



Keeping Tools Sharp

Avoid dirt and other hazards to get more mileage from bits, blades, and chisels

BY ROLAND JOHNSON

One of the most time-consuming tasks in a woodworking shop is sharpening, whether that means grinding and honing chisels, running to the store for a new cutter, or sending planer blades out to be sharpened. Although it's a chore that can't be avoided, it can be delayed. A variety of hazards will dull cutting edges prematurely. Steering clear of them will let you work more and sharpen less.

Among the worst of these is dirt. Cleaning debris off rough lumber before machining can help maintain a sharp edge on jointer and planer knives and sawblades. Removing pitch and sawdust to prevent buildup helps prevent cutters from dulling too soon. It's also important to protect your tools from collisions with other metal or hard surfaces that can mar a sharp edge.

Roland Johnson is a contributing editor.



Compressed air removes the bulk of surface dirt. Clean boards outside, away from machinery, tools, and workbenches.

Clean lumber before milling

Roughsawn lumber holds lots of dust and debris, which can act like sandpaper on cutting tools. A light brushing will not always get it out of the surface pores. The best way to clean the surface is to use compressed air and a wire brush. A quick blast will remove the bulk of dirt and debris, and a good brushing will dislodge the remaining grit. It's best to clean lumber outdoors so as not to spread dust on nearby material, tools, or workbenches. Although it cleans a bit more slowly than compressed air, a good shop vacuum can be used indoors because it will not spread dust around the shop. Used lumber poses different hazards. I use a metal detector to find embedded nails or screws that can dull or damage tool edges and remove them before proceeding with the cut.

Hand-scraping or chemical removal will take care of old paint, which will dull a cutting edge quickly and leave a residue on tools. But the wood has to be pretty valuable to go through all that hassle. The best bet is to avoid painted lumber altogether.



Use a wire brush to dislodge the rest. Scrub in the direction of the grain to remove debris.



Recycled lumber may contain nails. Use a metal detector to find hidden fasteners that can ruin a cutter.

Scrub and lubricate cutters

Toothed cutting blades on bandsaws, tablesaws, and chopsaws rely on clearance immediately alongside the sawteeth to help eliminate drag, and on gullets behind the cutter to remove the freshly cut wood fibers. If the teeth have pitch baked on their sides or if the gullets have crud built up on their edges, the blade will heat up and dull quickly. I clean my tablesaw blade frequently with a blade cleaner such as OxiSolv Blade & Bit Cleaner or CMT Formula 2050 Blade and Bit Cleaner. I am careful to keep the gullets clean on my bandsaw blade, especially when resawing—a brass brush can clear blocked bandsaw gullets quickly without dulling the edges. In addition, a regular waxing or dry lubricant coating on the blade will minimize buildup and reduce friction in the cut. I find that paraffin wax or DriCote works well. Before applying DriCote, clean the blade with a solvent because this product needs to adhere to bare metal.

Drill bits, especially twist bits, suffer when chips build up in the flutes and can't be extracted from the bore hole. This is an especially big problem with bits used in hollow-chisel mortisers. The friction from the compacted chips can create enough heat to turn the metal of the chisel and the bit blue, effectively ruining the temper, or hardness, in both. Once steel loses its hardness, the cutting edge won't stay sharp for long. To improve the ability of bits to eject chips, I coat bits with DriCote.

Specialized lubricants can significantly enhance the operation of tools that rely on metal tables to support work being sawn, edged, or molded. Products such as Empire's TopSaver will keep a steel or cast-iron top slick, resulting in less effort needed to push material past a blade or cutter. Constant feed rates, essential to producing a consistent knife-mark pattern on molded edges, are easier to maintain when the table's friction is low.

REMOVE PITCH AND SAWDUST



Use a blade-and-bit cleaner on tablesaw blades. Spray it on the buildup and let it sit before scrubbing with a brass brush.



Clean bandsaw gullets. With the machine turned off, rotate the upper wheel by hand as you pass a brass brush over the blade.

LUBRICATION SLOWS DULLING, RUST



Apply a dry lubricant on chisel mortisers. The lubricant helps prevent buildup and keeps bits from dulling prematurely.



Wax bandsaw blades to reduce friction. With the blade running, hold a piece of paraffin wax on the table and against the blade.

Protect sharp tool edges from hard knocks

I have an ongoing debate with a friend about the proper way to set a sharp handplane on a benchtop. I always set mine on the sole with the blade resting on a fairly clean wooden benchtop surface. I reason that there is less chance of damaging the blade, or myself, when the blade is covered. Resting the plane on its side exposes the blade, increasing the chances that I'll get a flesh wound or my plane will be damaged by another metallic tool.

Chisels laid on a benchtop should always point away from the woodworker, the project, and the other tools on the bench. Be careful to avoid clutter on a workbench; it is too easy to bump sharp cutting edges against metal.

Debris in tool trays, and the trays themselves, can nick and dull cutting edges. Keep trays clean and organized. Put a divider between each tool in a toolbox and if the toolbox is metal, line the interior with wood or heavy card stock.

Provide a safe haven for all cutting edges. I have a rack for my chisels; dowels on the wall for my files, rasps, and planes; trays for my router and drill bits that keep the sharp sides up and separated from one another; individual shelves for my tablesaw blades; and a separate dowel for hanging each of my bandsaw blades.

CARVING TOOLS



Lesser-used tools can be stored in drawers. Custom-made drawer dividers will help keep carving tools sharp.

DRILL BITS



Bit rack clamps directly to drill press. This two-tiered rack easily holds most commonly used bits.

ROUTER BITS



Make portable racks for your router bits. A small rack is portable and easy to make from scrap lumber.

Touch up that edge before it's gone



CHISELS

Build racks for your chisels. Wall-mounted tools protect edges and allow for quick access.



SAWBLADES

Keep table saw blades separated. Cut dados into a simple case to accommodate 1/4-in. plywood shelves, set 1 in. apart. Leave the shelves loose so they can slide out for easy blade access.

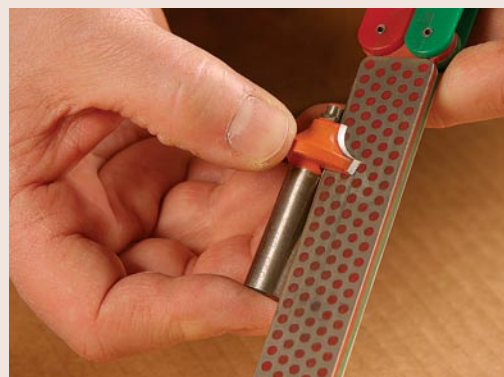
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It is faster and easier to hone a slightly dull tool than to regrind a really dull tool. As soon as the performance drops in any cutting device, it is time to give it a touchup. Sometimes honing is as simple as running the flat face of a bit over the edge of a diamond stone to restore full performance.

Steel cutters such as plane blades and chisels also should be honed frequently during use and ground only occasionally. Carvers are seldom far from their honing system, whether it is a leather strop and diamond paste or a buffing system.

The same goes for scrapers. The burr that does the cutting on a scraper is relatively fragile and can start to lose its sharpness within a few strokes. But a quick once-over with a burnishing tool will restore the edge.

There's nothing like seeing fine shavings roll off the cutting edge of a tool. Protecting those edges and touching them up often will extend your working time between full sharpenings.



Sharpen router bits with a small diamond stone. Run the flat face of a bit over the stone, using the same number of strokes for each edge.



Hone plane irons regularly. Diamond paste on a piece of leather quickly renews an edge.

SOURCES OF SUPPLY

SOLVENTS

OxiSolv
Blade & Bit Cleaner
www.woodworker.com

CMT Formula 2050
Blade & Bit Cleaner
<http://tool-corral.com>

HONING ACCESSORIES

Diamond paste
www.japanwoodworker.com

Diamond stones
www.leevalley.com

LUBRICANTS

DriCote
www.woodworker.com

LPS1 Greaseless
Lubricant
www.marvgolden.com

Kurobara Camellia Oil
www.japanwoodworker.com

Empire Top Saver
and other
dry tool lubricants
www.woodcraft.com

