

75-TA-4 Elevator Skins

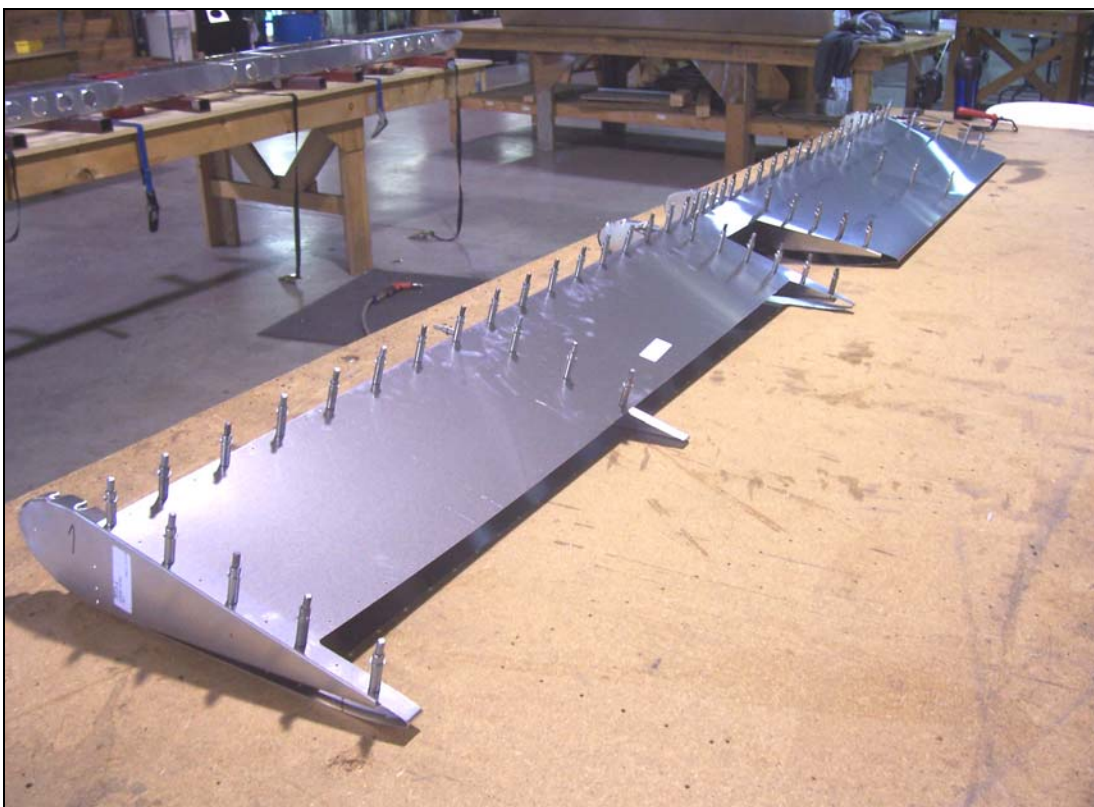


This manual has been prepared for assembly of the Elevator Skins. This photo assembly manual is intended as a supplement to the drawings. If there is any discrepancy between this manual and the drawings, the drawings supersede this manual. For information on building standards and tolerances see "Construction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



P/N: 75T3-1
Elevator Tip Rib

The Tip Rib is predrilled on the top flange pitch 38mm.



P/N: 75T4-3
Elevator Rear Skins

Cleco the Rear Skins to the Skeleton and Tip Rib on Top. Flip the Elevator over and Cleco the Rear Skins to the Spar.

Note: If the holes don't line up in the Rear Skins and Ribs then you have the Right Rear Skin on the left side.



Clamp the Tip Rib to the Rear Skin so the Tip Rib is evenly spaced at the top and bottom of the Spar. Drill with a #40 drill bit and Cleco the Tip Rib to the Rear Skin.

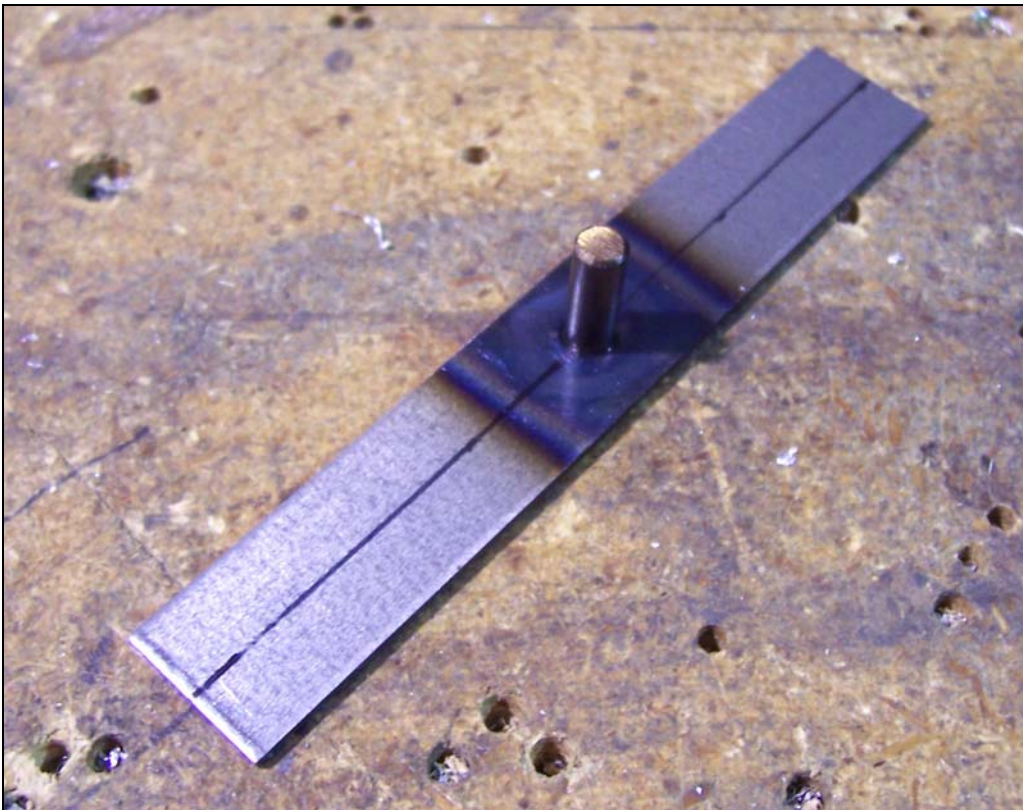


P/N: 75T3-4
Bent Strip

Draw a line 10mm from the edge of the Bend Strip. Lay out rivets 10mm from the top and bottom and one centered on the large flange. Clamp the Bent Strip to the Tip Rib. Drill to A4 and Cleco the Bent Strip to the Spar.



Drill to A4 and Cleco the Bent Strip to the Tip Rib. When drilling into the Bent Strip it is normal that the holes will not be in the middle of the flange.



P/N: 75T3-9
Elevator Hinge Pin

Draw a center line on the Hinge Pin.



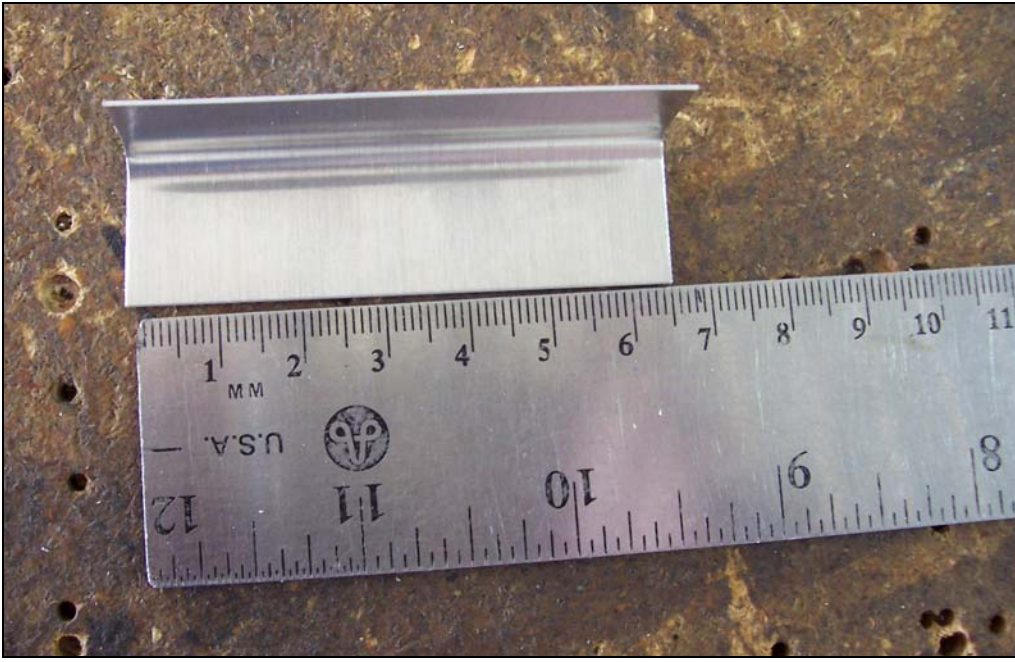
Remove the Tip Rib from the Skeleton. Drill the center hole to 3/16 inch. Put the Hinge Pin through the 3/16 inch hole and clamp the Hinge Pin in place when the center line is visible through the holes in the Tip Rib. Drill to A5 and Cleco the Hinge Pin to the Tip Rib.

Note: Wood blocks have been placed under the Tip Rib and Hinge Pin to support the Hinge Pin when drilled.



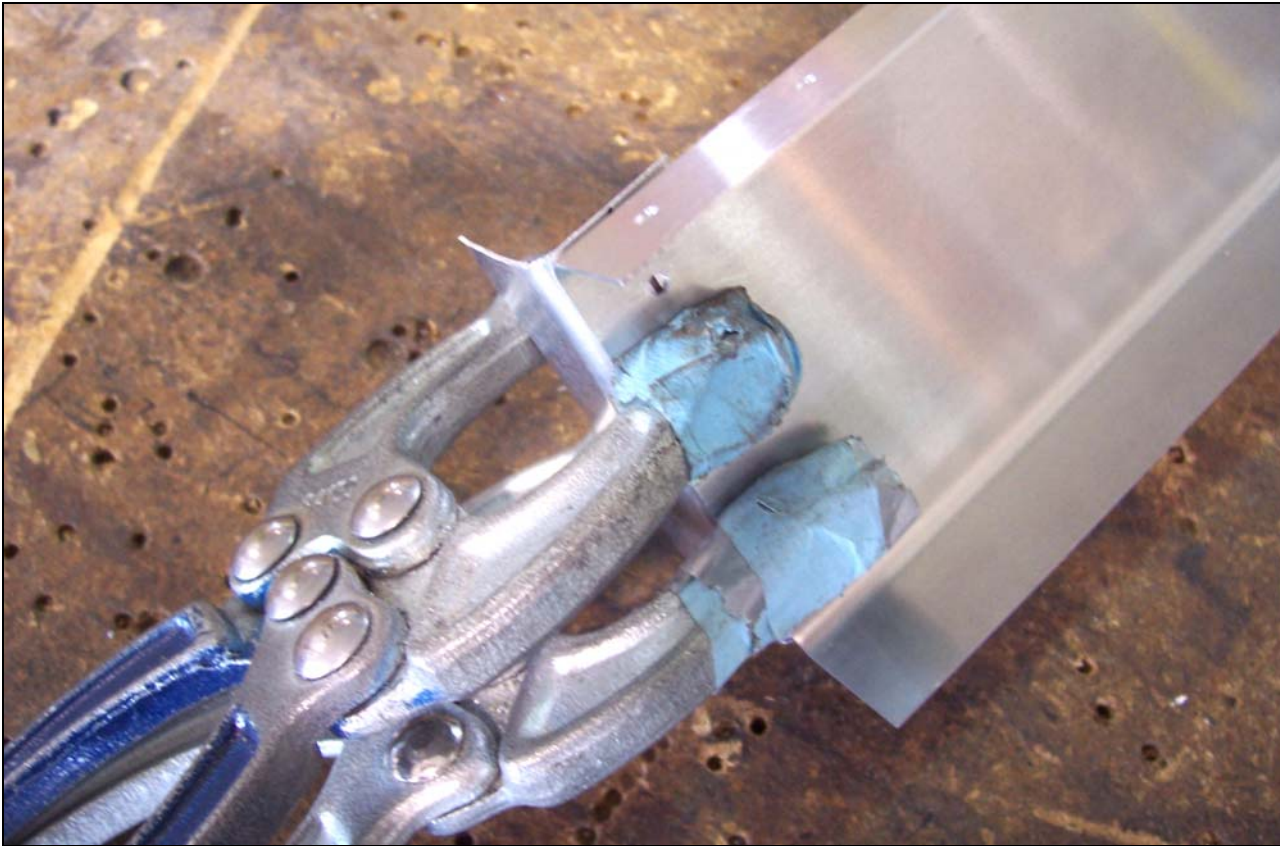
P/N: 75T3-10
Elevator Rear
Channel

The top flange of the Rear Channel has been predrilled.

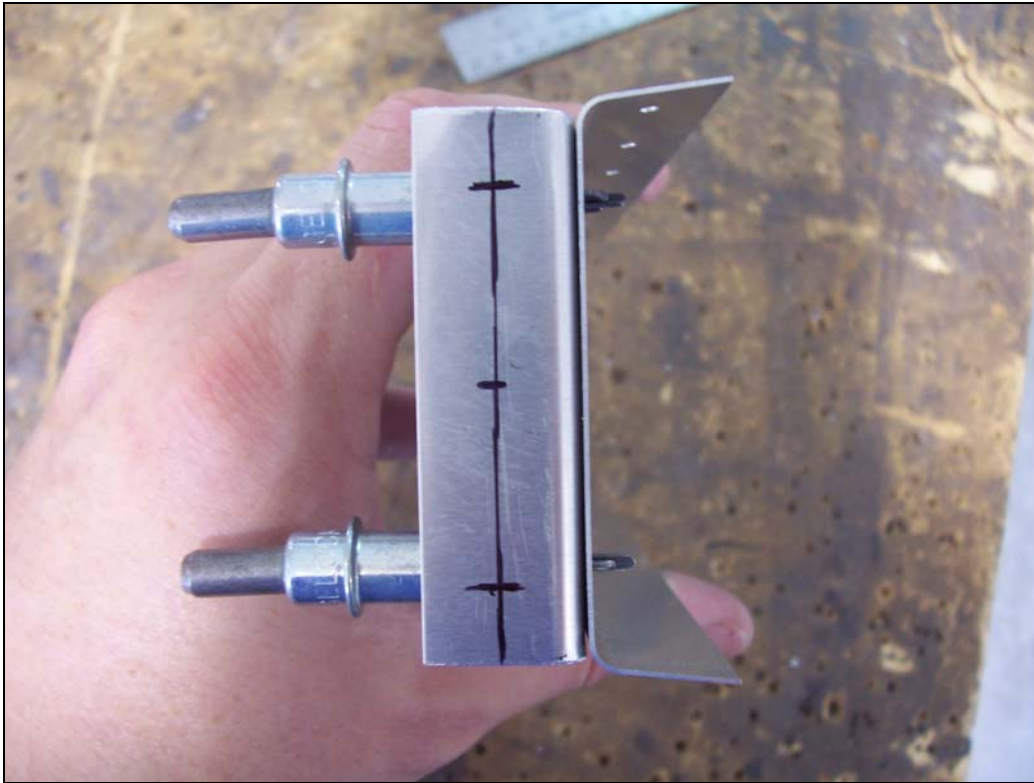


P/N: L
L Angle
Length = 65

Cut two pieces of L Angle to 65mm long. Draw a center line on one flange of the L Angle.



Clamp the L Angles to the Rear Channel so the center line is visible through the predrilled holes in the Rear Channel. Drill to A4 and Cleco the L Angles to the Rear Channel.



Mark a center line on the L Angles. Layout rivets 10mm from the top and the bottom edges. Place a third rivet centered on the flange. Use a #40 drill bit to pre-drill the L Angles.



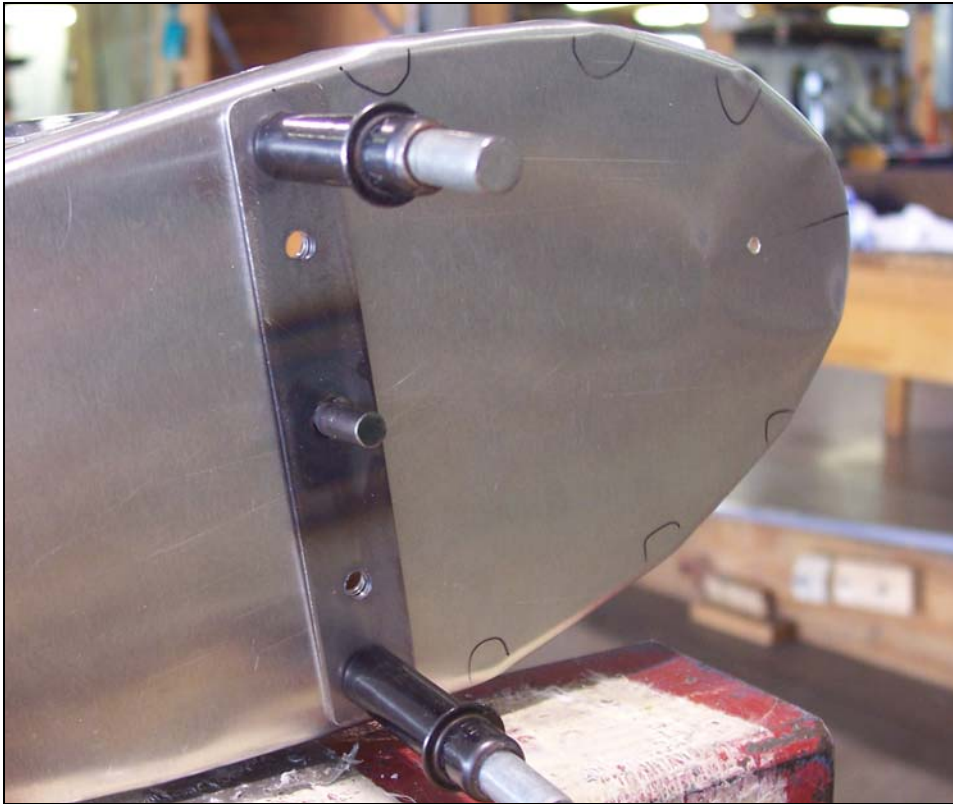
Draw a center line on the bottom flange of the Rear Channel.



Cleco the top flange of the Rear Channel to the top of the Rear Skins. Drill the bottom flange of the Rear Channel to A5 and Cleco the Rear Channel to the Rear Skins.



Back drill to A4 through the holes in the L angles into the Inboard Rear Ribs and Cleco the L Angles to the Inboard Rear Ribs.



Mark the Crimp locations on the web of the Tip Ribs.



P/N: 75T4-2
Elevator Nose Skin

Slide the Nose Skins between the Rear Skins and the Spar. Be careful not to squeeze the leading edge of the Nose Skin as this will cause dings in the leading edge. Use several long pieces of duct tape to hold the Nose Skin in place. Drill to A4 outboard of the Inboard Rear Rib and A5 between the Inboard Rear Ribs on both Nose Skins and Rear Skins.

Note: Slide both Nose Skins in place and check that there is no twist in the Elevator before you drill the Spar rivet line. The Nose Skins are under the Rear Skins to drill, they will be riveted on the outside.



Mark the rivet lines for the Nose Rib and Tip Ribs. Align a flexible straight edge with the holes in the Rear Skin for the Inboard Rear Rib and the Tip Rib and draw a straight line on the Nose Skin. Mark the rivet locations according to the distances below for the Nose Ribs and Tip Ribs. Drill to A4 and Cleco the Nose Skin to the Tip Ribs and Nose Ribs.

Top Nose Skin Rivet Locations (measured from the Spar rivet line):

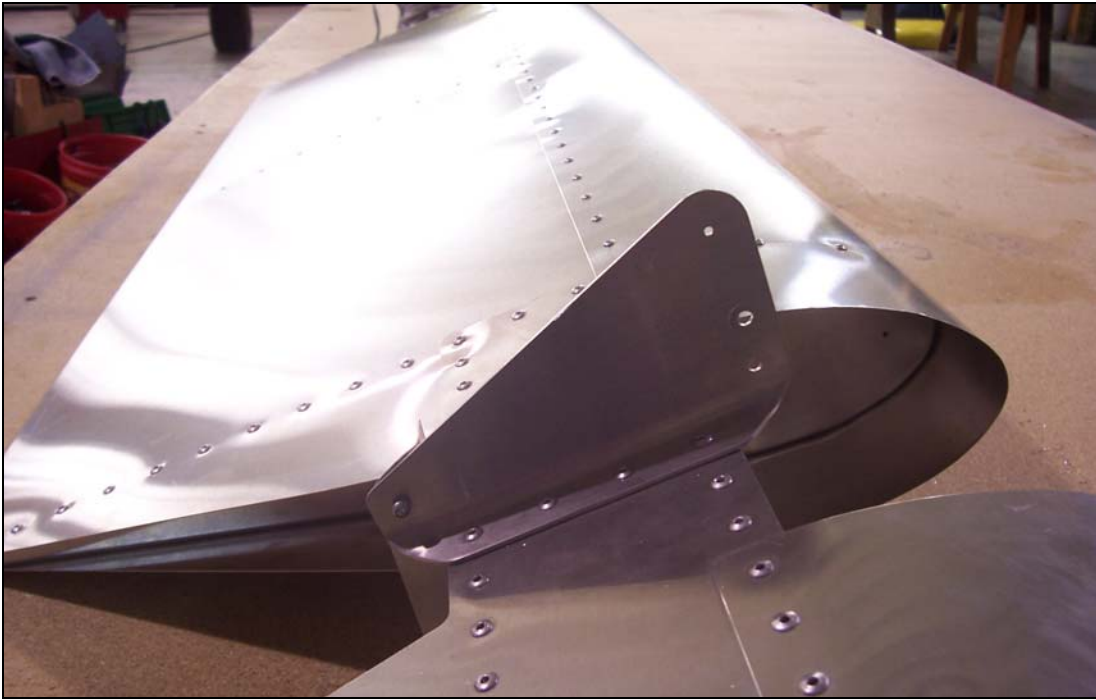
- 1st rivet = 25mm
- 2nd rivet = 59mm
- 3rd rivet = 93mm

Bottom Nose Skin Rivet Locations (measured from the Spar rivet line):

- 1st rivet = 25mm
- 2nd rivet = 59mm
- 3rd rivet = 96mm

Note: Check the rivet position marks will be clear of the crimps locations (previously marked on the web of the Tip Rib) before drilling the rivet holes. The crimp locations in the Nose Rib are in the same position as the Tip Rib.

Remove the Nose Skins from the Elevator. Mark a line 10mm from the center line of the Spar rivet line (10mm edge distance) on both top and bottom rivet lines. Trim the excess material from the aft edges of the Nose Skins. Reinstall the Nose Skin on top of the Rear Skins.

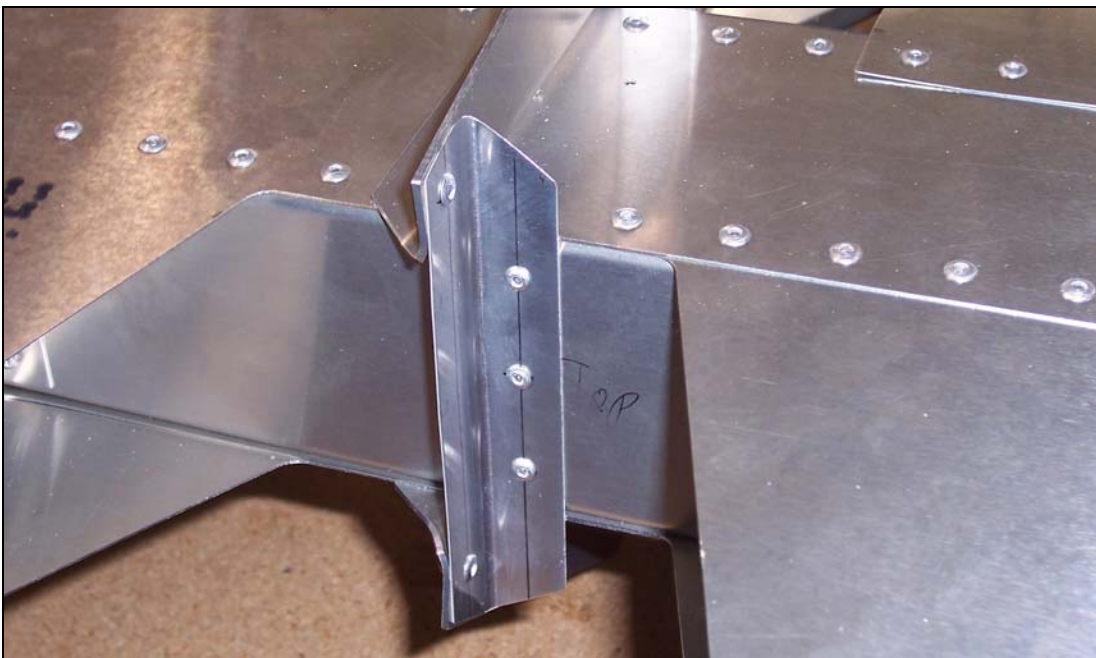


P/N: 75T3-7
Elevator Lower Horn

P/N: 75T3-8
Elevator Upper Horn

Cleco the Upper Horn and Lower Horn to the Spar and Rear Channel. The vertical flange should be flush to the Horn Angle. Expand the pre-drilled holes to A5.

Note: The Lower Horn is shown in the photo above.



P/N: L
L Angle
length = 130mm

Cut a piece of L Angle to 130mm. Draw a center line on one flange. Mark a rivet centered on the L Angle and one rivet 26mm above and below the center rivet. Center the L Angle on the Rear Channel and clamp the L Angle to the Upper and Lower Horns. Drill to A4 and Cleco the L Angle to the Rear Channel. Mark and drill to A4 one rivet 10mm from the ends of the L Angle into the Upper and Lower Horns. Trim the L Angle to match the Upper and Lower Horn.



P/N: 75T3-6
Horn Angle

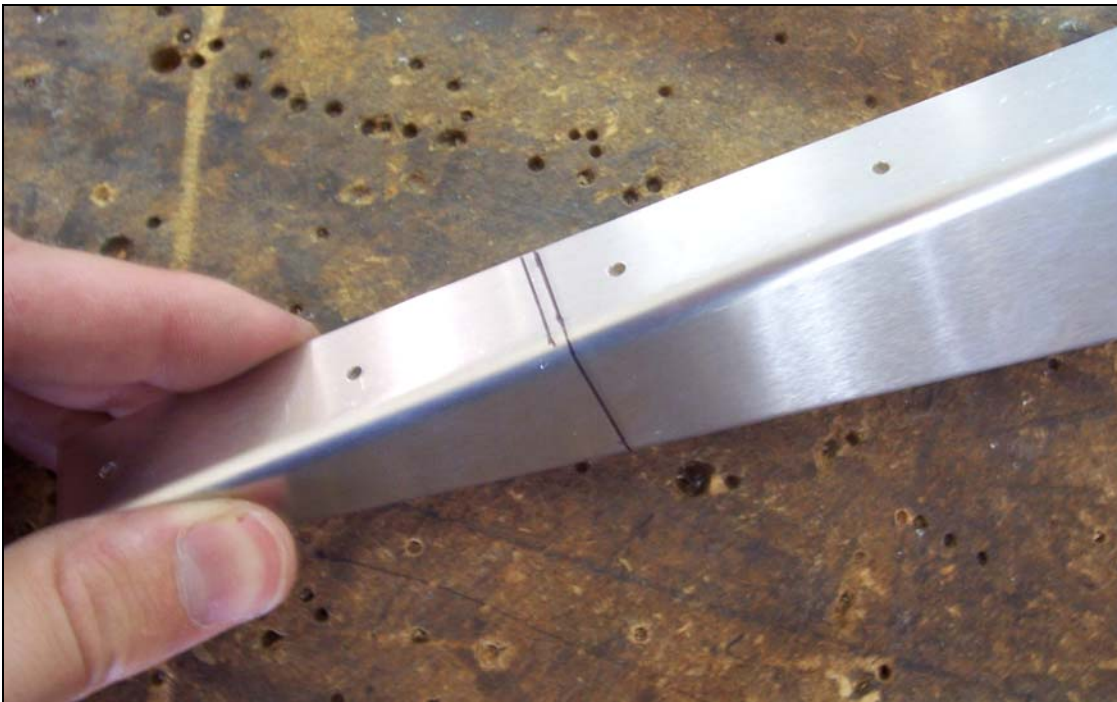
Draw a center line on the flange that rivets to the Elevator Spar. Mark the center of the Horn Angle measured from top to bottom. Position the Horn Angle on the Elevator Spar and clamp it to the Control Horns. Mark a rivet hole location 10mm from the top and bottom of the Elevator Spar on the Horn Angle. Position two additional rivet locations evenly spaced between the top and bottom hole location.



Drill to a #20 and Cleco the Horn Angle to the Elevator Spar. Layout two rivets on the opposite flange of the Horn Angle in the top and bottom Control Horn. Drill to a #20 and Cleco the Horn Angle to the Control Horns.



Mark the edge of the Left Rear Skin on the Middle Rear Rib on top and bottom.



Remove the left Middle Rear Rib and offset a line 2mm forward of the line marking the edge of the Left Rear Skin, connect the lines on the top and bottom flange, and trim the Middle Rear Rib on the line to make room for the Trim Tab.