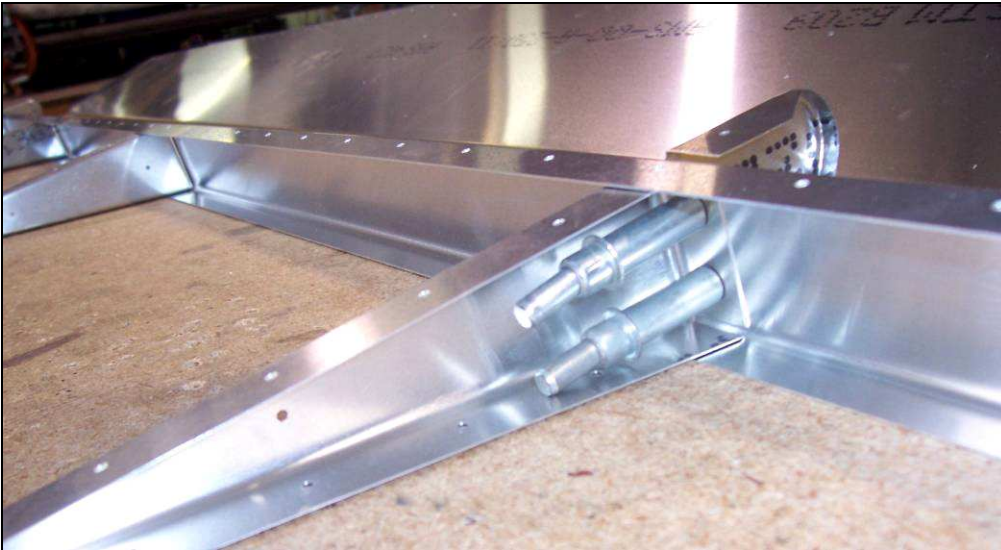


Section 75-AA-1 Flaperon Assembly



This manual has been prepared for assembly of the flaperons supplied with match drilled parts. 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: 75A1-2
Flaperon Nose Rib

P/N: 75A1-3
Flaperon Rear Rib

P/N: 75A1-4
I/B Flaperon Spar
or
75A1-5
O/B Flaperon Spar

Cleco the Rear Ribs and Nose Ribs to the Spar. See drawing 75-AA-1 for the Rib locations.

Orientation: The Rear Rib flanges point outboard. The inboard Nose Rib flanges point inboard and the outboard Nose Rib flanges point outboard. The top flange of the Spar is bent beyond 90 degrees.

With a #30 drill bit, expand the holes. Disassemble the Ribs from the Spar. Deburr, reassemble, and rivet the Ribs to the Spar.



P/N: 75A2-1
Hinge Bracket

Draw a center line on both flanges of the Hinge Bracket. Place a mark on both flanges 9mm from the top of the Hinge Bracket. Place a second mark on both flanges 20mm from the first mark. With a #40 drill bit, drill the rivet holes on the marks.



Clamp the Hinge Bracket on the Spar against the Nose Rib: Measure 26mm from the top of the spar flange to the end of the bracket. Back drill through the Hinge Bracket into the Spar, Cleco the Hinge Bracket to the Spar then back drill into the Nose Rib. With a #20 drill bit, expand the holes.



With the Hinge Bracket Clecoed to the Spar and Nose Rib, mark a diagonal line from the bottom of the Spar to the inside corner of the Hinge Bracket

Trim the Hinge Bracket on the line. This is most easily done with a band saw but can be cut with a hack saw as well. File the saw tooth marks smooth after cutting. Deburr and rivet the Hinge Bracket to the Spar and Nose Ribs.



Rivet the spar assembly

For bracket, the rivet head is set on the thinner material.



Square the rib and drill the rib flange through the pre-drilled hole in the spar.



P/N: 75A1-8
I/B Flaperon Skin

Or

P/N: 75A1-9
O/B Flaperon Skin

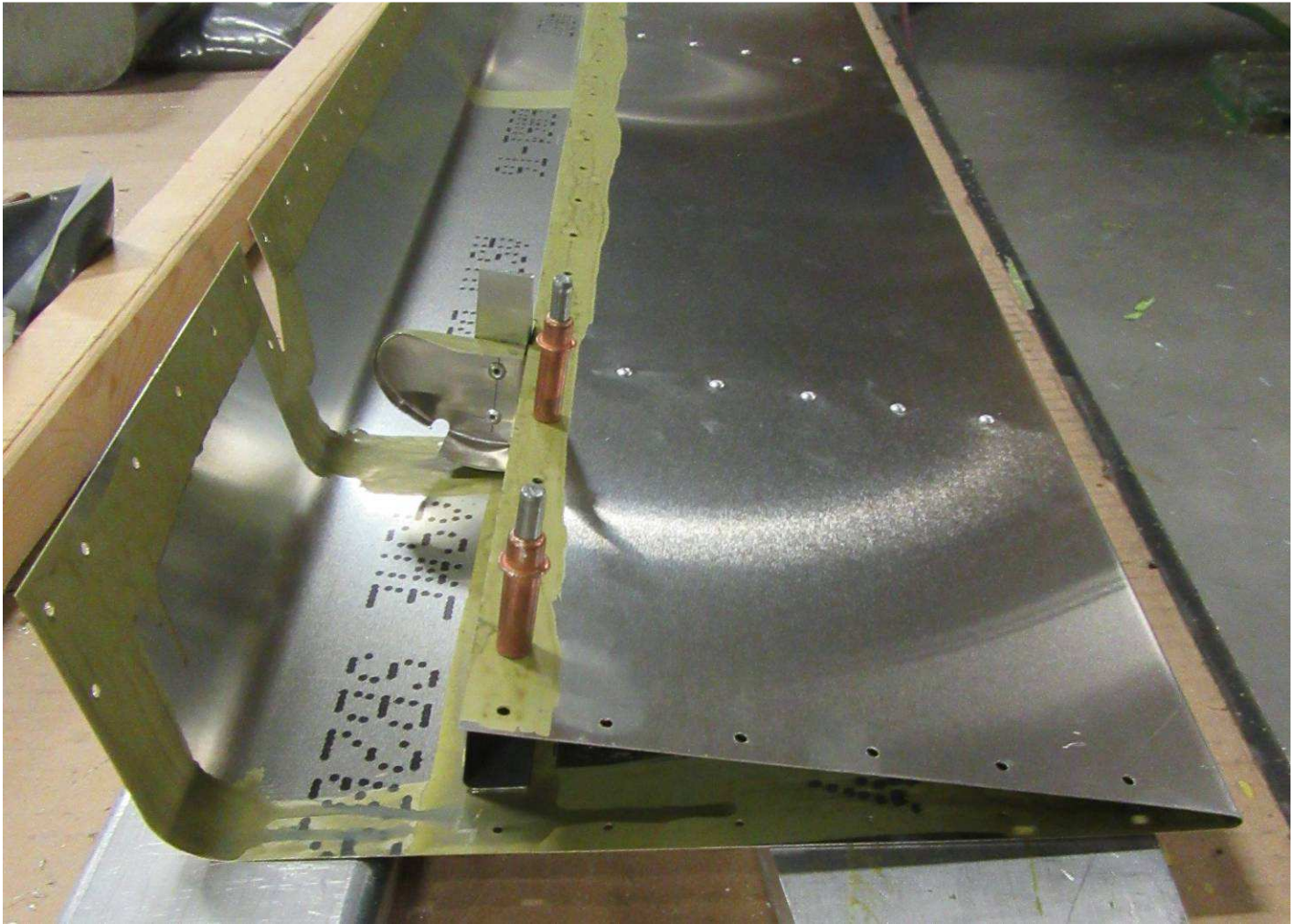
Open up the holes in the skin and skeleton with a #30 drill



Debur the holes, and apply corrosion protection.
To avoid damage to the skin, the parts are riveted the first time they are clecoed.



Cleco the rear ribs to the skin. Add weights on the skin to keep the assembly flat on the workbench.



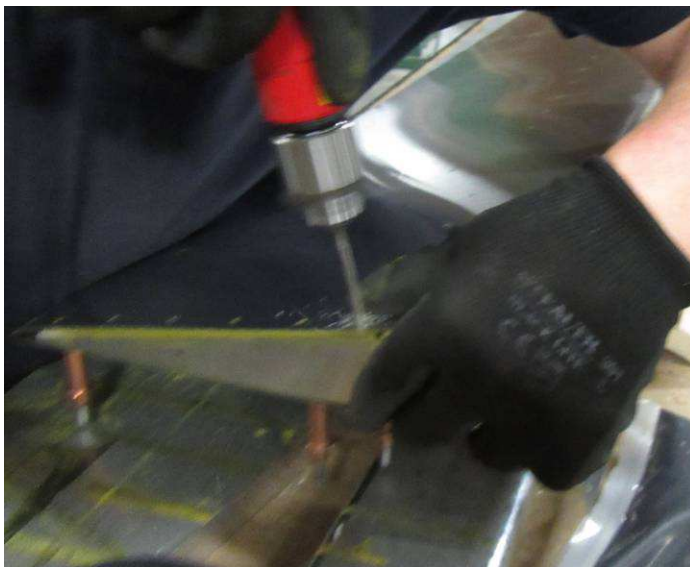
Keep the weights on the skin and cleco the ribs to the spar



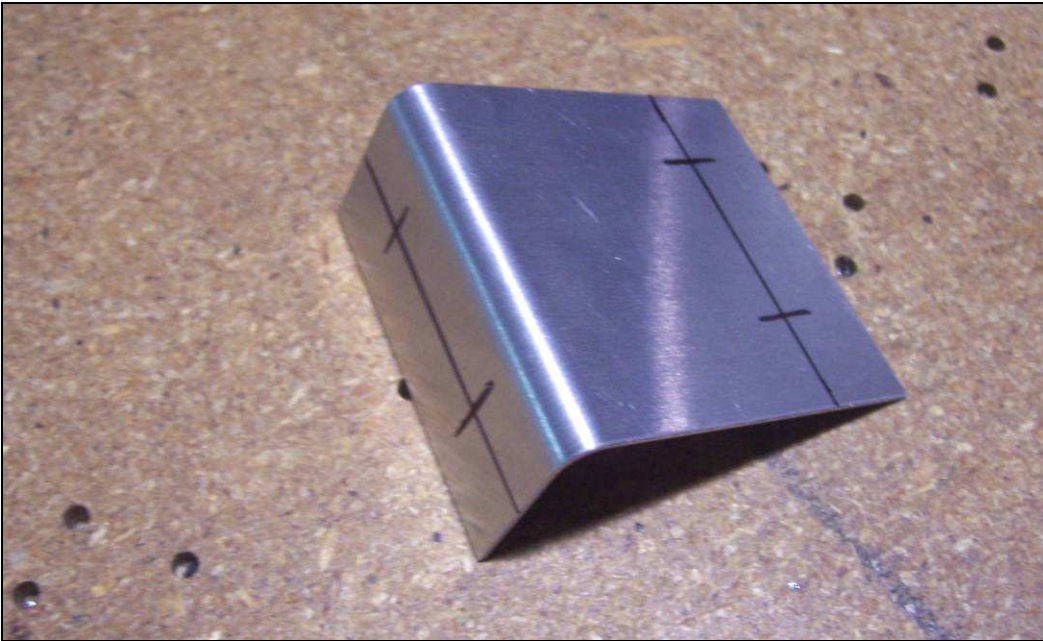
P/N: 75A1-1
Flaperon Full Rib



Cleco the full rib to the skin

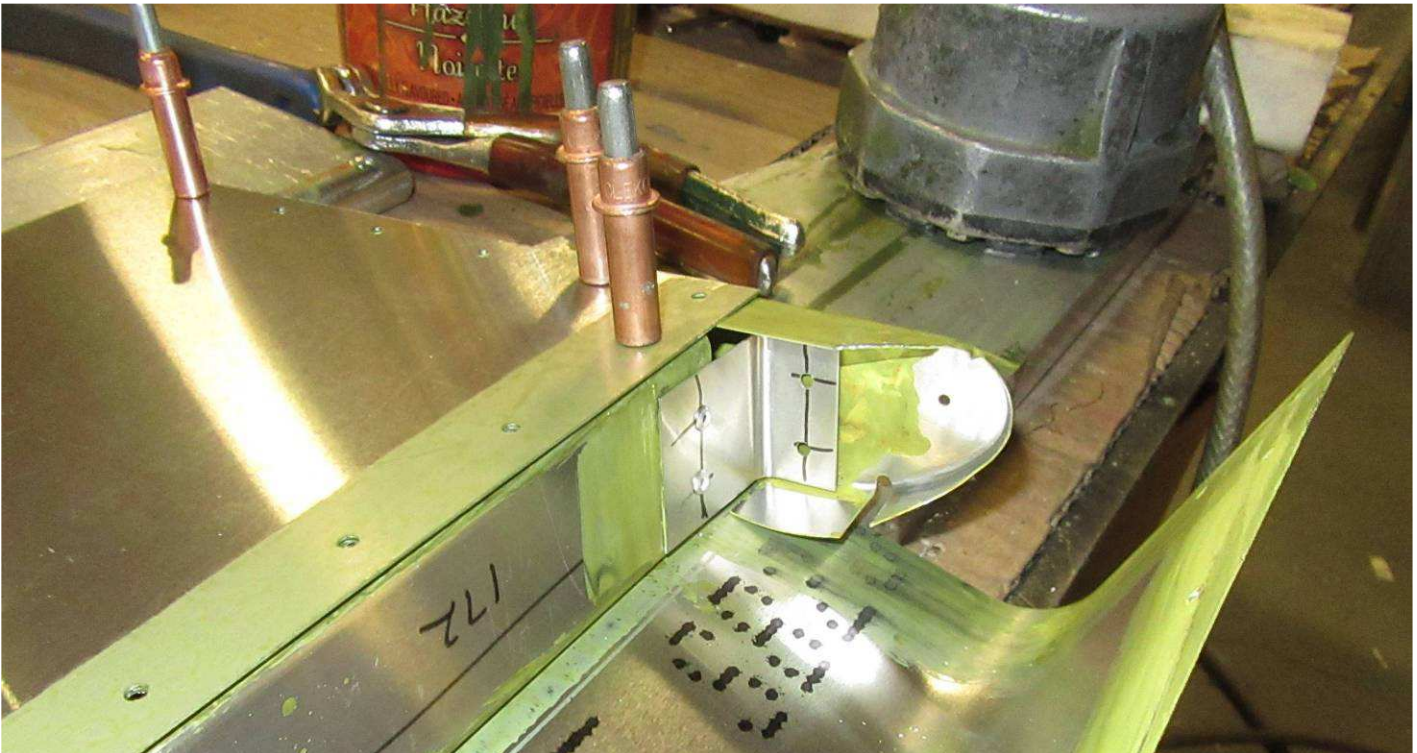


Turn the assembly over and cleco a hole to keep the rib in place.



P/N: 75A2-3
Flaperon Rib Angle

Draw a center line on the small flange of the Rib Angle. On the longer flange, measure 10mm from the edge and mark a line. Mark rivet locations 10mm from the top and bottom of each flange. With a #40 drill bit, predrill the holes in the flanges.



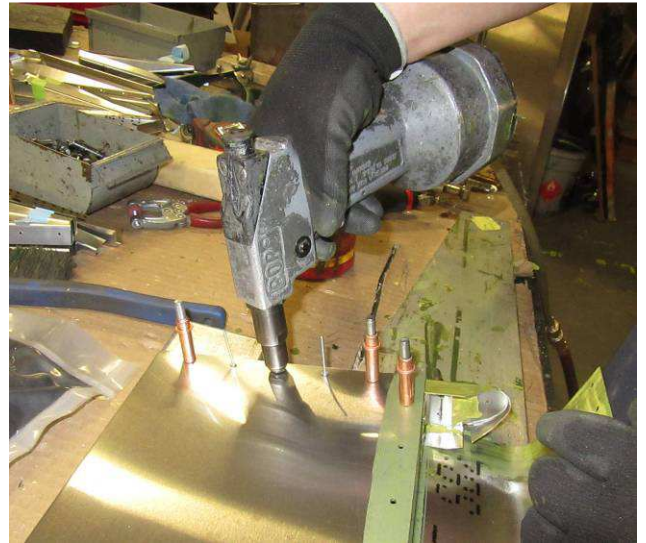
Position the Rib Angle against the Spar and clamp it to the Full Rib.

Note: You may need to crop the top corner of the Rib Angle to properly fit between the flanges of the Full

Back drill through the Rib Angle into the Spar. Rivet the angle to the spar.



Back drill into the full rib and cleco



Rivet the rib on the bottom side.





Turn the assembly over and lay weights on the skin to keep the trailing edge straight and to assure there is no twist. Drill and Cleco through the spar.

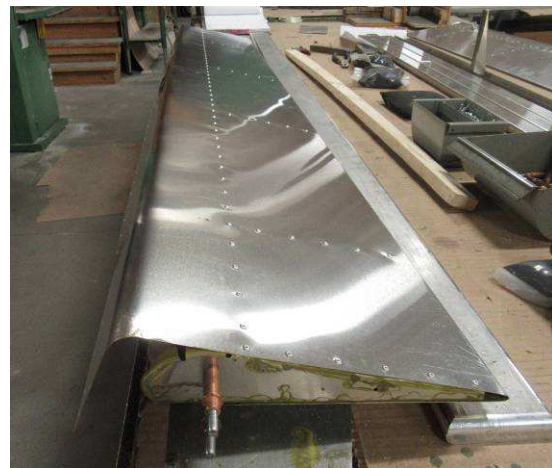




Cleco the ribs



Drill all the holes and rivet.



Rivet the top side: rear ribs and spar.



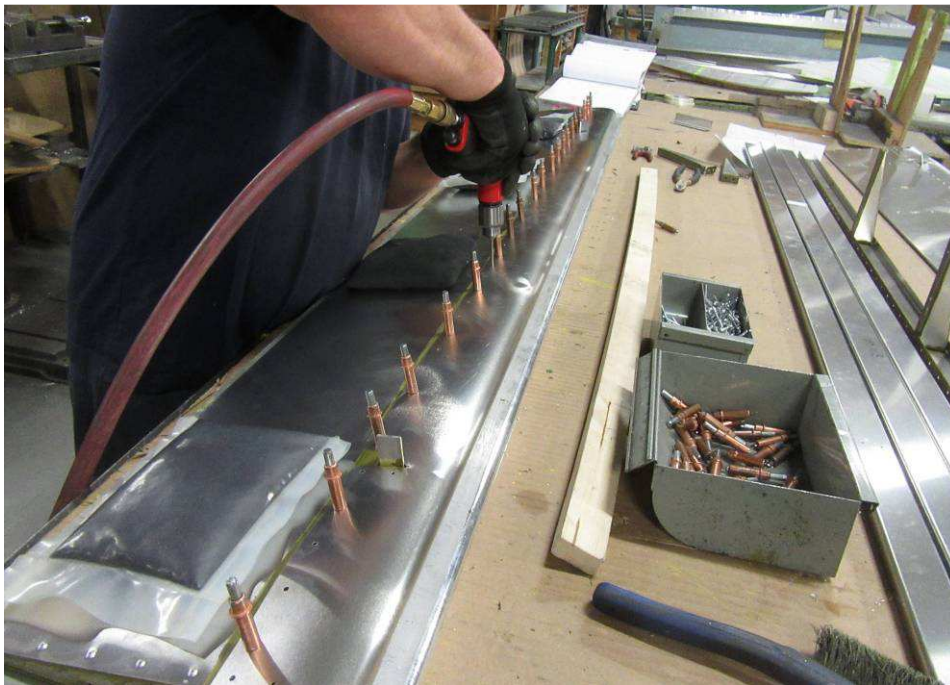
Use a furring strip to bring the Skin around the Nose Ribs and Cleco the Skin to the Spar. This is best done with one person pushing on the furring strip and one person Clecoing the holes. Alternatively, ratchet straps can be used.



Cleco at least every other hole.



Position the weights beside the rear ribs.
There should be no twist: the assembly sits flat on the workbench.



Run a #30 drill through the holes and rivet.



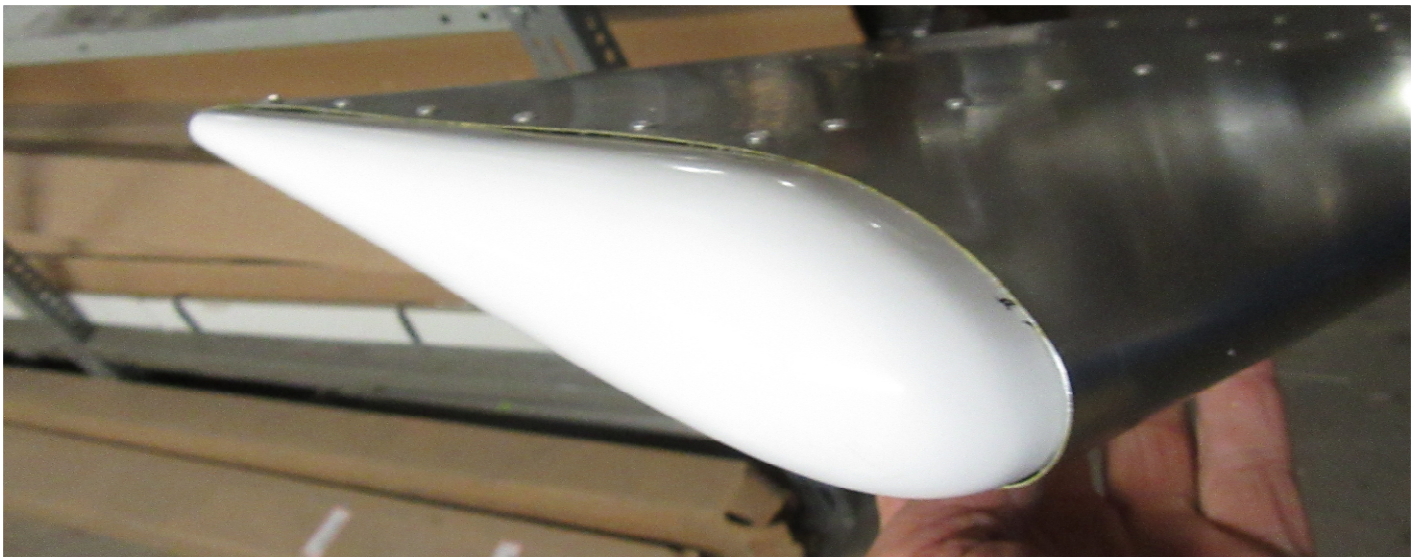
P/N: 75A2-4
Flaperon Tip

For the outboard
section only.

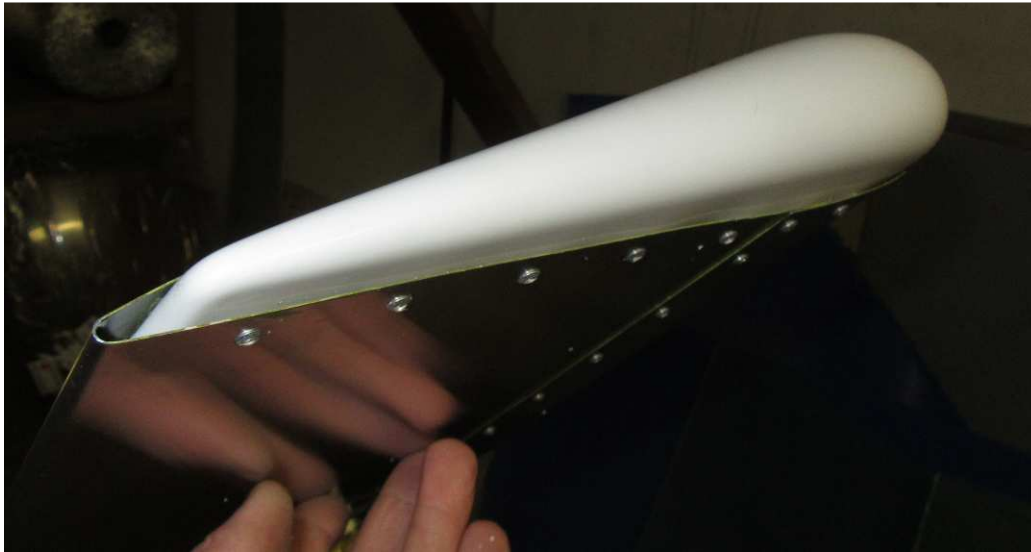
The skin will overlap the flaperon tip on 20mm.



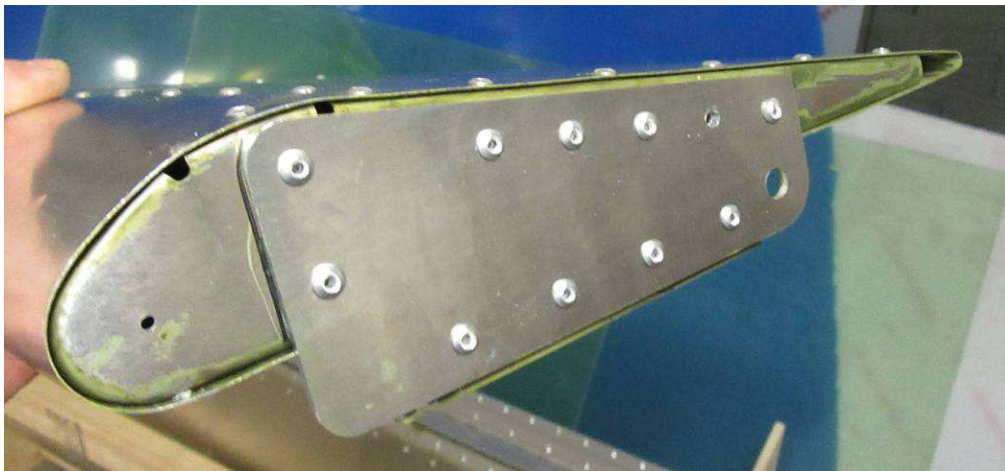
For a tight fit at the leading edge, trim the flaperon tip to reduce the overlap at the leading edge to approximately 3mm.



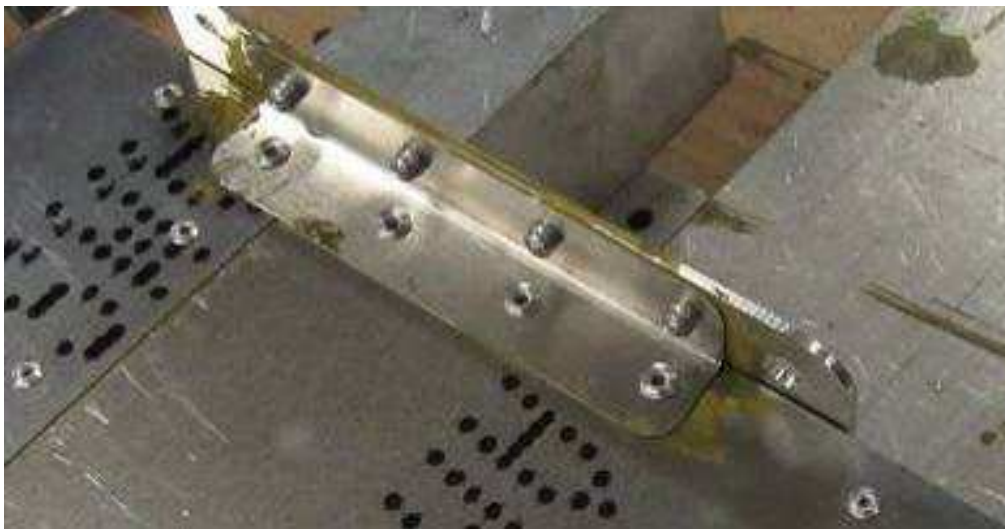
Position for the best fit by closing the gap at the front.



A gap at the back is normal.



P/N: C75A1-6
Flaperon control horn



P/N: L angle
Installed on the
bottom side

I/B end of I/B flaperon section