

Chapter Five

Painting, Masking, and Decal Application



1/350 scale *USS Yorktown* built by Kelly Quirk

If you want to get good results in painting, there are several simple steps that are absolutely essential. First, ensure that all parts are clean and free of sanding dust and residue. Give all the plastic and resin parts a cleaning with Polly-S surface preparation cleaner and all white-metal and photoetched parts a final cleaning in mineral spirits or some other type of enamel-based thinner.

To get a quality finish, or to mix colors for various shades and fading effects, you cannot get by without an airbrush. Since temperature and humidity affect airbrushing, do all your painting in an environment with moderate temperature and low humidity. Generally, temperatures between 65 and 75 degrees are good, and humidity of no more than 55–60 percent is acceptable. The thinner you use is also important. I always use the paint manufacturer's recommended thinner. To get the most from each bottle of paint, drop a few copper BBs into the bottle to help mix up the sticky paint on the bottom of the bottle.

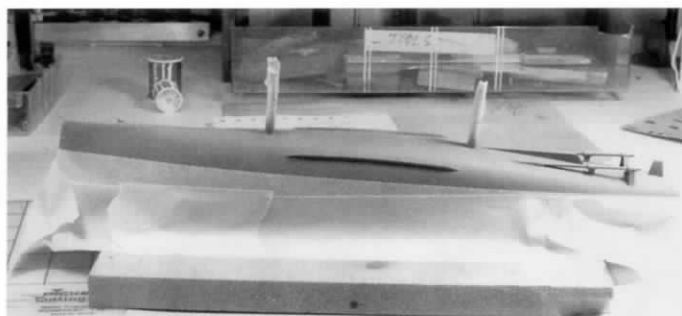
Thinning paint for airbrushing can sometimes be a trial-and-error process, and there is a relationship between paint-thinning ratio and the air pressure you use. Generally, I use a range of 3 to 4 parts paint to 1 part thinner at between 15–20 pounds of air pressure.

I have tried a lot of different air supplies, and the easiest and quietest by far is a CO₂ bottle with a pressure regulator. While the setup cost is a little more than with a small compressor, the air is always dry, air flow is consistent and adjustable, and it is relatively quiet. A bottle typically lasts me two years or more.

Since there are many small protruding parts on deck and superstructure surfaces, I suggest low air pressure (15psi or less) when painting these. This will help prevent the dusting or orange-peel effect that can occur behind a protruding part if you

spray it from the front with high pressure. Paint particles dry before they land on the area behind a protruding part, such as a gun box or splinter shield, causing the dusting effect.

When you are ready to paint small parts, secure them with masking tape on lengths of balsa or stiff cardboard sections so you won't be handling them. Give all parts a coat of primer first. The only time you shouldn't use primer is when you are using metalizer paints for gun barrels or propellers. Primer provides a good adhesion surface for paint, and the primer color will also highlight any flaws, cracks, seams, and scratches you may have missed. If you find areas that need additional



To paint the lower hull, set the line with a thin strip of masking tape and then cover the entire area that will not be painted. Don't forget to cover the display pedestals.

finishing work, let the primer dry for a few days, fix the problems, and sand the surrounding primer using a minimum of 600-grit sandpaper.

To blend in the unpainted and primed areas, first give the unpainted area a coat of primer and then give the entire area a complete coat so both the old and new

primer are covered. For masking hulls and superstructure parts I use Scotch 3M painters masking tape. It can be cut into thin strips and it adheres well.

The finish coats of paint should not be rushed. Let the paint dry for a least 24 hours before you handle the model, or apply a second coat. Gloss paint takes longer to dry, and it may be several days before a gloss paint like white dries completely. If the surface smells like fresh paint, it's still drying.

Once you have finished painting, add the decals. If you need a gloss colored surface and a flat color is available, use the flat and then give it a clear gloss coat. Instead of taking a few days to dry, the paint will be ready in one day.

Keeping your airbrush clean is also important. I run thinner through it between colors and clean the tip. I also check the tip during a spraying session. Sometimes paint builds up around the edge and then splatters onto the surface. After each airbrushing session, I disassemble the airbrush and clean it using tissues, thinner, and pipe cleaners.

To make enamel-based paint flow more smoothly, I sometimes warm the paint on a coffee warmer, always keeping the lid open a crack so pressure won't build up inside the bottle. The paint only has to be on the warm side to get it to flow smoothly.

If you are using spray paint, let the can sit upside down for a few hours and then give it a good shaking. Spray paint can also be warmed by setting the can in warm

water for a few minutes. Always test the paint before using it and clean the spray tip when you are done. To remove excess paint from the tip, hold the can upside down and spray until no paint comes out.

If you are using a brush, add a few drops of thinner and BBs to the paint bottle and mix well. Thinning the paint slightly will help it flow better. Paintbrush selection is also important. I use only natural-hair brushes that keep their shape. Clean your brushes after every use and reshape them by running hot water over them.

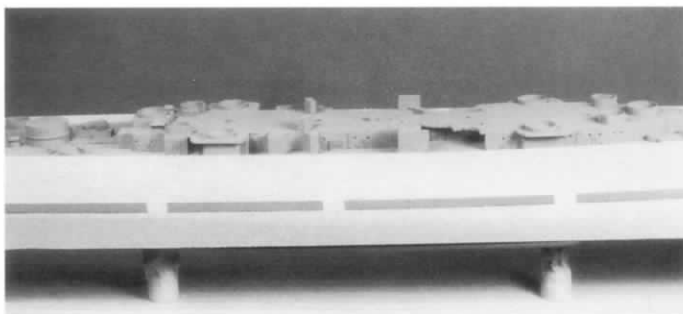
The secret to decal application is to apply the decals to a gloss surface, cut as much of the clear film from the decal as possible, and use setting solutions to get the decal to snuggle up around surface details. If you used gloss paints you are ready to add decals; if you used a flat paint, you must add a gloss finish. I have tried a lot of gloss finishes and have had the most success with water-based clear gloss paint, although it tends to clog my airbrush. Water-based clear gloss works well on either water- or enamel-based surfaces.

I have also had success using a clear gloss polyurethane paint found in hardware or home supply stores. If you use polyurethane paint, you have to thin it only slightly to get it to work in an airbrush.

Once you have glossed the surface, apply a test decal to a test surface first, unless you know for sure that the decals

you are using will respond to setting solution and won't silver. I have had problems with some manufacturer's decals and always try to use aftermarket decals, which are designed for setting solutions, unless the kit's decals were made by an aftermarket decal manufacturer. Gold Medal Models makes excellent decals for various scales.

Cut the decals free from their sheets using a sharp knife and a ruler. Cut as much of the clear film off as possible. For small decals, cut around the perimeter as close to the edge as possible. For large numbers or letters, cut out each one individually, remove all the clear film, and apply them one at a time. The trick is to ensure



To set the boot stripe, measure and cut strips of masking tape spacers the thickness that you need and then set them along the masking tape line that covers the lower hull. Next run the upper masking tape line, then remove the masking tape spacers and paint the boot stripe.

that they are lined up correctly. For curved areas like circles, use a series of tangential cuts to trim away excess film, and for straight cuts use a metal ruler as a guide.

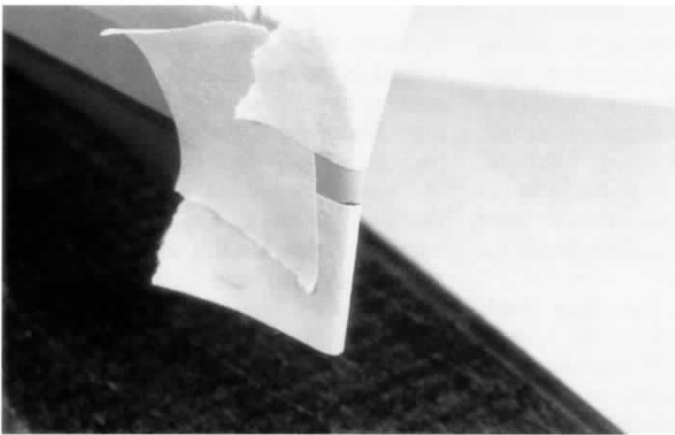
Cut decals one at a time and dip them

in warm water with tweezers for a few seconds so the decal absorbs the water. It is ready to apply when it slides off the backing. Slide the decal slightly off the backing, lay it on the model, and then slide the remaining portion off while holding the decal in place with a moist cotton swab. The gloss surface will allow you to slide the decal around a bit to position it. If it starts to dry, moisten it with some water applied with a swab.

When you are satisfied with the positioning, let the decal dry, then apply coats of setting solution to the surface using a cotton swab. After a few coats the decal will soften and snuggle up around raised detail and into or around panel lines. When you have finished applying all the decals, clean up the surrounding surfaces to remove water stains, and then give the decals a coat of clear gloss to protect them.

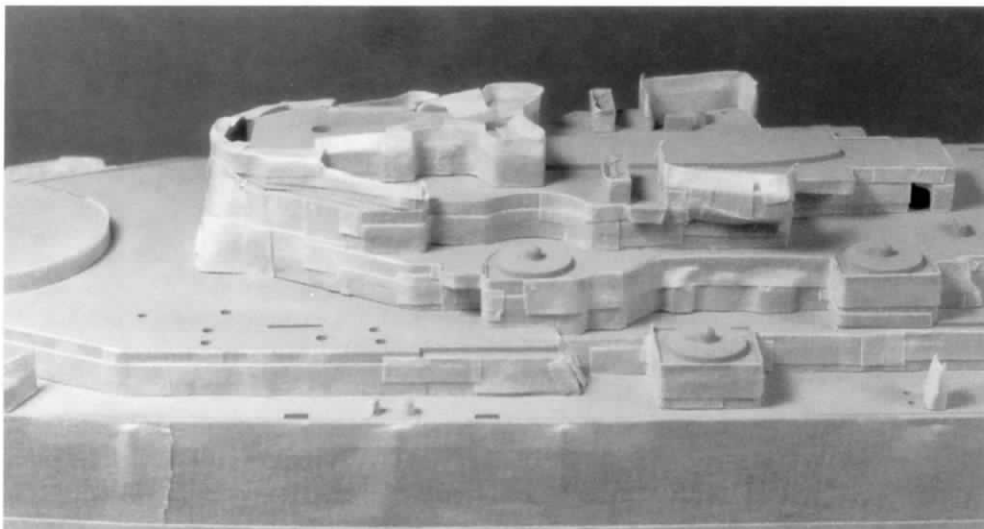
The final step is weathering, but be very careful not to overdo it on ship models. First, be sure that the colors you use to paint the model are lighter than the actual colors of the real ship. A deck blue should be much lighter than a navy blue, and both colors should be much lighter than any deck blue or navy blue paint chip that you might get your hands on. This is called the scale effect. The rule of thumb is:

always lighten the colors. If you can achieve a good scale effect, the only other weathering you may want to add is some soot around the stacks and faint hints of rust along the edges of the main deck.

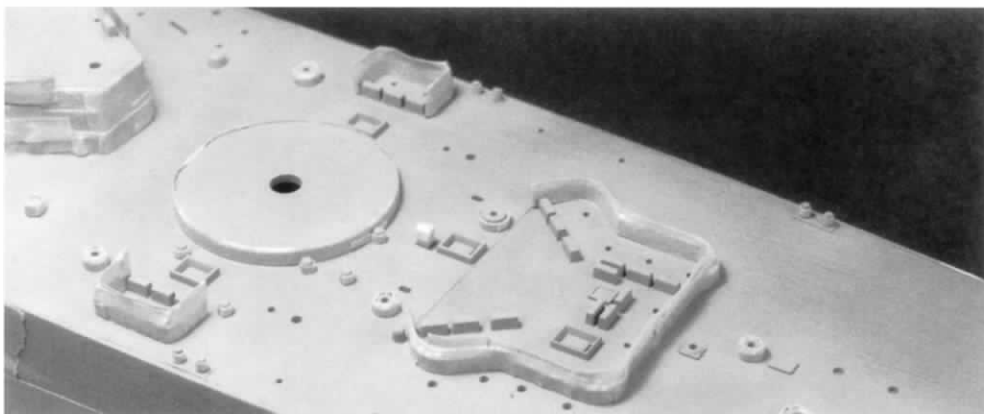


To fix areas where the paint bled under the tape, mask off the area and touch it up. You can prevent paint from bleeding under the tape by positioning the airbrush to shoot the paint straight onto the surface rather than at an angle.

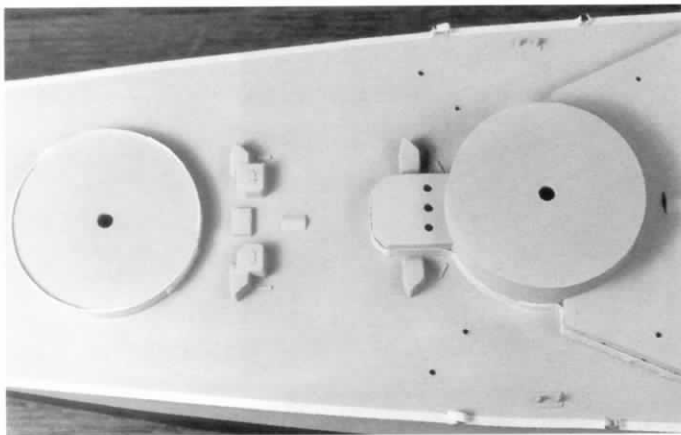
Masking the hull on a 1/350 scale battleship is a big job, and it requires a lot of tape. This Tamiya *Missouri* kit is now ready for deck painting.



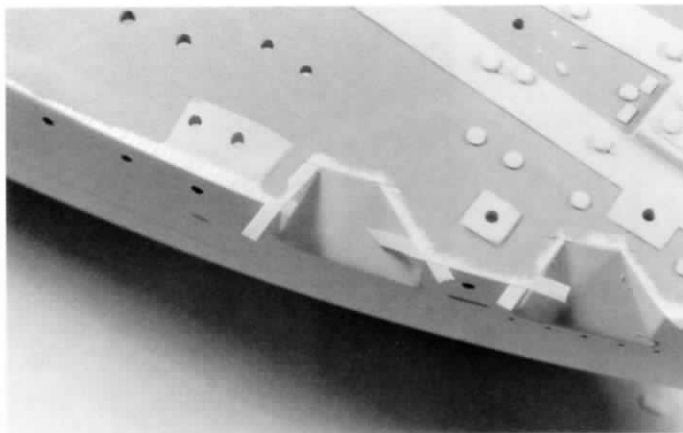
Here is a closeup of the masking work on the superstructure of the *Missouri* kit. All the superstructure sides have been painted light gray, and now it's time to paint the deck blue.



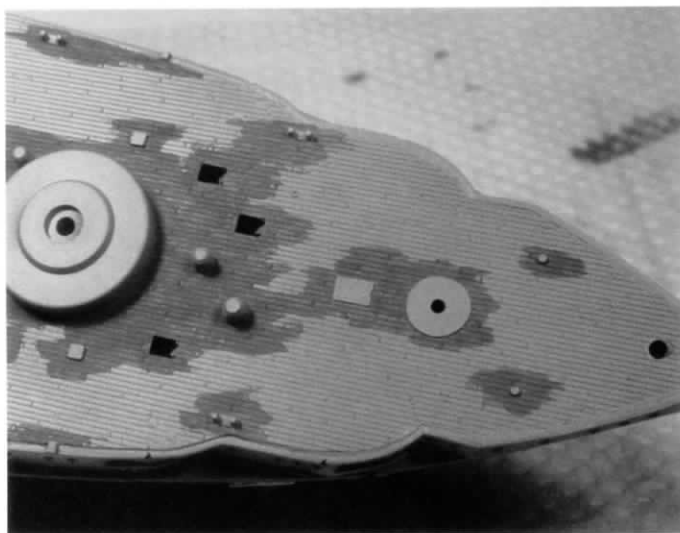
Masking around all the small parts and details on a main deck can be very time-consuming, but there is just no other way to do it if you are going to use an airbrush.



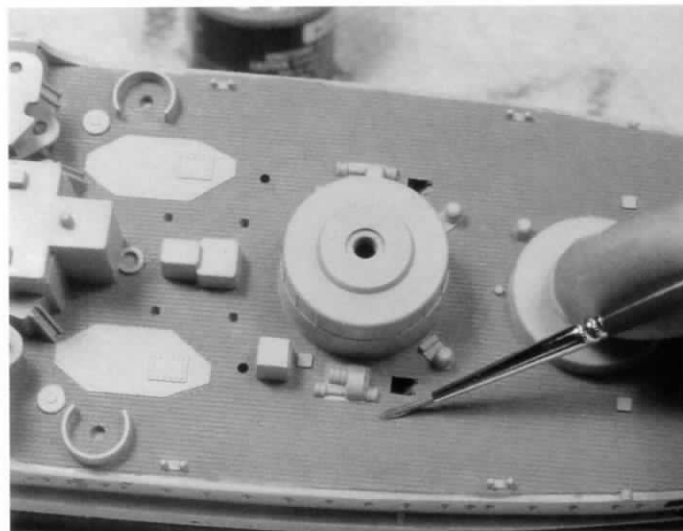
To set the demarcation line between the edge of the wood deck and the side of the hull, use thin strips of masking tape.



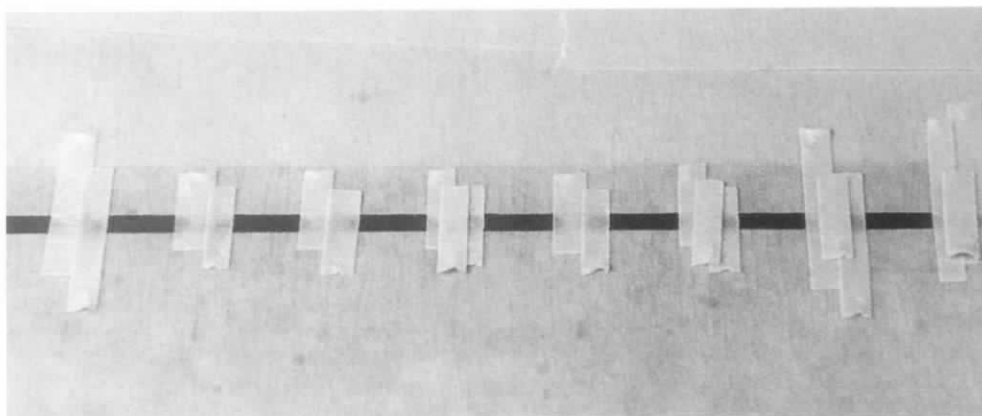
Here is another example of using masking tape to set the line between the wood deck and the hull.



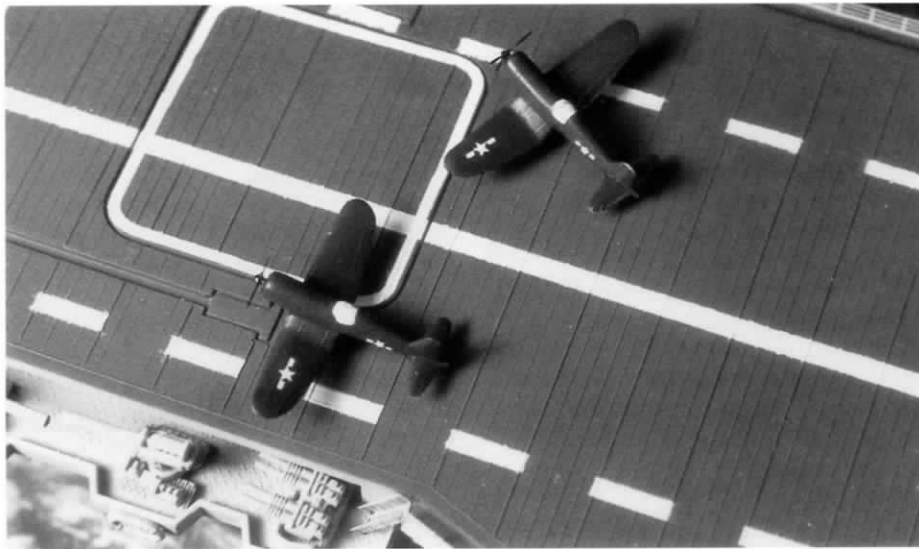
If you are going to hand-paint the deck, start by painting around all the raised detail using a small flat brush. To help the paint flow better, add a few drops of thinner to the paint bottle.



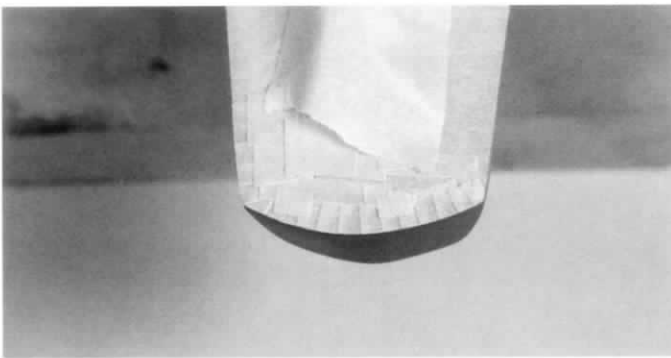
Once the areas around the deck details are done, you can use a wider brush to paint the open areas.



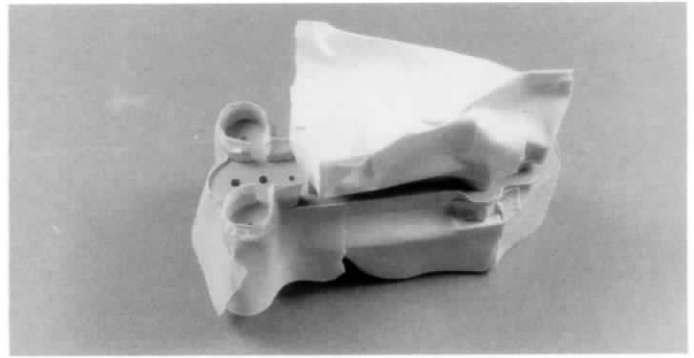
Manufacturers supply deck decals for aircraft carriers, but I like to paint these lines onto the deck whenever possible. Then I don't have to worry about these long decals breaking as I apply them. Another worry is that the decal will silver in one small area.



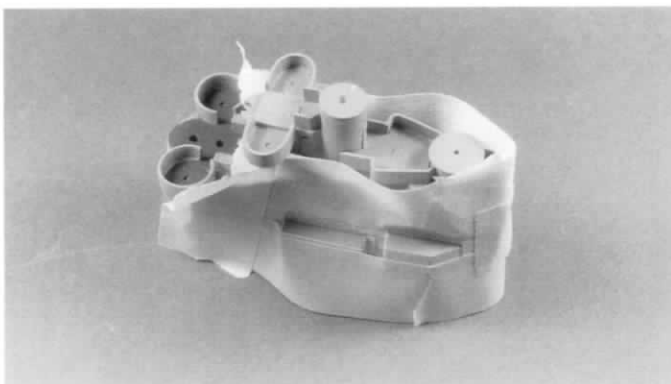
Here are the completed lines on a 1/700 scale aircraft carrier. The line around the elevator is a Gold Medal Models decal.



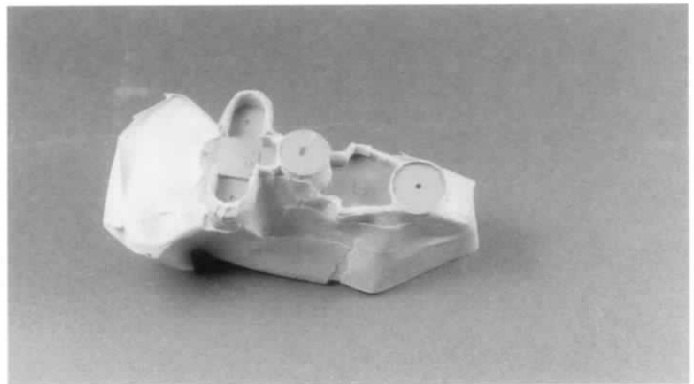
The best way to mask ship models, especially around curved areas, is to work with small sections of masking tape. This is a time-consuming process, but there is just no way around it.



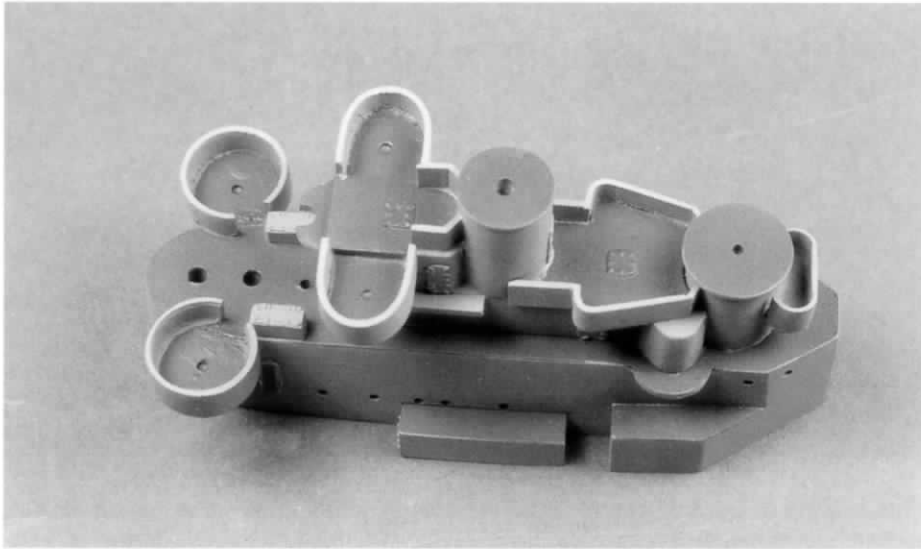
Sometimes you can save time painting superstructure parts by masking and painting them in stages. This reduces the amount of tedious masking that you would have to do if you were to mask the entire part and then paint it. Here the area around a deck level has been masked off and is ready for painting.



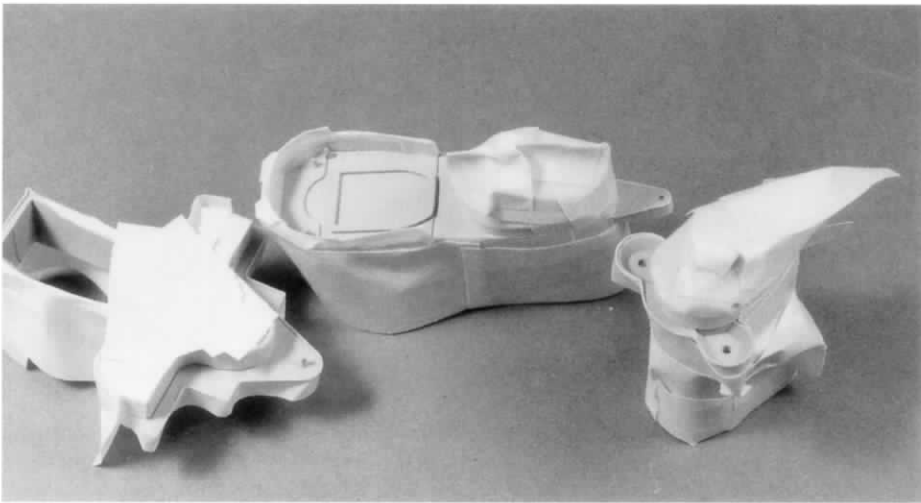
Next mask off the area around the lower deck and paint it. Careful application of the paint with an airbrush at low pressure keeps it concentrated on the area that is to be painted.



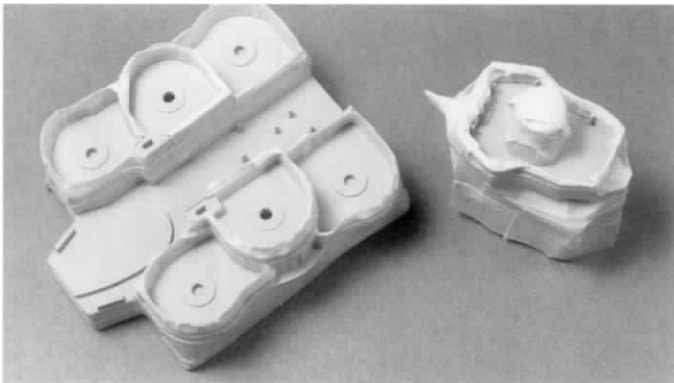
Next the top deck gets painted and the entire lower area is covered with masking tape.



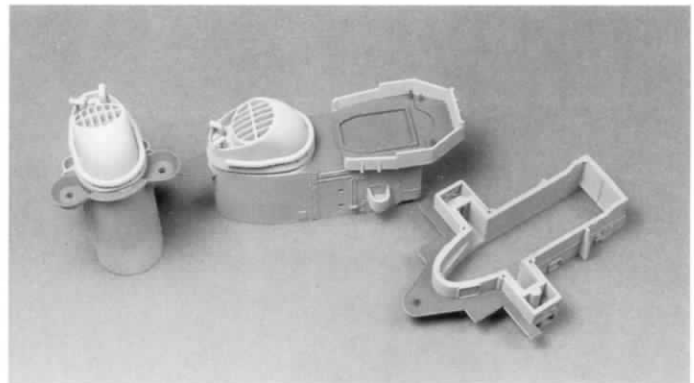
The completed part ready for installation: by working in sections you can reduce the tedious masking process, but you also have to have good aim with your airbrush.



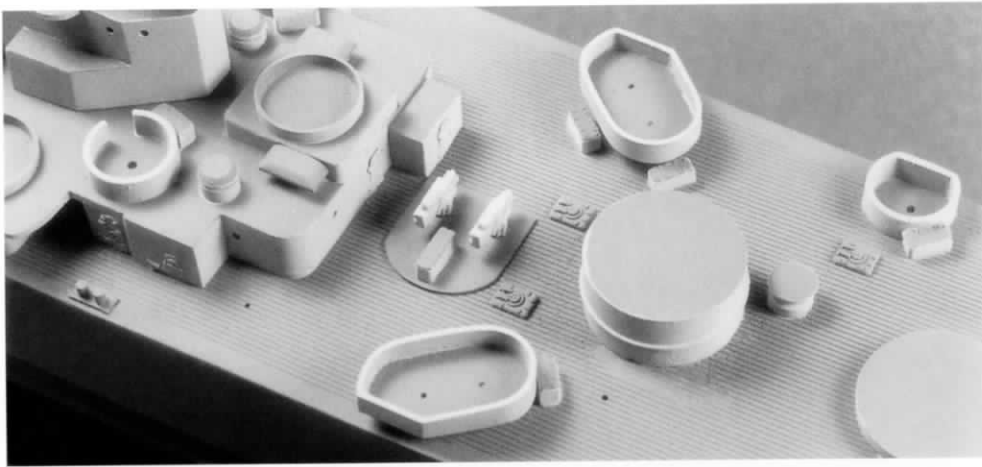
Here are some more examples of masking large scale superstructure parts.



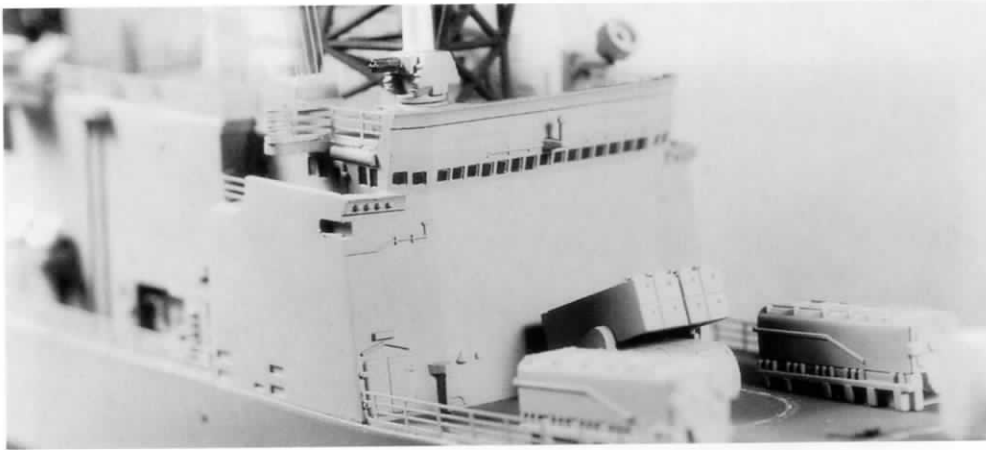
The most tedious masking is around gun and splinter shields. You have to cut a lot of small strips and attach them one at a time.



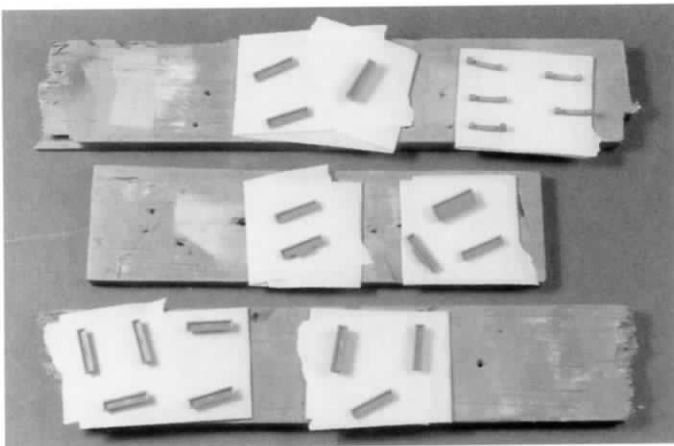
These parts have nice sharp lines between the deck color and the light gray of the superstructure sides. To ensure that the masking tape is pressed down along the base of the superstructure, run the tip of a toothpick over the masking tape.



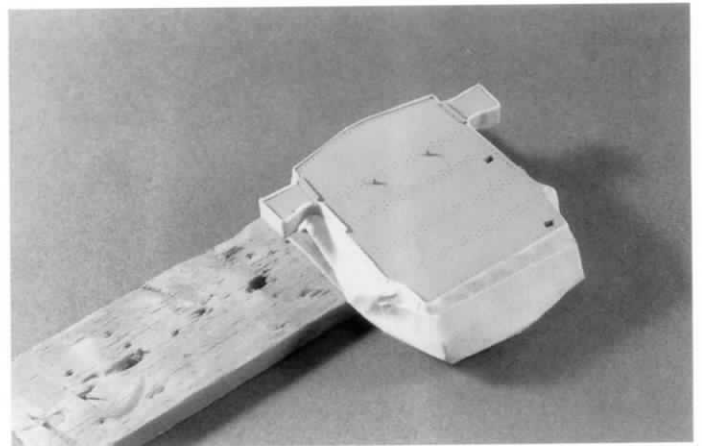
The masking job on this 1/350 scale Classic Warships *Cleveland*-class cruiser has resulted in a very clean-looking model with excellent demarcation lines between the vertical and horizontal surface paint colors.



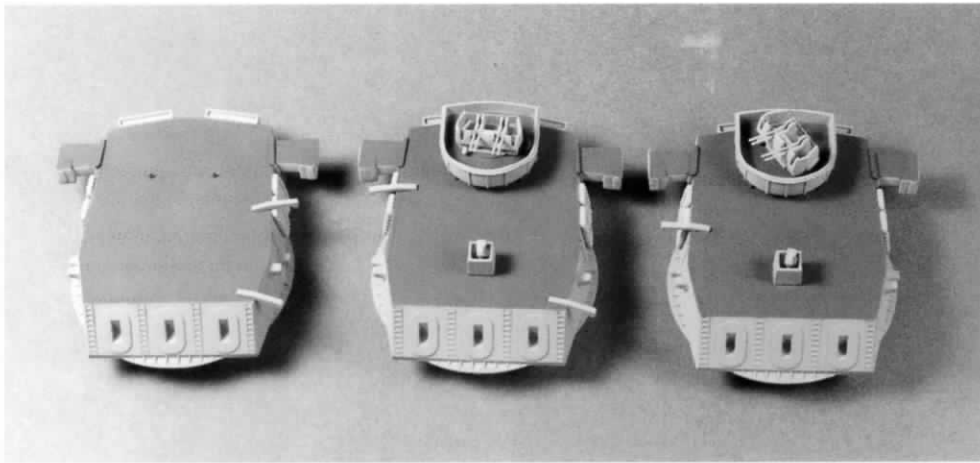
Painting windows can be tricky, so the simple solution is not to paint them. Instead, visit your local office supply center and purchase a set of disposable drawing pens. They are great for coloring in the box shapes of windows. The pens work best on flat paint, although you can use them on glossy paint as well.



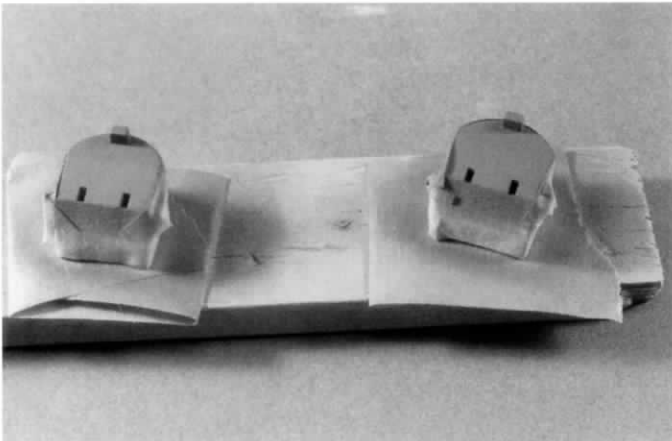
Parts management for painting is also important, especially when you are building up a large scale kit like Tamiya's *USS Missouri*. I use lengths of balsa, double over the tape, and place the parts on the masking tape.



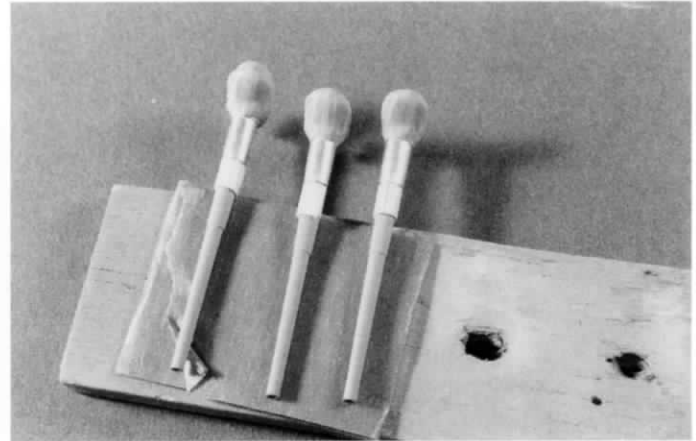
Careful masking on large turrets is necessary if you want to simulate their actual appearance. Work in small sections at a time when applying the tape.



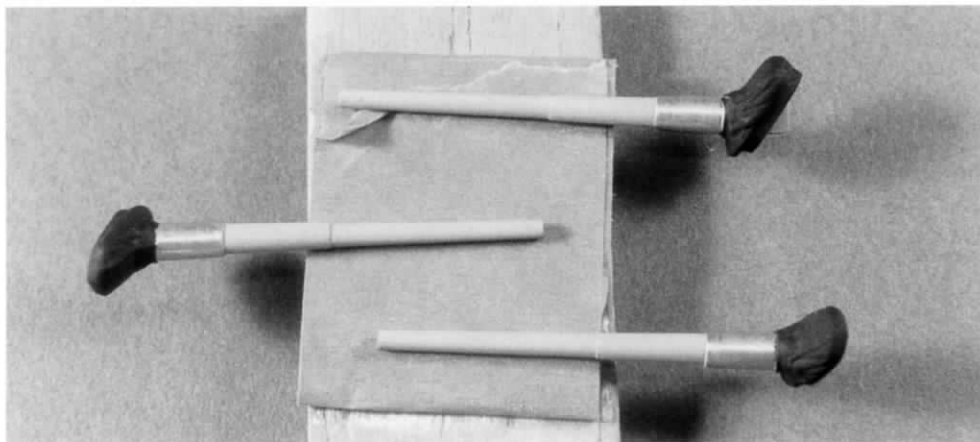
These 16-inch gun turrets are now complete and ready for their barrels.



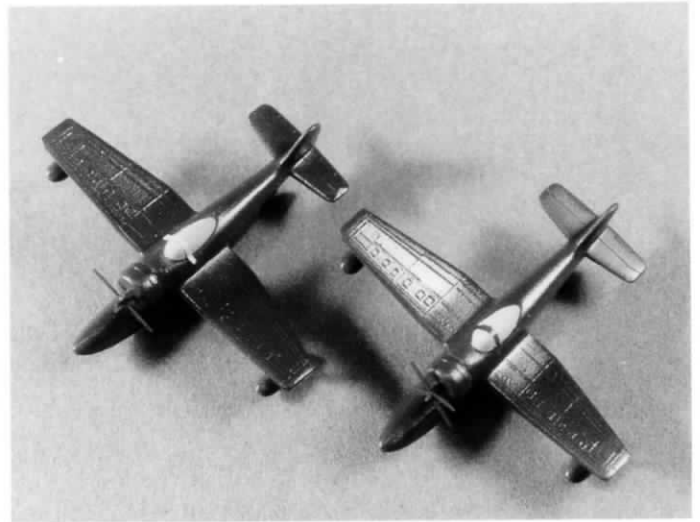
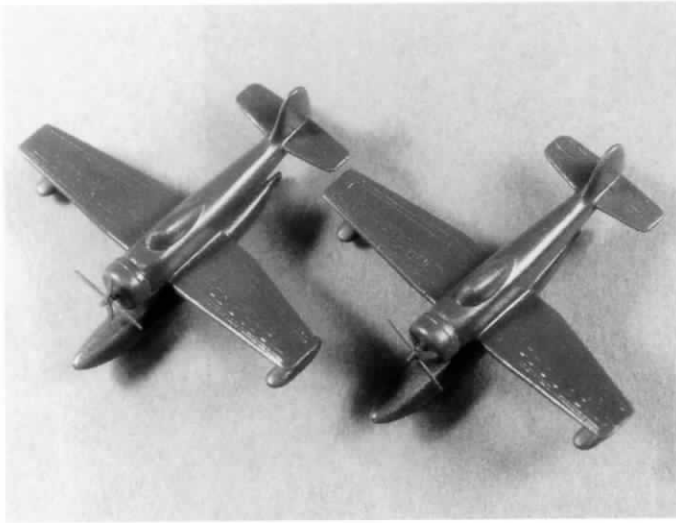
Masking small turrets can be a bit tricky because the masking tape has to conform to tight curves. Painter's masking tape manufactured by Scotch 3M stretches and is great around tight curves.



Hand-paint the bare metal portions of these 16-inch barrels with Testors metalizer paints. Rotate the barrel as you apply the paint. Then, if there are streaks, they will simulate machining marks.



The 16-inch barrels have been completely painted and are ready to be glued to the turrets.

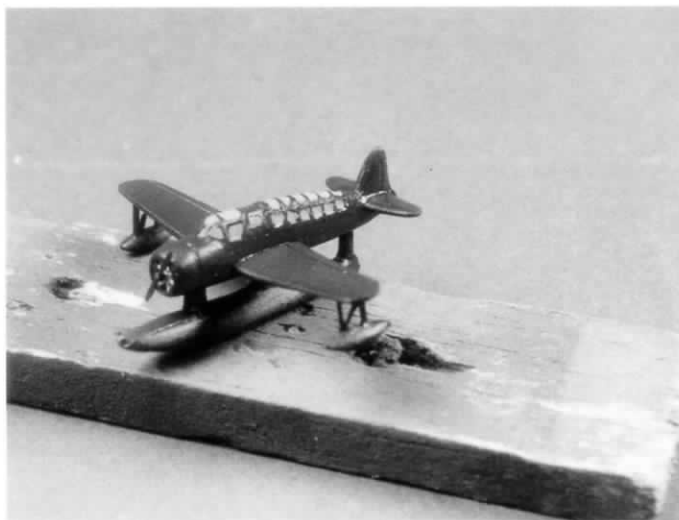


These aircraft are primed and ready for final painting. Note that the propellers have been added at this stage of the painting process. Because the surfaces of the propellers are so small, they can be hand-painted black.

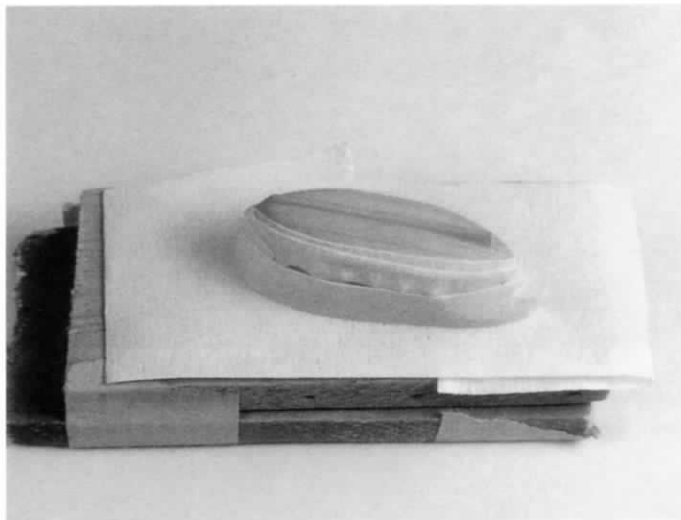
To make the framing on these aircraft very clean, I applied a thin length of masking tape across the canopy.



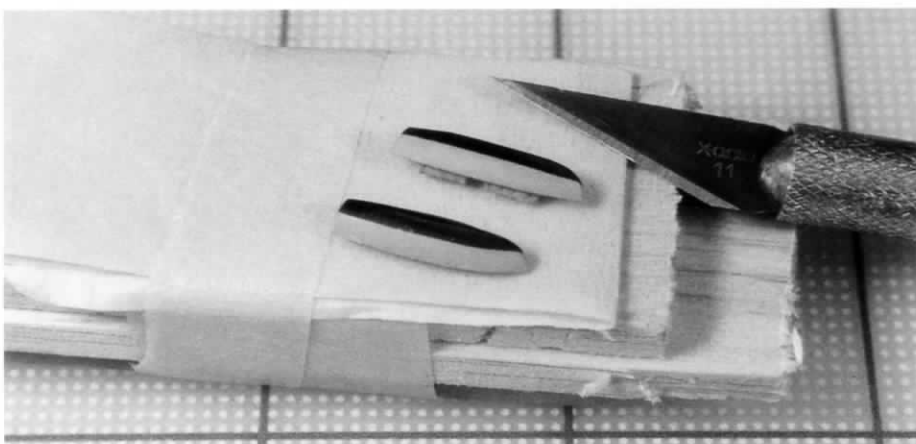
Here the completed aircraft have decals and are installed in place. The decals are slightly off-register. It would have been better if I had used Gold Medal Models decals.



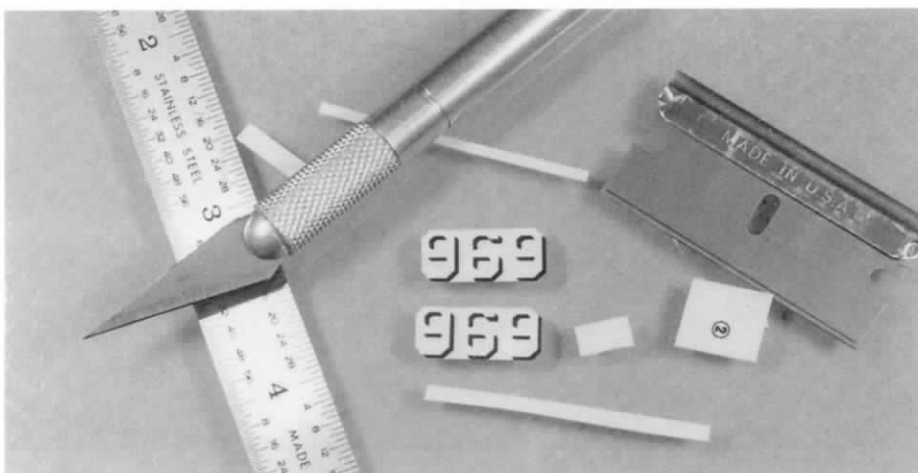
Here is a good example of hand-painting the glass on the canopy of this Kingfisher. If you want to mask these types of aircraft, do it in stages. Mask around each panel, paint the panel, let the paint dry, and then move to the next panel. While this is a slow process, it is not nearly as tedious as trying to mask the entire canopy.



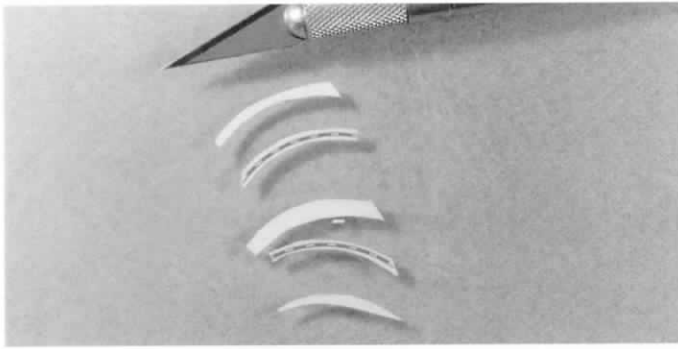
When painting small parts, don't forget to paint the boat hulls on whale boats and personnel boats.



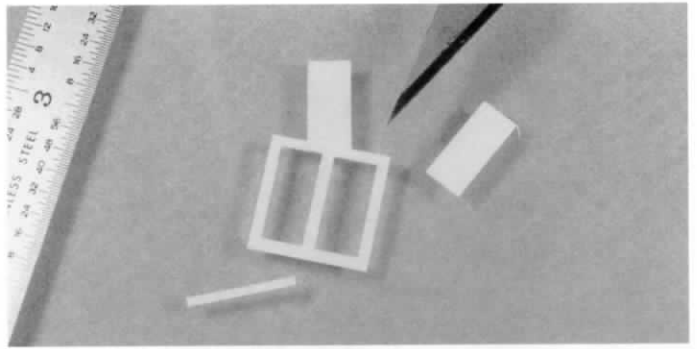
These two whale personnel boats look a lot better with their hulls painted.



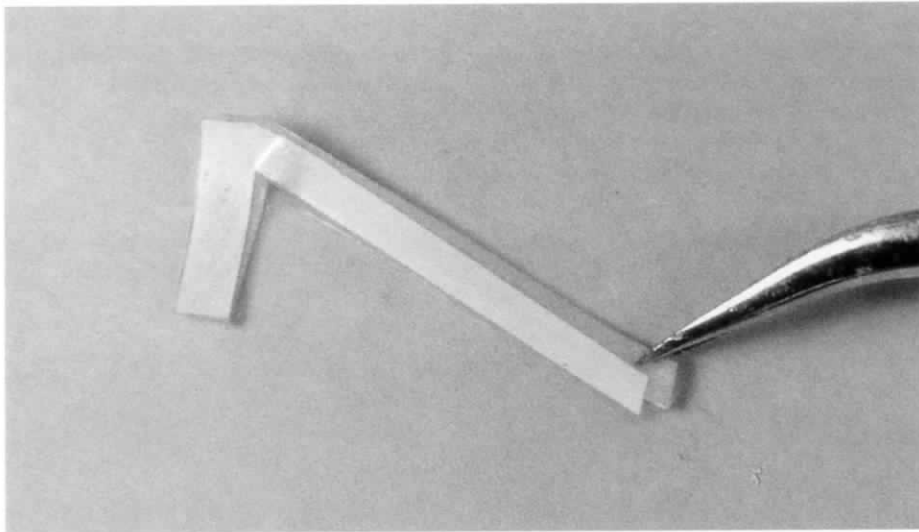
When removing decals from their sheet, cut them out on a glass plate. Remove as much of the clear film as possible to reduce the chance of silvering.



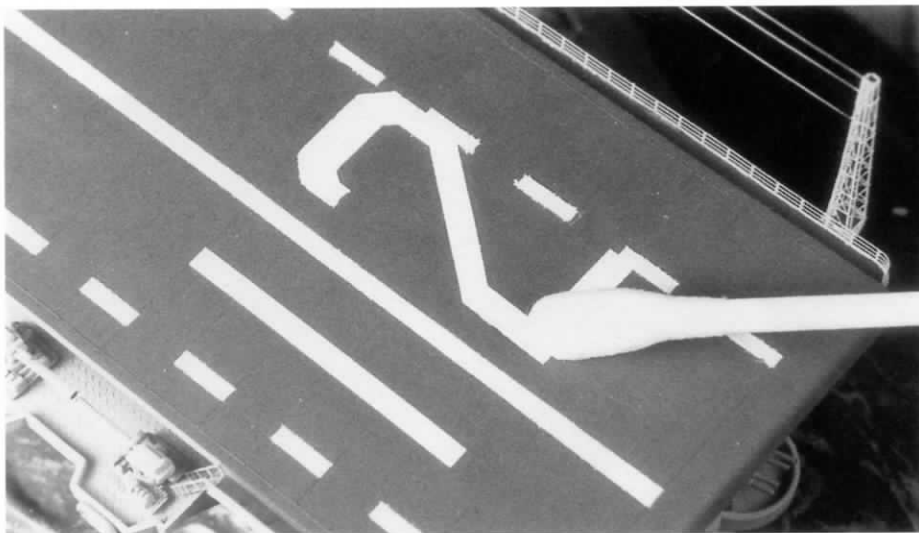
Remove as much of the surrounding clear film as possible even from very thin decals.



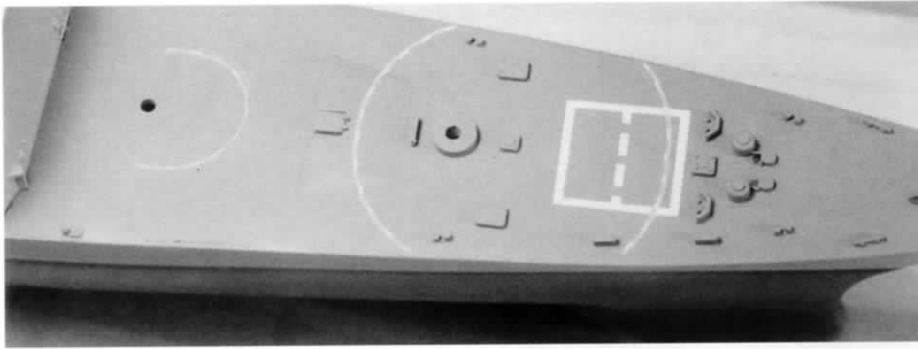
Remove the clear film from the inside of boxes and curves.



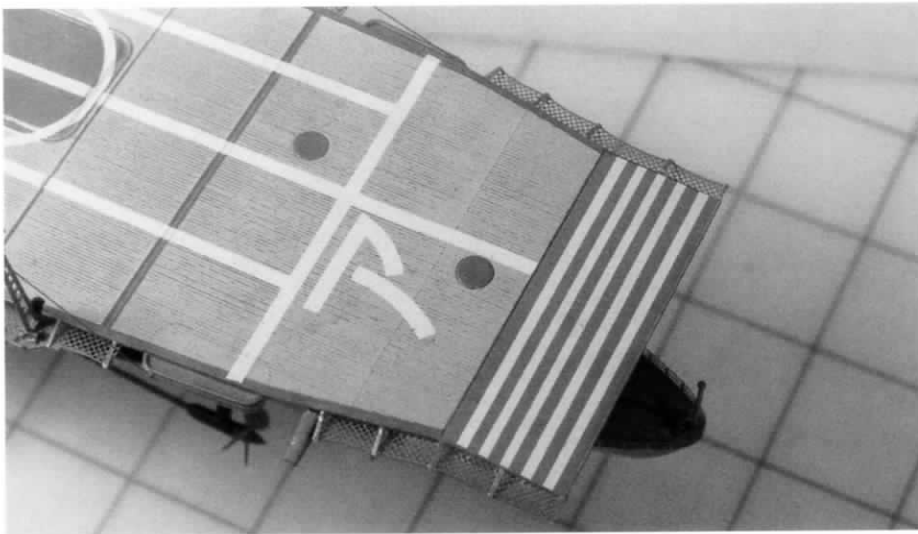
After you wet the decal, let it rest for a minute so the glue will loosen and the decal will slide from its backing. Move it ever so slightly off the backing; then grab the backing with a pair of tweezers and apply the decal to the surface.



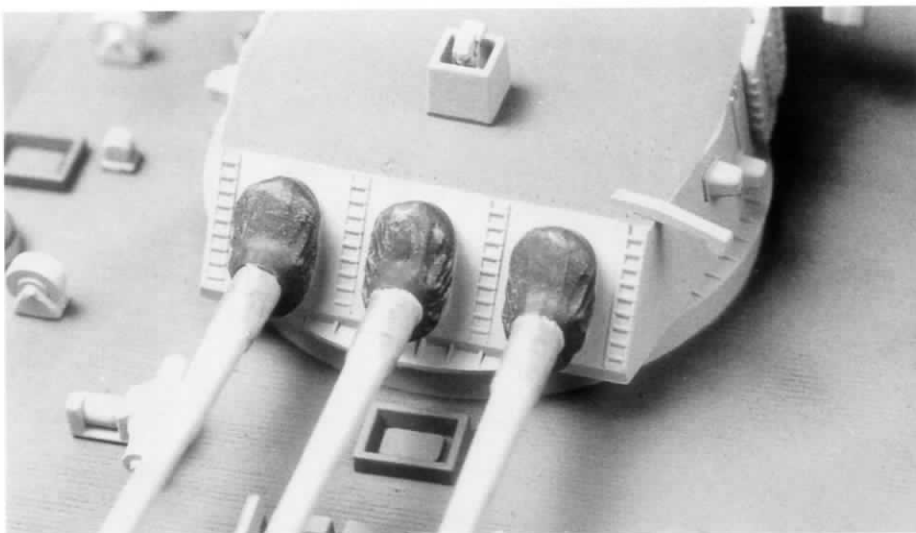
I use cotton swabs dampened with decal-setting solution to slowly move the decal off the backing and onto the surface. The swab is also useful for positioning the decal and applying coats of setting solution.



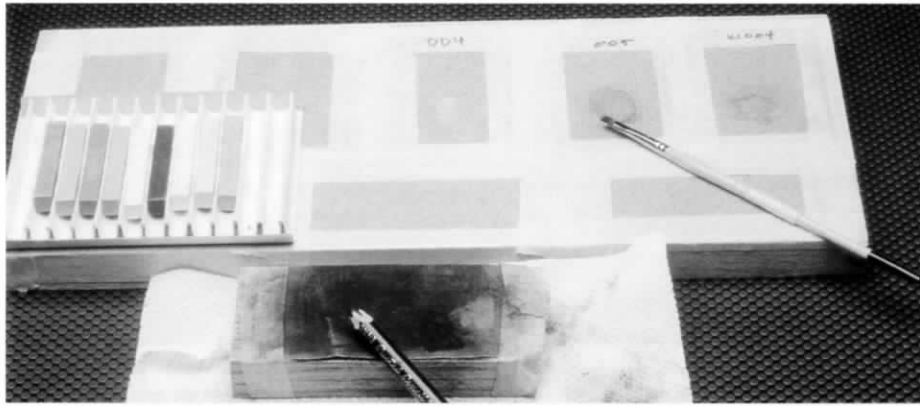
The deck surface of this DML 1/350 scale kit has been glossed and decals applied. Always remember to apply a clear gloss coat to any surface before applying decals.



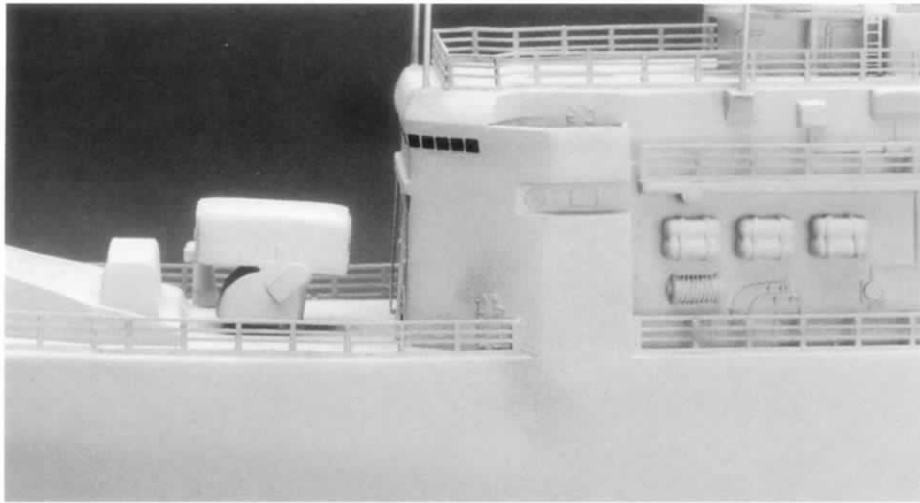
Here is an excellent example of good decal application and the use of setting solution to make the decal conform to raised deck detail. Model by Scott Weller



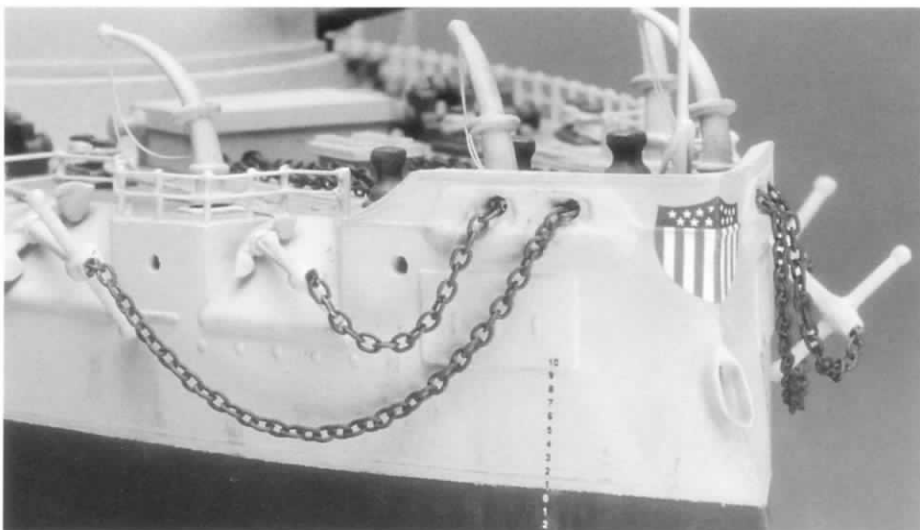
Drybrushing the blast bags on this 1/350 scale 16-inch gun turret with white paint gave them a slightly weathered look.



The best way to weather your ship models is to use pencil pastel dust. This enables you to mix and match colors.



Hints of rust along the edges of the deck and the sides of hulls are common to all ships. During World War II when some ships were out to sea for a year or more, they would really show signs of both paint wear and surface rust. Salt water is highly corrosive, and it does not take a lot of salt spray to start the corrosion process.



Another place rust stains occur is around the bow and anchor, especially in areas where the anchor and chains rub the deck or the side of the hull.