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Building scale models is a rewarding hobby that connects you to history and provides an outlet for creativity. It’s part exacting science and part art—and it’s all fun.

Maybe you’re new to modeling. Or maybe you built models as a kid, and as you got older, the distractions of dating, cars, athletics, college, career, military service, marriage, and/or children pushed this quiet hobby to the back burner. Now you’ve got some time to spare, and a hobby may be just the ticket. Whatever route you took to get here, this book is designed to give you some tips and techniques for building better models.

Through various projects, I’ll show you how I do everything from clipping parts off a sprue to painting and gluing as well as working with materials that have become increasingly common such as photoetched metal and resin. You can follow along by acquiring the kits I used, or you can adapt the techniques to fit models you want to build.

Modeling improves with practice, and it is best learned by doing over and over again. Each model I build seems to be better than the next. Don’t be afraid to try new things and push the envelope with each build. Just be patient with yourself. I can’t tell you how many models I’ve screwed up by rushing to get done. Modeling is rarely good when you are in a hurry.

These techniques are what works for me, but they are not the be-all and end-all of modeling. I’ve been building models for more than 30 years, and I am still learning things. So let’s learn a few things and have some fun.
Brushing up on AIRBRUSHING

There are few skills more likely to improve your modeling than airbrushing. It transforms painting from uneven brush strokes or difficult-to-control spray cans to applying precise even finishes and allowing for blending and soft transitions. There have been many books written about airbrushing, and modeling magazines routinely cover the subject. What follows is a brief introduction to the tools, how to use them, and how to maintain them.

What is an airbrush? Designs differ, but in simple terms, an airbrush compresses air and pushes it through a narrow nozzle where it atomizes paint and blows it out in a controllable pattern, 1. Think about it as a miniaturized, precision version of the paint sprayers used for houses and cars. Airbrushes are used in many professions and hobbies, and they are the perfect tool for applying paint to scale models.

Single- versus double-action. Airbrush designs differ, but they can be divided into two basic categories: single-action and double-action. Airbrush types can affect the way paint is applied, their ease of use, and cleaning properties.

In a single-action brush, the trigger controls only air flow, and it’s usually either on or off, 2. Paint flow is preset by adjusting either the nozzle or the needle. This makes them easy to use, especially for beginners, because there’s only one thing to consider while spraying and a lot less chance of applying too much paint. On the other hand, single-action brushes tend to be less versatile because adjusting the paint flow is generally done while the brush is not in use.

On a double-action airbrush, the trigger controls air flow and paint volume, 3. Generally, the air pressure is controlled by depressing the trigger. Pulling back on the trigger moves the needle within the nozzle, which allows more paint through and results in a wider pattern. Skilled painters can manipulate double-action brushes to easily create interesting effects. But the versatility of double-action brushes makes them harder to use as there are more variables to master.

External versus internal mix. An airbrush can mix paint and air in two ways, either externally or internally. External brushes are usually less expensive than internal brushes, but they tend to produce a wider, harder-to-control spray pattern. I find internal mix brushes easier to use and control, but I know many talented builders who achieve terrific results with external-mix brushes.

Bottles, color cups, and gravity feed. Airbrushes hold paint either in a bottle that attaches to the brush, usually from underneath, or in an open-top color cup. Bottles hold more paint and can be closed, a handy way to prevent unfortunate spills or splashes. Most color cups mount on top of the brush. They hold less paint, but because gravity helps move paint into the body of the brush as opposed to air pressure in a bottle-fed.
Weathering is a catch-all term for techniques applied to a model that enhance realism, giving it a worn appearance and a sense of how, when, and where the represented vehicle was used. Weathering includes techniques for highlighting detail, such as washes and dry-brushing, as well as extremes such as paint chipping, battle damage, and mud.

Weathering can be applied to any subject, even cars and airliners, but military vehicles benefit most from the extremes. I’ll touch on recent advances in armor finishing techniques as well as old standbys as I build Dragon’s 1/35 scale early production Tiger I Ausf E. Weathering is an art. Experiment with these and other techniques to expand your finishes.

The kit. Dragon kits are a tour de force among armor models. This Tiger, part of Dragon’s Smart Kit range No. 6600, includes photoetched-metal details, wire tow cables, and decals for three tanks operated by Germany’s 502 Heavy Panzer Regiment on the Leningrad front in the winter of 1942–43. 1. There are optional parts for the three versions that the complicated instructions point out. After deciding to build Tank 100, I marked the optional parts I needed to be sure I didn’t miss anything. 2. There are 15 sprues in the box. To make finding needed parts easier, I highlighted the sprues’ letter tabs with a marker. 3. A few armor tips. The focus of this chapter is weathering, but here are a few tips for dealing with detailed armor models. Because I airbrushed the Tiger as opposed to spray-painting (as I did to the KV in Chapter 1), I attached the road-wheel arms and other suspension components at the start of the build. I left the overlapping road wheels off to be sure they all received paint. Dragon provides clear periscopes, so I placed tiny strips of masking tape on the areas to remain clear before adding the covers. 4. The kit offers a comprehensive set of photoetched-metal parts including tool clasps, straps, and brackets; engine frames; and other details (some with optional plastic parts). Pick and choose the parts you use—just because there are photoetched-metal parts provided doesn’t mean you have to use them. 5. Lots of detail means lots of small parts. After applying a little liquid cement to the mounting locations, I moved small parts with the tip of a new No. 11 blade. 6. For very small parts, I used the tip of a new No. 11 blade to maneuver small parts such as headlight bases into position. You don’t have to press hard, just enough to pick up the piece. For very small parts, I used the tip of a new No. 11 blade to maneuver small parts such as headlight bases into position. You don’t have to press hard, just enough to pick up the piece. 7. Highlighting the relevant steps in the instructions is a great way to avoid confusion between versions. 8. Dragon’s Tiger I is a plastic tour de force including photoetched-metal details and markings for three Leningrad front tanks. 9.

Weathering is an art. Experiment with these and other techniques to expand your finishes.
Modern kits are masterpieces of molding and detail. Some are so well made that filler and sanding are rarely needed, and construction can take a few short hours, allowing the builder to focus on painting and finishing. There are times when you want to build an older kit, either because it may be the only model of the subject or because you have the kit in your stash.

The Monogram 1/48 scale F-80 Shooting Star is a good example of the former. Recently reissued by Revell, the kit debuted in 1977, but it’s still the only option if you want a 1/48 scale model of this Korean War combatant.

It’s not a bad kit: the shapes are good, and it goes together okay. The detail in the cockpit is passable, but the surface is marked with raised panel lines. 1 They were standard on model kits until the 1980s when engraved panel lines became vogue. When I built the reissue recently, I decided to replace the raised lines by re-scribing them and finish the model with a shiny natural-metal skin. While I was at it, I added a resin cockpit, 2 wheels, and Misawa wingtip fuel tanks.

What is resin? Speaking technically, urethane resin is the product of a two-part material that can be poured into a mold to cast parts. For modelers, this results in having more detailed parts than those made of injection-molded styrene. These very detailed parts can really improve the appearance of models. Like photoetched metal parts used to be the province of aftermarket manufacturers, but more and more kits from major manufacturers are including resin, especially for cockpits and wheel wells.

Unfortunately, all that detail doesn’t come without negatives. Resin tends to be more fragile, so care must be taken during handling. There are also occasional molding problems, including air bubbles and warping. And because the parts are not plastic, they usually need more test-fitting and refinement before they can be installed.

Pour plugs are excess resin usually left where the liquid resin was poured into the mold. Most manufacturers put them in easy-to-hide locations like the bottom of the F-80 ejection seat.

I used a sander to remove excess resin in the instrument panel. Always check instructions before cutting or sanding, so you don’t remove something important.

Sawing is the best way to remove pour plugs. You can cut slowly and check your work often to prevent mistakes.

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