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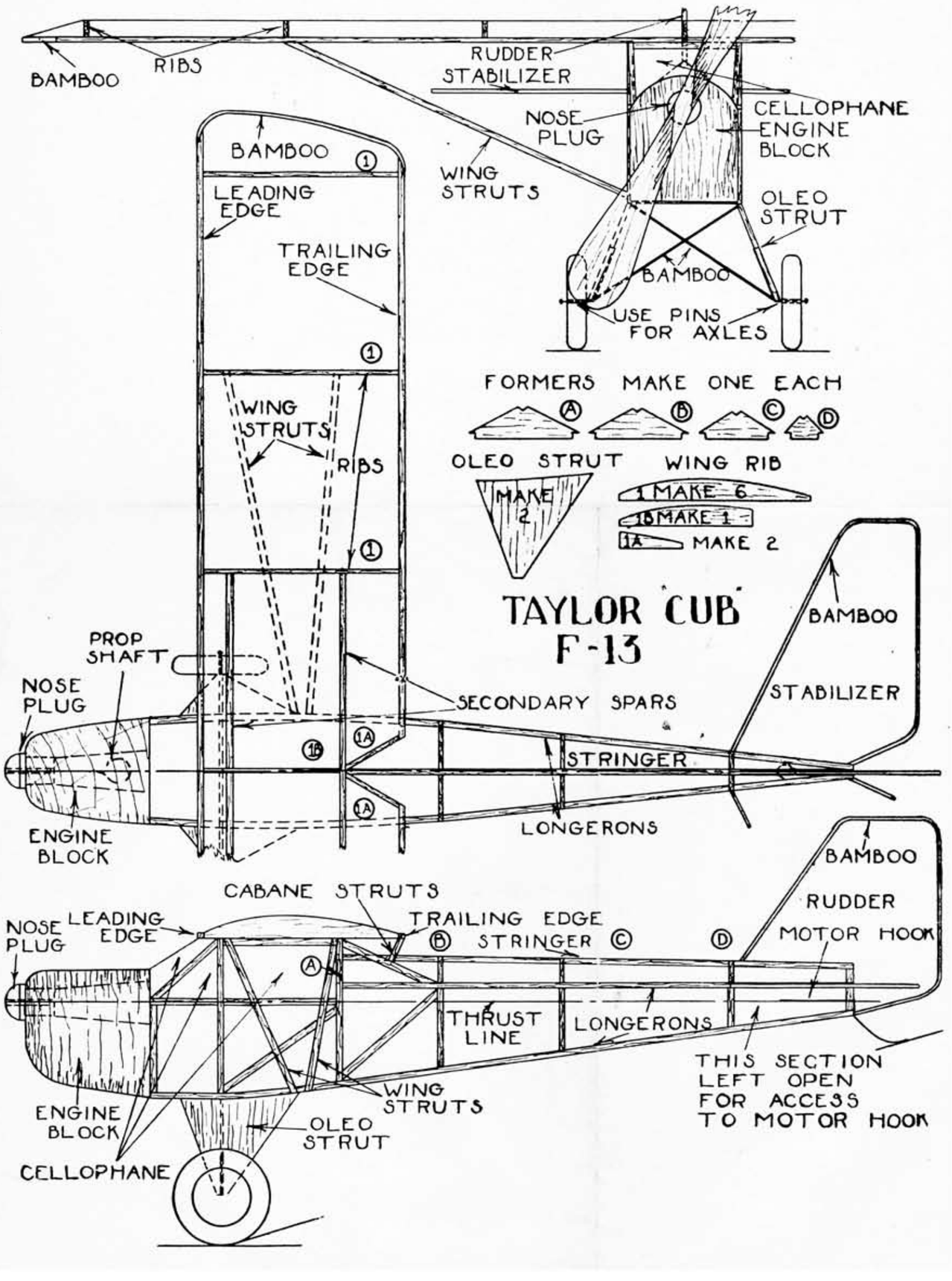

DIRECTIONS FOR BUILDING YOUR FLYING MODEL

Good Flying Models depend on (1) careful construction of the various parts, (2) accurate alignment of the model, (3) correct balance and (4) proper adjustment of the wing and tail surfaces. Good-looking models cannot be had unless printed parts on the sheet balsa are cut out accurately or unless you follow carefully the outlines of the drawings when you cut out the parts by hand. Study the plan and the instructions before starting to build. If you are careless, your airplane will not fly well unless great care is used on the assembly. The wings and stabilizers must be parallel to the line of thrust or you will be in trouble. If your plane is not in balance it will fail to rise or else it will rise too rapidly. Finally, the wing and tail surfaces must be warped slightly for good flights.

PROCEDURE. Tack your plan sheet to a working board. Fasten a sheet of wax paper over it as a protection from the cement. Cut the "spray balsa" apart with a razor blade. This will give you a generous supply of 1/16" sheet balsa. The printed parts will be in the sheet balsa. Study the plan and the instructions carefully before you start to construct the various parts. (2) In assemble the airplane, (3) to correct the balance, and (4) to adjust the wing and tail surfaces.

FAKIN CONSTRUCTION. Place your wood strips on the side view of the fuselage. The uprights and diagonal braces to them. Build the second side of the fuselage in the same manner except as the tip of the tail. Cement the longerons (stringers) in place. Cement the uprights and diagonal braces in place. Cement the top longerons in place. When cement is dry, remove the fuselage from the plan. Work from the nose to the tail and put in the top and bottom cross pieces. Then cement any remaining stringers to the formers. Bend the tail hook and cement in place. It is very important that it be placed in the exact position shown in the side view of the drawing. Then carve the nose block and cement in place. Cover the fuselage with dark tissue. Leave the bay at the tip of the tail open so that the tail hook is accessible. Cover the bottom of the fuselage from the nose to the tail and then do the landing gear. Do not try to put all the stringers in place. Start with four stringers. Cement the stringers in place. After you have fastened these to the formers go ahead with the rest of the stringers. Cement the nose block in place. Bend the tail hook to shape and cement in place and then do the tail skid. Cover the body with dark tissue. Leave the bay at the tip of the tail open so that the tail hook is accessible.) 2) The wing is built over the plan. Cut the leading edge, trailing edge and spars to length and pin them down over the plan. Cement the ribs in place. Cement the rear spar the trailing edge. Put on the wing tips. When bamboo is used for wing tips it can be bent to shape by holding it over a candle flame. Cover the wings with light-colored tissue. Special instructions for P-2. Do not cover the wing fillet section until after the wings have been fastened to the fuselage. Cover the stabilizers and the strip fitted to the stabilizers. Special instructions for the rudder on the side view. Do not cover with tissue until they have been fastened to the fuselage. (4) The Propeller. The sawed balsa propeller is made ready quickly by smoothing with sandpaper. Pierce a hole for the propeller shaft. Insert propeller shaft first through the nose plug, then through the washers and finally through the propeller. Bend wire for the propeller shaft as follows. Cut the wheel pants from sheet balsa. Cement together, and sand to shape. Make sure that they are parallel with the line of thrust. Then fasten the rudder in place. Cover the stabilizers with light-color tissue; the rudder with dark tissue. Cover one side only of the tail surfaces. (3) The Landing Gear is next. Then do the tail skid or wheel. (4) Hook up the propeller by catching the rubber motor over the propeller hook, drawing the other end through the body by means of a long wire hook or string, and then hooking it on to the tail hook. (5) Shrink tissue tight by spraying the model lightly with water except for the tail surfaces. Water is used instead of dope on light models as dope makes the model too heavy.

FLYING THE MODEL. The point of balance of your model is about one-third back from the leading edge of the wing. Balance the plane by placing your fingers under the wing at this point. If the plane is nose heavy, correct by adding weight to the tail or by reducing the nose weight. If the model is tail heavy, correct by adding weight to the nose. BB shot makes good nose weights. Airplanes that are tail heavy will stall quickly, those that are nose heavy will lose altitude rapidly when hand-launched.

PITCH TESTING. This type of model flies best in light air or a calm. Be sure that you have plenty of room. Hence the first thing to do is to glide your model. If it noses down too sharply as you glide it, correct by raising the trailing edge of the stabilizers slightly. Make these adjustments by breathing heavily on the stabilizers as you bend them. If it stalls correct by lowering the trailing edge of the stabilizers. If the plane turns to the left, correct by giving it opposite rudder. If it turns to the right, correct with a bit of right rudder. Do not overdo the adjustments. Make them gently. When you are sure that your model glides correctly, wind the motor by "washing-in" the tip of the right wing. Now for the first flight. Hold your model by the nose block, as you wind the propeller clockwise until you have a row and a half of knots on the rubber motor (about 80 times). Launch it carefully from the hand by thrusting it forward gently as you release the propellers forward and note whether it dips or rises. Make whatever adjustments are necessary before flying it again by warping the wings or tail surfaces or by correcting the balance. **Fly again. Once the model is properly adjusted, wind the motor fully and**