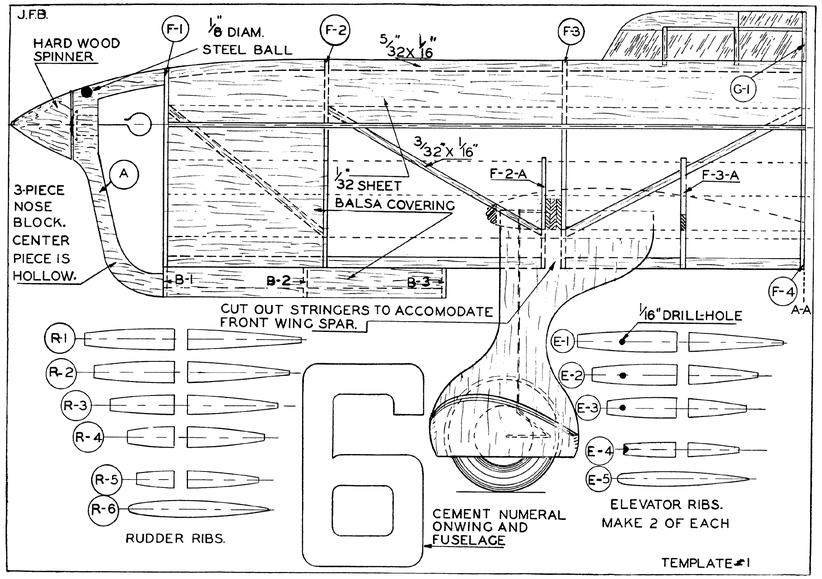

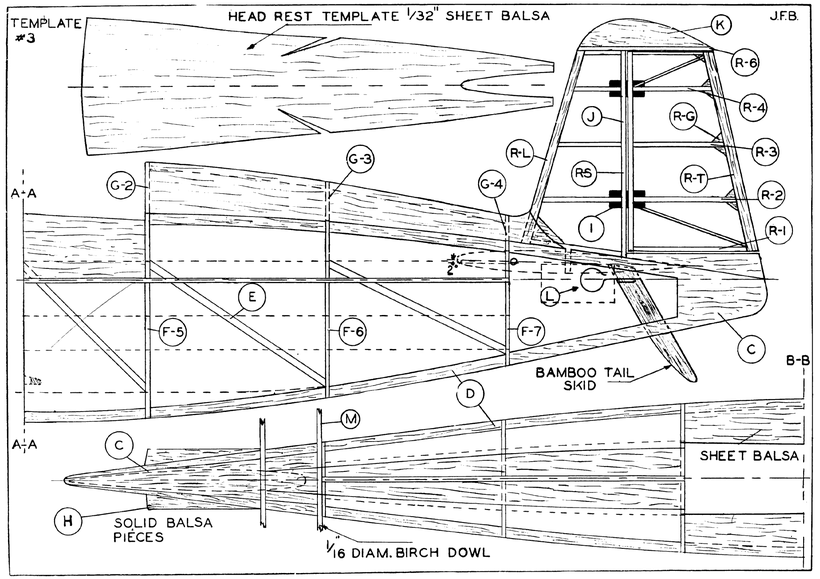

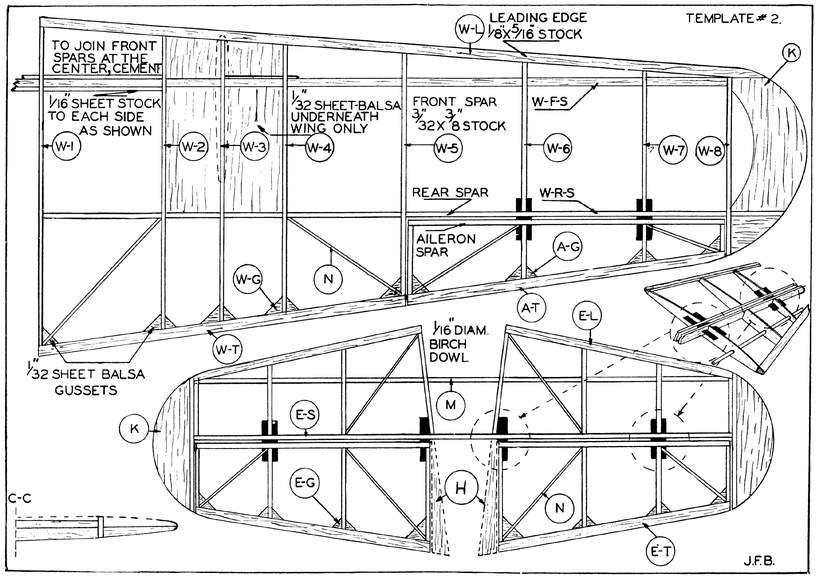

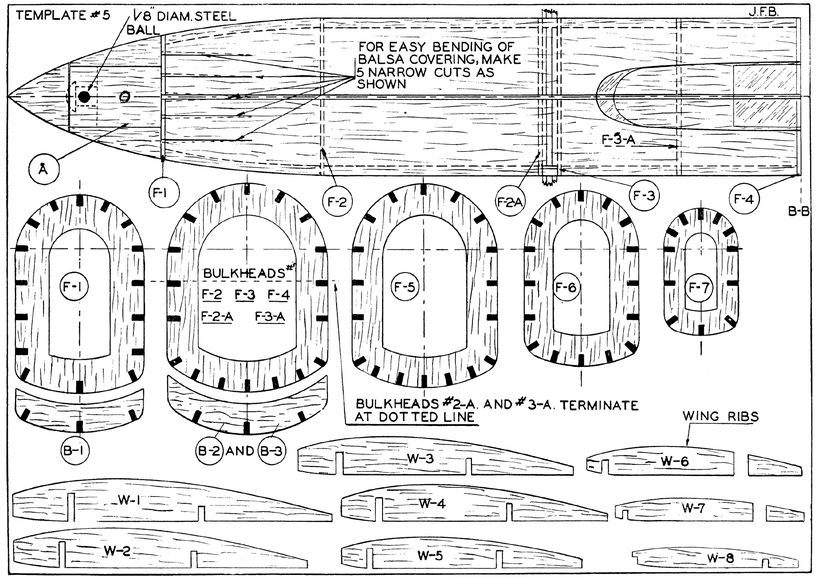

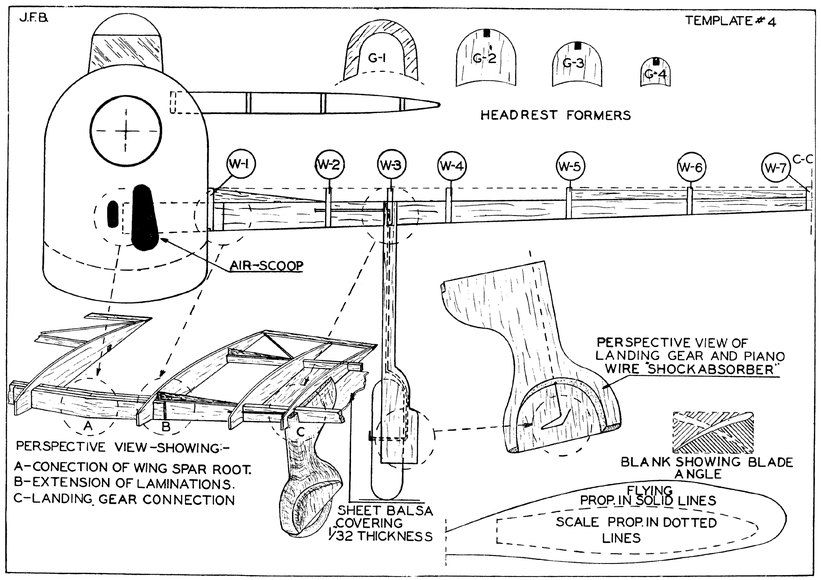

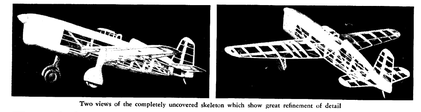

Two views of the completely uncovered skeleton which show great refinement of detail

Build and Fly This Famous Racer

How You Can Construct a Flying Scale Model of the Record-Breaking Caudron C.460 of Unusual Grace and Quality

By JOSEPH BATTAGLIA

Though a fast ship, the large propeller insures unusual duration and long flights

OF ALL the French racing types of the "Caudron" type, the plane from which the accompanying drawings are copied is the most outstanding, for it holds the present "world's handicap speed record."

There are several interesting features in this ship; namely, an unusually short wing spread; and in contrast, an unusually long fuselage. Also, when in flight the landing gear, which consists of two "ball pants," folds inward into the bottom of the fuselage and wing-root. Aside from the above features, it is a cleanly designed ship, having full monocoque plywood construction.

The top speed is over 200 m.p.h. over a measured mile course.

An interesting feature of its fascimile is the speed at which it travels on eight strands of ⅛" flat rubber, although not quite duplicating that of its large counterpart to scale.

The plans for this model are full-size and every part is thoroughly described both on the drawings and in the following instructions, so you should have no difficulty in building as good a model as the one shown in the accompanying photo.

Before starting to cut any parts, you should first make a template for each piece, a list of which follows:

1—Wing ribs and wing tips
2—Fuselage bulkheads
3—Head-rest formers
4—Tail ribs and tail tips
5—Fuselage, tail and nose blocks
6—Landing gear
7—Belly radiator formers

These templates may be made from cardboard, bristol board or any other stiff material.

First trace the above parts on transparent tracing paper. Then turn the tracings over on the template paper with the pencilled side down. This done, retrace the lines again and when finished you will find that the pencil marks have been transferred to the stiff paper. When this procedure has been finished, cut around the outlines and place each completed template aside.

While one panel dries, work on the other, and when this is finished and the first one is dry, take a strip of balsa 3/8"x3/32" for the trailing edge, cut it to the proper length and cement it in place, holding it temporarily with pins. Do the same with the other and allow each to dry.

Now make several small gussets from 1/32" sheet stock as shown on top view of wing panel and cement each one in place. While these dry, cut several short lengths of 1/32" square bamboo strips, drive them into their respective positions and apply some cement to each end.

Now take out the wing-rib templates, trace the outline of each on 1/16" sheet balsa and cut out each wooden piece, after which they are cemented to the outer ends of the wings. While these dry, cut out two pieces of 1/32" sheet balsa for the covering underneath the wing, between ribs No. 2 and No. 4. Cement each of these in their respective places, holding them down with a few pins.

The ailerons are next. Measure off two pieces of balsa 1/16"x5/8"x4" to form the aileron spars. These taper to conform with the depth of each rib attached to them and with the shape of the wing where they hinge. Cut them to the proper shape and after marking off the rib stations on each, cem nt them to the ribs.

The trailing edges are made from the same size stock as fi nt of the wing, so cut out two pieces and cement them on. Let them dry; then make the gussets and bamboo strips and cement these on also.

By now the wing panels should be thoroughly dry, so take each one in retation and sand the tips, leading and trailing edges to the proper shape as shown. To bring the level of the wing at this rear spar (between ribs No. 3 and No. 8) to that of the aileron, you must cement a 1/16" balsa strip (being 32-32" deep where it meets rib No. 5 and 2-64" deep where it meets No. 8 rib) to each spar at that point on each panel and allow each to dry.

The next step is to join the two halves of the wing at the center. Trace from the front view the correct angle of dihedral and cut two pieces of 1/16" sheet balsa

(Continued on page 38)

piece of either hardwood or balsa. Trace each one from the template and carve them to the proper shape, as shown in front, side, and perspective views. Carve out the side facing inward to accommodate the wheels and "piano-wire" axle. This done, make a 1/16" slot along the top of each from front to rear to slide over No. 3 rib. Then drill or burn a hole the diameter of the piano wire from top to bottom so as to insert the shock absorber wire. Bend the wire of gauge .013 to the shape shown in front, side, and perspective views and insert it in place. Slide a hardwood wheel on each wire and bend the ends upward.

The next thing is the tail skid and rear rubber hook. First, bend the hook with sufficient extra length. Then make the skid of 3/64"x1/16" bamboo. When this is shaped, bend the straight end of the wire around it at the point shown in side view. Cut a slot in the bottom of the tail block and force the skid and hook in place.

In the side view of the tail block is shown a rectangular opening on the left side of the fuselage to allow insertion of rubber. Cut out this portion of the tail block and through this pour the cement onto the upper end of the tail skid. Now drill a 1/4" hole in the nose of the ship to fit the nose plug and cut a shallow trough 1/4" diameter for the mushroom head of the plug to fit in. The propeller spinner and the plug can be bought ready made or spun on a lathe, preferably of hardwood. The propeller should also be of hardwood to keep as much weight as possible up front.

Drawings for two different types of propellers are shown in plate No. 4. The one in solid lines is for flying and the one in dotted lines is for scale use. The flying propeller should be carved from one full-size double-ended block and not in two halves, for the scale propeller can be made either way. After carving the flying propeller, make a slot in the spinner and insert the blade. Cement it on after truing them up with the propeller shaft, bend the front end of the shaft upwards on the front of the spinner and cement the wire to it as shown (side view) in dotted lines. Slip the other end through the nose plug and bend a hook on it.

Covering the Model

The color of the large ship is all blue with white lettering, although on the model it can be any color desired.

In covering the model, it is best to have the grain of the paper running lengthwise. Lay all the parts on the Japanese tissue sheet and trace with a colored pencil around the border of each part to be covered. After all the parts have been traced, cut them out and start covering. When the covering has been done, spray it lightly with water and allow it to dry. This shrinks the paper, giving a smooth, even covering. Then dope it with a light coat of banana oil.

Assembling

To assemble the model, slip the front spar of the wing in the opening between bulkheads No. 2-A and No. 3. After the spar has been slipped into place, the remaining opening can be filled with balsa or covered with paper. Cut 2 slots in the tail block to insert the front and rear spars of the elevator and cement it in place. Cement the rudder in place and allow to dry.

Now fasten the windscreen in place.

The power plant consists of 8 strands of ⅛" flat rubber for highspeed flights, or 6 strands for slow flights.

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