parallel to each other and perpendicular to the chord line.

Attach a "T" shaped block that fits the nose-piece cutout.

Using 1/4" square rib material for spacing, nail small blocks to locate the rib pieces while they are being fitted, glued, and nailed. Allow at least .010" clearance between the top and bottom of the spars and the cap strips.

For the upper wing spars, add shims as follows:

Add .035" shim to the front face of the front spar block and to the back face of the rear spar block.

Add .005 thickness shims to the opposite sides of those blocks.

Note that the wing ribs do not glue directly to the spars but are attached by corner glue-blocks. The .035" shim allows some wiggle room for the angle required for the 6 degree sweepback of the upper wing spars.

It is better to have a loose fit on the spars than to have them too tight and take the chance of cracking a rib during assembly. This method of attachment is twice as strong as if the ribs were attached directly to the spar. When the jig is completed, brush on a couple of coats of liquid car wax, wiping off any excess. This will keep the excess glue from sticking to the jig. This completes the jig.

Next cut all 28 nose pieces from aircraft grade plywood. Stack the blanks according to the number required in each wing, then saw them out with a band saw. Keep them together in their respective piles throughout wing assembly. Only 14 of these will be used for the upper wings.

Cut all vertical and diagonal pieces needed for these ribs. Lengths should be reasonably close, and should slip easily into place. If they are too long, they will distort the shape of the rib when pressed (or pounded) into place. The gussets carry most of the joint loads here.

Number the jig at each piece location and number each bundle of matching parts. A good way to cut the gussets is to cut several strips of 1/16" plywood 1 1/8" wide. Use a compass set at 1" and draw half circles on alternate sides of the strip. You should get about 26 gussets cut of a 48" strip. Stack about six strips together, held together by brads located so that they will not interfere with the saw blade and cut them out with a bandsaw.

Make special gussets for securing the rib nose pieces. Make these gussets so that they will extend about 1/4" past the end of the capstrips for extra strength.

Glue all the upper and lower capstrips to the nose pieces and set aside to dry. Leave the capstrips about 2" longer than the jig. Do not attach the special gussets until assembling the rest of the rib in the jig.

If you are not familiar with the procedures for nailing and gluing the ribs, read C.A.M. 18 (available from E.A.A.) before proceeding. For handling those 1/4" coated nails, you can use a small cylindrical magnet or needle nose pliers, and then use a tack hammer to drive them in.

Begin assembly in the jig by fitting in the nose piece and trimming the trailing edge, then fit the uprights and diagonals, applying glue to the facing edges. Use only acceptable aircraft adhesives such as Resorcinol or one of the newer types of epoxy resins. Mix small batches of glue so as to not exceed the pot life of the material. A razor-sharp wood chisel is excellent for trimming "just-a-hair" off of these 1/4" strips.

Apply all of the gussets on one side using glue and nails. Carefully remove the rib from the jig and attach the gussets to the opposite side. Check completeness and remove any excess glue. Repeat this operation until you have 14 ribs assembled.

Now make the six lower wing ribs that are forward of the ailerons. Clear the wing jig of excess glue, remove the .035 thickness shims from the spar blocks and replace with .005 thickness shims (the same thickness that are already on the opposite sides of the spar blocks).

Make six 1/4" plywood filler pieces to fit snug between the top & bottom capstrips and aft of the upright in back of the rear spar. This will form the recess into which the leading edge of the aileron will fit. Refer to radius and position dimensions at the upper part of the drawing.

Mark the plywood filler pieces so they will not be accidentally inverted. Assemble six ribs in the same manner as was used for the upper wing ribs.