round over, thus reducing grinding ability and often glazing and generating considerable heat. The color code of these wheels makes them easy to spot. However, there really is a difference between a $10 wheel and $100 wheel.

My advice: If you have an 8" grinder look for wheels that sell for between $25 and $55 and you'll be fine. Two other critical aspects of the wheels: grit size and hardness. I like to work with two different grits on my grinder. For initial shaping of a tool or any other heavy grinding operation, I rely on a 36- or 46-grit wheel. For the actual process of sharpening an edge, I prefer either a 60- (the new 54-grits are close enough) or 80-grit. My ideal setup is a 60-grit on the left side of my grinder (I am right handed; reverse this if you are a lefty) and a 36-grit on the other side.

And finally, how hard should the stone be? Most stones—but not some of the real cheapies—indicate the hardness as shown in the photo *below*. This makes a difference in its friable quality and how well it performs on

Profile the tool first, then pull a bevel up to meet that profile

tougher steels. Stone hardness follows the alphabet scale from soft to hard as you go down the alphabet. Most of the stones commonly found range from H through K. My first choice is a J followed by the K.

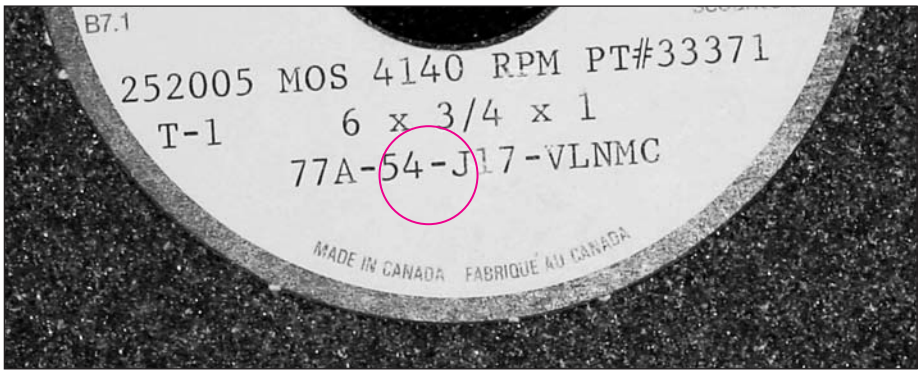
Almost as critical as a good stone is a dresser. These are tools that perform a number of functions: true the wheel to the axis of your grinder, flatten the face of the wheel, remove the buildup of metal particles, and expose or sharpen the abrasive particles. There are several choices: star-wheel, gray dressing stick, boron carbide stick, and diamond. I prefer the multiple diamond dresser (not a single point) in a round or tee shape. Keep it by the grinder, and use it lightly but frequently.

Finally, deal with the hazards associated with tool grinding. One of the greatest hazards is to protect yourself from flying particles, whether they are grit from the wheel or pieces of steel removed in the grinding process. The plastic shields on most grinders are worthless to see through after a short time—a full face shield is my first choice followed by goggles. Only use a grinder with metal shrouds to contain the wheel just in case it shatters into pieces.

Another serious hazard is the dust produced from grinding. I like to think of it as ground up glass. I know of no turners who use a wet dust collecting system to direct the grinding dust into—but this is more common with jewelers and other metal workers. And, of course, don't direct the dust into your normal wood dust collecting system—think of the drama of sparks and wood dust meeting!

What is most common is to wear a quality respirator, one rated for small particulate matter. And finally, keep the pinch and crush factor to a minimum by always working with the tool rest as close to the wheel as possible.

Wheel dresser examples left to right: gray dressing stick, tee diamond, round diamond, star-wheel. In the foreground is a boron carbide stick.



It is challenging to look at a wheel and guess its grit size and hardness. Most stones have a code—in this case, the bottom row of numbers.The most important codes to a turner are circled.The "54" designates grit size; "J" indicates the hardness designation.

Continued