

Repairing Cracked Interior Plastic

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Last month we installed new carpet in our 150F, and although it is a relatively straight forward procedure, it was difficult getting carpet to slide under the plastic side panels. I removed the panels so I could get the carpet to lay flat. I decided it was a good time as any to clean up the plastic panels since they were already out of the plane.

At first I expected to give the panels a good cleaning. I started out with a stiff nylon brush, and Simple Green, undiluted. The panels are pretty flimsy, so its tough to give them a good scrubbing without putting too much pressure on them and perhaps cracking them. I did one panel in the driveway, and then decided to try the bathtub. I liked having hot water, and I was amazed at how much better the panels looked after a good scrubbing. As often happens with these simple detailing projects, the job soon grew in complexity. The panels were clean, but still discolored yellow in parts, so I scrubbed them real good with Ajax, and this was quite effective. I next decided that I should try and patch some of the borderline cracks in the panels. I had very goods luck fixing cracks in my wing tips with the technique I found in the Hints N Tips Book, so I decided to try that with the interior panels.

There are lots of methods for fixing and patching plastic parts. The method I used, super glue, fiberglass cloth and baking soda, seems to be the quickest, although maybe not the neatest or most durable. The idea here is simple. You cut a piece of fiberglass cloth the right size and shape to cover the crack from the back side. When you put super glue on the fiberglass cloth, it starts a chemical reaction, the patch bonds to the plastic, gets hot, and there are some unpleasant fumes generated. (Don't say I didn't warn you) If you've ever used super glue you know it has an annoying habit of not drying, and only seems to stick to your fingers. This is where the baking soda comes in. You sprinkle a fine dusting of baking soda on the super glue patch, and it sets instantly. I mean, you can run your finger over it in seconds and it is totally dry.

The problem with this kind of patch is that it is ugly, and if you get impatient, much thicker that it has to be, but it doesn't really matter as long as you do it on the back side of the part. You can also use just super glue and baking soda on the other side of the part to fill in the crack, this takes a delicate touch, and if you hurry it, you end up with a big lumpy bump where the crack used to be. You can sand the bump away, but because the interior panels have a leather like surface texture, the spot you sand out will not match. I was less than happy with the final result. My panels were clean, and my cracks gone, but the patches were pretty obvious. This technique had worked great on the wingtips, because even thought I had done a lot of sanding, in the end I painted them, and the patches were invisible.

That's when it occurred to me to paint the plastic interior panels. I realized that the texture differences would still show, and I briefly considered using an automotive kit designed to patch upholstery and match texture with an iron on patch gizmo. I just knew I'd make a mess of that if I tried it, so I went ahead and tried painting the panels without trying to match the texture.

I used a product called "Vinyl & Plastic Color Spray" It's made by SEM Products of Charlotte, NC. I found it at my local body shop supply house, it is also available from Texas Aeroplastics. SEM instructions indicate that this stuff is durable and flexible enough to be used on vinyl car seats. I figure in that case it ought to be good enough for plastic aircraft interior panels. (Texas Aeroplastics sells it expressly for that purpose) They recommend you clean the plastic with a prep product also made by SEM to help it bond. My supplier didn't have any of the prep in stock, and my panels looked and felt extremely clean and dry, so I decided to proceed without the extra step. The SEM spray comes in lots of colors, but they didn't have a good Cessna beige match. I'm partial to a more modern soft grey. SEM's Portsmouth Gray (15623) looked great in the samples and seemed to be a good match for the rest of my interior. The painting couldn't have been simpler. Like any spray paint, you have to be careful to apply it evenly and not too thick. The end result was absolutely spectacular. The panels looked brand new. The paint seems really durable, (I couldn't scratch it off with a fingernail) and dries to a nice semi-flat sheen. As I suspected, my patches were still visible, but it you weren't looking for them, you'd never notice.

I reinstalled the panels in the plane, and what an improvement! It gives the interior a whole new feeling, like a new plane. Getting rid of the yellowing and the cracks made a huge difference. What stands out now is the cracks in the rubber edge extrusions between the panels and the glass. I'll look into a source for those in a future segment. I'm also looking at the metal panels somewhat wistfully, they looked fine before, but next to the fresh plastic, they are in need of some attention. Unfortunately painting them is quite a bit more involved. Might make a good project next winter.

What would I have done differently? I probably would have used a better plastic repair technique. SEM makes a product called SEM-WELD. It's an epoxy glue. Texas Aeroplastics also sells ABS chips. You're supposed to dissolve them in ABS cement, or acetone which turns them into a patching paste. Sounds pretty messy to me. I never expected to become a plastic artist, though I know with practice I could do a better job that I did. Perhaps I'll look into it the next time a crack shows up. In the meantime, I'm as pleased as punch with my "new" plastic interior. ■