Build and Fly the 1919 Nieuport

A Model That Flies Well and Which When Completed Will Be One of the Most Interesting Ones in Your Collection Because of Its Unusual Structural Features and World War Design

By ROGER F. PARKHILL

\[ \text{WHAT, another World War model?} \]

Such may be the surprised cries of those model enthusiasts who think that we have exhausted the possibilities of World War airplanes for model reproduction. Although comparatively unknown, the 1919 Nieuport monoplane was a highly efficient pursuit type, a modified version of which won the noted Gordon Bennett race flying from France. This particular Nieuport was designed in 1918 to meet the challenge offered by the Fokker D.III, the D.IV monoplane, and other fast German airplanes of that period. Only a few airplanes were completed, the Armistice stopping further production.

In its construction, this ship is reminiscent of the early 1914 Nieuport monoplanes; while, at the same time, it retains the fuselage outlines of the 1917 Nieuport Model 28. The wing construction is interesting, having been designed with a distinctive trailing edge and wing-root windows to facilitate visibility. This monoplane was the first of the Nieuport series to be constructed entirely of steel tubing instead of wood.

The proportions of the original design remain unchanged in this model: the size of the ailerons and tail surfaces being ample for stable and consistent flight. To withstand severe shocks and to facilitate landing, the wings and fuselage are fastened with dress snaps.

Fuselage

Trace the two 1/16" x 1/4" top and bottom fuselage forms from 1/16" sheet balsa. Trace and cut out the bulkhead halves to shape from 1/32" sheet balsa. Glue the halves together along their center lines. Mark with pencil the position of the 1/32" square balsa stringers on each bulkhead and cut the notches for the 1/16" x 1/4" master formers. Mark the correct spacing for the bulkheads on the two side formers and cement the bulkheads in place on these formers only. After the cement has set for a few minutes glue the top and bottom master formers in place. Be sure the resulting frame is absolutely true and act aside to dry.

After the cement is dry, glue the 1/32" square balsa stringers and the bamboo cockpit outline in place, building securely with small pins until the cement is dry. Cement the hinges of two dress shapes to each center section rib and assemble the center section in place on the plane. Be careful to keep the ribs vertical. Cement the 1/16" triangular landing gear braces in place on the first bulkhead and add the other braces and struts shown on plates one and two. Cover the space between the first and second bulkhead and below the center section with balsa paper. Light drawing paper, or 1/64" sheet balsa. Add the other tints as shown on the drawings and photograph. Cover the remainder of the fuselage with narrow strips of Japanese tissue, using balsa sheet for adhesive and striving to eliminate wrinkles as much as possible. After completely covering, spray the entire surface with water in an atomizer; and, after completely drying, brush on one thin coat of clear dope.

Add the windshield, gun mount, tailskid, and other exterior details. Construct the landing gear auxiliary wing and cover 'flying' with either tissue or 1/64" sheet balsa.

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Cut the required landing gear struts to shape from 1/8" x 1/16" hard balsa and assemble the landing gear on the plane using short lengths of piano wire and plenty of cement. Be sure the auxiliary wing and the wheels are true and square with the fuselage of the plane. Mount the auxiliary wing at a negative angle of minus two or minus three degrees. Use any standard wheels with a diameter of 1-1/2".

Wings
Cover plate 3 with a transparent sheet of wax paper, join plate 4, and construct the left wing panel. Cut the ribs from 1/32" sheet balsa and the spars from 1/16" square hard balsa. Cut the leading edge from 1/8" square hard balsa and the trailing edge from 1/16" x 3/16" and 1/16" x 1/8" hard balsa. Pin the layout to a flat board and secure the parts in place with pins until the cement is thoroughly dry. Take care to avoid breakage when bending the wing tips. Do not heat the bamboo but hold it in place on the layout with pins until the cement is dry. Slant No. 1 rib in order to secure the proper dihedral angle.

To construct the right half of the wing, trace the layout of the wing on transparent wax paper, turn the paper over, and construct the right half on the resultant layout. Cement two pieces of cork or soft balsa between No. 6 and No. 7 ribs on each wing to secure the struts. Cover the space between the first and second ribs with 1/4" sheet balsa, cutting out a semi-circular space for the wing panel windows to be covered with cellophane or thin celluloid. Cement the dress snaps in their correct places on the No. 1 ribs.

Cover each side of each wing with a separate piece of jap tissue, spray lightly with water and fasten flatly to a board with pins or small weights. Insert a 1/8" square piece of balsa under the tip leading edge of the left wing panel before fastening down to dry. The increase in the angle of incidence toward the wing tip will compensate for the twisting and turning effect of the prop torque. When the surfaces are dry, give the entire wing a light coat of dope. Be sure the dress snaps on the wing and center section are adjusted so the wing fastens securely and snugly to the fuselage.

Empennage
Place a piece of transparent wax paper over the drawings of the rudder and stabilizer and construct each from 1/16" square balsa for the ribs and 1/16" x 1/8" balsa for the outlines. The curved outline is built up from sections and cut from 1/16" sheet balsa so that the grain of the wood will follow the outline of the curve. Pin the pieces flat to the board while constructing, until the cement is dry. Cover each side of the fin and stabilizer and spray the surfaces with water. Pin flat to the board and let dry, after which each surface can be given a light coat of clear dope. Fasten the stabilizer to the fuselage first, being sure that it is at an angle of minus two degrees to the line of thrust. Cement the rudder firmly in place.

(Corn the Nov.1936Model Airplane News)

Cowling and Motor Stick
The cowling can either be built up from 1/4" balsa "lifts" or turned and hollowed from a solid block of balsa 2 7/8" square x 1 1/4". After carving and sanding, a 1/32" bulkhead is cemented to the rear of the cowling. The 1/4" x 1/8" x 11 3/8" motor stick is made from hard balsa and is slightly larger where it is fastened to the cowling. Cement the motor stick in place on the cowling and add the rear rubber hook. Curve the right handed flying prop from a balsa block 5/8" x 1" x 7". Insert 1/32" aluminum tubing bearings in the cowling and propeller. Insert the prop shaft from the rear of the cowling, add washers and a bead. Place the prop on the shaft, add free-wheeling detail and bend the end of the shaft at right angles. Cement the corresponding halves of the three dress snaps to the cowling bulkhead and to the fuselage bulkhead No. 1. After the dress snaps have been added, the cowling and motor stick may be removed as a unit from the model, for winding or interchanging flying and scalar props. Six or eight strands of 1/8" flat rubber are sufficient for tight. If desired, paint the entire model silver with black details, numerals, and red, white and blue French insignia. For scale representation, carve the headrest and fairing from solid balsa.

Adjusting and Flying
Seal one end of a one piece of soda straw and glue it in place on the inside bottom, of the balsa motor cowling. With the rubber and prop in place, glide the model several times over soft grass. If the model stalls, insert buckshot or BB shot in the straw until the stalling tendency is corrected. If the model dives sharply, remove the shot or carve away the inside of the cowling until the model glides correctly. When near perfect glides are obtained, wind the prop about 100 turns and launch by hand. Correct any further erratic tendencies, give the prop about 500 turns and launch for a fast climbing, thoroughly enjoyable flight.

Nieuport Monoplane
A monoplane was constructed by the Nieuport firm in October 1917. The aim of the shoulder-mounted wing was to enhance the pilot's view, reduce drag, and increase structural strength. To provide the pilot with an enhanced downward view, clear panels were placed in the wing roots. The undercarriage was divided by a sparswise fairing of streamlined section which probably provided some lift. It was intended that this surface would serve as an air brake during landing. The landing gear was suspended beneath the center fuselage by N-shaped struts and two sets of bracing struts extended from the middle of each wing to the undercarriage struts. The fuselage was faired and the wings were fabric-covered. The engine was a 150-hp Gnome Monosoupape 9N. The aircraft flew in late 1917/early 1918. Armament was two 7.7-mm Vickers machine guns. The monoplane was not selected for production, but was further developed as the Nieuport 31. A second version was fitted with a 180-hp Le Rhone 9R engine and featured an inverse taper on the inboard trailing edges and an extended fin. Balanced elevators were added later. Development had been abandoned by May 1918. (From "French Aircraft of the First World War")