Index

Index

3. PAINTING

4. PAINTING TECHNIQUES

Introduction

Scale modeling. Our hobby!

Scale modelers typically get into the hobby because they've seen beatuifully built and finished models in stores, on the internet, or in movies. They think, I can do that too!

Modeling is an enormously satisfying hobby, accessible to anyone willing to work on their skills. But that's the key: skills. Often, when a first-time modeler buys that first kit, no matter the subject, the stack of unpainted plastic parts inside the colorful package can be daunting. They might even think the task too big, and abandon hope of assembling the kit.

First-time modelers face a seemingly endless number of questions: Which tools do I need to build a model? What kind of paints should I use? I saw a really cool effect on another model, so how do I replicate it? Where do I start?

There are many resources that explain how to assemble model kits. But when you're new to the hobby, many of those resources can create more questions and confusion because they target more experienced modelers, taking basic modeling knowledge for granted.

With this book, we want to help novice modelers understand basic modeling tools and skills. Building scale models isn't difficult. Rather, it's through the consistent applications of these basic skills that you advance your abilities and achieve satisfying results.

In the following chapters, we detail all the essential techniques for building scale models. You'll learn when and how to apply them. We also review basic painting techniques, and explore a variety of finishing alternatives. Everything you'll learn in this guide can be applied to almost any plastic model, regardless of scale or subject. Lastly, we hope this guide will eliminate any doubts you may harbor and help you to confidently immerse yourself in the wonderful world of scale modeling.

Scale figure too small.

Scale figure too large.

Correct scale.

The last thing you need to consider before deciding on a model kit is its material:

PLASTIC KITS

These kits are the most common on the market. Depending on the manufacturer and pricing, they incorporate a high level of quality, detail, and accuracy when compared to the full-size subject. They are made by injecting colored plastic into metal molds.

METAL KITS

Metal kits are most often figures or upgrades and aftermarket parts for commercial kits. Originally, metal kits were manufactured by pouring lead into a mold, but this metal has been replaced by other "white metal" alloys. Photo-etched brass parts are also found in this category.

RESIN KITS

Resin kits typically cost more than plastic kits due to limited supply and high production costs. Quality varies widely with resin kits, so it's always a good idea to have a careful look inside the box before purchasing one.

WOODEN KITS

Used almost exclusively for ship models, wooden kits require a number of special tools for building and finishing, and tend to be complicated affairs.

TIP

- Check proportions when you compose different elements in a scene. Always know the scale you're building in and keep a calculator handy.

Sanding tools

Sanding tools are indispensable for any but the most basic modeling projects. Sandpaper is nothing more than a flexible medium, be it plastic sheet, paper, or cloth, covered with abrasive material—typically aluminum oxide or silicon carbide.

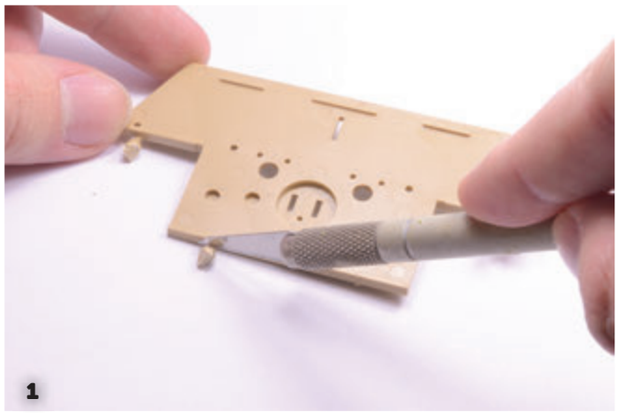
Sanding sticks come in many shapes and sizes. The most useful to the beginning modeler are easy to hold and control, and are flexible. You'll want both a range of sandpaper and sanding sticks in your modeling workshop.

The coarseness of sandpaper is measured by the number of the grit size. The higher the number, the finer the grit. The grit size used for scale modeling typically ranges between 200 (coarse) and 2000 (fine) and are used for a multitude of tasks.

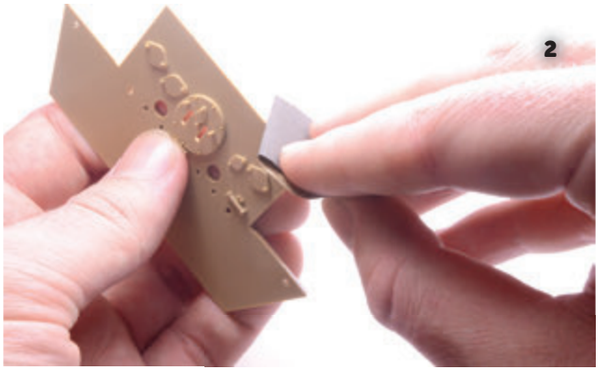
One such sanding task is to prepare a surface that's been filled with putty for a primer coat of paint. After your model has been assembled and all the gaps filled with putty are completely dry, it's time to sand for that perfect finish.

First, remove the excess putty with 200-grit sandpaper. Focus on the filled spot to prevent damage to your piece or removing nearby detail.

Next, using 600-grit sandpaper and continuing to focus on the puttied area, gently sand until all grooves and marks caused by the previous 200-grit sandpaper have been removed, but still leaving putty in the gaps.



1. Remove the burr with a hobby knife. Try to be very precise and remember that the knives cut best when you use a slicing motion, not just pressure.



2. Go over the whole area with fine sandpaper or a sanding stick. If the part is metal, use a file to remove excess material.

Depending on the type and quality of the plastic, you may see some discoloration after sanding, especially on prepainted models. Don't worry. It will get fixed.

TIPS

- Always use good quality tools to obtain the best results. It's preferable to have a few good tools rather than many low-quality tools.

- Thoroughly check your work and be patient.

Pigments

Pigments are basically the powdered material used to manufacture colors. Pigments are derived from pulverizing various natural minerals, such as magnesium, titanium, and zinc. The quality of a pigment depends on two factors: purity and the grade of powder—the finer the powder, the better its quality.

With so many brands and pigment colors available, we can select the best ones for our needs. In scale modeling, pigments are mainly used for weathering and wear effects. Pigments can effectively simulate dust, dirt, and mud. While you can apply pigments in their raw form, they lack any kind of binder and depend on friction to stay in place. To permanently affix them to a model, you use can use purpose-made pigment fixer, denatured alcohol, or acrylic thinner.

DRY PIGMENTS

The most common method for using pigments is to apply the dry powder onto the model's surface with a soft brush. To avoid losing your pigment effects over time, apply a small amount of pigment fixer onto the powder.

On the piece of groundwork below, you can see an area with exposed dirt and vegetation. There are also some concrete elements. Earth tones for the ground and grays for the concrete can really dress it up, adding realism to the piece.

Apply lighter pigment to the most illuminated areas and darker pigment to the shadowed areas. You can mix pigments by combining two or more for a wide range of shades and effects. Brush the pigments on the bare dirt areas, including the stones and the magazine—all the elements have to blend with the surroundings. Take care not to create large accumulations of pigment creating an unnatural appearance.

HIGHLIGHTS - LEVEL 1

In this step, you apply the first highlights on your model. For this example, just two lighter tones than the base color are used. The number of tones you'll use on your model can vary according to scale—the larger the model, the more tones you can use on it.

Focus on covering areas with the greatest exposure to light, keeping toward the center of panels. The second tone should blend with and not cover the first. The same goes for all subsequent tones.

HIGHLIGHTS - LEVEL 2

To further enhance the lighting effect and achieve a more realistic appearance, you can apply an extreme highlight tone to the corners and edges of the model. Focus your attention on those areas only. The number of tones you will use on this step also depends on the scale of your model, and the level of detail you want.

The brightest highlights and darkest shadows were added with a paintbrush. This gives you more control of paint placement on very specific areas. Don't be afraid to switch back and forth between tools. You'll begin to understand that all your modeling tools can be used in conjunction with each other, and you'll recognize when to use one tool and technique and when not to.

This tank has gotten a pretty extreme makeover. It's gone from a flat, lifeless model to something that looks more likely to drive away. By imitating the behavior of light, exaggerating it to diminish the scale effect, you'll create a sense of motion and immediacy that your model would otherwise lack. This technique can be used effectively on any model in any scale, be it a plane, armored fighting vehicle, car, or figure.

TIPS

- Use a hair dryer to shorten drying times. Be careful! Excessive heat can warp plastic and resin parts.

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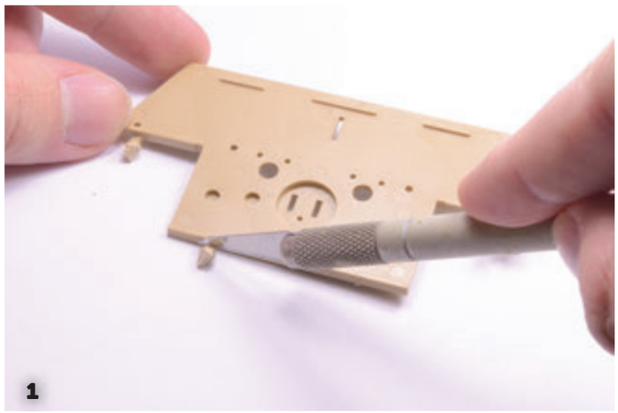

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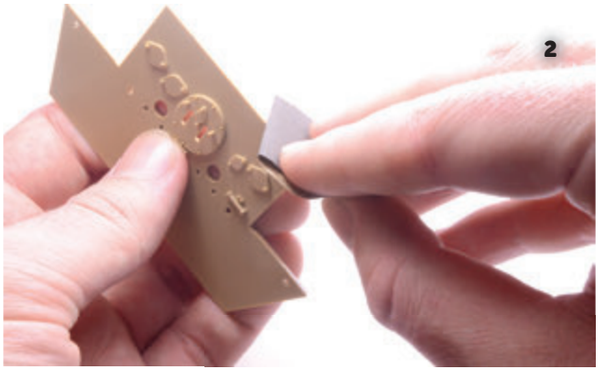

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