

Section 75-FA-1 Rear Fuselage Skins



This manual has been prepared for assembly of the rear fuselage skins 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.

**STOL
CH750**

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Rear Fuselage Skins
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P/N: Z
'Z' Channel

Cut two Z channels 655mm long and one 854mm long. Draw a center line on the flanges of the Z channels.



P/N: 75F1-1
Bottom Fuselage Skin

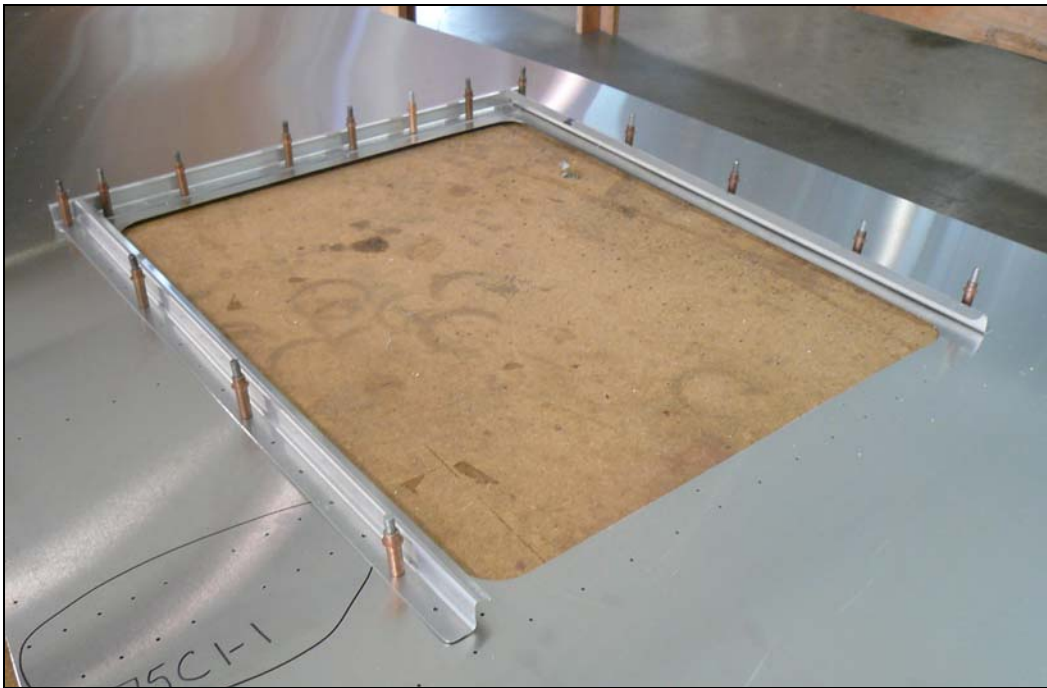
Find the two rivet line 426mm aft of the front edge of the Bottom Skin to orientate the Bottom Skin. These holes are the rivets lines for P/N 75C1-1, Linear Actuator Mount and belong on the passenger side of the Fuselage.

Note: Do NOT install the Linear Actuator Mount until the controls are installed to ensure proper alignment with the Control Mixer.



Place the Z Channel that is 854mm long on the Bottom Skin at the rivet line aft of the access hole. Position the Z Channel so the center line is visible through the predrilled holes. With a #40 drill bit, drill through the Bottom Skin into the Z Channel and Cleco.

Orientation: The Bottom Skin has been predrilled for the Linear Actuator Mount; these holes should be on the right side of the aircraft, see drawing 75-FA-1 or 75-CA-1.



Position the 625mm long Z Channels on the Bottom Skin so the center line is visible through the predrilled holes on the sides of the access hole. With a #40 drill bit, back drill through the Bottom Skin into the Z Channels and Cleco the Z Channels to the Bottom Skin.

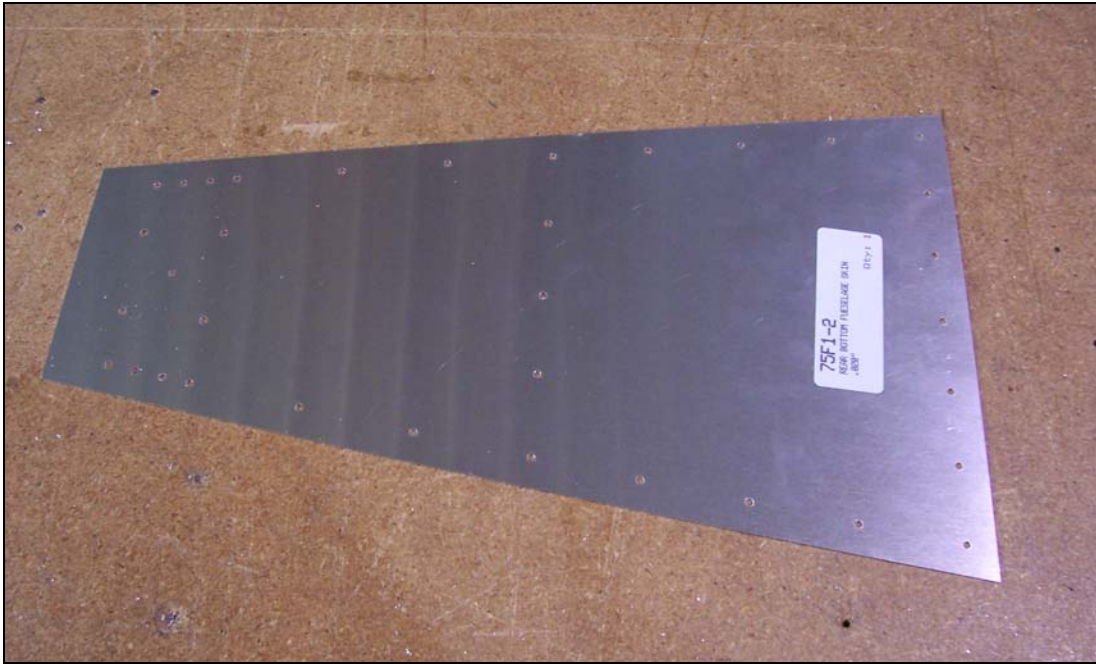


Cut 2 pieces of L angle (or Z Channel) 190mm long. Draw a center line on one flange of each L angle. Position the L angles on the Bottom Skin overlapping the Z channels and the edge of the skin. With the center line visible through the predrilled holes in the skin, drill with a #40 drill bit and Cleco. Then expand the holes with a #30 drill bit.

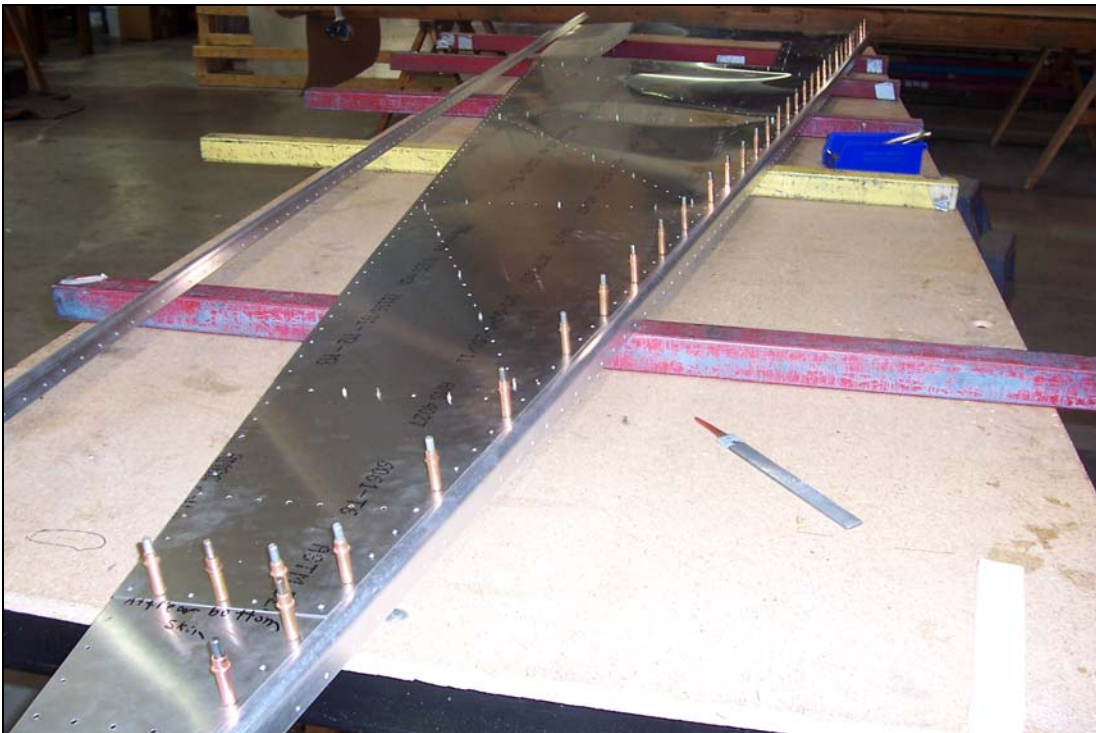
Note: Z channels were used in the photo above.



Cut L Angles to the proper length for the lateral stiffeners. The L Angles overlap the Longerons; see drawing 75-FA-1 for details. Draw a center line on the flanges of the L angles. Position the L Angles on the Bottom Skin so the center line is visible through the predrilled holes. With a #40 drill bit, back drill through the Bottom Skin into the L angles and Cleco. Repeat this procedure for the diagonal L Angles. The diagonal L Angles do not overlap any other stiffeners.

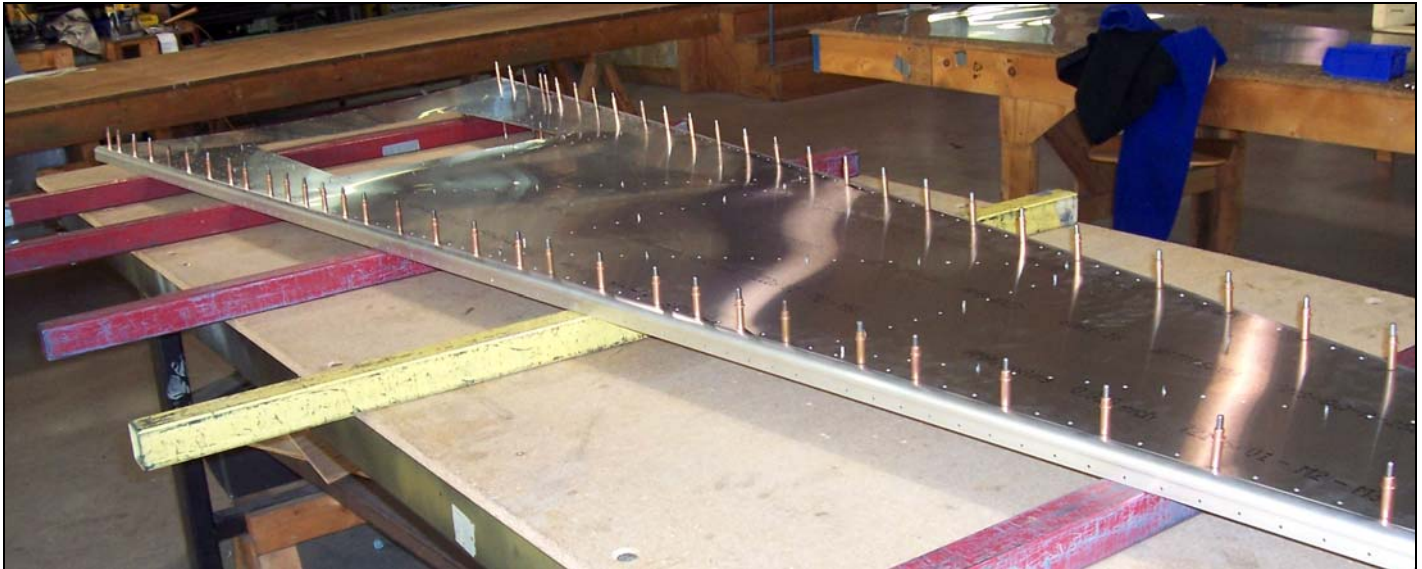


P/N: 75F1-2
Rear Bottom
Fuselage Skin



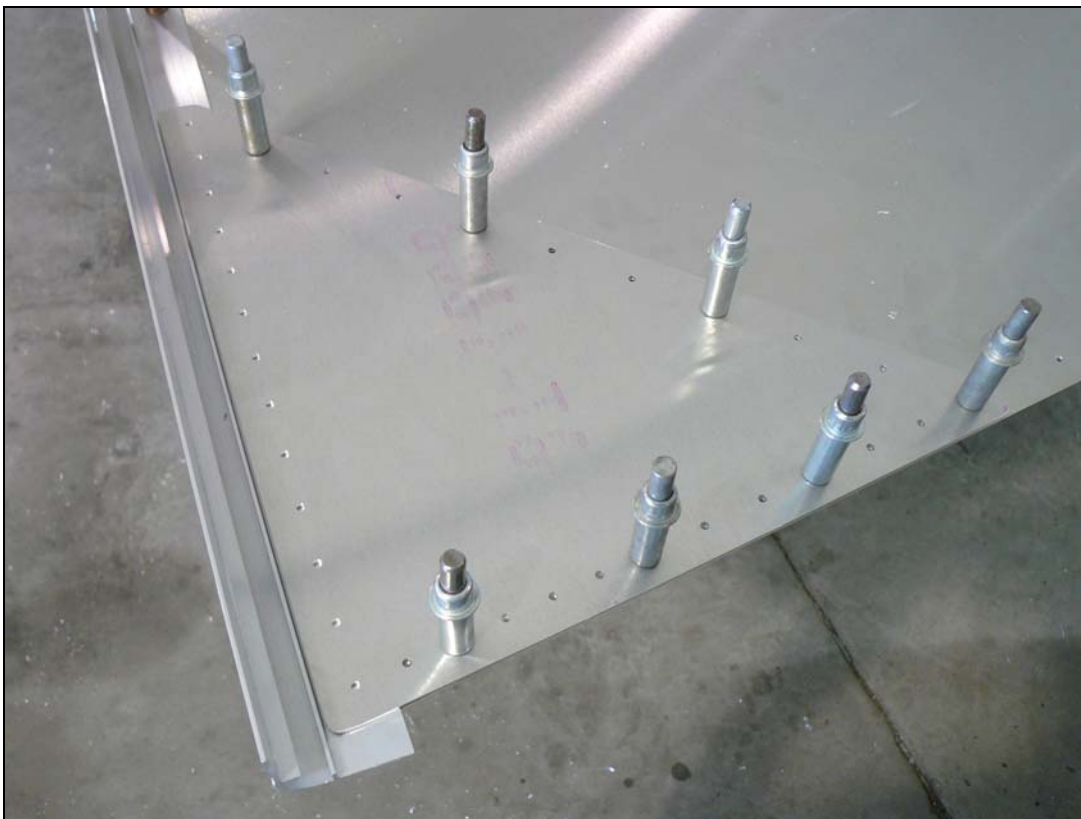
P/N: 75F2-2
Rear Fuselage
Longeron

Cleco the Rear Bottom Skin to the Bottom Skin. Position the Longeron on the side of the Bottom Skins. The Longeron is properly positioned when the skin is against the lip on the Longeron at the start of the radius. Position the Longeron so there is excess on each end of the Skins, they will be trimmed later. Back drill with a #40 drill bit through the holes in the Skins into the Longerons and Cleco. With a #30 drill bit, expand the holes.



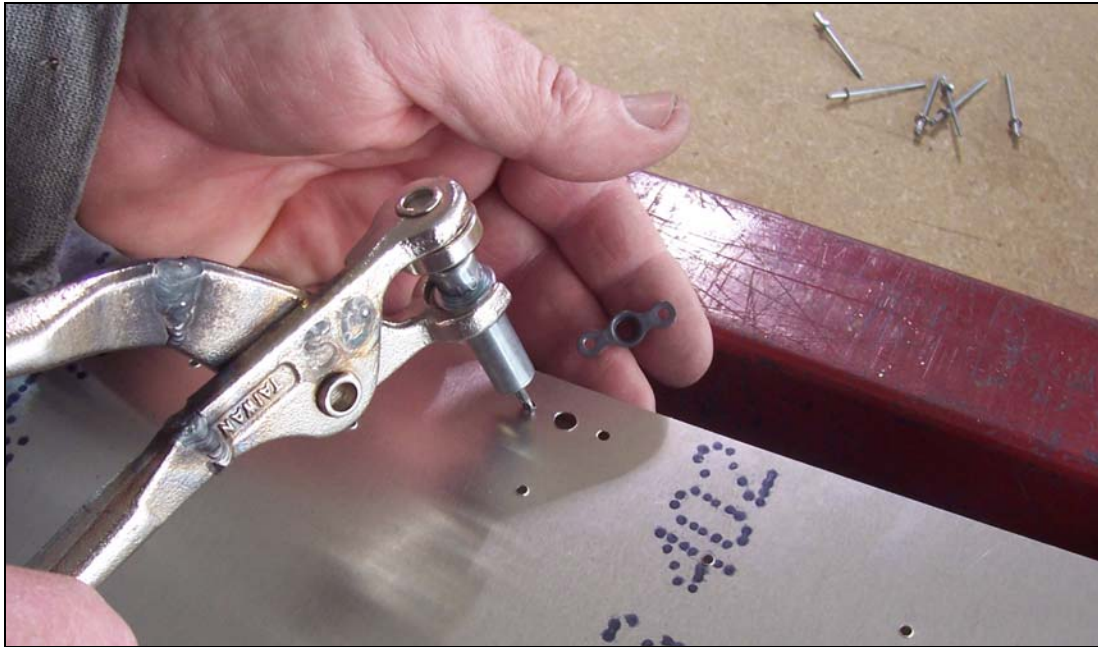
Attach the Longeron on the other side of the Bottom Skins using the same procedure. With a #20 drill expand the holes in the Longerons through the Bottom Skin from the first L angle aft of the access hole forward.

Reference: See drawing 75-FA-1 for rivet size and location information.



P/N: 75F4-8
Bottom Skin Gusset

Cleco the Bottom Gusset to the Bottom Skin. With a #30 drill bit expand the holes in the Bottom Gusset in the Longeron and the back angle only, and then expand those holes with a #20 drill bit. Leave the front edge holes until the Gear Channel is installed.



P/N: MS21047L3
Nut Plate

P/N: AN525-10R7
Washer Head
Screws
(not shown in photo)

Expand the holes for the Nut Plates in the Bottom Skin around the access hole to $\frac{1}{4}$ ". Use the Screw to position the Nut Plate to drill the rivet holes in the Bottom Skin. Back drill through the Nut Plate into the Bottom Skin with a #40 drill bit. Deburr the holes, Cleco the Nut Plates on the inside of the Skin and rivet with A3 rivets.

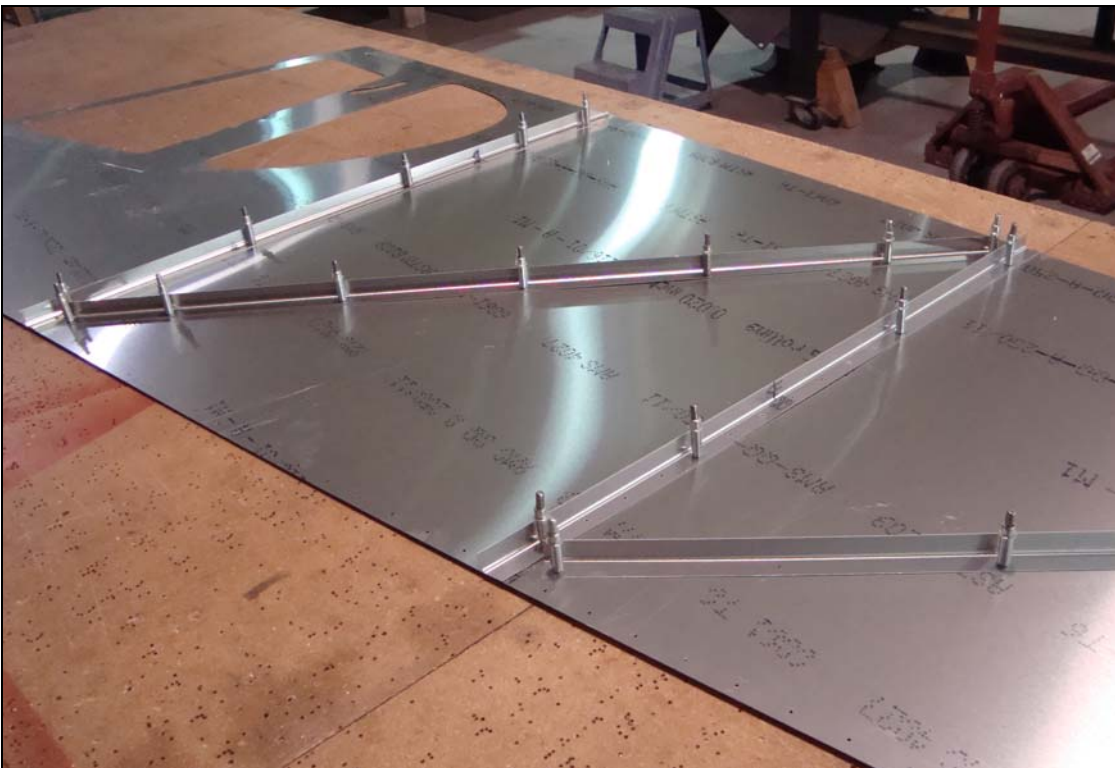


Disassemble the Bottom Skin and stiffeners, deburr, and rivet the stiffeners and Longerons to the Bottom Skins.



P/N: 75F1-3
Fuselage Side Skin

The photo above has had the stiffeners installed; this is done in the following steps.



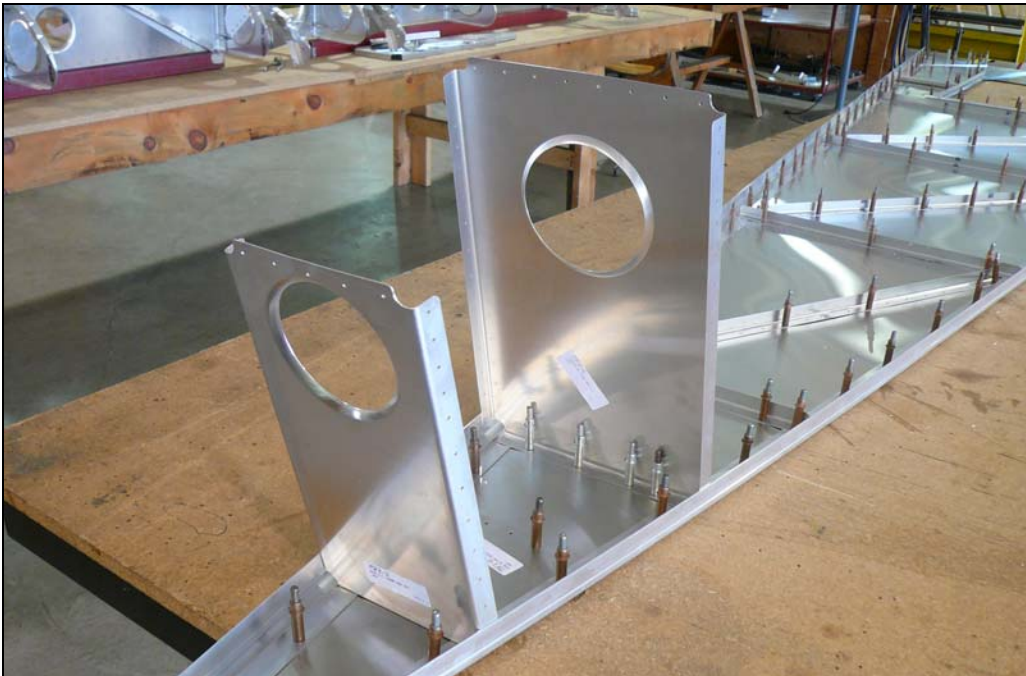
Install the L angles stiffeners to the Side Skin. Start at the first vertical line of predrilled holes aft of the second window. The vertical L angles overlap the rivet lines for the Longerons. The diagonal L angles don't overlap any other stiffeners.

Reference: See drawing 75-FA-1 for L angle positions and flange directions.



Install the Longeron to the TOP of the Side Skin. Position the Longeron with the edge of the Side Skin against the lip on the Longeron at the start of the radius. The vertical L angles should overlap on top of the Longeron. With a #40 drill bit, back drill through the Side Skin into the Longeron and Cleco as the holes are drilled. With a #30 drill bit, expand the holes and Cleco. With a #20 drill bit, expand the holes from the vertical L angle aft of the first window forward.

Reference: See drawing 75-FA-1 for details on rivet size and location.



P/N: 75F2-3
Rear H.T. Frame

P/N: 75F2-4
Forward H.T. Frame

Cleco the Forward H.T. Frame and Rear H.T. Frame to the Bottom Skins. Expand the holes with a #20 drill bit and Cleco. L angles are shown Clecoed to the H.T. Frames in the photo above, this is done in a later step. Deburr the H.T. Frames and Bottom Skins, Cleco, and rivet the H.T. Frames to the Bottom Skins.