RETHINKING SHARPENING

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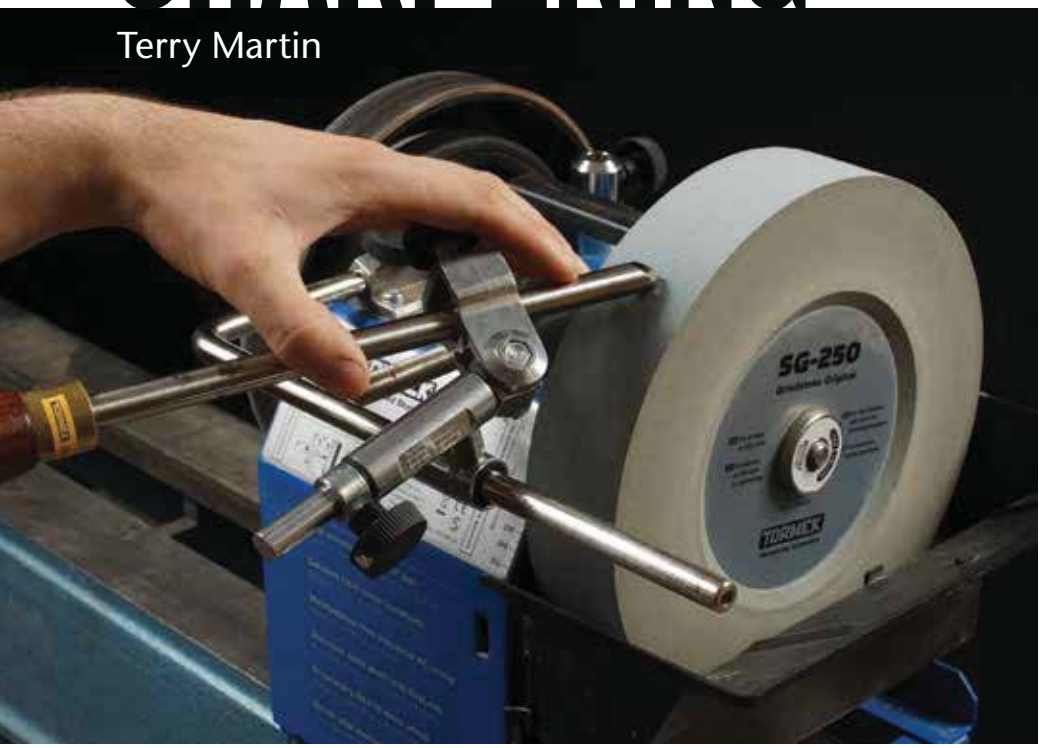

Sharpening a bowl gouge

For many turners, the most difficult technique to master is learning how to effectively sharpen turning tools. Or, perhaps I should confess, rethinking our approach to sharpening. More than 30 years ago, an old-school turner showed me how to sharpen my tools freehand on a grinder, and I practiced for years to get it right. I burnt tool edges, ground multi-faceted bevels, and wasted a lot of valuable metal. I considered these efforts a rite of passage and mastered the process reasonably well. I was convinced it was the best way and never saw the need to change.

On a good day, I was able to get an edge that would produce crisp shavings that flew off the tool in long ribbons. When asked, "What angle do you grind your tool bevels?" I would joke, "What day is it?" With the development of jigs for sharpening, I was approached by manufacturers and offered a chance to try their equipment. My response was always, "No, I'm fine, thanks. I can do what I want quickly and easily, and I don't need a jig to do it." In reality, although what I did was sufficient, it was not as good as it could be.

Change of thinking

A set of unusual circumstances combined to change my mind. I traveled to Ireland to demonstrate at Glenn Lucas's woodturning school, where he and I discussed the comparative merits of different grinds. He showed me how his grind does exactly what he wants every time. He then told me something that really affected me: "I get return students all the time, but they don't come back to learn to turn. They come back to learn to sharpen. It's far and away the most difficult thing a beginner has to master. That's why I always teach them to use a jig, so they can concentrate on doing what they want to do—turn wood." Glenn showed me how effectively he uses his wet grinder, and although I did my demonstrations with my regular grind, the seed had been planted.

It might have ended there, but back in Australia, I was watching Theo Haralampou demonstrate turning to a large crowd at a tradeshow. The main thing he was asked was how he got his tools so sharp. When he explained he always uses a wet grinder and showed them how he does it, they were deeply impressed. When Theo asked me if I wanted to try a wet grinder, I declined. My reaction was just the kind of habitual response that came from set-in-my-ways thinking.

Theo insisted and invited me to his shop. A week later, he showed me how to grind and hone my bowl gouge, and I learned I had been wrong. He reproduced my preferred grind exactly using the wet-grinder's jig. We mounted a piece of wood onto the lathe, practiced a few cuts, and I could not believe how easy it was. After just a few passes, I turned to Theo and said, "I feel like I'm cutting twice as well!"

I now have my own wet grinder, a Tormek, and I was able to master the sharpening process quickly because of the excellent handbook and demonstration DVD that comes with it. Also, there are helpful tutorials online covering every aspect of wet sharpening. Even better, I found objective evidence to support my impressions that wet grinding is superior in an article by Robbie Farrance, originally published in *Woodturning* magazine (issue #70). Farrance addressed all of the questions on comparative quality


The wheel rotates away from the tool's cutting edge.


The leather honing wheel removes the grooves from the wet wheel.


The edge of a gouge sharpened on my dry grinder


The same edge after wet sharpening and honing

of edge, durability, and quality of cut. His conclusions are backed by microscopic analysis and timed cutting tests with the results shown in graph form. It is a thorough investigation and technically minded readers will appreciate his commitment to unbiased analysis: (tormek.com/en/leaflet/pdf/wet_or_dry_en.pdf)

Farrance's conclusions can be summarized:

- After initial shaping, wet grinding is simple, quick, accurate, and repeatable.
- Wet grinding creates a polished, burr-free edge, does not overheat the tool, causes less friction in use, and so extends the life of the edge.
- Tool life is prolonged because less material is removed.
- Wet-ground tools produce cleaner cuts with more than double the turning time between sharpening.
- In one test, after 18 minutes of continuous turning, the wet-ground tool was cutting 3.5 times faster than the dry-ground tool.

I agree with Farrance's conclusions. The more I have learned about wet grinding, the more enthusiastic I become. Dry grinding is likely to affect the temper of your tools and even if you don't burn the edge, the heat has an effect on the integrity of the metal. After wet grinding, you are cutting with metal that has not been substantially altered from its tempered state. This means the tools stay sharp longer, so you don't have to sharpen as often. Some people have never experienced using a truly sharp tool, but when they do, they will find it takes less force to cut and it cuts so cleanly that the savings in abrasives alone are significant.

Additional benefits in safety are worth considering. There is none of the hot and dangerous debris that flies off a dry grinder. Slow-speed wet grinders never disintegrate, so there is no need to wear a faceshield. Theo made a good point about the relative safety of the two systems: "If you accidentally touch a spinning wet wheel, nothing happens, but if you touch a dry wheel...."

The only drawback of wet grinding is that initial shaping is very slow. My Tormek's black wheel is relatively coarse and makes the process quicker, but there is a place for pre-grinding to speed up the process of reshaping a tool. To facilitate using a dry grinder before wet sharpening, Tormek produces a bench-grinder mounting set that will give you exactly the same shape you can then take to your wet grinder for finishing. This jig works well. For grinding to reshape a bevel, I would use a ceramic wheel, or one of the more recent CBN wheels.

There are other wet grinders on the market—Grizzly, Delta, Makita, Work Sharp, JET, Northern Industrial—and they will also do a good job. I am certain any of them will produce a better result than dry grinding. Because Tormek regularly improves its system, that's the brand I selected. Try wet sharpening; like me, you will be amazed how much better your turning experience is. ■

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How sweet it is!