

Section 6-B-4 Rear Fuselage Riveting



This manual has been prepared for assembly of the rear fuselage. 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: 6B3-6
Rear Panel



Mark the center line on the top flange of the H.T. Frames. Extend the center line onto the Longerons.



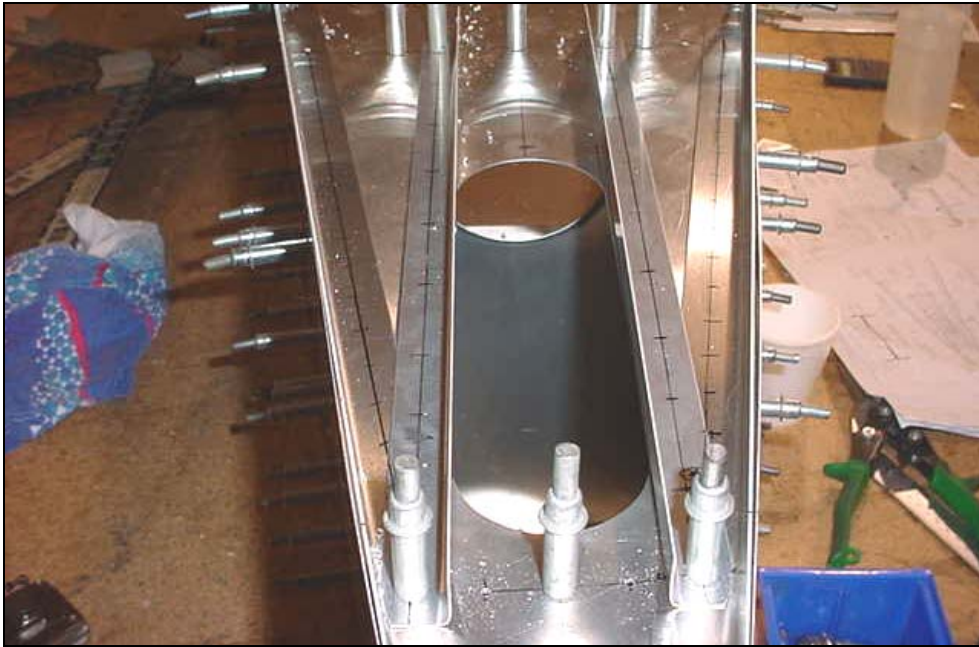
Position the rear panel between the longerons and the HT frame. Line up the aft edge of the panel flush with the aft edge of the side skins.

Note: Use squares to check the fuselage is not twisted.

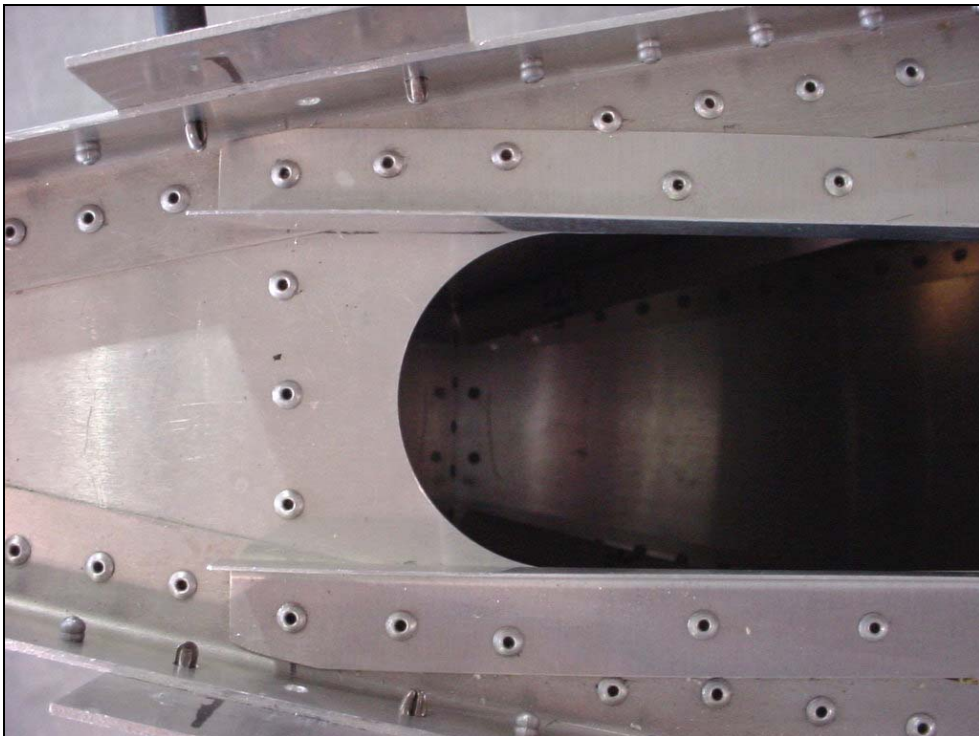
With the center line of the H.T. Frames visible through the predrilled holes, back drill through the Rear Panel into the H.T. Frames and Cleco.



Cut two pieces of L Angle 360mm long. Draw center lines on the inside of one flange on each L Angle. Mark a rivet location 10mm the each end of the L Angles and drill with a #40 drill bit on the marks.



Cleco the L Angles to the Rear Panel at the Forward H.T. Frame and clamp the L angles along the sides of the cutout. Trim the L Angles to fit inside the bend radius of the Longerons. Back drill through the L Angle into the Longeron and Cleco. Layout the rivet locations on the L Angles at pitch 40.

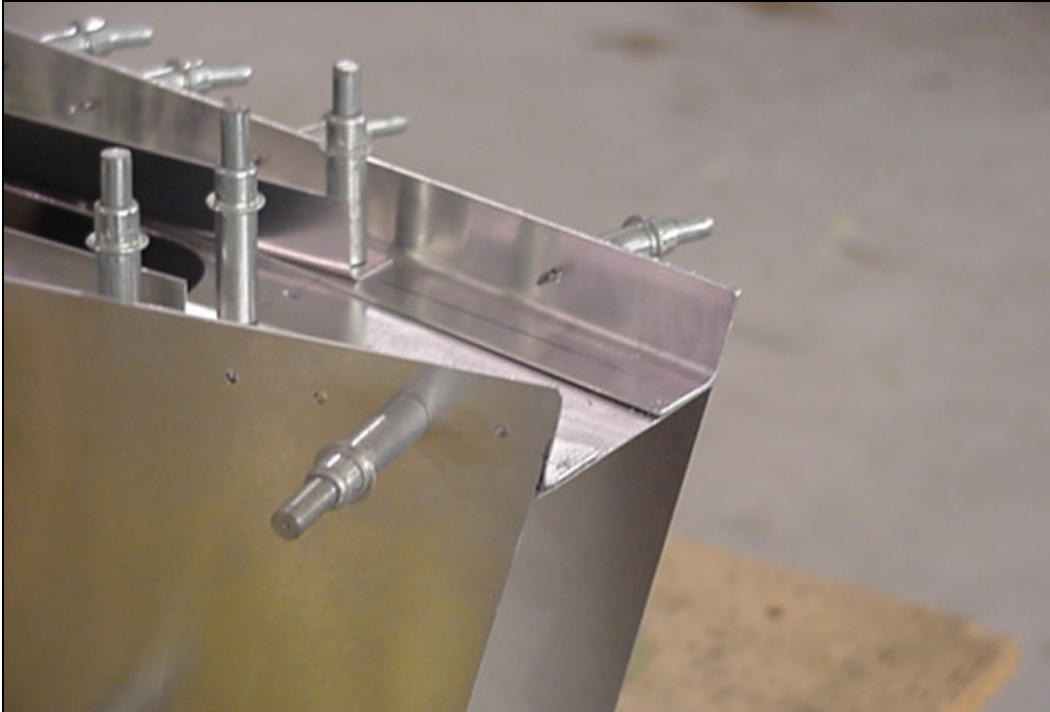


Detail of rivet spacing in the area where the L angles overlap the longeron.

Note: Be sure there is enough edge distance on the rivets in both the L Angle and the Longeron before drilling.



Draw the center line on the flange of the Longerons. Layout the rivet line in the Longerons into the Top Panel at pitch 20mm. With a #30 drill bit, drill and Cleco the Longerons to the Top Panel.

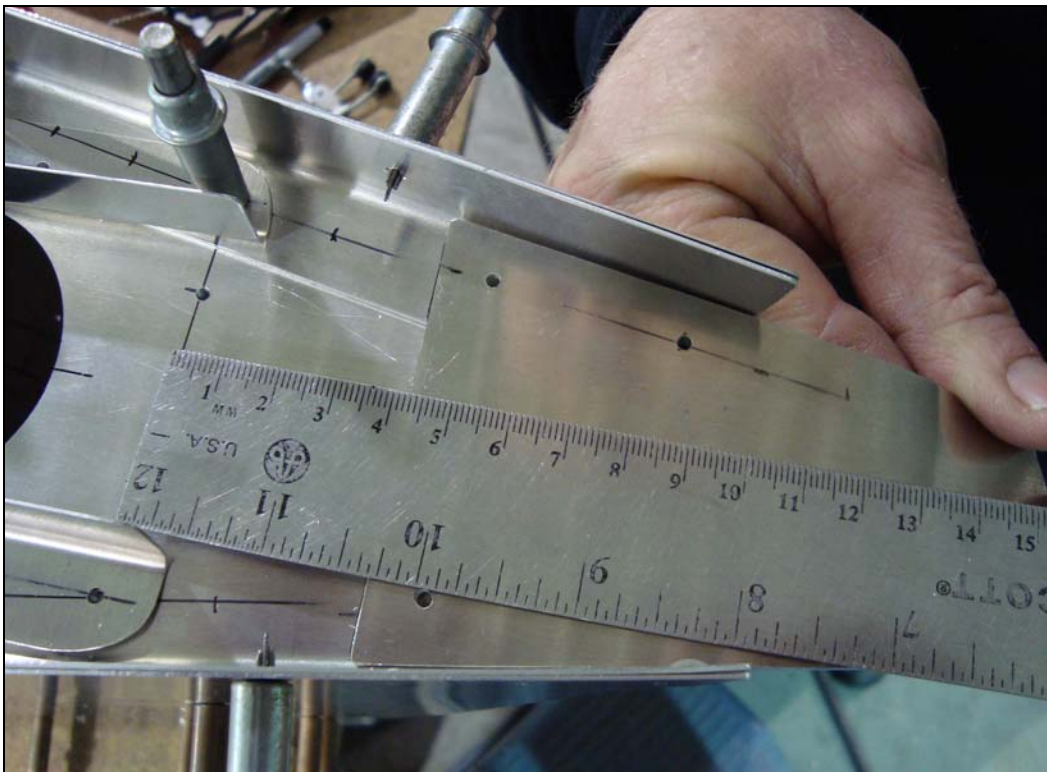


Trim the aft end of the Rear Top Longerons flush with the end of the Side Skins and the Top Panel.



P/N: 65B2-7
Upper Rudder Hinge

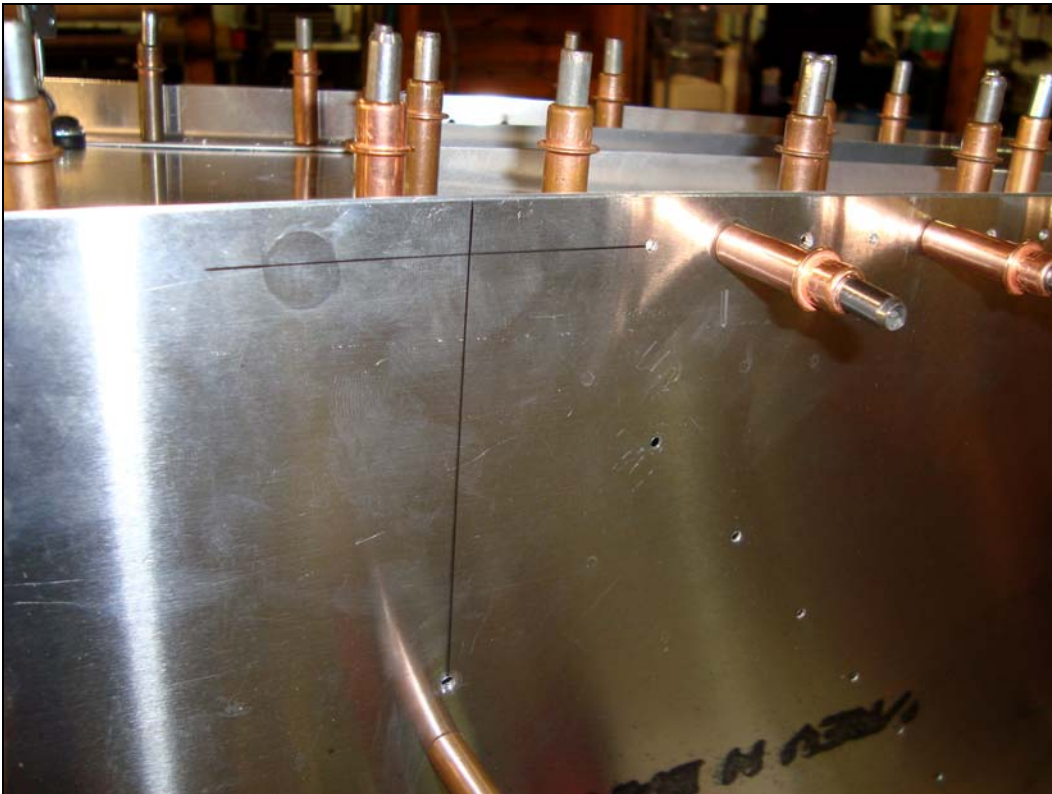
Note: Picture above does not show predrilled holes, although part is predrilled.



Position the Upper Rudder Hinge 43mm behind the rivet line for the Rear H.T. Frame. Clamp the Upper Rudder Hinge to the Longerons.



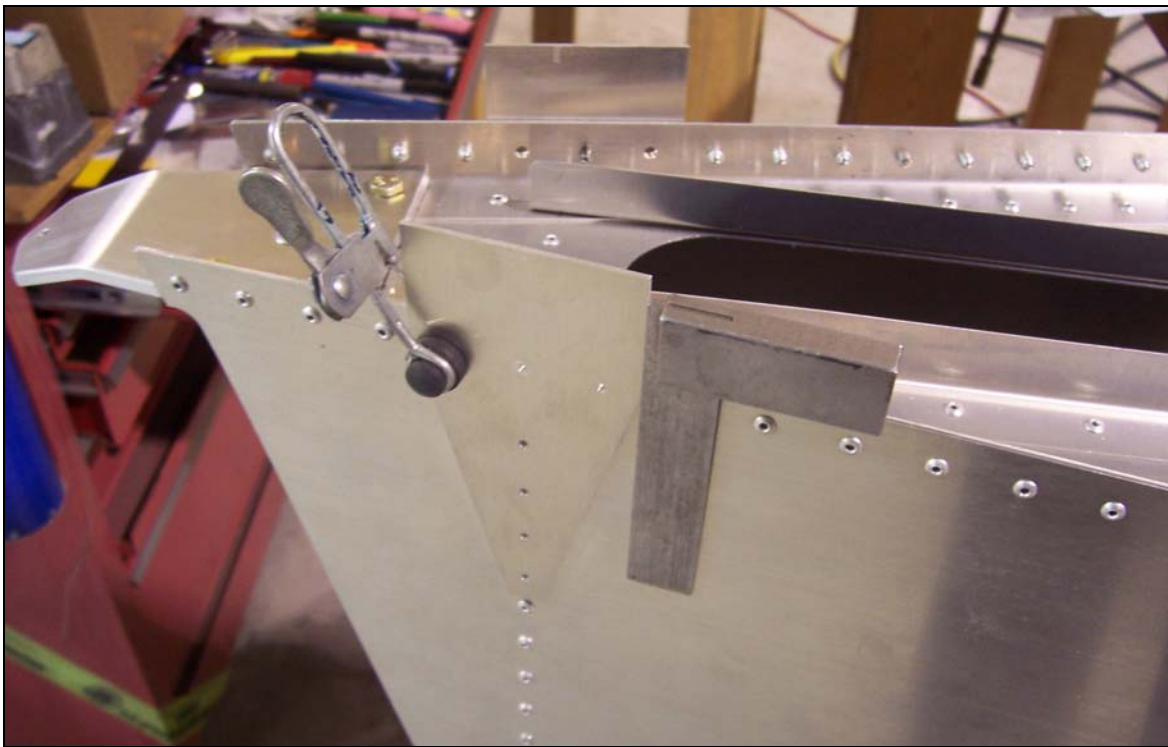
Back drill through the Upper Rudder Hinge into the Longerons and Top Panel and Cleco. Expand the holes through the Longerons to 3/16" and the center two holes with a #20 drill.



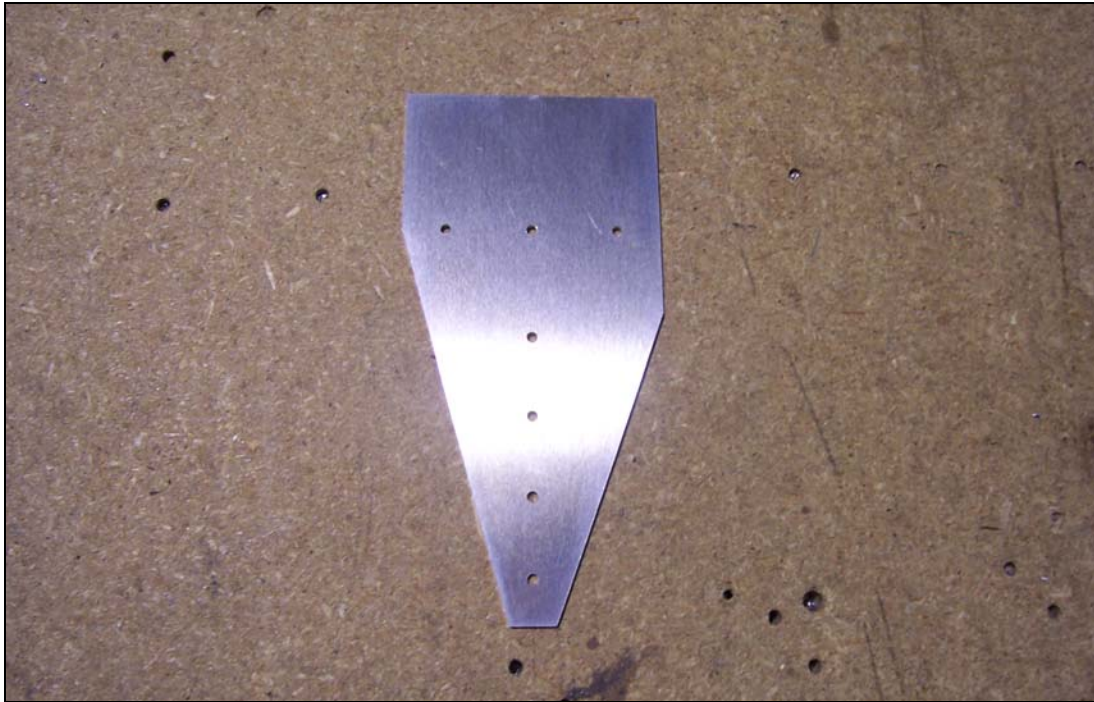
Mark a line extending the rivet lines for the H.T. Frames and the Longerons on the Side Skins.



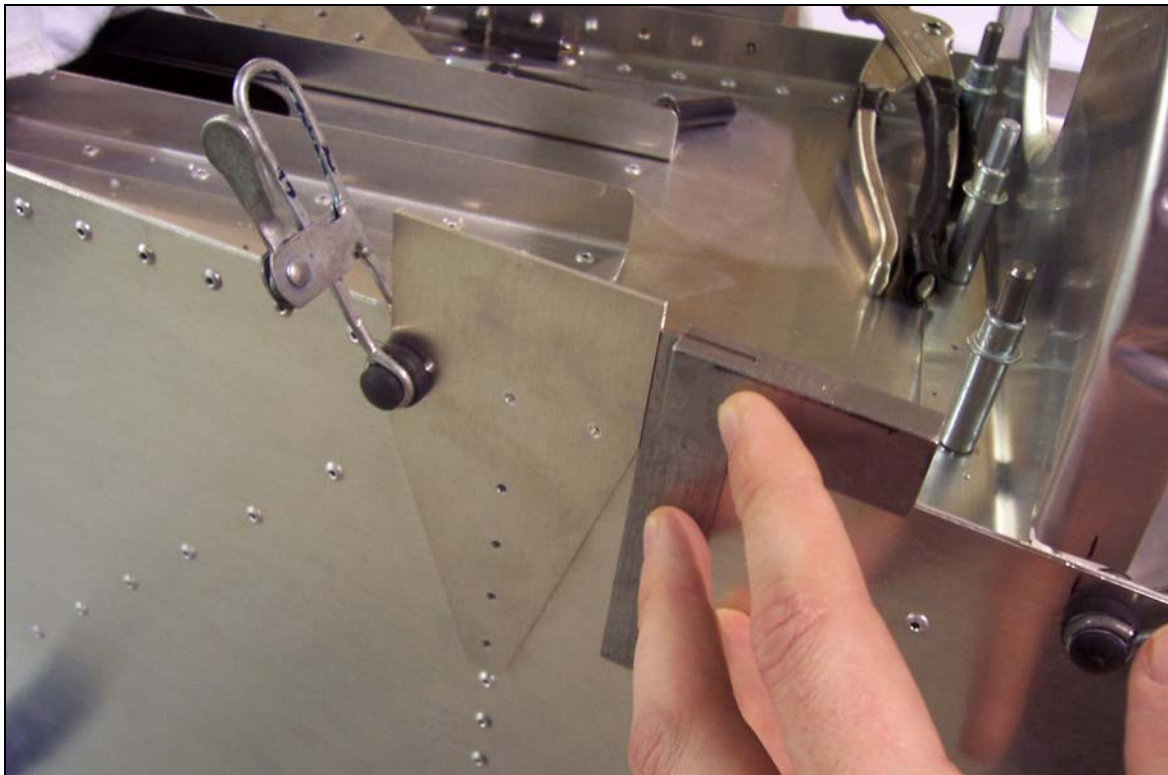
P/N: 6B1-8
H.T. Attachment
Bracket (Rear)



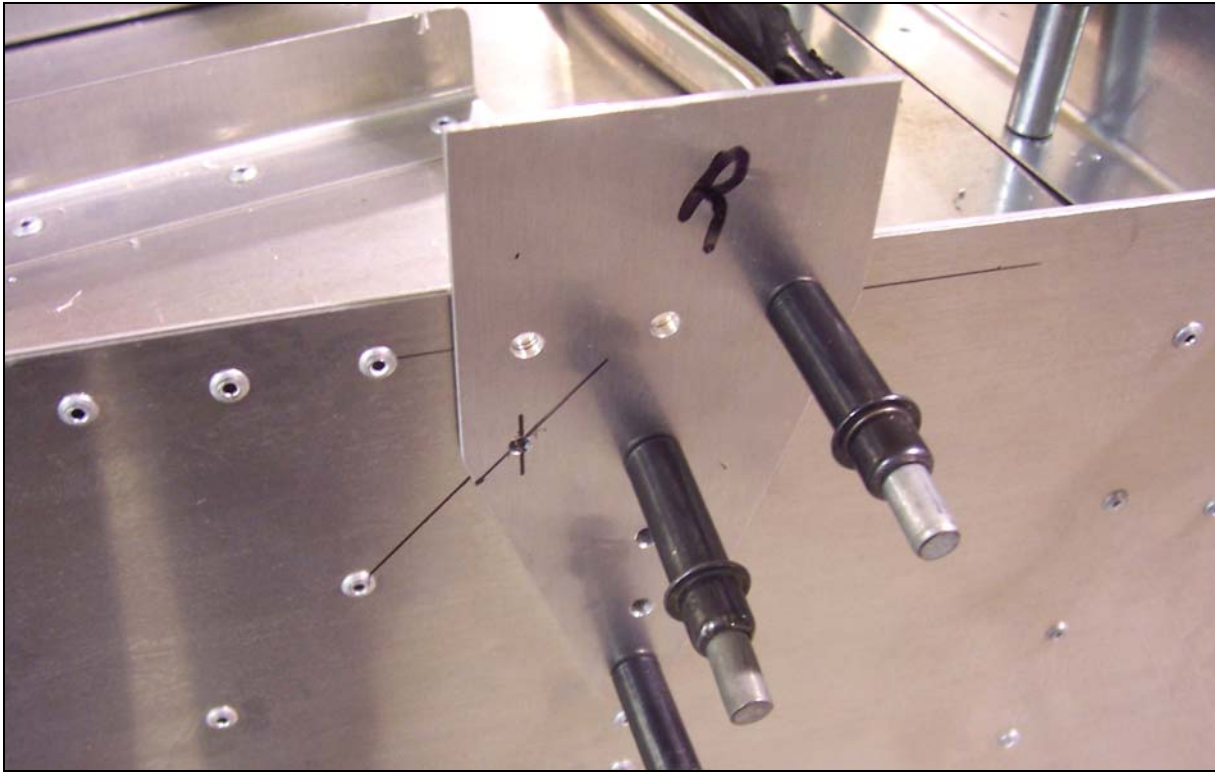
Position the Rear H.T. Attachment Bracket on the Side Skin. With the rivet lines visible through the predrilled holes and the sides square to the Longerons, clamp the Attachment Bracket to the Side Skin. With a #40 drill bit, back drill through the Attachment Bracket into the Side Skin and H.T. Frame and Cleco. Expand the holes with a #20 drill bit and Cleco.



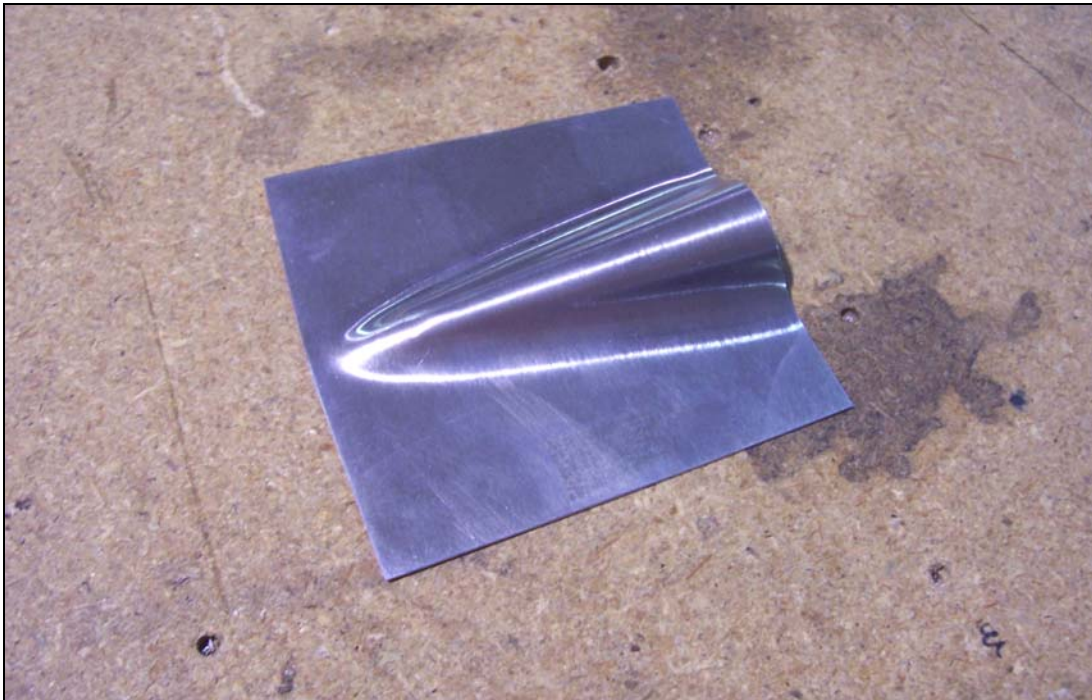
P/N: 6B1-9
H.T. Attachment
Bracket (Front)



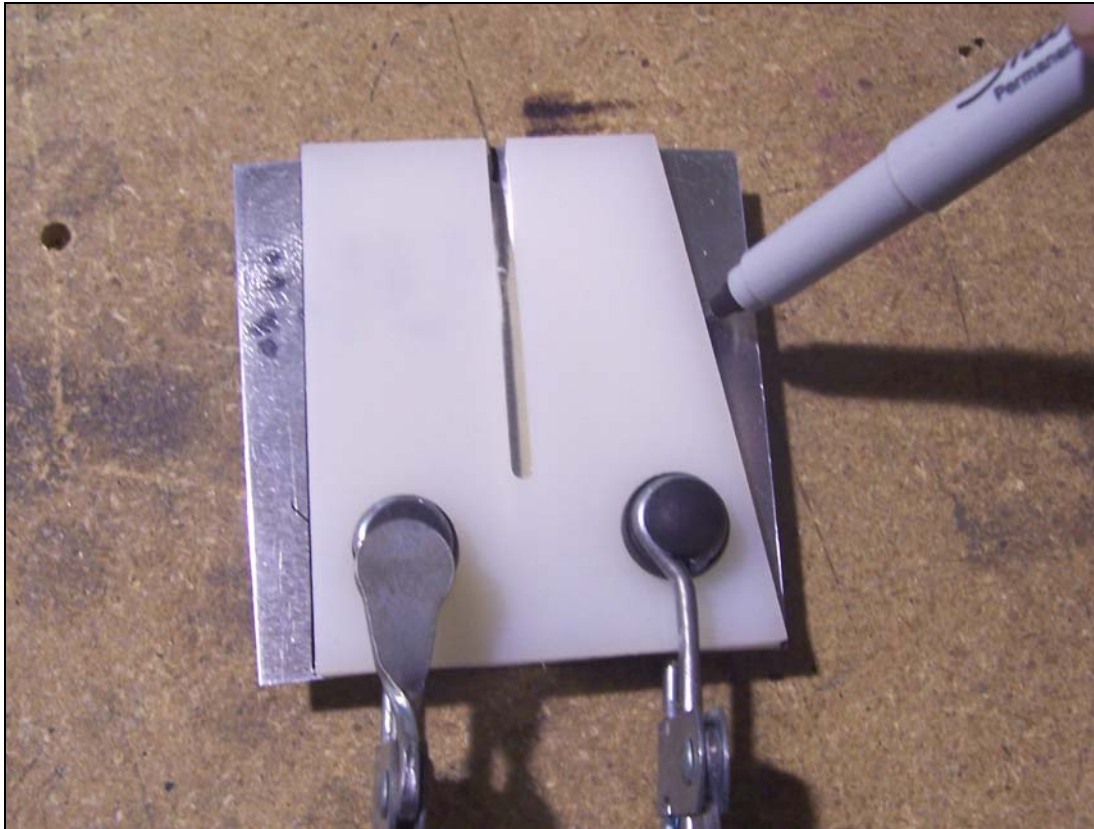
Position the Front H.T. Attachment Bracket on the Side Skin. With the rivet lines visible through the predrilled holes and the sides square to the Longerons, clamp the Attachment Bracket to the Side Skin. With a #40 drill bit, back drill through the Attachment Bracket into the Side Skin and H.T. Frame and Cleco. Expand the holes with a #20 drill bit and Cleco.



Extend the rivet line for the diagonal L Angle onto the Attachment Bracket. Mark a line 9mm from the aft edge of the Attachment Bracket. With a #40 drill bit, drill through the Attachment Bracket into the Side Skin and L Angle. Expand the hole with a #30 drill bit and Cleco.



P/N: 6B4-2
Cable Outlet Fairing

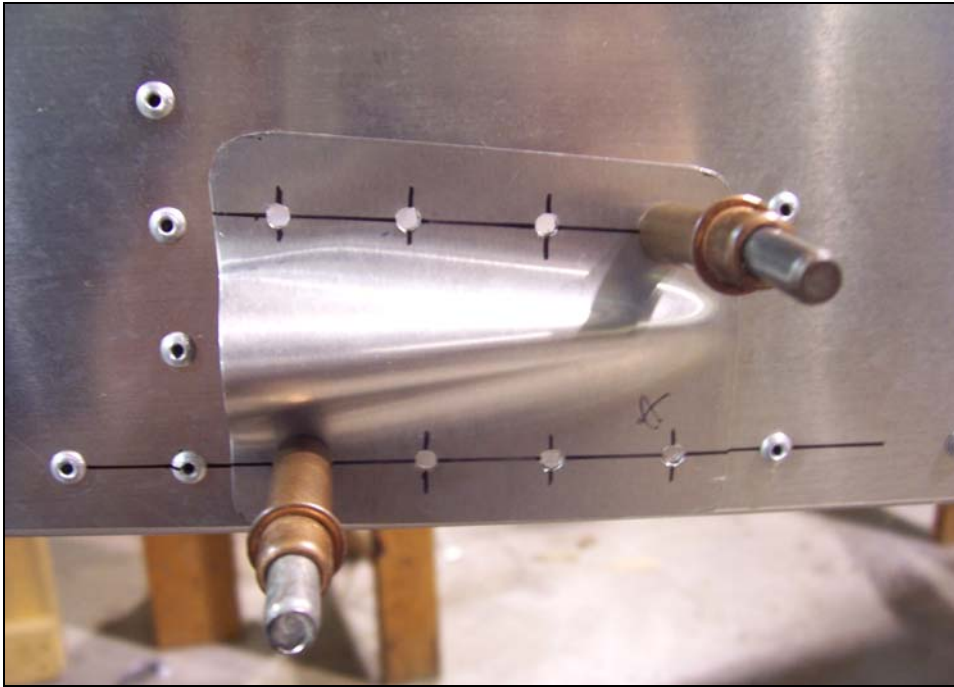


P/N: 6B23-1
Rudder Cable Outlet
Fairlead

Position the Fairlead on the inside of the Fairing. The slot opens to the front of the Fairing. Center the slot of the Fairlead on the opening of the Fairing. Trace the edges of the Fairlead on the Fairing and trim the Fairing on the lines.



Layout four rivet location on each side of the Fairing. The rivet lines should be 10mm from the edge of the Fairing. Drill the holes for the rivets with a #40 drill bit through the Fairing into the Fairlead. The picture above shows the holes drilled with a #30, wait until they are on the Fuselage to expand the holes.



Extend the rivet line for the Longeron on the Side Skin. Position the Fairing on the Side Skin, use duct tape to hold it in place.

Orientation: The opening on the Fairing is the aft end.

Back drill and Cleco the Fairing to the Side Skin.



Use a round file to file the end of the slot on an angle. Then Cleco the Fairlead with the Fairing on the Side Skin and expand the holes with a #20 drill, then Cleco.