

foolproof Profile Routing Tips

These simple steps help eliminate chipout and burned edges, and give you better results.

▼ Clean Profiles.

A few simple steps will prevent burning and chipout.

■ Mounting a router in a table allows you to do many things. But one of its bread-and-butter tasks is routing profiles on the edge of a board. In fact, that's one of the main reasons I built a router table in the first place. But there's more to routing profiles than simply putting a bit in the router and pushing a workpiece across the table.

There are several problems you can run into. Some complex profiles are tricky to set up properly. Routing the edge can also result in burn marks and chipout, as shown in the margin photo at left. Over time, I've learned a few simple tips that help eliminate these problems for good.

SET-UP TIPS

Even though you can use most profile bits in a hand-held router, I like to use a router table for better workpiece support. But like I mentioned,

getting the bit set up in the router table can be a challenge. The key to a quick and accurate setup is an ordinary metal rule.

Set the Fence. Even though most profile bits come with bearings (for use with curved workpieces or in hand-held operations), I like to use the fence whenever I can. The fence gives me more control of the workpiece as I guide it through the cut. In the main photo above, you can see how I use the rule to set the fence flush with the bearing.

Bit Height Gauge. The 6" rule I keep in my shop apron has graduations on the end. This way, the rule spans the opening so I can set

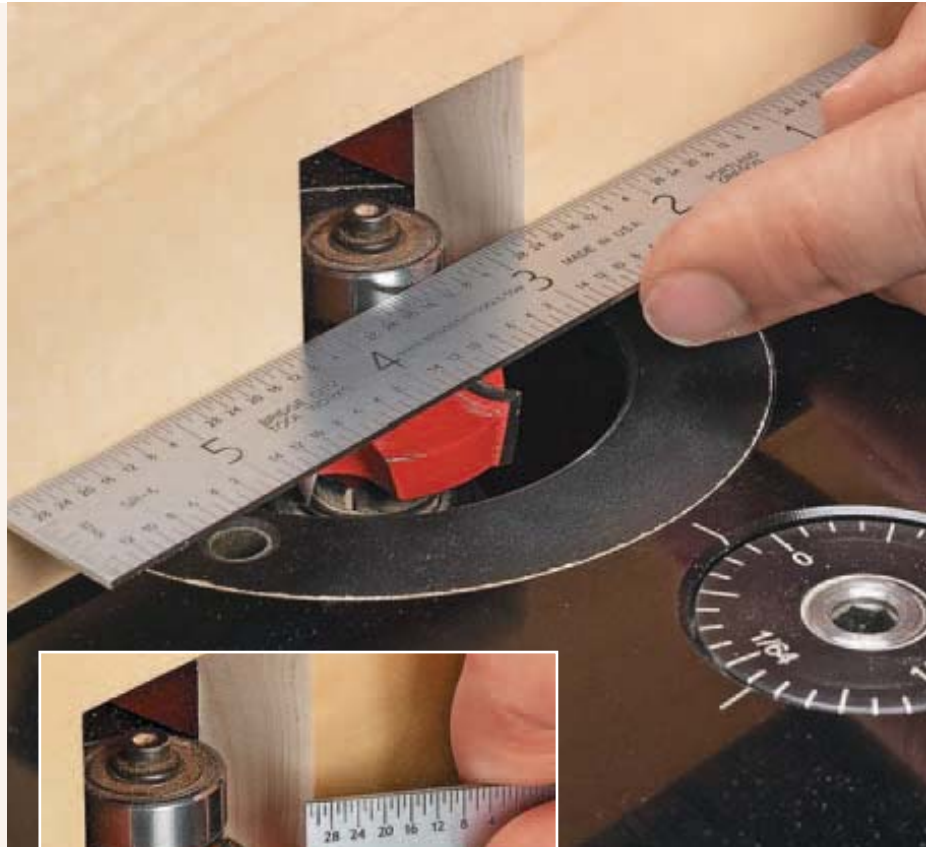
► **Featherboard.** A featherboard holds, thin, narrow stock firmly against the table for consistent cuts.

the graduated end right up against a reference point on the bit, as you can see in the inset photo above.

ROUTING TIPS

Setting the bit in the router table is only one part of getting top-notch results with a profile bit. There are some tips and techniques that make the actual routing process easier and more consistent.

Take Small Bites. One common problem when using profile bits is



▲ Set-Up Gauge.

A 6" metal rule comes in handy to set the fence and depth of cut for a profile bit.



taking too big of a “bite.” This can cause chipout. Plus, the tendency is to slow your feed rate, which can then lead to burn marks. So the advice is often to rout the profiles in several, shallow passes.

However, not every profile bit needs this approach. It all depends on how much material is being removed. I usually rout most roundovers and small chamfers in a single pass since the bit isn’t removing a lot of material.

Routing a cove profile, on the other hand, removes much more wood. So taking multiple, small passes is the right way to go.

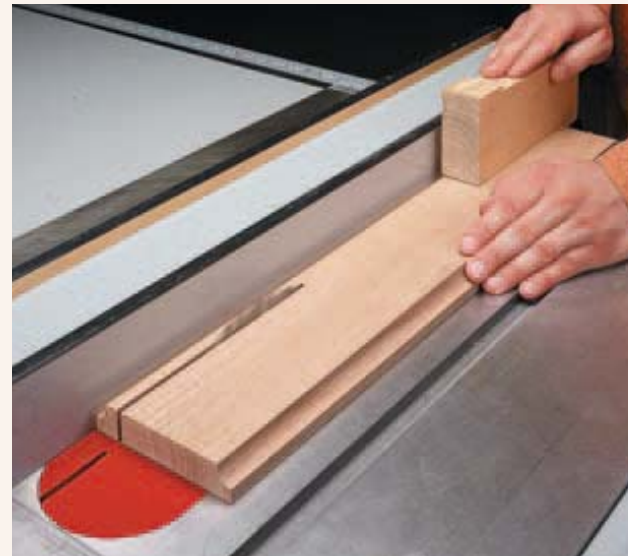
In most cases, I rout profiles like this in three passes. The first two passes remove most of the waste. The final cut is a very light skim cut that cleans up the edge and establishes the final profile.

Adjust the Fence. There are two approaches you can take to accomplish this task. The first is to adjust the fence position. Here, you set the bit to the final height (inset photo on the opposite page). Then bring the fence forward to cover most of the bit and make a pass. You continue to shift the fence back between passes until the bearing is flush with the fence.

Adjust the Bit. The other method for making multiple passes starts with setting the fence flush with the bearing (main photo on opposite page). Next, lower the bit so only a portion of the profile is exposed.



▲ **Start Wide.** It’s safer to rout a profile on both edges of an extra-wide blank. This gives you more control and keeps your fingers away from the bit.



▲ **Rip to Size.** You can cut the molding pieces to final width at the table saw. Use a push block to control the workpiece.

Then, raise the bit after each pass until you reach the final height.

Consistent Profiles. Another problem that you can run into is an inconsistent cut. A long or thin workpiece may spring away from the bit slightly, which could spoil some profiles. So keeping the board in contact with the bit and the top of the table is a must.

In these cases, I use a featherboard, as in the lower photo on the opposite page. Plus, I find it helpful to make a second pass at the final bit setting to be sure the profile is smooth and even.

Work Wide. One common use for a routed profile is to make molding for a project. But routing

a profile on a narrow strip of wood places my hands too close to the bit for comfort.

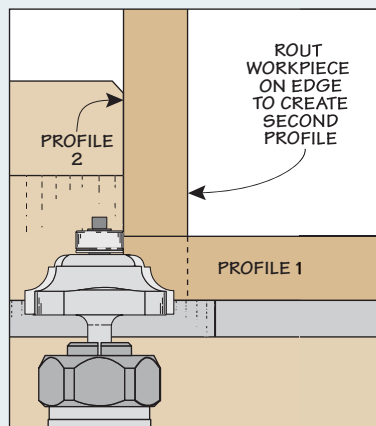
A safer technique is to start with an extra-wide blank, as shown in the middle photo above. This way, you can rout the profile along each edge. To make the molding strips, head over to the table saw and rip them to final size, as you can see in the right photo above. On a wide enough blank, you can repeat the process a couple of times.

By using one or more of these tips every time you rout profiles you can expect great results. And if you take a look at the box below, you can learn how to get two different looks from one bit. 🛠️

one bit: Two Looks

Basic profiles like a cove or a roundover look the same from the face or edge. On the other hand, more complex profiles, like the bit shown in the photo at right, can give you a second “bonus” profile by changing how you rout the board, as shown by the two examples in the right margin photo.

The drawing at right shows you what I mean. Typically, I rout a board face down on the router table (profile 1). This gives you the primary profile. But if you stand the board on edge and make a cut, the profile is reversed (profile 2).



▲ **Two-in-One.** Some bits offer a second profile by routing the piece on edge.