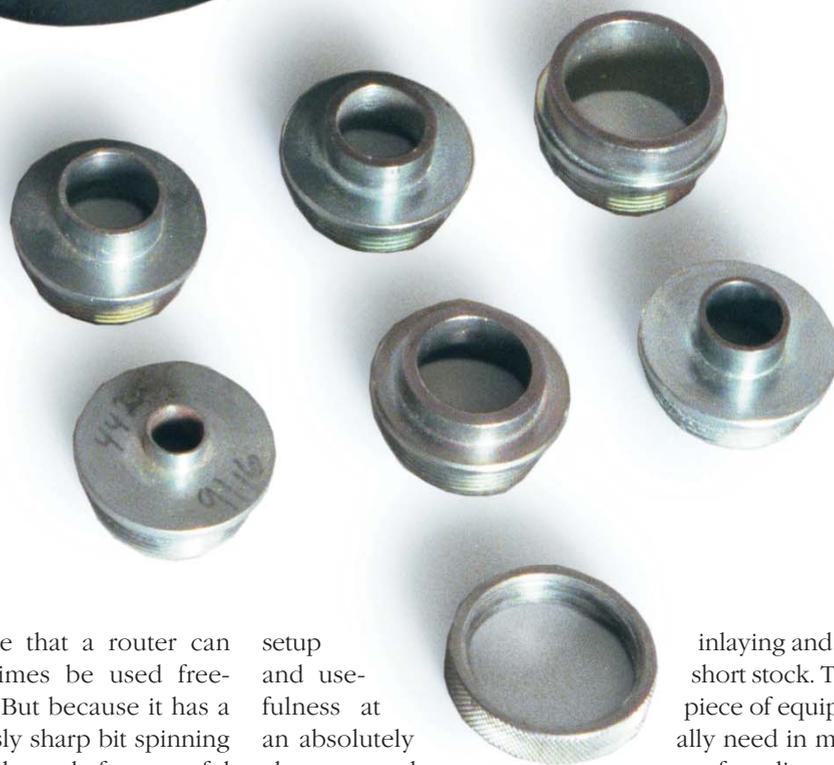




Router Template Collars

Inexpensive,
indestructible
and indispensable,
these little guides
add safety and control

BY PAT WARNER



It's true that a router can sometimes be used free-hand. But because it has a dangerously sharp bit spinning rapidly at the end of a powerful motor, a router is more safely used with accessories that help the operator gain control: router tables, edge guides, add-on bases, shopmade and commercial jigs, bits with shaft-mounted bearings or template collar guides. Each brings its own advantages in specific routing situations. But none of these router accessories adds more safety, indestructibility, ease of

setup and usefulness at an absolutely cheap cost than template collar guides. I can't imagine being without them.

A good set of seven collars often costs no more than \$30. Yet, these little metal bushings that clip or screw into the subbase of virtually any router can simplify most cross-grain cuts—including sliding dovetails, mortises, tenons, dados, butting recesses and stair risers—and can be used for lettering,

inlaying and even jointing short stock. The only other piece of equipment you really need in most cases is a scrap of medium-density fiberboard (MDF) or plywood used as a template to guide the collar, and thus the bit, through the cut. Collars come in different inner and outer diameters to accommodate a variety of bits and templates.

Collars are very easy to use

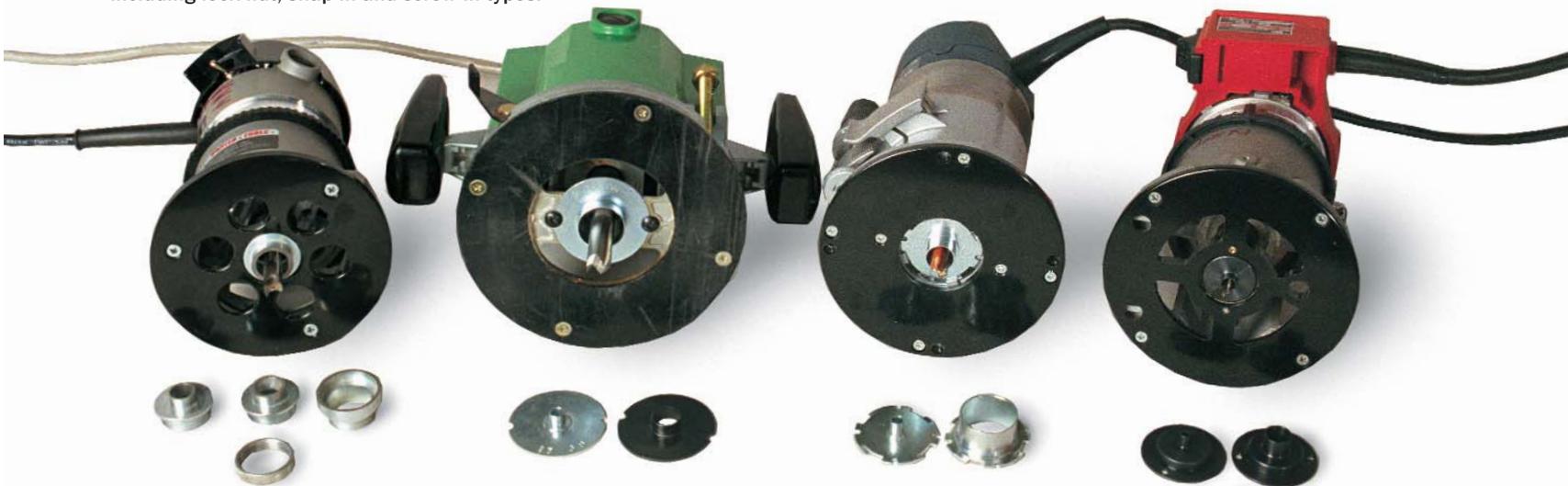
A collar screws or locks into the opening on the subbase of a router and extends below the

subbase to ride against a template or jig. With the template clamped to the work or the work clamped to a jig, the collar rides along the template edge. The cut of the bit then mimics the template edge, whether straight or curved.

Router novices often make these cuts with the large router subbase riding against a jointed board or template. But router subbases are notoriously out of round, or nonconcentric. A collar guarantees a much truer cut. For example, many of the dovetail jigs on the market use collar

What's your collar size?

Router collars come in a variety of fastening arrangements, including lock-nut, snap-in and screw-in types.



The industry standard. The Porter-Cable screw-in lock-nut system that works in all 1 $\frac{3}{8}$ -in. subbase openings is used by many other router companies.

A couple of screws. Some routers with larger subbase openings, such as Makita and Hitachi, offer a system of collars held in by two screws. Each is unique to the brand.

Quick-change, snap-on collars. To avoid screws and lock nuts, Bosch's guide system relies on snap-in collars that require only a twist to lock them in place.

Two-way system. Milwaukee router collars are inserted from the inside of the subbase and secured with screws. They also accept Porter-Cable collars.

guides to ensure uniform and tight-fitting dovetails.

One suggestion for using a collar: There is little reason that it needs to extend more than $\frac{5}{16}$ in. below the router subbase, because most templates are less than $\frac{1}{2}$ in. thick. The extension should always be shorter than the template. Collars often come in $\frac{5}{8}$ -in. or $\frac{3}{4}$ -in. lengths, so shorten them with a hacksaw to make them more functional.

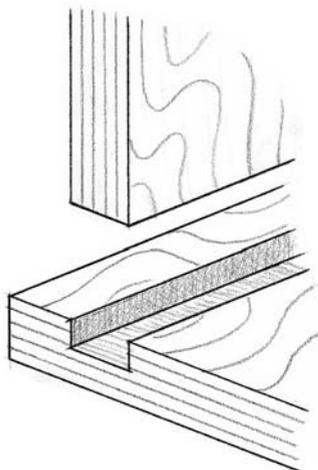
Why not just buy bearing-guided bits?

Bearings are perfectly round, so for exacting work, a bearing-guided bit might be better than a collar. However, the collar is cheaper and more versatile. The collar shields the template, and the operator to some extent, from an accidental cut. I can't tell you how many times I have ruined a template with a bearing-guided bit. A bearing-guided bit also doesn't let you plunge-cut, because the bearing must remain against a template throughout the cut. And one of the biggest advantages of a



Collars have the edge. A collar and a perfectly straight, simple template can help a straight or spiral bit put a finished edge on long grain or end grain.

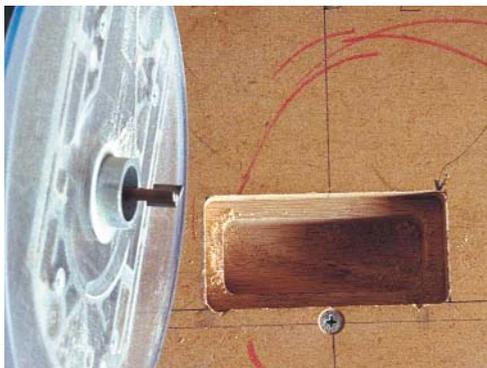
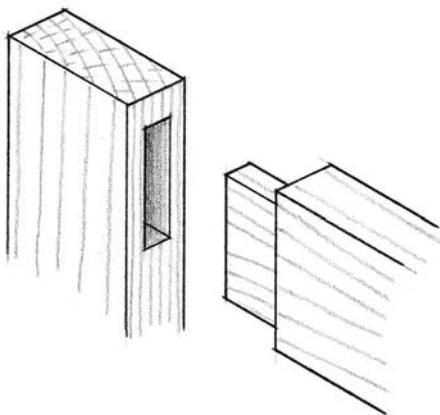
GROOVES AND DADOES



A straight pathway. There is probably no better way to cut cross-grain dados than using a collar. Dados deeper than $\frac{1}{8}$ in. can be cut in a series of passes. Grooves that run with the grain are cut the same way.



MORTISES AND TENONS



Lessen the rigors of cutting a mortise. A simple template clamped to a workpiece or a door will make cutting mortises easy with a collar.



You need a jig for tenons. With a shopmade jig that will clamp the work vertically, a collar can be used to cut cheeks and shoulders of tenons at the same time.

collar-guided bit is that the bit can be exposed below the router at exactly the required cutting depth, where a bearing-guided bit must be fully extended to engage its template.

One of the biggest, yet rarely mentioned benefits of collar template guides over bearing-guided bits is that collars help preserve the lives of the bit and the router motor. When using a collar, any excessive side load is transferred to the collar and subbase rather than to the bit and router, as they would be with a bearing-guided bit.

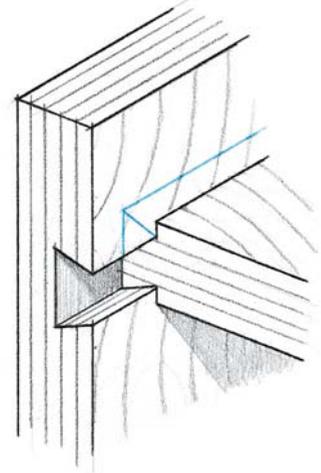
Collars are available for virtually all routers, whether fixed base, plunge, trim or table. The most popular system is also the oldest: the two-component nut and collar ring originally produced by Porter-Cable. The Porter-Cable collars fit routers with a $\frac{13}{16}$ -in. hole in the subbase, including most Porter-Cable, DeWalt, Black & Decker, Skil, Elu and many Hitachi models. Other router companies sell either adapters or their own collar systems—or both (see the top photos on p. 81).

Limitations are minor

There are a few limitations to using a collar, but they can be easily overcome. Using a collar often means that less than half of the router subbase is supported during the cut. This is especially dangerous with plunge routers, which tend to have small subbases and tip more easily. There are a couple of things you can do about this. I think bigger, offset subbases are such a good, safe idea for all routers that I manufacture them on the side. An offset subbase keeps the router flat, stable and under control. With a plunge router, try to use a template that completely surrounds and supports the subbase whenever possible (see the bottom photos on the facing page).

A second, minor problem with a collar is that the bit is rarely exactly in the center of the collar, even though the collar is round. So it is important to keep the same edge of the collar against the template throughout the cut, ensuring a straight result. To help guide the router, draw a line on your template with a marker. Keep the same part of the router subbase, or the handle of the subbase, on that line. For situations in which you need absolute concentricity, use the more expensive, shaft-mounted, bearing-guided bit. But a collar, especially when used with an offset subbase, will be accurate enough for most woodworking cuts.

Other limitations—Be careful to set the depth stop on a plunge router so that the spinning collet nut does not hit the inside of the collar. Also, with the popular, two-piece Porter-Cable collar system, the collar can unscrew itself if you move the router around the template in a clockwise direction (an ill-advised climb cut). A little twist



Sliding dovetails are a breeze. Using a collar and template is a slick way to cut the slot for a sliding dovetail. The same setup can be used to cut out some of the waste with a smaller straight bit before cutting the dovetail.

with channel-lock pliers before routing will prevent it.

Most collars have a maximum 1 1/8-in. inner diameter, so they will accept cutters up to only about 1 in. dia. For general and straight-edge cutting, this matters little, but for some decorative template routing with form

cutters, bearing-guided router bits may be required because they are available in cutter sizes larger than 1 in. dia.

Despite these negligible restrictions, when you add it all up, collar template guides really pay their way. They're cheap, safe, versatile and never wear

out—a rather rare collection of benefits for such an ordinary accessory. □

Pat Warner teaches router techniques and is the author of Fast, Easy & Accurate Router Jigs (Popular Woodworking Books, 1999).

Subbases for added stability

Plunge routers require special attention. When routing with a collar on a top-heavy plunge router, it is best to attach a larger subbase for safety and stability. Whenever possible, use a template that supports the router on all sides.



An offset subbase is a good idea. An offset subbase will help steady a router with a collar attached. You can correct for any lack of concentricity in the collar by keeping the collar against the template. Do this by drawing a line on the template and guiding the subbase handle along that line.