

7 MUST-HAVE SHOP JIGS

Over the past twenty years, we've made quite a few jigs in our shop. Some of them were designed for a specific purpose, used once, and then hung on the wall where they've gathered dust ever since.

But there are a few jigs that get used all the time. In fact, they get used so

much that we've even had to replace some of them — they've been worn out.

Jigs that are this handy actually become extensions of the power tools they're used with, making the tool all the more useful.

That's what all the jigs on the next few pages have in common. Try building one

or two and pretty soon you'll be asking yourself how you ever got along without them.

You'll discover that they transform your everyday power tools into real performers, making your woodworking faster, easier, safer, and more accurate. And as a result, you'll get

more satisfaction out of your woodworking.

But these jigs have something else in common. They can each be built in under an hour, and usually with pieces pulled from the scrap bin. So even though you'll find them invaluable in your shop, the initial investment is quite small.

1 Auxiliary Fence

In addition to cutting workpieces to size, I also use my table saw for cutting joints. And one of the joints that I make most frequently is a rabbet.

Typically, I use a dado blade to cut rabbets. But to do this, part of the blade needs to be "buried" in a wood auxiliary fence, see first photo at right.

Clamping a piece of wood to the side of your rip fence is one way to do this, but I prefer to use a slip-on auxiliary fence. The nice thing about this fence is that it can be dropped down over my rip fence in sec-



onds — without having to fuss with clamps.

And by making one side of the fence 7" high, it doubles as a tall support fence when cutting tall pieces, see second photo.

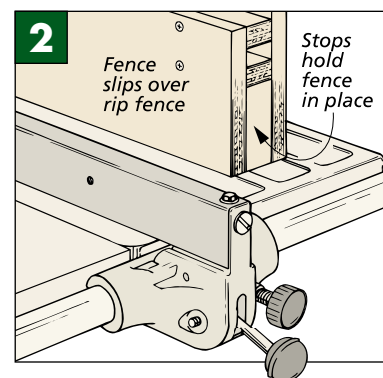
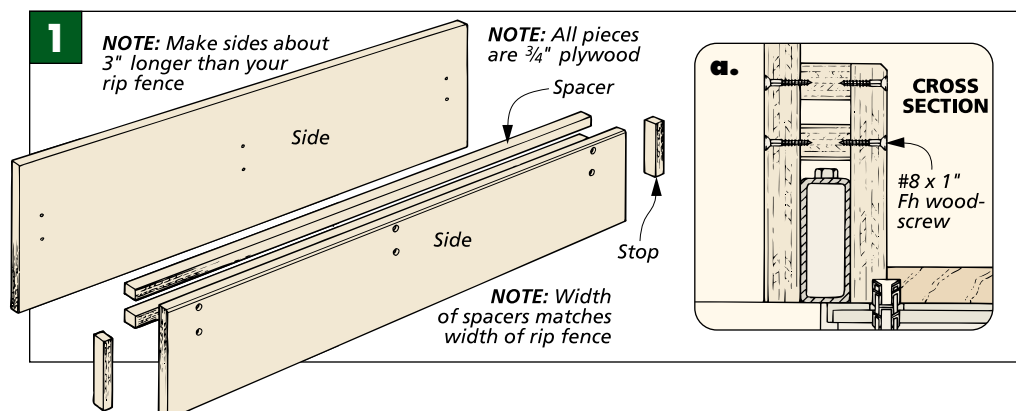
CONSTRUCTION. The fence

consists of two plywood sides glued and screwed to a pair of plywood spacer strips, see Fig. 1.

When cutting the spacer strips, it's important to make them the same width as your rip fence. The goal

here is a nice, snug fit, allowing the auxiliary fence to slip over the rip fence easily, but without any play.

STOPS. Finally, to hold the fence in place, a couple of plywood stops are added to the ends, see Fig. 2.



2 Push Block

I've seen a lot of push blocks or push sticks that are thin and narrow. This allows you to maneuver the push stick between the blade and the rip fence when ripping thin pieces.

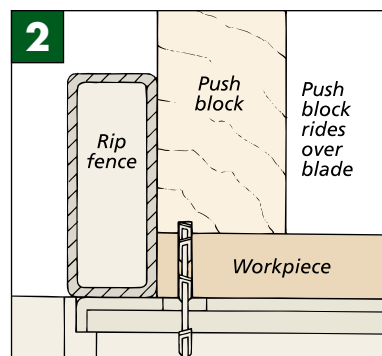
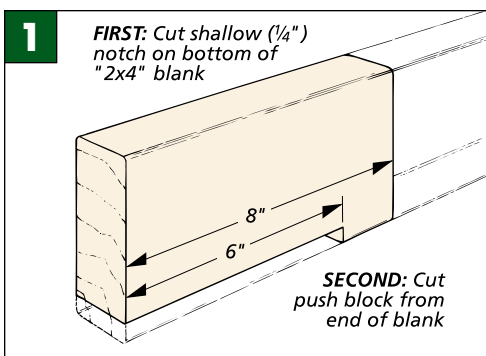
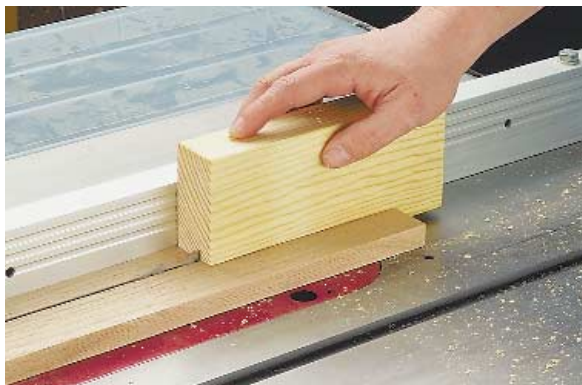
But I find that trying to guide a workpiece through a saw with one of these push sticks is a little like trying to push a brick with a straw. This is one case where wider is better.

That's why I like this push block design. It's nothing more than an 8"-long block with a shallow notch cut on the bottom, see Fig. 1. The notch fits over the back edge of the workpiece that's being cut.

The wide profile of the

block gives you plenty of control. And instead of fitting between the fence and the blade, this push block is designed to ride right over the blade, see Fig. 2.

After a while, the bottom of the push block will get "chewed up." When this happens, just throw it out and make a new one.



3 Crosscut Sled

The miter gauge that comes with most table saws is fine for crosscutting narrow pieces. But if you try to use it to crosscut a wide panel, you'll quickly discover how inadequate it is.

It rocks back and forth in the slot or bumps into the edge of the table saw top, making crosscutting not only difficult, but potentially dangerous as well.

That's why I like to use a crosscut sled when cutting large panels. This jig works like a giant miter gauge, allowing you to crosscut wide pieces.

The large, flat base of the sled provides plenty of support for wide panels. A pair of runners guides the sled and the workpiece smoothly through the saw. And a fence on the trailing edge of the sled ensures that every cut will be square.

CONSTRUCTION. To build the jig, start by cutting a piece of 3/4"-thick plywood

for the base. (I made mine about 16" x 30".)

Next cut a hardwood runner to fit in the miter gauge slot of your table saw. Size the runner so it slides smoothly in the slot. Then glue and screw it to the bottom of the base.

To keep the jig aligned, a second runner is added to the bottom of the base. This one rides against the edge of the table saw extension wing, see photo.

Once both runners are attached, place the jig on

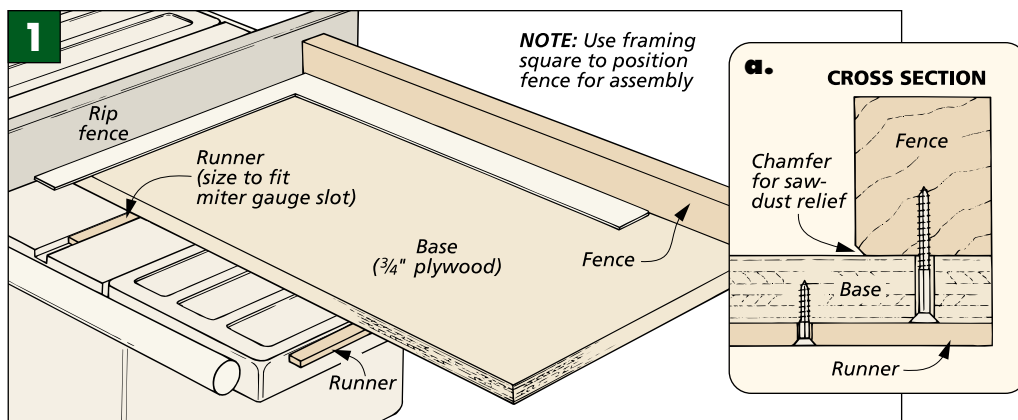


your saw and trim off the right edge of the base.

FENCE. For the fence, I used a piece of "2-by" stock with a chamfer routed on the bottom edge for a saw-

dust relief, see Fig. 1a.

To position the fence so that it's square to the blade, use a framing square, see Fig. 1. Then just screw the fence to the base.



4 Miter Gauge Fence

Using a miter gauge without an auxiliary fence is like wearing a pair of trousers without suspenders (or a belt) — you just don't get the support you need.

And while it's pretty easy to just screw a piece of wood to the front of your miter gauge, I think it's worth taking just a couple minutes to make an *adjustable* auxiliary fence. This way, you can move the fence as close to the blade as you want, even when mitering, see Fig. 2.

JIG CONSTRUCTION. The “adjustable” part of the fence is made up of two sliding pieces, see Fig. 1. A rabbet cut on each piece allows the two pieces to interlock.

The top piece has a couple of threaded inserts so it can be attached to the miter gauge with machine screws, see Fig. 1a.

The bottom piece “floats” under the top one (until the two machine screws are tightened). By sanding the top piece $\frac{1}{32}$ " thinner than the bottom, it

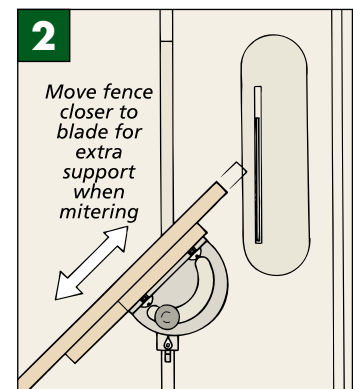
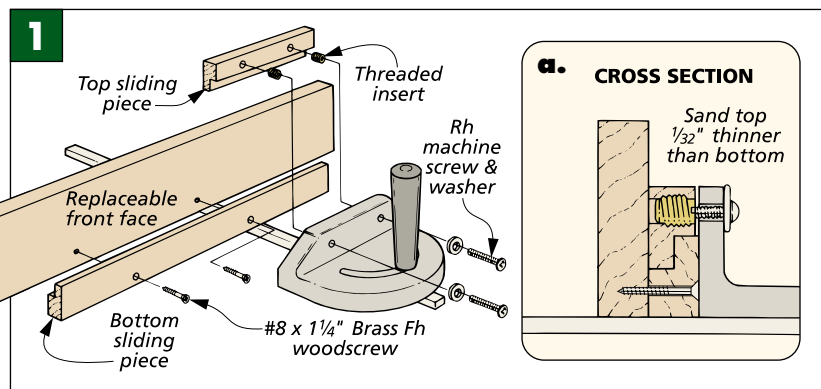


will “pinch” the bottom piece in place, see Fig. 1a.

A replaceable face is screwed to the front of the bottom sliding piece. This way, when the fence gets

chewed up, you can make a new one.

STOP BLOCK. To make the fence even more useful, you can clamp a stop block to the face, see margin photo.



5 Plywood Edge Guide

Sometimes it's easier to use a circular saw to cut a full sheet of plywood than it is to balance a 4x8 sheet on the table saw. And a shop-made edge guide makes using a circular saw more accurate, see photo. But this edge guide has the added benefit of doubling as a router guide.

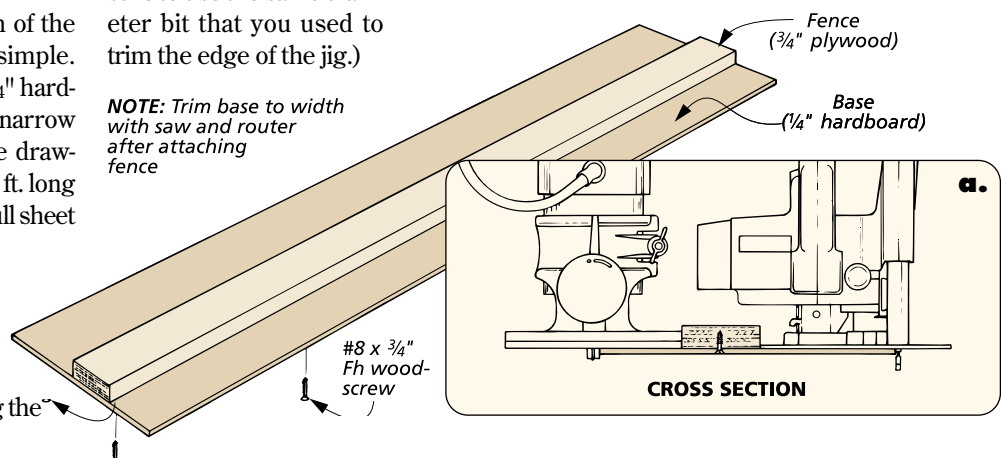
The construction of the jig is remarkably simple. It's just a piece of $\frac{1}{4}$ " hardboard screwed to a narrow plywood fence, see drawing. (I made mine 4 ft. long for cross-cutting a full sheet of plywood.)

The trick to making the jig is to start off with an extra-wide base. Then after attaching the

fence, trim both sides of the base. One side is trimmed with a circular saw and the other with a router and a straight bit, see detail 'a.'

To use the jig, just place the edge of the base on your layout line and clamp the jig in place. (Note: If you're using a router, make sure to use the same diameter bit that you used to trim the edge of the jig.)

NOTE: Trim base to width with saw and router after attaching fence



6 Drill Press Table

Most drill presses seem to be designed more for metalworking than for woodworking. They're equipped with dinky tables that lack any fences or guides. Fortunately, it doesn't take much to transform an ordinary drill press into a "real" woodworking tool.

To increase the working surface area of the drill press, I add an auxiliary table, see Fig. 1. This "table" is really nothing more than a piece of $\frac{3}{4}$ " thick plywood that is screwed or bolted to the drill press table.

When determining the size of the auxiliary table, be careful not to make it so large that it sags or makes the drill press unstable. (I made mine 16" x 30".)

FENCE. The larger work surface is nice, but what really makes this jig useful is the fence, see photo. A

fence is essential when you need to drill a series of holes all the same distance from the edge of a workpiece. And by clamping a stop block to the fence, you can drill identically positioned holes in multiple workpieces.

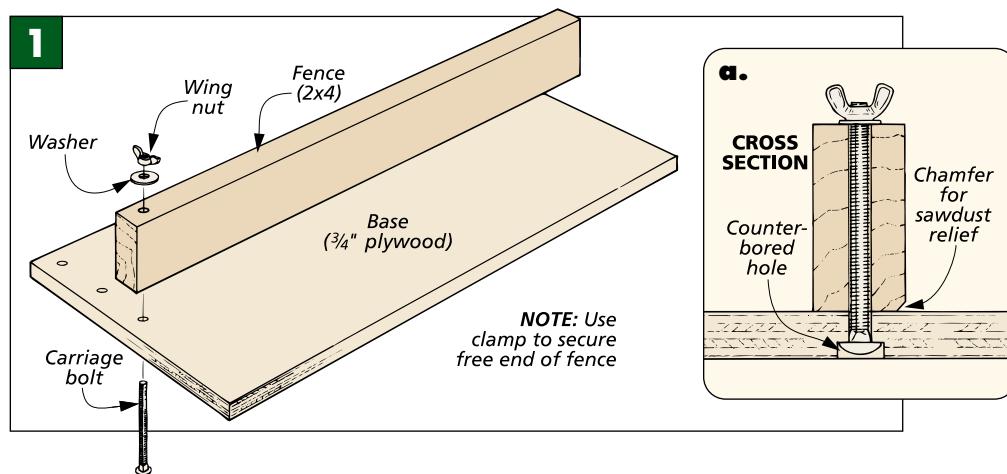
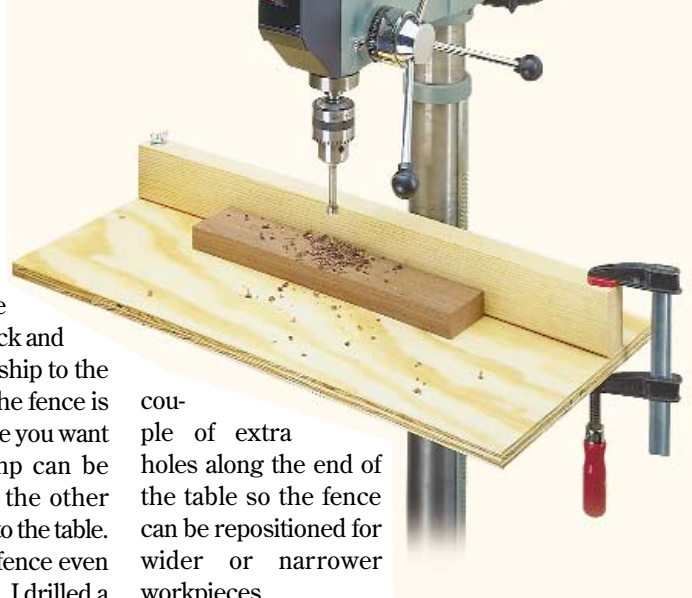
This fence is just a piece of "2-by" stock that is connected to one end of the table with a carriage bolt and a wing nut, see Fig. 1a. A chamfer routed along the

bottom edge of the fence provides a relief for sawdust.

The carriage bolt allows the fence to pivot back and forth in relationship to the drill bit. When the fence is positioned where you want it, a small clamp can be used to secure the other end of the fence to the table.

To make the fence even more adjustable, I drilled a

couple of extra holes along the end of the table so the fence can be repositioned for wider or narrower workpieces.



7 Band Saw Pivot Block

A band saw is a great tool for resawing thick lumber into thinner stock. But because most band saw blades have a tendency to "wander," controlling a cut can be difficult.

One solution is to use a simple support block, see photo. The nice thing about this block is that it allows you to pivot the workpiece as you push it through the saw to "follow" the direction the blade is wandering.

The guide is nothing more than a block of wood that has been beveled on one end to create a "V" point, see Fig. 1. On the other end, the top of the block is cut away to make it easier to clamp it to the table of the band saw.

To use the block, simply

clamp it to the table so it's just slightly in front of the blade, see Fig. 2.

The distance between the block and the blade should equal the desired thickness of the stock you are cutting. Now just guide the workpiece through the saw, pivoting it against the block as needed. **W**

