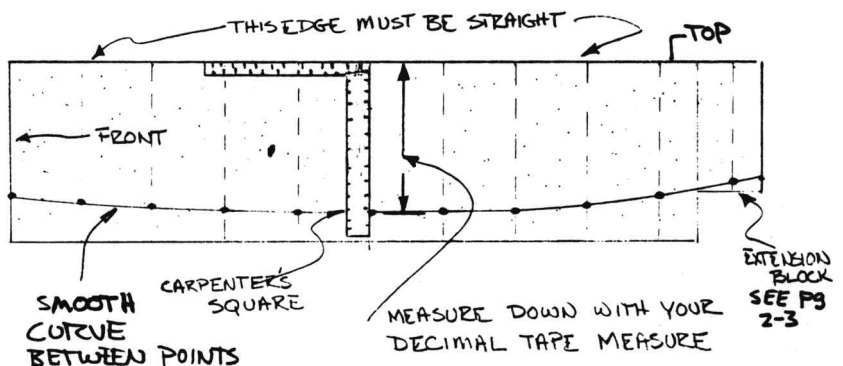
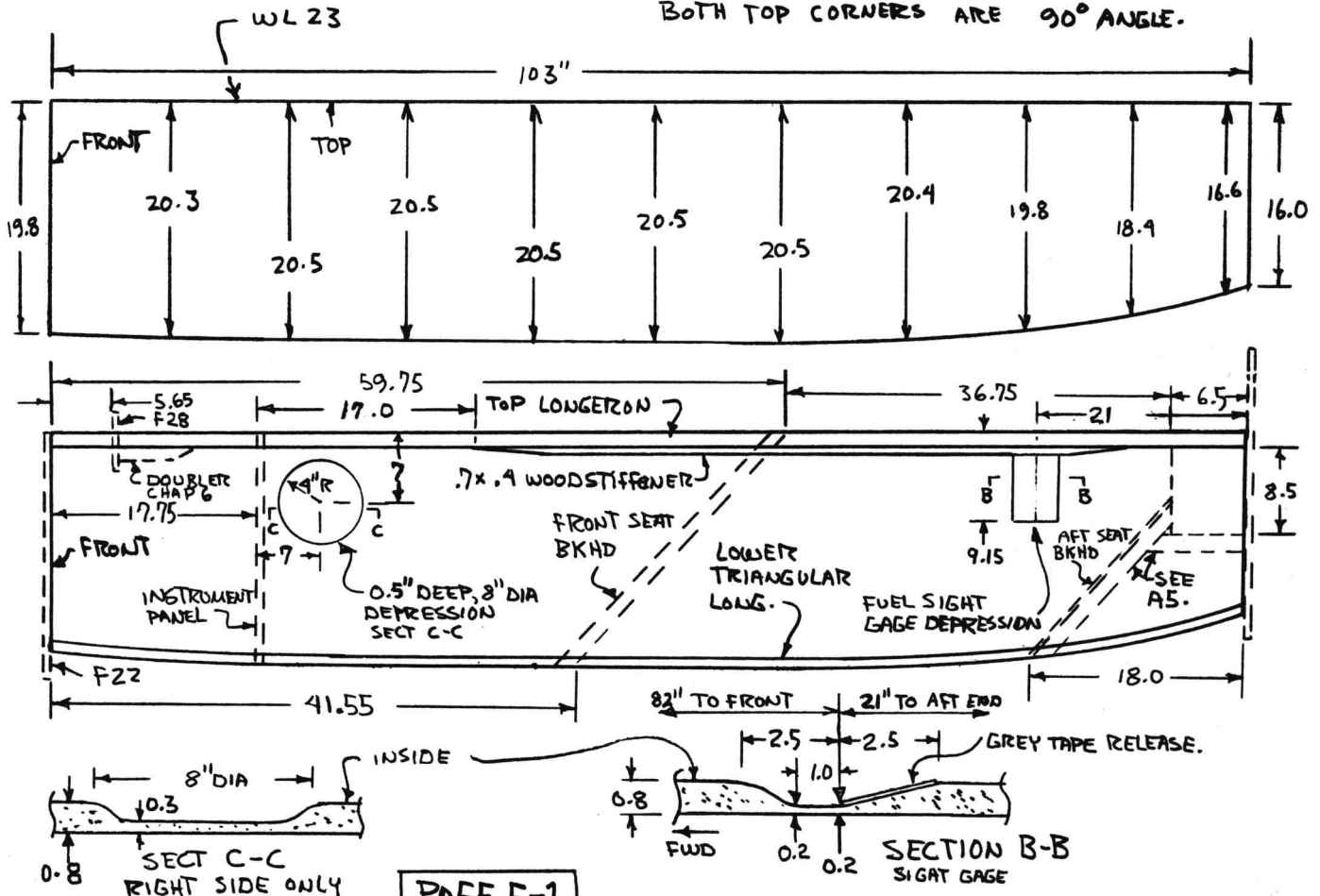


## THE FUSELAGE SIDES

Layout the positions of the four interior bulkheads. Use drawing A5 (full size) to layout the aft seat bulkhead and spar cutout.



BOTH TOP CORNERS ARE  $90^\circ$  ANGLE.



Now, layout the circular depression shown, in the right side only (inside surface). The depression gives some extra room inside at the control stick area. Using 36-grit sandpaper, dish out this area about 0.5" deep with smooth edges.

Refer to the dimensions for the fuel sight gauge depressions. Refer also to Chapter 7 and Chapter 21 to see the function of these. Note how the depression is tilted to face the pilot. All foam is later removed in this area so the fuel can be viewed through the translucent glass skins. After carving, apply a 2 1/2" strip of shiny-surface grey tape (duct tape) to this area so the layup does not bond to the foam.

### STEP 2 - Fitting the longerons and making the inside layup.

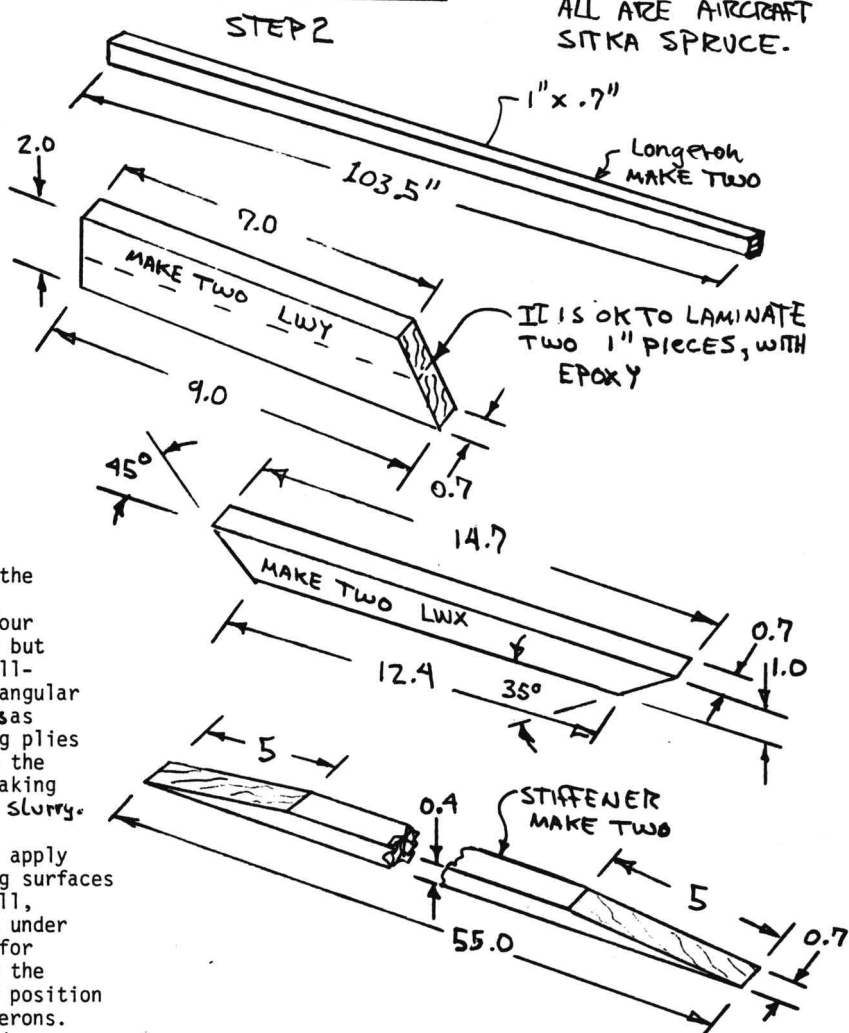
This step should take you about three to four hours. An assistant is nice for the layup but not absolutely necessary. Refer to the full-scale drawing on page A5 and cut your rectangular 1.0 x 0.7 wood longeron material to lengths as shown. Cut UND cloth and lay up 2 crossing plies over the contoured foam as shown. This is the inside of the fuselage. Be sure you are making a left and a right side. **Do NOT use MICRO SLURRY.** See Chap 3, for TYPE 45R P.V. FOAM. With both plies wet out and squeezed well, apply wet floc to the 103.5" wood longeron mating surfaces and position on the fuselage sides. Install, with wet floc, the .7 x .4 wood stiffeners under the longerons. Weight them into position for cure. Peel-ply the bottom edge. Refer to the full-size drawing on page A5 and carefully position and floc in place the other two small longerons. Knife trim skin to the foam edge all around. Allow to cure. After cure, radius the edge of the top longeron and glass the 3 ply UND AND 1 PLY BID STRIPS

### STEP 3 - Installation of the lower triangular Longerons.

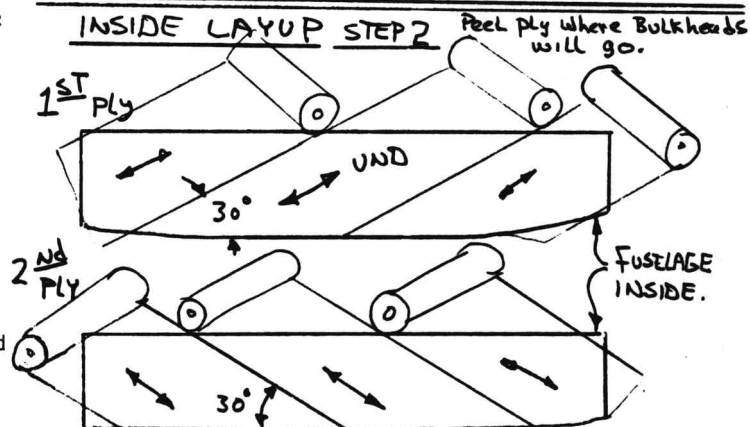
This step should take about one hour. Remove peel ply along the bottom edges of the fuselage sides. Fit the triangular longeron to the lower edge foam curvature by holding it in position with nails as shown in the photo. Don't try to drive the nails with a hammer; drill a hole for them so you can shove them in by hand. Notch the longerons with saw cuts every 2 inches at the aft end so they will more easily bend to the correct curvature. The longerons are installed with wet floc. Wipe off excess Floc.

## WOOD PARTS

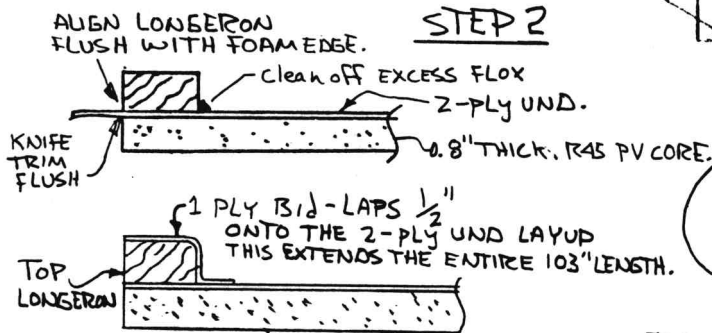
ALL ARE AIRCRAFT SITKA SPRUCE.



## INSIDE LAYUP STEP 2



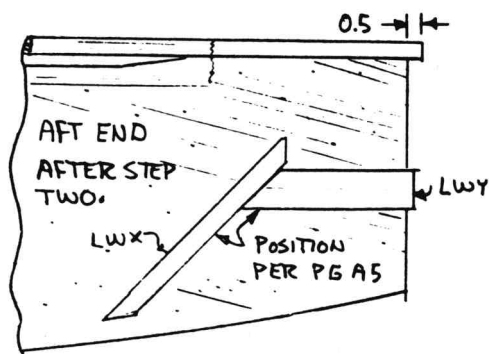
DO NOT TRIM SELVAGE BUTT, DO NOT OVERLAP EDGES



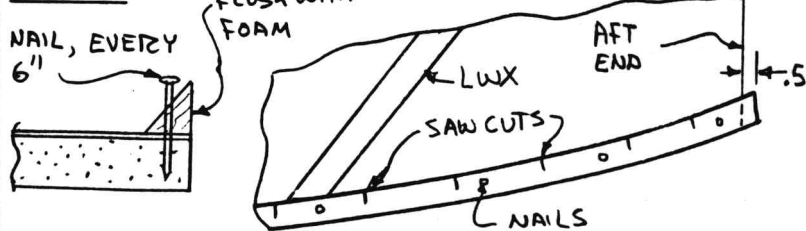
See page 5-1 for positioning this 55" long .4 x .7 stiffener. Glass as shown with 3 plies UND with orientation lengthwise. The 3" wide strips of UND stop at the ends of the stiffener. The 1 ply BID shown at left goes over the UND.



NOTE: LONGERON IS FLUSH AT FRONT AND STICKS OUT 1/2" AT REAR.

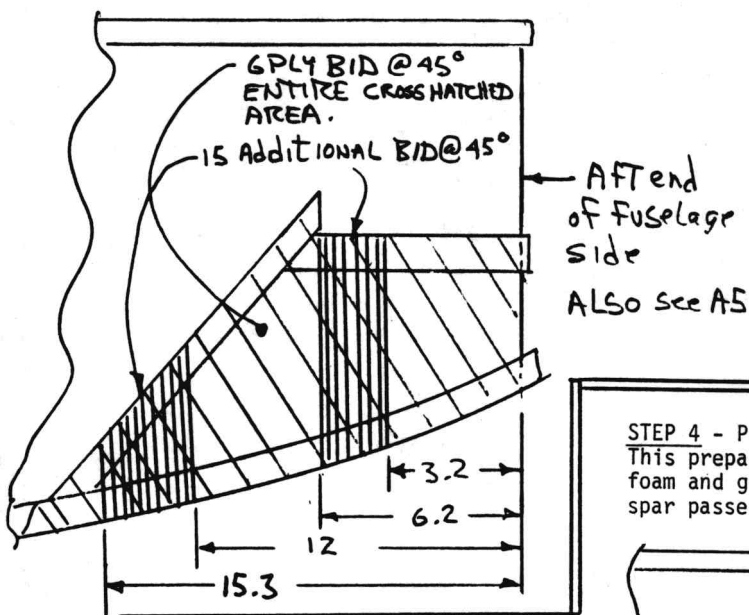
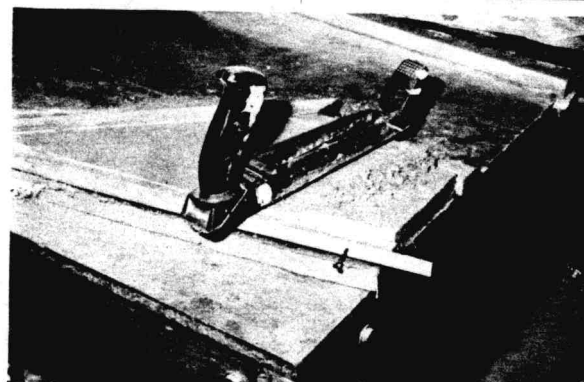
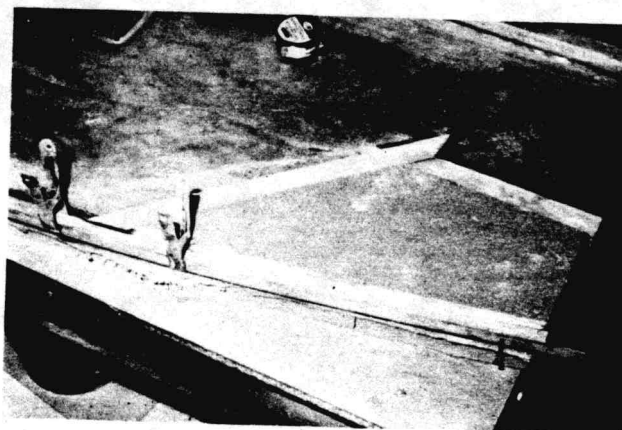


## STEP 3

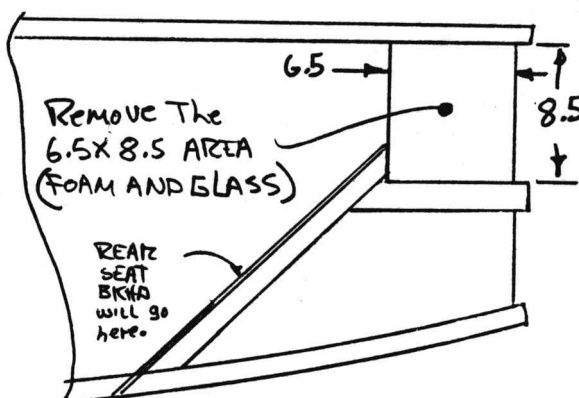


At the bottom rear of the fuselage, from LWX aft, the lower triangular stringer is doubled to form a square (see page A5 and A4). A pair of clamps and a few nails can be used to position the doubler (while the floc cures) as shown in the photo. Wet micro a 1" urethane block in the area bounded by LWX and LWY as shown in the photo. Notice that the lower stringer is left long at this point to be trimmed later, after the firewall is installed.

Let the micro and floc cure. Use your surform file to carve the foam insert down level with the stringers. Layup the 6-ply and additional 15-ply glass over the stringers and foam insert as shown. Knife trim flush, all around. The heavy 15-ply area absorbs main landing gear loads.



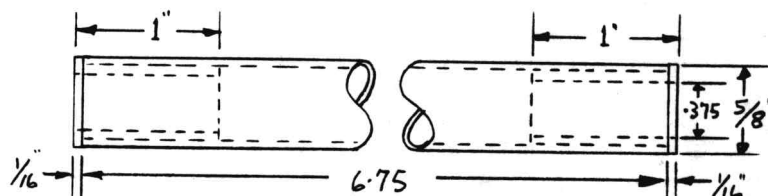
STEP 4 - Preparation for fuselage assembly.  
This preparation takes about an hour. Remove the foam and glass from the area where the center section spar passes through the fuselage sides.



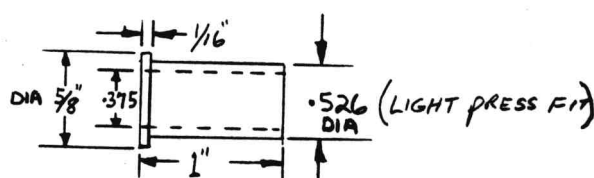
Fabricate the  $\frac{1}{4}$ " aluminum extrusions, referring to the Page 9-3 drawings and to A5. Be sure to make one left and one right set. Fabricate, or purchase from a distributor, the LMGA assembly. This is two LMGA bushings pressed into a 6.75" length of  $\frac{5}{8}$  x .049 4130 tube. Using the AN6-80A bolt, assemble the sets of 2 extrusions and LMGA tube as shown - this holds the extrusions in the exact relationship relative to each other.

Referring to drawing A5, position the assembly on the fuselage side and drill through the sides at the eight locations (per side) with a  $\frac{1}{4}$ " drill. Coat the extrusion faces with wet floc to bond. Install the 16 each AN4-16A bolts AN960-416 washers and MS21042-4 nuts to permanently mount the 4 extrusions. (see A5).

EXTRUSION FULL SIZE DRAWINGS ARE ON PAGE 9-3.



4130 STL TUBE  $\frac{5}{8}$  ODX .049W  
LMGA ASSY. 2 REQD -



4 REQD  
LMGAB BUSHING - ANY STEEL

