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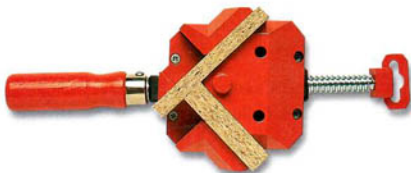
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Measuring & Marking Tools

Accurate measurements are important to any woodworking project. A good selection of instruments for measuring lengths, widths, depths, and angles is therefore a must for a good workshop.



Folding wooden rule—usually 6 to 8 feet long, this rule is good for making inside measurements. The reading on the brass extension is added to the reading from the other sections of the ruler.



Tape measure—a flexible tape that slides into a case. The tape has a hook on the end that adjusts to true zero.



Bench rule—a steel or hardwood rule that is used for short measurements. One side is usually divided into eighths, the other into sixteenths.



Self-stick tape measure—can be applied to a workbench or table saw so that measurements can be made quickly and easily.



Calipers—for very accurate measurements. Calipers are available for outside and inside measurements.





Protractor—used to measure and mark angles. It is often used to set and transfer bevels accurately.

Compass—for drawing circles and arcs. It can also be used to step off equal measurements.



Saw gauge—used to measure the angle of the table saw blade. It can also be used to measure the height of the blade.

Trammel points—used to draw circles and arcs when a compass is too small.



Sliding T-bevel—for checking and transferring angles. The blade pivots and can be locked to match any angle.



Profile gauge—used in finish carpentry to transfer an irregular shape or design. It is made of small, movable pins that, when pushed against an object, take on the contour of that object.



Center punch—used to start a hole in wood.

Drills & Accessories

In woodworking, holes are drilled as part of a project design, as pilots for screws and nails, or to hold bolts, dowels, or hardware. Hand drills are still used, but electric drills are used much more often because they are handier and more versatile. They can be operated very slowly, like a hand drill, for complete control. They can also be used at full force to drive a large screw into a hard piece of wood.



Brace—bores larger holes in wood by hand. Special auger bits must be used with the brace.



Electric drill—comes in three chuck sizes: $\frac{1}{4}$ -inch, $\frac{3}{8}$ -inch, and $\frac{1}{2}$ -inch. Most have a reverse drive (to back out bits or loosen screws) and variable speed.



Cordless drill—an electric drill powered by a rechargeable battery. This model, called a drill/driver, has an adjustable clutch and is ideal for driving screws as well as drilling holes.



Hand drill—bores holes in wood, plastic, and soft metal. It uses twist drills with $\frac{1}{4}$ -inch shank bits.



Push drill—operates by pushing the handle up and down in a repetitive motion. It drills holes up to $\frac{11}{64}$ -inch.

Variable speed rotary tool—can be used with many tool attachments, including small drill bits. It is used mostly in crafts.



Drywall driver—used specifically for driving drywall screws into drywall. It is designed so that it will not drive the screw in too far and damage the surface of the drywall.



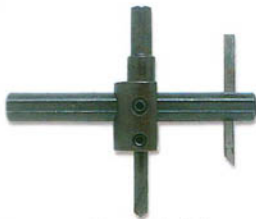
Twist bit—designed for wood. If you use it with metal, lubricate it with machine oil.



Brad-point bit—has a center point to help guide the drill bit to the desired position. It drills a clean hole, like those needed for fine woodworking.



Forstner bit—drills a smooth, shallow hole. It has a small center spur, so it can drill a nearly flat-bottomed hole. Forstner bits should be used only in a drill press.



Fly cutter—also called a *circle cutter*. It should be used only in a drill press at low speeds.



Spade bit—the long point makes it easy to locate the hole exactly where you want it. Start the drill at a slow speed as it enters the wood. If you are not careful, it will leave a splintered exit hole.