

## Chapter 4

### Fuselage Bulkheads

**Overview** – In this chapter

your instrument panel and the firewall. High density red PVC, 0.2" thick, is used in the instrument panel and other forward

You will find that many of the short jobs in this chapter have long cure times in between so you may want to work on several of the bulkheads

for the bulkheads.

**Step 1 – Front seat back.**

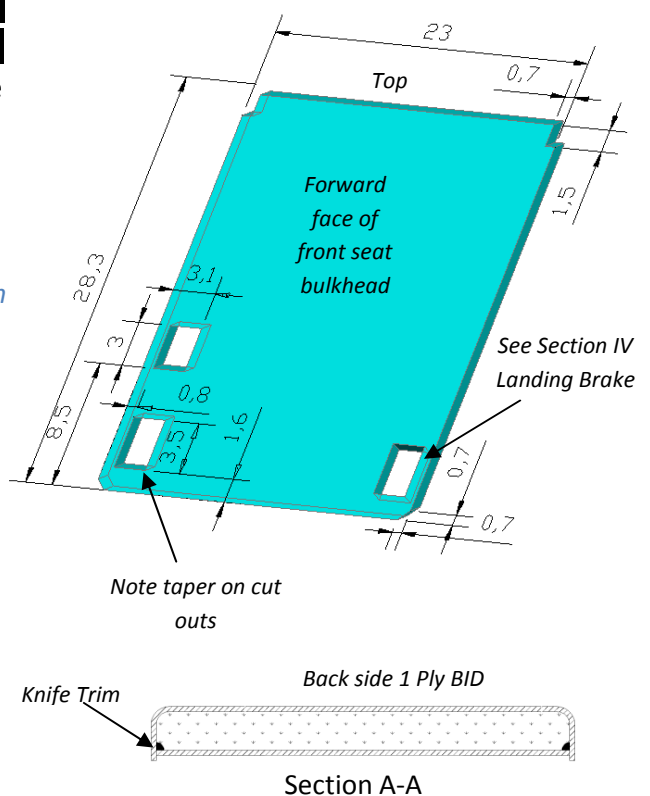
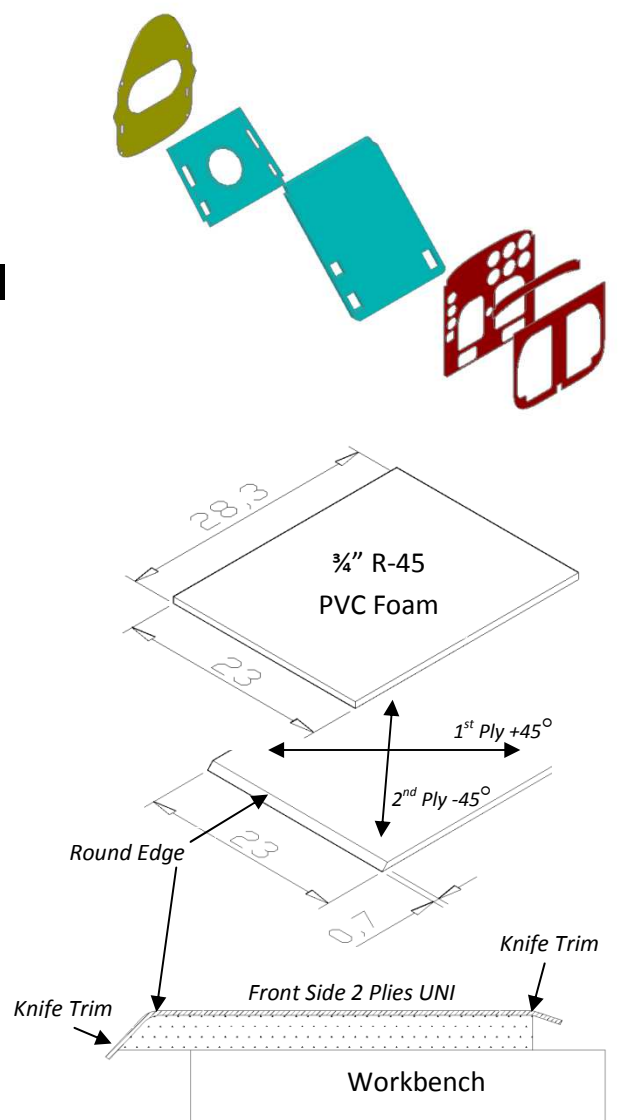
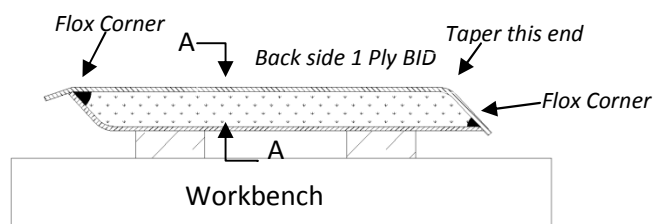
one 23" end as shown. Glass this front face with 2 plies UNI at 45° crossing fiber orientation. Knife trim flush with the foam edges all around.

After cure

back also folds around the side edges to meet with the glass on the front. Support the bulkhead up

around. *After cure use a fine tooth coping saw and notch the corners as shown to fit the fuselage longerons.*

**Note:** This last step may be left until fuselage assembly for trial fitting.



**Step 2 – Rear seat back.** This bulkhead serves as the lumbar support for the passenger and

with 2 plies

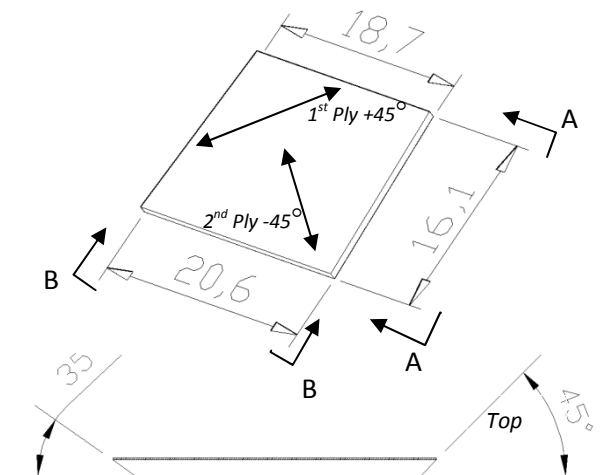
UNI at 45° crossing fiber orientation. Knife trim all around flush with the foam edges. After cure use a fine tooth coping saw or knife to taper the top and bottom edges as

shown. This provides a

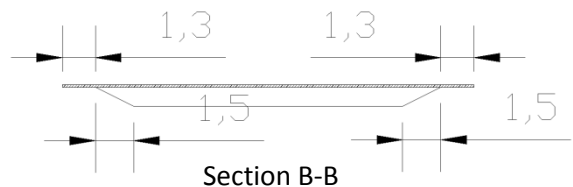
strong edge allows the bulkhead to sit back in the correct position in the fuselage.

Use your knife to remove all foam edges, sand the bare glass surface dull and glass with Knife trim all around the edges and cure. Use a knife or saber saw to remove a 7" diameter

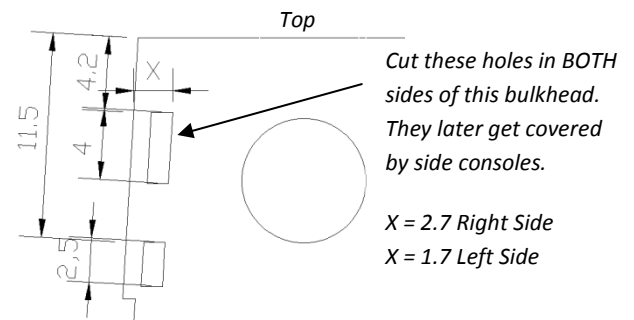
. Cut the holes shown to allow clearance for controls, electricals, cabin heat and landing gear removal.



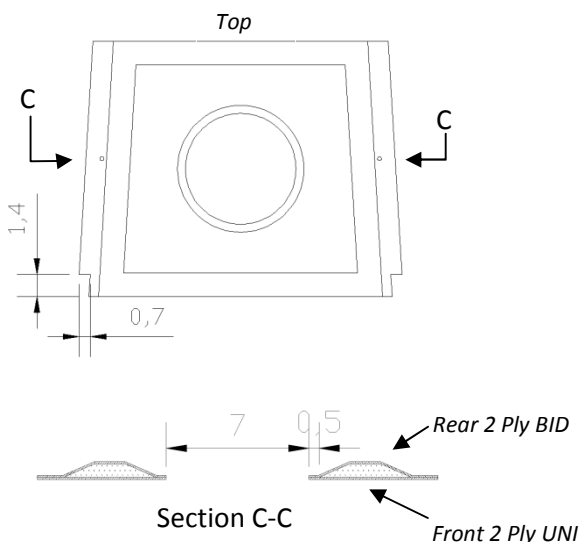
Section A-A



Section B-B



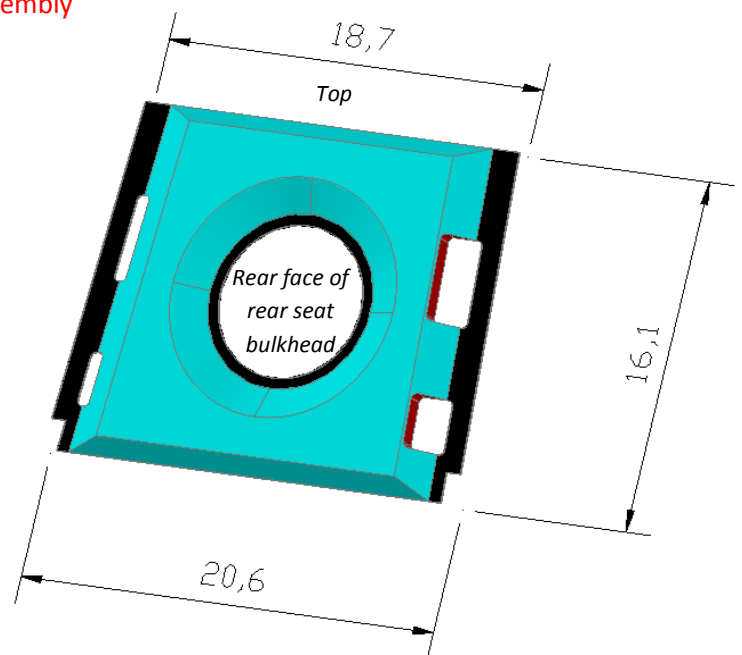
**Note:** This last step may be left until fuselage assembly for trial fitting.



Section C-C

Rear 2 Ply BID

Front 2 Ply UNI



### Step 3 – Instrument Panel and two forward

**bulkheads.** Full size patterns for the instrument panel, F22 and F28 are shown

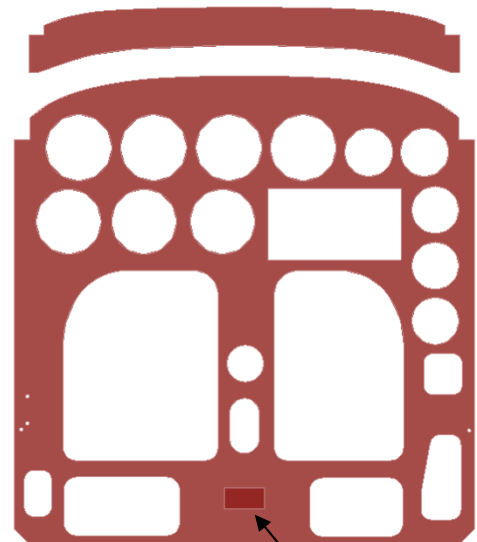
bulkheads and doubler from the full size patterns. *Do not cut your instrument holes yet. They may be cut after both sides are glassed and cured and left for a later date when you have decided what instruments you will be using. Cutting them now reduces your chances of using technology that has been created in between now and when you are ready for instrument fit out.* Layup 2 plies of BID over

glass by laying up strips and overlapping

a third BID ply to the instrument panel above the leg cut outs. Knife trim and let the layups cure then flip the

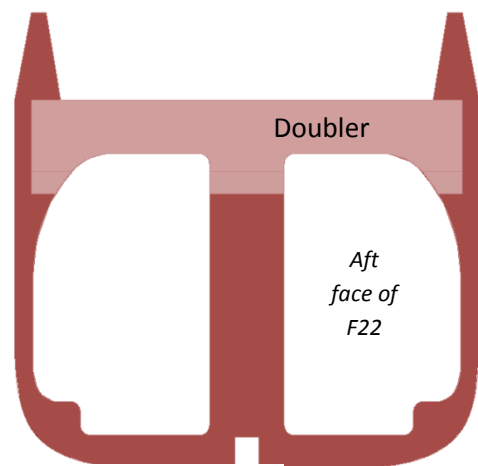
local build-ups for the canard attachment in the areas shown. Knife trim and allow to cure. *After full cure you could cut your instrument holes with a fly cutter or hole-saw, but remember my advice from earlier.*

F28



Instrument Panel

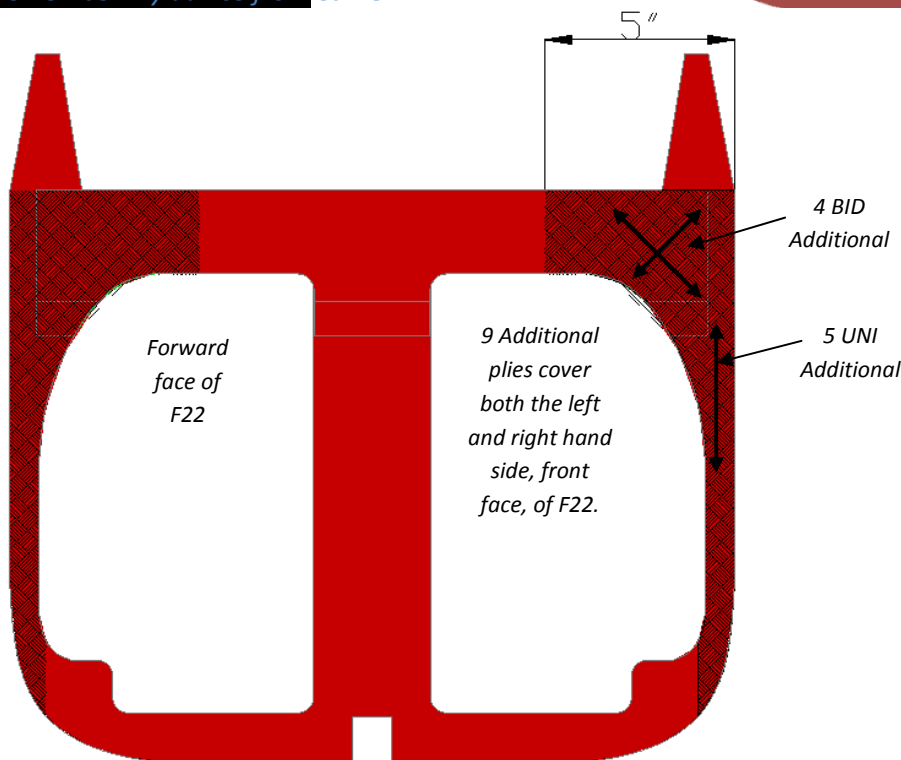
Install Plywood before glassing



Doubler

Peel Ply edges

Aft face of F22



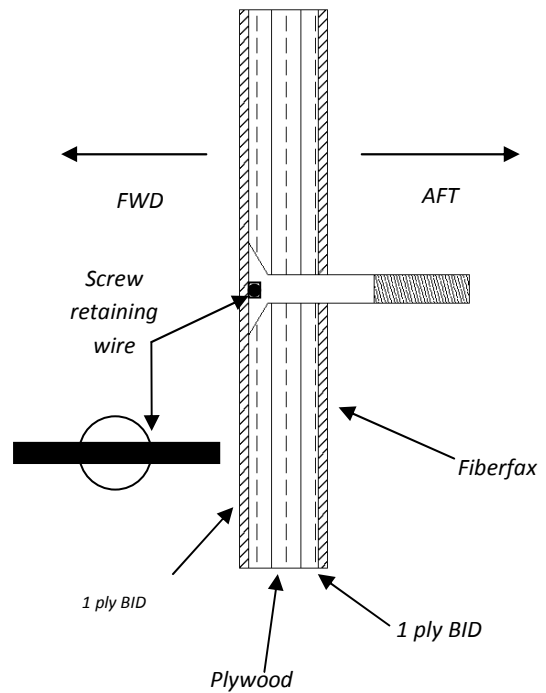
Forward face of F22

9 Additional plies cover both the left and right hand side, front face, of F22.

4 BID Additional

5 UNI Additional

**Step 4 – Firewall.** A full sized template is [REDACTED]  
[REDACTED] wet roll  
the 0.040 fiberfax sheet out flat over it. Trim the  
fiberfax to [REDACTED]  
[REDACTED] size, being very careful of its  
sharp edges. Clamp the plywood over the stainless on  
your work bench and drill the 6 pulley bracket holes  
and notches for the 4 [REDACTED]  
[REDACTED]  
[REDACTED] the  
six holes [REDACTED]  
[REDACTED]  
[REDACTED] then layup one ply BID over the  
front face of the plywood. *You may wish to install small  
pieces of stainless wire into the screw slots which over  
hang into a recess you will need to make in the ply. This  
will stop them rotating because after assembly you  
cannot access the heads of the screws (covered by the  
spar when the fuselage is assembled).* Fill the screw  
heads with epoxy so they can bond to the glass ply.  
Knife trim the ply and let cure. Use a coping saw or  
saber saw to cut four rectan[REDACTED] holes and two square  
[REDACTED]  
[REDACTED] through during fuselage assembly.



Drill #10 six places  
in plywood, fiberfax  
and stainless

This hole and longeron  
cut outs in plywood  
only, not stainless or  
fiberfax

