

modular Router Bits

These router bits save you money by letting you replace dull or damaged cutting edges.

When a typical router bit gets dull, it's all too easy to just throw it away. That's unfortunate though since the only parts of the bit that are worn are the cutting edges. Most of the time, the shank, body, and bearing (if there is one) are in good shape. Wouldn't it be great if you could just get new cutting edges instead of a whole new bit?

That's the idea behind several types of "modular" router bits that are now available for woodworkers. Here's how it works. When cutting edges get dull or chipped, you simply unscrew them from the bit and attach a sharp new set. Best of all, the cutters cost far less than a new bit.

There are two approaches to making a modular router bit with replaceable cutters. The first features a "disposable" cutterhead assembly. In the second approach, small individual carbide inserts are screwed to a one-piece bit body.

CUTTERHEADS

On a typical router bit, the shank and body are ground from a single piece of steel. The carbide

cutting edges are then brazed permanently in place. But not all bits are made this way. On some, the bit is made in two parts so the cutting edges are replaceable. A cutterhead that includes the bit body and cutting edges screw onto a reusable arbor.

Slot Cutters. You're probably already familiar with this kind of router bit. Many slot cutters are designed this way, as you can see in the lower left photo. The arbor and cutters are sold separately. This saves money since, with a single, inexpensive arbor, you can "build" different bits.

Amana E-Z Change. One company has taken the concept to a whole new level. The photos on the top of the opposite page show how these bits work.

Amana's E-Z Change line is made up of a variety of bearing-guided bits. The cutterhead attaches to the arbor in one of two ways.

The cutterheads on bits with a shank-mounted bearing thread directly onto the arbor (near right photo). The bits that have a bearing on the end have cutterheads that are attached with an Allen-head screw (far right photo).

No matter the style, replacement cutterheads come in a convenient three pack. So you can always have a sharp cutterhead on hand.

INSERT CUTTERS

The other approach to make longer-lasting bits is shown in the photos on the bottom of this page. Instead of a removable cutterhead, these bits employ a one-piece body and shank design. Rather than being brazed to the body, the solid carbide cutting inserts are attached with screws.

Several router bit manufacturers make replaceable insert bits for home woodworkers. For the most part, the profiles available are limited. Most often, you'll find bits with straight cutting edges like flush-trim, pattern, and rabbeting bits. And a few companies make bits with basic, commonly used edge profiles.

Borrowed Technology. The concept isn't new. In fact, replaceable insert bits like this are common in industrial and large-scale production applications. Now the idea has been scaled down in size and cost for the smaller routers woodworkers use.

E-Z Change Bits



Besides saving money, these bits have a couple other advantages. The first has to do with the type of carbide used. Because the inserts are screwed in place, bit manufacturers can use higher-quality, longer-lasting carbide that isn't suitable for brazing like the kind used on a typical router bit.

Multiple Edges. The other benefit is that inserts for common straight profiles often have two or four usable cutting edges each. This means that when one edge gets dull or chipped, you can simply turn the insert to get a new, sharp edge (lower right photo).

One thing I was concerned about was keeping the inserts aligned when changing them. The mounting holes are oversized and the inserts could end up offset if you're not careful. But the bits come with some installation tips for indexing the inserts for a perfect match.



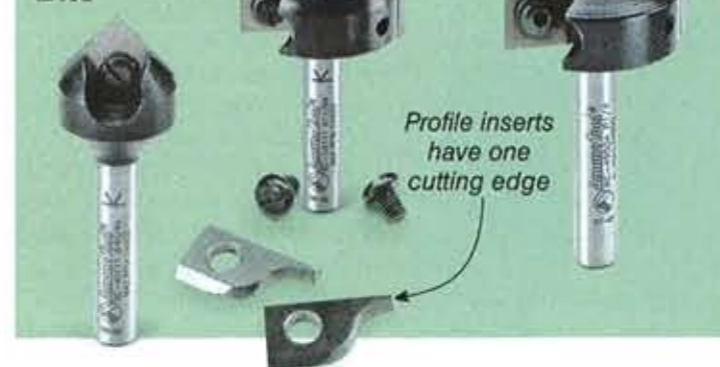
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Sticker Shock. You might be surprised by the initial higher cost of a modular router bit. Keep in mind, though, that the cost savings really kicks in when you start replacing dull or damaged cutterheads or inserts. It's also important to note that straight-edged cutters are less expensive than more complex profiles.

My advice is to consider the bits you use most often as the best candidates for replacement with a modular design. I think you'll be happy with both the results and money you save.

Two tools are required to change the cutterhead on this style of bit.

Carbide Insert Bits



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