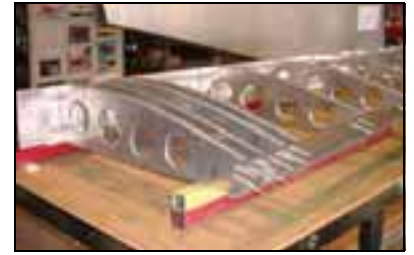




Position the main spar parallel to the edge of the workbench.
Raise the wing skeleton on steel beams or spacers.



Check: Sight down the rear channel 6W7-1 and the spar, check that they are straight. The aft edge of the channel is the reference to position the Rear skins.



Level the top of the main spar.



If necessary, add spacers between the workbench and the beam to level the spar.



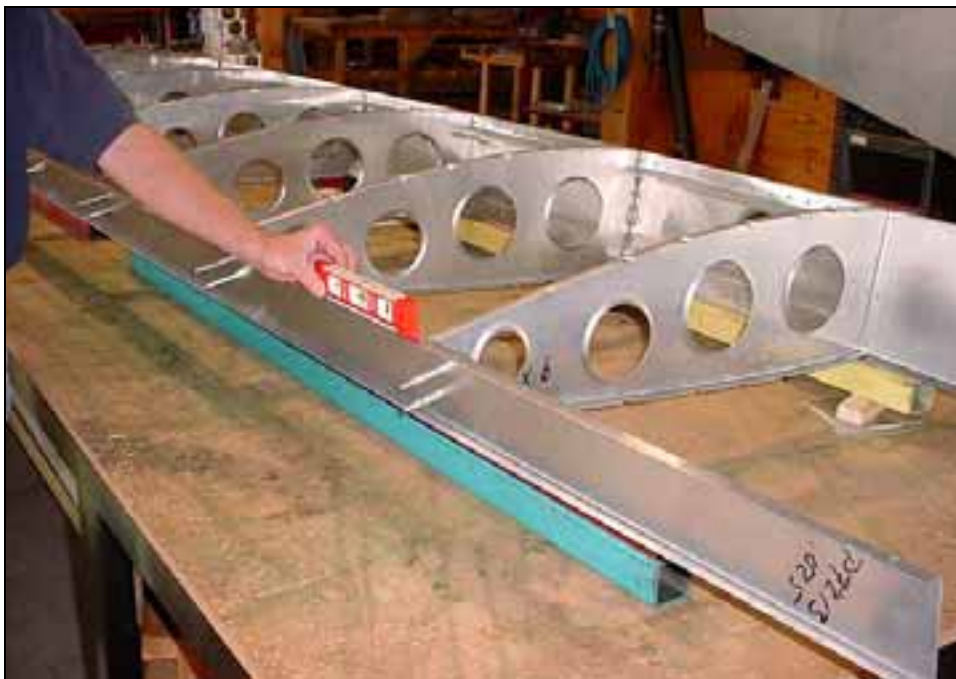
Span-wise = length-wise.



Use plywood template shown on drawing 6-B-14. Also refer to photo assembly section 6-B-11A.

Set the spar at 9 degrees (ref. top middle diagram on drawing 6-W-6).

IMPORTANT: The rear channel is only level when the spar is at 9 degrees.



Check that the rear channel is level.

NOTE: The beams are necessary to raise the skeleton off the workbench; notice how the bottom of the ribs hangs down below the bottom of the spar.

Position the beam (support block) underneath the rear channel to keep the main spar level and at 9 degrees.



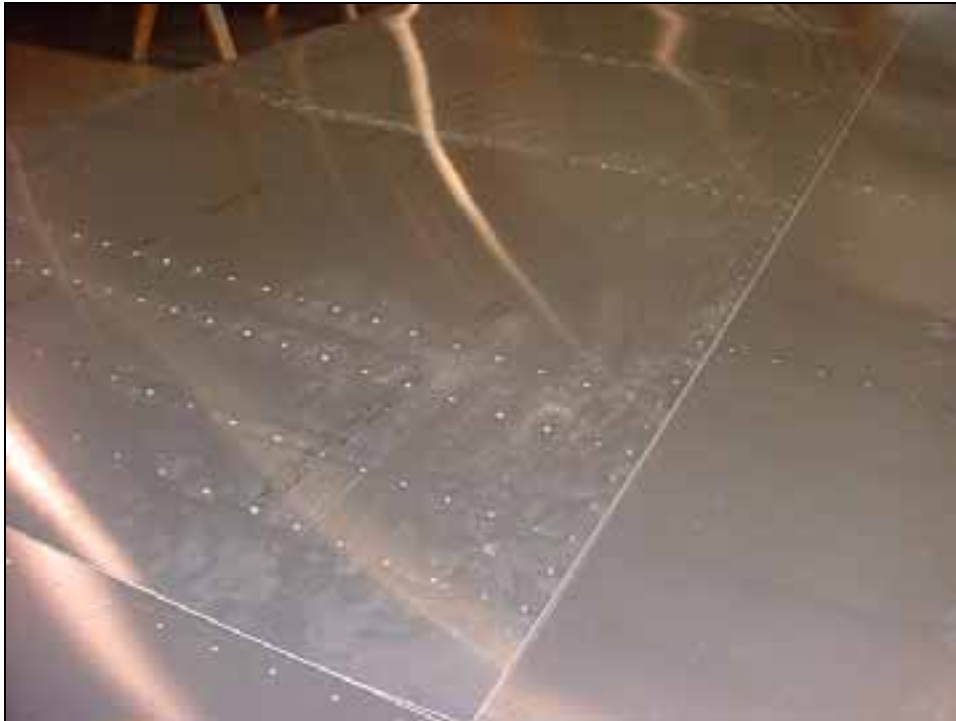
Mark the rib station along the top of the spar.

Use an adjustable square to mark a line along the top of the spar in line with the solid rivets in the main spar.



Mark the ribs station on the aft edge of the flange.

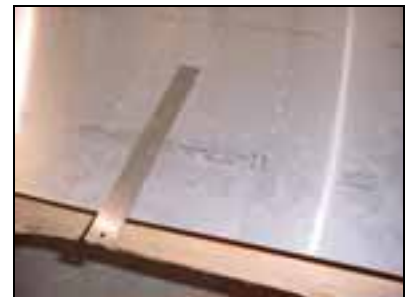
Layout the ribs stations along the aft edge of the top flange of the rear channel 6W7-1. Hook the end of the tape measure on the I/B end of the channel and layout the rib stations as shown on the middle diagram on drawing 6-W-7.



Orientation: the pre-drilled holes are along the aft edge of the rear top skin 6W8-3.



Mark the rib stations along the edge of the skin: use a straight edge to extend the center of the holes to the edge of the skin.



Also mark the rib stations along the front edge of the skin. Use a straight edge to extend the pre-drilled line to the edge of the skin.



Position the skin on the wing skeleton.



Clamp the aft edge of the skin flush with the aft edge of the Channel.

Reference: Aft edge of the skin.

Line up the ribs station line marked on the top skin 6W8-3 with the rib stations lines marked along the aft edge rear channel 6W7-1.



Use pieces of duct tape along the front edge of the skin to help hold the alignment.

Adjust the skin and skeleton to line up the rib station line on the skin in line with the marks along the top of the spar (rib stations).



Start drilling along the aft edge into the top flange of the Rear Channel.



Rear Top Skin
6W8-3

#40 pilot holes
(For 3/32" Clecos)

Drill and Cleco when the rib flange centerline is visible through the pre-drilled holes in the Skin. Start at the back towards the front. Adjust the position of the ribs as necessary until the flange centerlines are visible through the pre-drilled holes in the skin.



TACK RIVETS: they help keep the spar straight with the edge of the skin; they will also keep the ribs square as the wing is turned up side down to install the rear skin.

Duct tape the front edge of the skin to the spar or use tack rivets.

Add tack rivets along the front edge into the Top Angle, these holes are offset 60mm outboard of the Rib centerline at stations 4, 6, 8. The tack rivets are countersunk to allow for the overlap of the nose skin on top of the rear skin: countersink the #30 holes in the skin with a large drill bit (1/4" to 1/2") nothing is done to the Spar. The tack rivet is a standard A4 Avex blind rivet installed with a FLAT nosepiece on the riveter. Note: they will have to be drilled out and reinstalled when to skin is deburred.



The tack rivets keep the wing skeleton from shifting as the wing is turned over.

Turn the wing assembly on its side.



If necessary add shims between the workbench and the steel beam or spacer.

Level the top of the spar.



Check that there is no twist in the spar.

Set the spar at 9 degrees.



Check that the rear spar is level.

When the main spar is level and at 9 degrees, the rear spar is level.



Layout & mark the rib stations along the aft edge of the of the rear channel, Ref 6-W-7



Note: the ribs stations shown on drawing 6-W-3 does not always correspond to the center line of the rib flange. Refer to drawing for the flange orientations.

Use an adjustable square to mark the rib stations along the top of the spar. Position the ruler over the solid rivets in the spar.



REAR BOTTOM SKIN
6W8-2

Position the skin on the wing skeleton.



Also extend the rib rivet line to the front edge of the skin.

Mark the rib rivet line along the aft edge of the skin. Use a straight edge along the pre-drilled holes to extend the line to the edge of the skin.



Use pieces of duct tape to hold the skin flush with the edge of the flange (channel)

Check: marks along the front edge of the skin line up with the marks on the spar.

Reference. Line up the aft edge of the skin even with the aft edge of the flange of the rear channel. Adjust the position of the skin for the rib rivet line on the skin to line up with the rib station marks along the aft edge of the rear channel.



First drill through the rear channel. Drill from the back moving forwards.



Wait to trim the wing top. For now let the skin overhang the end of the spar.