

USE A NO-FRILLS FENCE AND TABLE

Fortune prefers a simple MDF table and hardwood fence, clamping both down in one shot. To change the fence setting slightly, loosen the table bracket and pivot the whole table on the column.



Two-faced. Fortune's shopmade fence is machined straight and square. It can be used tall or short, letting you raise the table for small bits without interfering with the crank handles. He puts a $\frac{1}{8}$ -in. rabbet along the bottom edges so dust doesn't push the workpiece away, and glues 120-grit sandpaper to the bottom faces to keep the fence from shifting.



SHINE A LIGHT

Overhead light gets blocked by the head of the machine. The solution is a magnetic, adjustable work light, which floods the workspace and makes it easier to hit the mark.



GET A SET OF SUPPORT ARMS

Rather than using a large table to support long workpieces, Fortune sticks with the small table, plus a set of work-support arms. The HTC PM-128 model is available online for \$60. The rollers extend outward up to 28 in. on each side and are easily raised and lowered to keep the workpiece level on the table, or slid inboard to save space. The mounting bracket holds more securely if you place small wood blocks at the end of the straps.





Drill Press

Tips and Tricks

Do more with this tool
by improving your basic setup
and adding a few simple
accessories

BY MICHAEL FORTUNE

RAISE THE WORK ZONE

Bring the work closer to your eyes to increase the tool's accuracy. If you have a benchtop model, put it on a higher table; raise a floor model by putting it on a mobile base or low platform. Fortune locates the table so that the workpiece is about a foot from his eyes.

ADD A STOP

Like his fence, Fortune's stop blocks have sandpaper below and a small rabbet on the working face to give dust a place to go.

Set up properly, any drill press can create clean, accurate holes, small and large, in workpieces of all shapes and sizes. Armed with a few accessories, though, it can do much more. Over my 40 years of woodworking, I've developed a series of tips and jigs that will make the drill press one of your favorite shop companions. They will work with any drill press, big or small, fancy or basic.

Success starts with your setup. A lot of woodworkers buy or make a big auxiliary table to support large workpieces. But these offer false security. They are rarely flat, and they obstruct your ability to get in close and see where you want to drill a hole. They include a replaceable insert in the middle, sitting in a rabbet that needs frequent cleaning. These big tables also make it hard to get clamps close to the bit, so they need T-tracks and awkward hold-downs.

The solution is elegantly simple. I use sacrificial 12-in. squares of MDF as backer boards. Like table inserts, they prevent blowout on the back of the hole. The difference is that they can simply be shifted to expose a fresh surface and discarded when they look like Swiss cheese.

Workpieces always lie flat on this small work surface, and clamping is a lot easier. It means making your own fences and stops, but those work better too, as you'll see. The small table won't support long workpieces, but I'll show you how to deal with that.

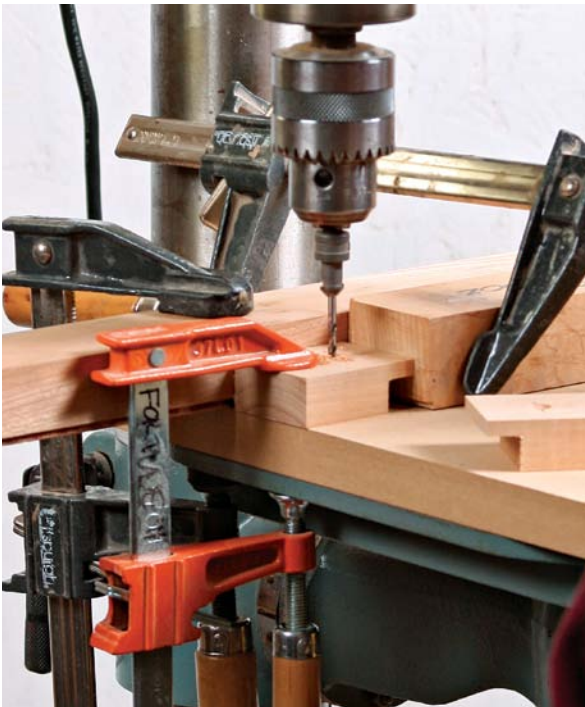
After you nail the basic setup, there are quite a few great accessories for the drill press, some bought and some made. I'll tell you which ones really matter.

Michael Fortune is a contributing editor.

Tricks for holding work of any size

SMALL PARTS

It is unsafe to hold small parts in your hand. Here's how to secure them for safe drilling.



Clamp near the edge. Pivot the table to clamp small workpieces like these tabletop buttons.



Doctor a hand screw. To hold short pieces upright, Fortune uses a wooden hand screw with various notches cut into it.

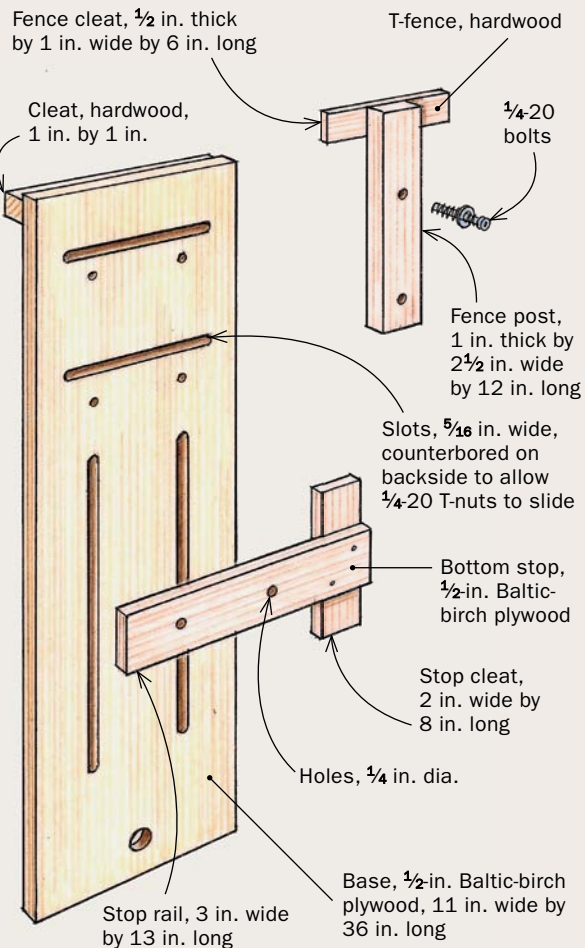
LONG PARTS

To drill into the end of a long part, you rotate the table sideways, but there is a surprising amount of force required to cut into end grain and you need a way to secure the workpiece solidly. This jig includes both a sliding T-fence to locate the part and an adjustable stop to keep it from shifting downward.



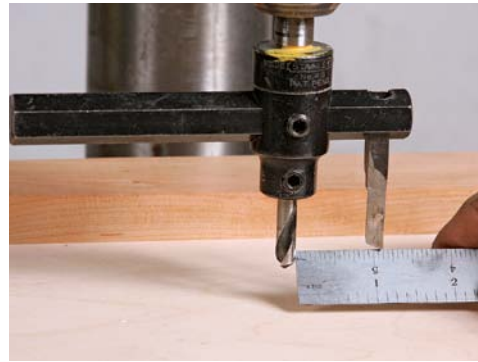
Align it first. Fortune places a long rod in the chuck to get the jig plumb (above). You can use the jig to drill accurate dowel holes in the ends of parts, or use a giant plug cutter to form a tenon as shown (right).

END-GRAIN DRILLING JIG



Jig for big holes

A circle-cutter makes clean and accurate disks and holes up to 6 in. dia., to accept a shop-vacuum hose, for example. Fortune's circle-cutter is made by General Tools. It has a standard twist drill bit in the center, which keeps the outer cutter on track.



Measuring trick. To cut a hole, turn the cutting tool so the tip faces outward, and measure from the edge of the bit to the tip. The bit is $\frac{1}{4}$ in. dia., so add $\frac{1}{8}$ in. to get the true radius.



Safety first. Use these cutters at or below 500 rpm, always clamp down the workpiece, and be very careful to keep hands and clamps away from the spinning arm.



Easy does it. Lower the cutter steadily until the disk in the middle is freed and starts to spin. Then just lift it out. On thick workpieces go halfway through, and then drill a $\frac{1}{4}$ -in. hole all the way through so you can finish the job from the other side.



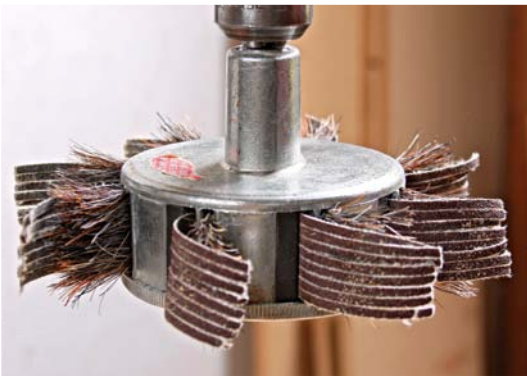
Not just for drilling

SANDING SPECIALIST

Flap sanders are an underappreciated accessory and are great for sanding odd-shaped items and highlighting grain. There are disposable models, but Fortune prefers the type that has a roll of sandpaper in the middle, which can be unwound and torn off to refresh the flaps.



Solid sandpaper softens. Choose a solid roll of paper, and use it to smooth 3-D curves and soften the edges of small parts, like these salad tongs, which were bent on a hot pipe.



Perforated paper adds texture. This type of sandpaper acts as a row of thin strips (above). Use it to emphasize the grain of ring-porous woods. The texture is subtle in harder woods like oak or ash (right), and more pronounced in softer woods like cypress and cedar, for example.





RUST REMOVER

Buy an inexpensive set of wire brushes to clean rust off metal parts and tools. Sets come with a variety of sizes to fit into any nook or cranny. Run wire brushes at medium to slow speed.

THREADED HOLES, TOO

Woodworkers occasionally have to drill and thread a hole in wood or metal. It's called tapping a hole. After drilling, the trick is to get the tap to start true and straight. You can start it by hand, using a tap handle, but the drill press guarantees success.



Good start. Put the tap in the chuck and rotate it by hand while applying gentle downward pressure with the crank handle. Go in a couple of threads, and then turn it backward to withdraw the tap.



Finish by hand. Attach a tap wrench and finish the job. After every couple of turns, reverse the tap to break the chip.