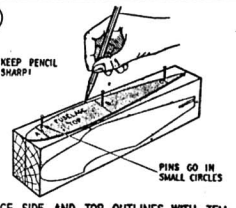
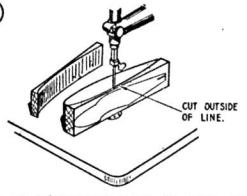
PROCEDURE CHART FOR BUILDING SCALE MODEL AIRCRAFT

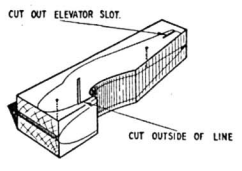
FUSELAGE



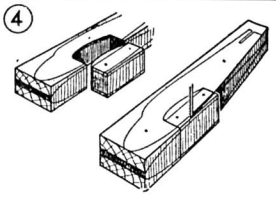
1 TRACE SIDE AND TOP OUTLINES WITH TEMPLATES. SEE THAT BOTH ARE LINED UP AT FRONT OF BLOCK.



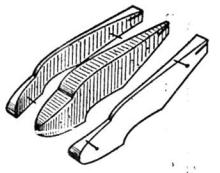
2 SAW TO TOP OUTLINE USING JIG, BAND OR COPING SAW. REPLACE SIDE PIECES WITH PINS OR SMALL BRADS.



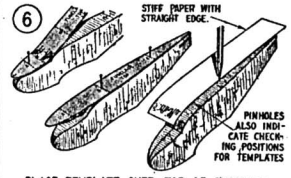
3 SAW TO SIDE OUTLINE. IT IS EXTREMELY IMPORTANT THAT THIS BE CUT VERY ACCURATELY.



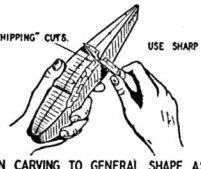
4 ON MIDWING MODELS, CUT OUT PORTION UNDER WING AS SHOWN AND GLUE LIGHTLY BACK IN PLACE BEFORE CUTTING OUT SIDE OUTLINE.



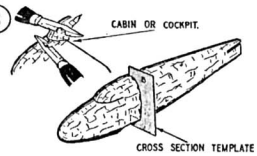
5 REMOVE SIDE PIECES FROM FUSELAGE. THESE CAN BE PULLED OFF BY HAND.



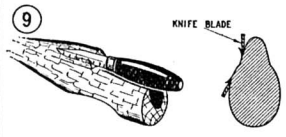
6 PLACE TEMPLATE OVER TOP OF FUSELAGE AND PUSH PINS THRU CIRCLES INDICATED. DRAW LINE DOWN CENTER OVER PINHOLES. USE SAME PROCEDURE ON BOTTOM.



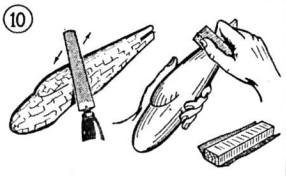
7 BEGIN CARVING TO GENERAL SHAPE AS SHOWN BY CROSS SECTION TEMPLATES AND FINAL ASSEMBLY DRAWING. IF FUSELAGE HAS RADIAL COWL, MAKE IN SAME MANNER AS NACELLE FRONTS. SEE FIG. 22-24.



8 CARVE FUSELAGE CLOSE TO TEMPLATE SHAPES BUT A LITTLE OVERSIZE TO ALLOW FOR SANDPAPERING. DO NOT CARVE AWAY CENTER LINE DRAWN ON TOP AND BOTTOM OF FUSELAGE.

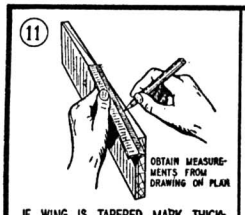


9 AROUND COCKPITS, ON BOTTOM OF FLOATS, AND WHEREVER CONCAVE CUTS HAVE TO BE MADE, USE KNIFE WITH EDGE PARALLEL TO WOOD GRAIN. CHECK WITH CROSS SECTION TEMPLATES FREQUENTLY

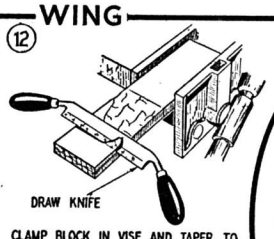


10 USE RASP OR ROUGH SANDPAPER WRAPPED AROUND A SMALL BLOCK TO REMOVE BUMPS. THEN SAND SMOOTH WITH FINE SANDPAPER.

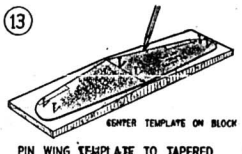
WING



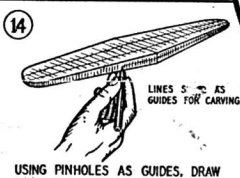
11 IF WING IS TAPERED, MARK THICKNESS TAPER ON WING BLOCK USING STRAIGHT EDGE AND SHARP PENCIL.



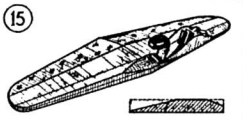
12 CLAMP BLOCK IN VISE AND TAPER TO LINE WITH SPOKE SHAVE, PLANE OR KNIFE. SAND SURFACES SMOOTH.



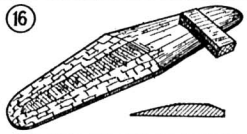
13 PIN WING TEMPLATE TO TAPERED BLOCK, PUSHING PINS THRU MARKED PINHOLES. TRACE AROUND TEMPLATE AND SAW OUT



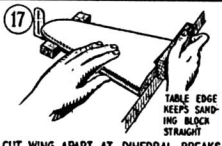
14 USING PINHOLES AS GUIDES, DRAW LINES ON TOP OF BLOCK. THEN DRAW DOWN CENTER OF FRONT EDGE.



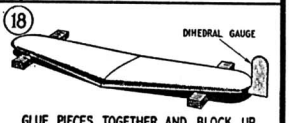
15 CUT BLOCK DOWN TO GUIDE LINES WITH KNIFE OR PLANE. LEAVE TRAILING EDGE AT LEAST 1/32" THICK.



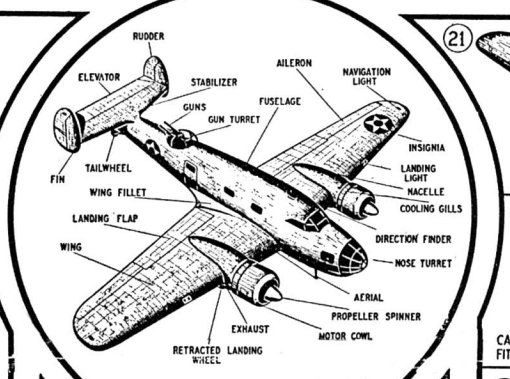
16 TRIM DOWN AND SAND TO FIT WING AIRFOIL TEMPLATE. ROUND OFF LEADING EDGE.



17 CUT WING APART AT DIHEDRAL BREAKS AND BEVEL EDGES AS SHOWN ABOVE.



18 GLUE PIECES TOGETHER AND BLOCK UP WING TIPS USING DIHEDRAL GAUGE. USE WAX PAPER BENEATH GLUE JOINTS TO PREVENT STICKING TO TABLE



PARTS OF AN AIRPLANE

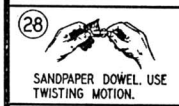
SCORING

19 PUSH PIN THRU TEMPLATE TO MARK CONTROL SURFACES.

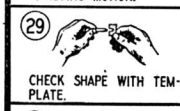
20 SCORE INTO SURFACE WITH KNIFE USING PINHOLES AND STRAIGHT EDGE AS A GUIDE.

SPINNERS

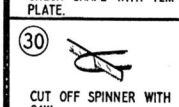
27 CARVE DOWEL TO APPROXIMATE SHAPE.



28 SANDPAPER DOWEL. USE TWISTING MOTION.

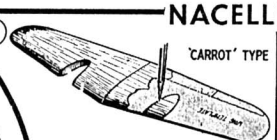


29 CHECK SHAPE WITH TEMPLATE.

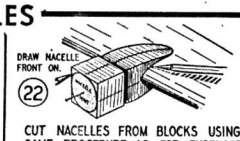


30 CUT OFF SPINNER WITH SAW

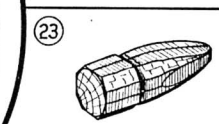
NACELLES



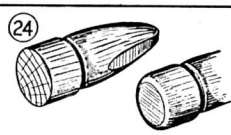
21 MARK NACELLE POSITIONS WITH TEMPLATE AND CUT OUT WITH SAW.



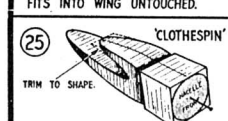
22 CUT NACELLES FROM BLOCKS USING SAME PROCEDURE AS FOR FUSELAGE. FIT INTO WING AS SHOWN AND DRAW WING SHAPE ON NACELLE WITH PENCIL.



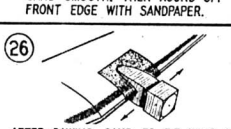
23 CARVE NACELLE, LEAVING PORTION THAT FITS INTO WING UNTOUCHED.



24 SAND SMOOTH, THEN ROUND OFF FRONT EDGE WITH SANDPAPER.



25 ON THIS TYPE, NACELLE IS CUT OUT TO FIT WING.



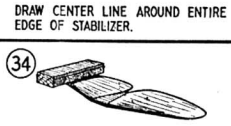
26 AFTER SAWING, SAND TO FIT WING AS SHOWN. THEN FINISH SAME AS "CARROT TYPE" NACELLE.

TAIL

31 CUT OUT STABILIZER AND SLIP IN FUSELAGE SLOT. DRAW LINES ON TOP AND BOTTOM OF STABILIZER AS SHOWN.

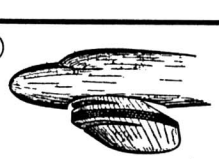
32 DRAW CENTER LINE AROUND ENTIRE EDGE OF STABILIZER.

33 SHAPE STABILIZER APPROXIMATELY AS SHOWN ABOVE. ON SMALL MODELS, PORTION THAT FITS INTO FUSELAGE IS LEFT SQUARE.

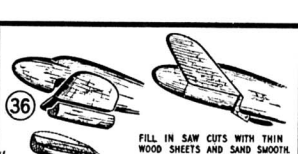


34 SAND STABILIZER SMOOTH WITH SANDPAPER BLOCK. BUILD FIN IN THE SAME MANNER AS THE STABILIZER.

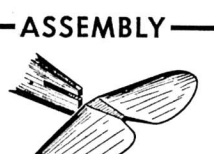
ASSEMBLY



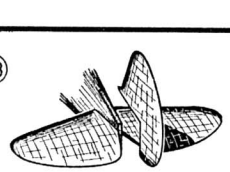
35 ON LOW-WING MODELS, TRIM FUSELAGE UNTIL IT FITS WING AIRFOIL THEN GLUE WING IN PLACE.



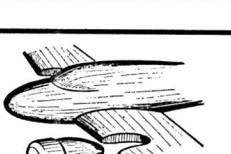
36 ON MID-WING MODELS, REMOVE BOTTOM SECTION. FIT AND GLUE WING IN PLACE. THEN TRIM BOTTOM PIECE TO FIT.



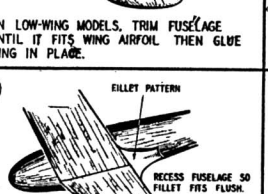
37 GLUE ELEVATOR TO FUSELAGE. MAKE CERTAIN THAT IT IS LINED UP WITH WING.



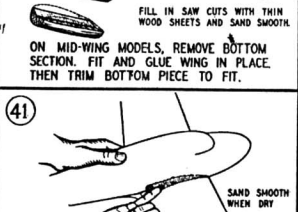
38 GLUE RUDDER OR RUDDERS IN PLACE CHECK ALIGNMENT CAREFULLY.



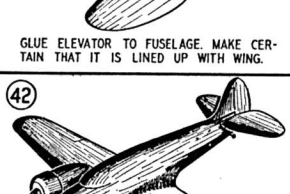
39 GLUE ENGINE NACELLES, IF MODEL HAS THEM, TO WING.



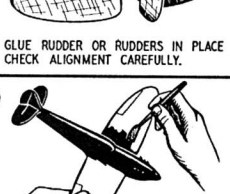
40 CUT FILLET PATTERN FROM CARDBOARD OF APPROXIMATELY POSTCARD WEIGHT. GLUE TO FUSELAGE AND WING AS SHOWN.



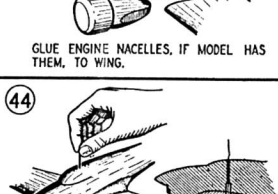
41 SHAPE PLASTIC WOOD OR OTHER FILLET MATERIAL TO FORM TOP OF FILLET AS SHOWN. IF FILLET IS LARGE, BUILD UP WITH SEVERAL APPLICATIONS.



42 ADD ALL SMALL DETAILS SUCH AS SPINNERS, EXHAUSTS, ETC.



43 COVER ENTIRE MODEL WITH AT LEAST TWO COATS OF CLEAR LACQUER AND SAND BETWEEN EACH. THEN PAINT WITH BLACK LACQUER.



44 USING PIN, LOCATE POINT WHERE MODEL BALANCES LEVEL AND DRILL A 1/16" HOLE THRU FUSELAGE AT THIS POINT. COUNTERBORE A 3/32" HOLE UP ABOUT 1/4" FROM BOTTOM SO THREAD CAN BE INSTALLED.