

SURFACE DESIGN FOR TURNING

An Arsenal of New Techniques and Ideas

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SURFACE DESIGN IS A TERM THAT HAS been ringing loudly throughout the woodturning world lately, but despite the current enthusiasm it is not a new idea. Contemporary woodturners, such as Michael Hosaluk, Frank Sudol, Giles Gilson, John Jordan, Jack Vesery and many others have been exploring the field of surface design for years. Turners have been probably concerned with the idea in one form or another for centuries.

The arsenal of techniques and ideas available to turners interested in surface design is too immense to be covered in a single article or book. I am not by any means “an expert” in any of these areas. I will in this article share what I’ve learned about the three main techniques I employ to design and finish my vessels: airbrushing, piercing/texturing, and gilding.

Each one of these techniques is a very broad and rich field, and I doubt that I’ll learn all there is to know in any one of them. But it is the stages of exploring, conceiving and expressing that make the field exciting and enriching.

1. Airbrushing

Here I will talk about the three airbrush techniques I use. I prefer a double action airbrush, because it provides greater control than single action models. You can alter the air’s on/off mechanism while controlling the amount of paint by pulling the trigger. Controlling your paint flow allows you to vary your spray pattern from fine to broad without changing brushes or needles. It helps to dry the paint, and it allows you to layer the paint more efficiently. For more information on tools, equipment and accessories please see my article “The Cityscape series” in AAW Summer 2000 Journal.

Blending With Transparent Colors



“Lavender Hill”/ 3.5” high X 2.5” diameter/ Ash, acrylic paint, Japan Lavender silver leaf.

Pho sprayed blue color from the lower left upward to the middle, then continued with red color to cover the rest. Notice how he used the wood grain to separate the colors and the areas where the two colors mix.

Photos: Binh Pho



“Festival”/6” high X 2.5” dia./ Birdseye maple, acrylic paint, various metal leaf.

Using the same approach as in the photo at left, Pho here mixed three colors. For the top kimono, he sprayed purple on the top right corner, then blue in the middle and yellow over the rest and overflowing to the lower kimono.

COLOR MIX: The airbrush capability and the transparent colors make this technique possible and very simple. Use low tack masking tape to cover the non-painted area. I spray the first color to the designed area, more intense at the edge and start fading away as I spray outward, then I apply the second color to somewhat overlap the first one and extend it out to cover the whole area. Being transparent colors, where the two overlap will create the third color. I normally

choose the grain pattern of the wood and let the color flow with it, as shown in the photos above.

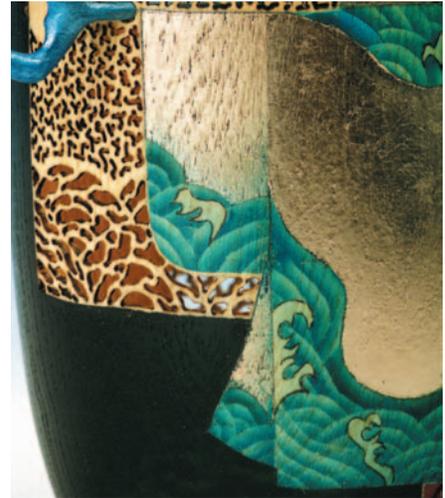
GRADUATING COLOR: I rely on masking technique to achieve this effect, I use this technique to express a dramatic scene, even when only using one color. The key is to airbrush the edge of the design and let the over spray cover the rest (see figure 1,2&3, at the top of the next page). I create the waves in the above picture by removing the mask one layer at a time

Graduating Colors



The masking fluid described by the author is used to block off areas, so that the airbrushed colors won't affect the wood surface. By selectively adding and removing masks while spraying various colors, you can create a variety of effects. In the demonstration shown above, the author, after removing the mask from a wave section, sprays from the top edge and lets the over spray cover the lower portion, so the color lightens from the top of the section to the bottom, Figure 1, above left. Next he removes the mask from the middle part of the wave, and again sprays from its top edge down, Figure 2, above middle; and finally he removes the mask from the top section and sprays, again from top to bottom, to complete the wave image, Figure 3, above right. Then he continues on to the next wave and repeats the process.

The masking/spraying technique described in the drawings above produces a darker color with the hard edge that graduates to a lighter color the further you get from the mask, as shown in the photo at right.



and painting very close to the edge of the neighboring mask. That produces a darker color with the hard edge that graduates to a lighter color the further you get from the mask.

MULTICOLOR IMAGES: First, apply the mask to the vessel. I use Liquid Mask made by Sign Strip, then sketch the image on the mask with the felt tip marker. The basic concept of airbrushing with masks is simple. If you paint over something more than once using transparent paint, it

will get darker. So, by removing pieces layer by layer, darkest layer first, the color will not be affected if those areas were hit with over spray since they're supposed to be darker than the current layer. Here's my technique, step by step, how to airbrush a cluster of bamboo leaves with multi shades of green.

Use an Exacto knife to remove the mask of the darkest piece(s). Apply the knife very lightly as not to leave scars on your work, in this case a clus-

ter of bamboo leaves over the bamboo trunk, as shown below left. I first removed the bamboo trunk mask and airbrushed it with dark green because it was a darkest area. I then repeated the process with the bottom leaf layers to make them look lighter than the trunk but darker than other leaves. Then the lighter layers were removed and sprayed next and so on. For the final touch, I used transparent smoke color to airbrush some slight shadows. Finish art work and remove the

Airbrushing Multicolor Images

To create the bamboo leaves and trunk, shown at right, the author first removed the mask from the trunk, the darkest area and airbrushed it with dark green. He repeated the process with the bottom leaves to make them lighter than the trunk, but darker than the other leaves. The lighter areas were then unmasked and sprayed. For the final look, shown at far right, he sprayed on a transparent smoke color to create subtle shadows.



rest of the masking, as shown in the photo in the lower right corner of the previous page.

2. Gilding:

Gilding is an ancient technique to use ultra thin metal or precious metal leaf to cover a surface. This is a very rich and broad field that will require years of practice and learning if you want to be good. Here, I only discuss a basic and cheap trick to get the effect that I am looking for. First, the gild surface needs to be sealed with sealer or thick pigment color, then apply Oil/Water based gilding adhesive. Oil sizes are ready to gild when your knuckle taps the surface without disturbing the size or coming away with residue. My favorite is Rolco Quick-Dry size, it's an oil base, produces excellent results, dries hard and may be sealed after curing for 24

Gilding



Gold and copper leaf partially cover the section shown above, but let the blue and red colors underneath show through. The whole piece, part of the author's Warrior Series #1, is shown at right.



Piercing with airbrush



To enhance the airbrushing, Pho pierced a square frame to the left of the kimono and left the flames to accent the dragon.

hours.

Design: In combination of available leaves (Gold, silver, copper, composition and variegated...) and the underlaid color(s), we can create fairly interesting art work by not covering the entire surface with leaf, letting the underlaid color(s) show through. I normally combine gilding with piercing to enhance the design, as shown in the photos above.

3. Piercing and texturing

I primarily use two tools for piercing my pieces. One tool is from Paragrave in Orem, Utah. The hand piercer has a pencil-like tool, which is easy-to-use, but can give you finger fatigue after about 20 minutes.

The other tool is similar to a dental drill made in Saskatchewan Canada by Terrence DaSilva, which Frank Sudol also uses. This hand piercer is similar to a right-angle cutting tool, which is a little harder to learn, but is easier on your fingers.

Because the cutting is so rapid (up to 400,000 rpm), this air powered drill can make very fine control possible.

Both tools are well made and I like to use them equally, depending on

the application. They both require a steady stream - .8 to 1.5 cfm - of compressed air at between 30-45 lbs. psi.

Again, for tools and equipment please see my article on the Cityscape in AW Summer 2000 journal.

On most of my pieces, I use the piercing technique to enhance the airbrush and gilding artwork, but occasionally I use just piercing by itself on a piece. We will discuss both cases below. First things first. In order to pierce your work effectively, the vessel wall thickness has to be 1/16" to 3/32" of an inch. Piercing is very much like turning - it's a subtracting art, you cut away any wood that doesn't belong there. My philosophy is: "What do I want to express?" Piercing to me is negative space in the design forming a sort of design halo around the physical components of a piece.

Piercing with airbrush: I normally use the piercing technique to create negative spaces that form a frame around the airbrush or gilding artwork. You can simply cut away all the wood with random pattern that doesn't mean anything or leave some positive components related to the

Piercing by Itself



The author sketches the design on the vessel with pencil, then traces it with a razor tip burn tool, above left. In the two views of the piece shown above, middle (back) and right (front), he creates a rectangular frame for the piercing area and removed the non-design elements. The carob wood piece "Lotus Blossom #7" is 9-in. H and 5.5-in. diameter.

design that you've envisioned to compliment the airbrush work. As you can see in the photo, lower left, previous page, I pierced a square frame on the left of the Kimono and left the flames pattern remain to compliment the dragon.

Piercing by itself: When the piercing is not incorporated with airbrush, I choose the simpler design, sketch it on the vessel with pencil then trace it over with my razor tip burn tool, as shown above. Before piercing, I need to decide the piercing area surround-

ing the design then cut out everything in between. The key to successful piercing is the uniform thickness of the grid lines. It should resemble a lace pattern or fit together like puzzle pieces, this will enhance your design. Another way to juice up the pierced pattern is to texture the surrounding surface by using $\frac{1}{2}$ mm or 1 mm diameter round carbide bit. Remember, your piercing tool is rotating 400,000 rpm so with light touch to the surface, the round bit will leave its mark as fast as you can lift it up and down again, this tool is far more efficient than Dremel tool, shown, below left.

Final thoughts: Airbrush, Gilding and Piercing are just a few techniques to help you design the surface of your work. Make sure to express your feeling through it, but don't overdo it. In the beginning, it's hard to cut holes or spray paint on the perfect turning piece but at the end it's even harder to learn when to stop.

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Texturing



The texturing, above left, was created with a Paragrave Ultra Speed drill and a 1mm round carbide bit. The completed piece "Bamboo Basket #7" is shown above, right.