

WINDSHIELDS AND CANOPIES - TIPS & NOTES

To end up with a final result you are proud of takes time and effort. Slapping something on will look like it too. Open cockpit wind screens are the simplest but care is even required here to achieve a clean installation. Here are some notes from my experiences over the years; hopefully they will make it easier for you finish your model.

MAKING A PATTERN

When faced with a model subject and you don't have a molded canopy which is frequent with flat sided or civil aircraft, you can build the canopy over the fuselage frame using some pieces of plastic cut to shape to create the look of the real one. I've seen this done quite effectively.

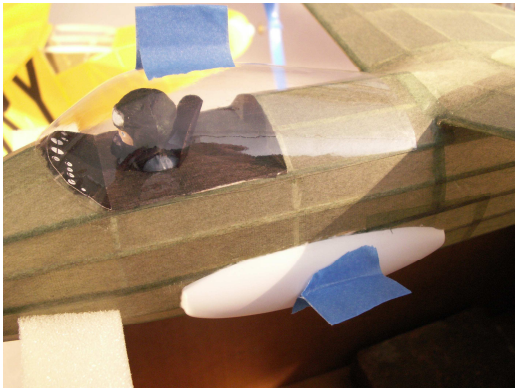
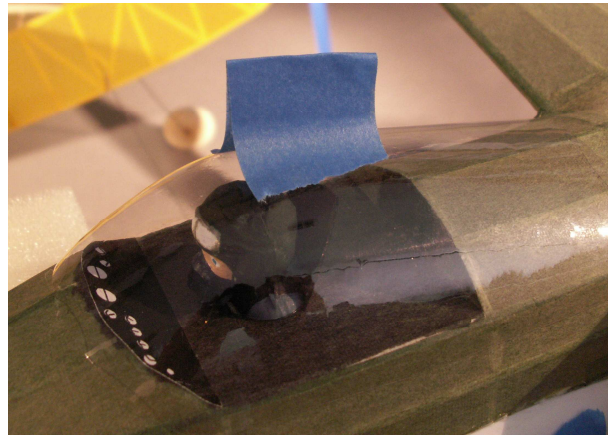
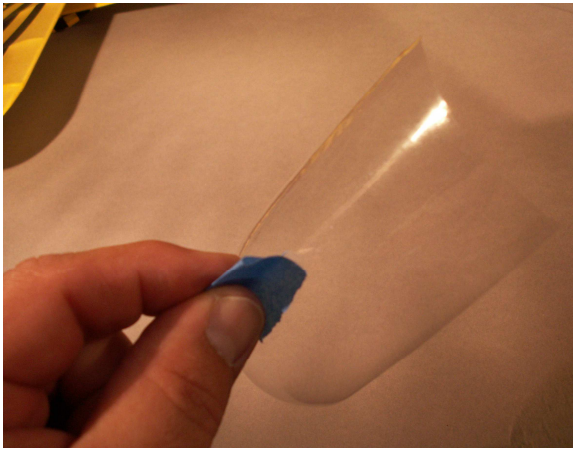
THE PATTERN - Note, I usually do this before I cover the model in case I find I need to make accommodations in the structure plus you don't accidentally puncture the tissue. You would start out with some light cardstock, velum or a good bond paper, rough cut it to shape and then lay this over the section to receive the canopy. Do a defined, single flat area at a time. Once you have the general areas composed you can tape them together and start working with the whole. I usually start with the top of the fuselage if there is a window area here otherwise I start at the rear of the cabin and work forward. Use a soft pen or pencil to mark the outside of the fuselage members that you will glue the window to. Make simple test cuts each time testing, if you go too far then tape some more on and trim again. Once you are happy with this you would tape all the edges of this pattern together, make your final test fit and adjustments... now then on to the plastic. Tape the pattern right on the plastic and cut the plastic to match the pattern. Some cockpits are tricky or by design require using multiple pieces of plastic to create the canopy. The paper allows you to test fit without wasting your windscreen material.

VACUUM FORMED CANOPIES - These little wonders can make a bubble type structure easy to create but there is still a test and fitting process to follow to get that great look. The first step is to prepare it, vacuum forming typically involves release agents which can keep glue from sticking. Use luke-warm water with dish detergent to clean the canopy before you start. Rough cut the canopy keeping it obviously oversized. Use a piece of painter's removable tape to mark the centerline of the canopy so you can maintain symmetry throughout the fitting process, a narrow strip suits this purpose. Use a permanent marker or better yet more of the painter's tape to put reference dots on the canopy where it makes contact with the fuselage. Trim a little at a time working towards these points. Stop and test frequently. Use painter's removable tape to start marking definitive lines where you expect the final cut to be made and be certain the centerline is kept aligned. Use painter's tape to hold the canopy in position while you mark it so it doesn't slip or move. See the "Holding Canopies and Windshields" tip for more information on making this task easier.

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INSTALLING CANOPIES AND WINDSHIELDS

HOLDING THE CANOPY OR NO GLUE SMEARS - A picture is worth a thousand words so not much to say here. I frequently use blue low tack painter's tape to hold the canopy in place while the glue dries. It is particularly useful for holding a troublesome bow where a gap is forming. But the best thing is it allows me to make a handle to hold the canopy while I apply the glue and then position it onto the plane. This made the job so much easier.



The handles also work well for vacuum formed parts allowing you to position them without getting glue all over your fingers and plane. Leave the tape on until after the glue dries to avoid moving the part and smearing the glue. One thing the using tape handles really does is keep the part from deforming and getting glue where you don't want it while you squeeze the part trying to hold it.

CANOPIE STRUCTURE - I would work with the windscreen after the fuselage structure is completed meaning put the root ribs in place first. I like saving the actual install of the windscreen/canopy for last after the tissue is on the plane; this gives the cockpit a more finished look. It also requires that I somehow cover the seams and window frames with tissue. To do this I usually cut out the tissue in appropriate width strips and attach by smearing a glue stick across the back of the strip. I use a wider strip around the edges to cover where the plastic ends.
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USING CANOPY GLUE

CANOPY GLUE - Once the window is ready to install I like to use our Zap Formula 560 to glue it in place. This glue goes on white but then dries clear. I put a small puddle on a scrap and use a tooth pick to create a fine line of glue around the perimeter of the windshield. I then place it in position and use blue low tack tape to hold it in place. On the Helldiver I will actually only put glue on half the perimeter and hold it in place with tape while it dries. This allows it to stay flat without any stress coming from curving it around the fuselage. Once dried I then apply the rest of the glue and pull it around into position again holding it with more tape. Once everything has dried I remove the tape and finish making the framework using tissue with double sided tape applied to it. You can use a glue stick in place of double-sided tape. Sometimes I leave some blank spots that I work glue into after the canopy is in position. I used to put the glue on the frame and then push the canopy into the glue but I almost always ended up with glue fingerprints somewhere on the windows. This way for me has been much more reliable and neater looking. The 560 glue cleans up with water before it dries so you can wipe small smudges off with a damp cloth.



On flat and relatively flat windscreens such as on the Auster or most civilian aircraft I will apply the glue to only the top and bottom of the front center portion of the windscreen. I install the windshield using tape to hold it in position. Now after the glue dries in this first zone I will go back and work with a pin or toothpick and apply a fine bead of glue again to the perimeter of only one of the flaps forming the side or top window. I then hold this again with the low tack tape until dried. Repeat until glued in place. Come back with some tissue strips to create the framing of the real aircraft and you are done.

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