

REPLACING A BROKEN PIECE OF GLASS IN FOIL

There is nothing more disappointing than having a crack in a piece of glass in one of your projects. It makes no difference if you caused it or the end user. This paper outlines a technique to replace that broken piece when the project is done in foil.

The first effort is to locate a large enough piece of the same glass or something very close. This activity of the replacement can sometimes take longer than the actual replacement. Once you have found the glass, I find that the average time to do the replacement is 20 to 30 minutes.



With no repair projects in house and not wanting to create one on a good panel, I used this section of a small panel where I had removed an oval silk screened company logo that will be used in a total revision.

There is a crack in the red almost triangular piece.

The first step is to use steel wool and clean the solder bead that surrounds the cracked piece. Do that on both sides. This step will get rid of most of the patina and wax that you may not want contaminating the soldering iron tip.



If at all possible place the work vertically and remove the solder from the outline of the cracked piece. That way as the solder melts off it will fall to the table.

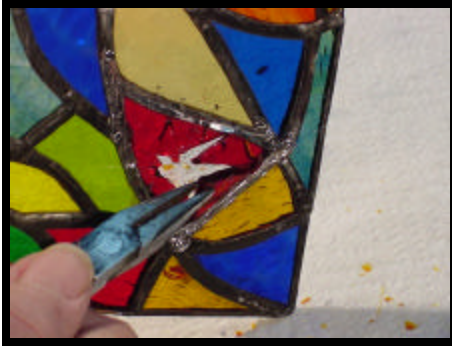
Remove as much solder as you can from both sides. The seams will look like that were flat soldered.



Make several scores across the glass with each passing the other at the center of the piece. It will look like a spider web.

After that there are two ways you can cause the scores to run. One is to drop a ball of solder at the center junction of all of the scores. The other is to tap gently on the reverse side.

It's a good idea to place paper on your work surface to catch the glass when it is removed.



After the scores have run, tap gently on the reverse side until one or more slivers is projecting outward.

You can now grab one of the slivers with your needle nose pliers and wiggle it free. Continue until all of the pieces are removed. Check for small pieces that are left in the corners as they can make the next process more difficult.

of the glass chips.

When all of the pieces are removed it's a good idea to remove the paper from the work surface and dispose of all

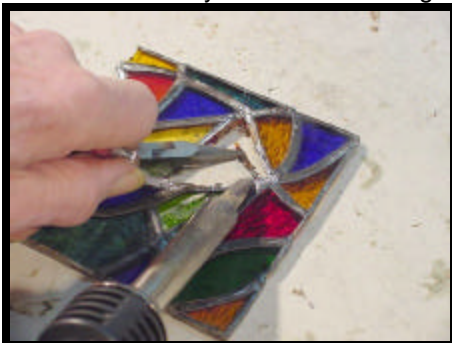


Now it is time to remove the foil that was attached to the broken piece. During this you want to be careful to not damage the foil of the surrounding good pieces. If you do you will need to redo that damaged portion of the foil.

If you can locate the area where the foil overlap was made, that's the best place to start. If you can not identify it any convent point will do. Using a sharp knife blade or X-Acto knife, place the point of the blade at the separation point of the two layers of foil. Apply heat at that point from the soldering iron and pry the old foil away from the

foil of the good glass. Once it is slightly separated you can break the foil there and flip the loose end out to where you will be able to grab it with your needle nose pliers.

Continue to apply heat from the iron and pull gently with the pliers. If you are lucky as you continue to move around the opening with the iron and pliers, you could pull the entire old foil away. If the foil does tear, use your knife again to get a small tab started and the try again with the pliers.



Continue until all of the old foil is gone. Next go over the good remaining foil of the surrounding glass with the iron to smooth out the solder that will be on it.



Place the piece of glass that will provide the replacement under the opening you created and trace the shape onto that glass. If the project is a 3D item such as a lamp, you may have to hold the glass into position while you trace the outline.

When you have the outline and are satisfied with the fit, foil it. Put the replacement into position. Depending on the bead of solder that is on the other parts of the project, your new piece may drop too far below the adjoining glass, if this happens place a coin behind the replacement

piece to bring it to the desired level.

Another way to keep it in place is to tape it from the back side to hold it into position. Finish soldering the new pieces into the project, then clean away the flux, patina if necessary and wax. Then you are done and you will feel proud that the project is now back to normal.