

Guide to Essential Woodworking Power Tools for Your Home or Shop



While every woodworking shop can benefit from an arsenal of hand tools, power tools make working wood easier, faster and more precise. These ten **woodworking power tools**—including portable, bench-top, and stationary models—are essential to any home woodshop. If you're new to woodworking, start with three or four woodworking tools, and as your skills grow, add more to expand your capabilities.

1. Cordless drill

The cordless drill is by far the most popular portable power tool. Technically known as a **drill/driver**, it's designed to drill holes and drive screws, making it ideal for assembling cabinets, bookcases, and furniture, and for boring holes with standard twist-drill bits, spade bits, and hole saws. Cordless drills are also perfect for fastening hinges, door pulls, drawer slides, and other hardware pieces.

An 18- or 20-volt cordless drill provides sufficient speed and torque (power) for most woodworking tasks. Purchase a model that comes with two batteries and a charger, so you'll always have one battery charged and ready to go when the other one needs recharging.

Tip: Buy a **cordless combo kit** that contains a drill/driver and impact driver. Impact drivers combine bit rotation with concussive blows to drive screws with unparalleled speed and power, yet with virtually no reactionary torque. (Reactionary torque is the sudden twisting motion that causes fatigue and pain in hands, wrists and elbows.)

2. Random-orbit sander



A **random-orbit sander** makes sanding less of a chore. This versatile and compact electric sander has a round pad that vibrates and spins in tiny circles. As a result, this single, easy-to-use tool can be used for both stock removal and ultra-smooth sanding.

Use this sander to smooth rough-sawn wood, remove paint and varnish coats, and sand off wood putty. Most DIYers prefer a palm-grip shape; D-handle and barrel-grip models are also available. Random-orbit sanders come with either a 5- or 6-inch diameter pad—the 5-inch size is sufficient for woodworking projects.

Finally, some random-orbit sanders accept peel-and-stick pressure sensitive adhesive (PSA) **abrasive disks**, while others use hook-and-loop (Velcro) disks. PSA disks are less expensive, but hook-and-loop disks are faster and easier to change.

Tip: Expand your wood-sanding capabilities by adding a belt sander, orbital finishing sander, or bench-top belt-and-disc sander to your shop.

3. Circular Saw

A portable circular saw is more of a carpenter's tool than a woodworking tool, but it's still an essential addition to any woodshop, especially if you don't own a table saw. A circular saw provides a quick, clean way to make rip cuts, crosscuts and bevel cuts. It can also be used on building materials, including softwood, hardwood, and sheet goods, such as plywood, particleboard, hardboard, and medium-density fiberboard (MDF).

Even if you have a table saw, a circular saw is handy for cutting large sheet goods down to manageable sizes prior to cutting them to the finished dimensions on the table saw. It's also great for making plunge cuts in the middle of a wide board or panel.

Circular saws come in two basic sizes: 7¼- and 8¼-inch, which refers to the diameter of the blade. A 7¼-inch model is fine for woodworking. Corded electric and battery-powered options are available—corded saws are less expensive, but cordless saws offer freedom from the extension cord.

Tip: To produce straight and accurate cuts with a circular saw, buy a track saw that comes with a specially designed straightedge guide.

4. Jig Saw

A **jig saw is used primarily to cut curves and circles**, but it's also useful for sawing interior cutouts from the middle of a board or panel. There are dozens of jig saw blades available for cutting virtually any building material, including wood, plywood, plastic, and metal.

Like circular saws, both corded electric and cordless jig saws are available. Corded models cost less and are typically more powerful. Note that jig saws cut on the upstroke. Always place the wood face down when cutting so any splintering occurs on the backside.

Tip: A pro-grade jig saw costs a little more, but these models have robust motors, superior blade clamps, and roller-guide mechanisms, which provide greater control and deliver smooth, square cuts.

5. Router



A **portable electric router** is a motor that has a collet (chuck) that accepts a variety of bits. The motor mounts into a base, which has two handles. A router can be used to shape decorative edges, form raised panels, cut grooves and slots, trim plastic laminate and veneers, and mill woodworking joints, including dados, rabbets, dovetails, and mortises.

Beginners should get a small fixed-base router or trim router in the 1- to 1½-hp range. Then, as you grow more confident, move up to a larger fixed-based or plunge router in the 2- to 3½-hp range. Look for a model with these five features:

- Soft-start motor
- Smooth-operating depth-adjustment mechanism
- Comfortable handles
- Push-button arbor lock for one-wrench bit changes
- A flexible power cord that's at least 8 feet long

You'll need a collection of carbide-tipped **router bits**. A good starter set of bits includes ¼-inch and ¾-inch-diameter straight, flush-trimming, rounding-over, Roman ogee, chamfer, rabbeting, cove, and V-groove.

Tip: While a hand-held router is used for most operations, it can also be mounted in a router table to create a small stationary shaper. This setup is useful when cutting raised panels, milling long joints, or making repetitive cuts. Stationary and bench-top router tables are both available.

6. Pneumatic nailer

An **air compressor** and pneumatic nailer are an excellent addition to any woodshop. Air-powered nailers provide the fastest and easiest way to drive nails. Start your collection with a 15- or 16-gauge **finishing nailer** and add an 18-gauge brad nailer and 23-gauge pin nailer as your skills grow.

Tip: Most major tool manufacturers offer cordless nailers. These run on rechargeable batteries, so there's no need to buy an air compressor.

7. Compound-angle miter saw

A compound-angle miter saw is a bench-top power tool that provides a quick, accurate, and safe way to crosscut boards to length. It's also great for cutting miters and bevels to various angles. **Miter saws come in several sizes**, but a 10-inch compound-angle model is sufficient for most home workshops. Be sure the saw blade tilts both left and right so that you can cut bevels on either side of the saw table.

Tip: Increase the crosscutting capacity by moving up to a sliding-compound saw. A typical 10-inch compound-angle miter saw crosscuts up to about six inches; the same size sliding-compound saw cuts up to about 12 inches.



8. Table Saw



Once you're comfortable using portable power tools, you're ready for a **table saw**. Table saws are primarily used to rip wide boards and sheet goods down to size. Each also comes with an adjustable miter gauge, which provides a safe and accurate way to crosscut boards to length and cut bevels and miters at various angles.

Traditional table saws are large stationary machines, but most DIY woodworkers can get by with a 10-inch bench-top model, which is portable, lighter, and less expensive than a traditional table saw. Plus, many home shops don't have space for a stationary table saw.

Tip: Buy an **outfeed table** for your table saw. This accessory has rollers set into a steel frame that mounts to the backside of the saw and supports the piece you're cutting as you push it past the blade. If you can't find an outfeed table for your table saw, buy an outfeed roller stand to place on the floor behind the saw.

9. Band saw

Band saws are used primarily for cutting curves, but they can also produce long, straight cuts. They're particularly well-suited for resawing, which is the technique of sawing one thick board into two thinner ones.

When fitted with the appropriate blade, they can cut solid wood, plywood, plastic, and metal. Floor-standing stationary models and space-saving bench-top models are available. Be sure your saw comes with a miter gauge for making safe, accurate crosscuts and miter cuts.

Tip: Keep extra band saw blades on hand, making sure they're different widths. (Narrow blades cut tighter curves; wide blades make straighter cuts.) If one blade breaks, you'll have a replacement readily available. To extend the life of a band saw blade, loosen the tension-adjustment knob when you're not using the saw.

10. Drill press

A **drill press** is the easiest and most accurate way to bore holes into wood, metal, or plastic. When fitted with a mortising bit, it can also cut precise mortises in wood for mortise-and-tenon joints.

If you've got plenty of floor space in your shop, consider a 12- to 15-inch floor-standing stationary drill press. Otherwise, go with a compact 10-inch bench-top model. Make sure your drill press comes with a vise for safe drilling, especially when drilling into metal.

Tip: Get the most out of your drill press with optional accessories, like a flap-sanding wheel, workpiece lock-down clamp, flexible work light, and drum-sander kit.

Whether you're a DIYer or seasoned pro, every workshop can benefit from these ten best woodworking tools. As you plan your next project, make sure your tool arsenal has all you need to complete your design.