

# WOODWORKING GUIDE: BEGINNER'S TOOLBOX

You don't need all the tools in the world to get started. But you need some.



Just about any furniture maker will tell you that it's hard to have too many tools. This is probably true because these people have a deep appreciation for just how useful tools can be. The right one for the job can make any task easier, quicker and very often safer. Over the years a successful artisan can accumulate a truly astounding quantity of equipment and supplies. Each is important, or at least was at one time, and therefore difficult to leave behind. If you're a professional this makes perfect sense. But for the beginner such conspicuous consumption can be a real mistake. Why devote so many resources up front to something you're trying for the first time?

A better idea is to buy a basic assortment of woodworking tools like the one shown here. With these tools you can build just about any straightforward furniture piece and leave the extra room under your credit limit for other things. This is not to say that tool manufacturers are giving their wares away. For the full complement shown, expect to pay around \$800, depending on the quality of the individual items. This is a lot of money. But it's also a lot of capability.

When shopping, it's a good idea to buy the best tool you can afford in any category. Do keep in mind that price may not always be the best indicator of quality, but it usually is. Cheap tools often have a much shorter life, and are typically less accurate and frequently more dangerous to use than their premium brothers and sisters. Also remember that although some of these tools are fairly specialized, most of them can be used for general repair chores around the house. So even if you leave the world of furniture making behind, your investment in these tools will

reap benefits for years to come.

Of course, this tool selection is abbreviated on many fronts. For example, we haven't presented some common tools that most people already have around the house. These include a 16-ounce claw hammer, a heavy-duty, 25-ft. grounded extension cord, an assortment of flat and Phillips screwdrivers, a tape measure, safety glasses and hearing protectors. We also assume that most people have some kind of workbench or worktable that can be used for support. If you don't, a convenient and economical option is a folding Workmate. These units cost about \$90. They not only provide sturdy support but also boast movable clamping jaws that can hold just about anything securely in place.

So, on to the tools themselves. Following is a brief description of each, along with the approximate cost of high-quality models.

### **Circular Saw**

A circular saw is a versatile tool for both rough and finish cutting. The saw consists of a horizontally mounted motor that drives a 7 1/4-in.-dia. blade. The depth of the cut, as well as the bevel angle, are adjustable. Many saws come equipped with an accessory rip guide, but if yours doesn't you should buy one. Also, outfit your saw with a carbide-tipped, thin-kerf blade. This will cut at least 10 times as long as a steel blade before requiring sharpening. And it reduces the load on the saw motor and wastes less stock to sawdust. This is the first tool to pick up for both crosscutting (perpendicular to the grain) and ripping (cutting parallel to the grain) solid stock as well as for sizing manufactured panels. The spinning saw blade enters the bottom side of the workpiece, which can result in chip-out on the top surface. Plan your cuts so that the good side of your material faces down during cutting. (Approximate price \$130.)



## Drill And Bits

Most woodworking projects require you to bore holes of some sort and a drill is the only tool for this job. Handheld electric drills are commonly available in three sizes (1/4 in., 3/8 in. and 1/2 in.) that represent the maximum bit diameter the drill chuck will accept. While the 1/2-in. drill is the most versatile, it also tends to be the heaviest and most awkward to use. A good compromise for the beginning woodworker is to purchase a 3/8-in. VSR (variable speed reversible) drill. The newer cordless models are rated at 14.4 volts and offer substantial power and convenience—but at a substantially higher price than corded models. An assortment of high-speed steel twist drill bits from 1/16 in. to 1/2 in. dia. will cover most needs.



The addition of a set of countersinks for recessing screwheads will allow you to make even better use of the drill. (Approximate prices: corded drill, \$100; cordless drill, \$180; drill bits, \$30.)

## Block And Bench Planes

Quality planes are some of the most versatile woodworking tools, and often the most satisfying to use. The sound and feel of a sharp plane slicing through wood is, to many, the essence of woodworking.



A plane consists of a sharpened steel blade that is held at a fixed angle in a steel or wood body. The blade, or iron, is adjustable to regulate the depth of cut. There are planes designed for general work and planes designed for one particular use. For a beginner, a block plane and a No. 4 bench plane (approximately 9 1/2 in. long) will cover most situations. The block plane is designed to trim end grain but it can also be used any time a bench plane would be too unwieldy. The bench plane is used to square and straighten lumber edges for gluing or to smooth the surface of a board or glued-up panel. Most planing should be done with the tool moving parallel to the grain of the wood. Occasionally you will notice that the tool seems to tear out the wood grain. When this happens, simply work from the opposite direction. (Approximate prices: block plane, \$50; bench plane, \$75.)

## Combination Square

The combination square consists of a cast body that slides along a graduated metal blade. The body can be fixed by a tightening screw at any position along the blade. It provides an accurate standard for either a 90 degree or 45 degree mark. Many combination squares incorporate a small level in the tool as well. Use the square to mark lines for cutting and to check that finished cuts are square. The blade can also be removed from the body and used as an accurate layout tool. Since the reliability of this square is so critical to quality work, it's worthwhile to purchase a precision model, like the Starrett shown. Squares are commonly available in 4-in., 6-in. and 12-in. sizes. (Approximate price \$50.)



## Backsaw

A backsaw consists of a straight blade, 8 in. to 14 in. long, bolted to a wood handle. A brass or steel reinforcement back is added to the top edge of the blade to keep it from flexing during use. These saws generally have 15 to 20 finely set teeth per inch. While these blades can be used for cutoff work, they are best suited for accurate joinery like cutting tenons, dovetails or box joints. (Approximate price \$65.)



## Chisels

After the knife, a chisel is the most basic of cutting tools. A steel blade of specified width and length, usually from 3 in. to 8 in., is mounted in a wood or plastic handle. A bevel is ground on the end of the blade at an angle varying from 15 degrees to 35 degrees, depending on the intended use. A chisel can be used either to cut with the grain (pare) or to cut across the grain (chop). Plastic-handled chisels with a steel striking plate can be driven either by hand or by striking them with a hammer or mallet. Wood-handled chisels should never be struck with a hammer because this would destroy the handle. Chisels are made in many styles, each for a specific use, but for our purposes an assortment of four butt chisels in widths ranging from 1/4 in. to 1 in. is a good place to start.



(Approximate price \$50.)

### **Sharpening Stone And Guide**

Keeping a sharp edge on chisels and plane irons is absolutely necessary for the successful and safe use of these tools. A sharpening stone and honing guide are required for this task. While many sharpening systems are available, one of the best is a combination waterstone. The Norton Co. manufactures stones with 220/1000 grit and 1000/4000 grit combinations. For a beginner's all-around use the 220/1000 grit is the best choice. The stone should be soaked in water for about 15 minutes before use and kept wet during sharpening. The water keeps the metal particles from becoming embedded in the stone and glazing its surface.



A honing guide is a jig that holds a chisel or plane iron at a constant angle against the stone. To sharpen a tool, move it back and forth on the stone to form the cutting edge. (Approximate prices: stone, \$35; guide, \$25.)



### **Doweling Jig**

Dowels are one of the simplest and best means for assembling a joint or aligning two adjacent surfaces. A doweling jig provides a guide for accurately boring the required holes. These jigs come with a variety of bushings, usually ranging in diameter from 1/8 in. to 1/2 in., and a clamping arrangement that holds the desired bushing in position over the workpiece. A drill is used to drive the appropriately sized bit through the bushing to form a hole. A stop is normally attached to the bit to limit the depth of the hole. (Approximate price \$40.)



### **Marking Gauge**

A combination mortise and marking gauge is extremely useful for joint layout. One side of the gauge has two adjustable pins for scribing the parallel lines needed for mortise or tenon cuts. The opposite side of the gauge has a single pin for general marking, either parallel to or across the grain. (Approximate price \$40.)



## Orbital Sander

Sanding is an essential part of the finishing process for almost any woodworking project. While sanding is probably the least popular aspect of woodworking, it does not need to be tedious or unpleasant. A 1/4 sheet orbital palm sander makes this task relatively painless. An assortment of sandpaper in grits of 100, 120, 150, 180 and 220 will cover most sanding needs. Aluminum oxide paper will provide the longest use and prove to be the most economical choice. It's also wise to have a selection of three grades of steel wool, No. 00, No. 000 and No. 0000, on hand for use during most finishing procedures. (Approximate price \$60.)



## Combination Rasp/File

If you are interested in doing any carving, or including shaped work of any kind in your projects, a combination rasp/file is a valuable addition to your collection. This tool combines a fine and medium rasp with a fine and medium file—to create four separate cutting surfaces. Rasps have small, individual cutting teeth that cut aggressively into wood. The files have a series of parallel and sometimes diagonally opposed ridges to smooth the wood. Used in combination, these tools can quickly shape either simple or complex forms. After using a rasp and file, the next step is to sand the work to a smooth finish. (Approximate price \$15.)



## Clamps

Unless your project parts are fastened with nails or screws, clamps will be required to pull joints tight and hold them while the glue sets. Clamps can be quite expensive—and keep in mind that most experienced woodworkers claim that they never have enough of them. Small quick clamps are good for light assembly and for holding a jig or straightedge in place. Larger quick clamps are for general assembly and laminating solid stock. Pipe clamps, which are made from clamp fixtures and standard black pipe, are necessary for panel, face frame and general furniture assembly. A handy feature of the pipe clamp system is that the



fixtures can be removed from one pipe and threaded onto another of a different length, depending on your needs. Two 12-in. quick clamps and four pipe clamps are a good place to begin. (Approximate prices: quick clamps, \$15 each; pipe clamp fixtures, \$20 each; 5-ft. black pipe, \$10.)

### **Straightedge**

Most woodworking procedures begin by establishing one straight edge on each piece of stock. A combination clamp/straightedge tool can serve as a reference point for establishing that edge. If you are interested in doing quality work, this tool will become extremely important in your shop. It is a good idea to purchase the longest and most accurate model you can afford. A 50-in. tool, like the one shown here, is a great place to start. (Approximate price \$40.)



The preceding tools will accommodate most simple projects. But if you want to tackle a piece that includes a lot of curved cuts, then you should add an electric jigsaw to your collection right away.