

Sharpening Jigs and Safety

Jim Rodgers

As the use of sharpening jigs increases, so, too, do the instances of sharpening accidents. Injuries that result from fragmented grinding wheels and tools and holders that have slipped have sent woodturners to the hospital with serious injuries to hands and/or eyes.

Sharpening jigs were developed so that we could quickly and repeatedly produce a tool shape, bevel, and edge. Using these jigs, however, may increase the possibility of injury. Tools can slide off the face of the grinding wheels and wedge between the wheel and the frame of the grinder; the arms of sharpening jigs can slip outward away from the wheel, causing the tip of the tool to move down the surface of the grinding wheel until the tool grabs at the wheel's equator and instantly wedges itself,

fracturing the wheel and potentially injuring the operator's hand; tools can slip forward in the tool holder itself causing similar problems.

While mechanical failure of sharpening jigs contributes to some injuries, human error is usually the cause. Here's why:

- The person sharpening the tool is distracted and the tool no longer rides on the wheel. A quick turn of a person's head can easily cause the movement of a tool off a 1"-wide grinding wheel, jamming it between the wheel and the body of the grinder.
- An improper handhold on the jig can cause fingers to be driven into the still-running grinding wheel.
- Too much pressure is applied to the tool causing mechanical slippage of the jig's arm.

- Improper grinding-jig geometry is set, placing the tip of the tool too close to the maximum diameter of the wheel (the equator).
- The process of sharpening tools is hurried.
- Small-diameter tools are improperly placed in jigs not meant to handle their smaller size.

Proper use of grinding jigs

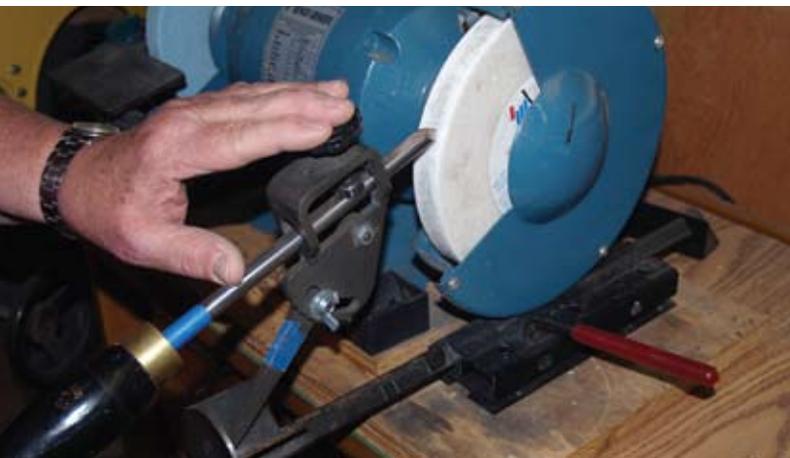
- Firmly lock the jig's extension arm and recheck it by pushing or pulling on it.
- Establish a more acute bevel angle on your turning tool. Placing the tool high on the sharpening wheel's surface reduces the possibility of an accident.
- Reduce the amount of downward pressure applied during sharpening; this will save tool steel and reduce heat buildup. ▶



Using a simple shopmade jig to set up your sharpening jig for repeatable distances saves time and tool wear.



Wrong way! If the sharpening jig slips, fingers will contact the rotating wheel before the jig does.



A safer way to hold the jig is on the top. If a slip occurs, the hand is protected.



Potential danger: Using a long fixture arm and a blunt sharpening angle brings the tip of the tool too close to the wheel's equator. If the arm of the jig slips or too much pressure is exerted, it could cause the tool to jam against the wheel.

Wear safety gear

A faceshield or safety glasses should be worn while at the sharpening station. Eye injury is possible while sharpening due to flying debris. When dressing a wheel for cleaning or reshaping, wear a dust mask. The aluminum oxide dust from a grinding wheel is potentially damaging to lungs.

Proper hold

When holding the sharpening jig, never place your hand between the jig and the grinding wheel. Place one hand on the handle of the tool and

the other on top of the jig. Accidents occur when the hand hits the rotating wheel during a slippage.

Light touch

Sharpening should be done with a light touch; this reduces the amount of metal being removed and the heat buildup during the sharpening. A light touch also allows the operator to react quickly when a slippage occurs, perhaps saving a finger.

New sharpening jigs

Until recently, most sharpening jigs managed the sharpening geometry

well, but still allowed for uncontrolled side movements that contributed to most accidents. Currently two manufacturers, Sharp Fast and Oneway, have introduced jigs that eliminate the accidental sideways movement while maintaining the proper sharpening geometry. As a teacher of woodturning at both high school and adult levels, I would not be without such a jig! ■

Jim Rodgers is past president of the Bay Area Woodturners and director of the turning programs for Mt. Diablo Unified School District. He can be contacted at jlrogers@aol.com or jlrogers.com.



Better: Create a more acute bevel angle on your tool, which will place it higher up on the wheel in a safer position when sharpening.



Consider learning how to hand sharpen turning tools. This allows you to place a toolrest close to the grinding wheel, eliminating many potential dangers.