

# Joe Fleming

## The Airbrush Demystified

AirbrushingWood.com



### Why Airbrush?

Many turners wonder why anyone would want to add surface enhancements to their wooden art pieces. This is a fair question and one with many answers. First of all, I select wood for the effect that it will provide in the final piece. I consider grain type (open or closed cell), grain orientation, grain pattern/figure, and wood color when designing a piece. If I am making a utilitarian piece, I rarely color or carve because I love the simplicity of the form for the function. If I am turning an art piece from an exotic wood, or a highly-figured wood, again, I usually let the wood stand on its own without additional enhancement. Too much enhancement can be worse than a bland piece of wood.

If, however, I decide to color the wood, I want to control the effect to the maximum benefit of the final piece. The airbrush is my main choice of coloring tool because I can control the intensity of the colors, the placement of the colors, and the penetration of the material much more effectively than you can with a rag or bristle brush. Additionally, the choice of airbrush mediums available today offers the highest quality of material for art pieces.

### What You Need

In order to airbrush, you only need four things:

- An airbrush
- Airbrush-quality paint, ink or dye
- A regulated air source
- Something to color

Other accessories add to the affects you can accomplish or the ease of use, but are not strictly necessary. Optional accessories include:

- Airbrush holder
- Masking materials

- Lacquer or other finish
- Stencils and pre-fab designs
- Drafting supplies
- Training videos
- Books and literature

There is a wealth of YouTube videos available and other materials. Keep in mind that there are 50 ways to accomplish everything, so you will find conflicting information.

### **A Few Definitions**

Before diving into the coloring process, I will offer a few definitions:

- **Dye** – Dyes are colorants that are usually mixed in a solvent such as mineral spirits, oil, water or alcohol. Metal acid dyes are sometimes mixed with MEK or other “nasty” solvents. The dyes used in woodworking are very similar to those used for dyeing cloth and other materials. Dyes are characterized as transparent, as they bring about color changes in wood without obscuring the figure. The molecular size of the dye particles is so small they allow light to pass through virtually unhindered. In simple terms, the pigment in stain and paint is colored solids ground up into small particles. Dyes are typically soluble salts or metals. Once mixed with their proper solvent, dye crystals dissociate into individual molecules, which are vastly smaller than ground up pigment particles. Thus, dye can get into spaces where solid pigment cannot.
- **Stain (Transparent Paint)** - Stains are really nothing more than very thin oil or water-based paints. Whereas dye stains are typically comprised of only dye and a carrier, stains are comprised of pigment, a carrier and a binder. Using a thin varnish (oil-based) or acrylic latex (water-based) as a binder, ground particles of natural and synthetic minerals are added to make stains. Stains should be stirred often to insure an even dispersion of pigment because the particles tend to settle on the bottom.
- **Airbrush** – An airbrush is a spray painting tool that uses compressed air to atomize the coloring medium and project it onto a surface in an even consistency. It is the smaller sibling to a spray gun used by automotive and wood finishers.

### **Coloring Overview - Dyes**

I primarily color wood in two ways. If I use dyes, my colors are bold and flowing. I usually select the colors for the complementary effect of the color fields and overlap the dyed areas to create blended colors. Dye is a completely transparent medium. You can think of dye like colored filters for a camera. If you hold up blue and red filters together, you will see purple.

When using dyes, the issue is that the color of the wood will blend with the dye.. If you look at the majority of dyed pieces on the public blog sites, you will almost never see a true blue or a true red piece. They are almost always a tone of teal or tone of orange, respectively. Wood tends to have yellow and red in it. Poplar has green. When I plan to dye a piece, I usually bleach it with two-part wood bleach. I apply the bleach three to five times to get the wood's color out. You should experiment with the bleach to see how effective it is on various wood species. In my experience, maple, ash, walnut, cherry and redwood all bleach well. Woods with green in them, such as poplar and some eucalyptus varieties do not bleach well.

The other issue with dye is that it will penetrate end grain much more readily than side grain. This means that wipe-on dye will soak into the end grain and darken that color more than the side grain. When this happens, you will have a white-ish zone where the side grain is located.

You can see both the color shift (teal and orange) and the “white ring of death” in these photos (Figure 1 and Figure 2). Both are ash vessels. One is dyed with blue and one with red.



Figure 1: “Blue” dyed vessel with white ring and teal color shift



Figure 2: “Red” dyed vessel with white ring and orange color shift

My dye process is as follows:

- Sand to 180 or maybe 220 - no finer

- Wet the surface (raise the grain), then re-sand to last grit
- Bleach three to five times
- Seal with vinyl sanding sealer or lacquer
- Sand back the sealer
- Airbrush dye – do not soak the surface or you will get runs
- Seal with a light lacquer spray – not too wet or you will get runs, or reactivate the dye and cause it to run
- Apply additional lacquer coats to achieve build and desired gloss effect (Figure 3)



**Figure 3: Figured maple vessels, dye and gloss lacquer**

I refer to this whole process as the “Don Derry Finishing Technique” and I’ve documented it on my website – [AirbrushingWood.com](http://AirbrushingWood.com). He taught me how to build this type of finish. He learned it finishing electric guitars.

As a comparison, two contemporary artists that have used dyes very effectively are Don Derry and Ron Thomas. The following photos are of pieces that they have created and colored with dyes. All photos are used with the artists’ permission.



Donald Derry

Vessel

Photo used with permission from the artist



Donald Derry

Relationships

Photo used with permission from the artist



Ron Thomas  
Four Vessels  
Photo used with permission from the artist



Ron Thomas  
Two Vessels  
Photo used with permission from the artist

In Figure 4 you can see the effect of blending three colors across each piece. In the left-hand piece, yellow, red and purple dyes are used. In the right-hand piece, two colors of blue and purple are used.





Figure 4: Figured maple disk with dye and gloss lacquer. Color blending with three colors each.

### **Coloring Overview – Transparent Paint**

When I paint images, I focus on completing a piece using transparent paint and masking techniques. Transparent paint is really just stain. What that means is that if you apply enough of the paint or stain, it will become opaque. You can see the grain through the paint if you have not over-applied the paint to your project.

In the red oak piece below (Figure 5), I used yellow, red, purple, blue and gray transparent paint.



Figure 5: Oak platter, carved, burned and painted



Figure 6: Birch plate, painted



In the birch piece above (Figure 6), I used transparent black, purple, blue and gray. As muted as the grain pattern is in the birch, you can still see it in all of these colors. The white is opaque paint and the grain is pretty well hidden.

With transparent paint, I am less concerned about the color of the wood because the paint will obscure the wood color so bleaching is not usually necessary.

Frank Sudol and Binh Pho were both masters of painted forms. Both employed multiple colors and lots of masking to create their images. Below are photos of both of their work.



**Frank Sudol**

**Photo used with permission**

**From the Collection of Harvey Fein**



Frank Sudol/Binh Pho collaboration  
Photo used with permission from Binh Pho  
From the Collection of Dr. James and Elizabeth York



**Binh Pho**  
**Gateless Dream**  
Photo used with permission from the artist



**Binh Pho**  
**Seven Poppies**  
**Photo used with permission from the artist**

### **Summary**

An airbrush can add a significant component to your arsenal of tools. You can create so many different effects with a brush from broad colors to fine detail. It allows you to precisely control the amount of color you are applying to a specific location, but it also allows you to seamlessly blend colors for very nice color gradients.