# setting up a Lock Miter Bit

A handy gauge takes the hassle out of setting up this versatile bit in your router table.

Several years ago, I bought a lock miter router bit, thinking it was an ideal solution to strong, perfect-fitting miter joints. The idea behind the bit is simple and ingenious. With a single setup, the bit allows you to rout both halves of a miter joint that incorporates a tongue and groove. This aligns the joint for assembly and creates an interlocking connection that increases its overall strength. It works great for everything from boxes and cabinets to table legs. (See the box on the facing page.)

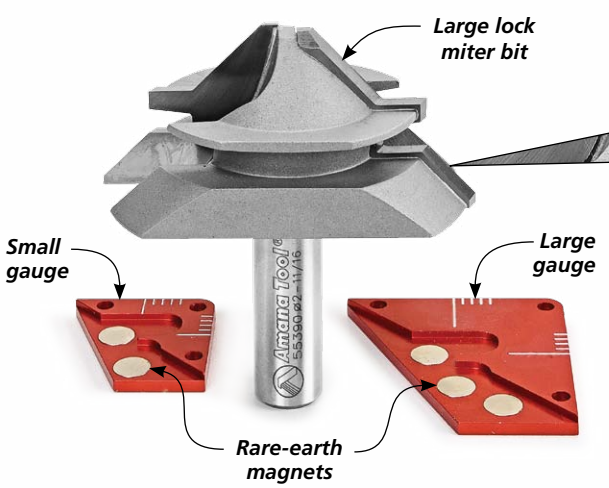
**A STICKING POINT.** The bit certainly lived up to the hype. But there's a downside. The setup can be time-consuming. The reason is the bit height and fence setting work together and in turn, depend on the thickness of the parts being routed.

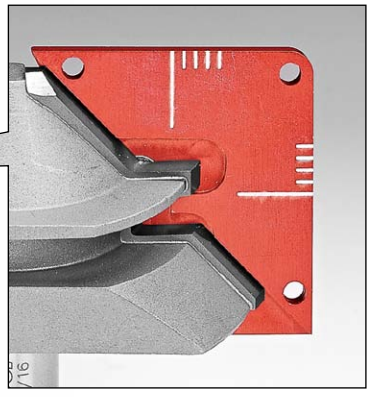
You could make a setup block once the bit is dialed in. But unless you're using parts that are *exactly* the same thickness, you'll still have some fine-tuning and test cuts to make.

So despite my initial enthusiasm, my lock miter bit has been sitting unused in my router bit drawer for some time.

**SETUP GAUGE.** As it turns out, all a lock miter bit needs is a sidekick. *Infinity Cutting Tools* recently came out with a set of clever gauges, as shown in the far left photo. The gauges ($60) are sold as a pair to work with either small or large versions of any lock miter bit. They transform the setup from tedious to trouble-free.

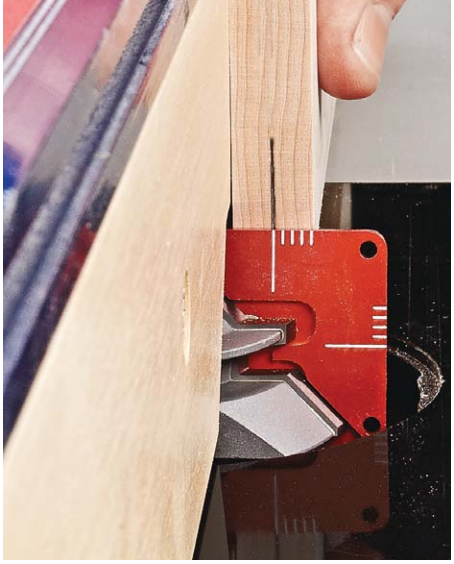
**USING THE GAUGE.** Magnets in the gauge secure it to the bit. The lower



▲ **Registration.** The raised edge of the gauge should be tight against the cutting edge.

▲ **Bit Height.** Raise the bit so the line on the gauge aligns with the one on the workpiece.



▲ **Fence Setting.** With the part held vertically, move the fence until the centerlines meet.

▲ **Face Down.** Rout the first part of the joint with the inside face of the workpiece down on the router table. A backer board prevents tearout.

right photo on the facing page shows how to align the gauge. Position the gauge so the recess in the face is against the angled cutting edge. The recess should also be tucked against the underside of the groove-cutting portion of the bit.

**ROUTER TABLE SETUP.** With the bit installed in the router table and the gauge in place, the setup goes pretty quickly. The first step is to mark a centerline on the thickness of one of your pieces. This line corresponds with the longer horizontal and vertical lines on the gauge. (The shorter lines are used for creating offset joints.)

The upper left photo shows how the bit height is determined. With the workpiece flat on the table, adjust the bit height so the centerline on the gauge and workpiece are aligned.

Setting the fence works about the same. The only difference is the workpiece is held vertically against the fence (middle photo). In order to get an accurate reading, you need to rotate the router bit so the cutting edge (and gauge) is square to the router table fence, as shown in the main photo on the opposite page.

Routing the Joint. From here, you're ready to rout a joint. The photos above right show each of the two types of cut. I like to use a backer board to prevent tearout as the router bit exits the cut.

The real payoff comes when you assemble the joint. Right out of the gate, you get a tight-fitting, good-looking joint. The setup time you save means you're more likely to reach for your lock miter bit on future projects. W

▲ **On End.** The mating part of the joint is cut with the workpiece held vertically against the fence. The backer board helps keep it square.

## Grain matching with ONE BIT SETUP

The straight grain and ray flecks found in quartersawn white oak are one of the hallmarks of Craftsman-style furniture. But when furniture legs are made from a single, solid blank, you are typically left with quartersawn figure on only two faces of the leg.

The solution is to create legs from four separate pieces. Each leg section has a profile that interlocks with the adjacent section. The *Infinity* gauge makes it easy to set up for these cuts, just as shown above. Be sure to alternate the profiles on each edge, as in the near right photo.