

Section 6-T-3 Elevator



This manual has been prepared for assembly of the Elevator using 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: 6T3-1i
Inboard Elevator Rib

P/N: 6T3-1t
Trim Elevator Rib

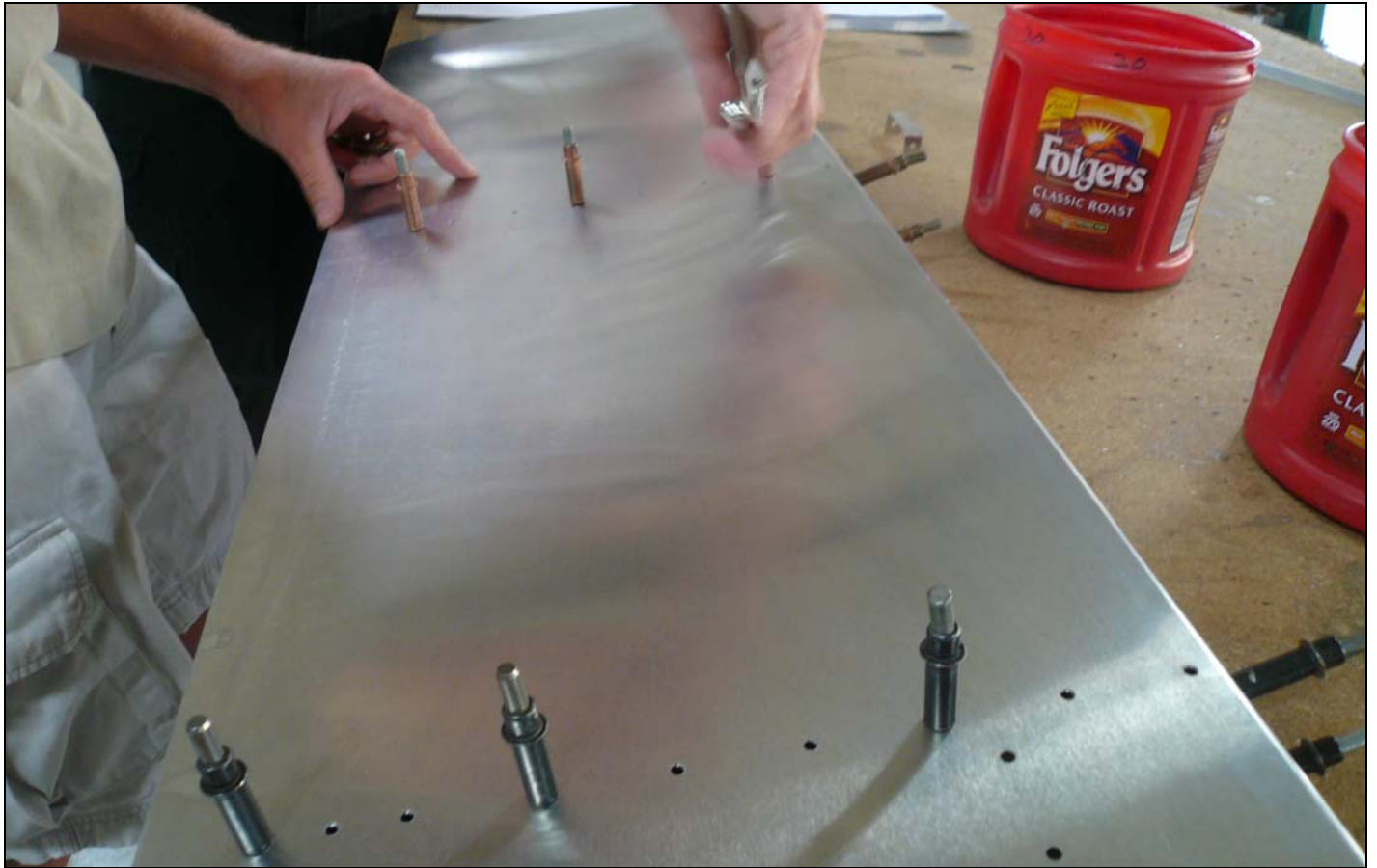
P/N: 6T3-1o
Outboard Elevator Rib

P/N: 6T3-3
Elevator Skin

Insert the Elevator Ribs in the Elevator Skin. The flanges of the Ribs point outboard except for the Ribs at the ends of the Skin. The Inboard Ribs have been predrilled with #20 holes and are installed near the cutout for the Rudder in the center of the Elevator Skin.



Cleco the front flange of the Ribs to the Skin.



Flip the Elevator over and cleco the bottom of the Skin to the Ribs.



P/N: 6T3-2
Elevator Center
Channel

Insert the Elevator Center Channel in the Elevator. Cleco the bottom of the Skin and Channel together.



P/N: 6T6-3
Elevator Cutout
Channel



Use a pair of pliers to slightly bend the end of the flanges of the Elevator Cutout Channel in to match the bends of the ribs.



Slide the Cutout Channel into place on the Elevator. It will be helpful to pull the Outboard Rib away from the Channel to slide it in place. Cleco the bottom flange of the Channel to the Skin.

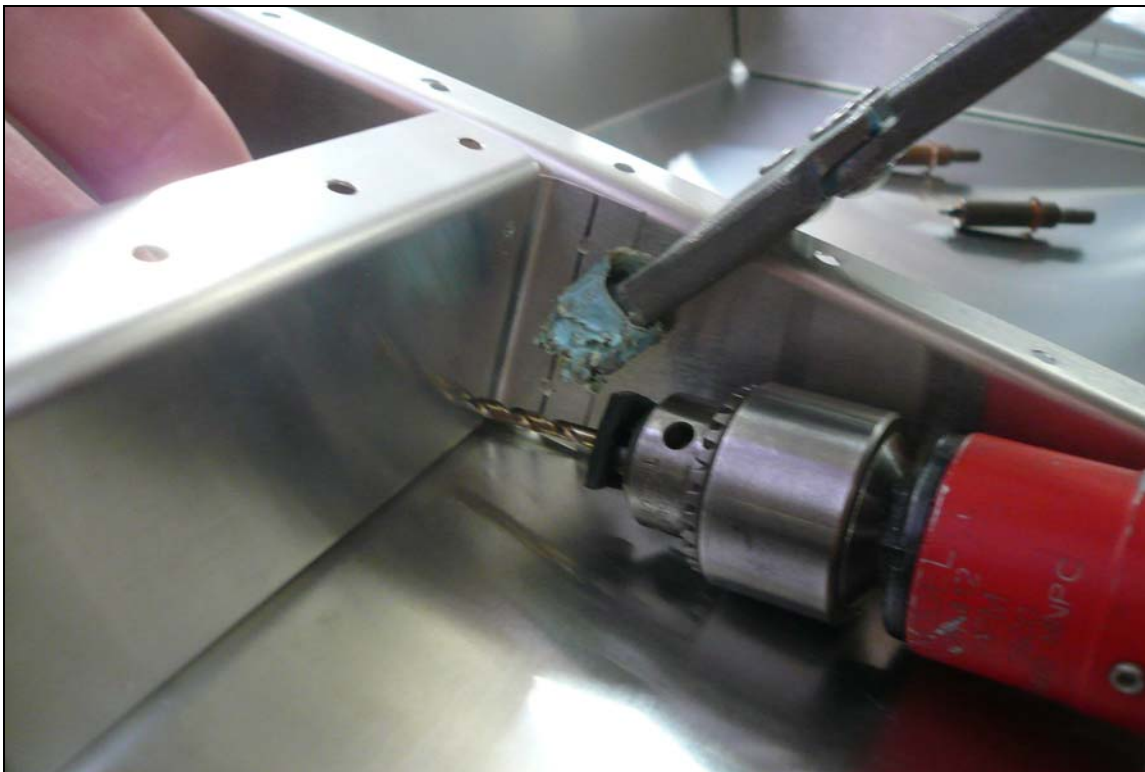
Orientation: The cutout in Channel should be installed on the bottom side of the Skin.



Flip the Elevator over so the top Skin can be opened.



Cut two L Angles 50mm long. Draw a center line on one flange of the L Angle. Mark rivet locations 10mm from each end of the L Angle. Use a #40 drill bit to drill the rivet locations.



Slide the L Angle into position on the Rear Channel and Inboard Rib. Position the L Angle so the predrilled flange is on the Inboard Rib. Clamp the L Angle to the Inboard Rib and back drill through the Rear Channel into the L Angle with a #30 drill bit and cleco. Expand the holes with a #20 drill bit and cleco. Install and drill the L Angle on the opposite end of the Channel.



Lower the top Skin on the Elevator and cleco the Skin to the Ribs and Channels.

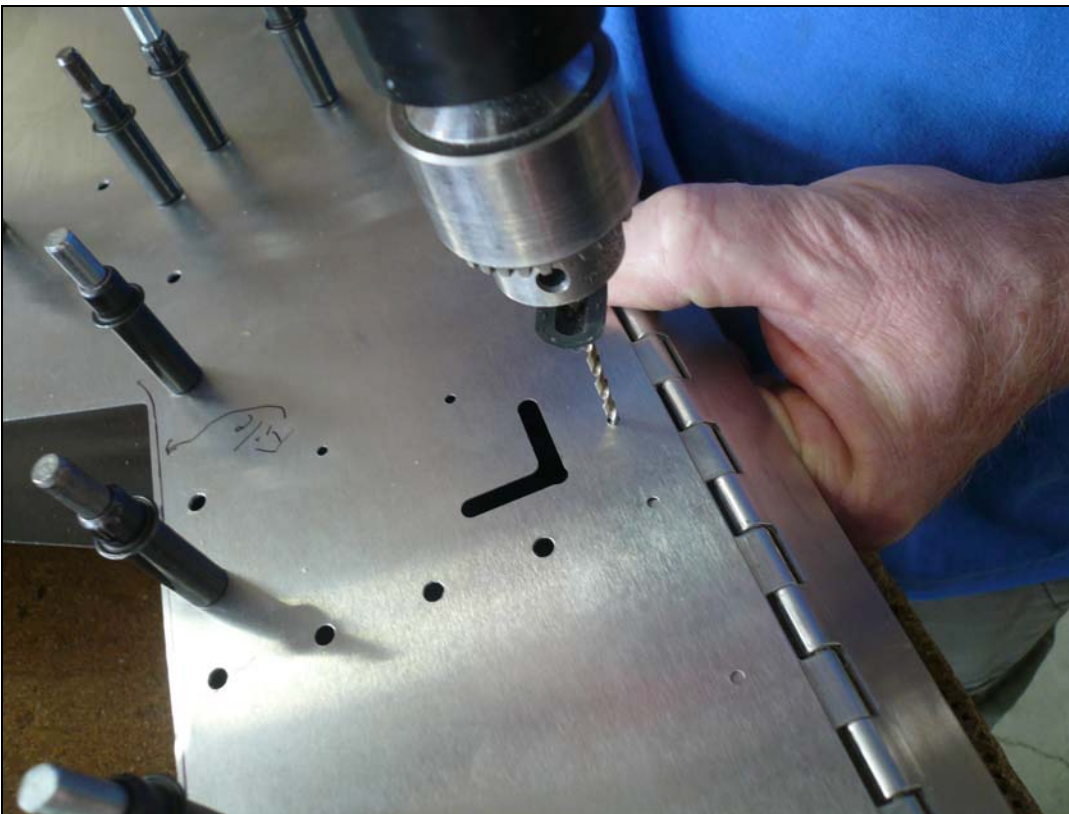


With the top Skin clecoed to the Ribs and Channels, back drill through the holes in the L Angle into the Inboard Ribs with a #30 drill bit and cleco. Expand the holes with a #20 drill bit and cleco.



P/N: 6T2-5
Piano Hinge

Mark a line 10mm from the end of the Piano Hinge.

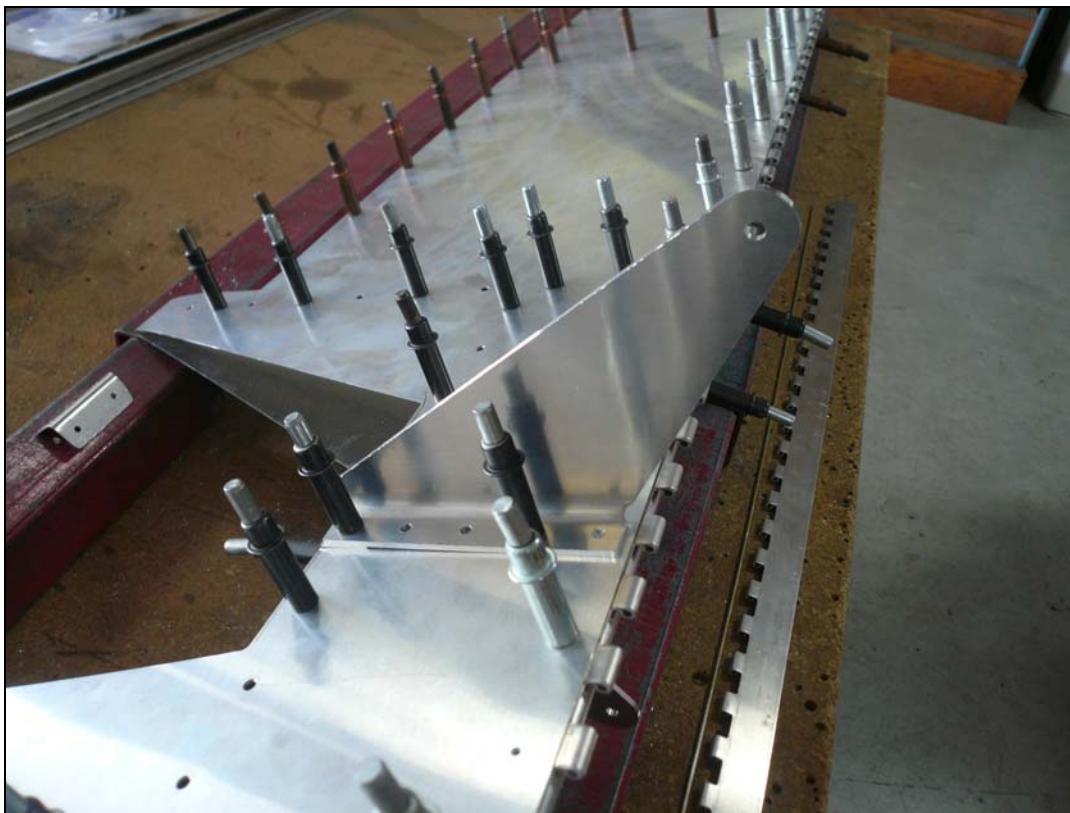


Slide the Piano Hinge between the top Skin and the flange on the Elevator. The Hinge should be centered on the holes, align the edge of the Hinge on the barrel side with the edge of the Skin. Center the Hinge on the Elevator and line up the 10mm mark through the predrilled hole in the top Skin. Use a #40 drill bit to back drill through the Skin into the Hinge and the Skin flange and cleco. Use #30 drill bit to expand the holes and cleco. Use a #20 drill bit to expand the holes between the Inboard Ribs and cleco.



P/N: 6T3-8
Bent Strip

Cleco the Bent Strip to the Rear Channel.



P/N: 6T3-4
Upper Elevator Horn

Cleco the Upper Elevator Horn to the Elevator.



P/N: 6T3-5
Lower Elevator Horn

Cleco the Lower Elevator Horn to the Elevator.

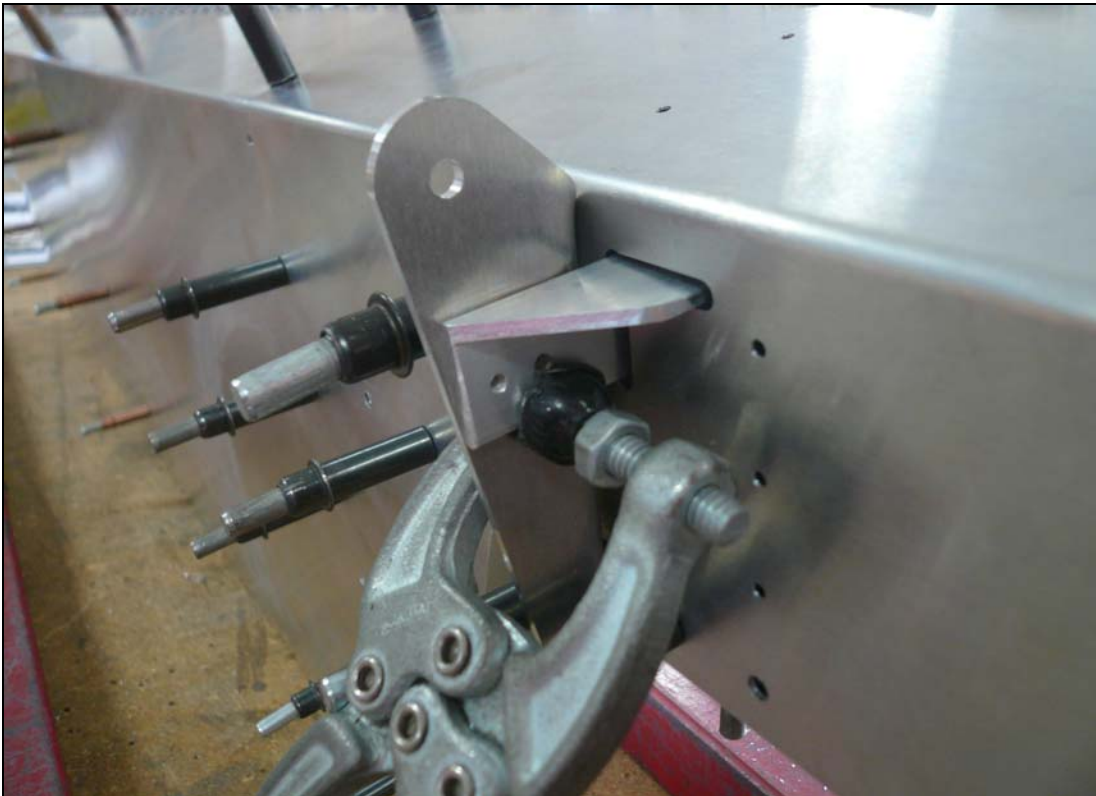


P/N: 6T3-6
Elevator Horn Doubler

Draw a center line on the uncropped flange of the Elevator Horn Doubler. Mark a rivet location 6mm from each end of the Doubler. On the end that has been cropped 50mm, mark 2 additional rivet locations 20mm and 40mm from the first hole location. On the opposite end, mark a second rivet location 8mm up from the end rivet location. Use a #40 drill bit to predrill the rivet hole locations.



Insert the Doubler through the cutout in the Skin. Position the Doubler so the flange taper starts at the top Skin. Clamp the Doubler to the Upper Horn.



Clamp the Doubler to the Lower Horn.

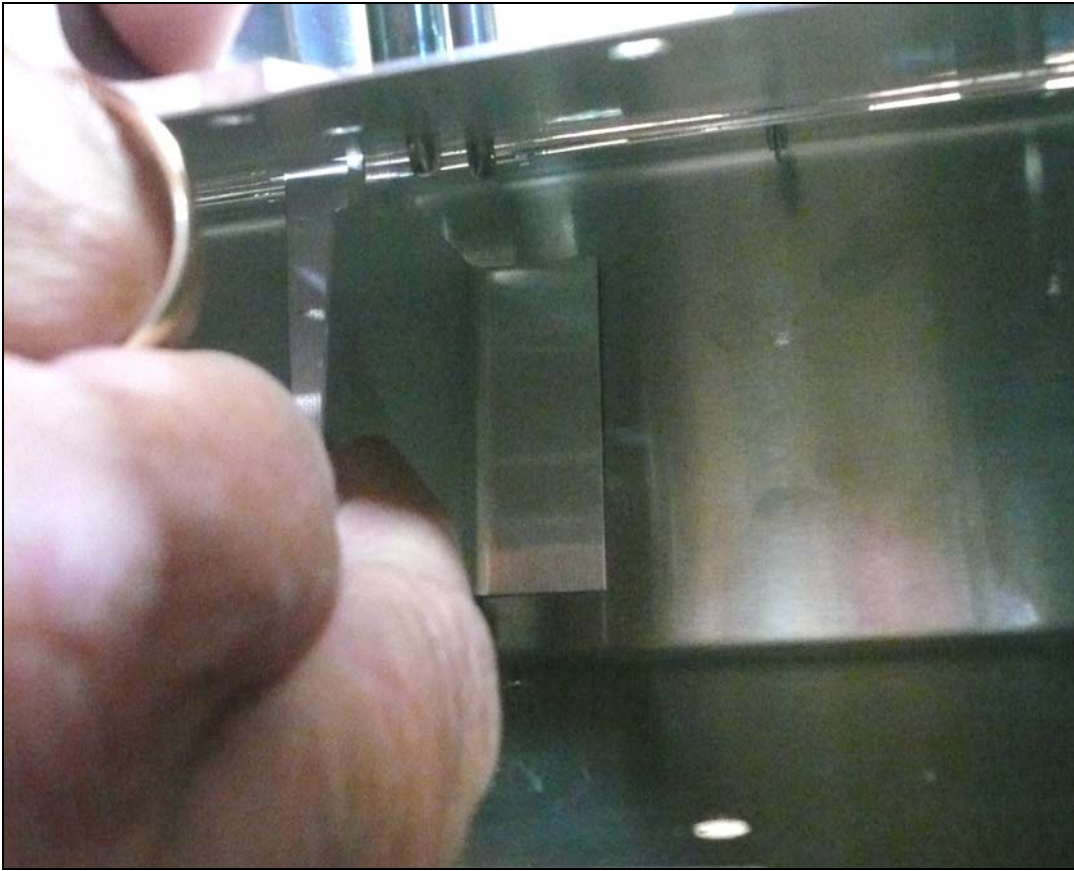


Use a #30 drill to back drill through the Doubler into the Horns and cleco. Expand the holes with a #20 drill bit and cleco.



P/N: 6T3-7
Angle

Place a mark 20mm from the edge along the top and a mark 10mm down from the top. Trim the Angle along the line. Mark a center line on the flange of the Angle.



Remove the Rear Channel from the Elevator. Position the Angle against the Doubler and the front of the Elevator Skin. The line should be visible through the holes in the front of the Skin. If the line is not visible, use a marker to check the holes will have sufficient edge distance. Clamp the Angle to the Doubler.



Use a #40 drill bit to back drill through the holes in the Skin into the Angle and cleco. Expand the holes to a #20 and cleco.



Mark the aft edge of the Doubler on the Angle and remove it from the Elevator. Mark an offset line 10mm from the edge of the Doubler. Mark two rivet locations 10mm from the top and bottom edges of the Angle. Use a #40 drill bit to drill these rivet locations.



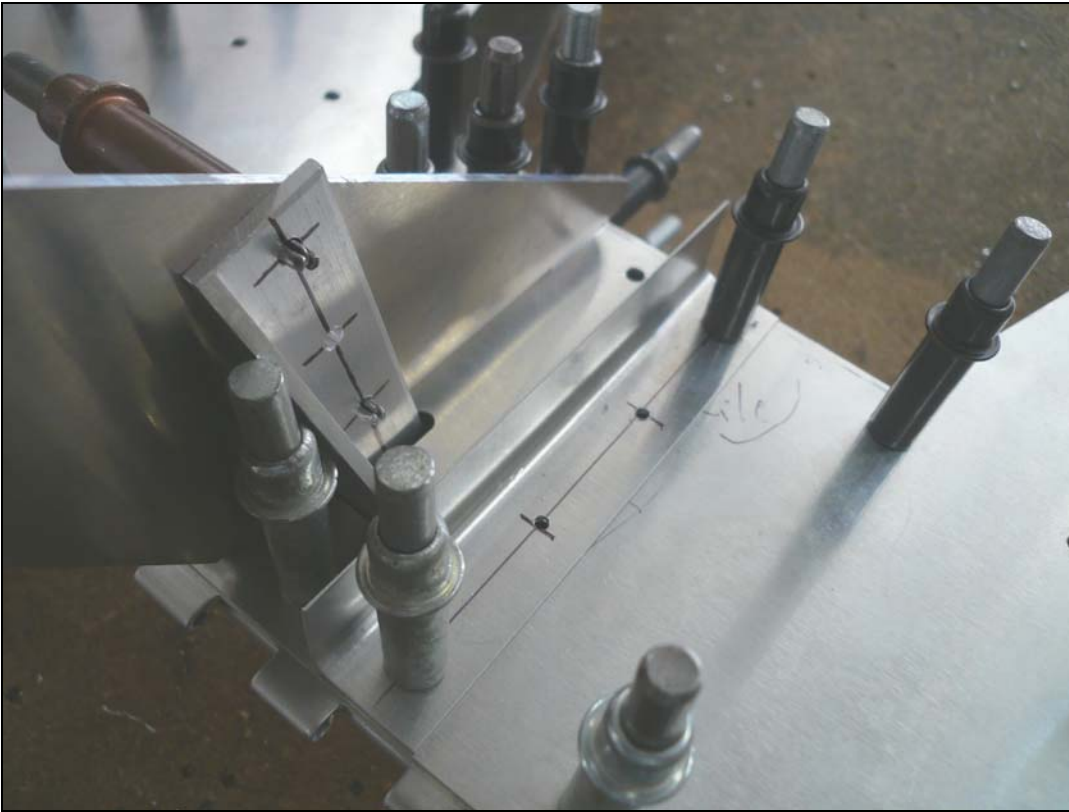
Reinstall the Angle in the Elevator. Use an Angle drill with a #30 drill bit to back drill through the Angle into the Doubler and cleco. Expand the holes with a #20 drill bit and cleco.



Cut one L Angle 82mm long and another 110mm long. Mark the center line on one flange of each L Angle. Mark rivet locations 10mm from each end of the L angle. Evenly space 2 additional rivet locations between the end rivet locations. Use a #40 drill bit to drill the rivet locations. Expand the aft most hole with a #20 drill bit.



The 82mm long L Angle is installed on the bottom of the Elevator. Cleco the aft hole in the L Angle to the Elevator and Rear Channel. Back drill through the L Angle into the Elevator and cleco. Expand the holes to a #20 drill bit and cleco.



The 110mm long L Angle is installed on the top of the Elevator. Cleco the aft hole in the L Angle to the Elevator and Rear Channel. Back drill through the L Angle into the Elevator and cleco. Expand the holes to a #20 drill bit and cleco.



Remove the L Angles from the Elevator. Mark a point 10mm from the end of the undrilled flange. Mark a line from the point to the start of the bend radius. Crop the corners of the L Angles and cleco them on the Elevator.



P/N: 6T6-4
Piano Hinge

Position the Hinge between the top Skin and the Cutout Channel so the edge near the barrel of the Hinge is flush with the edge of the Skin. Use a #40 drill bit to back drill through the Skin in to the Hinge. Use a #30 drill bit to expand the holes and cleco.



P/N: 6T6-1
Trim Tab Skin

Slide the Trim Tab into position with the Hinge between the top of the Tab Skin and the flange. Set the trailing edge of the Tab flush with the trailing edge of the Elevator Skin. Center the Tab in the cutout. Use a #40 drill bit to back drill through the Tab into the Hinge and cleco. Expand the holes with a #30 drill bit and cleco.

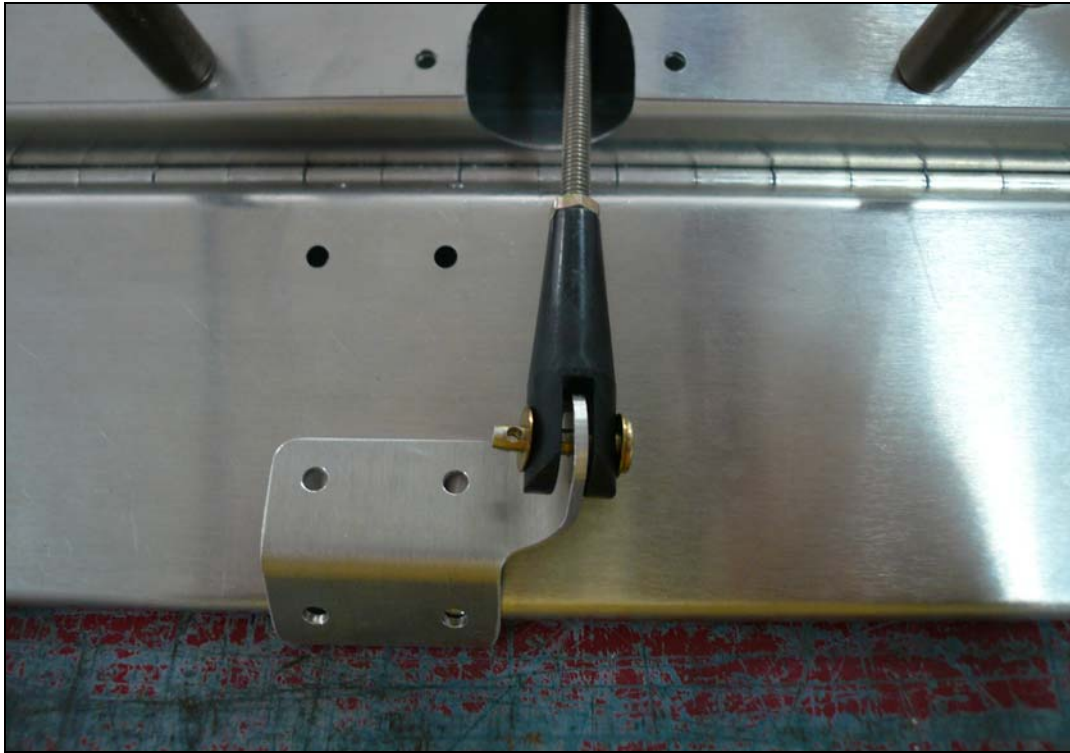


Use a pair of Snips to remove the tab on the bottom of the Cutout Channel. Then use a file to smooth the cut flush to the Skin.



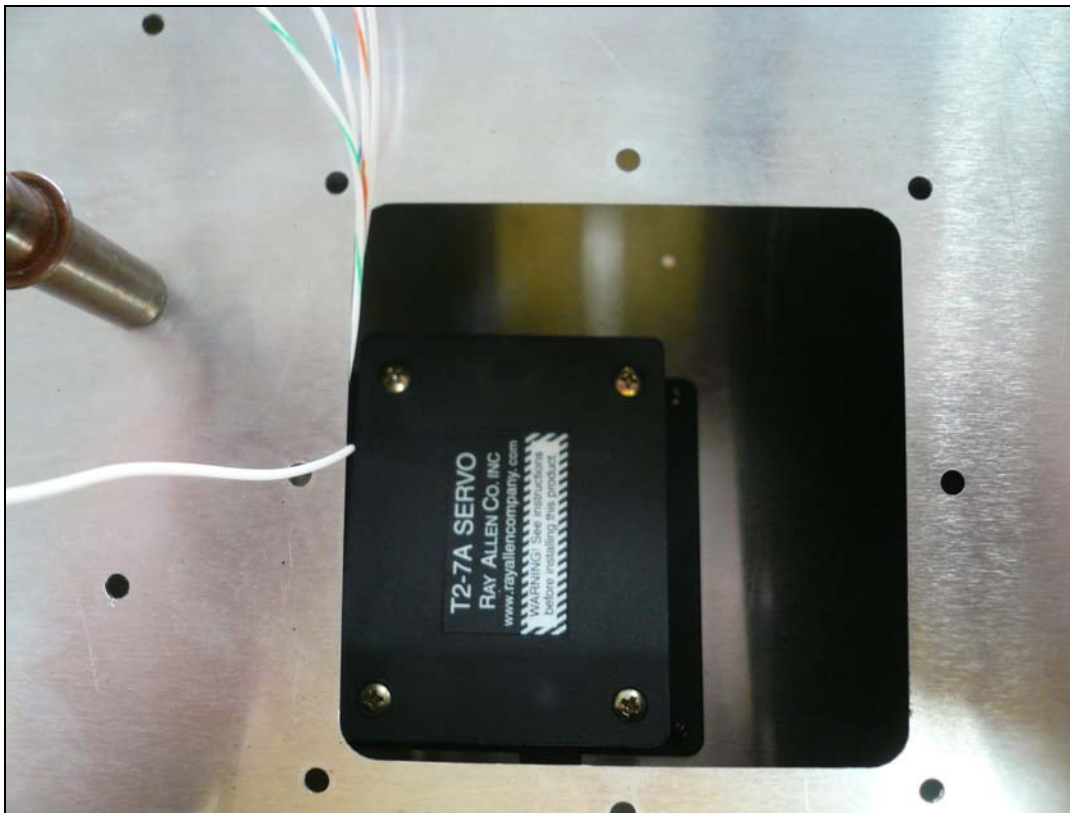
P/N: T2-7A-TS
Servo

Install the Clevis on the Servo Motor and thread the Threaded Rod on the Clevis. Cut the Threaded Rod so the distance between the Clevis' is set at 115mm. Install the Clevis on the end of the Threaded Rod.



P/N: 6T6-6
Trim Tab Horn Angle

Insert the Trim Motor assembly inside the Elevator with the Rod sticking out of the cutout. Install the Trim Tab Horn Angle on the Clevis. Then cleco the Horn to the Trim Tab.



Cleco the Trim Motor to the top Skin of the Elevator.