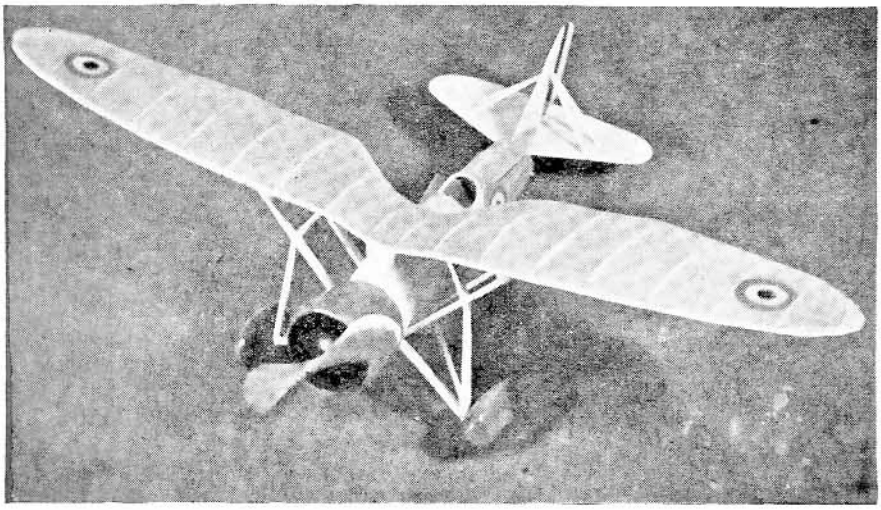
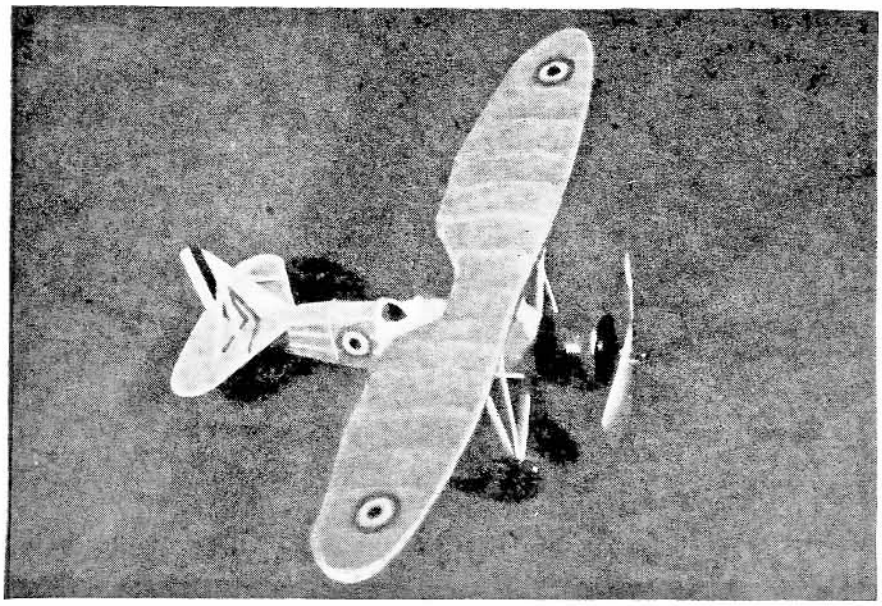


Loire 46

by C. A. KUKUVICH



ONE of the last open cockpit pursuit planes the French used was the Loire 46, presented here in a 1/2" 1' 0" model. The general appearance of the Loire 46 is one of grace and slick design, especially because of its gull wing. Although there have been other gull wing pursuit planes, like the Polish Fighter, the Loire 46 is no doubt one of the cleanest.

The plans for the model presented here are quite self-explanatory, and with the material below the model can be built with ease. One thing to keep in mind is that weight must be kept down; this is done by using sandpaper liberally wherever possible.

FUSELAGE. First, make the formers F1 to F7 inclusive from 1/16" thick sheet balsa, as per drawing 2. Then, make one of each keel A, B and C from 1/16" thick sheet balsa, also as per drawing 2. Assembly of the fuselage can be started as shown on drawing 1. Use 1/16" square balsa for stringers, and cover formers F1, F2 and F3, also part of F4 with 1/32" thick soft sheet balsa. At this point, it is advisable to place the rear hook for the rubber motor in proper position. Next, add the soft solid balsa piece at the tail and add the two 1/8" thick balsa formers forward of F1. The pieces just added to the fuselage should first be shaped to suit the adjacent forms. Make the stabilizer from 1/16" thick sheet balsa, as shown on drawing 2, and cement in place on fuselage. A piece of soft balsa, 3/16" x 3/4" x 2-1/8" long, should be cemented in place for the wing support, as shown on drawing 1. Now the fuselage structure can be sanded smooth. After this is done, cut out the cockpit shape.

COWL AND WHEEL PANTS. The cowl can most easily be made by building it up of sheet balsa, then shaping and sanding to shape, per drawing 1. Use either 1/8" thick or 1/4" thick sheet balsa for the cowl and cut each layer of balsa to approximate shape before cementing together. By scaling the cowl on drawing 1, the shape and size of cowl can be readily achieved.

In the case of the wheel pants, use the same method of construction as for the cowl. For the size of the wheel pants, scale up from drawing 1.

After sanding both the cowl and wheel pants smooth, give each several coats of clear dope and sand lightly between coats. Then cement to the rest of the fuselage structure.

WING. This wing structure is a bit different from the usual straight spar type. As shown on drawing 3, it will be necessary to make a full size layout of half the wing, so that the outline shape can be determined. Then, make two of each rib, W1 through W8, from 1/32" thick sheet balsa and make two of spar Z and one each of X and Y from 1/16" thick balsa. By studying drawings 1 and 3, the trailing edge, which is made from a varying thickness of balsa, can be cut out and shaped. The leading edge is made from 1/8" square balsa. As shown on drawing 1, most of the wing can be built on a flat surface. The portion of the wing trailing edge from W3 towards the center is curved. This curved portion can be made by soaking balsa in water and shaping with fingers. Allow the balsa to dry thoroughly before cementing in place. Cover the underside of the wing from W3 to W3 with 1/32" thick sheet balsa. When the wing structure is dry, trim off any excess and sand smooth.

RUDDER. The rudder is made from 1/16" thick sheet balsa, as shown on drawing 2. Cut out to shape and sand smooth to a streamline crossection. Give the rudder several coats of clear dope and sand lightly between each coat.

STRUTS AND WING STRUT SUPPORT. Struts S1 through S7 are made from hard balsa and sanded to a streamline shape. For size of struts, see Dwg. 1.

Make two wing strut supports from scrap balsa by following drawing 3. These supports can be finished rough and then cemented to underside of wing, as per drawing 1. When the cement joints are dry, sand smooth so the strut supports appear to be part of the wing.

PROPELLER. The prop should be carved from a hard balsa block 1/2" x 1" x 5" long. First cut out the block (drawing 3), then carve blade shapes. Sand smooth and give the prop several coats of clear dope. When dry, sand lightly and give the surfaces two coats of silver dope. Fit the prop shaft together with washer for the bearing and a hardwood nose plug to the prop.

ASSEMBLY. In assembling the model, follow drawing 1. Of course it is advisable to cover the uncovered parts of fuselage and wing with tissue before assembly; many difficulties will be eliminated by this procedure. Care should be taken to get all parts lined up properly before cementing to each other.

If desired, a free wheeling prop can be added. Naturally, such a prop will improve flight characteristics and glide.

The original model was all white with a red cowl and red wheel pants. However, an all-silver model with red cowl and red wheel pants should look very attractive. In either case, markings on the fuselage, wing and rudder are the same. The outer ring of the roundels is red, as is the rearmost tail stripe.

FLYING. Power for the model will vary from 4 to 6 strands of 1/8" x 1/30" thick rubber, depending on the model's weight. Flight test this model the same as others: first try for a nice glide and make any corrections by adding a little weight where necessary. When a satisfactory glide is had, try power flights, using a few turns to begin with and more turns with each additional flight, making the corrections necessary with each flight.