

STOL CH 801 FORWARD FUSELAGE ASSEMBLY

SECTION 2 Finishing the Firewall



RIVETS: SA5 or A5 (all rivets on the firewall, rivet head set from the engine side)
SUGGESTION: First drill undersize pilot hole #30 or #40, then open with #20



**LARGE CAPACITY
HAND RIVETER**

P/N 41291-OAUH
\$16.99

Harbor Freight Tools
3491 Mission Oaks Blvd.
Camarillo, CA 93011-
6010
USA
(800) 423-2567
(800) 905-5220

CAUTION: The Enco air riveter model 801-1250 rated for 90PSI, this may not enough pressure to pull the SA-5. Increasing the pressure will cause the casing to crack at the back (between the bolts). Suggest using the large capacity hand riveter for the SA-5 rivets.



**SA-5
Avex dome head
stainless steel rivets**

Flat nose piece on the rivet (nose piece that comes with the riveter)



LOWER HORIZONTAL FIREWALL ANGLE 8F7-8

8F7-8 is clamped on the inside of the firewall on the bottom flange (cabin side).

CHECK: 8F7-8 is bent at the same angle as the bottom flange of the firewall. The angle fits between the crimps on the firewall.

Clamp 8F7-8 to the bottom flange of the firewall.
Drill & Cleco through the two engine mount holes.

Remove the Angle to mark the rivet line: connect the left and right hole with a straight line.



End holes of the rivet line are set at 250mm from center line.

Layout the two rivet holes on each side of centerline on 8F7-8; drill and cleco.



Add a piece of L angle on the bottom side of Z stiffener 8F7-1

Layout 2 rivet lines on the L angle:
The flange that overlaps with the Z stiffener, and on the flange that will overlap on the firewall.

Remove 8F7-1. Cut a piece of std 'L' 700mm long and fit it flush with the firewall flange of 8F7-1.

Rivet line: Layout the rivet line on the L angle 10mm from the edge. Mark the Aircraft Center line and the end holes 10mm in from the end of the L angle.

Clamp the 'L' to 8F7-1 and drill a rivet hole at each end and in the center, through the 'L' and 8F7-1. Re-install 8F7-1 to the firewall.



**CENTER CHANNEL
8F7-2**

Layout two rivet lines 35mm from the center line on the Channel 8F7-2



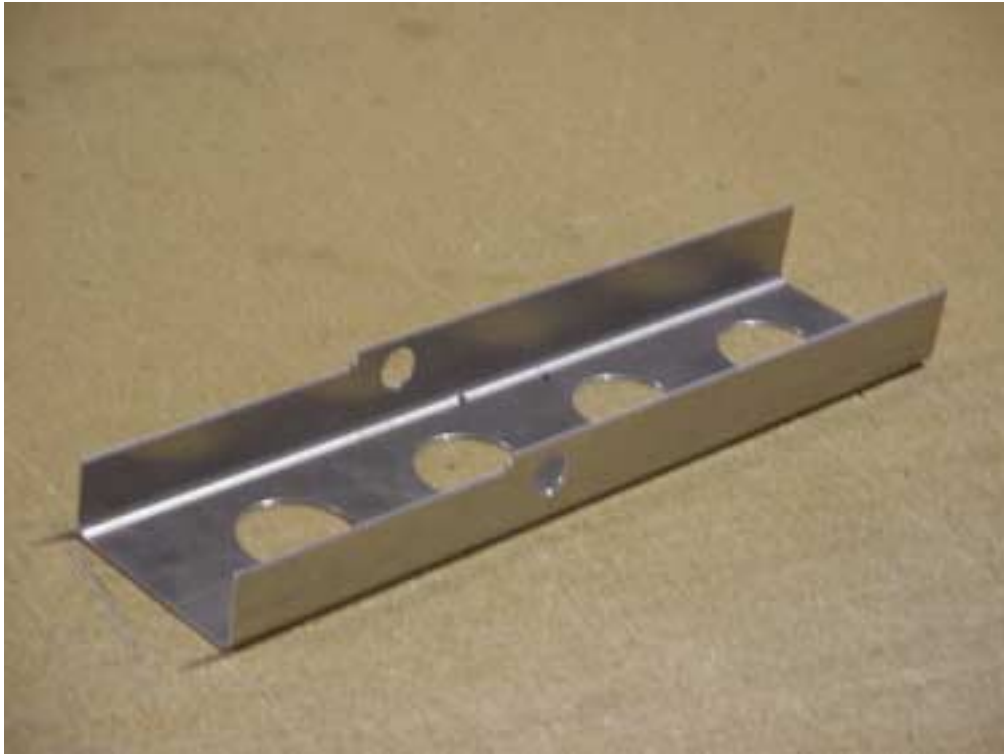
**VERTICAL TOP CHANNEL
8F7-3**

Layout 3 rivet lines, one on the center line and one on each side 38mm from the center line.



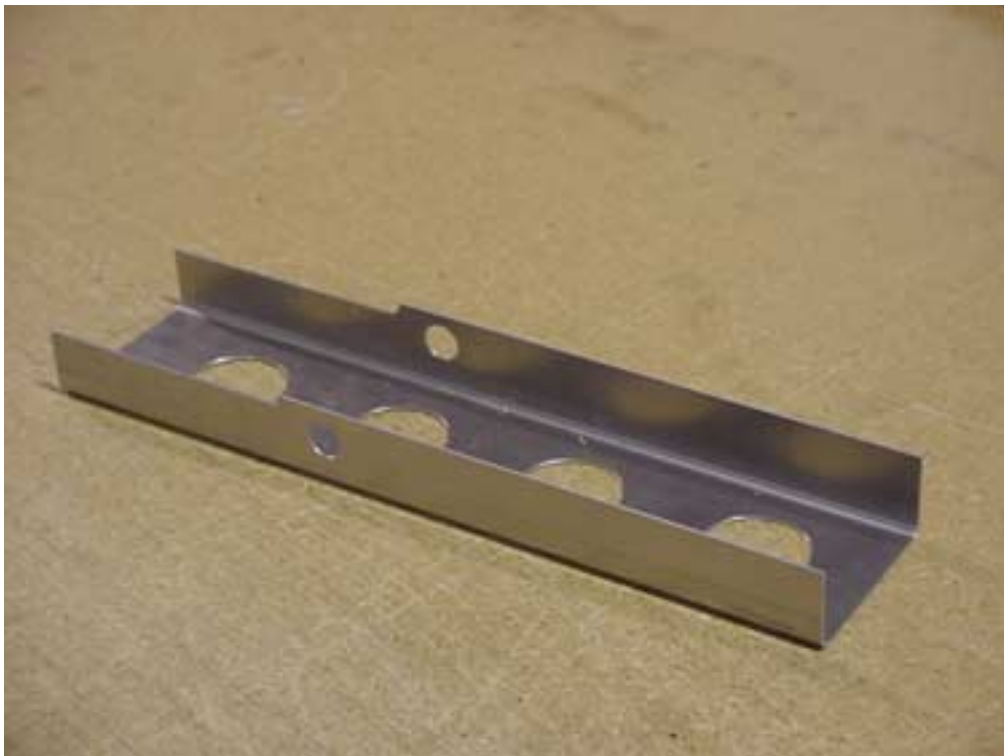
The Top Channel 8F7-3 overlaps on top of the firewall flange of the Z stiffener 8F7-1 (keep the bottom end even with the bend tangent line of Z, if it overlaps too far down there will be a gap between the Channel and 8F7-1)

Layout four rivet holes in the upper channel 8F7-3.
The top holes are 280mm up from the rivet line in the Z.



**VERTICAL CENTER
CHANNEL
8F7-2**

The groove (shorter flange) is towards the bottom.

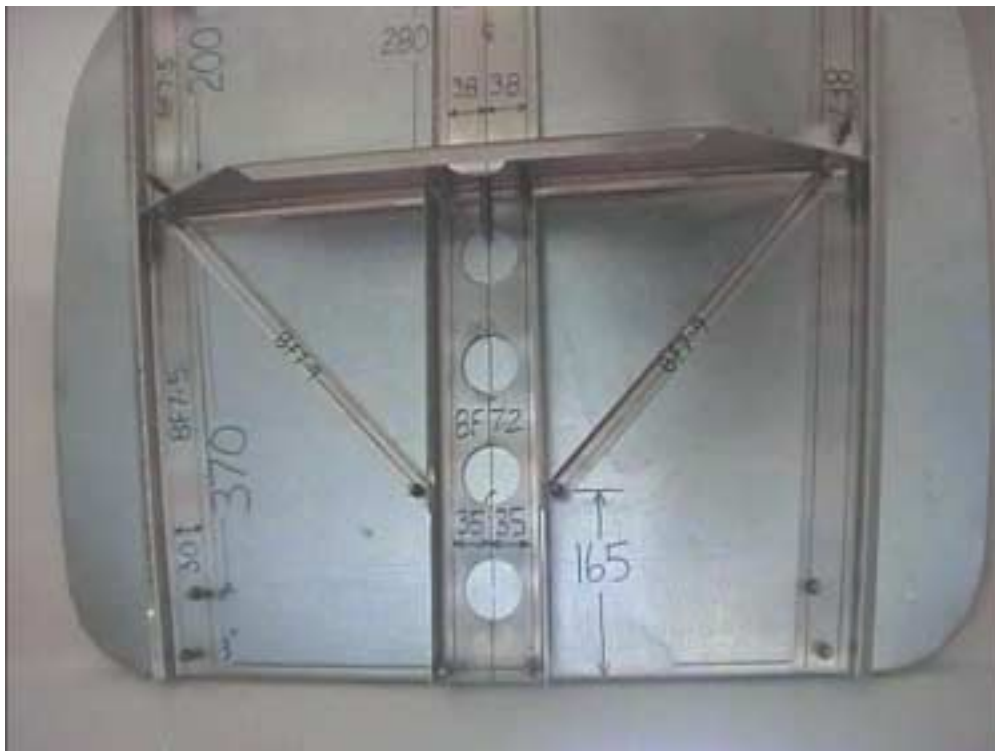


The 3/4" hole is installed towards the bottom.



The Center Channel 8F7-2 overlaps on top of the firewall flange of the L angle.

Position 8F7-3 and 8F7-2 with their center on top of the aircraft center line marked on the firewall. Drill and cleco the four holes, intersection of the 2 rivet lines with the rivet line on the L angle at the top and the rivet line marked on 8F7-8 on the inside of the firewall.



FIREWALL BRACE 8F7-9

The top hole is on the intersection of the inboard rivet line in 8F7-5 with the L angle clecoed to the bottom side of 8F7-1

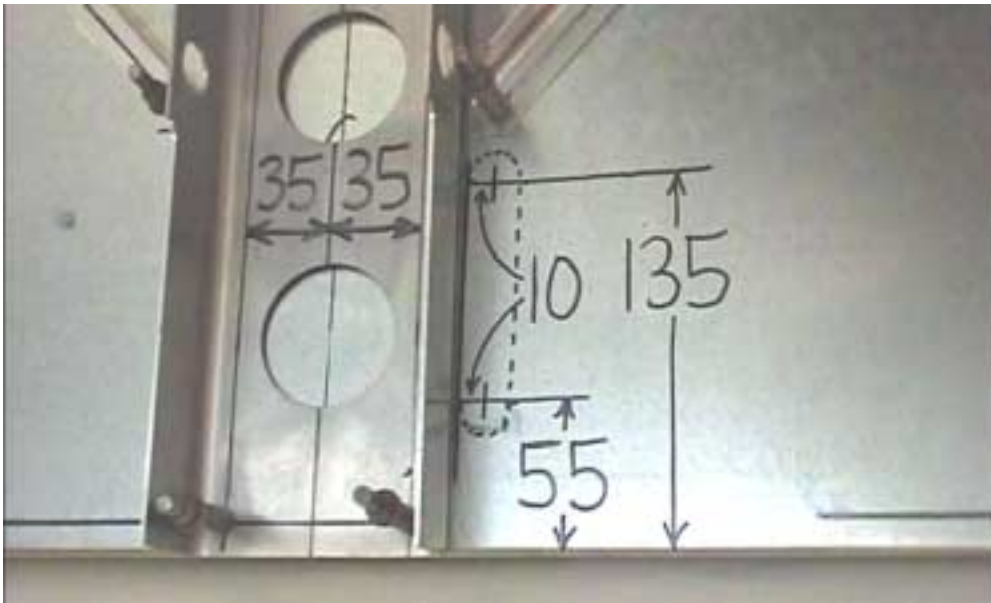
The bottom hole is at 165mm from the bottom of the firewall.

NOTE: the ends of the Brace are cut on an angle to clear the L angle and the Channel 8F7-2

Add the diagonal stiffeners: Firewall Brace 8F7-9. Drill and Cleco one hole at each end of the left and right Brace.

Separate the left and right angles:

The BEND is towards the top. Layout the rivet line 10mm from the edge.

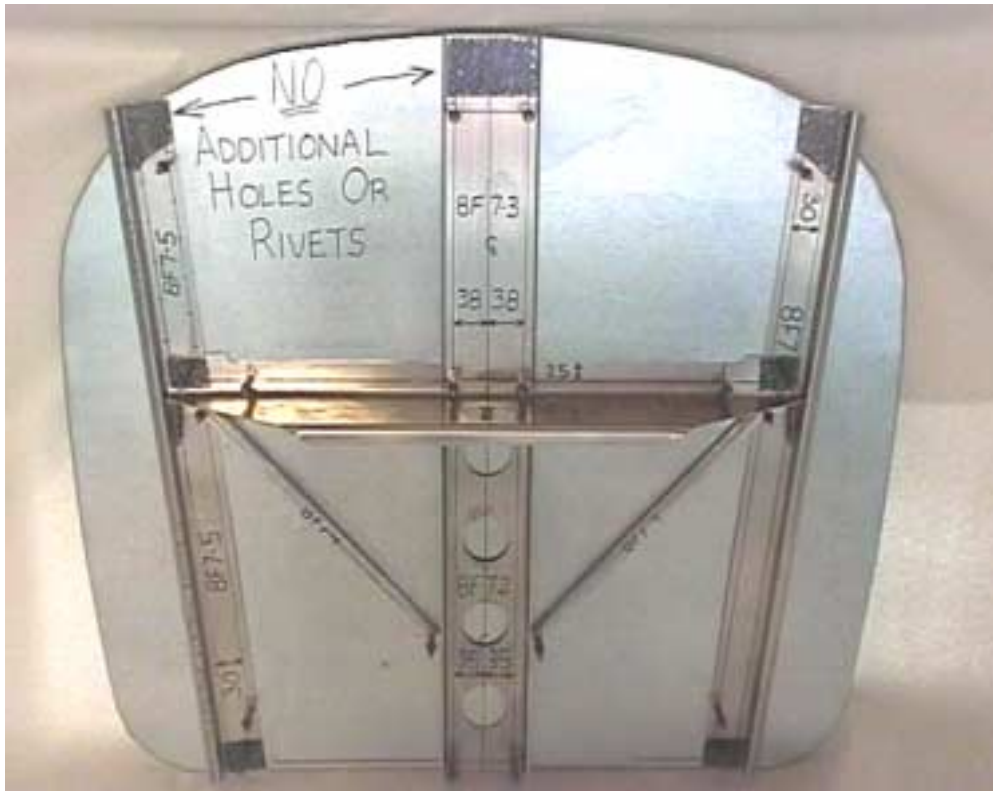


The slot in the firewall for the steering rods is measured from the bottom of the firewall.

10mm out from the side of the Channel R=10

Distance to centers, 55 and 135mm

Layout the steering rod cut out as shown.



Drill no holes in shaded areas ("no rivet zones"): No rivet zone at the top of 8F7-5 is for the Cowl Strip 8F14-1, the other five "no rivet zones" are for the engine mount.

Rivet pitch

8F7-2 and 8F7-8 pitch 30mm

All other rivet lines pitch 40mm.

First drill pilot holes #30 then drill and open with a #20.

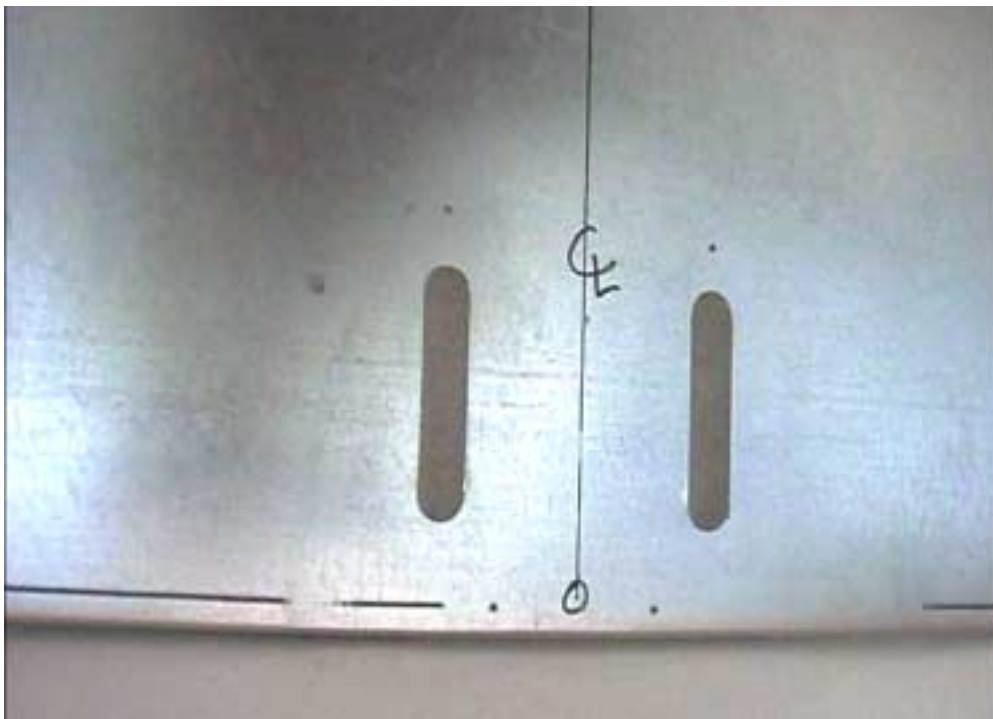
Do not drill in the areas marked out as shown in the above photo (beyond the clecos set in 8F7-1 8F7-5).



Mark the ends of 8F7-5 and 8F7-3 for trimming.

The ends are even with the bend tangent line of the firewall flange.

3 rivet lines in 8F7-3, the rivets are all in line
The rivets in the 2 rivet lines in 8F7-5 are staggered.



Slot is 20mm wide by 100mm long and starting 45mm from the bottom edge of the firewall.

Remove all items from the firewall and cut the steering rod holes.



The rivet line indicated is drilled in the front flange of 8F7-7.

Rivet all holes except for the rivet line in the std 'L' to the firewall. Rivets will be placed there during a later stage of assembly. The engine mount bolt holes are to remain at 1/8" diameter at this time.

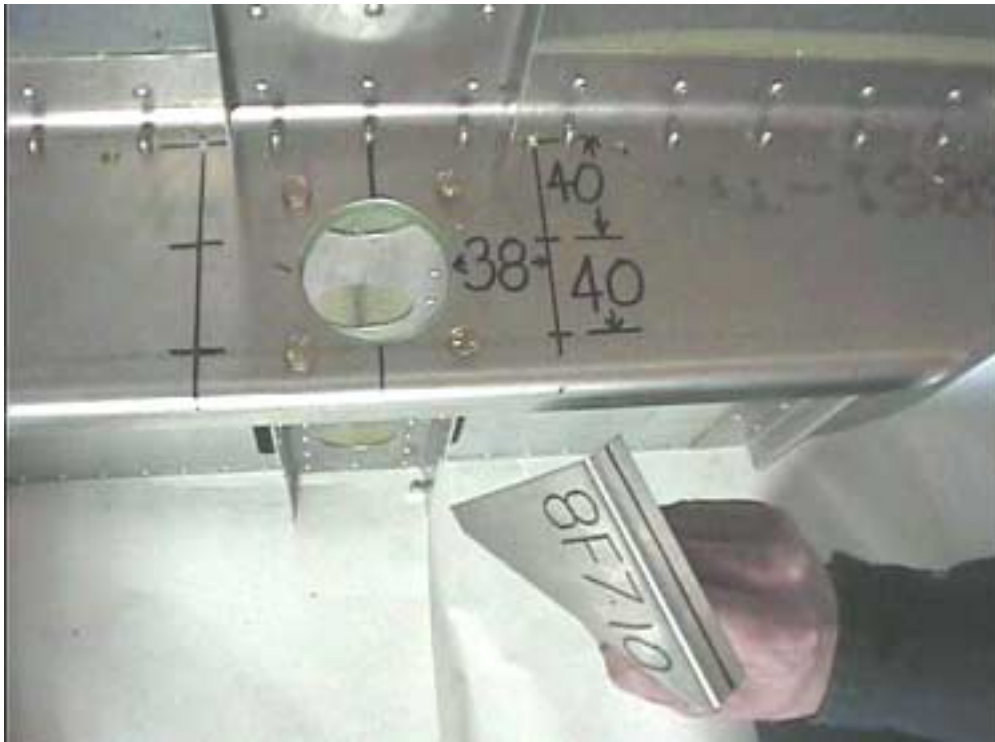


**NOSE GEAR UPPER BEARING
8F7-4**

Position the bearing 8F7-4 on the underside of 8F7-1. Clamp and drill four, 3/16" bolt holes.

**AN3-5A BOLTS
Qty=4**

Remove the bearing, saw it into two pieces along the centerline, as shown, then re-install it and bolt it in place.



**GEAR ANGLE
8F7-10**

Layout the rivet line 38mm from the edge of the hole.
(CHECK: through the top flange of the Gusset)

Clamp 8F7-10 in the corner of 8F7-1 with 8F7-2.

NOTE: the Top aft rivet is though the L angle on the under side of 8F7-1 in the corner with the firewall.
3 holes on each side.



Keep 8F7-1 is square with 8F7-2.

Edge distance = 10mm

Gear Angle 8F7-10 riveted in place, 6 rivets A5