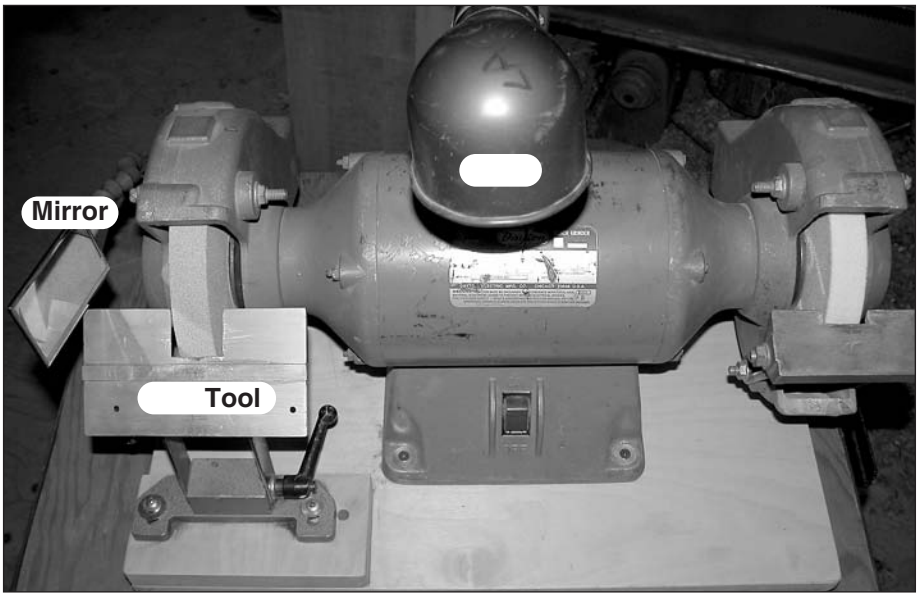
Buying your grinder and wheels

I find that it is not as simple as "anything will work" for a grinder. If you have a 3600 rpm grinder with a 120-grit gray wheel, 1/2" wide and worn down to 4" in diameter—it will be tough sledding. Nor do I find the slow speed water grinders to be my first choice for a grinder. Ditto for a belt or disc sander either. At least 90 percent of the turners I know worldwide use a wheel grinder—and for good reason.

Here's my grinder preference: an 8" dry wheel grinder, with either variable speed or a fixed rate of 1725 (or 1800), a rock-solid tool rest system, and at least one decent wheel. The 8" wheel offers a lot over smaller and larger wheels: the 8" has 25 percent more surface area than a 6" wheel per revolution. This translates to greater efficiency, cooler grinding, and a much longer wear period before replacement. The 10" and greater diameter wheels leave too little of a hollow-grind for me—and I use the concave surface as a two-point honing jig (see Spring 2002 article).

I prefer the dry wheel as the action is towards me—this allows me to determine a lot of things from the spark trail: where I am grinding, the degree of grinding, and when to stop grinding (sparks just trail over the top of the tool). With a water-type grinder, the action is away from me and there is no longer a spark trail. Those grinders are fantastic for carbon-steel tools like plane irons, cabinet makers chisels, scissors and the like—but not a first choice with most turners. I like the slower 1725 speed for a grinder. As I aim to remove minimal material, the 1725 speed grinder has a cooler action, and I just find it a more gentle action than a 3600 rpm screamer (those seem to double my mistakes!). We are now seeing two-speed grinders and infinitely adjustable grinders on the market, which will probably be common with most grinders at some point.



Strong and sturdy tools rests, good lighting, solid mounting and at least one good wheel are minimal requirements for a reliable grinder. The tool rest on the left is an after-market rest. A supporting strap was added to the right rest for increased rigidity.

If the tool rest assembly is flimsy, I cannot consistently grind my tools nor is it really safe to do so. Place your thumb in the center of the tool rest of your grinder and push down. You should feel virtually zero give—if it feels springy, improve or replace. You can add extra support strapping, build a wooden rest, or purchase one of several after-market accessory rests. Also, the rest should be adjustable both in angle and the ability to slide towards the stone to accommodate for wear as well as keeping the rest close to the stone for safety purposes. Finally, a light is a worthwhile accessory to the grinder if one did not come attached to it.

Thoughts on grinding wheels and dressers

First, work with the widest wheel you can fit to your grinder. In most cases this is 3/4" or 1"—but the wider the better. Next, throw away your gray wheels. Spend a lot or spend a little, but acquire at least one decent grinding wheel to sharpen with.

The wheels I would suggest are friable aluminum oxide—now in patriotic colors of red (okay, often pink), white, and blue. The word "friable" refers to the ability of the stone to fracture, exposing fresh grinding surfaces as you use it. Gray wheels usually are not very friable, the cutting particles