

How to Build a Fokker D-7

A Flying Model of von Richthofen's Famous Fighter

See Plans on
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ONE of the most famous fighting planes in use during the World War was the Fokker D-7. Baron von Richthofen, dubbed the "Red Knight of Germany," who brought down eighty Allied planes, used a D-7 in his earlier fights.

If the instructions given here are followed carefully, a good flying model of this plane can be easily made. Jot down the materials needed for construction as you make your preliminary reading as no separate list of materials is given. Then you are ready to begin actual work on the model.

SIDES OF FUSELAGE

This part is simple but must be made with great care. Use 1/8" sq. balsa wood, placing it over the drawing and using nails or bank pins on the inside and outside of the fuselage, so that it will stay in shape. Cut the spars of 1/8" sq. balsa, as shown in drawing. Then pin them in between the longerons and ambroid. Make the two sides simultaneously so that both will measure alike. Set aside to dry.

TOP OF FUSELAGE

Cut 1/8" sq. pieces of balsa the same as shown in drawing of the top fuselage. Make the spars by cutting to shape and putting together with pins and ambroid. While these are drying, make the small former as shown in drawing. Cut from a strip of 1/16" balsa a 1/16" sq. strip. Attach the former and the square strip of balsa so that there will be a hump on the top of fuselage. Attach with ambroid and set aside to dry.

BOTTOM OF FUSELAGE

This is a great deal like the top of the fuselage. Make the necessary spars the same size as shown in drawing. Now attach the lower spars to the fuselage, being very careful to put them in the designated places. Attach with pins and ambroid.

It is advisable to give the fuselage a coat of banana oil as this strengthens it considerably.

FUSELAGE NOSE

Draw the outline on a block of balsa 2 1/2" x 2" x 3 1/2", and cut out with a knife. Sandpaper the outside and then hollow out the block. This is done with a jig saw. Be very careful in this operation as there is danger of splitting the nose.

Finish the nose by sandpapering the inside. Then give it a coat of banana oil. By this time the fuselage is dry and the nose is ready to be attached. The fuselage nose is ambroided solid to the rest of the fuselage and set aside to dry.

RUDDER

The movable part of the rudder is made of 3/32" reed and 1/8" sq. soft balsa. The rigid part is made of hard

balsa 1/8" sq. Cut to size all the parts of balsa and reed needed. Use balsa for bracings only. Place the parts over the drawing just as was done in the construction of the fuselage. Put together with pins and ambroid. After this is dry, give it a coat of banana oil.

TOP WINGS

Ten ribs are needed for the top wing construction. Cut these to shape as shown in drawing. Make the necessary spar cuts and also for the leading edge. Now the wing is ready for assembling.

Place the center spar, 1/16" x 1/4", across the working table and place the ribs the same distance apart as shown in drawing. Ambroid in place.

While this is drying, make the leading edge. This is of 1/4" sq. soft balsa. Taper and round one side with sandpaper. By this time the ribs are dry and the leading edge may be attached. Place the leading edge in the front notches and ambroid.

Now make the trailing edges. From a strip of bamboo cut a piece 1/16" sq., as shown in drawing. Ambroid this to the wing, leaving the center of the wing free as the circle shape must be made right over the cockpit. Shape this by holding over heat and attach with ambroid. Allow to dry.

Wing braces are made of scrap balsa. The struts of the fuselage can be ambroided to the braces, making the wing to be attached to the fuselage.

LOWER WINGS

Make ten ribs of the same size as those used in the top wing. The lower wing is smaller than the top wing and is differently spaced.

Cut the ribs from 1/16" sheet balsa, being careful to make the right center spar cuts and also cuts for the leading edges. Then place on your working table the center spar, which is 1/16" x 1/4". The center spar is in two pieces because the lower wing is made in two parts. Place the ribs on the center spar in their proper places as shown in drawing. Ambroid and set aside to dry.

The leading edge of the lower wing is made exactly like that of the top wing. Use 1/4" sq. balsa. Taper and round one side. After it has been smoothed down with sandpaper, place the leading edge in the rib notches and ambroid. Put away to dry.

Cut out a piece of bamboo 1/16" sq., which is needed for the trailing edges. By this time the leading edges are ambroided securely and the trailing edges are ready to be attached. Place these at the very tips of the ribs and ambroid. Then set aside to dry.

In the meantime work can be started on an aluminum sleeve in which the center spar will fit. After the wings are dry, attach the lower wing to the fuselage, and ambroid as shown in drawing. The aluminum sleeve will hold the wing in place. Allow to dry.

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STABILIZER

This is made from 1/8" sq. hard balsa and 3/32" reed. Cut the necessary parts as shown in drawing. Place the parts over the drawing and put together with pins and ambroid. Wire can be used as hinges to attach the movable parts of the back section. The entire stabilizer is then attached to the fuselage with ambroid.

WING STRUTS

There are two wing struts on the end of the wings which are known as "N" struts because they resemble that letter. These are made of 1/8" sq hard balsa. After this is attached to the wing, paint it black. There are four more struts attached from the fuselage to the top wing made of 1/8" x 1/16" bamboo, which are ambroided to the fuselage. When the wing is ready to be attached, they are put in the small balsa braces and ambroided in place.

LANDING GEAR

Use 1/8" aluminum rod shaped to size as shown in drawing. Bend slightly at the ends so that when attached to the body, it will fit right in the landing gear braces. The axle of the landing gear is 7" long. Before attaching to the landing gear, ambroid the lift bar to the axle. Then attach this to the landing gear by wire and ambroid. The landing gear is then ambroided to the landing gear braces. After this is dry install the celluloid wheel, which has already been painted black.

LIFT BAR

The lift bar is attached between the middle of the landing gear. This part is greatly responsible for the flying qualities of the model and must be carefully made. Cut out a strip 1" x 5" from a sheet of 1/4" balsa. With sandpaper shape it like a rib as shown in drawing. Then make a notch across the front part of the whole lift bar so that the axle will fit in. Ambroid it to the axle and put away to dry.

MOTOR STICK

This is made from 1/8" x 1/4" x 15" spruce, as shown in drawing. The propeller bearing is fastened on with thread and ambroided in place. The rear motor hook is made of number 14 piano wire as shown in drawing. This is also fastened with thread and ambroided 1" from the back end. Dress snap fasteners are used, as shown in the same drawing, to hold the front part of the motor stick. To hold the back end of the motor stick, make from a piece of 1/16" balsa, 1" x 1", a small hole 1/4" x 1/8" so that the back end of the motor stick can

fit in with ease. The stick can always be removed from the ship when it is necessary to wind up the rubber motor.

RUBBER MOTORS

Loop ten feet of 1/8" sq. rubber between the propeller hook and the rear motor stick hook, so that there are eight strands. Then tie a square knot in the rubber and the rubber band motor is installed. By making a small "S" hook of number 14 piano wire it will be possible to do all winding with a winder and get more power from the propeller, thus producing longer flight than with a hand-wound motor.

out the inside. Paint it black and then ambroid to the fuselage with a slight curve.

MACHINE GUNS

These are models of the Spandau machine guns and are made of 3/8" x 2 5/8" balsa. They are rounded on top and slightly straight on the side. After sandpapering, drill a small hole in the front so that it will admit a piece of 3/32" round wood. Insert the round wood and ambroid in place. Paint the whole machine gun black, except for the tips in front which are painted red.

COVERING, DOPING AND PAINTING

Cover the entire model with Japanese tissue, then dope with banana oil and set aside to dry for at least a half hour. Then the ship is ready for painting. The "N" struts, the wheels, the cockpit and the crosses are black, and the remainder of the ship red. The propeller is painted black and red, the lift bar red and the machine guns black.

COLOR SCHEME

On the question of color schemes for the Fokker D-7, or any other model plane for that matter, it is often best to use your own judgment.

When von Richthofen flew in this type of machine he preferred a blood-red color for the whole plane, with the German cross in black. However, many of his "Circus" planes were camouflaged in many colors—black and white checks, red and black checks, green, brown and yellow stripes, and so on.

Whatever colors you use, however, be careful that the paint is spread on thinly in order to eliminate extra weight, which detracts from the flying qualities.

Trans-Atlantic Airman Praises Study of Radio

"Wonderful Field for Experiment," says Stannage of "Southern Cross."

MODEL AIRPLANE NEWS is happy to present the following message to all model airplane enthusiasts and all boys whose ambition is to succeed in the field of aeronautics.

The message, an exclusive one to the magazine, is from John S. W. Stannage, radio operator with Wing-Commander Charles E. Kingsford-Smith, the famous Australian airman, on their recent successful crossing of the Atlantic Ocean from Ireland to Harbor Grace, Newfoundland.

"Tell your Sky Cadets," said Mr. Stannage to Mr. E. J. Moriarty, Assistant-Administrator of the American Sky Cadets, "that they should turn their studies to radio, as this undoubtedly will play an important part in aviation in the future."

"There is a wonderful field for experiment for the amateur in the elimination of induction from the magnetoes, without having to screen the ignition system."

Now, there is something to think about. You enthusiasts of today comprise the scientists of tomorrow, and there is no time like the present to start the ball rolling towards a successful career!

The Editor.

PROPELLER

The propeller is carved from a pine block 5/8" x 1 1/2" x 8 3/16", as shown in drawing. Sandpaper down to a very fine finish, being careful not to spoil the center marking where the hole is drilled for the propeller hook. This hook comes through the center of the propeller and is bent and then placed in the wood with ambroid.

TAIL SKID

Use a piece of 1/8" aluminum tubing for the tail skid. The end is attached to a piece of balsa to hold it to the fuselage and the rest bent to shape that reaches the ground.

COCKPIT

On a small piece of veneer trace the diagram of the cockpit and cut

INSIGNIAS

These are made of black paper cut out to the same size as shown in drawing. Paste two on the top part of the top wings and two on the lower part of the lower wings. Paste one on either side of the fuselage and one on either side of the rudder.

FLYING

See that the model is well balanced and that the day for trial flight is not windy. Wind the rubber up to one hundred turns. Then let it take off by giving it a slight push. For the next few flights give it more turns of the rubber band, giving the model greater flight and more endurance. If the model seems nose heavy, adjust by moving the stabilizer up or down, or putting a weight in the back to balance it.