

Restoration

Replacing missing areas and making molds and new parts

What happens when some of the pieces are missing from a treasured collectible? Is your collectible destined for the junk heap? Not necessarily. It may be possible to “create” the parts needed to replace these missing pieces.

Different methods have been developed to create the needed parts. Often, the larger pieces of a damaged collectible will be recovered while a few small fragments will remain missing. If the missing fragments are surface pieces that lack a great deal of detail, they can usually be replaced with little difficulty. It simply becomes a matter of filling the holes created by these missing pieces.

There are several things to consider when deciding what substance to use as your filler. Select a filler product identical or similar to the piece that is being replaced. It is important for the filler to be consistent with the collectible in texture, weight, density and resonant ring. The filler must have those pliable and adhesive qualities needed for it to completely fill the hole left by the missing piece. The filler should also be strong and durable, with no possibility of shrinkage. Finally, you must consider how the filler will react to any sanding that may be necessary and its compatibility with any paints and glaze sealants that will be applied to it.

The greater difficulties arise when you attempt to replace detailed pieces (the hand on a figurine or the petal of a flower, for example) or pieces that have left large holes in the collectible. In such cases, you will probably have to manufacture a replacement part through a molding process. There are many molding products available.

Once again, there are several things to consider in selecting the right molding product for your purposes. If the collectible has an area that will provide you a needed impression for a replacement part, then select a molding material that will best capture the greatest detail. Some molding products are oil- and petroleum-based and can leave a permanent stain when applied to your collectible. Other molding products may harden too rigidly,

Right: mold product can be seen over good handle to create handle for use on other side. At far right is the finished sugar bowl with its new handle.

causing damage to your collectible when they are removed. There are many products that will leave gaps, air pockets and imperfections in a mold. When a detailed mold is required, use a lighter, thinner and more flexible molding material. It is also a good idea, if several parts are available for impression, that you make more than one molding so that you have more than one casting from which to select the best fit. If the mold is to be used more than once, you must find a molding material that will stand the stress of multiple castings. Some molding products will set faster than others. If time is of the essence, be sure to select a quick-setting molding product. There are disposable, flexible, detail-capable, supportive, repetitive, boxed and mother molds. To make these molds, choose a molding material that will not harm your collectible when applied, will pick up enough detail for a good impression, will hold up to the casting material and can be reused if necessary.

There will be times when you will be unable to duplicate a missing piece to make a mold. Then it may be necessary for you to do some free-hand sculpting. Many people, however, lack confidence in their artistic abilities.

To make things easier, find a reference book with a picture of your collectible and sketch the part you want to duplicate. This picture can be scanned to scale with a light projector. If the missing part is the exact opposite and reversal (perhaps an angel wing or arm), the opposite part can be traced and then the tracing can be flipped over and traced again to create the opposite image.

You might also consider using sculpting clay to make a prototype of your mold. The soft clay can be baked to a hardened structure in stages. In this way,



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the missing piece can be duplicated by first creating the correct skeletal shape and then making whatever adjustments become necessary as the part develops. Once a satisfactory replacement part has been completed in free-hand clay form, a mold of it can be made and then cast with the proper materials.

Release agents are available that can be applied to the surface of your collectible before placing a molding product on it. This agent can be a spray product or a simple powder. These agents can also be applied to the inside of a mold prior to the addition of the casting material. If a release agent is used, be sure that the release agent will not have an adverse effect on the original surfaces or the casting material.

Before you apply a molding product to a surface, be sure you know how it will be removed once the mold hardens. It is probably a good idea to leave an opening such as a “zipper line” so that the mold can be easily peeled back. For example, caution must be used not to apply a molding product into small loop-type areas in parts such as handles or finials to completely encompass all sides. If this happens, it can be very difficult to remove the mold without cutting it away and perhaps breaking the looped areas.

To obtain the best results, a casting material must fill the mold completely. If the walls of the mold are thin, it may become necessary for you to add secondary support to its outer layer to stiffen the mold. There are some strong molding materials with poor impression capability that can be used to strengthen the outer wall of a thinner detailed mold. Other support materials include cheesecloth, burlap, rods, plaster, resins and frame boxes. While it is important to fill the mold completely, it is equally important

not to overfill it, because this could cause the mold to stretch and distort your replacement part. Should the replacement part end up too small or too short, it can always be augmented to reach its proper size. There may be occasions when it is preferable to fill the mold with the casting material and let it cure in the mold while attached in its place on the collectible. Many casting materials adhere well to the collectible if allowed to cure in this manner.

In an earlier article, we discussed the cannibalization of parts from collectibles that could not be saved. Sometimes it is just too difficult or time-consuming to reproduce a replacement part. In that case, consider using a replacement part that has been salvaged from another item. Even if the replacement part is not an exact fit, it may be easier to customize it to your collectible than to create a new replacement part. Sometimes you're just not sure what the missing piece looked like. In that instance, be sure to do some research to get an idea what a correct replacement part should be. It is rarely, if ever, a good idea to simply “use your imagination.”

In some cases, if there is a larger and/or smaller part available to copy, there are some steps that can be taken. Some molding/casting methods will allow a larger part to be copied and in steps be shrunk to the smaller scale needed. The same is true taking a smaller item and molding it in steps to make a larger replacement part.

There are some wonderful options available to rescue a collectible in need of a missing part and make it whole again. The choices are many, and a professional restoration specialist can assist you in choosing the right one.

