

**SUGGESTED COLOR SCHEME**

ENTIRE BODY ----- WHITE  
TOP OF WING ----- ORANGE  
BOTTOM OF WING ----- WHITE  
TAIL AND RUDDER ----- WHITE  
BODY STRIPE ----- ORANGE  
----- BLUE

NOTE: TRACE ALL TEMPLATES FROM PLAN ON TO STIFF PAPER. CUT STIFF PAPER TEMPLATES, OUTFOLD TO THEIR REQUIRED SHAPES, AND CEMENT INTO THEIR PROPER POSITIONS.

NOTE: BUILD UP BODY SIDES FIRST. COVER PLAN WITH WAXED PAPER AND LAY WOOD OVER HEAVY LINES. DOTS DESIGNATE POSITION OF PINS.

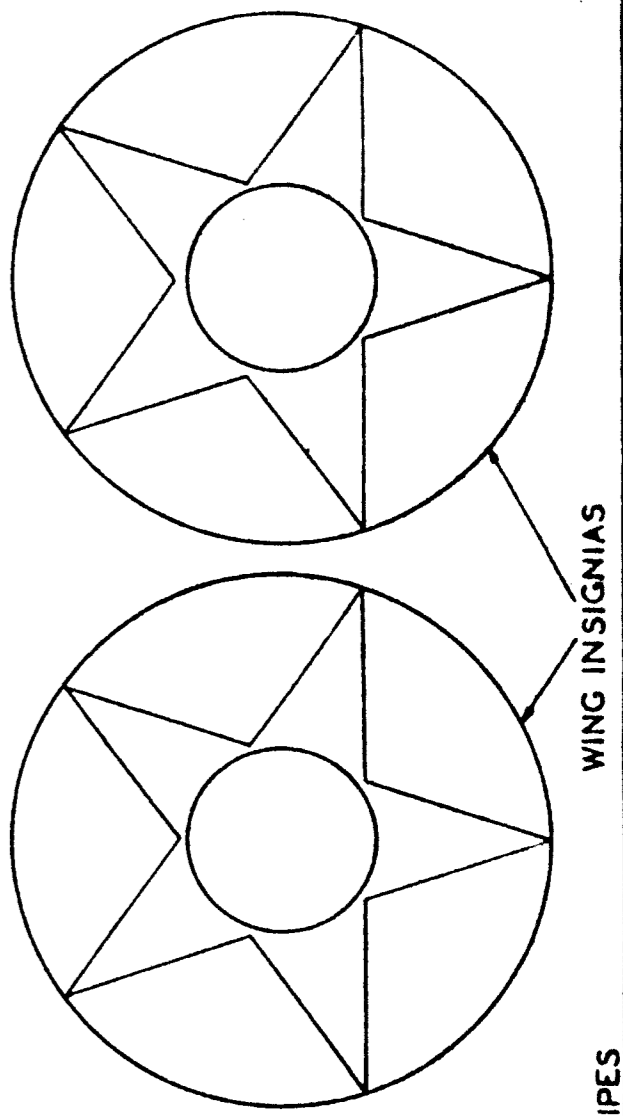
LEAVE A SMALL SECTION OPEN ON SIDE OF BODY TO ALLOW RUBBER MOTOR TO BE EASILY ATTACHED OR REPLACED.

SCALE: 1" = 1'-2"

# VOUGHT SB2U-1

EXACT SCALE FLYING MODEL  
NO. 5372 COPYRIGHT 1939 WHITMAN PUBLISHING COMPANY  
RACINE, WISCONSIN, U.S.A.

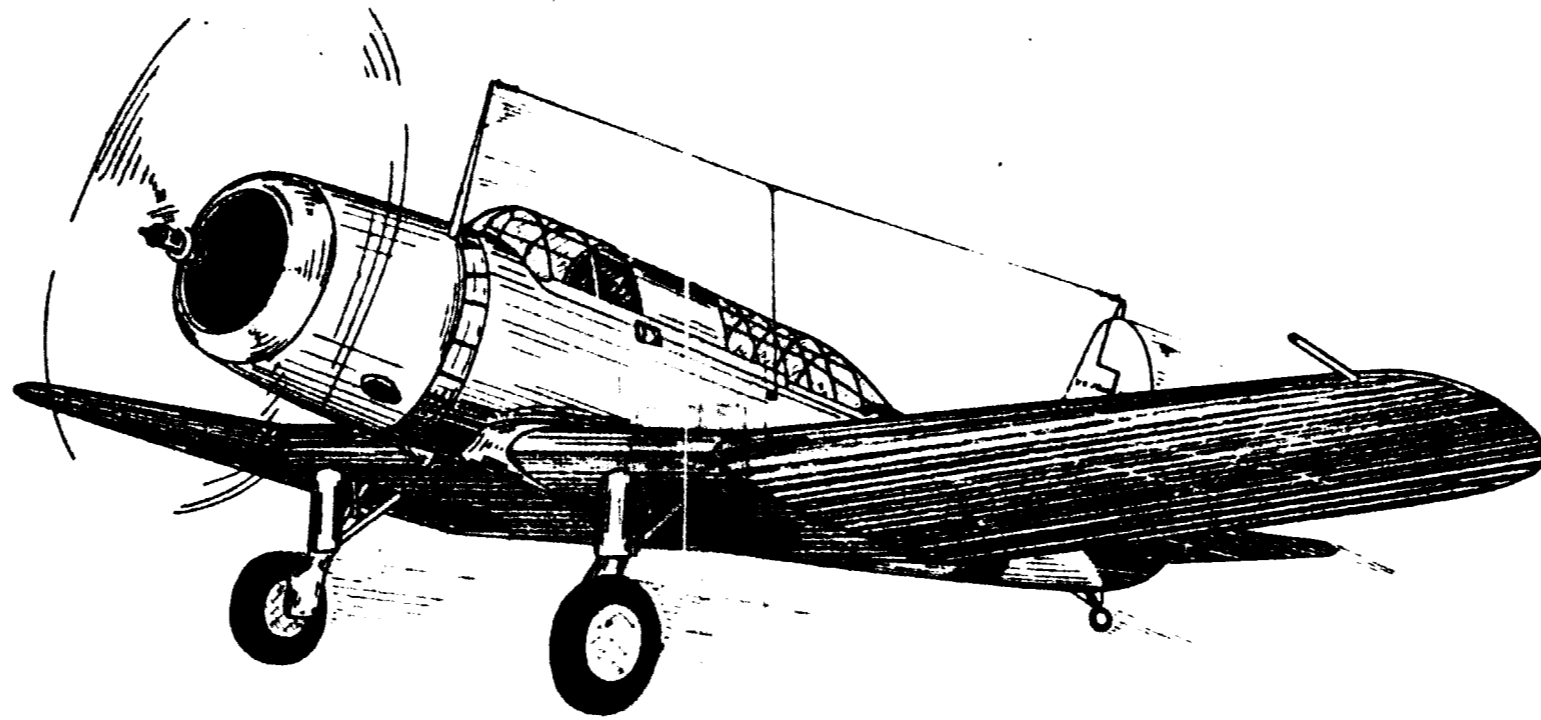




WING INSIGNIAS  
BOMBER BODY TRIM STRIPES  
PILOT

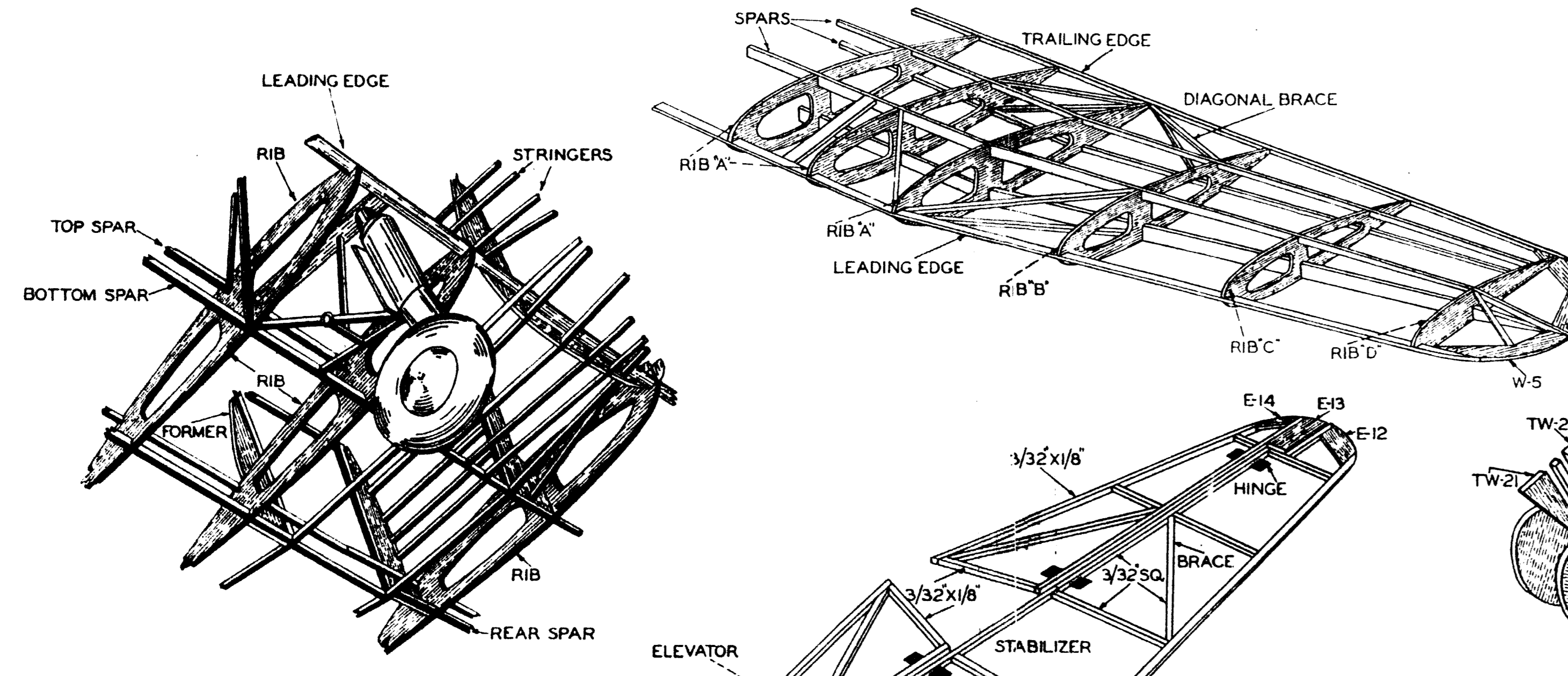
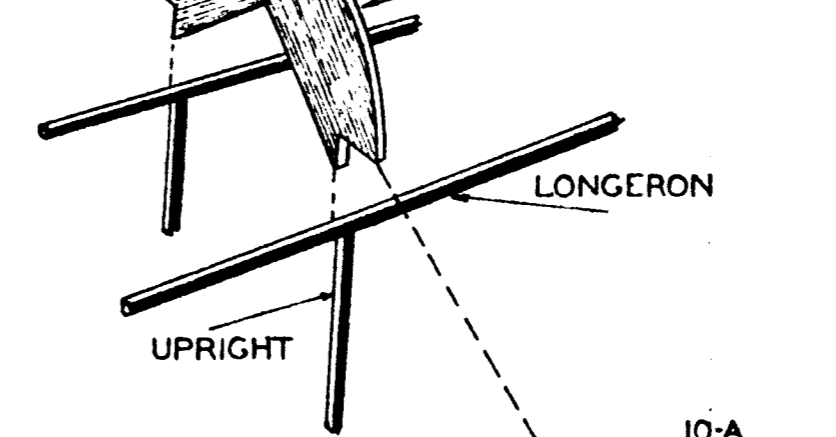
LANDING GEAR PIVOTS

USE BLACK LINES TO OUTLINE ALL CONTROLS

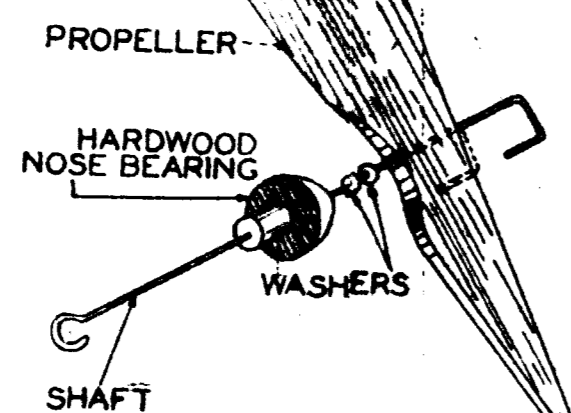
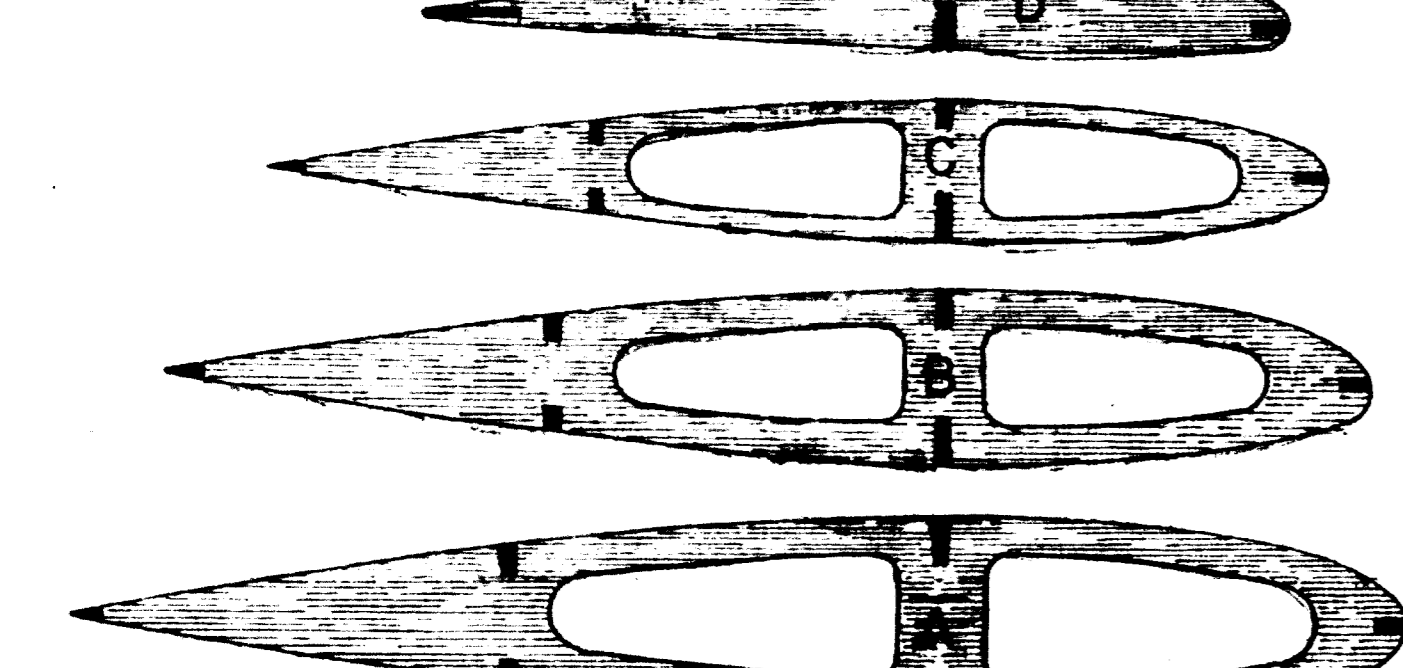


VOUGHT SB2U-1

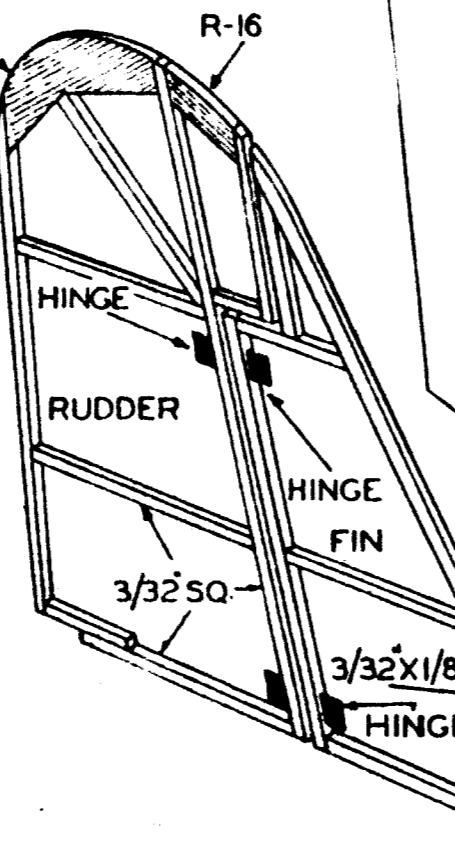
METHOD OF INSERTING TOP AND BOTTOM FORMERS



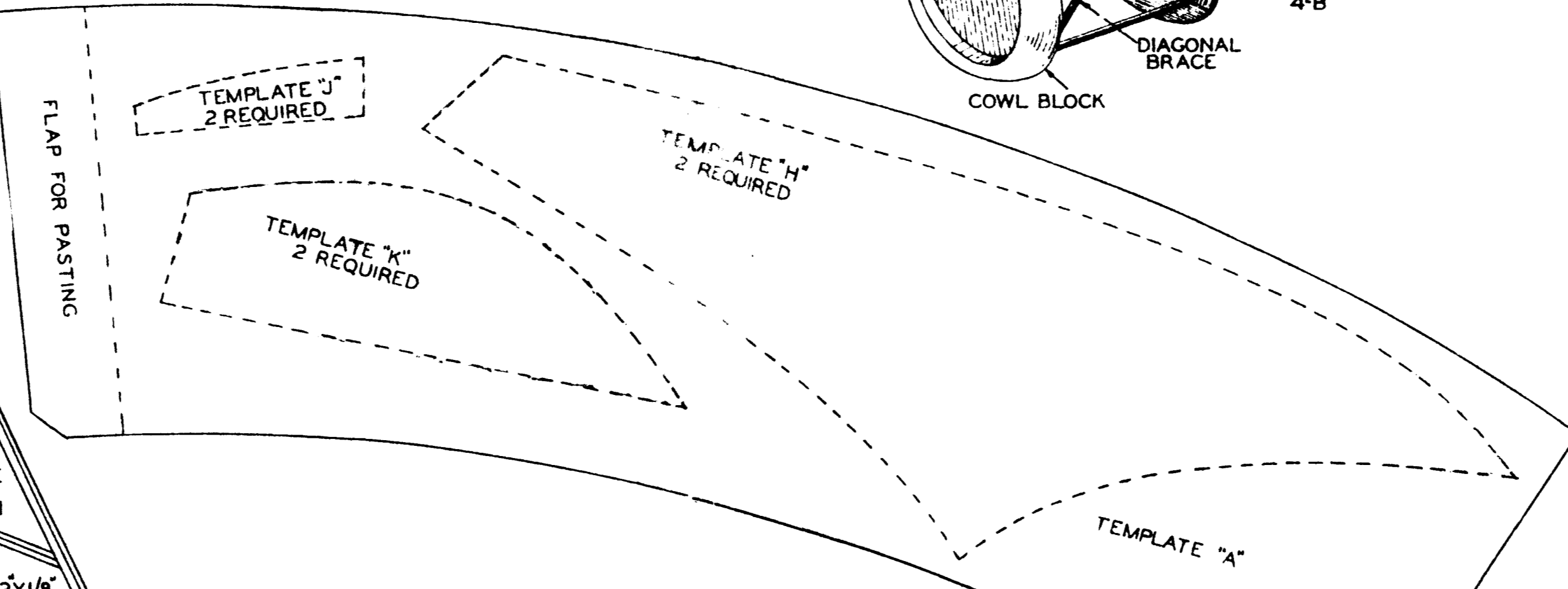
WING RIB SECTIONS



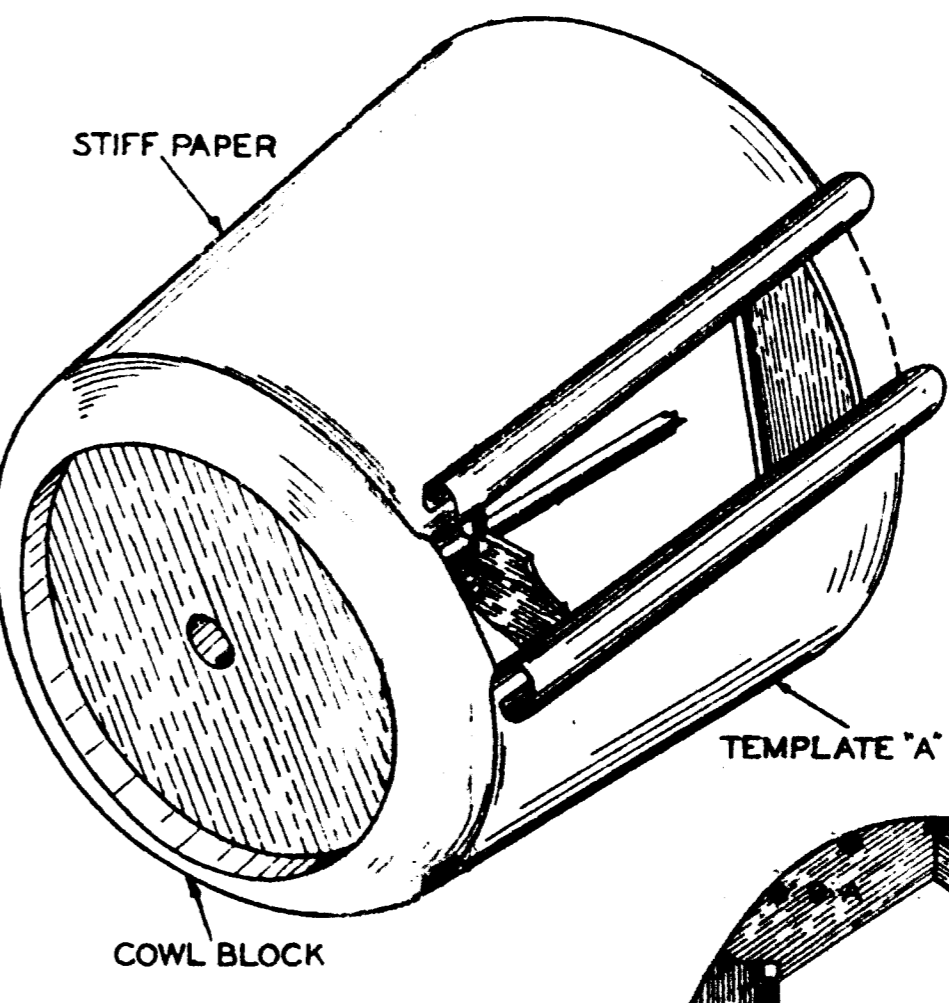
PROPELLER



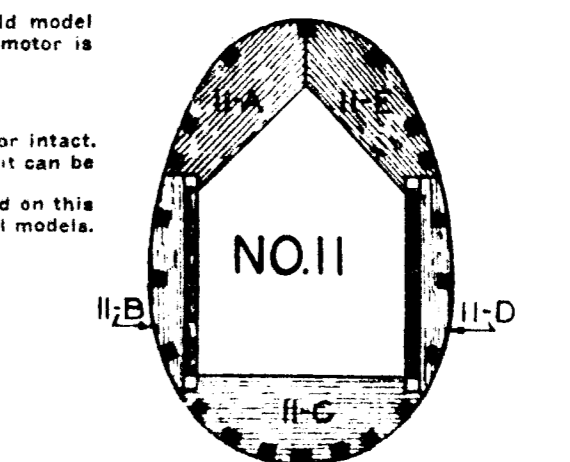
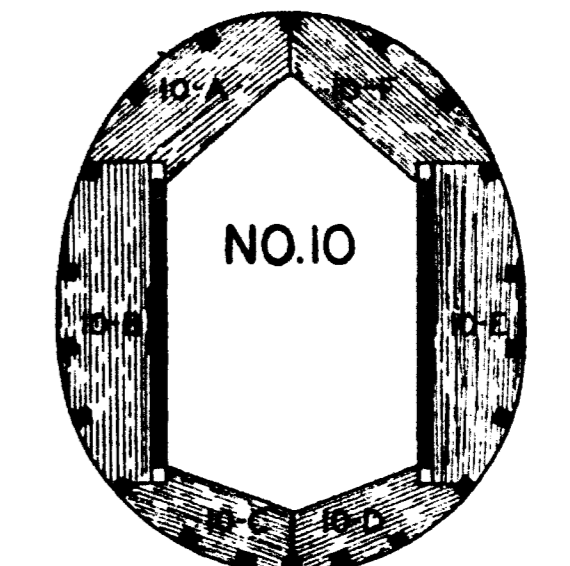
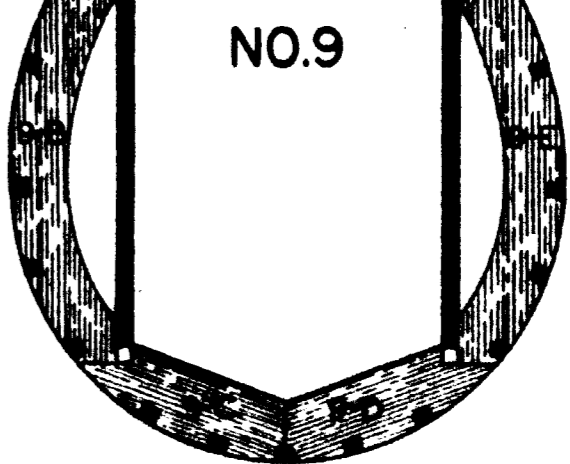
RUDDER



BODY CROSS SECTIONS



COWL BLOCK



DETAILED INSTRUCTIONS

Study plans, perspective sketches and instructions carefully and thoroughly before attempting model construction. Time and patience are required to make this exact scale model. Always bear this in mind. The following few additional tests and materials, other than those supplied, are necessary to build this airplane model. A razor blade (preferably one with a heavy rounded back), a small drawing board upon which to work and cement parts: about fifty small thin pins; a pair of pliers for bending shaft; some small pieces of sandpaper; and a piece of waxed paper 12x38 inches.

**STEP 1 • REINFORCED PRINTED SHEETS** Printed balsa rib sheets are supplied. But when stronger models are required, plain sheets of white writing paper can be pasted to backs of rib sheets. Apply library paste to paper and attach to back of each rib sheet. Paper reinforcement eliminates possibility of cracking balsa along the grain. While drying, place pasted parts between two flat surfaces and apply weights in them (some old magazines or books) to prevent warping. Do not remove paper reinforcement from various pieces after they have been cut from rib sheet.

**STEP 2 • SANDPAPERING** Material: Wood Block and Sandpaper (not furnished) For sandpapering cover block with an outward motion LIGHTLY and SQUARELY on all balsa strips. Avoid rounding edges of square longitudinal pieces.

**STEP 3 • SPARS, ETC.** Material: Sanded Balsa Strips From the sanded strips select the correct size, as required on the plan for leading edge spar and trailing edge. Size this before any notches are cut in ribs so that fit will be very close or tight. A good close or tight fit requires less cement. Consequently, less weight will be added to the finished model.

**STEP 4 • WING-RIBS-WING TIPS** Material: Printed Balsa Rib Sheets With a razor blade cut out illustrated ribs and wing tips from rib sheets as they are needed in the process of building the wing. This will prevent pieces from being lost. Begin assembly by working over the wing in the top view. It is advisable to place a piece of waxed paper over plan to prevent wood parts from adhering to and tearing or rolling plan when they are removed. While working over plan hold down balsa parts with small thin pins. The wings are assembled in two units, namely, right and left panels. Place

spars and trailing edges in position and line in ribs beginning with A, B, C, etc. After all ribs are in place, fit leading edges in position and complete wings by inserting wing ribs and diagonal braces. Connect all joints carefully and when they are thoroughly dry remove wings from plan.

**STEP 5 • ELEVATORS AND STABILIZER** Material: Balsa 3/32" sq., 1/8" and Printed Rib Sheets The tail is assembled in two units, namely, stabilizer and elevator. Sandpaper all strips as explained in Step 2, before cutting to required lengths. Use waxed paper and pins in assembly. Cut cross members and cross braces to required sizes and cut curved tips from rib sheets. First, place cross members and then front and rear edges in position. Pin down firmly. Apply small amount of cement to cross braces and curved pieces before inserting and pinning down into position. When all pieces are in their proper places, allow cement to dry thoroughly before removing from plan. A piece of soft aluminum is supplied. This is to be used for control hinges. Cut off hinges to required sizes and drill bases. Cross members at positions indicated and insert hinges. Apply cement only to outer edges of hinges.

**STEP 6 • FIN AND RUDDER** Material: Balsa 3/32" sq., 1/8" and Printed Rib Sheets Cut required parts from rib sheet. Assemble in two units, namely, rudder and fin. Start at front and work toward rear. Cut uprights in the same manner as stabilizer. Allow cement to dry thoroughly before removing from plan. Control hinges can now be attached.

**STEP 7 • BODY SIDES** Material: 1/4" sq. Balsa Cover side view of plan with waxed paper. Assemble body sides over side view. First, pin down longerons. Next, put in upright members. Start at front and work toward rear. Cut uprights to size and apply cement to ends before dropping into their correct positions. Now put in diagonal braces. When thoroughly dry, remove body side from plan. As two such edges are required, replace waxed paper over plan and make another similar body side.

**STEP 8 • BODY FORMERS** Material: Printed Rib Sheets The second body construction step is the assembly of the two sides into the completed frame. Work over top view of body formers from rib sheets. Start both body sides inside down on plan and pin into position. Place bottom edge formers into position and cement into place, one station at a time. Start at rear and work toward front. Crack or bend longitudinal where necessary. When cement is thoroughly dry, remove from plan. The top body formers and then side formers can now be cemented into position. Check trueness of body

by holding frame so that it can be viewed from front to rear along center line. Check corners to be sure they are at right angles and correct, aligned. When cutting out stringer notches make them a trifle smaller than the pointed ends of ribs to assure a tight fit for the stringers.

**STEP 9 • BODY STRINGERS** Material: Balsa 3/32" sq. The same kind of materials are used for both longerons and stringers. Smooth with sandpaper, cut to required lengths and cement in place. Make slits for NOTCHES IN FORMERS as stringers are purpose - not shown on plan. They run lengthwise along outside of body to be in line with body and support covering.

**STEP 10 • TEMPLATES** Printed on Plan All stiff paper templates are shown in full size on plan. With carbon paper, trace these templates onto stiff paper. Cut out trace forms to exact size, bend to required shape and cement into position during the process of assembly. Apply cement to proper edges and hold or pin into position until cement is thoroughly dry.

**STEP 11 • NOSE BLOCK** Material: 1/2" x 3/16" x 3/16" Cut ready motor cowl from heavy balsa block. Sandpaper edge until smooth. Mark off exact position of cross section No. 1 on back of block. Cement nose block to front of ship.

**STEP 12 • PROPELLER** Material: Balsa A machine cut propeller is supplied. However, it is not completely finished. Sandpaper corners and edges round. Propeller must be balanced. Do this by piercing propeller center with a very thin pin which in turn is stuck to the edge of a board, thus permitting propeller to revolve FREELY. When propeller is properly balanced it will remain stationary on its shaft. In any position, Sandpaper heavier blade until balance is attained.

**STEP 13 • BEARING, ETC.** Material: Furnished The bearing, shaft and washers are all furnished ready to use. Note that the shaft is placed first through the bearing then through the washers and next through the propeller. Bend shaft over into a "U" pull back into hub of propeller and cement securely. Be sure shaft is aligned properly with blades so they will revolve truly. As tension of rubber motor will hold nose bearing in position, DO NOT cement it to motor cowl. This will permit propeller unit to

be readily removable from front of ship. Now insert rear motor hook into position shown in side view. Cement securely.

**STEP 14 • LANDING GEAR, PANTS, TAIL WHEEL** Material: 1/4" Birch Dowel, Paper Templates The main strut of landing gear is made from 1/4" birch dowel. Cut to correct length. Then trace on to stiff paper templates K, L, M, and N, and cut them out carefully. Now form and assemble these parts into complete landing gear mechanism as shown. Method of inserting wheel struts as shown in side view on front of plan. By means of thin pins, the wheels can now be attached. The tail wheel is made from four separate pieces. Cut them from the rib sheet. Cement the various pieces together and "reconstruct" every individual piece. This is done to attain extra strength and to avoid warping. The two middle pieces have slots or notches for inserting tail wheel struts. These notches or slots must be matched when building up tail wheel as tail wheel STRUT is inserted into them. After cement is thoroughly dry, round outer edges to a line shape. Now insert tail wheel strut. The tail wheel is not attached to body until final assembly.

**STEP 15 • COVERING, ETC.** All individual complete parts are to be covered all around or on all sides. First sandpaper all rough edges and make all corners slightly rounded. Fit the tissue paper first, a section at a time, then apply cement and finally attach tissue and allow it to dry. Cover all parts completely and apply as much tissue in one section as possible without undue wrinkling. Cowl body sections where stringers are used, in narrow longitudinal strips applied between each stringer over entire length of body. This prevents undue wrinkling and produces a much smoother appearance when tissue is tightened by shrinking, as explained. With a very fine atomizer or insect gun, spray entire covering of framework very lightly with water. Allow parts to dry. The tissue shrinks as it dries. This gives the parts a smooth tightly stretched covering. When parts are completely covered and dry they are ready for final assembly.

**STEP 16 • WINDSHIELD AND ENCLOSED COCKPIT** Material: Transparent Stock Make windshield and cabin windows from transparent stock supplies. Cut and fit material until proper size and shape are attained. Insert pins and cement panel into position before cementing windshield into place. Apply cement to outer edges of pieces and place into positions. Use thin pins in assembly until cement is thoroughly dry.

**STEP 17 • ASSEMBLING** When all individual parts are completed they are ready for final assembly. Cement elevator and rudder into positions shown and allow cemented joints to

dry thoroughly. Attach wing cables and block up wing tips until proper dihedral angle is attained. After these parts are completely dry attach tail wheel. The model is now ready for decorations.

**STEP 18 • DECORATIONS** Material: Printed on Sav-A-Plan Strip and Emblem Sheet Cut various decorations from Sav-A-Plan strip and Emblem Sheet. Apply a thin layer of cement to backs and stick in positions. Cut "U. S. Navy" from strip and cement to bottom of wing. Paste dummy motor in front of cowl block.

**STEP 19 • RUBBER MOTOR** Material: Rubber 1/4" x 1/8" (2 Bands) Two large rubber bands are applied. Tie them together to form a two strand rubber motor about 20" long. Switch shows how bands are joined. Attach rubber motor between propeller shaft and rear motor hook. Rubber motor can be easily inserted by flexing or pulling into position with a piece of string dropped through body if held in a vertical position. At front of ship nose plug is removable, but at rear of ship a small opening in the covering should be provided for inserting the rubber motor.

**STEP 20 • SCALE PROPELLER** Material: Balsa (not furnished) A view of the scale propeller is shown on front of plan for those who do not wish to use the machine cut propeller supplied.

**STEP 21 • FLYING** When model has been completely assembled it must be checked for center of gravity balance before a trial flight is attempted. Place the forefinger at the midpoint of the wing tips and lift model to see whether it balances. If tail has a tendency to drop it denotes tail heaviness which may be overcome by adding a little weight to nose of ship. If nose has a tendency to point downward, add a little weight to tail. Use this procedure until proper balance is attained. Tails or pins can be inserted into front or rear of model to produce proper balance. When plane remains horizontal, while suspended on finger tips, it can be considered balanced. A few short trial flights should be made. AFTER the model has been properly balanced (not before). When gliding, if ship has tendency to climb and it does not make a gradual glide downward, it indicates that tail is still a little too heavy. This must be offset by additional weight at front of model. To be certain that ship is correctly balanced, hold it, unsupported, in position for launching and if the glide after leaving the hand is steady and consistent and goes forward 10 or 15 feet, ship can be considered as making a normal glide. Model is now ready for its trial flight. When gliding the ship do not touch it upward. Launch it with the nose pointed slightly downward which permits gravity to take effect. Before trying a powered flight it is advisable to test motor by winding propeller with right forefinger. Permit rubber motor to unwind completely, five or three times. At this time, check trueness of propeller

rotation. While turning propeller and thus winding rubber motor, hold model firmly by its nose block. The proper number of turns for the rubber motor is attained when its coils or bows are fairly small and tight.

Although your model is finished your plan PROPER is still complete or intact. That is, no parts or templates should have been cut from it. Therefore it can be looked over for small, possibly forgotten details. For convenience of model builder all rib, former, etc., are duplicated on this plan for use in final checking, repairing and for building of additional models. Sav-A-Plan can now be filed away for future reference.