

Nieuport Model 17



The Nieuport 17 was a development from the model 11 and was a first line French fighter for a short time. Aero development was occurring at a break neck speed. The airplane was fitted with several armament schemes. The photo above is of a reproduction and shows a Lewis gun mounted to fire above the propeller. Later models used a cowl-mounted machine gun firing through the propeller with an interrupter mechanism.

Model

The model was drawn from vintage drawings and some of the construction reflects the original structure. In modern terms, the model is of “stick and tissue” construction. Since the power is electric and the equipment heavy, a 2-3 ounce airframe with an overall 10-ounce weight is desirable. A GWS 280 standard motor was selected and is run with a 270mh 8.4-volt battery.

The receiver and servos are of the Pico size and a 5amp ESC was installed. The lower wing is attached with a tongue and socket arrangement. This is done to allow the landing gear rear brace to be in a scale position.

General Construction Notes

The model is constructed using largely conventional methods. Plan sections of interest are printed and taped together, covered with waxed paper and the construction takes place on a flat surface. The glue recommended is of the CA variety. Balsa wood of good quality should be used. The lower wing is attached to the fuselage with a tongue that extends from the side and fits into a box built into the wing. The upper wing is attached by rubber bands. These arrangements allow the wings to pop off with minimal damage should the airplane crash. The author used the lightest grade of Silkspan as the covering material. The components can be built in any order desired. The author likes to do the fuselage then the wings followed by the tail.

Fuselage

Study the plans carefully, especially the cross sections as they relate to the side and top views. Note the shape of the basic box structure and how the side and top formers form the outside shape. Building two sides and then attaching the crosspieces make the box structure. The side frames are made directly on the waxed paper covered side-view plan. Using dressmaker pins, cut and pin the 1/8 sq. balsa pieces to the plan and glue. Do the same with the diagonal (1/8x1/16) braces. Due to the curve in the bottom long piece, it is advisable to moisten it. Cut and install the 1/8 sheet piece that forms the lower wing “tongue” support. The lower wing incidence is established by this piece and care should be exercised in placing the ‘tongue’ slot correctly. After the two side frames are completed, and starting at the front, cut and install the crosspieces. Use a 90-degree square or block in order that the frame is square through sections A to C. Care must be exercised to see that sections D through G are symmetrical (90 degree block and ruler).

Now that the box frame is complete, cut and attach the side frames. The stripping for the sides starts at station A and ends at station D. At station D, the stripping butts to the forward face and is even with the outside.

On the prototype, the section A to C was made removable so that equipment can be serviced. Cutting two upper formers for sections A and D does this. The forward most former at section A is 1/32" larger than the one behind it (planking). The upper formers at station C are the same. The removable section is planked separately than the sections C to D. Sections D to G are stripped and tissue covered.

The landing gear and cabine struts are made from .055" piano wire and balsa faired. The wire is attached to the fuselage by carefully drilling a 1/16" hole vertically into the box frame and inserting the wire with CA glue. The landing gear is one piece each side and the wheel-to-wheel axel is also one piece. The axel is joined to the sidepieces with heavy thread and CA glue. The cabine struts support a wing saddle for the upper wing.

The cowling is made up of balsa rings and sanded to shape.

Wings

The wings are constructed directly on a waxed paper covered plan. The spar and trailing edges are pinned to the construction surface. Do not glue the spars since this is the dihedral break (the real airplane had no dihedral). The ribs are pinned into place and glued. The center rib will be installed later. The leading edges are pinned into place and glued – do not glue dihedral break area. The wingtips are installed with the forward at the center of the leading edge. One wing panel is elevated to twice the panel dihedral and the leading and trailing edges and spar are now glued. The center rib is fitted and glued, as are the center section braces.

The lower wings are built as two pieces directly on the plans. The construction method is similar to the upper wing with the exception of the tongue socket. The tongue socket is assembled and slid on the tongue extending from the fuselage. The corresponding wing is pinned to it, the dihedral measured and glued. The innermost rib must match the fuselage tongue mount.

Tail

The tailpieces are built using conventional techniques. The horizontal tail plane is largely 1/8" sq balsa cut to length pinned to the waxed paper covered plan and glued. The "curved pieces are cut from 1/8" sheet and glued. Do not separate the two pieces until after covering.

The rudder is built similarly to the horizontal tail plane. The outline and rudderpost are 1/8 square and sheet. The internal cross pieces are 1/8x1/16 balsa.

Covering

There are many methods to cover a stick and tissue model. The method used by the author has been in use for over 40 years and continues to work well. In keeping with the light nature of the airplane, tissue or very thin silk span is recommended. Newer materials are available and may be applicable. The author selected 3-0 silk span since it is on hand.

The frame to be covered is inspected carefully and sanded so that no unexpected blemishes will show through the covering. Next the frame has a layer of dope applied with a brush. Dope the areas that the tissue is to be adhered. On the wings it is the leading and trailing edges, tips and last rib, on the tail it is the perimeter and the hinge spars. The fuselage it is the perimeter of the sides, the top and the bottom. Remember the more complex the shape the smaller the area to be covered in one piece.

Cut the covering to roughly fit the area to be covered. Wet the tissue and blot to slight dampness. Carefully position the moist tissue and remove any wrinkles. Using dope thinned to 50-75 %, brush over the frame perimeter and let dry. After dry, trim the excess tissue and do the next panel. Should a panel not please the builder, it can be removed with an application of thinner.

Keep in mind that flawless covering requires techniques that are developed over a period of time. With a light framed airplane, warping of the flying surfaces is to be avoided.

After covering and checking for warped surfaces, a coat of 50% thinned dope is evenly applied.

Color Scheme

The French allowed the squadrons and pilots to decorate their planes. There was no single paint scheme for each type of plane. The national insignia was on all planes and consisted of the French roundels and the tail stripes. Other markings to indicate group and airplane number were sometimes present. A second example is included below.



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