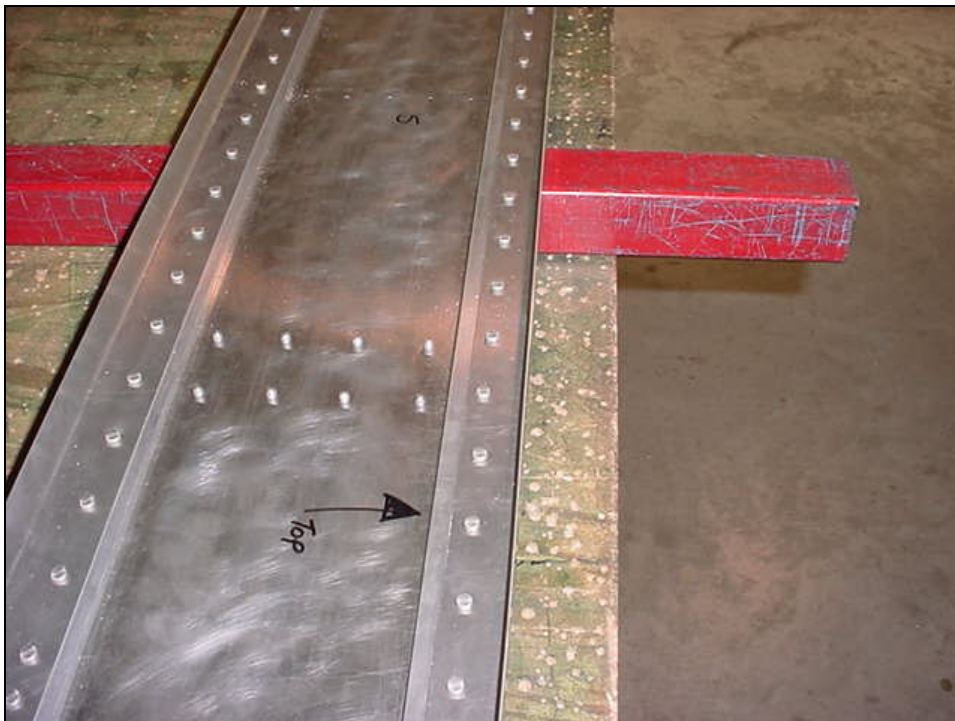




Steel beams (painted).  
Square 2"x2" length = 60"  
qty=6

Spar shown support on steel beam. When the rear ribs are clamped to the spar, the beams will keep the clamps off the workbench. Beams are also used to center the nose ribs on the spar.

ORIENTATION: Lay the spar on beam with the aft side pointing up.



MARK: Identify the top side of the spar, and mark an arrow TOP (top spar cap angle 6W3-6 has the flange bend 90 degrees).

To make it easier to install the rear ribs, keep spar close to the edge of the workbench.



Layout: draw line on web through the pre-drill pilot holes for the rear ribs.

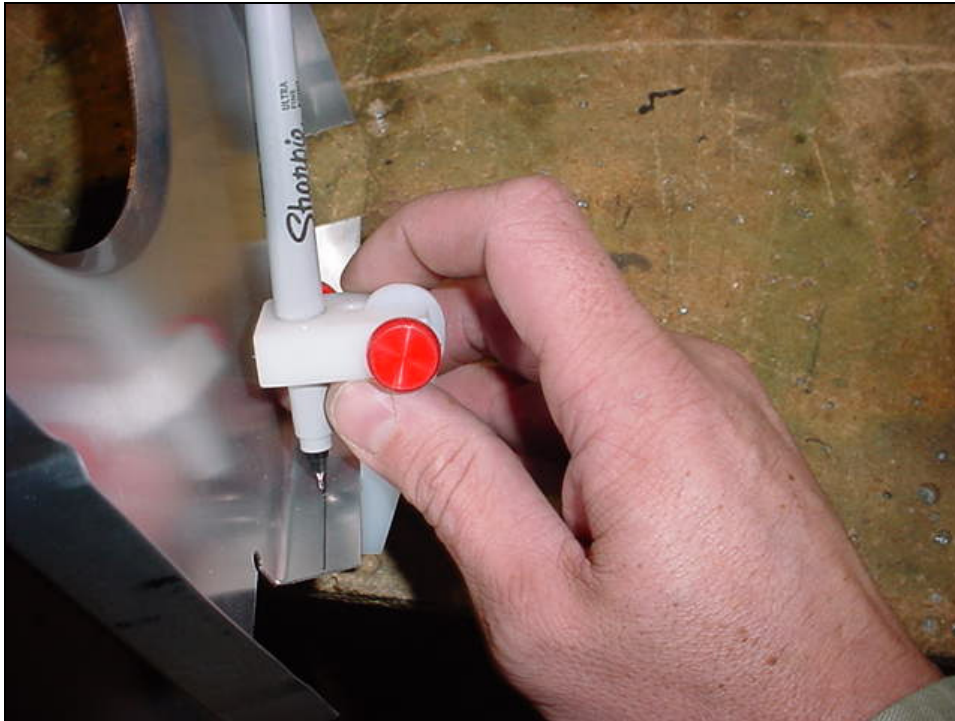


DEFINITION:  
Spar web = 6W3-1 Flat portion between the upper and lower spar angles.



Detail of line; continuation of line through pilot holes to the edge of spar cap.





Edge marker block  
(adjustable)  
P/N 6352

[WWW.AVERYTOOLS.COM](http://WWW.AVERYTOOLS.COM)

Mark the rivet line 10mm from rib web (check edge distance = approximately 10mm)



DEFINITION:  
Spar flange = flange on rib  
that overlap the spar web.

Rivet line on back side of spar flange.



Ribs are supplied with joggled flanges top and bottom for overlap with spar angles.

First do a trial fit of rib on spar. If necessary touch up the joggle in the top and bottom flange with plastic hammer and a joggling block.



Joggling block: 3mm step by 25mm long



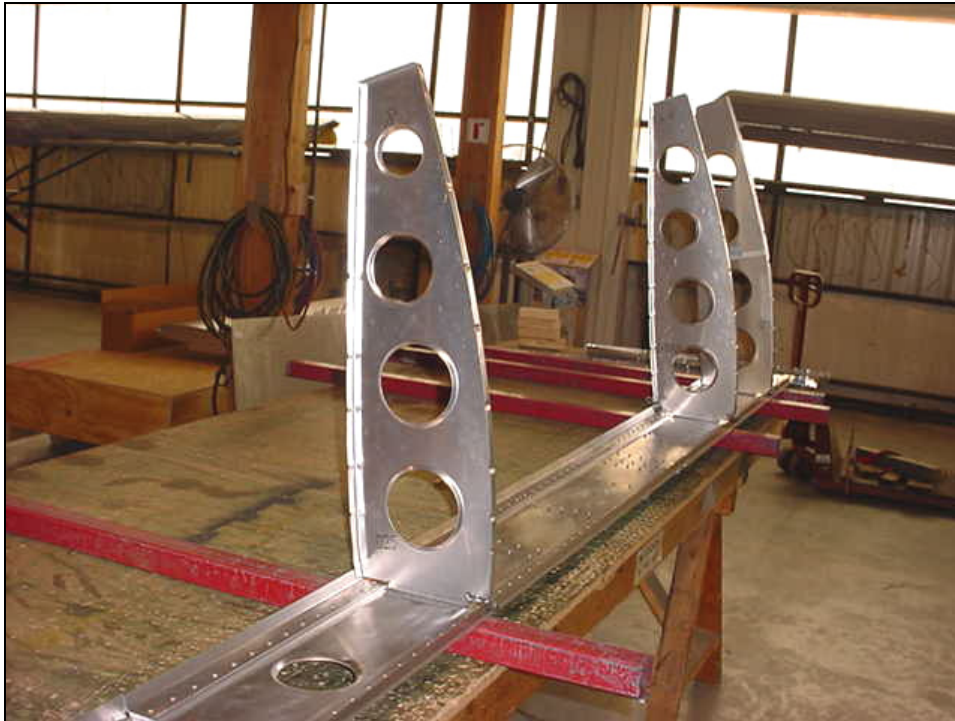
Top and bottom flange are joggled, check depth of joggle.



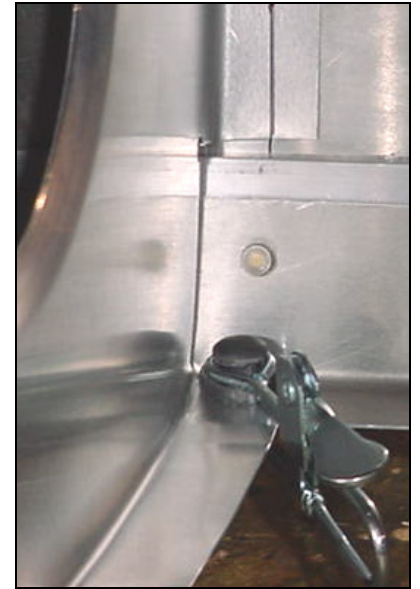
CHECK the depth of the cutout. If the rib has to be pushed against the spar for the spar web to touch the web then the rib flange may be too long: Check that the front edges of the top and bottom flange of the Rear Ribs do not interfere with the bend radius of the Spar Angle. Instead of making a deeper cutout, roll down the front edge of the rib flange: place a 2x4" board on the inside of the rib, and with plastic hammer, gently hammer the front edge of the rib flange to bend it in.

The Rear Ribs are supplied with the cutout for the Spar Caps.

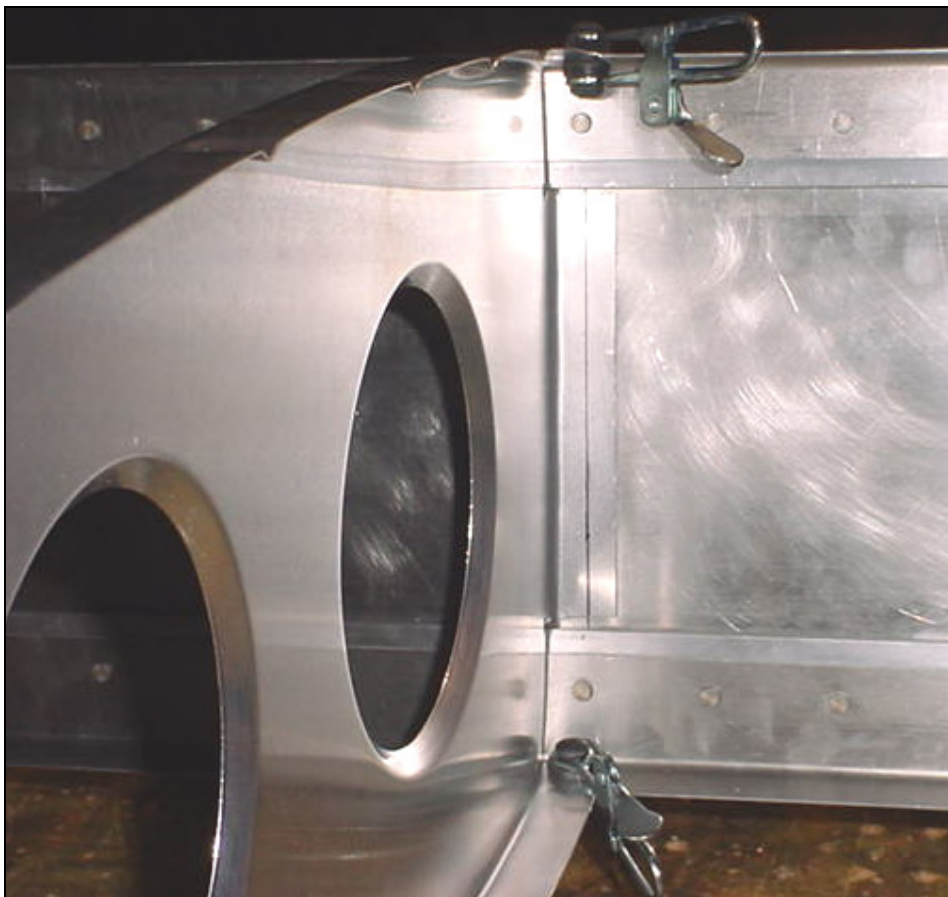




Clamp 3 ribs to the spar.



Line up the rivet line on the spar flange with the rivet lines on the spar web.



Clamp top and bottom flanges.



check the side of the rib is square.

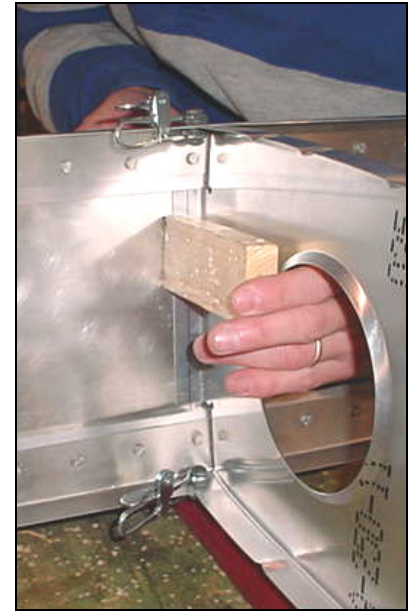


Rotate the spar upright on the beams. The beams hold the clamps off the workbench.



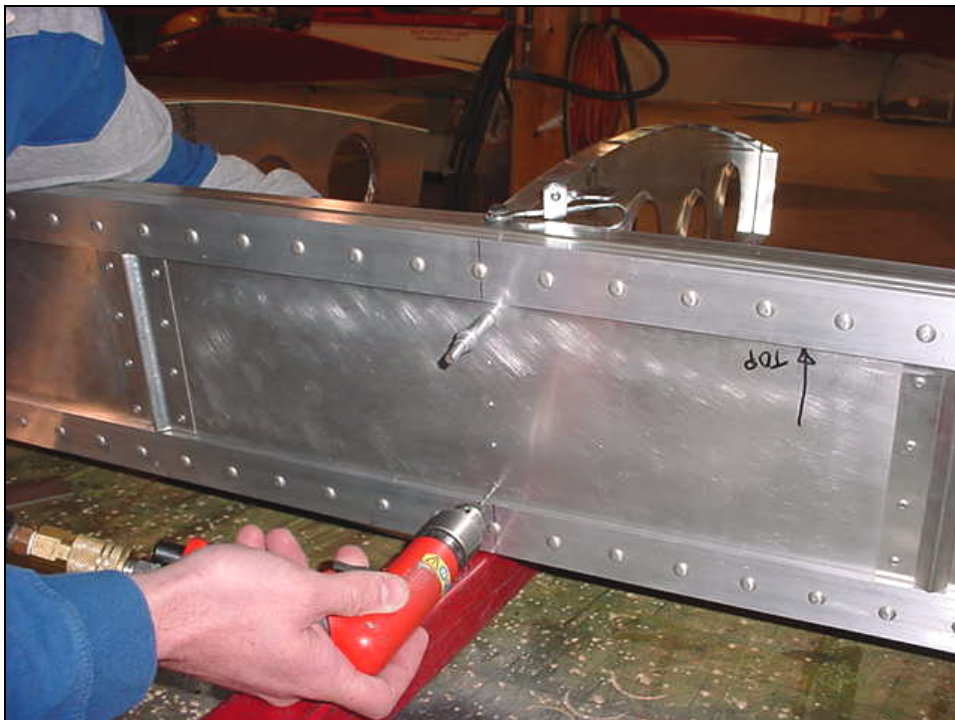
The aft end of the ribs rest on the workbench.





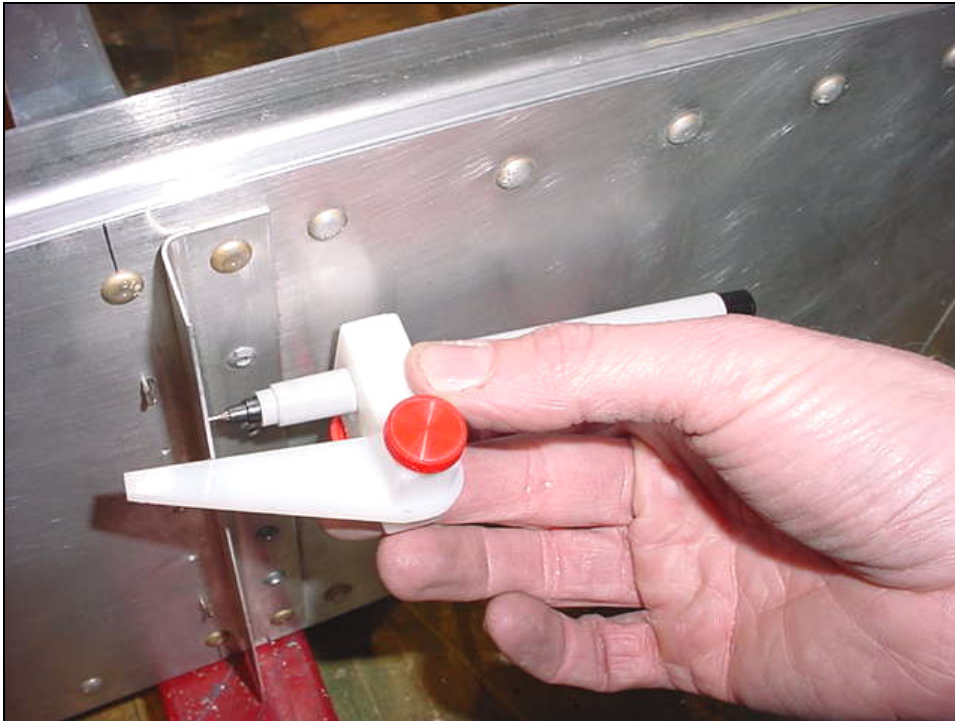
Backing block on the spar flange.

Apply press on the backing block to keep the rib flange from moving while drilling: Before drilling, check the rivets lines on the rib and spar web are in line.



All the rear ribs are square to the top flange of the spar.

Finishing installing the rear ribs to the spar web. Nose ribs are installed next.



Layout the rivet line on the nose rib angles 6W3-9



Layout the rivet pitch.



**IMPORTANT: PROTECT THE SPAR FROM THE DRILL CHUCK.** Hold a piece of .025" or thicker material on the web

Pre-drill with #40 pilot holes  
Ref. drawing 6-W-7:

- 5 holes in the short rib angles for NR 1 to 3
- 6 holes in long rig angles for NR 5 to 7





Getting the spar ready to install the nose ribs.

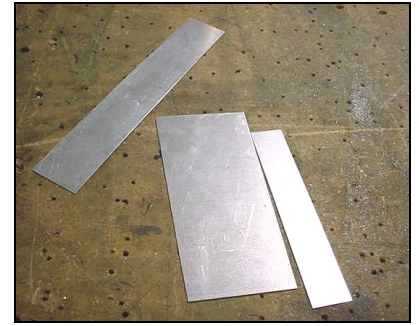
Remove the clamps and position the steel beam underneath the ribs.



Slide a 2x4 board between the steel beam and the bottom of the rib.

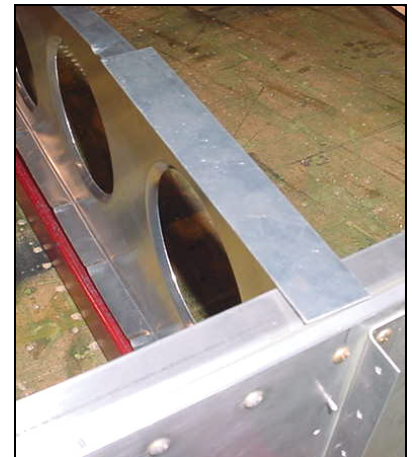
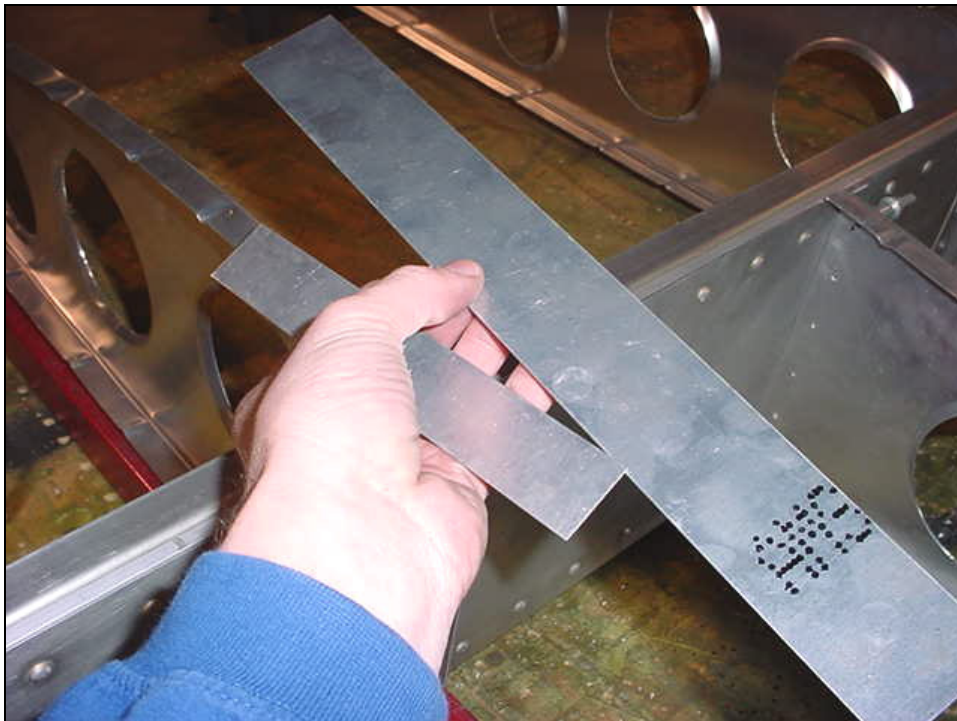


**CHECK:** Push down on the spar, check that bottom flange of the spar is resting evenly on the beam. Adjust the location of the 2x4 to keep the flange parallel with the beam.



Flat pieces of .025" material and strip.

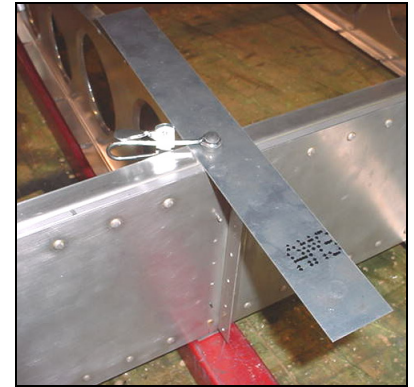
Slide a piece of .025" material between the beam and the bottom flange of the spar angle. The .025" represents the rear bottom skin 6W8-2



.025" strip top flange of cap angle 6W3-8

Also add a .025" piece on the top flange of the spar (to represent the rear top skin 6W8-3)



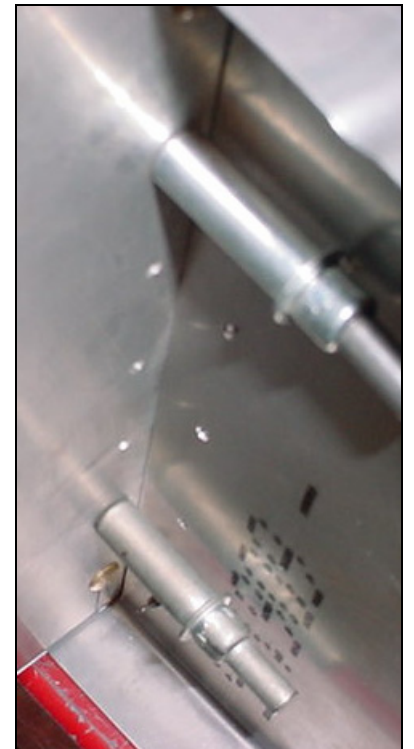


Clamp a strip to spar on top of the .025" material.

Position a nose rib and clamp the top flange of the rib to the strip.



Check alignment, the height of the nose rib fits between the steel beam and the strip.

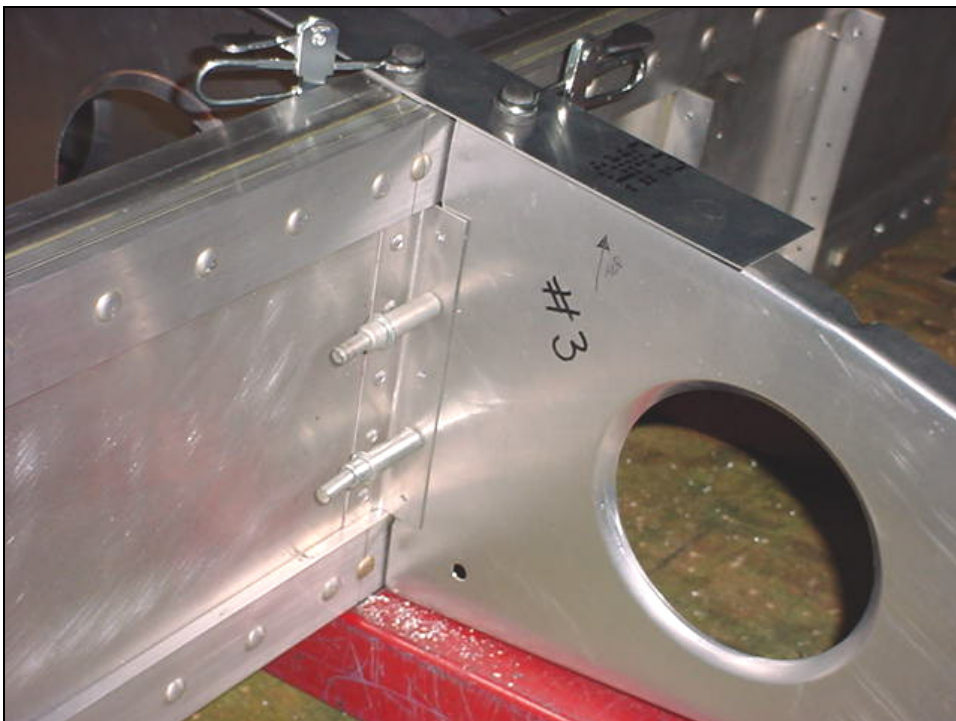


Aft edge of the nose rib is against the spar web from top to bottom.



**IMPORTANT:** Protect the spar web from the drill chuck.

Check the back of the rib is flush with the spar.



Drill and Cleco NR #1 to NR #6 to the long and short nose rib angles  
6W3-9