trouble-free

Hand Routing Techniques

Want to make your hand-held routing trouble-free? Try the Shop-tested tips below.

If you asked me or just about any other woodworker to run a workpiece through the jointer or table saw, we wouldn't have to give it a second thought.

When it comes to working with a stationary machine, the feed direction of the workpiece comes naturally. There's a distinct front and back to most machines, and therefore, the feed direction is automatic.

But put a router in our hands, and it seems like we always have to pause a second or two to figure out the proper feed direction — that is, which direction we should move the *router* along the workpiece.

Since the router isn't stationary, you can move it along the workpiece, going either to the left or to the right. So how do you go about figuring out what's "right?"

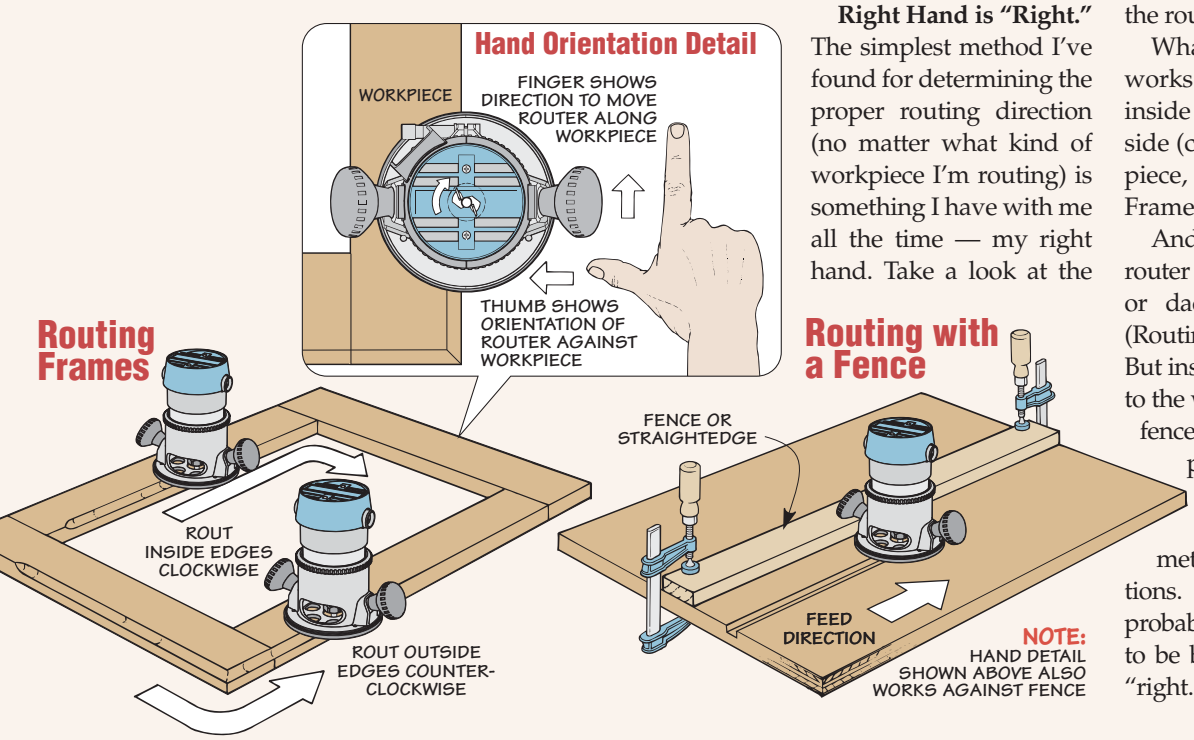
Right Hand is "Right." The simplest method I've found for determining the proper routing direction (no matter what kind of workpiece I'm routing) is something I have with me all the time — my right hand. Take a look at the detail at left, and you can see what I'm talking about.

Start by making an 'L' with the thumb and forefinger of your right hand so the knuckles face up. Then with your 'L' "in hand," all you need to do is point your thumb towards the edge of the workpiece you're routing. A quick look at the direction your finger points tells you which way you need to move the router along the workpiece.

What's really nice is this method works whether you're routing the inside (clockwise direction) or outside (counterclockwise) of a workpiece, as shown in the Routing Frames drawing at left.

And if you need to move the router along a fence to rout a groove or dado, it works just as well (Routing with a Fence drawing). But instead of your thumb pointing to the workpiece, it will point to the fence. Here again, your finger will point in the proper direction to move the router.

Breaking the Rules. This method works for most situations. But like most rules you've probably learned, this one is made to be broken. Sometimes wrong is "right." For more information on



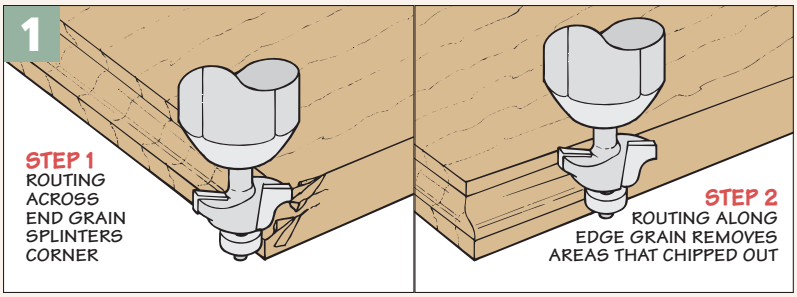
this, take a look at the Backrouting Basics box shown below.

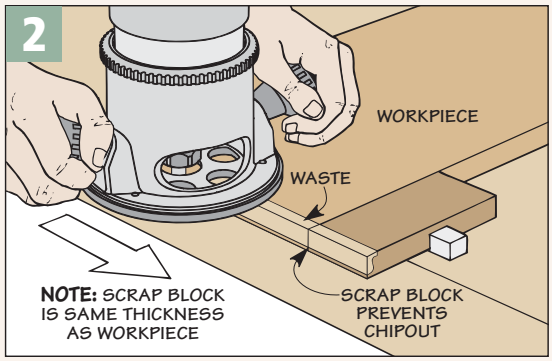
Preventing Chipout. Even when you're routing in the "right" direction, you'll inevitably run across one of the more frustrating problems in woodworking — chipout. It's happened to me more times than I care to remember. And if you look at the left drawing in Figure 1 below, it's easy to understand why this happens.

As you rout along the edge, the bit has the support of the uncut profile to prevent the wood from chipping out — until the bit exits the cut at the end of the workpiece. This happens most often when you're routing across the *end* grain of a workpiece.

Ends First. So what's the solution? The one I like to use is to rout the ends of the workpiece *first*. Sure, I still get splintering at the end of the pass. But once I rout the profile along the sides of the workpiece (which are edge grain and rout more smoothly), the chipped-out areas "disappear," as you can see in the right drawing of Figure 1.

Support Scrap. That sounds great. But what if you're *not* routing all the way around a workpiece? For instance, I typically don't rout the back edge of a top where it's going to be against a wall.





If that's the case, there's still a way to prevent chipout. All you need to do is temporarily clamp a scrap of wood against the edge that isn't going to be routed (Figure 2).

The scrap backs up the wood fibers at the corners of the workpiece. So when the end grain is routed, any chipout will end up on the scrap — not on the workpiece.

However, when routing end grain, it's still a good idea to minimize chipout. So *don't* set the bit for a full depth cut. Instead, take a series of shallow passes, finishing up with a very light final pass.

Backrouting Basics

Although I try to rout in the "proper" direction most of the time, I'll have to admit there are a couple occasions when I break the rules — and do a little backrouting.

Backrouting. So what exactly is backrouting? As the name implies, it's guiding the router *backwards* along the edge of a workpiece.

But if it's not "right," why backrout at all? The main reason is that routing "properly" can be a lot like rubbing a cat's fur the wrong way. It can make the grain stand up, or chip out, along the edges. Backrouting "smoothes" the wood and prevents this from happening.

Rabbets. I like to backrout when I need to cut a rabbet to hold a glass panel — the last thing I want to end up with is chipout. So instead of routing in the normal direction, I backrout and make a very shallow, full-width cut (Figure 1).

This lightly "scores" the edge of the rabbet. Once that's complete, you can make the rest of the cuts to the full depth of the rabbet routing in the proper direction (Figure 2).

Ovals & Circles. I also like to backrout when I have to rout a profile on the edge of an oval or circle. Since there isn't a square corner, there isn't any specific end grain you can rout first. So I backrout instead.

Here again, you'll want to take several very light cuts until you reach full depth. Then to remove any chatter marks, make a final pass with the router in the normal direction.

Safety. So why not backrout all the time? The problem is the bit won't pull itself into the wood — it will bounce and skip along the edge, making the router difficult to control. To minimize this problem, I like to take light passes and keep a firm grip. Then I take a final cut in the proper direction to clean up the edge.

Safety Note: There's one very important thing to keep in mind here. *Never* backrout on a router table — the workpiece (and your fingers) can be pulled right into the router bit.