Basics of Tumbling

MARCUS ANGHEL
MCA Gold Card Judge
Anghel Restorations
marcus@anghelrestorations.com
www.anghelrestorations.com

A lot of people stop by my shop, either when visiting Arizona or those who live in the Phoenix area. And the one machine I get asked about quite a bit (or to "borrow" while they are here) is the tumbler. It's probably one of my most used tools on a weekly basis. My tumbler never sits idle, making it one of the best purchases I've ever made.

Tumblers are used by most major auto restoration shops—Ford or otherwise—to restore finishes on many of the metal and aluminum parts we work with. I thought it would be good to share some of the information I have learned that might be helpful to others who may find themselves buying one of these machines… or borrowing.

There are two basic types of tumblers—rotary (like rock polishers) and vibratory, usually called deburring tanks. They come in all sorts of sizes, from a desktop to huge industrial machines. But, in general, a tumbler is a machine that is used to smooth rough edges or ridges from a part. They are used by many different industries outside of the automotive industry. I first started using one when working in the satellite communications industry. For parts we manufactured, we had a whole row of these machines working continuously all day long to deburr aluminum housings. It wasn't long before I was throwing car parts in there (much to the dislike of others) and using it so much that eventually I had to get one myself.

How does it work? The process is the same regardless if you are de-burring steel, aluminum, or any other material. The media in the tank is usually either plastic or ceramic. Plastic media is generally used on aluminum and ceramic is used on steel. The media inside the tank has aluminum oxide or other abrasives imbedded in it all the way through. As the media is turning in the machine, the base material is wearing down slowly and exposing new abrasive on the surface of the media. As the media goes back and forth across the part, it deburrs it. At the same time, water and compound (usually a soap) is being circulated through the machine to keep the surface of the media clean—very similar to having water running over a grinding wheel to keep the surface clean and the pores of the wheel open.

Some tips:

Keep the water clean and use a compound. If the water is not kept clean or no compound is used, the media becomes glazed over, greatly reducing its ability to de-burr. So it is important to clean the water in your machine often and use compound for the best results. I use a compound mixed with a type of rust prevention so the bare metal parts do not flash-rust while tumbling or after drying.

What kind of media do I need? When choosing media, you will need to choose the type, size, and shape, plus the level of abrasiveness. Ceramic is the most common and I actually use this for all the parts I work with—metal and aluminum. The size and shape is simply determined by the size of the smallest holes in the part. You want to pick a media that does not get easily lodged in the smallest places of your part.

How long do I need to run my parts? In general, the answer to that depends on the part. Some parts just need to be tumbled a few minutes while others may require well over an hour or longer to get the desired effect. Trial and error is the best method here.

The machine I have been using for years is from C&M Topline, a three cubic-foot rectangular machine. I would consider their equipment as one of the best in the industry; they are geared towards working with the restoration market and offer good support. If you are looking to restore old parts and make them look as new as possible, consider trying one of these machines.