

Pre-Paint>Fuselage>Fit windscreen

The windscreen is an integral structural component of the airframe, providing strength and rigidity and the correct fitting method is very important.

The windscreen is made from strong but brittle Perspex and care must be taken to avoid marking or cracking the windscreen while it is being fitted. The use of sharp or new drill bits must be avoided: use an old drill bit and blunt it before use by drilling into some concrete, and then grip the bit loosely with a pair of pliers while running the drill (see photo at right) to remove any roughness from the flutes that might bind and cause damage to the Perspex.



Any shaping of the windscreen that may be required must be done with an 80 grit sanding disc, and you must *never* use a jigsaw. Photos are of a J200: the same process applies to all.

Materials required:

Epoxy resin and flock

¼ x ¼” adhesive-backed foam strip (not included in kit)

Pre fit the windscreen



Start by carefully sanding away all of the gel coat from the joggle, then fit a length of the ¼” foam strip around the very inside of the joggle (the grey line in the photo above right) – this will keep the flock from making a messy line around the inside of the windscreen and give a nice clean edge when the windscreen has been flocked into place.

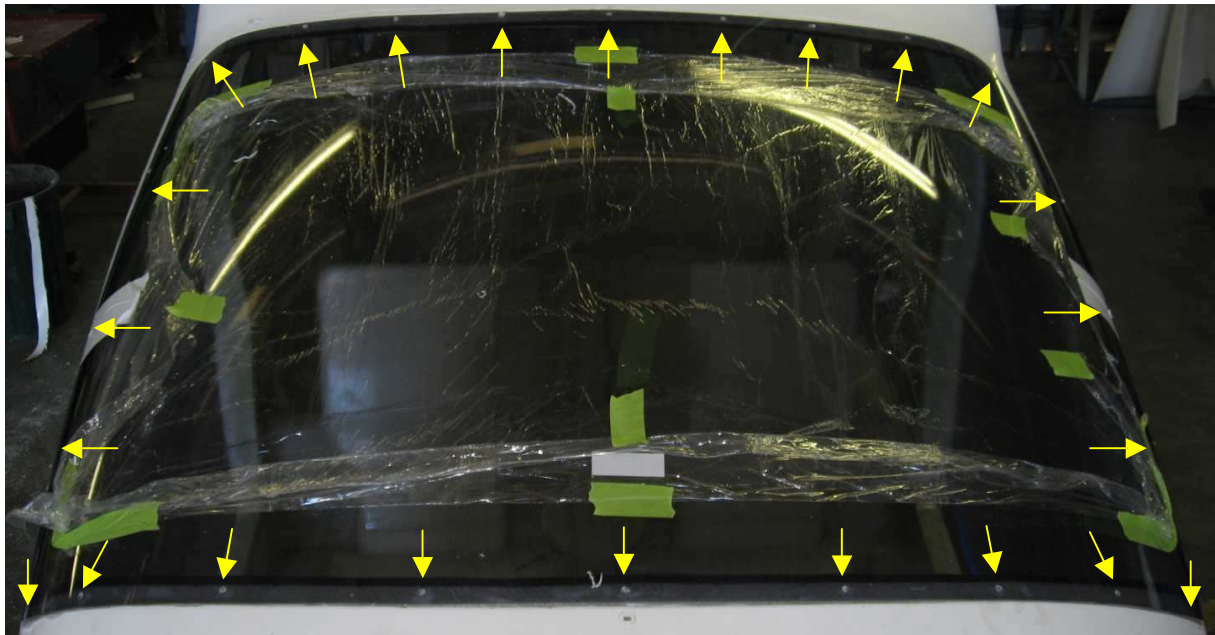


Test fit the windscreen, holding it in place temporarily with a strip of cloth tape on each side as shown above. The arrows show the side screw positioning – refer to next page.

Note that the protective plastic cover has been folded back from the edges of the windscreen.

Check around the entire perimeter of the windscreen for any areas where the Perspex does not fit neatly inside of the joggle and carefully sand away the Perspex until it fits. In most cases the windscreen will fit correctly without any alteration, but nonetheless check carefully.

Drill the screw holes



With the windscreen still held firmly in place by the tape, the next step is to drill a series of 11/64" holes around the perimeter at the positions shown above. Note that 11/64" is slightly bigger than the screws – this is to make sure that the threads will not bind in the holes and possibly chip or break the Perspex.

Drill slowly with a blunt drill bit and don't lean on the drill - let the bit do the work.

The holes are drilled well in from the edge of the Perspex at a point where they just miss the 1/4" foam tape – this gives the maximum amount of 'meat' for the screws to grab. Note that the bulk of the structural strength is provided by the flock: the main purpose of the screws is to hold the windscreen firmly and accurately in place while the flock cures.

Start by drilling at each corner, then drill halfway between each corner and then drill halfway between those holes until you have the holes as shown above and on the previous page.

Once all of the holes have been drilled they will each need to be countersunk to a depth where the head of each countersunk M4 x 12 screw will be just below the surface of the Perspex.

Prepare the windscreen

Remove the windscreen carefully and clean away any burrs from around the holes and blow away any dust and debris from the joggle.

Place the windscreen face down on the bubble wrap packing material, taking care not to allow anything to scratch the surface, and sand around the entire inside edge with emery tape – roughen to a point level with the inside of the bolt holes.

By holding the emery tape as shown you can use your finger to control the width of the sanded area.

When the sanding is complete blow away the dust and then use a clean soft cloth and wipe right around the windscreen. Do not use any cleaning agents.



Fit the windscreen



Mix 160 grams of flock and fill the entire joggle up to the level of the foam strip. Carefully place the windscreen onto the bed of flock – start at one corner and position the windscreen with a rivet or similar to get the alignment of the holes and then lower it into position.

Once the windscreen is in place start fitting the screws and locknuts, working from the corners first and then the middle screws and so on in much the same manner as the holes were drilled. Take care not to over tighten the screws, tighten them just enough so that the edge of the windscreen is level with the adjacent fuselage.

Check all around to see that the flock has keyed to the windscreen: the sanded surface of the windscreen edge will appear to go clear with no bubbles when the flock is in full contact with it. It may be necessary to gently squeeze the windscreen to remove any bubbles, although if you have filled the joggle with flock there should be full contact anyway.

In the photo at right you can see that the flock is in full contact all the way around. Note the flock has been wiped off level at the outside of the joggle and that there is no flock at all on the surface of the windscreen.



When you are satisfied that the windscreen is positioned correctly wipe away the excess flock with a clean mixing stick, taking care not to smear any resin or flock over the windscreen: always wipe out and away from the windscreen. Do not use any cleaning agents; use only a clean soft cloth.

Leave overnight to cure.

This completes the *Pre-Paint>Fuselage>Fit windscreen* task.