Tumble-Polishing Metal Jewelry

by Judy Bjorkman

Project for beginners.

Have you ever tried tumble-polishing your handmade metal jewelry? It is a much cleaner process than buffing on a wheel and is generally less time-consuming - in one step, tumble-polishing can produce a near-mirror finish. It cleans the jewelry, burnishing it all over, including hard-to-reach places like the insides of ring shanks and the backs and sides of pins, and gives a uniform finish suitable for use or sale as is. It is also a safe way to polish chains and other types of jewelry that are either difficult or unsafe to polish on a buffing wheel. In addition, there is no buffing compound residue to clean off either you or the jewelry. My own experience is mostly with tumble-polishing base metal jewelry (brass, copper, nickel-silver) but the concepts presented here work with precious metals, too.

TOOLBOX

- **Tumbler**
- **Tumbling media**
- **Water**
- **Soap**
- **Sieve/Colander**
- **Metal scrap**
- **Jewelry prepared for polishing**
- **Cake pan and wooden blocks (optional)**

Since I usually construct larger pieces of jewelry, I use the Model 45C Lortone tumbler (it has lasted for 15 years). Smaller tumblers also work, but they must be run for longer periods of time to get the same polishing effect.

The tumbling media I prefer is a porcelain type used for final finishing. An example is Rio Grande's Sunsheen porcelain media. I use the 4mm size because smaller sizes might get stuck in the crevices of my jewelry, necessitating time-consuming removal after tumbling. Five pounds of the media is more than enough for the Model 45C tumbler. For the last 15 years, I used a wonderful media called

Cerambits, which, unfortunately, I can no longer find. Tumble-polishing works well on designs that include stones, so long as the stones are not the softer varieties like marble, which will become dulled or pitted.

Mother-of-pearl also is not suitable for tumble-polishing. If you buy a string of beads, test-tumble one or two to see if they change in appearance. Some things, such as horn or apple coral, can be tumbled for shorter times (e.g., 2-4 hours) without much change, but I'd avoid it if possible. Glass beads, including the African sand-cast beads, seem to stand up to tumble-polishing very well. But they, too, should be tested in advance.

The plating on metal beads and jump-rings tends to be removed partially or completely by tumble-polishing. Tumble a few such items in advance, if you are unsure whether they are plated. You can also hold a magnet up to them - if they are magnetic, they are almost certainly plated steel. Gold-filled jewelry should not be tumbled for long.

Don't polish large metal beads by tumbling unless you cover their holes somehow, since the media may find its way inside the beads, and getting it out is a real job! Stringing the beads on a thick thread before tumbling may prevent this.

If you want a matte finish on your jewelry pieces, use an abrasive cutting media. If you change your mind and the matte finish is not too rough, you can burnish it away by tumbling in the burnishing media. When you use the same tumbler for both processes, be sure to rinse out the barrel very well before adding the burnishing media. I have not used stainless steel shot very often, partly because it requires a little more care than the porcelain media which does not need to be dried or stored in special conditions. In addition, shot is too heavy to use in the appropriate quantity in this particular tumbler.

STEP 1.

Newly purchased media requires a break-in cycle. Since the Model 45C has a 4-lb. capacity, you will want to run approx. 3-3/4 lbs. of media for about 10 hours with a little soap, water, and scrap metal. Running the break-in cycle works the same way as the polishing cycle.

The media should fill 50-60% of the barrel. Add enough water to be just level with or very slightly below the top of the media. Add 1/2 cup or less of scrap metal. For soap, use either 1/4 cup or less of the burnishing compound recommended for the porcelain media (diluted as per package instructions), or 3 or 4 very thin shavings off the end of a personal-sized bar of Ivory soap. I have tried various compounds and found Ivory bar soap to work just as well as burnishing compound (never use detergents, shampoos, or the like, however).

STEP 2.

Close the filled barrel, place it on its base, and begin the tumbling process. When the break-in cycle is finished, open the barrel and pour its contents into a large sieve or colander (making sure the holes are smaller than 4mm!) in a sink. Drain and thoroughly rinse the contents, as well as the barrel and lid. Slowly pour the media back into the barrel, picking out the scrap metal.

STEP 3.

Now that the media is broken in, the jewelry must be made ready for polishing - much as you would for wheel-buffing - by removing scratches, rough areas, serration marks from snips, oxidation from soldering or annealing, glaze from fluxes, etc. Tumbling will not remove these marks, even though it may reduce some of them a little.

Add the prepared jewelry, water, and soap to the media in the barrel and tumble as described in STEP 2 for at least 8 hours. How much jewelry should you add? This is always a matter of estimation and depends partly on the size of the pieces. If possible, tumble a variety of sizes and shapes that doesn't have a total weight of much more than 4 oz. or a total volume of more than about 10-15% of that of the media itself.

STEP 4.

Some jewelry pieces, such as the pins for large barrettes, may not quite fit in the tumbler. I bend them until they fit easily, bend them back after tumbling, and hand-polish the bent area, if needed.

Note: If necessary, remove minor scratches and other marks with a Cratex rubber abrasive wheel (preferably extra-fine) before tumbling. Any marks from that will burnish away in the tumbling process.

STEP 5.

After tumbling, drain and thoroughly rinse the jewelry and media as described in STEP 2. Immediately thoroughly hand-dry the jewelry with an absorbent cloth (cotton diapers are great) so that water won't spot it. Leave the pieces in the open for a while, so that any remaining water vapor can evaporate (therefore, it isn't wise to put the jewelry immediately inside a plastic bag). The jewelry is then ready for use or sale! If you are exhibiting at an art/craft show, unsold jewelry can be cleaned up overnight by tumbling it for 30-60 minutes.

STEP 6.

Tumble-polishing involves finding the appropriate balance among several factors: the amounts of media, water, soap, and jewelry, as well as tumbling time. If any one of these factors is out of balance, the jewelry may not polish as well as it could. If you open the tumbler at the end of the process to find everything covered with a gray or tan film, this means that you added an insufficient amount of soap. Don't panic - drain, rinse, and reload the tumbler, adding more soap than before. Run it for a few hours or until the film is gone. On the other hand, if you consistently use too much soap, the foam will slow down the burnishing action of the media.

One of the problems I have had with the Lortone 45C is that sometimes the lid will spontaneously come off, releasing soapy water, media and jewelry all over the table and floor. I tried to prevent this by occasionally tightening the knurled knob on the lid, but this is not foolproof, especially when I tumble a load with lots of heavy jewelry. I have found two ways of dealing with this (in addition to not overloading the tumbler). One option is to set the whole tumbling assembly, propped up on wood blocks, inside a large aluminum cake-pan, so that the mess produced would stay inside the pan and be easier to clean up.

I learned about another solution during a conversation with the technical department at Rio Grande. Put a short, thick, blunt piece of wood under the center of the barrel after it is loaded, then gently push the barrel downward so that its bottom is arched slightly upward. Holding the barrel in this position, put on the flat inner lid and the upper metal lid, then tighten the knurled knob. The bottom should remain slightly indented and the positive air pressure outside the barrel will help keep the lid in place. Be sure to read whatever information comes with your tumbler.