

# Woodworking Tips

## 17 ROUTER TIPS

To many woodworkers, a plunge router is like one of those deluxe TV remote controls that has lots of buttons and functions: Most people only use a few of them because they don't understand their full capabilities. Welcome to the plight of the plunge router. Too often this versatile tool gets pushed to the side in favour of its simpler sibling, the fixed-base router. But here are 10 ways a plunge router beats its brother.



### 1. Mortising

Store-bought or shop-made jigs increase the accuracy of a router as well as its ability to make identical, repeated plunge-router tasks. For example, you don't need to own a hollow-chisel mortise to make mortises quickly and easily. Simply build the jig shown on the next page, grab your plunge router and an upcut spiral bit, and you're in

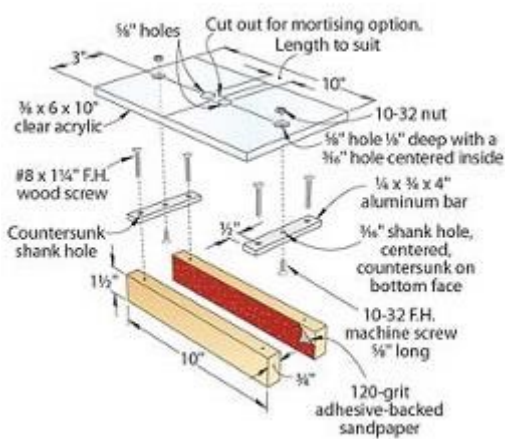


business. Install a 5/8" guide bushing in your router's subbase and a bit that matches the width of your mortise. Centre the scribed lines on the jig to your mortise layout lines, and then rout in 1/4"-deep increments. Depending on the position of your mortises, sometimes only one of the jig's aluminum cross bars will rest on the workpiece.

To keep the jig parallel to the workpiece in these instances, add a 1/4" spacer, as shown in the photo.

For the tenons, you have three options, all of which work equally well. First, you can rout mortises in both of the mating workpiece and make a loose tenon to fit. To do this, dimension stock to the thickness and width you'll need, and then round over the edges on your router table. Second, machine a Tenon onto the mating workpiece as you'd do for a rectangular mortise, and then simply round the edges with a knife or rasp. Or third, square the mortise corners with a chisel to fit a matching Tenon.

Insert a spacer in the mortising jig where this leg's taper begins. That keeps the jig parallel to the mortised surface as shown in photo.



### 2. Doweling

Make the same jig as for mortising, but rather than slotting the acrylic top, simply bore two 5/8" holes. Make multiple tops with different spacing between the holes for different dowel setups. To use this jig, set it up as you would for mortising, and then plunge the holes to your desired depth. Repeat for the mating workpiece, and assemble the joint with glue and dowels

### 3. Interior pattern routing

When you need to rout any type of closed pattern in the interior of a workpiece, such as the chip/dip tray, shown

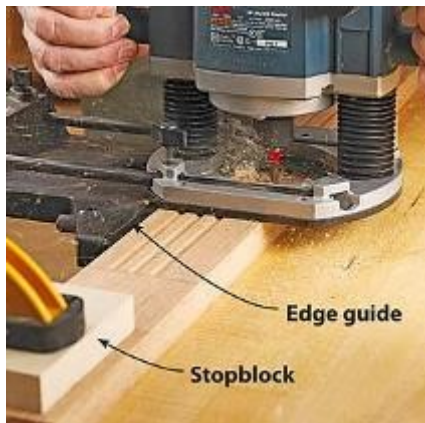
in photo, choose a plunge router. With a fixed-base router you have to tip the router into the cut—risky because you can damage the workpiece or template or possibly injure yourself.

Whether you use commercial templates or make your own, you'll need to use either a guide bushing or a top-bearing pattern bit to register against the template. For cuts deeper than your bit can reach, use a collet extension, which fits into your router collet and has another collet for your bit.



## 4. Stopped dadoes, grooves, and flutes

When you need to make field cuts like these, tilting a fixed-base router into the workpiece might cause it to veer off track and damage your workpiece. With a plunge router you simply use a clamp-on straightedge or an edge guide, shown in photo, made by your router's manufacturer. Add stops at each end, and it's



## 5. Circle routing

To create perfect circles, mount your router to a trammel arm that rotates around a fixed point, shown in photo. With a plunge router you can quickly cut out the workpiece from a larger blank, without need of a saw



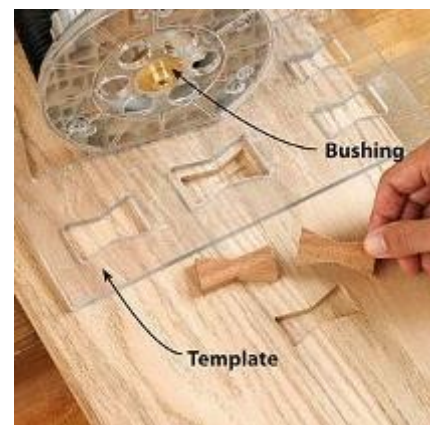
## 6. Sign-making

You've got two options here. First, you can sketch the lettering onto your workpiece, and then freehand rout along the lines. But that requires a steady hand—one slip-up and you'll have to start over. Or, use a commercial sign-making system, shown in photo, with a guide bushing in the plunge base.



## 7. Inlay

As with sign-making, it takes a steady hand to rout inlay recesses freehand. Mess up and you're forced to mend the goof. By using templates with bearing-guided bits or guide bushings, you eliminate the chances of veering off course. And whether the inlay serves for decoration or to patch a flaw in the wood, store-bought kits, shown in photo, provide everything you need to rout the recess as well as exact-fitting inlays.



## 8. Keyholes

Hanging something on a wall but don't want to use a hanger bracket or wire? A slotted keyhole, as shown in photo, does the job nicely and won't be seen, because the screw head and shank slip into the slot. Many manufacturers make router bits specifically for making these keyhole slots in several sizes; choose the one that best fits the screws you'll use. You can use one keyhole slot for small projects or two or three for larger ones. It's always best to drive the screws into wall studs, so lay out your keyholes accordingly. Whether you place the keyholes on vertical or horizontal elements of your project, the technique is the same. Plunge into the back to the pre-set depth, and then rout about an inch or two of slot. Turn off the router and return to the spot where you plunged in before lifting the router.





## 9. Dual-light offset subbase

Laser locators and LED lights make this subbase from MLCS ideal for many plunge-routing tasks even if you never hold it by its offset knob. The crosshair lasers prove especially useful for lining up a plunge cut, such as the marble holes in the Chinese-checkers board shown, shown in photo. Flip the switch the other way, and bright LED lights illuminate hard-to-see tasks.

## 10. Dust hoods

Some router manufacturers include dust hoods with their routers, but many also come as accessories. Typically made of clear plastic, these prove helpful in gobbling up chips and dust



when hooked to a shop vacuum.

## 6 great uses for trim routers



### One-handed wonders

Sometimes, David doesn't have to kill Goliath; just pushing him aside can be good enough. Meet David, the one-handed trim router (aka: laminate trimmer). In the role of the giant, the full-size router has been dominating fine profile and joinery work for decades. But times, they are a-changing. Here are some examples of tasks where a trim router can assist you in your shop by saving time or money or doing jobs better than a big router.



### 1. Task-specific trim routers

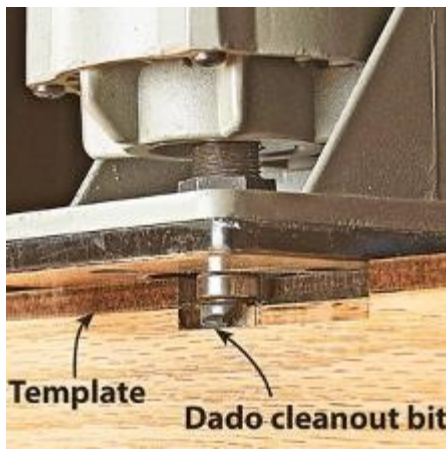
At WOOD® magazine, we frequently work with four forms of decorative edge-routing, shown: Round-overs and chamfers are the most common, followed by coves and beads. To save time changing and setting up these bits, we like to keep a 1/8" round-over bit ready to use in one trim router, and a 45° chamfer bit in another. Many trim routers sell for about \$100, so you could buy three trim routers for the same money it takes to buy a 3-hp router.

### 2. Perfect flutes

Make quick work of routing flutes by installing a round-nose or core-box bit in your trim router. When you don't

have a detachable edge guide (standard on some small routers, optional for others), these routers' small bases allow you to set a straightedge close to the cutting area. Those with square subbase follow that straightedge perfectly to cut the flutes with no worries.





### 3. No-tip hinge mortises

Using a trim router for routing shallow hinge mortises proves a no-brainer. A full-size router can tip or wobble when you balance it on a workpiece edge (a door, for example). But a trim router, with its narrow base, light weight, and low centre of gravity, makes the job easy. Use a template with a top-bearing dado cleanout bit with a small cutterhead. Square up the corners, if needed, with a chisel.



### 4. No-fuss inlay grooves

Decorative inlays add craftsmanlike quality to projects. Using a trim router helps you get into tighter, narrower surfaces—such as aprons attached to table legs. Follow a straightedge or attach an edge guide to the router's base to ensure dead-straight grooves. Use a straight bit or downcut spiral bit.

### 5. Butterfly patches

A butterfly (or similar decorative patch) is one of our favourite patches for flaws such as unsightly knots or splits. Use a trim router to remove the material, and to cut out the patch. A trimmer works great following a template with a top-bearing bit or guide bushing. When freehand routing, the trim router, using a straight bit or downcut spiral bit, feels like an extension of your hand. Cut out the butterfly first, trace its pattern over the flaw, then cut away the recess starting in the middle and gradually routing toward the lines. Cut crisp inside corners with a chisel.



### 6. Oh, and one more thing...

Yes, trim routers still do an exceptional job of flush-trimming laminate, veneer edge banding, and solid-wood edging. Bearing-guided flush-trim bits prove best for this task. Rout in a climb-cutting fashion (for edging 1/4" thick or less) to avoid grain tear-out.

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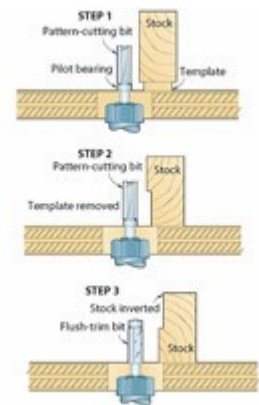
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A *flush-trim bit* has a ball-bearing pilot mounted at the tip, as shown in photo. To use this type of bit, place your workpiece on the table with the template on top. Adjust the bit height so the pilot runs along the template's edge.

On *pattern-cutting bits*, the pilot sits between the shank and the cutter, as shown in the illustrations. Your template rests on the table. Whichever bit you use, ease the workpiece into the bit until it contacts the pilot, then move the piece from right to left. If you've left more than 1/8" of excess material in some spots, trim it to size with a couple of shallow passes. Don't pause too long in any spot, or you'll burn the wood. Double-check the surfaces you've just routed before you remove the template. Sometimes another pass will smooth out a rough spot. Finally, slide a putty knife blade between workpiece and template, pop them apart, remove the tape, and you're done.

When you have a workpiece that's thicker than the cutting length of your bit, use a pattern-cutting bit and a flush-trim bit in the sequence shown in **Steps 1, 2,** and **3.** Make one pass with the pattern-cutting bit, template side down. Remove the template, then make another pass with the pilot bearing riding on the surface you just machined. Finally, flip the workpiece over and use the flush-trim bit, with the pilot bearing riding on the previously milled surface.



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