

# WINDOWS FOR THE OSPREY II

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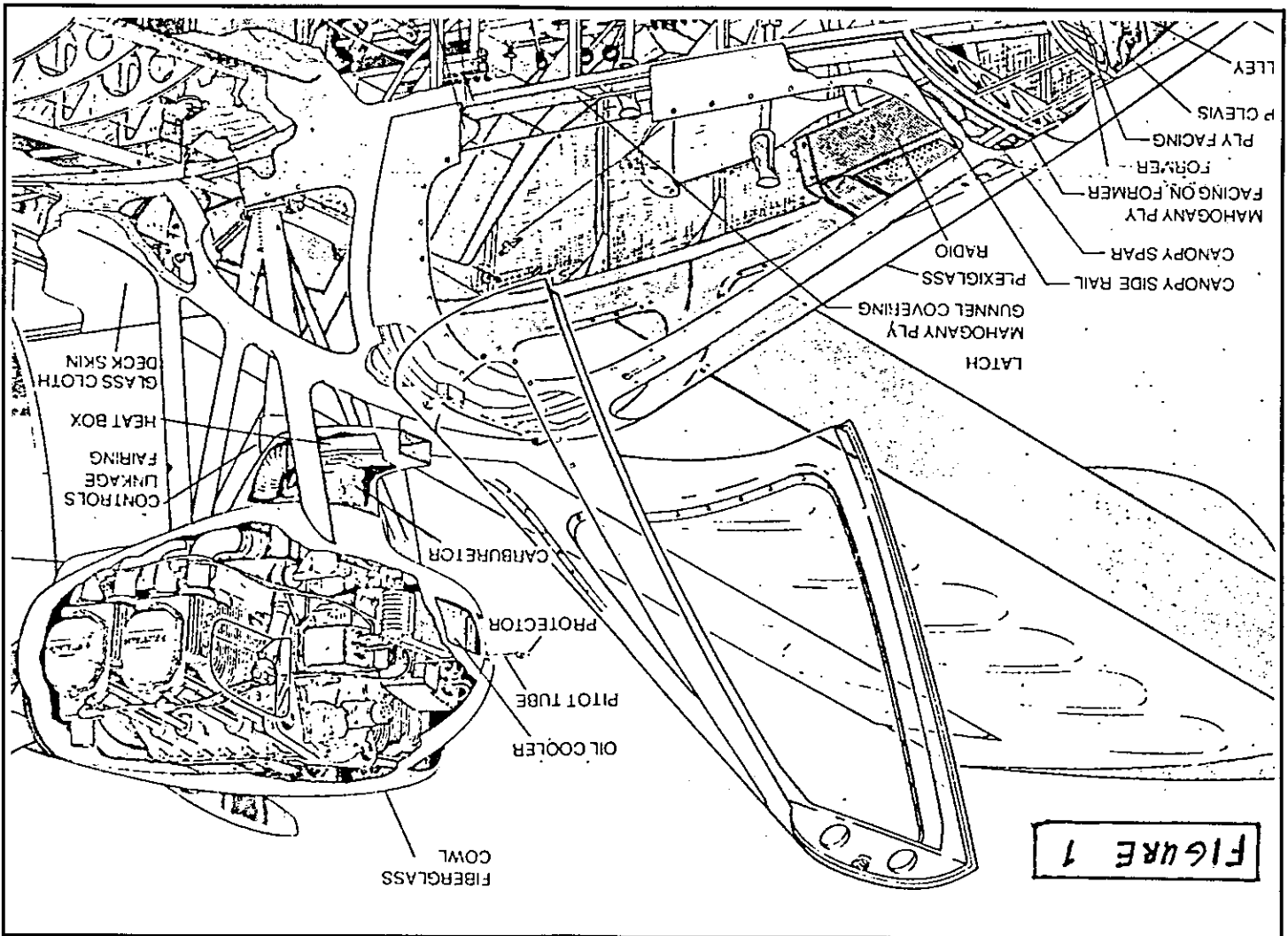


FIGURE 1

The Osprey 2 amphibian does not come as a kit, so the builder is required to fabricate all of the canopy.

The canopy consists of a moveable front part and a fixed rear part (Figure 1). The canopy framework is constructed of foam covered inside and out with resin and fiberglass. Within the foam is wood reinforcement in areas of stress and where hardware is placed.

The clear acrylic window components are what I deal with. I prefer windows which are clear and non-distorting, as you would. The plans suggested forming the acrylic by heating and draping over a form. For the large front windows this seemed awkward, as an oven would have to be built large enough to take a 2'

by 4' sheet. I also dreaded handling a large floppy hot sheet, and I doubled the eventual clarity of the finished window. Because of the rake of the window, any imperfection or ripple would be more

**Because of the rake of the window, any imperfection or ripple would be more apparent**

The front windows need to be curved in one direction only - they are not a bubble. A friend suggested bending the acrylic cold. I tested this method by bending a scrap piece in a wooden frame. The bent acrylic initially is under quite a tension, but after a week or so the tension lessons. The acrylic when removed from the frame will not straighten out, but will keep about 75% of its curvature. I reckon that by over-bending the acrylic and leaving it for a month or more, it would spring back to the proper curvature.

My method is as follows:  
 a) Two large clamps are required. They are made of threaded rod, wing nuts, and wood (Figure 2).

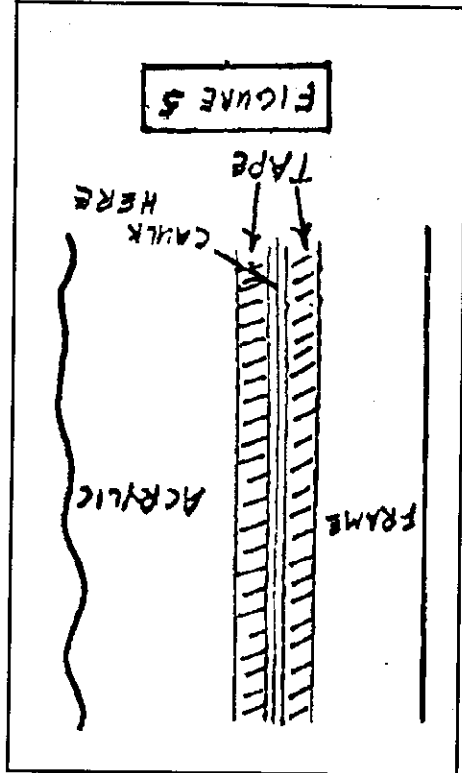


FIGURE 5

any excess removed with the masking tape, the caulking is best done after all painting is complete (Figure 5). My windows have been in for three years. The adhesive failed over a six inch section. I reapplied adhesive and it has so far held. Vibration and normal weathering has otherwise had no effect.

terior to make a watertight seal. This is done by masking both sides of the joint, leaving a 1/8" space. The space is caulked, smoothed with a finger, and the tape removed immediately. This leaves a thin strip of silicone caulk at the joint, with

Silicone caulk is required on the edge of acrylic (Figure 4). Attachment of the acrylic to its frame was done using common construction adhesive. A 3/4" strip of paper was removed at the perimeter of the cut acrylic to facilitate bonding of adhesive. The adhesive was placed on to the frame and the acrylic window was placed into position. The acrylic must be held while the adhesive dries. I used mainly masking tape to hold the acrylic. After the adhesive dries, an additional bead of adhesive is placed around the entire interior edge of acrylic (Figure 4).

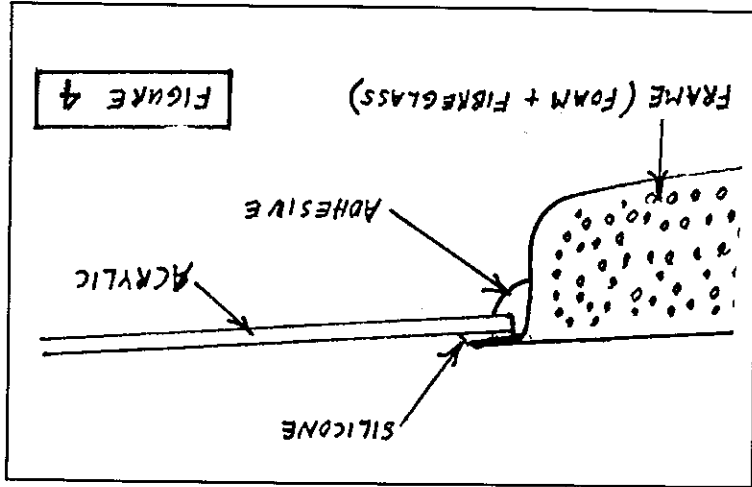


FIGURE 4

(e) A cardboard template, previously made to fit the frame, was used to mark the acrylic sheet, which was then cut to size. In all this procedure, the protective paper is never removed.

(f) Attachment of the acrylic to its frame was done using common construction adhesive. A 3/4" strip of paper was removed at the perimeter of the cut acrylic to facilitate bonding of adhesive. The adhesive was placed on to the frame and the acrylic window was placed into position. The acrylic must be held while the adhesive dries. I used mainly masking tape to hold the acrylic. After the adhesive dries, an additional bead of adhesive is placed around the entire interior edge of acrylic (Figure 4).

(g) The clamps can be tightened, bending the sheets so that the 2" dimension is decreased to about 22". Two weeks later I tightened the clamps a further 1". Week by week I gradually tightened the clamps until the original 2" dimension is reduced to 19". The sheets are left alone for a further month, to let the acrylic settle into the forced bend.

(h) When the clamps are released, the acrylic will spring back somewhat, but it turned out still a bit over bent. The acrylic was placed around the entire interior edge of acrylic (Figure 4).

(i) Two 2" x 4" x 1/8" acrylic sheets can be bent at once. Both sheets are placed in the clamps, with a plank on the clamped edges to distribute the pressure. (Figure 3).

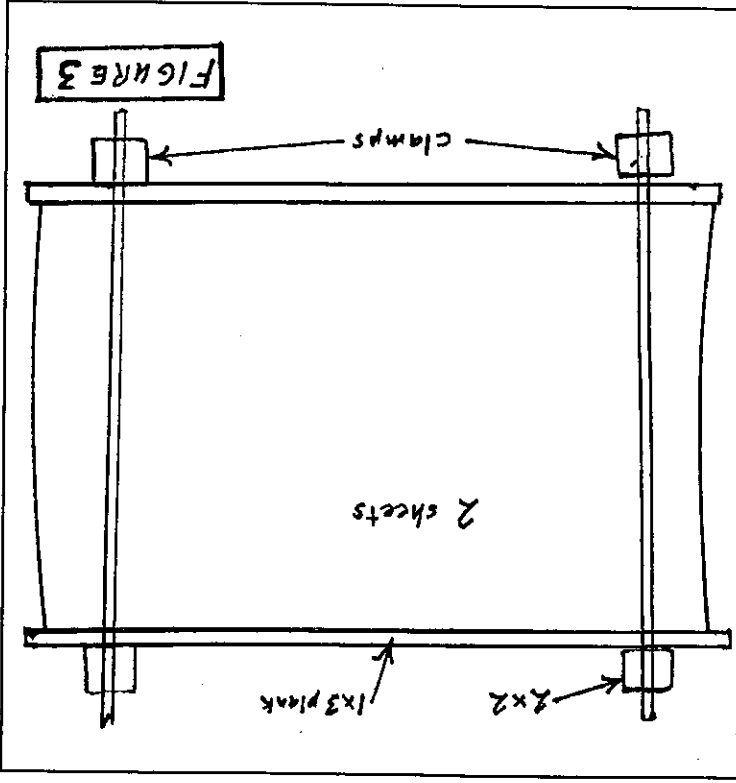


FIGURE 3

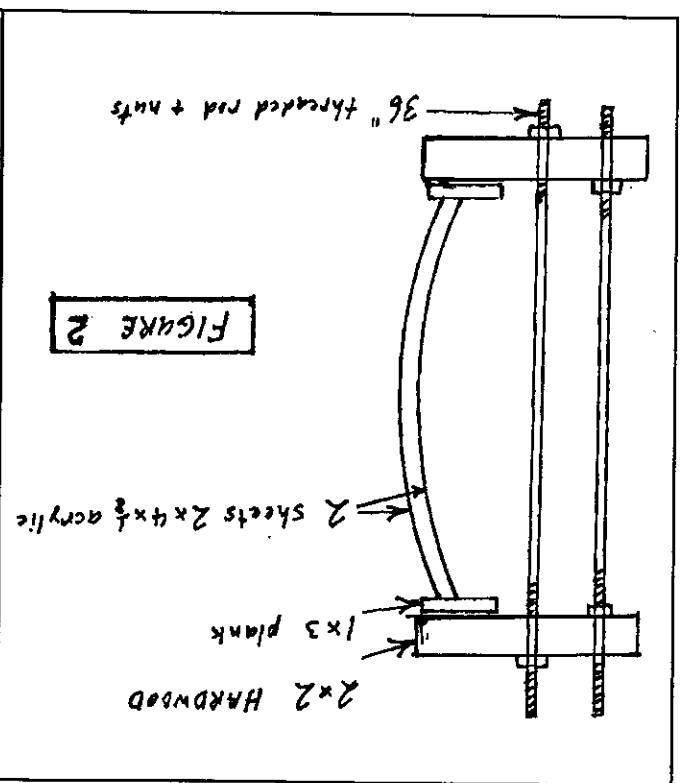


FIGURE 2