter is difficult to distinguish from paint, particularly when applied over a light-colored surface and given a couple of coats of clear dope.

FOKKER D-7

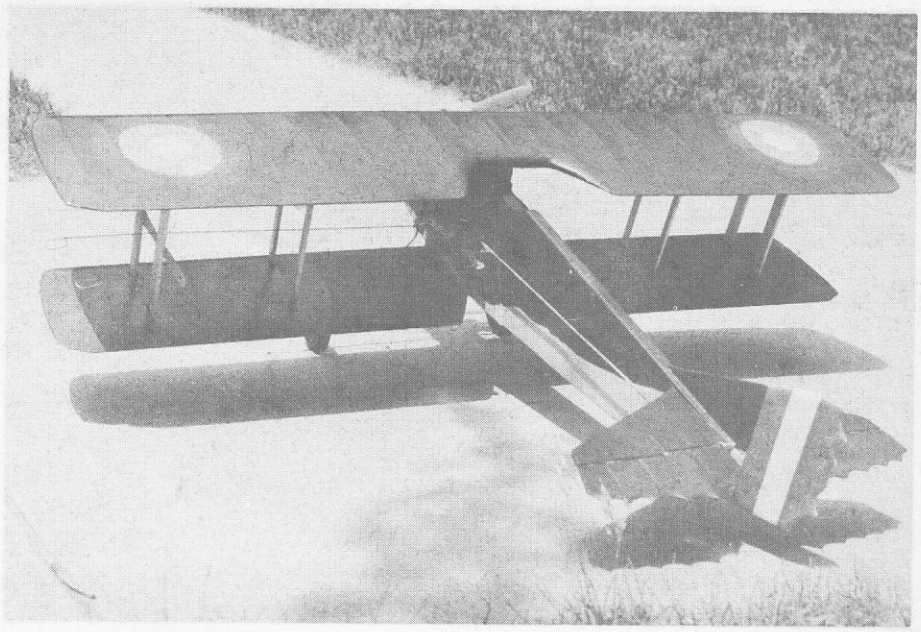
1 - ½ x 3 x 36 med. balsa fuselage
1 - 5/8 x 5/8 x 36 med. leading edge
1 - ½ x ¾ x 36 med. leading edge
1 - ¼ x 3 x 36 for trailing edges
1½ - 1/8 x 3 x 36 hard for tail & ribs
1¼ - 3/32 x 3 x 36 med. for ribs
1 - 3/32 x 12 x 12 birch plywood
1 - ¼ x ½ x 8 spruce center struts
1 - 1/8 x ¼ x 36 wing struts
2 - 3/8 x ½ x 6 hardwood motor mounts

Construction of the Spad is the same as the Fokker, the only variation being in the wings where the chord is shortened near the fuselage. Ribs for these sections are stack cut along with the rest, then trimmed to fit when the wing is assembled. The shortened spars in the Spad wings on the original model have proved to be quite sufficient. Spar notches in the stack-cut ribs were located and cut by measuring on the plan.

Most Spads were painted either cream or light gray on the lower surfaces. Tops of the wings, the upper part of the fuselage and the vertical stabilizer were dark green or given typical camouflage color schemes of dark green and dark brown, or dark green dark brown and gray

SPAD

1 - ½ x 3 x 36 med. balsa fuselage
2 - ½ x ½ x 36 med. hard formed L.E.
1 - ¼ x 3 x 36 med. for trailing edges
2 - 1/8 x 3 x 36 hard for tail & ribs
1 - 1/16 x 3 x 24 hard balsa for ribs
1 - 1/8 x 12 x 12 birch plywood
1 - ¼ x ½ x 4 spruce center struts
1 - 1/16 x ½ x 36 spruce inboard struts
1 - 1/8 x ½ x 36 spruce outboard struts
2 - 3/8 x ½ x 6 hardwood motor mounts



Kirkham's graceful Spad in American Expeditionary Force colors. Profile models are simple to build and maintain, a must for combat flyers. Many color schemes can be found in PROFILES book on the Spad (available from Sig).