STOL CH 801 HORIZONTAL TAIL ASSEMBLY – SECTION 3
"HINGES & ELEVATOR INSTALLATION"

Part 8H3-3 is not symmetrical.
Keep helpful building tip number four in mind.

Layout the midpoint across the short edge.

Hinge Line

With a square layout the hinge line.

Hinge line is square to the flange.

Note: "Top / bottom". It's a good idea to write this on your horizontal tail assembly to avoid confusion as work progresses.

The hinge line is 58mm from the top of the stabilizer.

Remember when we talk about left or right we are referring to the position when installed on the aircraft. Stabilizer

Line up the Hinge line on the Bracket with the hinge line on the spar. The rivet flange is on the left hand side of the Stabilizer center line. Keep the bracket at 90 degrees to the spar.

NOTE: top and bottom holes are through the Doublers on the other side of the spar.

Drill through the predrilled holes and cleco with 3/32” drill.

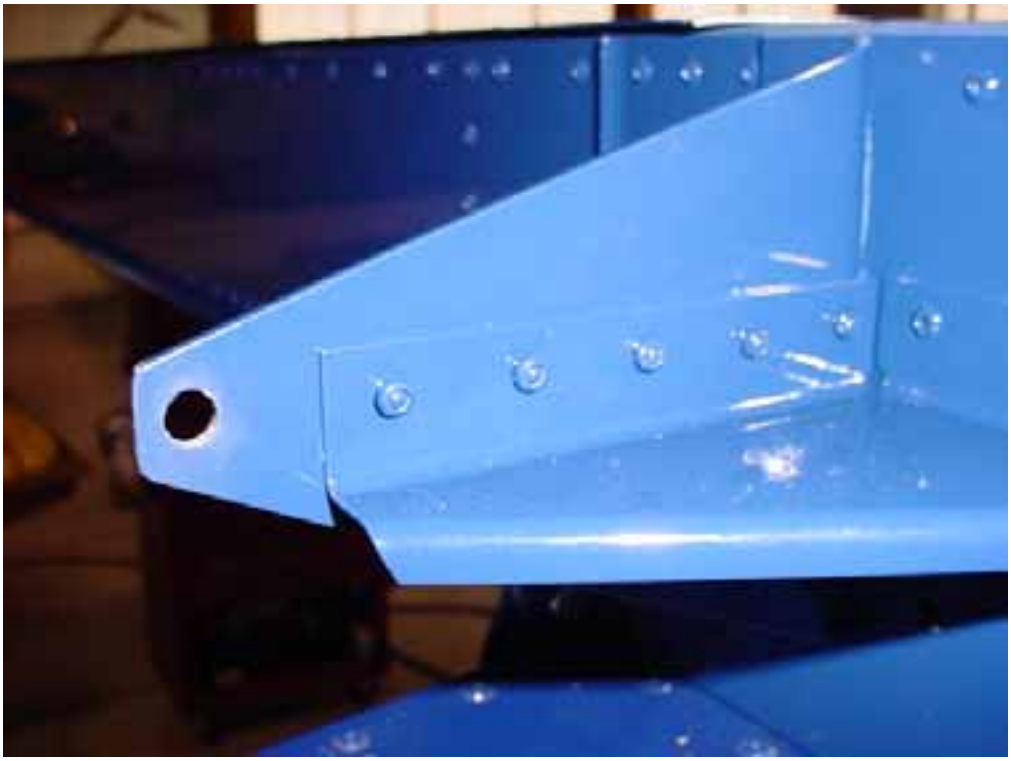
CENTER HINGE GUSSET
8H5-4 qty = 1

8H5-4 gusset with predrilled holes.

This gusset is installed on the right side of the center hinge bracket.

3 RIVETS A5
8H5-4 through 8H2-11 and spar web 8H3-6

The 8H5-4 gusset is positioned with it's predrilled holes on the center lines drawn on the hinge bracket 8H3-3.



5 RIVETS A5
8H5-4 to side of 8H3-3

Drill into both the bracket and the spar - Cleco as you go.

Small flange points down.

Open all holes to A5 & cleco.

O/B HINGE PLATE
8H3-1

Installing the outboard hinge plates is next.

The elevator is to be upside down on the table.

HINGE LINE: The hinge line is 58mm from the top surface of the stabilizer.

Open the hinge hole in the bracket 8H3-1 to 3/16”
Layout the center line as shown.
Assemble the hinge to the elevator with a washer and cotter pin but don’t bend the pin yet.

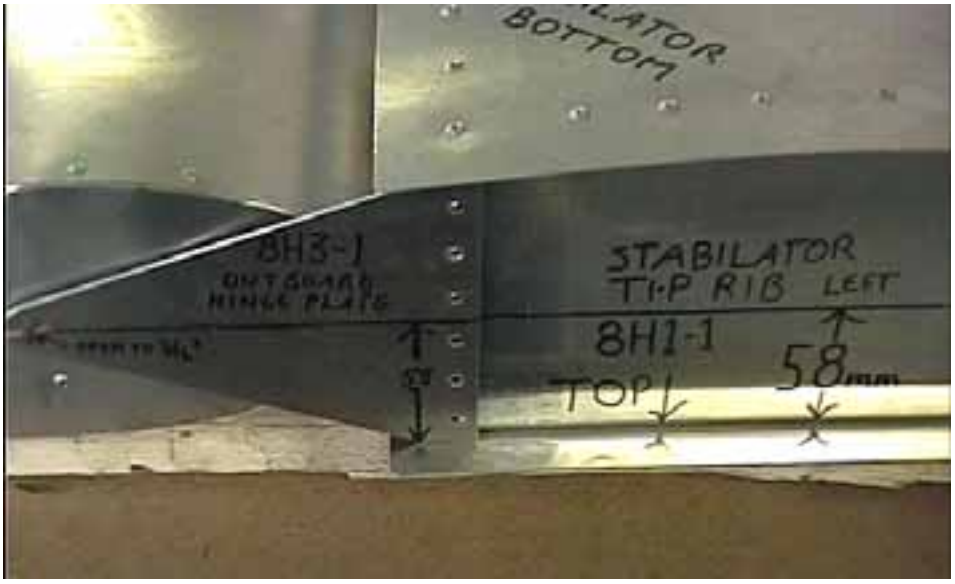
The horizontal tail is still upside down on the table. Measure 58 mm. from the top skin and mark line.

Attach 1/4” spacer block on either end of the horizontal tail as shown.

Notice the wooden supports under the assemblies. This is to provide clearance for the elevator control horns.

With the horizontal tail nicely supported slide the elevator into position up against the spacer blocks.
Support the elevator in a neutral position.

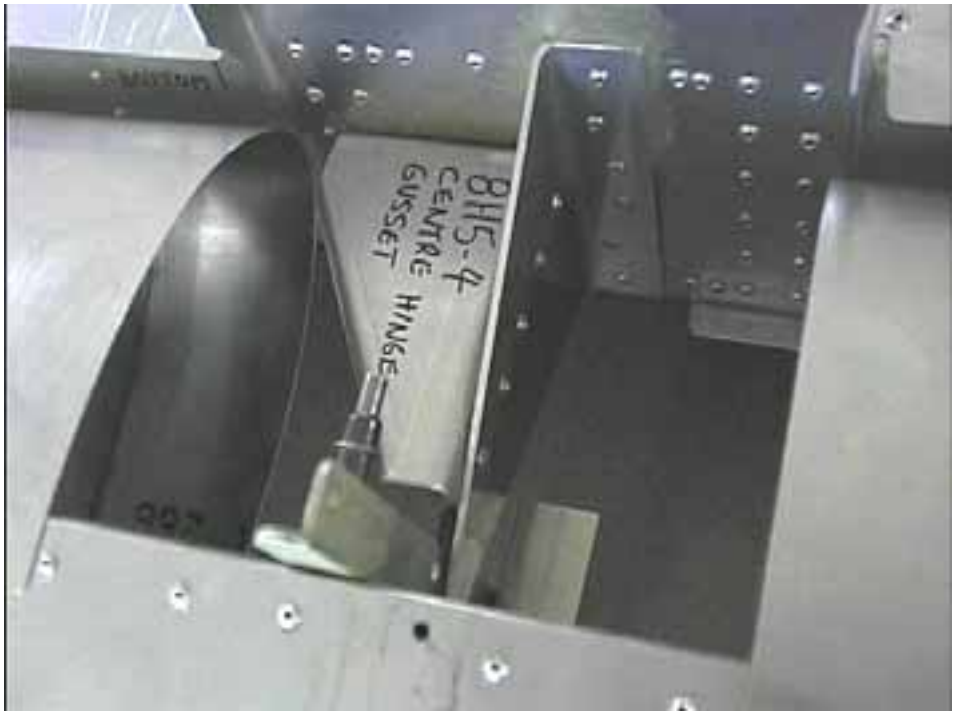
Spacer block in place.



Simply align the centerlines and its time to drill.

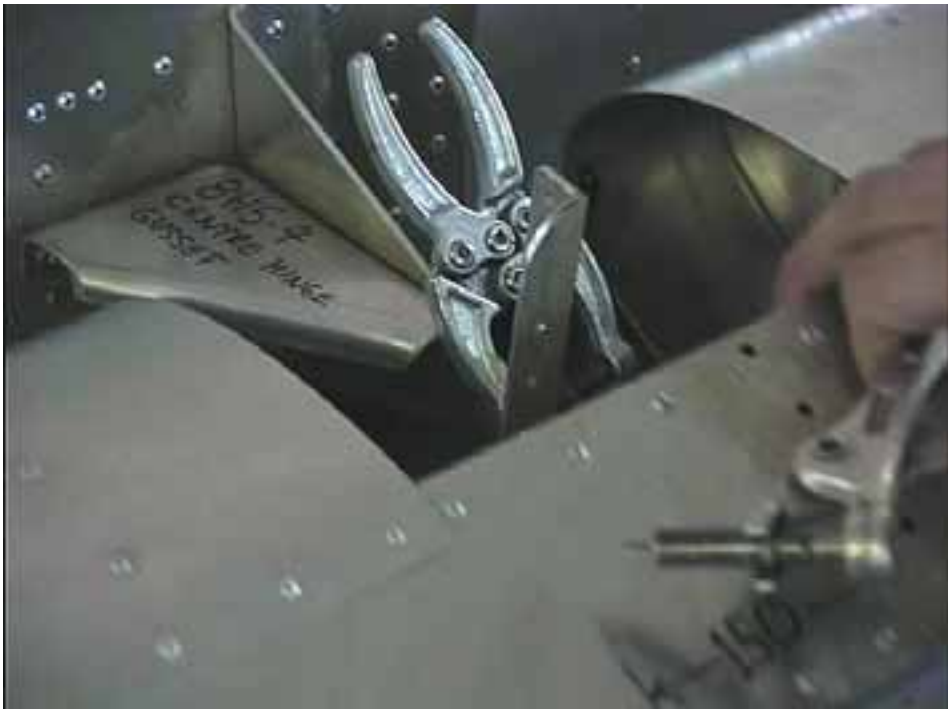
Drill top holes, cleco. Drill bottom hole, cleco. Drill the balance of the holes.

Keep hinge plates in position with centerlines aligned.
Keep elevator snug against spacer blocks and drill into the rib - cleco as you go.
Open holes with #20 drill and cleco. Don't rivet yet!



Time to drill the center hinge hole.

The assembly should look like this with 8H5-3 clecoed in place on the elevator. 8H3-3 will need to be trimmed back for the proper length.



Clamp the extruded L to the hinge bracket on the stabilator.
Uncleco the L from the elevator.

Be careful not to disturb the L which is clamped to the hinge bracket on the horizontal tail.

Remove the elevator and drill the hinge hole through the predrilled hole in the L.

Open the hinge hole to fit the bushings.
The extruded L can now be riveted to the elevator.
Do not fasten the elevator to the horizontal tail just yet. It will be installed after the horizontal tail has been positioned and bolted to the fuselage.