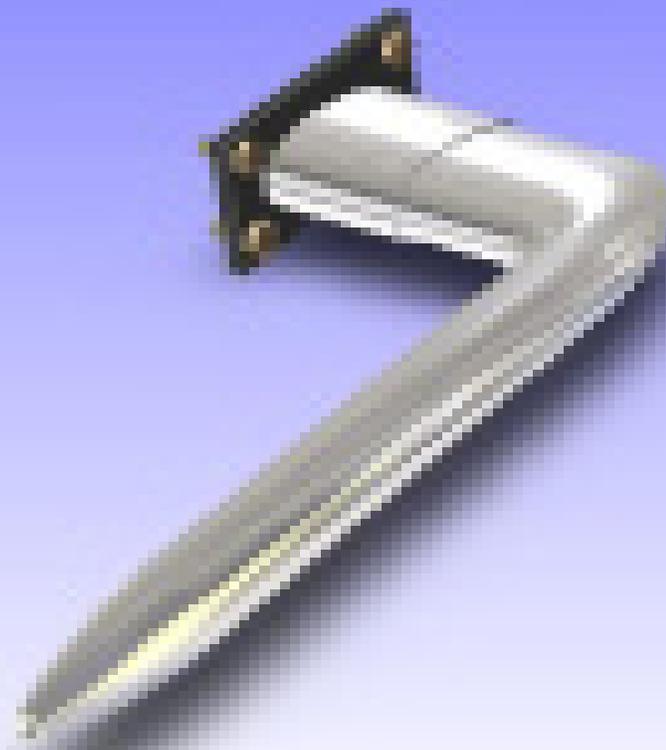


Kit # 217  
Pitot Tube Mast

7/29/2014

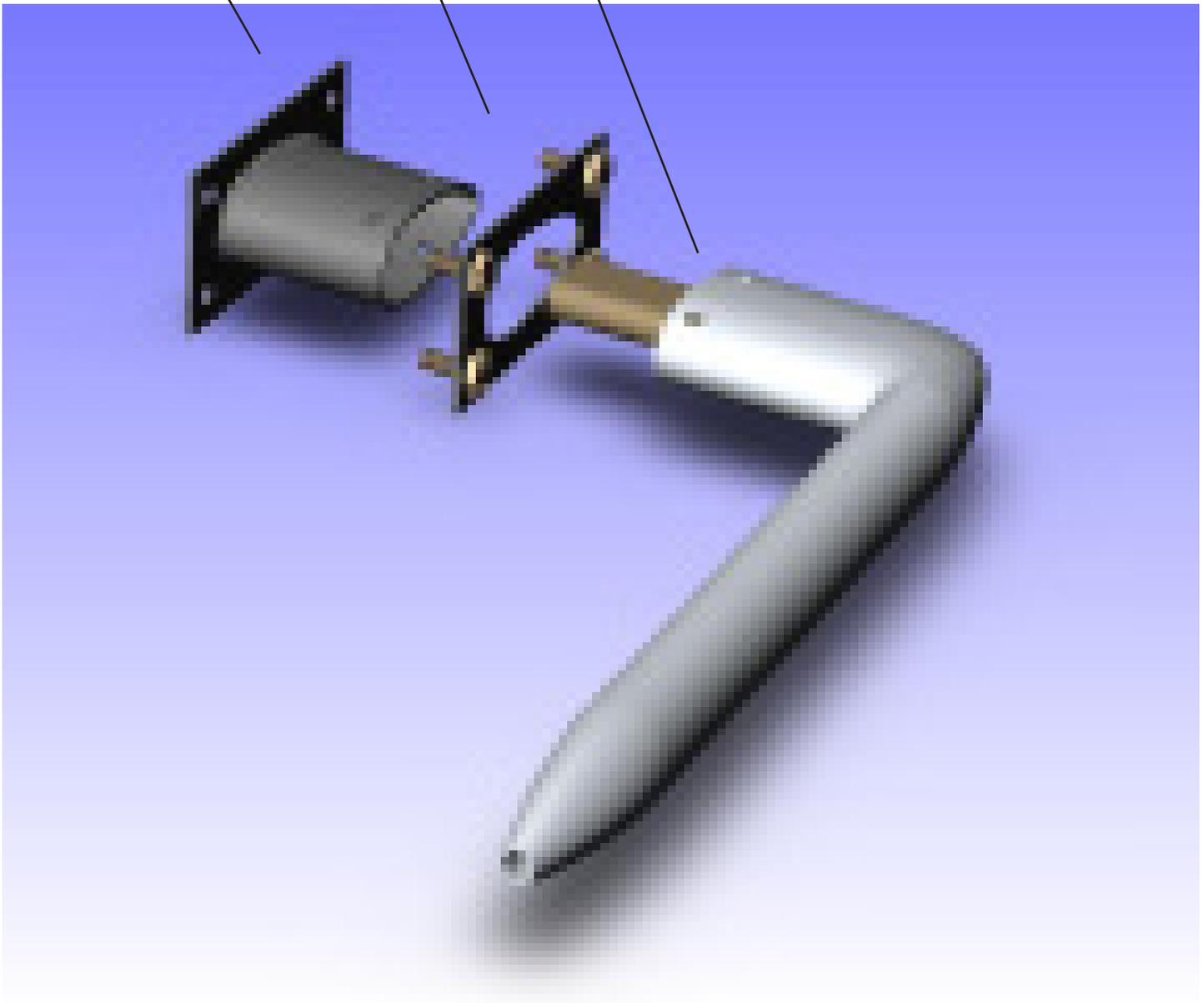


# Kit # 217 Pitot Tube Mast

Pitot streamline tube bracket

Pitot tube mounting flange

Pitot tube (customer supplied)



## In General

1. The first step will be to measure and mark the correct Pitot tube mounting location on pilot side fuselage outer skin, refer to the Cirrus manual for this step.
2. Cut and remove foam on the outer fuselage pilot side around the Pitot streamline tube mounting bracket.
3. Bevel - Q-cell foam and add required layers of 7781 glass to the outer and inner fuselage skin.
4. Locate and drill the mounting holes for the Pitot tube mounting flange. Cut the opening for the streamline tube.
5. Temporarily install the Pitot tube stream line tube and mounting flange. Check the for proper orientation in X,Y,Z
6. Install Pitot tube mounting flange using milled fiber around the bracket.
7. Cut and fit a 3/8" foam block to cover the Pitot tube mounting flange. Apply Q-cell to all surfaces and press into place. The Q-cell should fill all voids.
8. Sand the foam block to match the fuselage contour. Add three layers of 7781 glass to the foam block overlapping 3" onto the fuselage skin.
9. Cover the Pitot streamline tube bracket with three layers of fine line tape. The fine line tape will provide a .030 gap between the fuselage and streamline tube. Install the streamline tube, fill the gap with glass cloth and milled fibers.
10. Sand the outer fuselage skin and body work as needed.



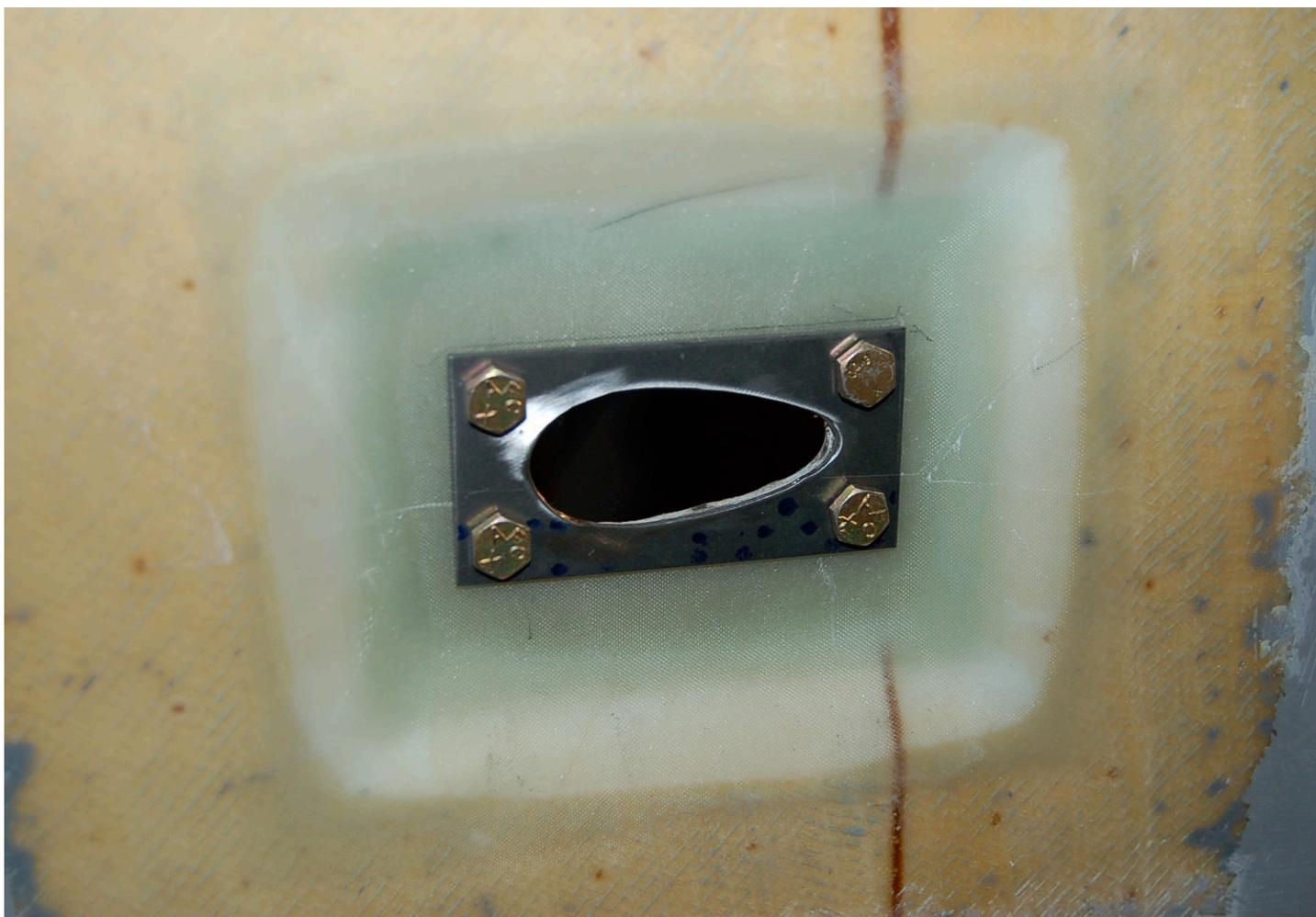
**Fig. 1**

### **Step 1-3 Cut and bevel foam**

Measure and mark the Pitot tube center line location on the pilot side outer fuselage skin, refer to the Cirrus Manual for proper location. Draw an equally spaced box around the center line that is 5 inches long and 4 inches high. Cut out the foam and bevel all four sides at 45 deg. (See Fig. 1)

Sand all edges and apply Q-cell to exposed foam. Apply three layers of 7781 glass over the beveled area. The glass should extend 1 1/2 inches beyond the beveled onto the fuselage skin. Add two more layers of 7781 glass (4" X 5") to the bottom of the bevel area. Peel Ply all glassed surfaces and allow to cure.

On the inside of the fuselage add three more (7"X7") layers to the inner skin around the Pitot tube opening. Peel Ply all glassed surfaces and allow to cure.



**Fig.2**

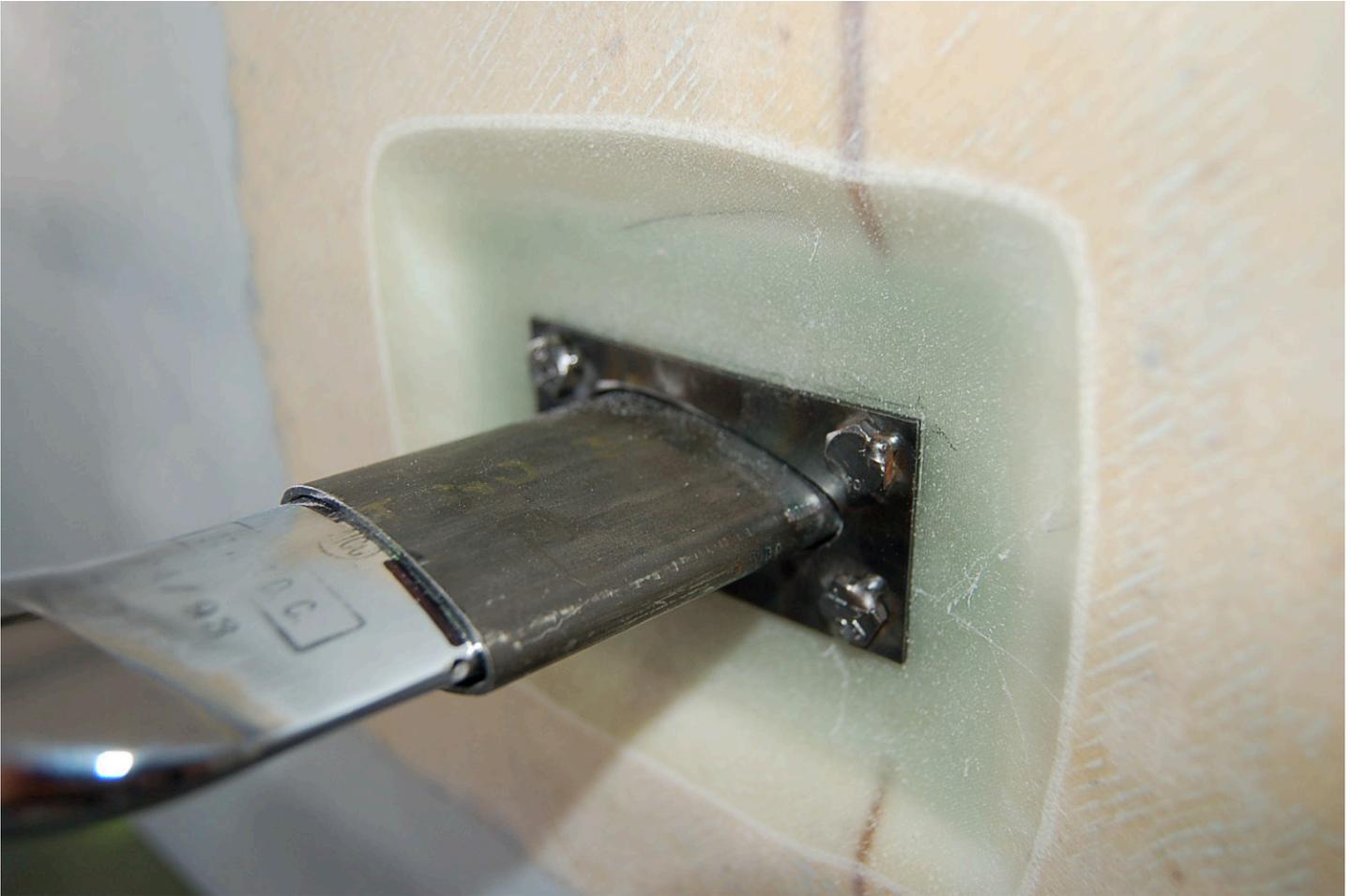
### **Step 4-6 Fit pitot tube mounting flange**

Level the fuselage in roll and pitch.

(Find Pitot tube flange template page 10 of this manual)

Position the Pitot tube mounting flange as shown in Fig. 2. Make sure the Pitot tube flange is level in the pitch axis. Drill the four mounting holes and cut out the streamline tube shape.

Install the Pitot tube mounting flange in the fuselage. Position the Pitot streamline tube bracket over the four studs as shown in Fig. 3 Install temporary nuts and washers to the 4 studs from the cabin side of the fuselage.



**Fig. 3**

Cover the streamline tube with 3 layers of plastic tape. (Scotch plastic tape 3M part number 471) Add one layer of clear plastic packing tape over the 3M tape. The tape will protect the chrome surface and also set the gap between the chrome streamline tube and the fuselage opening. After the airplane has been painted the gap will be filled with a small bead of clear or white silicone.

Mount the Pitot tube on the streamline tube as shown in Fig. 3. Check all measurement and level as described in the Cirrus Manual. (see Fig. 4,5,6)

Shim the Pitot tube mounting flange as necessary.

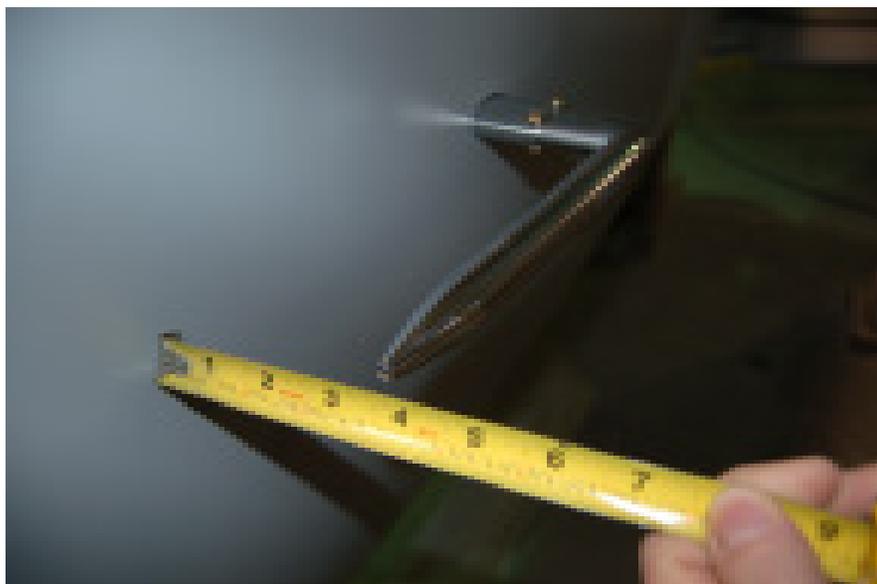
Remove the Pitot tube and mounting flange. Apply a mixture of milled fibers between the flange and the fuselage surface. Bolt the Pitot mounting flange in place. Excess mill fibers will ooze out around the flange. Spread the excess milled fibers over the flange to encapsulate the part. Make sure the milled fiber does not contact the streamline tube. Recheck the Pitot tube for proper alignment, allow to cure.



**Fig. 4**



**Fig. 5**



**Fig. 6**

## Step 7-10 Foam block and body work

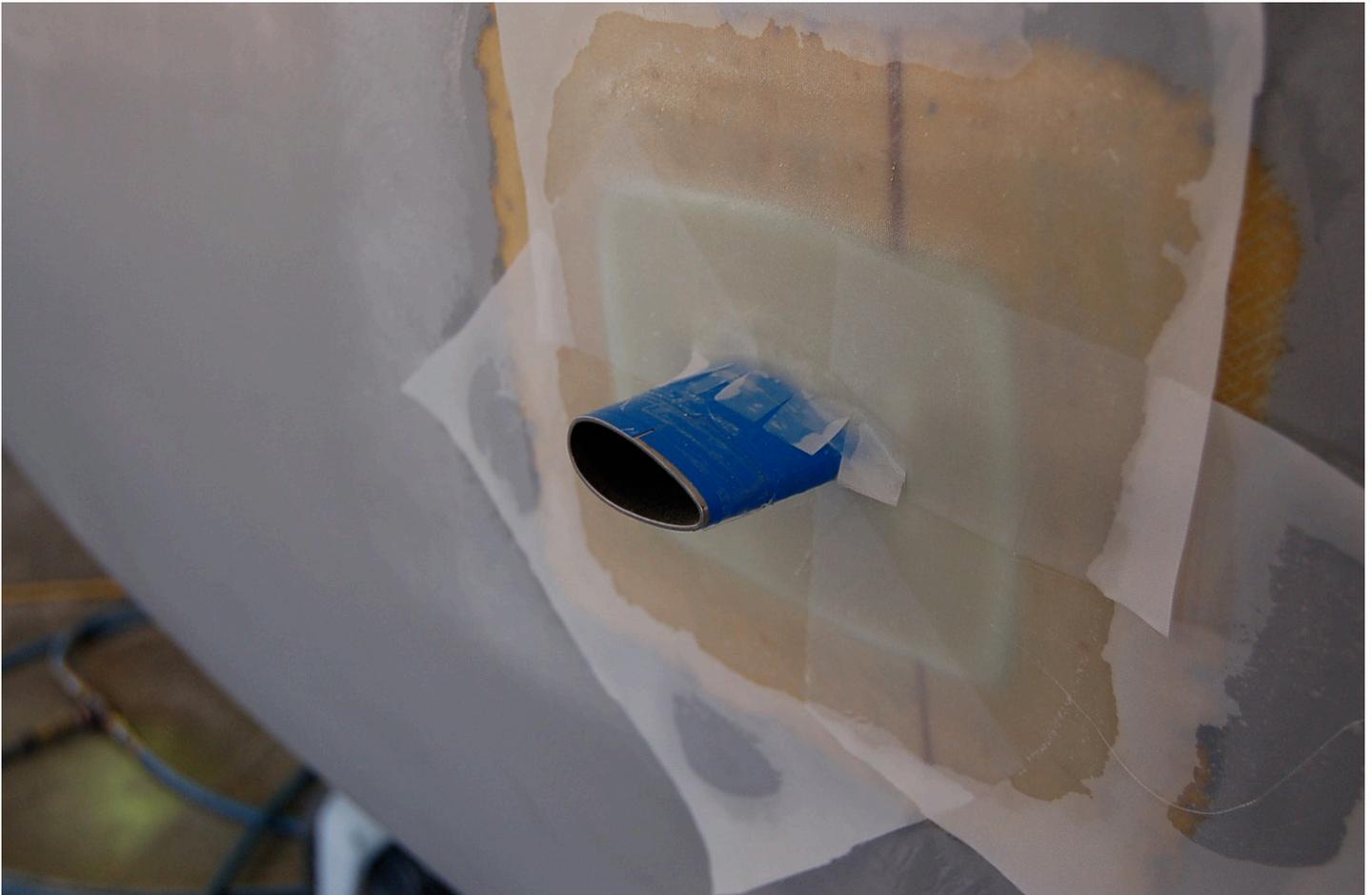
Cut a piece of 3/8" foam to fit the beveled recess around the pitot tube. Bevel the foam to fit as close as possible. Fit the foam around the pitot opening. (see Fig.7)

Apply Q-cell to the fuselage surface around the pitot tube including the beveled edges. Apply Q-cell to the 3/8" foam block. Press the foam block into position, apply even pressure to the foam block. Remove excess Q-cell.

After the Q-cell has cured sand any excess and contour the block to match the fuselage shape.

Remove the Pitot streamline tube from the fuselage. Q-cell the outer surface of the foam block. Sand the opening in the foam block to allow enough room to add milled fiber and glass cloth. Apply milled fiber to the pitot opening in the foam block, then cut strips of glass cloth and lay glass cloth in the hole and onto the foam block surface. The idea is to reinforce the milled fiber with glass cloth. Install the Pitot stream line tube in the fuselage and bolt in place. Pack milled fiber around the intersection. Add two layers of glass cloth to the foam block and onto the fuselgae surface. The glass cloth should extend onto the fuselage at least 1 1/2 " on all sides.

Fig. 7



Sand and body work the surface.

After the airplane has been painted the gap between the Chrome streamline pitot tube and the fuselage can be filled with silicone

