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Spence

THERE ARE SEVERAL WAYS to add real color to engraved wood plaques and other wood products. The easiest is with materials like vinyl, laser foil, FlexiBrass® or a self-adhesive product called, "The Lights®". All these products fall in the category of adding applique to the plaque and, with some variation, are all added in the same way.

The easiest way to include a foil, vinyl or other thin applique to the face of a plaque is to design the product as normal but creating the area to be covered in vinyl so it can be engraved separately. This is usually accomplished by drawing the design in a different color or on a separate layer. Only vector type images can be used. Raster or bitmap images will not work since the objective is to actually cut out the applique with the laser.

Once the plaque is engraved, have the laser engrave the vector image you have reserved for the applique. It is not necessary to burn this area very deep. In fact, the only objective is to lightly mark the wood. Next, a small piece of the applique, foil, film, plastic or vinyl is cut and placed so it covers the entire area to be cut out. Several colors can be applied at the same time so long as they don't touch each other (with practice, even those can be done).

Now, place the job back in the laser and send the final cut command one more time. Be sure to set your laser according to the manufacturer's recommended settings for cutting the product you are using as an applique. For instance, if you are using vinyl, set your laser to cut through the vinyl. It is not necessary to burn deeper than the applique. Burning unnecessarily deep only increases the chances of smoke damage to the applique.

Once complete, remove the product and weed off any unwanted applique. If a residue remains from the adhesive used to hold the vinyl or other product, a product like oops or goo-gone will make short work of it.

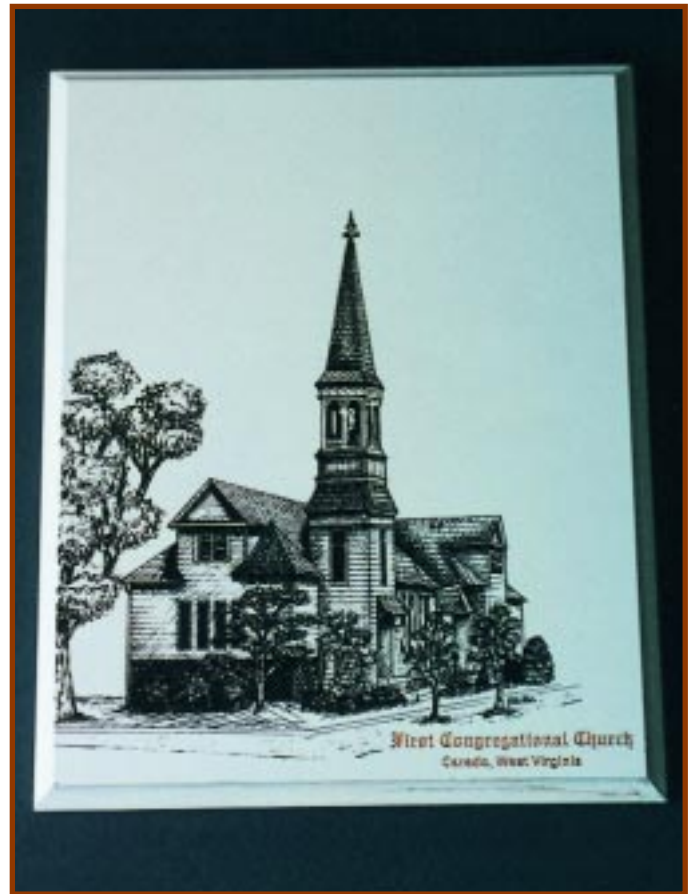
A countless number of combinations can be created using this technique. Gold, silver, bronze, a hundred or more colors and even colors within colors can be easily accomplished just by repeating the above process as many times as necessary.

Yet another, and much more difficult, method of adding color is by using paint. Although I find this method far too labor intensive and risky, some engravers do it very well. Plaques where paint is to be applied must be prepared very carefully. A good coat of wax over the entire surface is a must. Once dry, apply transfer tape to the entire plaque (including edges). Engrave as usual. When using this method, it is important not to try to engrave the plaque too deep. Using the power necessary to obtain a deep burn will also damage the edges of the transfer tape, which can lead to serious problems.

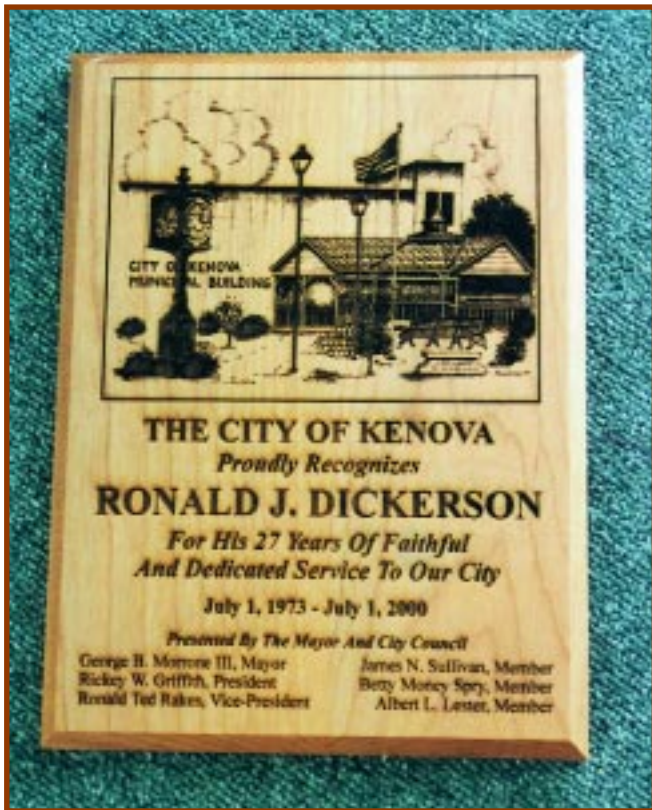
After the plaque has been engraved deep enough so paint can be applied to the engraved areas and the surface wiped off without dragging out the paint from the painted areas, it is time to add the color. Small areas can be applied using a foam brush but most people use spray paint. Just a light coat is all that is necessary. For lighter colors that may require more paint, spray the plaque several times with light mistings rather than pouring it on.

Once the paint is dry, carefully remove the transfer tape. Each little o, e, a, g, d, and b center will have to be removed individually. Selecting simple, block-like fonts without serifs will make this task easier. Once all tape is removed, you will be able to see where the trouble spots are. It will be rare that at least the center of one e doesn't blast away leaving paint where it ought not be.

Using a paper towel wrapped *very* tightly around a block of marble, spray the towel lightly with WD-40 and wipe carefully over the face of the plaque. As soon as the towel gets dirty, change the towel and reapply the WD-40. Since WD-40 has both an oil and



This MPF plaque has a very hard, snow-white surface designed for sublimation. It makes an excellent plaque for laser engraving because the hard surface allows for easy paint filling. In this case, the church was filled with black liquid shoe polish. The text at the bottom was filled with Testor's model paint.



(At left) One of the most-common and popular uses for a laser engraver is for making plaques. Here, a scanned image and text has been burned into an alder plaque. The most-common wood used is walnut but other woods such as alder, cherry and maple offer beautiful results. The advantage of using some lighter woods is that no additional coloring is required because of the natural contrast.

(Below) Prevention is always the best cure. Here, an alder plaque is being removed from the engraver. Note the protective tape at the top. Although it proved not to be necessary in this case, it is necessary in many cases when heavy or deep lines are cut into wood.



silicone, it makes an excellent paint and wax remover. It does leave an oily film but that can be quickly removed with the towel-over-marble-alcohol trick used to remove excess shoe polish.

This method of adding color does allow for color to be embedded into the engraved areas, it seals the wood and offers solid, opaque colors but it is a lot of trouble. Multiple colors can be applied to the same product simply by masking the areas not to be sprayed the first color, then masking the areas sprayed with the first color while spraying the second, and so on. With each application, the chances of getting to start over increase so great care should be taken throughout the process. After all colors have been applied and allowed to dry, remove the transfer tape and clean the plaque as discussed above.

TRUE INLAYS

The final method to be considered is that of true inlays. Unlike the appliques that might look like inlays, true inlays are possible with some materials. These are not necessarily complicated or time-consuming, although they produce extremely desirable and collectible products.

A true inlay is one where a space is

actually lasered or routed out of the product and another material is laid in the cutout so as to appear to be a single piece. This means care will be needed to cut the hole exactly the same depth as the piece to be inlaid is thick.

One supplier offers a line of shell inlays. These are very thin slices of seashells specially prepared so it comes to us in the form of a sheet—not unlike plastic but much smaller and much, much more fragile.

To inlay the shell, a design has to be created in the computer. Each part of the design must be capable of having a vector outline and a fill. The fill will be used to cut out or router out the base while the outline will be used to cut out the inlay. Since both are actually the same drawing, one fits inside the other perfectly every time. The problem is with how deep to cut out the hole the inlay will rest in. Each laser will require different settings to insure a smooth, even cutting motion in the base.

Cutting too deep will cause the inlay to sink below the edges of the cutout. This can be fixed by using a thicker adhesive that will raise the inlay up to the desired height. Cutting too shallow a hole means the inlay will be higher than the edges of the base causing it to appear like an applique and



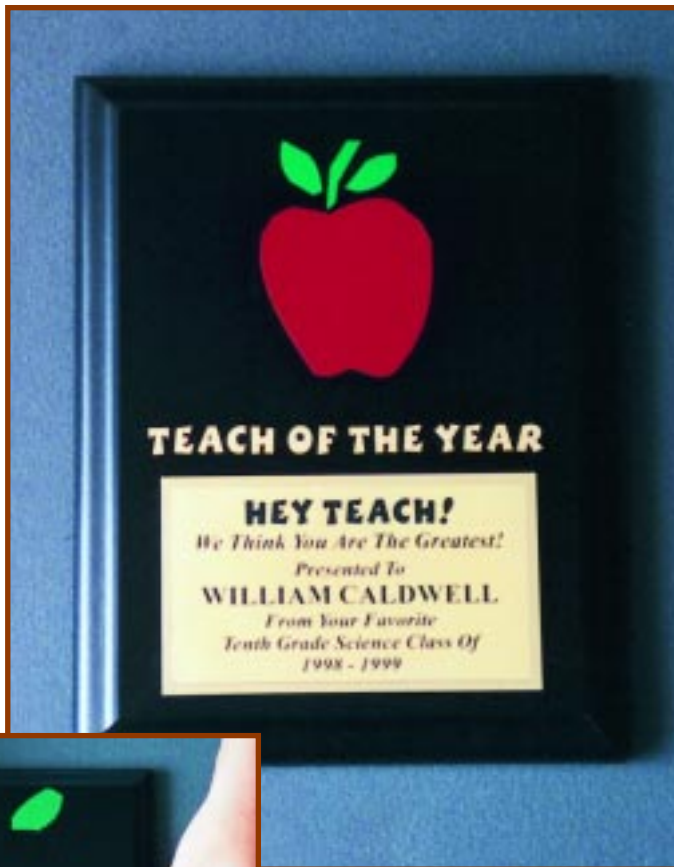
Here an alder plaque shows off its natural contrast while the top is highlighted by green laser foil on raised letters. This is a simple process but does demand some planning. Notice a very bold font was selected for use with the foil letters.

becoming much more susceptible to being chipped or damaged when placed in normal use. Additional passes will be needed to cut a deeper hole for the inlay to rest in.

More powerful lasers allow for thicker inlays to be used. Wood, mother of pearl, shell, plastics and a host of other products can all become inlays using this method. Those using less-powerful 25- and 30-watt lasers will find it wise to stick to very thin inlays, while engravers with more pow-

LASER ENGRAVING WOOD

This Teach-of-the-Year plaque was made using a black piano finish plaque, laser foil and a FlexiBrass® engraving plate.



This plaque shows the application of small scraps of laser foil after the initial outline has been engraved into the plaque. By engraving the initial outline, it is easy to know exactly where to position the foil. After each piece has been positioned, just engrave it again.



After engraving the plaque the second time, the excess foil is weeded away, and the plaque is ready for the engraving plate.

erful machines will be able to inlay materials up to 1/8" or more with little difficulty.

One final method of adding color, especially to wood ink pens, is a product called Rub-n-buff. This product is designed for hobbyists and picture framers who want to antique picture frames. It is available in a wide variety of colors including gold and silver. By rubbing a tiny amount into the engraving of an ink pen or other small item, the engraved area can actually be gold or silver filled.

The catch-22 with this process is the stuff doesn't know the difference between the engraved letters and the natural grain of the wood. Consequently, pens with any grain in them at all are as likely to be ruined with this process as not. The solution: wax. A quick waxing of the pen prior to engraving creates a smoother surface so the Rub-n-buff can be wiped off. The trick is not foolproof although it does work most of the time.

A better application for Rub-n-buff is on imitation plaques such as those piano finish plaques that have the super-smooth, hard-coated finish. Lasering these black, cherry or even white boards and then filling part or all of them with Rub-n-buff can create a really unique product. Since these boards are so slick they will not hold paint on the surface (provided the right solvent is used), they are excellent candidates for model paint. A host of colors can be applied including metallic gold, silver and bronze to make these inexpensive boards take on a life all their own.

To paint fill a piano finish plaque, simply engrave (one pass will do it) and cover all areas with the paint of your choice. Acrylic hobby paint will work but for that high gloss or metallic look, the old fashioned Testors model paint from the local hobby shop does the best job.

After filling the engraved areas with paint, wrap a marble trophy base in a paper towel and spray the towel with solvent. For acrylic paints, water will do; for model paint, mineral spirits does the trick. Wipe the entire plaque once. Change paper towels and repeat as needed until the plaque is almost completely clean. Allow the board to dry and buff lightly with paper towel. Remember, WD-40 makes an excellent paint remover, and be careful not to over-saturate the plaque board. Keep in mind that the engraved area is nothing more than exposed paper. Too much moisture of any kind and it will swell up like a balloon.