

Demonstration: Replicating a Model Part in 2D

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Sometimes you may want to replace a part that is too thick or comes molded solid instead of hollow. There may be photo-etched sets available to do the job, but likely they include all sorts of other parts that you may not be interested in using. It wouldn't make sense to buy a complete set and use just one part. You can make your own but it takes a lot of measuring, dry fitting, and perhaps soldering.

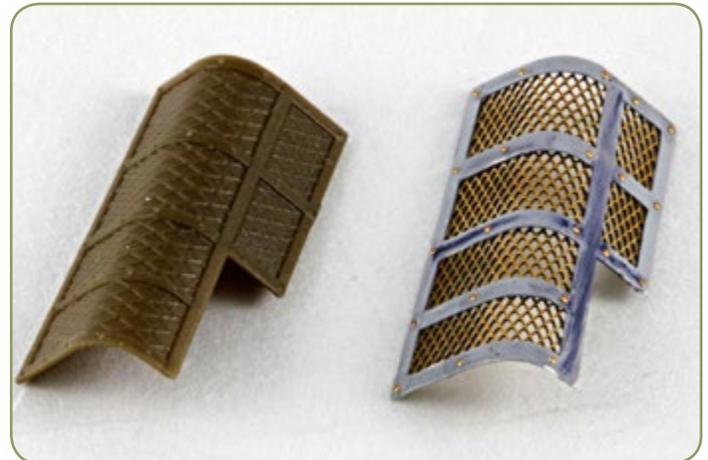
I ran into this challenge recently with the Fine Molds Type 89. Although the kit is superb, it curiously comes with an exhaust guard that is molded solid with raised detail to depict the frame and mesh. I could not live with this part but was not interested in tracking down the photo-etched brass replacement. I needed a simple way to create a 2D (two-dimensional, flat) version of a 3D (three-dimensional) part. As I thought about what to do, I came up with this solution. I think it works well in many cases, but of course not all. Here's what you need:

- Tamiya tape
- Sharp scalpel
- Black ink pen
- Surgical scissors (optional)
- Straightedge (good metal ruler)
- Thin metal. I used aluminum because it cuts easily and holds bends without the memory that brass has. But thin brass is an alternative. Lead foil is too, but it is so soft that it bends too easily. My aluminum happens to be "printer's sheet" which was given to me years ago. You can more easily find aluminum in food packaging or takeout trays or disposable cooking pans.

1. Start out by applying the tape over the whole part you wish to replicate. If it takes more than one piece of tape, make sure the pieces overlap.

Take a sharp, preferably new, scalpel blade and cut off the excess tape that extends from the edge of the part. Try to use the part edge to guide the blade so you don't dig into the part.

When you're done cutting, use your marker to trace around areas to cut out, or along sharp crease lines. Again use the marker at 90 degrees to the crease edge to trace it without wandering. If it does wander, no worries, it can be corrected later. The part



in my images had "windows" of material to remove to create a cage effect. Parts like front fenders will not have this to work around.

If the part has bends with creases, the tape will tend to bunch up on itself. This is not desirable, so you may have to cut lines or fillets into the tape along the curves. Doing so will allow you to lay down a single layer of tape without bunching.

2. Once your marks are done, remove the tape carefully without distorting it. Remember the overlaps if you have them, and start pulling the tape from the tape layer that is bottom most.

Have your metal sheet ready, and when the tape is free from the part, lay it down on the metal and carefully flatten it out without distortion.

3. Take a straightedge and cut along the edges. This is the time to correct the wandering lines if you have them. Continue to cut until the part comes away from the metal sheet. Bend it along the crease line you made, or continue to cut out the areas not needed. Simple bends are made using tubing formers.

Remove the tape when done and you have your part! The image at the top shows the original part and the new part, which is a frame with mesh glued behind it.

