

# Step-by-step: Hand-carved, gold-leafed sign

by Leonard Gorsky

Incise-carved, gold-leafed signs deliver elegance unmatched by any other sign process, save gold/glue chipping on glass. Depending on your market, they can be a solid percentage of your business, or an occasional high-end custom item. If you're not well-versed in the process, you'll find that a bit of experience, the right tools, and some proven shortcuts can give the crafts-person an additional skill to market it profitably.

This tutorial makes use of computer-assisted sign-making tools—a design program and a plotter. In this method, the substrate is finished—cut to shape, primed, and painted first. Then the masking stencil is applied, the carving executed, finished and leafed. After the stencil is removed, you do a

little touch-up and you're finished.

## Choose a substrate

Small carved signs of this nature can be made of medium-density fiberboard [MDF]. Redwood, cedar, Graphikore [Baltek Corporation, 10 Fairway Ct., Northvale, NJ 07647; 201-767-1400], Perfect Plank® Company [PO Box 3007, Paradise, CA 95967], and high-density urethane.

If a relief carving requiring much detail was to be included, my recommendation would be to use Honduras mahogany. In the latter case, the relief carving would be executed, and the substrate and carving painted before starting the incised work.

For this sign, I used MDF [Medex®, Medite, PO Box 4040, Medford, OR 97501; 541-773-

2522], 1<sup>1</sup>/<sub>4</sub>-in. thick. This material is inexpensive and requires no glue-up and minimal sanding. If you use MDF, you must round the edges as part of the process of machining the blank. Give the substrate two coats of a top-grade latex primer, and two to three coats of a latex finish. I like to use a low-luster house paint, like Fuller O'Brien Weather King II®. You must finish both sides equally. If you give the edges a coat each time you paint the front and back, they will get much-needed double coverage.

## Develop your design

Before you start, examine some incised-carved signs. Many examples have appeared in past issues of *SignCraft*. Letters with small, square serifs, such as Clarendon, are difficult to execute, especially for a beginner. Serifs that come to a point work best. One of my favorites is Newtext, which provides a lot of style with minimum frustration. San serif styles can be appropriate, but Helvetica is still Helvetica—even if it's carved.

Create the design on the computer and cut the graphic in removable vinyl mask, the perimeter a bit smaller than the substrate to allow for easier application. You can choose to weed the letters now or after applied. For application, the center hinge method works best on a graphic like this. With the finished background protected, and the letters exposed, you're ready to carve.

## A few basic tools

If you're going to get serious about this, I'd recommend investing in some high-quality carving chisels. These are rarely found at your local hardware store. Among the best are those sold under the Swiss name by Woodcraft [210 Wood County Industrial Park, PO Box 1686, Parkersburg, WV 26102]. Money spent on a good chisel is an investment for life. Curved chisels are called "gouges" and are identified by numbers; the higher the number, the greater the curvature of the cutting edge.

For starters, I recommend the following: #1 (straight), #2, #5,



After applying a computer-cut mask to the painted panel, I use a V-bit in a router to cut the wide strokes.

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*The straight strokes are cut at an approximately 110° angle, using assorted flat chisels.*



*For curved strokes, I use a gouge—a chisel with a curved blade.*



*I wear a bicycle glove on my right hand to protect my palm while pushing on the gouge. I use my left hand to position and guide the gouge.*

and #6. You can get #1s in a few sizes, but the gouges of the 15mm width are okay for most work. The Swiss gouges come ready-to-use, so initial sharpening is not required. You will need to learn how to properly sharpen your tools, though.

### **Start carving!**

The center of each letter stroke is given a “stop” cut—usually just a perpendicular crease to allow the breakage of the wood to stop at the center of the cut, rather than continue to the other side. This can be accomplished by hitting the back of the handle, held perpendicular to the sign, with a somewhat forceful smack with a mallet.

A shortcut that works well for letters 3-in. tall or greater is to take out the center portion of the letter with a “V” bit chucked in a router. (See photo on previous page.) Years ago, I had one made at the angle that matches my carving. For shallow stop cuts, any pointed end bit will do.

The key to incised carving is to maintain the cutting angle of whatever tool you are using. I have found that a 45° angle to the surface, which will produce a 90° incised letter, is too deep a cut. I prefer a shallower chisel position, which will produce an approximately 110° angle. In other words, lower the handle of the chisel. This makes a more legible finished product.

I like to start with the straight cuts, ending well before letter intersections. The #2 gouge comes in handy for finishing letter serifs with a twisting motion. The cuts can be made with a judicious hit of the mallet, or, in more critical areas, just pushing the gouge into the wood. I wear a bicycle glove on my right hand, so that I protect my palm while pushing on



*Gilding is easy. Position the tissue of gold over the sized letter and press on the back of the tissue, forcing the gold into the letter.*



*I use a soft, oval watercolor wash brush to push the pieces of leaf into the lower parts of the letter.*



*Let the sign sit for a day after gilding to allow the size to dry, then carefully peel the mask away in sections, using an X-Acto knife.*

the gouge. I use my left hand to position and guide it.

The insides of curves can be made with a #3, #5, or, in tight curves, a #6 gouge. (Smaller letters may require tighter gouge sweeps, like a #8.) Repetitive cuts with a small, straight chisel (#1), or a #2, can make the outside of curves.

Intersecting parts of the letter are the most challenging—and the most fun. This is where visualization and practice help. This is also where MDF and high-density urethane have an advantage over redwood, where the grain may pose a problem. If you leave unwanted tool marks, these can be taken down by sanding carefully with very small pieces of 80- to 100-grit sandpaper.

There are many other sources of instruction on carving. Books, videos, and hands-on workshops are all worthwhile. My inspiration was an article that appeared in *Fine Woodworking* magazine [The Taunton Press Inc., 63 S. Main St., PO Box 5506, Newton, CT 06470] about 17 years ago.

### **Gilding the letters**

When the carving is finished (like any other sign, you have to know when to let go), leave the vinyl mask on and prime the letters. The advantage of using the mask is obvious. Use a good latex primer (it can be tinted yellow or the background color). Be thorough, without leaving puddles.

After the first coat of primer dries, inspect your carving and make any corrections. A second coat of primer follows, and a third may be necessary if there were a lot of corrections.

When the primer is completely dry, paint the letters with one coat of chrome yellow lettering enamel. When this dries, apply the gold size. Use a “slow” size, which is a clear or tinted slow-drying var-

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*A carved, gilded sign has an appeal all its own.*

nish. I use small disposable foam brushes for these last steps.

Go over the letters twice to be certain all parts of the letters are covered; make sure no puddles are left. I like to do this at the end of the day so the letters are ready for leafing the next morning.

The letters are ready when the size is *almost* dry. If the size is too wet, the gold will be dull. If the size is too dry (it takes many hours

for the size to dry completely), the gold won't stick. Use 23k patent gold. Purists say that patent gold, which comes in squares of gold lightly attached to tissues for easier handling, produces a duller end product than loose gold. As a beginner, pass on loose gold and use the patent variety. Later on, you can get involved in the silly controversy.

Pick up the tissue that the gold

is attached to, position the gold over the sized letter, and press on the back of the tissue, forcing the gold into the letter. Don't bother with imitation gold leaf for practice; use the real thing. Imitation gold is difficult to use—while the real thing “melts” into the letter.

When you remove the tissue, more gold than you needed is left behind. I use a soft, oval watercolor wash brush to push the pieces of leaf into the lower parts of the letter. Some parts of letters require a second application of leaf. Working with gold leaf on this level is easy, enjoyable, and satisfying.

Let the sign sit for a day after gilding so that the size under the leaf can dry. Then carefully peel the mask away from the background. You can do this in sections, using a penknife or an X-Acto to cut the lifted mask. Try to pull the mask *along* the letter edge, rather than against it, to keep from pulling up leaf from size that has not completely dried.

When the mask is removed, you can touch up missed spots and outline the letters if you choose. Do not use a clear coat over the gold. The result speaks for itself. □

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