After glue is set, trim the capstrips per drawing, matching the radius.

The aileron slot end ribs and the wing panel butt ribs do not require a jig. For the aileron slot ribs, cut 4 rib profiles from 1/16" thick aircraft plywood. Use one of the upper wing ribs as a template to mark the spar opening positions. Lay out the three lightening holes and cut them out. Use this as a template for the other three ribs. Pre-trim capstrips to 1/4" width in area shown by the drawing for ease of bending in the forward part. Glue and nail the nose rib and uprights, then the capstrips. Use temporary uprights to keep the 3/4" width capstrip area from bending inward while the glue sets. Attach gussets on the opposite sides as shown on the drawing. When dry, finish out the spar openings to match those in the wing ribs for the aileron area. Make two lefts and two rights. Be sure to glue and nail-attach the aileron shroud anchors making sure the radius matches the aileron area wing ribs.

For the lower wing butt ribs, cut two full length airfoil profiles from 1/8" aircraft plywood.

For the upper wing butt rib, cut two "bobbed" profiles as shown on the right hand side of the drawing.

Mark the spar opening positions using the regular wing ribs as templates. For the lower butt ribs, lay out the position for the aileron torque tube hole and cut a 7/8" diameter hole.

Glue and nail the nose ribs and nose rib uprights in place. Trim the aft edge of the nose rib 3/16" to provide the clearance necessary for the wing fittings. Make and attach the aft reinforcement for the upper wing butt ribs. Leave 3/16" clearance from the marked spar location. Make rights and lefts. Fit and attach 1/4" x 3/4" capstrips using temporary vertical spacers in between to prevent them from warping inward. Attach the trailing edge gusset to the lower butt ribs.

Do not attach the compression members at this time. Cut the openings for the spar locations. 3/16" will be trimmed from the sides of these openings as necessary to clear the metal fittings on assembly.

When all ribs are finished, sand the roughness off all the outer edges and surfaces (not too much) with sandpaper. They should be flush and smooth around the outer edges so they won't be harsh on the covering materials.

WING SPARS.
Drawing 54-2, sheet 2 of 5

If you bought the B.O.A. wood package, your spars are already cut to width and beveled. If you have blanks, you will need to cut them to the right width and bevel the tops.

Cut the butt ends exactly square and bore a 5/8" hole at the positions given for the 5/16 radius. Be sure to make right and left hand spars. Mark the butt ends when they are cut so you don't get them mixed up. The 5/8" holes can be angled, to eliminate some work while fitting the wing tip bows.

The drawing shows an optional operation for routing the spars to save weight. Routing can be a risky operation at best. It will only save about 4 lb., of weight overall. If you are one of those that is very weight conscious and willing to take the risk of ruining a spar, go ahead and good luck.

Next, mark and cut the tip tapers to the given dimensions and tangent to the 5/8" hole diameters. Make scab plates from 1/16" thick aircraft plywood and secure with 1/4" brads. Mark one of each pair of spars with hole positions.

Note: the scab plates will be removed during later assembly, so do not glue them on yet.

Pair up the wing spars, evening up the bottom and butt edges then clamp. Use a drill press when drilling to ensure straight, vertical holes, and a wood back up to prevent splintering at drill break-out. We suggest drilling the holes undersize then drilling and reaming full size when fittings are positioned prior to wing assembly.

At first only drill the initial holes as shown on the print. It is best to wait until assembly to drill the remainder of the holes with the wing fittings bolted in place.

WING FITTINGS.
Drawing 5-5, sheet 1 of 1

Fittings no. 9 through 17 are made from 1/8" thickness 2024-T3 or T4 aluminum alloy. A good method for making these fittings is to make patterns out of poster board and then trace around them with