



quick & easy

Router Jigs

Have you unlocked the hidden potential of your router? You can with these three top-notch router jigs.

■ The circle-cutting jig shown above is easy to build, inexpensive, and can be set just as quickly as the rip fence on a table saw. The secret is the arm—it's just a simple aluminum ruler from the hardware store.

As you can see in the Exploded View on the opposite page, this jig consists of three main parts: a *base* for the router, an aluminum ruler that acts as a *pivot arm*, and an adjustable *pivot block* that determines the size of the circle.

Base. The jig starts out as a paddle-shaped base (see Exploded View). When mounting the router, the idea is to center it about 6" from the end of the base. And this isn't hard to do. The router's base makes a great template for laying out the shape of the base and then marking and drilling the holes.

Blocks. After cutting the base to final shape, you can turn your attention to a pair of hardwood blocks. One block attaches to the base and allows you to mount the ruler. The other one becomes the pivot block that's used to determine the size of the circle you cut.

Since both blocks are the same size (and small), I started with an extra-long workpiece to safely cut a groove down the center. Just make sure the depth of the groove is slightly less ($\frac{1}{32}$ ") than the thickness of the ruler.

Once the groove is complete, you can cut two blocks from the blank. Then glue one block to the base flush with the back edge. (See Side View on opposite page.)

Pivot Block. To create the pivot block, the second block is glued to a $\frac{1}{4}$ " hardboard *spacer*. The spacer

raises the pivot block to match the height of the block on the base.

Next, drill a pair of holes along the outside to attach a hairline indicator (added later) and a centered hole for the pivot pin. This pin is just a cutoff bolt that's glued in place with epoxy.

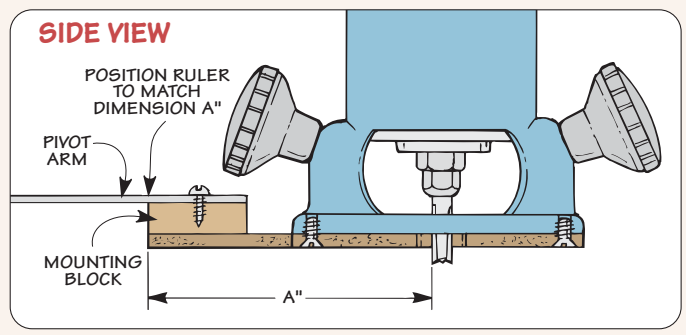
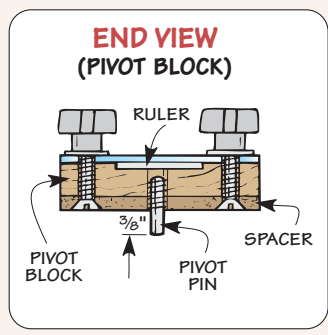
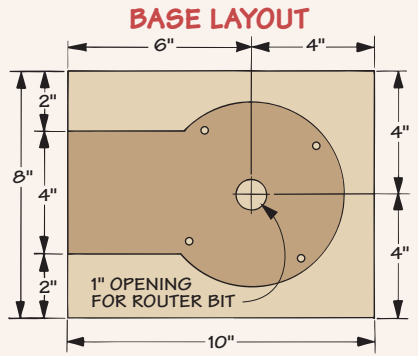
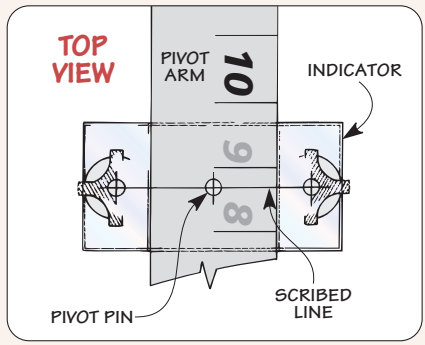
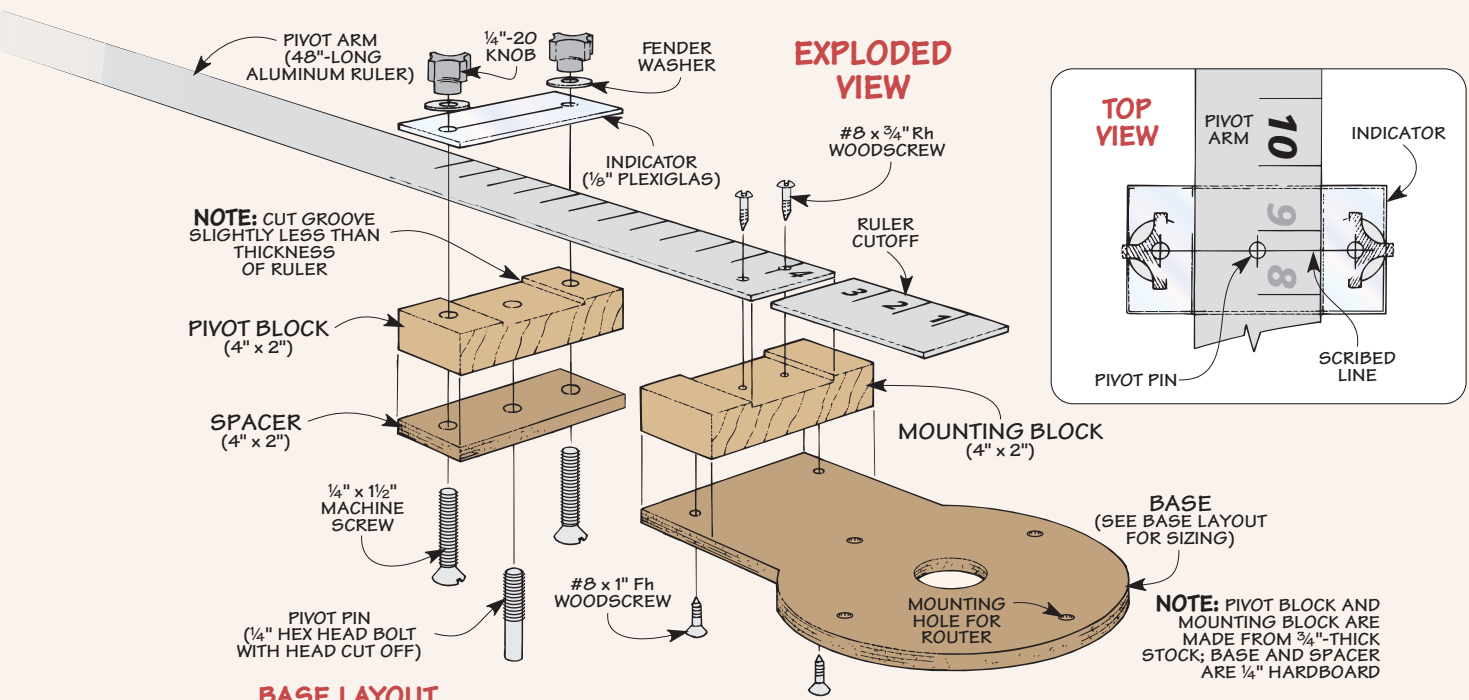
Indicator. The key to this jig is the hairline indicator that's added to the pivot block. This indicator accomplishes two things.

First, it allows you to lock the ruler securely to the pivot block, as in the End View. And second, you can accurately set the radius of the circle by aligning the hairline over the ruler, as in the Top View.

After cutting the indicator to size, drill a pair of holes to match the outside holes in the pivot block. Then scribe a hairline on the indicator so it lines up directly over the pivot pin.



▲ **Straight Bit.** A straight bit is a great choice for the heavy-duty work of routing a circle from a workpiece.



Assembly. Now you're ready to attach the ruler to the mounting block on the base. But first, you'll need to install the router bit you're going to use for cutting the circles. I like to use a 1/2"-dia. straight bit but the important thing is that you always use the *same* diameter bit.

Now, to find out where to attach the ruler, measure from the cutting edge of the bit to the back edge of the base (Dimension A" in Side View.) (In my case, this was 5 3/4".) To allow you to use the ruler to set the radius, position it so that dimension A" aligns with the back

edge of the mounting block. Then screw the ruler in place. Note: Cut off the part of the ruler that sticks past the edge of the mounting block.

Using the Jig. Now that you have the jig complete, you're ready to start routing circles. To do this, you'll need a shallow 1/4"-dia. hole for the pivot pin. It's important to drill this hole in the *back* side of the workpiece (Figure 1a).

Next, position the pivot block along the ruler to match the desired *radius* of the circle you want to cut. Then lock the pivot block in place.

At this point, you'll need to set the depth of cut. I've found it's best to start with a shallow (1/4") pass and work my way through the workpiece in multiple passes.

Now, slip the pivot pin in place and raise the router off the workpiece. Then turn the router on and slowly lower it onto the workpiece (Figure 1b). Finally, rout in a counterclockwise direction.

