



(LE = leading edge)

Mark the front of the nose ribs.

Note: the nose ribs have a flap bottom. Draw a line on the nose rib at the point where a square touches the front of the rib.



TIP: Position the wing assembly on the workbench with the front of the nose ribs over the edge of the workbench.

Cleco the Nose Ribs to Spar.

Rivet the Ribs (The wing tanks 6K1-1 will fit between NR#3 & NR#4)



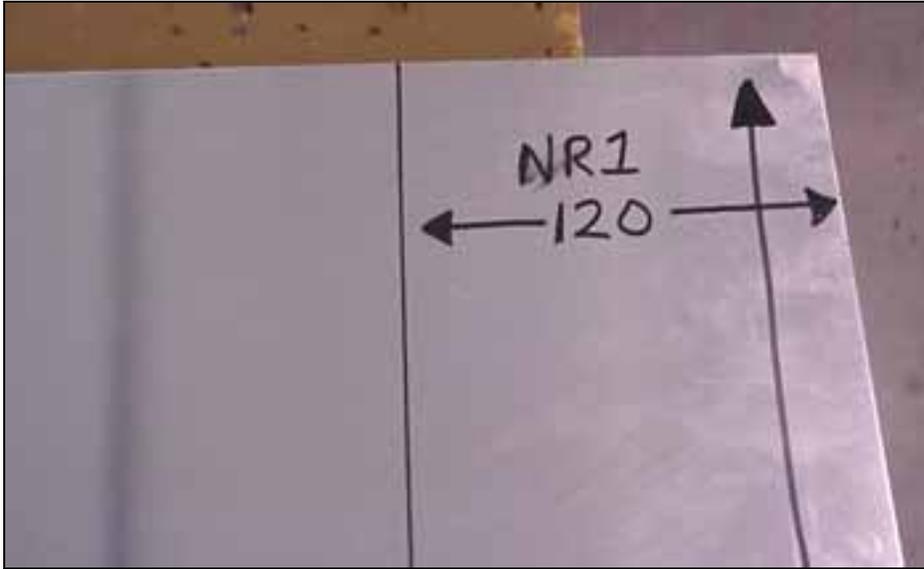
Leading Edge Skin
6W8-1

Use a solvent (lacquer thinner) to remove the grease on the Leading Edge Skin. With a marker, layout the centerline of the bend radius on the outside of the skin.



Clearly label the top and bottom side of the LE skin.

The bottom side of the leading edge skin is longer than the top side, approximately 411 from bottom aft edge to the bend along center line (407 on the top edge) measured on the outside of the skin.



Ref. = NR #1

NR #1 = 120mm from the I/B end of the Leading Edge skin. See left middle diagram on drawing 6-W-8

Layout the ribs stations on the Leading Edge Skin from NR#1. The rivet lines are square to the aft edge of the skin.



Photo to shown the root end of the spar.

Tape (duct tape) the top edge of the Leading Edge skin on top of the Rear Skin. The aft edge of the skin is even with the aft edge of the Spar Angle 6W3-7

SUGGESTION: before positioning the skin, mark the aft edge of the Spar Angle 6W3-7 on the Rear skin.

SPAN-WISE ALIGNMENT: Line up the rivet lines for the nose ribs in line with the rear ribs.

Fore & Aft Alignment: The aft edge of the skin overlaps the Spar Angle 6W3-7.

CHECK: approximately 70mm between the I/B edge of the skin and the root end of the Spar.



The topside of the LE skin overhangs the workbench.



Layout: Mark the span-wise rivet line 10mm from the aft edge of the Bottom Spar Cap Angle 6W3-7. Divide the distance between the intersections A5 pitch 40. 3 rivets pitch 20 on each side of rib #9. Layout the rivet pitch through the nose rib.

SUGGESTION: Layout one rib, then use a template to duplicate the rivet pitch in the other ribs.

Start in the middle of the spar, drill & Cleco every 4th hole, alternating between I/B and O/B. Drill the first hole in each rib, then the second, etc.

CHECK: The bend centerline of the leading edge lines up with the front of the Nose Ribs.

Also check that when the top side of the skin will be strapped down over the top side of the nose rib that the aft edge of the skin will overlap to the aft edge of the Spar Angle 6W3-6.

The rivet line for the nose ribs are in line with the rear ribs.

NOTE: there are no nose ribs across from Rear Rib 5 and 7.

NOTE: the width of the nose rib flange tapers to a small 4mm flange at the front, the first hole is at 30mm from the spar rivet line, the last hole is approximately 315mm from the spar rivet line. Total 8 holes in the top flange of the Nose Rib.

CHECK: The layouts for the rivets in the nose rib flange are not on top of a crimp.



Finish drilling the holes in-between the Clecos.

Remove the Nose Skin, drill out the tack rivets to lift off the Rear Skin. Deburr all the holes. To deburr with a file, lay a flat file on top of the holes and slide the file forward – it may be necessary to try different size files to find what is best suited for the job. Apply corrosion protection on the overlapping surfaces. TRIM: if necessary, trim the aft edge of the LE skin for a 10mm edge distance to the rivet line.



Primer applied over the rivet line (inside surface only).

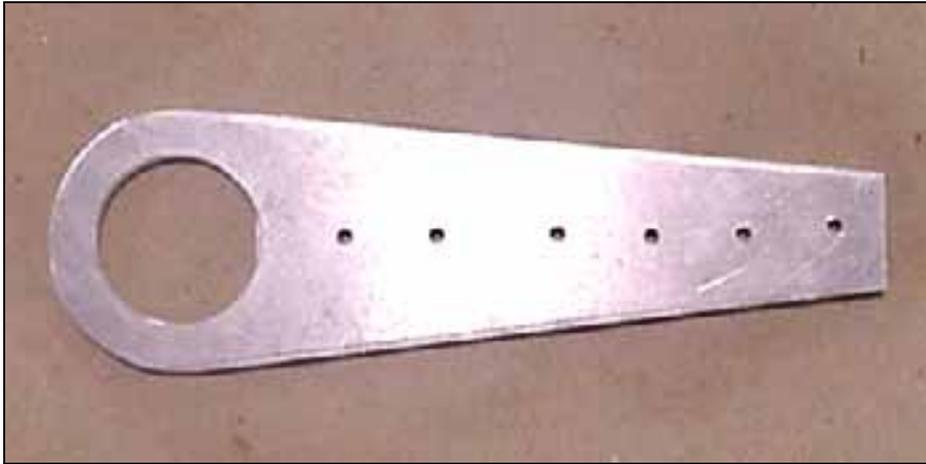
Remove and deburr the rear skin.



Cleco the rear top skin to the wing skeleton.
Re-install the tack rivet to fill the hole; do not leave any empty holes.

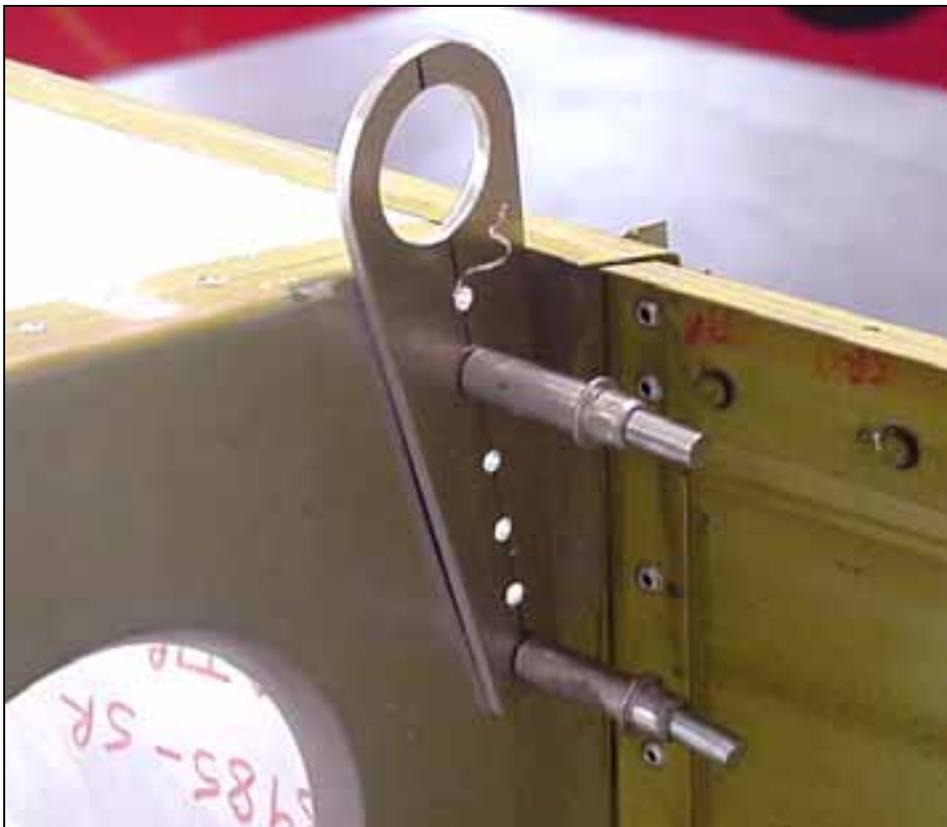


A4 in nose ribs
A5 in spar Angle
A5 in rear Ribs



TIE DOWN RING 6W9-1

Drill and Cleco the Tie down Ring 6W9-1 to the side of RR#9, against the spar at the bottom and 30mm (between spar and the center of the rivet line) at the top.



Installed on RR#9

Note: the rivet line is not parallel to the front edge of the rib.

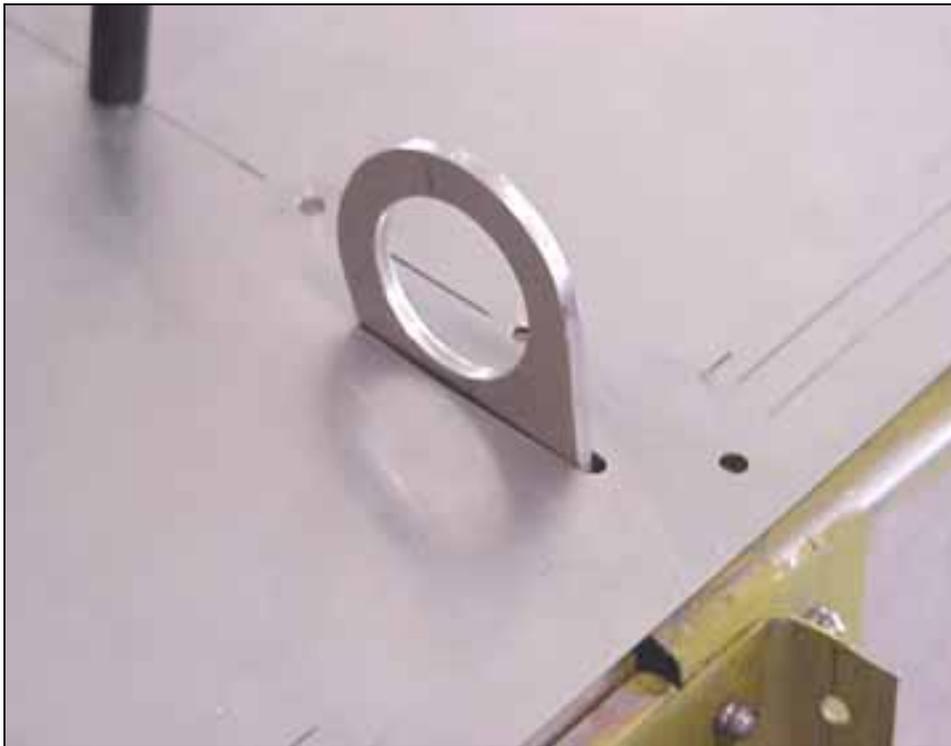
The bottom of the tie down ring is behind the bottom spar cap angle 6W3-7. The top of the tie down ring is 30mm from the spar.



Cutout in rear bottom skin.

TIP: First drill the two end holes, then use a round file to “saw” between the two hole. Alternative method is to drill a series of holes and to use a file to join the hole.

File-cut a slot in the Skin for the tie down ring on the I/B side of the rivet line.



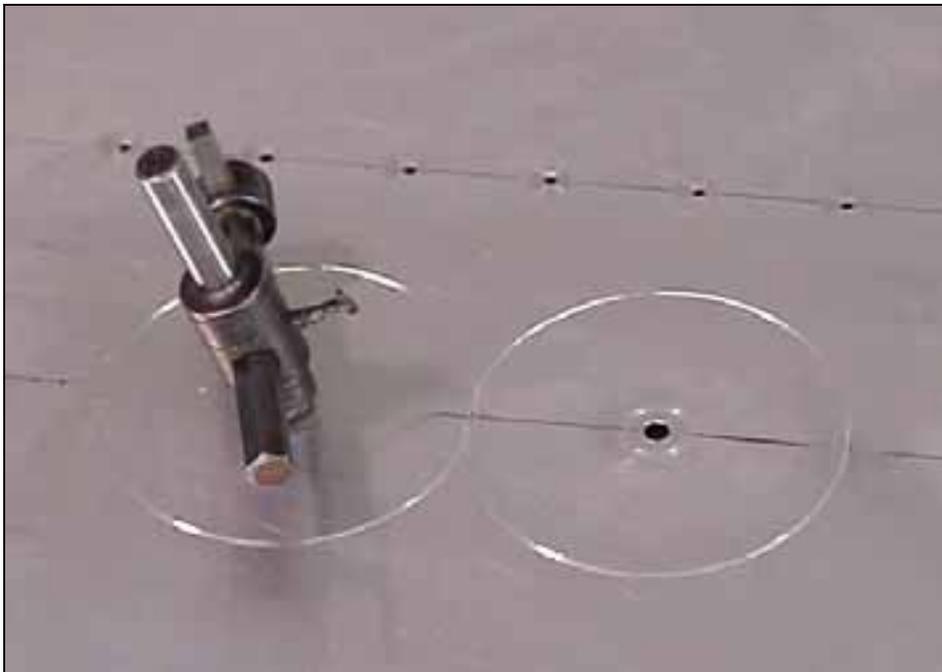
Check the alignment of the tie down ring through the cutout.

Remove the tie down ring from the wing assembly (it would be in the way when the wing is turned right side up!); it is riveted from the topside after the topside of the LE skin is drilled.



Access hole for the aileron bellcrank is on the O/B side of RR#7

Layout the centers of the 140mm diameter holes for the access hole.

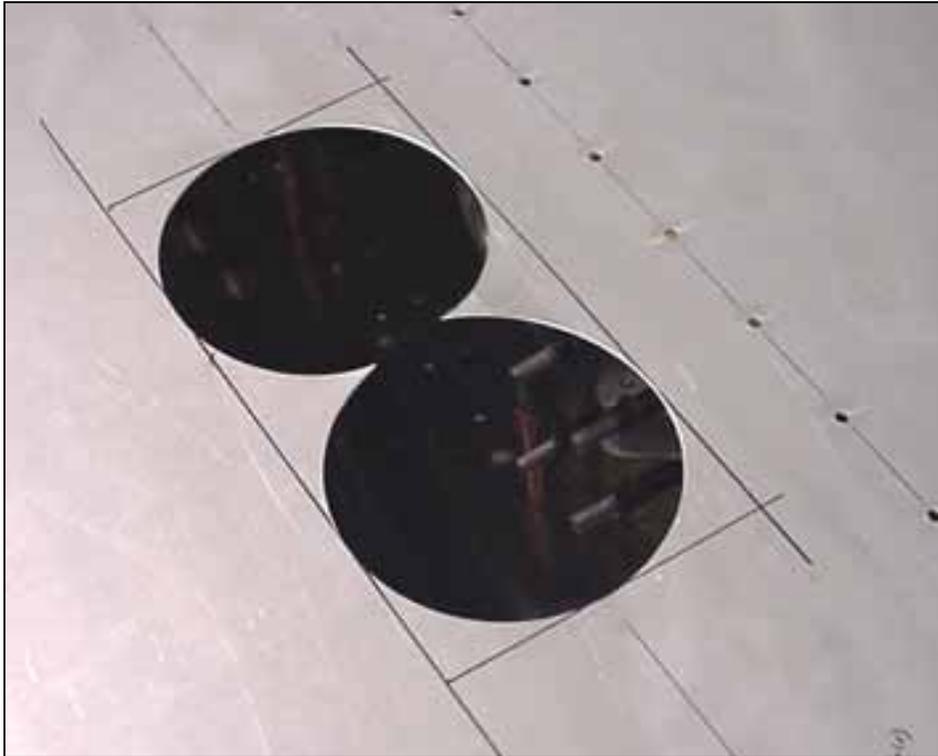


Fly cutter

U.S. Industrial Tool & Supply
P/N TP461

www.ustool.com

TIP: turn a fly cutter by hand to cut the holes, alternate between the two holes, turn the skin over and finish from the other side. Electric drill (cordless) can also be used, turn slowly.



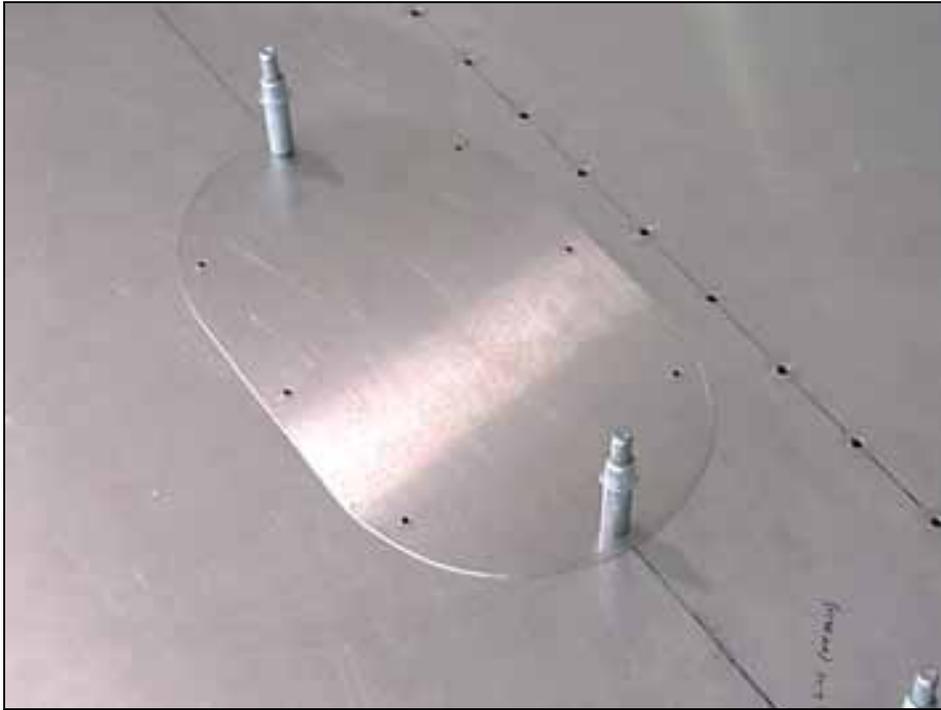
The two holes.

Trim along the tangent lines joining the two holes.



Aileron bellcrank access hole
in rear bottom skin.

File the edges smooth.



Aileron access cover 6W9-3

Position the access cover on the rear skin. Drill and Cleco with #40 holes.

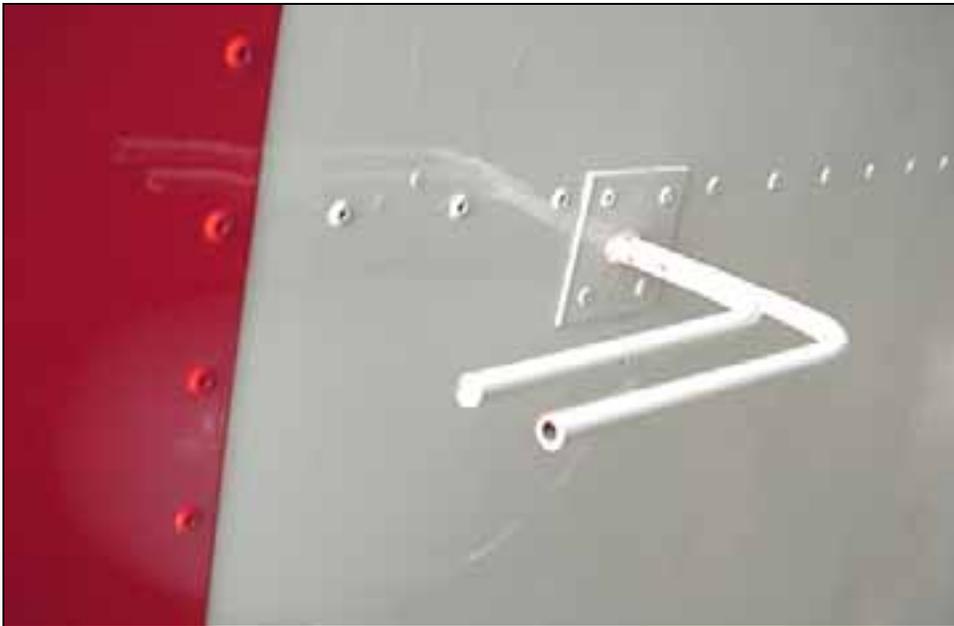


See section 10 for installation of nutplates on the access cover.

Also layout and cut the access hole for the tank end access cover 6K1-2



LEFT WING ONLY: Locate the Pitot tube O/B of RR#5. Drill a 1/2" hole in the skin; elongated the hole with a file to insert the pitot/static tube 6W9-2 in the wing (do not damage the rib).



Drill 4 holes #30. After drilling, remove the pitot tube from the wing (to keep it out of the way!).



1st. Cleco the Rear Bottom Skin to the skeleton: Cleco every third hole.

2nd. Re-install the flush tack rivets previously drilled through the Bottom Spar Cap Angle 6W3-2 (use a flat nose piece on the riveter, if necessary file the top of the rivet to made it flush with the skin). Fill every hole with a rivet; do not leave any "empty" hole.

3rd. Cleco the Leading Edge Skin to overlap on top of the rear skin.

4th Wait to rivet the flaps in place until after the wing is bolted to the fuselage. Cleco every hole as a reminder not to rivet this area. Also, plan for a no rivet zone at the 2 rivets for the Aileron Stop 6W10-2 150mm outboard of RR#7 (see bottom diagram on drawing 6-W-10)

5th. Wait to rivet NR #4.

6th. Rivet the bottom side of the wing: A5 in rear skin, A4 in nose ribs.

REMINDER: Remove the Clecos that were set from inside the wing into the Top Rear Skin before closing the bottom of the wing.



Drill the aft rivet line through the Piano hinge.

Flap Position: O/B end of the flap is 80mm outboard of RR #7 (the inboard end of the aileron is at 85mm with a 5mm gap between it and the flap), back drill and Cleco the piano hinge to the Rear Skin. Ref 6-W-00

Wait to rivet the flap until after the wing is installed to the fuselage.