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Get started with your plunge router

BY JEFF MILLER

straight bit. Normal straight bits (far right) are fine for many router cuts, but a solid-carbide, upspiral bit (right) works much better for plunge cuts because it clears chips as you rout.

Upgrade your



Constant control. You need to be able to reach the key controls without taking your hands off the handles. On this plunge router, the on-off switch is in one handle, while the plunge lock is easily accessible with the thumb of the other hand. he router is one of the most versatile tools in the shop.
Of the two main types, the plunge model trumps the fixed-base variety, at least for me. It handles everything

its more basic cousin can, adding the very useful ability to plunge in and out of the work on the fly. This means that in addition to grooves, dadoes, and edge moldings, you'll also be able to rout mortises, cut stopped grooves and dadoes, excavate grooves and recesses for inlay, and create a variety of decorative piercings.

As for choosing a plunge router, I recommend buying one with at least 12 amps of power. A smaller motor can bog down during heavier tasks like mortising. It's best to hold a router in your hands before buying it. You should be able to keep your hands on the handles at all times when working. That's why plunge routers have both the on/off switch and the plunge lock either on the handles or a finger's reach away. Each manufacturer takes a slightly different approach, so make sure you can easily stop the tool and lock and unlock the plunge mechanism while maintaining control.

How to make clean mortises

One of the tasks a plunge router does best is make smooth, accurate mortises for strong joinery. Making this challenging cut is a good place to introduce my approach to plungerouting.

There are many ways to control a router for safe and accurate movement. For mortising, I generally use an edge guide, an accessory that attaches to the base and rides the edge of the workpiece, letting you rout in a straight line parallel to that edge.

If the fence on your edge guide is shorter than 12 in., add a longer wooden fence to it. The extra length will make it easier to maintain contact with the workpiece throughout the cut.

Other than those situations where you're using the router as a fixed-base tool, such as when you are molding an edge with a bearing-guided bit, you'll

Photos: Asa Christiana; drawings: John Tetreault



Simple way to set the depth of cut. Mark the depth line on the outside of the workpiece, plunge the bit to the line, and then lock the plunge lever. Now lower the depth-stop rod against one of the stops on the turret below, and lock it. Finally, raise the bit and follow the steps below.



Align the bit. Miller lays out the mortises in pencil, and then adjusts the edge guide so the bit lines up with his layout lines.

always want to start and finish a cut with the router bit raised out of the cut and locked. Think of this as "the upright and locked position for takeoff and landing."

Now to the plunge action. Routers cut much more cleanly with a series of light passes, as opposed to one deep one. That's why plunge routers have a system of multiple depth stops. The idea is to preset each stop, and switch from one to the other between passes. But I don't think the multiple stops are worth the trouble. For one thing, I find that the steps between stops make the router take too heavy a cut for my liking. Also, on most routers, you can't switch stops



Go lightly. With the bit just above the workpiece, turn on the router. Lower the bit roughly ¹/₂₆ in., lock the plunge lever, and make a light cut, stopping at the end line.



The job goes quickly. At the end of each pass, unlock the plunge lever and lower the bit by feel, roughly ¹/16 in. each time. Make passes until the depth stop bottoms out.

PUSH AGAINST THE GUIDE

Put the edge guide on the same side of the workpiece as your body, and push against it to keep the router bit from wandering.



TAKE LIGHT PASSES

Don't overtax the router, and you'll get much less vibration and cleaner results.



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USE A T-SQUARE JIG FOR DADOES

A simple right-angle cutting guide will make dadoes of all kinds, whether all the way across a workpiece or stopped short of the edge.

Setup is a cinch. After using the jig just once, you create a slot in the fence that can be used to align the jig with layout marks.

Two tips. Use a series of light passes again. If you gang up the sides of a bookcase, you can rout two corresponding dadoes at once.



PUSH AGAINST THE FENCE

Again, press lightly against the fence to keep the router from wandering.



Stopped cuts are simple. For dadoes that need to stop before reaching an edge, just stop at a layout line and raise the bit out of the cut.



without removing your hands from one of the handles, which is unsafe unless you first turn off the router. So I simply set the final depth of cut with any one of the stops, and then work down to it with a series of very shallow passes controlled by feel. The work goes faster, and the final results are better.

As for where to start and stop each pass, you can trust your pencil marks, or you can place stop blocks atop the workpiece.

T-square jig makes dadoes

To make a dado, which is a groove across a board or panel, an edge guide usually won't work. That's because most dadoes are too far from a parallel

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GO FREEHAND FOR INLAY

A router usually needs some type of guidance system, but you can work freehand when roughing out a pocket for a small inlay like this butterfly key.

Stick the inlay on the surface. Put a couple of small dots of yellow glue on the bottom and press it down firmly where you want it. Wait 20 minutes for the glue to set. Double-sided tape is also a good option.



Now knife around it. Start with a very light pass to establish the line, and then deepen it. Afterward, darken the lines with a fine pencil to make them more visible.

edge. The simplest approach is to use a shopmade T-square. Clamped to a board with its fence snug to the edge, the T-square jig provides a straight edge that guides the router base.

Choose a router bit that's the size of the dado you want. Start by clamping the T-square jig to a scrap piece and routing a slot in the fence. This will tell you where all future cuts will line up, as long as you use that same bit.

Now lay out the workpiece, and set the location of the T-square accordingly. Set the depth of cut and rout.

Rout freehand for a decorative inlay

Routing a shallow pocket for an inlay is one place where you can use the



Router removes the waste. Pop off the inlay piece and begin routing in the center of the recess in overlapping passes, stopping ¹/16 in. or so from the layout lines.

router without a guide system. The easiest method for laying out the cut is simply to stick the inlay to the workpiece temporarily, and scribe around it with a marking knife. Then you just pry off the inlay, set the depth of cut a little shallower than the inlay itself, and stay slightly inside the lines as you rout. Follow with a chisel as shown above.

There are other great ways to use your plunge router, such as adding a set of guide bushings that can be used with an endless variety of shopmade templates, but I'll leave those for another article.

Jeff Miller makes custom furniture and teaches woodworking in his Chicago shop. Go to furnituremaking.com for information.



Chisel work finishes the job. Don't start chopping right in the scribe lines or the cavity will end up too big. Nibble away the waste, ending with a light chop in the scribe line.



Inlay drops right in. When the fit is good, apply glue and tap the inlay into place. Wait a day for the glue to fully dry, and then use a handplane to level the inlay with the surface.