

FILLER TIPS

Many woodworkers automatically reach for the wood filler when dealing with cracks and splits...only to discover that their "filler" doesn't take a stain that will match the rest of the wood surface. The next time this happens to you, try this simple, 4-step process:

STEP 1: Start by widening and evening-out your crack or split. The object is to make the crack or split straight and consistent in width. For this process, use an artist's X-Acto knife or an old hacksaw blade with a wooden handle duct-taped to one end. Work your knife or saw blade back-and-forth carefully and slowly, being careful to keep the crack or split straight.

STEP 2: Next, use your table saw to shave off a thin sliver of matching wood that's the same length and width of your crack or split. Don't worry about whether or not your sliver is too wide and destined to protrude above your wood surface.

STEP 3: Glue your sliver into the crack and allow it to dry thoroughly.

STEP 4: Start by hand-planing your sliver down until it's just "proud" of your wood's surface. Finally, sand it down until it's even with the surface and stain to match. That's it!!!!

Woodworking tips

Templates for Router Success



Choose Your Equipment

A straight router bit can cut out just about any shape you want. All it needs is a little guidance from you.

The first time you use a router, you're delighted to realize that it's capable of doing almost anything you want it to do. Soon after that, you're dismayed to realize that it's also capable of doing what it wants to do, such as veering off course when you try to freehand it along a line.

This is where templates enter the picture. You can turn a humble piece of hardboard into a template, or pattern, for a decorative design, structural part, geometric feature, or any other shape.

As you make the template, you can fuss over the details until they're just right, or toss it and start again. Once you perfect the template, you can use it to produce the same shape, and you can do it countless times.

When you rout a raised shape onto the surface of a project, the grain flows without interruption. That gives you a well-crafted effect that you can't get by cutting out the shape with a Scrollsaw and gluing it on. Template routing comes in handy for all kinds of applications, such as lettering, inlays, and shaping identical furniture parts. Here, we'll discuss how to make decorative shapes.

Choose your equipment

Template guide bushings turn your router into a pattern follower. A guide consists of a round plate that attaches to the router subbase and a tube, or bushing, that protrudes below. The cutting end of the bit projects through the bushing, and the outer rim of the bushing rides along the edge of the template.



Template guides come in two basic styles, as shown at **left**. The most common type screws into place and fits a wide range of router brands and models. The other clicks neatly into place-but fits only Bosch routers. In both styles, you can buy several sizes of bushings to correspond with router bits of various diameters.

A plunge router does a great job in template work, and becomes especially valuable when you want to save both the "positive" shape that you cut out and the "negative" shape that's left behind. We'll return to that concept in a minute.

The plunge design allows you to start and stop each cut vertically. With a fixed-base router, you're almost certain to create a slight imperfection as you pivot the bit into place.

[Buy a 10-piece brass bushing set with case from Woodcraft](#)

[Buy a Porter-Cable 9-piece Guide Bushing Set](#)

[Buy a Bosch 7-piece quick-change guide bushing set](#)

Make Your Preparations



In most cases, 1/4" tempered hardboard makes the best choice for template material. It's inexpensive and easy to work with.

How are you going to draw the shape you want? If you're not too handy with a pencil, you can find lots of useful samples from Scrollsaw pattern books and kids' coloring books.

Print out the shape, trace it, or copy it on a photocopying machine. Doing this enables you to enlarge or reduce it. Remember that the diameter of the template bushing limits your ability to rout into narrow slots and sharp inside curves. You might have to modify the shape slightly.

Affix this pattern to your template material with spray adhesive. Cut around it with a Scrollsaw. To make usable positive and negative pieces, drill a 1/16" hole on the pattern line, thread your Scrollsaw blade through, and begin to cut, as shown in the photo at **left**. You'll have a positive template that you can use to make a raised shape, and a negative one that's suitable for making a recessed version of that same shape. After completing the cut, remember to file or sand smooth the tiny dent left by the starter hole. If you don't have a Scrollsaw, take great care with a handheld jigsaw, and finish up with a coping saw if necessary. Carefully clean up any rough spots with files and sandpaper to guarantee a smooth finished product.

Now, Cut It Out

A rubber or foam pad will hold your workpiece in place on your benchtop while you rout. Stick the template on the workpiece with a few dabs of hot-melt glue. If you're going to rout all the way through the workpiece, attach it to a backer board with hot-melt glue.

Use a straight or spiral up cut bit with the same cutting diameter as the bushing to produce a piece nearly the same size as the template. Or, try a V-groove bit to create a carved look. Set your bit to the desired depth, and rout counterclockwise around a positive-image template, or clockwise around the inside of a negative-image template. Make sure to keep the bushing pressed firmly against your template at all times.



To make a recessed shape, use the arrangement shown below. If you want the shape to stand proud of the surface, go with the set-up shown in the photo at **left**. Once you're done routing, pop the template off the workpiece with a chisel.

Recessed Shape

Understanding guide bushings

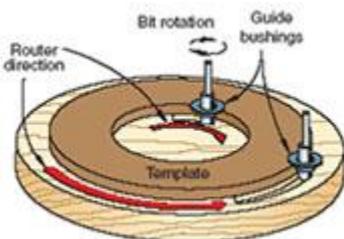
Guide bushings may be the most misunderstood of all router accessories. Their uses include cutting dovetails with a jig, lettering, inlay work, even reproducing furniture parts. Here's the basic concept: A guide bushing mounts to the router's subbase with a tube that protrudes below. A straight router bit extends through the tube. The outer surface of the tube rides against an edge guide or template, keeping the bit a set distance (*offset*) from the edge guide or template.

What's Available?

In the marketplace you'll find two bushing styles. The Porter-Cable two-piece (shown *below right*) uses a screw-on locking ring to hold the tube part to the router base. This style fits a wide range of models. The other style of guide bushing clicks into place, but only fits Bosch routers. If your router doesn't accept these common styles of guide bushings, consider buying adapters and subbase. Guide bushings are sold individually or in sets. Individual bushings cost \$6-\$8 each, while sets range from \$30-\$45.



Guide-bushing how-to



To use a guide bushing, you need an edge guide or template to follow. You'll want to size the template slightly larger or smaller than the workpiece. Templates can be made of just about any material, but we prefer 1/4" hardboard.

To make a template, simply affix your drawing or pattern to the template material with spray adhesive, and then Bandsaw or Scrollsaw it to shape. After completing the cut, file or sand-smooth any irregularities or rough spots on the template edges.

Attach the template to your workpiece with a few drops of hot-melt glue or double-faced tape. Use a router pad to hold your workpiece in place on your bench while you rout. If you are going to rout completely through the workpiece, attach a backer to protect the router pad and benchtop. Using a straight bit that fits through the guide bushing, rout out the waste area surrounding the template. Remember to rout counterclockwise when cutting around the outer edge of a template, and clockwise when routing the inside. Once you're finished routing, gently separate the template from the workpiece with a chisel.

Figuring template offset

Offset is the distance from the outside of the guide bushing tube to the cutting edge of the router bit. This dimension determines where the bit cuts the workpiece.

To figure the offset, measure the outside diameter (OD) of the guide bushing tube and subtract the diameter of the bit. Next, divide this figure by 2 to determine the offset. In example at right, subtract the 1/2" bit diameter from the bushing's 3/4" OD. You get 1/4". Now divide this number by two and you arrive at a 1/8" offset.

Know your alternatives

There are router bits capable of template routing without guide bushings. See the chart the next page for comparison information.

Sources

Adapters and subbases are available from many mail-order sources, including the following:

- Eagle America, 800/872-2511 or eagle-america.com
- Lee Valley Tools, 800/871-8158 or leevalley.com
- Rockler Woodworking and Hardware, 800/279-4441 or rockler.com

Comparing alternatives

You can skip using a guide bushing altogether if you use a pattern bit or flush-trim bit. Both types have a bearing that rides against the template, just as a bushing does. But because the bit cuts flush with the bearing, you don't have to calculate offset.

For more in-depth information on routing, visit the [Routing Techniques](#) section in the [WOOD Store](#).

SETUP	PROS	CONS
 <p>Pattern bit</p>	<ul style="list-style-type: none"> • Plunge cuts are possible. • Can substitute for straight bits. • Template hole and workpiece hole are the same size. 	<ul style="list-style-type: none"> • Bit deflection is more prevalent with small-diameter bits. • Full cutting length is exposed when using thin templates.
 <p>Flush-trim bit</p>	<ul style="list-style-type: none"> • Works well in a router table or handheld router. • Only needed cutter length is exposed. • Template hole and workpiece hole are the same size. 	<ul style="list-style-type: none"> • Cuts are always full depth of the workpiece. • Can't make plunge cuts.



- Plunge cuts are possible.
- Can use multiple bits with same bushing.
- Both shallow cuts and deep cuts are possible.
- Hole in template must be larger than hole in workpiece.
- Can't duplicate parts exactly.

Here's an interesting approach for using your saw's table and rip fence for clamping together small "frames" or boxes with metered corners.

Remove your Table Saw's Mitre Gauge from its slot and "stand" a 3" or 4" wide piece of 3/4" thick stock vertically, on edge in the saw table's Mitre Gauge slot.

Lay a piece of newspaper on your worktable surface (between these two "fences") to protect the surface from glue squeeze-out.

Position your rip fence opposite this standing wooden "fence"...with two of your project's sides in-between, then gradually move the rip fence closer until the components on these two opposing sides are properly located.

Next, locate the remaining two workpieces (for your 4-sided project) where they should go and use a pair of bar clamps to "put the squeeze" on them from the opposite (perpendicular) direction.

All woodworkers often end up with two or more partially-filled bottles of the same glue, resins or other thick, "slow-moving" liquid.

Since consolidation is often the best way to be sure you have enough space to do the tasks you have to accomplish - and since some of these liquids can be quite costly -- it's important that you get all of this "stuff" into a single container. And...it's equally important that you do so without having to physically stand there while one container's "stuff" slowly oozes into another.

Here's the simple trick. Take two caps from two matching jugs or bottles. Position them top-to-top and glue, rivet, bolt or tape them together permanently.

Drill a hole (as large as possible) through the center of the two attached caps. Attach one side to your lids to the "receiver" bottle or jug and the other side to your inverted "donor" bottle.

Walk away and come back later when you're confident that the "donor" bottle has drained its contents thoroughly into the "receiver" bottle... without your having to stand by all day long and watch! H with the board's surfaces.

This Club/Guild aims to assist members to improve their working skills. Not all such activities occur in our Guild premises, and some activities or events are promoted through this Newsletter and others directly to members in some other ways, but are still Club/Guide activities, please support them. These activities may include personal and Group tuition of members by other members (we all try to help one another for the benefit of the Club/Guild in this way) sessions in members' workshops, wood-gathering, our activities to members of the public, and other such activities and events.

For Sale;



1) Black & Decker router (large) - new, only used once. Retail price \$149 - asking \$80 ono

2) Morgan 16" single speed scroll saw - near new. Retail price \$229 - Asking \$100 ono.

Contact Peter Giles (Toymakers Group) - pmgiles@xtra.co.nz
Or phone 07 575 9736



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