

MAY 2014 DEMONSTRATION

SANDING TECHNIQUES BY BARBARA RAYMOND-LAPREASE

Sanding is a step in woodturning that we often take for granted or gets overlooked. Barbara presented tips on sanding and shared many thoughts on the how and why of sanding, different materials, and techniques. Charlie joined in numerous times with some extra tips and examples. A dynamic duo presentation with many tips and suggestions.

The overall theme was that sanding is more important than finishing because the final finish is only as good as the surface on which it is applied. It may take you as long to carefully and fully sand a project as it did to turn it originally. The amount of sanding depends on whether a project is intended to be rustic and less finished looking or whether it is intended to have a very fine surface to show off the wood grain and colors.

Sandpaper is a coated abrasive that is rated for hardness, sharpness, and durability. Do not buy cheap sandpaper as it does not always have uniform and quality particle size, material, and durability. Aluminum oxide is a hard and sharp material that removes wood in a v-groove pattern. Garnet is softer, wears faster, and leaves U-shaped groove patterns. Start sanding with aluminum oxide and then garnet to complete your sanding.

Open-coated abrasives have less particles than closed coat abrasives and are used in sanding wood; closed coat abrasives have twice the number of particles and are used for metal work. Sandpaper that has been “stearated” with a dry lubricant is used to sand between coats of finish and paint and prevents clogging.

Barbara’s Seven Rules of Sanding

1. Sandpaper is a cutting tool that needs to be kept sharp and clean. The spaces between the abrasive particles on the paper need to be cleaned periodically or it cannot remove more wood. Use a wire brush or crepe rubber cleaner made to clean sandpaper. Do not reuse sandpaper that is dull and worn down. (Barbara says to use it as though Charlie was buying it for you).
2. Carefully examine the wood surface and the shape of your project piece. If it has tool marks, torn wood grain, surface damage, or needs minor shaping, decide what is the coarsest grit to start with to clean up the surface before refining it with finer grits. Start with 80 to 120 grit if the surface needs substantial work or repair. As tool handling improves, the coarsest grit you may need to start with is 120, 180 or even 220 grit.
3. Progress through a series of grits from coarsest to finest for your project. Do not skip any grits as they are needed to progressively remove the groove patterns from the previous grit sandpaper. Use reverse on your lathe, if available, to sand the piece in both directions on each grit.
4. Remove the sanding dust as you change grits as some of the abrasive material comes off the paper and remains on the wood surface. Use a cloth, brush, or air from a compressor. Examine the surface and decide if you need to continue with the current grit or is it ready for the next finer grit.
5. Go back to coarser grits if needed; do not skip any of the series of grits as you go finer.
6. Sand at slower speeds on your lathe (200 to 500 rpm) and do not allow heat to build up. Heating wood causes cracks and checking in the wood surface. Use slower speeds or less pressure on the wood to create less heat. When using power drills and sanding disks, slow the drill down to 150 to 250 rpms.
7. Hand sanding with the lathe off and the piece still mounted on the chuck can be a useful final step. Sand with the wood grain.

Safety Tips

- Always use some combination of dust collection to reduce dust in your workspace and a personal dust mask to keep particles out of your lungs. Dust is a serious health threat – take protective action every time you sand wood. Use dust masks that are rated 95 or higher (95% efficient at removing dust particles), such as N95 masks by 3M.
- Do not attempt to reach into a deep bowl or narrow vessel to sand it while the lathe is turning. Entrapment of your fingers, hand, or arm could result in serious bodily injury. Use an extension mandrel or tool handle with a sanding pad to sand inside any deep or narrow vessel.

Sanding Tips

- If the wood surface is damp and the wood particles clog the sandpaper, use a hair dryer or heat gun briefly to dry the surface before sanding. You may need to repeat this process several times as you change grits, but be careful not to overheat and crack the wood.

- Apply mineral spirits or alcohol to the piece to check for any final scratches or needed sanding as you get to the final grits on your sanding. Alcohol will also raise the grain before final sanding so that your finish does not raise the grain when applied.
- Apply sanding shellac to areas that have tear out or stringy fibers and let it dry before final sanding so that you can get a smoother surface.
- Use pieces of foam behind your piece of sandpaper to allow the paper to take the shape of the turned piece such as on curves. Cut up inexpensive computer mouse pads or other thin foam.

Sandpaper Storage

- Before cutting sheets of sandpaper into smaller pieces, apply a color marker to the back in a pattern about 1" apart so that smaller pieces can be identified as to grit when the grit number can not be seen on that piece. Make a color chart so you can remember which color is which grit.
- Cut sandpaper from the back with a razor blade, hacksaw blade, heavy-duty scissors (use it for nothing else), or lever arm paper cutter to make sandpaper sheets into usable sizes.
- Make a sandpaper cutter by mounting a hacksaw blade to a piece of plywood or MDF board. Put flat washers at each end of the blade and then a screw through the blade hole to keep the blade up off the plywood. Mark the plywood at various distances to show how far to insert the sheet under the blade to tear off half or quarter sheets for sanding.
- Store your cut pieces of sandpaper in a portioned check folder, index card box, or portioned plastic box to keep the grits together and in a series for use. Or try gluing wood clothespins to a board and then clipping some sandpaper pieces with each clothespin to make them easily available and organized for use.

Tools for Sanding

- Barbara demonstrated using 3M Bristle discs and 3M Scotch-Brite Radial Bristle discs. These discs allow sanding in places that are hard to reach with conventional sandpaper. These work well for de-burring, de-fuzzing, and sanding irregular surfaces. Coarser grits like 80 and 120 can be used for shaping, 220 for fine sanding, and 400 for finish sanding. Different size Radial Bristle discs require different size mandrels to hold them: 9/16" and 3/4" require M-5 or M-7; 1" requires M-10 or M-12; and 2" and 3" require M-23 mandrel.
- Barbara showed an assortment of sanding tools such as sanding mops, flap sanders, and various types of sanding discs.
- Drills were mentioned as a handy tool as long as the speed was kept low such as 200 to 300 rpm. Handheld drills, drill presses, and air-powered sanders are all powerful and often available in the wood shop.
- Small handheld carving tools have many types of sanding attachments for fine detail work and clean up of wood turning projects, such as Foredom and Dremel-type tools.
- Wood turners who do segmentation work require a good flatbed sander or table or lathe mounted disc sander to get clean joints for gluing up segments and segment rings.

Submitted by **Barbara and Charlie LaPrease** with some word-sanding by **Chad Dawson**

Photos by **Chad Dawson**

