

Filling in the holes:-

You should now have 2 layers of wet glass, on the cling film and some thickened resin in a cup.

Spread thickened resin around the edges of the holes you are repairing to eliminate any steps that may have been overlooked. You can also spread some across the rest of the hole to give a “gel” finish to the repair.

Now place one of your circles of lightweight cloth over the hole and wet out with mixed resin.

Next cut one piece of your pre-wetted glass cloth the same size this should include the cling film backing. Peel off the cling film and add a further piece of wetted cloth only this time cut the circle 10mm smaller than the last. Continue to add circles of wetted glass until the hole is level with the surrounding material.

Finish the repair with a layer of Peel Ply.

Continue to add material until level with the surrounding panel



The resin will need overnight curing in a warm environment to cure fully. It should be glass hard when you come to work on it. If it is not fully cured it will feel like jelly under the sand paper.

Finishing Off:-

Once cured remove the Peel Ply and sand back the new glass level with the surrounding area. If you have underestimated the amount of glass you put down you can add more directly to the Peel Plyed surface.

On the face of the panel the repair will need a small amount of work to blend it in and make it smooth.

Finish the face with your chosen paint finish and the job is completed

General:-

As with all work to gliders you will need to have the work signed off by an approved inspector. It is always best to talk through with them what you intend to do before you start.

We also stock hole reducers for 80 mm to 57mm as well a purpose made plastic blanking plates in both 80 and 57 mm sizes.

Our workshop staff are always willing to give advice and help where we can. Please e-mail you questions to us and we will generally reply within 24 hours.

WEEKEND WORKSHOP SERIES

Repairing Unwanted Holes in your Instrument Panel

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Not all pilots are fortunate enough to be able to buy a new glider. So when it comes to buying second hand it is not uncommon to find that the original owner has either kept his favourite instruments or they are old and past it and you want to fit the latest and best.

If that is the case then you may well find yourself in the situation where you need to fill in some of the old holes on your panel.

The techniques and procedures described here are for instrument panels only. They are not structural repairs and should not be used where the panel is part of the integral structure of the cockpit.

What you will need:-

All the materials you will need can be found in our Small GRP Repair Kit RK080. All you will have to find is sand paper, some cling film, and some brown parcel tape.

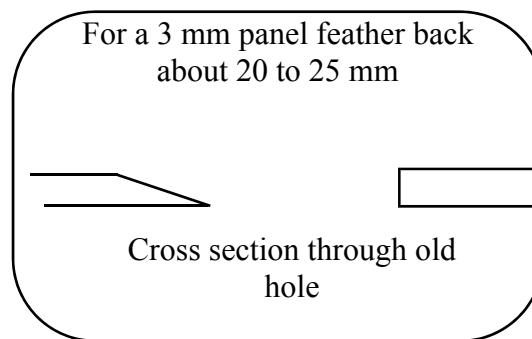
You will also need a flat board or a sheet of glass.

Before you start:-

Before you start remove all the instruments, and other associated parts from the panel. You need a completely bare panel the dust and resins will ruin your instruments and it is not worth masking them up for the work involved in removing them.

Preparing the holes:-

Feather back the edges of all the holes you wish to repair. For a panel with a thickness of about 3 mm you need to feather back about 20 to 25 mm.



For sanding back use either rough abrasive paper or a Dremel type sander. The final surface should still be roughed up with very course paper to ensure a good bond for the resin.

Next you will need a flat board or a sheet of glass. Use Parcel tape laid smoothly onto the surface as a release film in the areas of the holes to be repaired. Lightly wax the surface with car type wax and allow to dry.

Place the panel against this surface and hold it in place with some "G" Cramps. You are now ready to start laying up your new glass fibre over the holes.

Preparing the Fibre Glass:-

Find a clean flat surface and cover it with a single piece of normal cling film. You will need a piece about 12 inches long. Tape it down at the corners so that it is taut.

Next lay onto the cling film 2 pieces of the heavier glass fibre from the kit.

Cut some circles of the light weight cloth of the same size as the outer edge of your feathered holes. Also cut matching circles of the lined Peel Ply.

Mixing the resin:-

Before you handle the resin and hardener put on gloves

The resin is mixed in the ratio of 100 parts Resin to 40 part Hardener by weight. 2 :1 by volume. Unless it is a hot day it is worth warming both resin and hardener in warm water before you start as it will make it easier to work with.

Pour a small amount of resin in to another cup and add some flox and aerosil to form a thick paste.

Fold back to the middle one end of your laid out glass cloth and brush mixed resin onto the cling film . Now lay back out one of the glass cloths onto the resined cling film. Continue to wet it out before laying the second piece down. Continue until all the glass cloth is wetted out.