

custom look

Metal Inlay

One of the best parts about woodworking is creating objects that you can't find anywhere else. By adding personalized details, you can turn a good project into a truly unique item. I've been using a technique to do just that — metal inlay. In a nutshell, you simply cut out thin pieces of metal and glue them into matching recesses.

Of course, there's a little more to it. But by working with thin metal sheets (photo below), you can do it all with tools that are pretty familiar. Take a look at the box on the next page to see what you'll need.

CUT THE PATTERN. The process begins with a pattern that you want to inlay into a

project part. Print or copy a paper pattern of the design and apply it to the metal sheet with spray adhesive.

In order to support the metal while cutting, I use a board with a V-shaped notch cut in it, as you can see in the photo above. This is clamped to my workbench.

Cut along the lines of the pattern using a small fret saw with a fine metal-cutting blade. Don't be surprised if you break a blade or two as you cut the pieces. These blades are inexpensive so it pays to have a few extra on hand. Install the blade so it cuts on the pull stroke. This draws the workpiece down onto the worksurface.

Making cuts along the perimeter of the pattern is pretty simple. For inside cuts, I drill a starter hole, thread the blade through, and then reinstall it in the saw.

For the most part, the soft metal cuts pretty cleanly. If you find any roughness or burrs on the back side, you can clean them up with a needle file.



▲ A couple of drops of thick instant glue will hold the inlay in place as you trace the pattern onto the workpiece.

THE INLAY RECESS

The next step is to create recesses in your project that match the inlay pieces. Start by fixing the metal pieces in place with tiny dots of instant glue. Then trace each inlay piece with a pencil. Angle the pencil to keep the tip of the lead right at the edge of the metal.

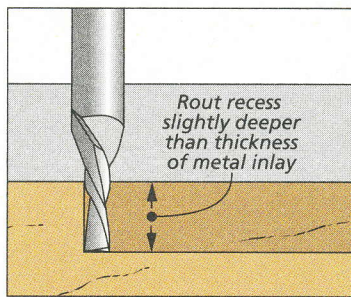


You should be able to see the pencil line just fine. But if the wood is dark, you may want to use a white pencil. In either case, keep it sharp for a clear line. On the inside details, I shade the entire opening to make it easier to see.

CARVE THE RECESS. For the task of cutting out the recess, use a small rotary tool (like a *Dremel*) with a router-style base. This gives you much more visibility compared with a typical router — even a small trim router. With a small spiral bit, you can rout with amazing precision.

A piece of metal serves as a gauge to set the bit depth. The recess should be just a hair deeper than the thickness of the metal (drawing above). For the best results, I lowered the speed of the mini router to $\frac{3}{4}$ of its full speed (25,000 rpm).

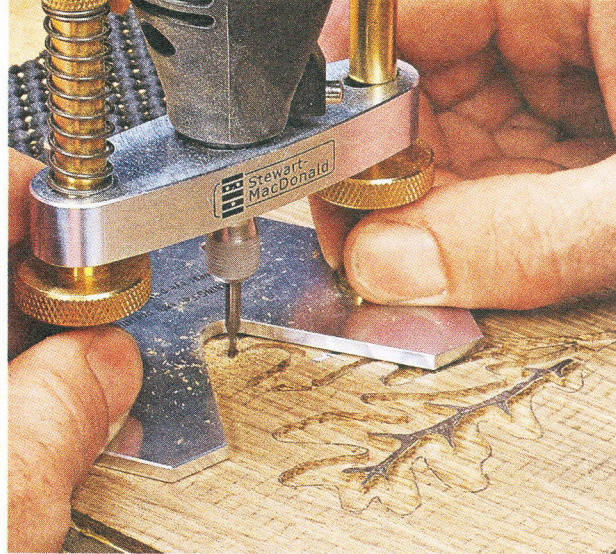
Your goal is to rout as close to the lines as possible — without removing them — for a gap-free fit. One more thing: You may want to consider using a magnifying visor for greater visibility. Cut along the lines and then move back and forth



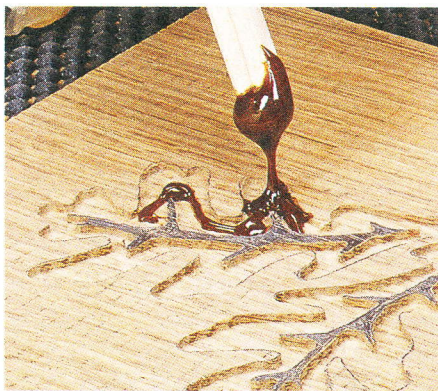
across to remove the waste material in between, as shown in the right photo. With such a small bit, this can take a while. So time and patience are the keys to getting good results.

CHECK THE FIT. When you're finished routing, you can set the inlay in place to check the fit. Like I said, the fit may be pretty snug. So don't force it. Just line it up to see how it matches. If a piece doesn't look like it will go in, I prefer to remove wood with the router over trying to trim the inlay.

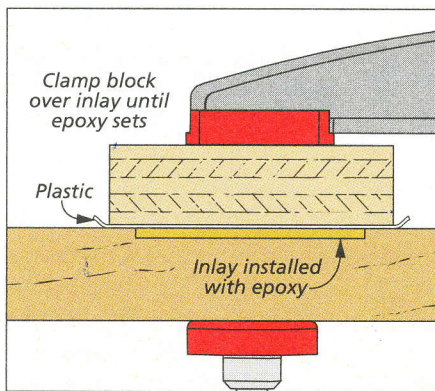
GLUING. Ordinary glue won't stick to metal, so I glue the inlay in place with epoxy. The advantage of using epoxy is that it will flow and fill any small



▲ Routing the recess for each metal piece is detailed work. Using a small bit gives you the best control and allows you to work into tight corners.



▲ Tinted epoxy anchors the inlay into the recess. You only need a small amount to prevent squeezeout.



gaps that you have. To conceal the gaps even further, I tint the epoxy with a few drops of black liquid dye concentrate, as shown in the lower left photo.

To seat the inlay pieces in the recess, tap them in with a flat block of wood. Once they're installed, lay a sheet of plastic over the inlay and clamp a block over the whole pattern to keep it in place while the epoxy dries, as in the left drawing.

CLEAN UP. Once the epoxy is dry, the workpiece can be sanded so the inlay is perfectly flush with the surface. Sanding dust and metal particles may find their way into the grain of the wood. But you can blow them out with compressed air or draw them out by wiping the surface with denatured alcohol.

In just a few hour's time, the result is a smooth, perfect-fitting inlay. The reward you get for mastering this technique is how much it makes your projects stand out — for all the right reasons. **W**

What You Need: THE TOOLS

For inlay work, it helps to have down-sized tools to match. You can find sources for these and the metal sheets on page 67.

A rotary tool makes a good mini router. You just need a router-style base to support it. Plus, I find that $\frac{1}{16}$ " spiral upcut bits are ideal for following layout lines.

For cutting the metal inlay, I use a small, adjustable fret saw with a 2/0 metal-cutting blade.

