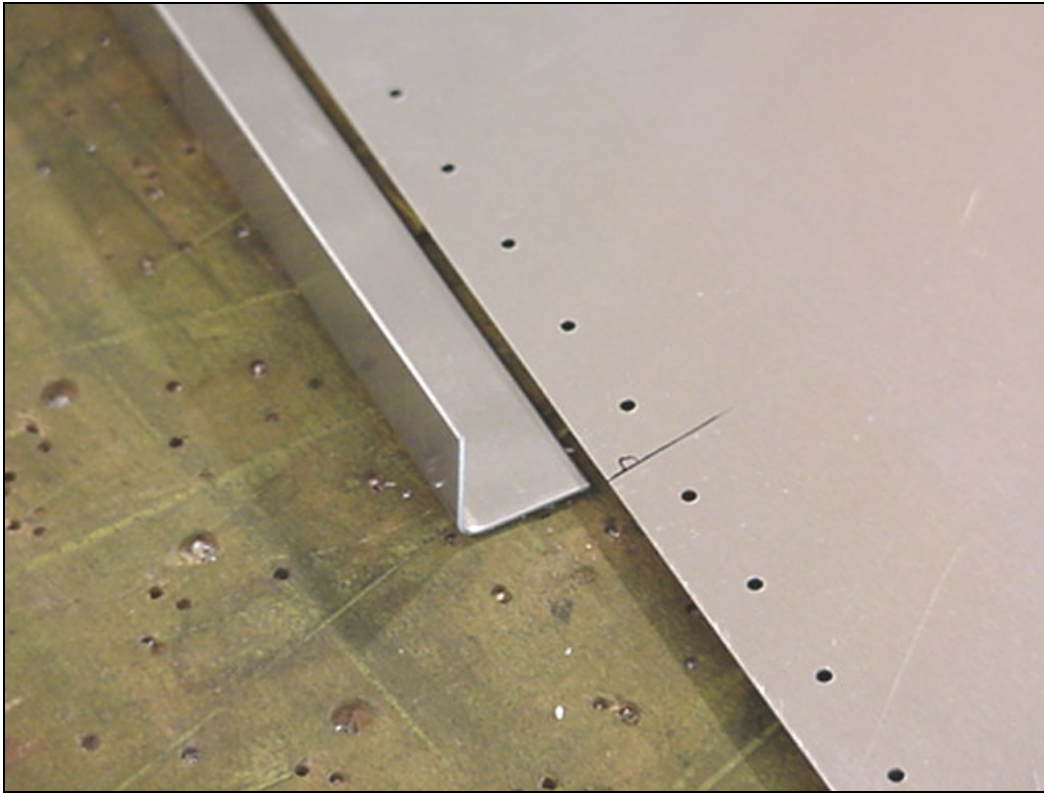


## Section 6-B-2 Rear Bottom Longerons Rear Fuselage Members

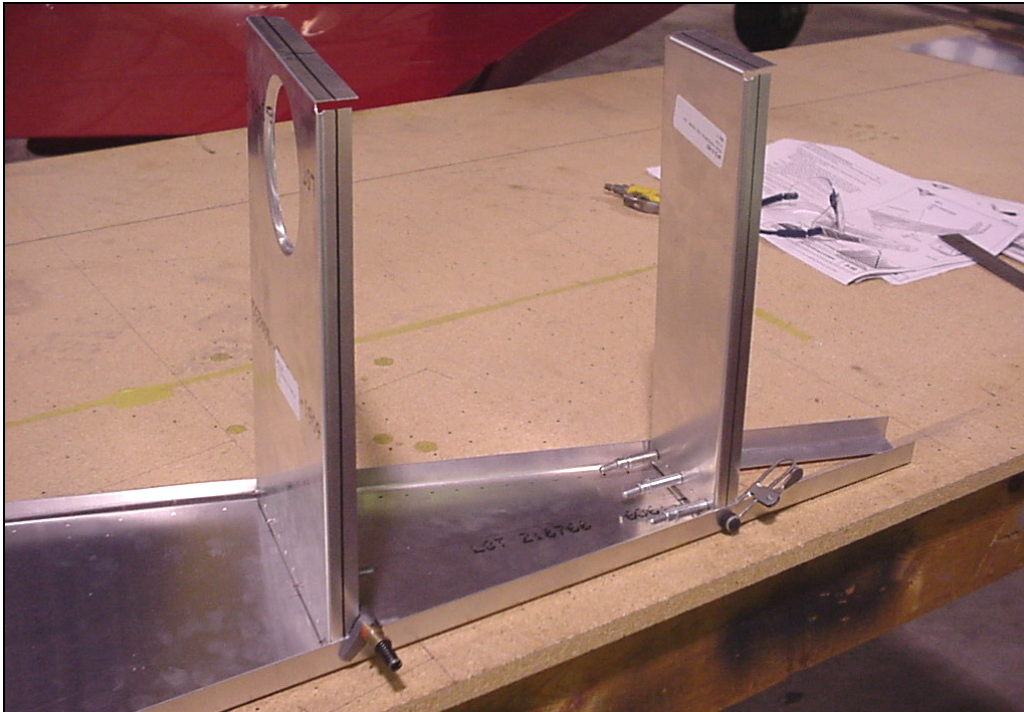


This manual has been prepared for assembly of the rear fuselage. This photo assembly manual is intended as a supplement to the drawings. If there is any discrepancy between this manual and the drawings, the drawings supersede this manual. For more information on building standards and allowable tolerances see "Construction Standards for Zenair Light Aircraft" available from Zenith Aircraft Co.



**P/N: 6B2-1**  
Rear Longeron

Line up the front of the longeron to the 1335mm reference line. Longeron 6B2-1 overlaps on top of the bottom skin 6B1-4.



Slide the bottom flange of the Longerons between the Bottom Skin and the Angles for the H.T. Frames. Clamp the H.T. Frames to the Longerons.



Rough cut the overhang of the Longerons past the end of the Bottom Skin. The cut-off is used to Shim underneath 6B2-2 (Shim 100mm). Slide the bottom skin to overhang past the edge of the workbench. Clamp the Longeron to the Skin.



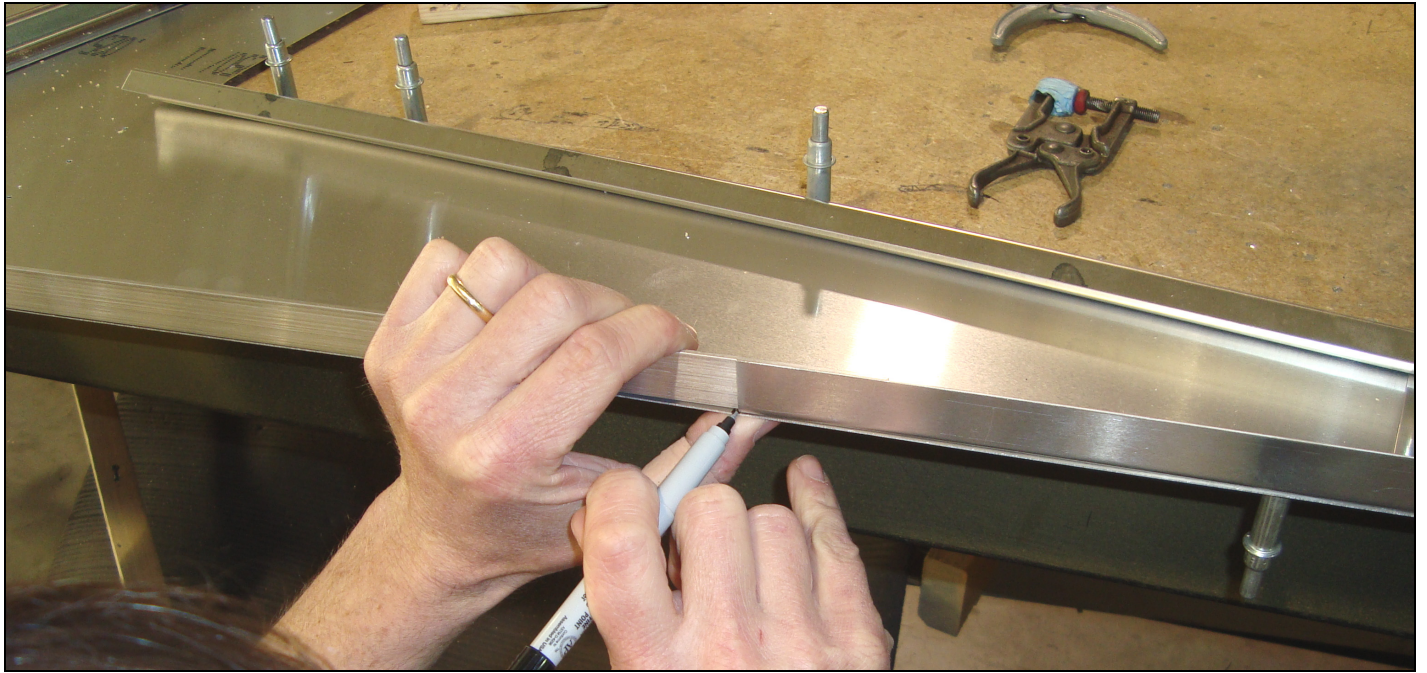
Back drill through the Bottom Skin into the Longeron between the H.T Frames with a #40 drill bit and Cleco.



**P/N: 6B2-3**  
Bottom Longeron



Clamp the Bottom Longeron to the Bottom Skin with the front of the Longeron flush with the front of the Bottom Skin.



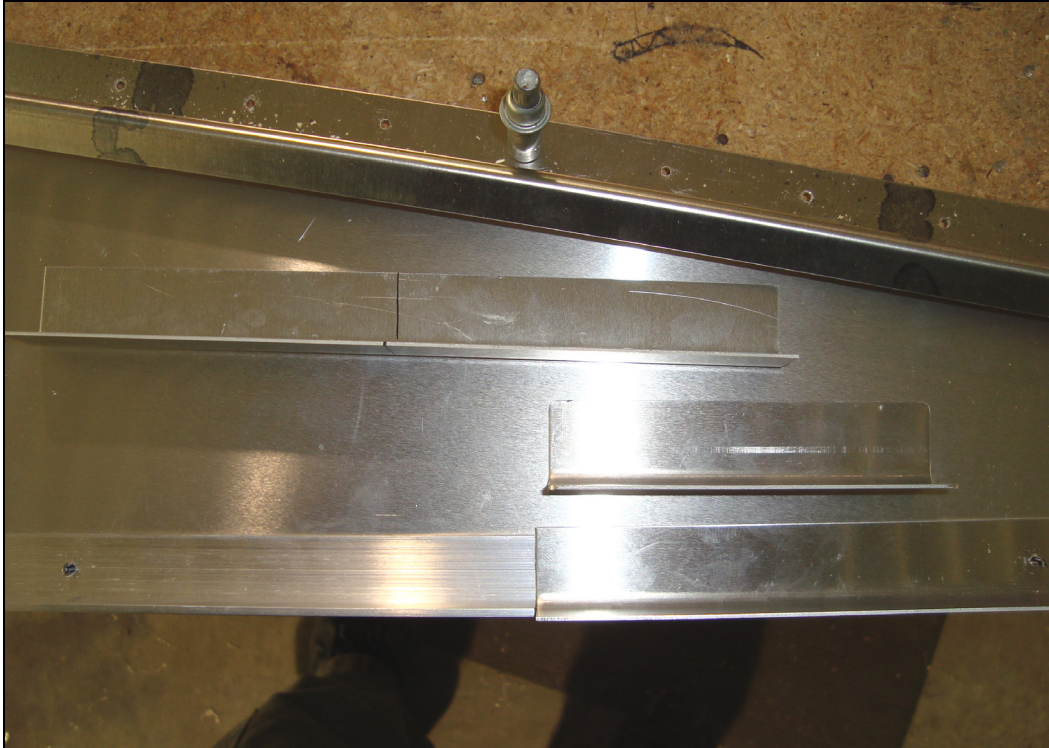
Mark the Bottom Longeron at the front edge of the Rear Longeron.



Transfer the line to the bottom flange of the Bottom Longeron; be sure the line is square to the edge. Use a hacksaw or band saw to cut the Bottom Longeron on the line.



Set the Bottom Longeron flush to the edge of the Bottom Skin and clamp it. With a #40 drill bit back drill and Cleco the Bottom Longeron to the Bottom Skin.



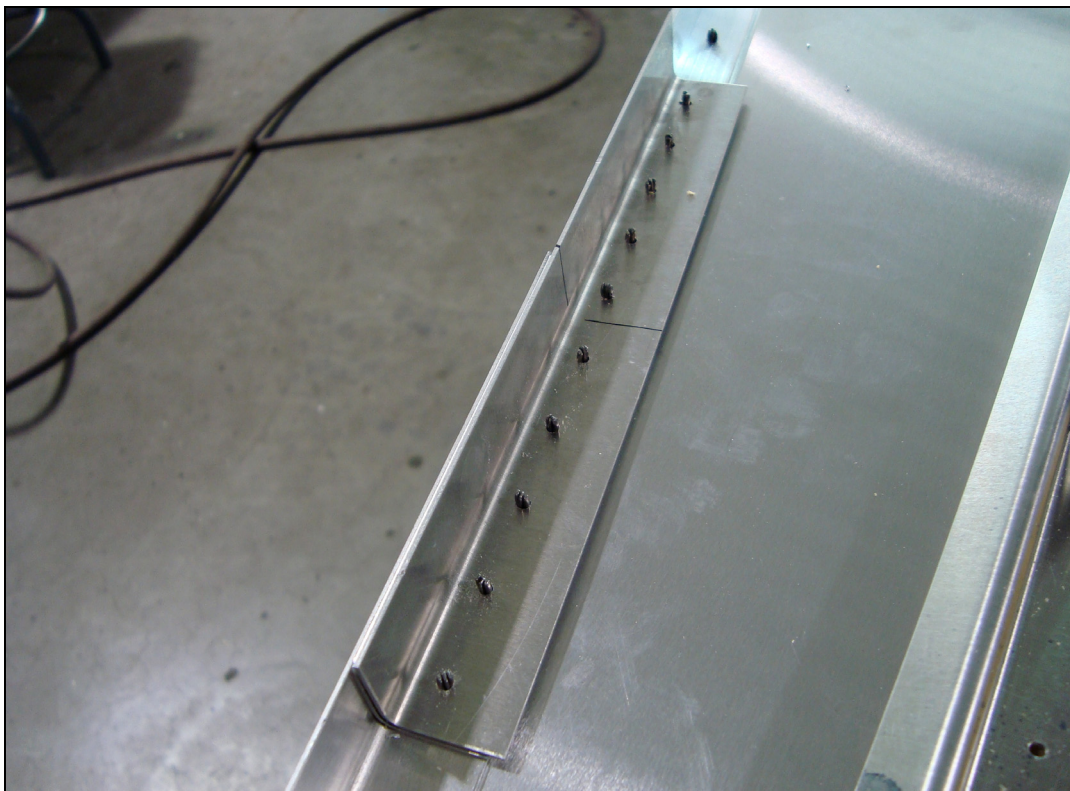
**P/N: 6B2-1**  
Longeron Shim

**P/N: 6B2-2**  
Longeron Doubler

Mark the Center of the Longeron Doubler. Position the Rear Longeron so the vertical flange is flush with the vertical flange of the Bottom Longeron.



Position the Shim on top of the Rear Longeron. Position the Longeron Doubler on the Longerons with the center mark at the splice and Clamp the Doubler to the Longerons and Bottom Skin.



Back drill through the Bottom Skin into the Longerons, Shim, and Doubler; then Cleco.



**P/N: 65B2-4**  
Lower Rudder Hinge

**P/N: 6B2-5**  
Longeron Shim

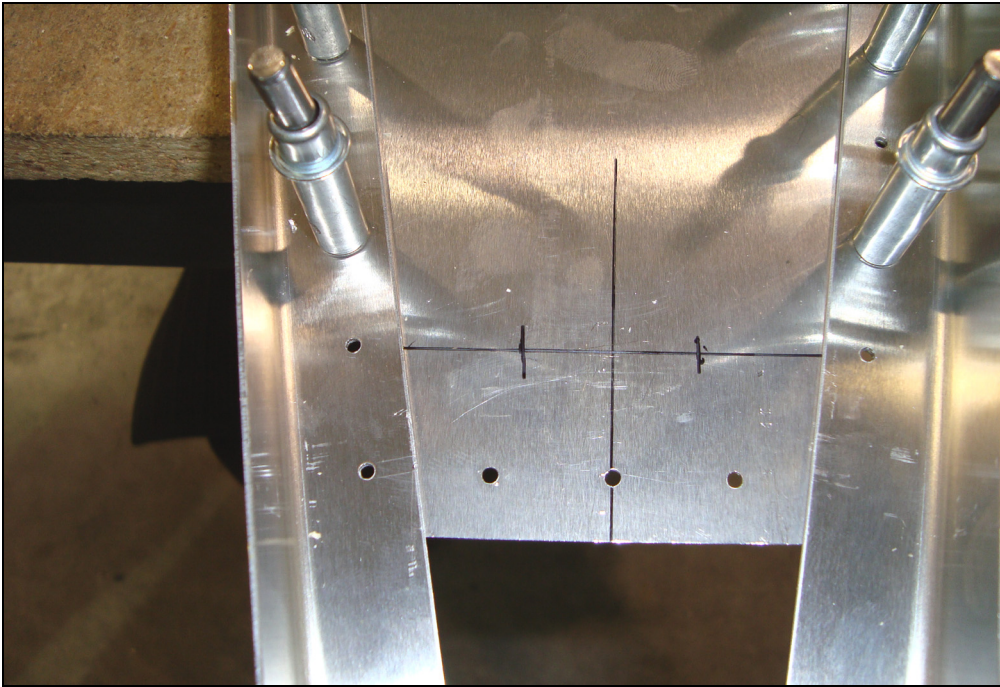
**P/N: 65B2-6**  
Lower Rudder Hinge

**P/N: 6B2-10**  
Hinge Shim



Mark the center line on the Rudder Hinges (top and bottom).





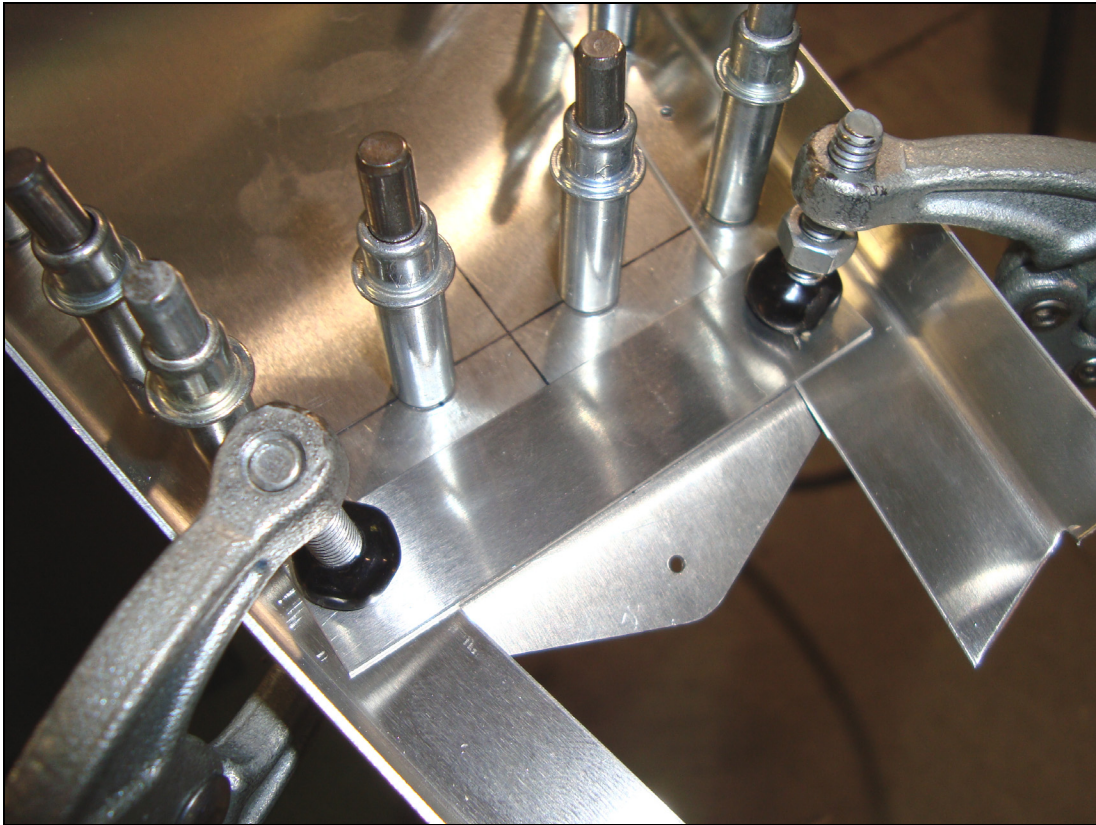
Mark the aircraft center line on the Bottom Skin at the rear (top and bottom sides). Draw a line connecting the second holes from the end of the Skin. Layout two rivet locations evenly spaced.



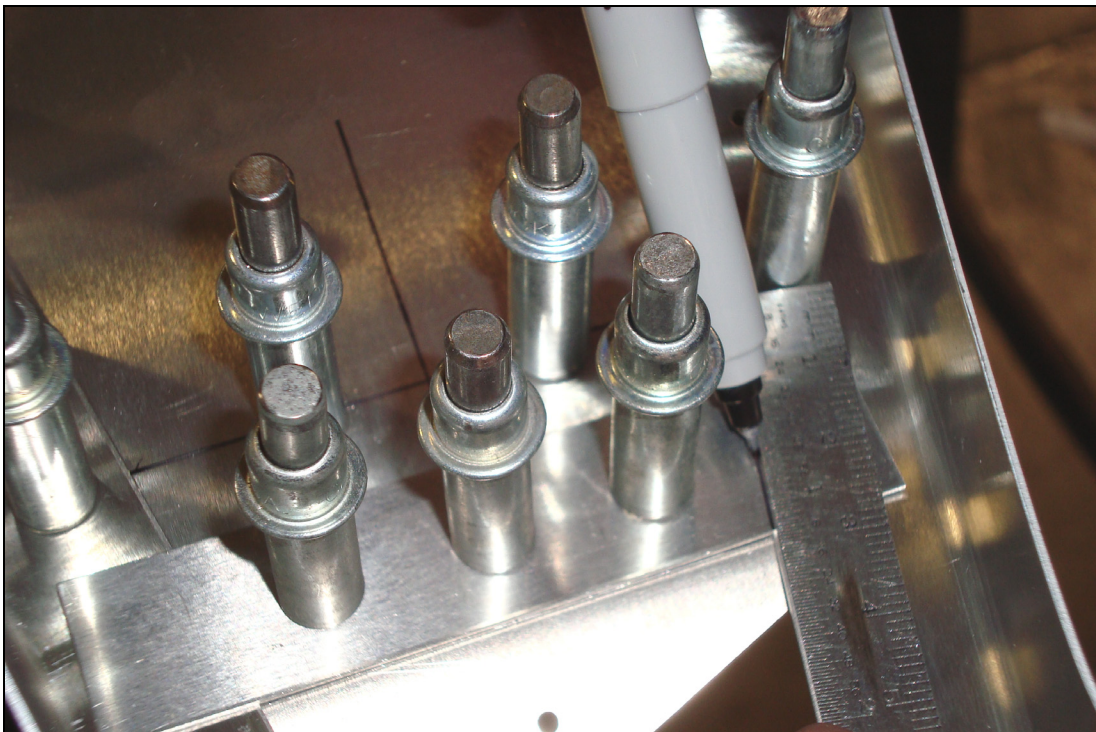
Position the Lower Rudder Hinge under the Bottom Skin. Align the aircraft center line on the Hinge with the aircraft center line on the Bottom Skin. The back edge of the Bottom Skin should set at the start of the bend radius.

**Check:** Be sure the Hinge is square by checking the aircraft center line on the top of the Bottom Skin aligns with the aircraft center line on the top of the Hinge.

Clamp the Hinge in place, back drill with a #40 drill bit and Cleco.



Clamp the Longeron Shim in place. The aft edge of the Longeron Shim should be flush with the aft edge of the Bottom Skin. Back drill and Cleco the Longeron Shim in place.



Mark the edge of the Longerons on the Longeron Shim. Remove the Shim and trim along the line on each side.



Clamp the Hinge Shim onto the Angle for the Rear H.T. Frame. With a #40 drill bit back drill through the Angle into the Hinge Shim.



Cleco the Angle back on the Bottom Skin with the Hinge Shim under it. Position the Rudder Hinge on top of the Angle and Clamp it in place. Be sure the Rudder Hinge center line is aligned with the aircraft center line. Back drill into the Rudder Hinge with a #40 drill bit and Cleco; then expand the holes to final size, **ref: 6-B-2.**



Make this block to produce the correct joggle in the stiffeners, hardwood works the best. Jogging stiffeners, 4mm step approximately 15mm long. The stiffeners that over lap the Bottom Longeron must be jogged.



Detail of joggled end.

Jogging L angles:

Place the stiffener in position on the block and give it a sharp blow with a rubber mallet approaching from slightly behind the radius.



Debur, corrosion protect, and rivet the bottom fuselage section.

**Note:** Do not bolt or rivet the Rudder Hinge until the Side Skins are installed. The Rudder Hinge must be removed to mark and trim the Longerons.