



An airbrush is the paint applicator of choice for styrene models. Note the paper towel tube in use as a painting fixture, and the disposable plastic glove on the hand holding the model.

Chapter 8

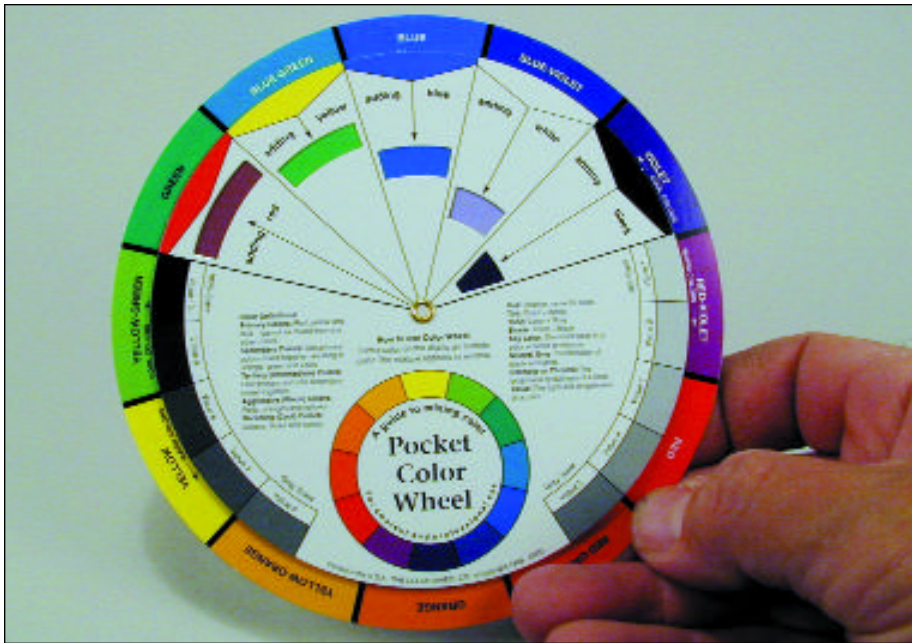
Basic Painting and Finishing

PAINT CAN MAKE OR BREAK a model. No matter how fastidious your fabrication, assembly, and detailing, what you see on the completed model is the paint job. While I've seen a great paint job rescue a so-so model, I've seen a lot more cases where a beautiful construction job was rendered mediocre by poor finishing.

Because painting is the finishing step in every modeling project, it's an absolutely essential skill. Many moons ago I purchased my first air-

Scrub-a-Dub-Dub! The main step in preparing a model for painting is cleaning it. This styrene kit structure is getting a bath in warm water and dishwashing detergent. The toothbrush removes dust from recessed detail areas.





This Pocket Color Wheel has a rotating middle section with windows that indicate what colors to mix to achieve the hue you want. The back has a similar rotating display that shows color complements and harmonies.

brush and taught myself to use it by trial and error (a lot of error!). Since then, I've settled on the airbrush as the best way to paint almost everything I build.

For models, the paint coating needs to be thin — probably not exactly to scale, but thin enough not to obscure detail, and skin-tight. Virtually all of today's model paints incorporate fine-ground pigments to achieve this.

First, cleanliness

Styrene models must be cleaned before painting. This isn't just whisking away the big pieces, it's a thorough cleaning with detergent and water, gentle solvents, or both. I wash styrene models in warm water and dishwashing detergent, then give them a final dip in clean denatured alcohol.

After the model is clean and dry, handle it only with disposable rubber gloves, and cover it to keep it dust-free until you apply the paint — preferably right away.

Mixing colors

Model paints come in a bewildering variety of colors, so you won't often have to mix your own. When you do, start with the lightest colors and add the darker ones until you have the

shade you want. Stir frequently, and let the paint dry on a piece of white cardboard or white sheet styrene so you can assess the color accurately.

Color mixing is something of an art, and you'll find a color wheel at art and craft stores to help you. The general rule is that you should combine the fewest possible colors to achieve what you need for the model. This keeps the color from becoming muddy.

Most often, you'll mix paints to achieve scale color. This concept is best summed up by the equation:

Distance = dulling

The further you stand from an object in the real world, the duller and grayer it appears. Since our viewing distance for models does not vary appreciably with their scale, this means that the smaller the scale, the duller the colors should be. Most modelers achieve this scale effect by mixing full-strength colors with varying amounts of white, light gray, or gray-blue.

Keep a record of the special mixes you make, particularly if you know you'll need the same color again. A good way to do this is to spray the color on a scrap of styrene or white

PAINTS FOR STYRENE MODELS

Virtually all of the paints offered specifically for model work are high-quality coating systems, and all of them can be made to work on styrene. Paint comes down to choices: What brands have the colors you need? How will you apply them? And finally, What are you comfortable with?

The most important thing about choosing a paint system is that you choose. The alternative is to have half a dozen colors from each of half a dozen brands, none of which can be mixed. This is OK while you're experimenting, but once you find a brand of paint that you can achieve consistently good results with, stick with it.

Acrylics

Water-based and water-cleanup modeling paints have been available for a couple of decades. The brands include Testor Acrylic, Polly Scale, Tamiya, and Accu-Flex, and it seems as if a new line comes along every couple of years.

Acrylics are easy to use, and especially easy to clean up. Properly handled — which usually means simply following the manufacturer's instructions — they airbrush beautifully, dry quickly, and adhere well.

Acrylics are fussy about cleanliness, and any traces of finger oils or lubricants from molding machinery on the model can repel the paint — oil and water don't mix! Thoroughly cleaning the model with water and detergent will prevent this.

Other than cleanliness, the main concern with acrylics is getting them to flow smoothly. This is because the surface tension of water is much higher than mineral spirits or other petroleum-based solvents.

The solution — literally — is to add a wetting agent to the paint at the same time you dilute it. The home remedy is a couple of drops of liquid dishwashing detergent in a pint of water; commercial preparations include Liquitex Flow-Aid, Kodak Photo-Flo, and airbrush thinners from the makers of the paints.



Acrylic water-based paints need help to get them to flow smoothly on a styrene surface. A drop or two of one of these wetting agents will do the job.

All of them use detergent, alcohol, or both to make the paint “wetter.”

One note of caution: Acrylics are airbrush killers. Leaving even small amounts of acrylic paint residue in your airbrush can all but weld it shut, and once dry, acrylics are impervious to water. Since the cleaning solvent is water — maybe with a little denatured alcohol or ammonia added to make it clean better — there’s no excuse for not cleaning your airbrush thoroughly.

Enamels

Enamels are the old standbys for painting plastic models. The most widely available brands are Testor Model Master, Humbrol, and Floquil. (Floquil’s thinner, Dio-Sol, includes xylene, which crazes styrene badly. For that reason Floquil paints should only be applied to styrene with an airbrush, and then with extra care.)

Most enamels are thinned with mineral spirits (or their own proprietary thinners), and can be cleaned up with lacquer thinner. These are petroleum-based (organic) solvents, and must be used with good ventilation — for airbrushing, an exhaust booth is all but mandatory.

Enamels are easy to airbrush, and they lay down smoothly when properly diluted. Properly applied, they become impervious to their own solvent after curing for several days.

Lacquers

Lacquers are one of the oldest types of



Here’s a sampling of the water-based acrylic colors available for painting styrene. The Accu-Flex and Tamiya colors (left and center) each have their own thinners; the Polly Scale Military and Railroad Colors (right) thin with distilled water.



Enamels are the traditional paints for finishing styrene. The broad range of Humbrol colors (left) comes from England. Testor Model Master enamels (center) are widely available in hobby and craft stores. Floquil Railroad Colors (right) have a strong solvent, and must be airbrushed carefully on styrene models.



Modelbuilders will argue vociferously about their favorite clear finishes. From left to right: Testor Dullcote, Testor Model Master Lusterless Lacquer Overcoat, Floquil Glaze (a glossy additive to make the paint stick when thinned), Floquil Clear Flat, and Floquil Crystal-Cote (clear gloss).

finishes. Most of the model lacquers are intended for use on metal or wood, and are poor choices for styrene. Some of the brands offer a barrier coat, but it is rarely worth the extra trouble.

True lacquers have the property of being dissolvable by their solvent forev-

er, even years after application. For styrene this is actually a significant disadvantage, since we usually want the base coat of paint to protect the plastic surface from crazing during subsequent finishing steps.

— Bob Hayden