

Getting a Show-Ready Finish

Balsa Preparation

Thin Elmer's Carpenter's Wood Filler with water until it's creamy. Wet a foam brush with water, then use it to apply the filler to the balsa surfaces of your rocket. Make sure to cover the balsa completely, and try to brush out any ridges or bumps in the filler. If you get it on the paper parts, just wipe off the excess. Allow the filler to dry overnight.

Use Fine sandpaper to smooth out the rough filler. **Do this outside**, as it will make a lot of dust. When sanding fins, be sure to support the fin from underneath with your other hand. Keep the sandpaper curved when sanding tubes or nose cones, and keep turning the rocket so you don't accidentally sand a "flat spot" into the filler. Remember when sanding, it's not how hard you press that matters... in fact, pressing too hard will result in damaging the rocket.

When you are finished sanding the filler, dust the rocket off with a **dry** cloth.

Making a Painting Stick

Take a length of 1/2" dowel rod, long enough to make a good handle (at least 18 inches would be good) and an expended engine casing. Push the rod into the upper end of the casing (the end without the nozzle) until it stops. It should fit snugly; if it's loose, pull it out and put some masking tape on the dowel until it fits tightly.

When priming and painting, you will use the painting stick as a handle to hold the rocket. The engine casing goes into the engine mount of the rocket, obviously. You may need to sand the edge of the engine casing to get it to fit into the engine mount easily.

You will also need some place to put the painting stick to hold the rocket while its drying. I use an old baker's rack for this.

Priming and (More) Sanding

To get a really smooth finish, you need to prime and sand your rocket. Use a dry-sandable spray primer for this. I have had good luck with Wal-Mart Colorplace Gray Primer, but it does apply a rather thin coat; Rustoleum Sandable Gray Primer works very well and applies a heavier coat. Many primers are not suitable for dry sanding, and will clog up your sandpaper quickly if you try it.

Holding the rocket on a painting stick, spray the primer on with smooth passes from tail to nose or nose to tail. Don't just hold down the button and spray continuously, or you'll get runs. When you have a smooth coat on the rocket, let it dry 15 minutes, then apply another. (If you're using a heavy primer like Rustoleum, you may skip the second coat.)

Allow the primer to dry overnight before sanding. Follow the tips in the Balsa Preparation section, above, when sanding the primer. Use Fine or Very Fine sandpaper for this step. If you sand through to the underlying material, simply move on to another part. It's okay to sand through the primer on any coat except the last (which means, if you sand through the primer, it's not your last coat).

When finished sanding, dust off the rocket with a dry cloth, then apply another coat of primer. When the primer dries, inspect the rocket in good light. If it appears very smooth, you're done priming. If not, sand and prime it again.

Painting

Painting the rocket is done the same way as priming, but primer is more "forgiving" than paint, so you need to be careful. When painting, keep turning the rocket. **Don't** try to get a spot "covered" all at once, or you'll get a run; apply a light coat and move on. Even a minute's worth of drying will make the paint run-resistant, so when you apply more paint it won't sag or drip. If you get a run in your primer, you can always sand it off; if you get a run in your paint, it's a lot harder to fix. Most importantly, if you find yourself trying to cover a spot, **move on** and come back to it later.

You'll need to apply several coats of your base color to get a good finish. Modern paints have weird limitations on when you can recoat them. Most say "within an hour, or after a week" or something like that. Read the can, and treat those instructions with respect, or your paint might crackle or peel on you. If you have time, you can get the base coat painted in one day... just give the paint 15 to 45 minutes to dry before applying another coat. It's easier to paint in bright sunlight since you can more easily see where the paint is wet; don't paint over wet paint repeatedly, or you'll get a run.

Make sure that all paints you use on your rocket are compatible with each other. Since they don't actually tell you this on the label, this means that

you should use the same brand and type for every color you use on a rocket; for instance, if you used Wal-Mart Colorplace paint for a base color, don't apply Rustoleum as a second color. If you really want to mix colors in this way, test the paint compatibility on another item first.

If you want to paint your rocket in multiple colors, you may need to mask off sections. Use blue painter's tape for this. **Don't** put tape on paint that hasn't "cured." The paint has cured when it's past the "long" recoat time, that is, after a week if your can is marked as described above. For best results, after applying the second color (which generally can be done as a single coat), remove the tape carefully. If you let the paint dry before removing the tape, it may chip or develop a ridge where the tape was removed. So, when taping the rocket, be thinking about how you're going to get the tape off with the paint wet. I leave "tabs" of tape that I can grab with pliers for this purpose, so I don't get paint on my hands.

Of course, painting the nose cone a different color is pretty easy. Attach the cone to a painting stick of some sort; for a plastic cone, you can usually stick a dowel into the bottom of the cone. For balsa cones, you may be able to tape the screw eye to the stick. Use painter's tape to

protect the "shoulder" (the part that goes into the rocket) as painting it may make it stick in the rocket.

Decals

When the final coat of paint has "cured," you can apply any stickers or decals. When applying a sticker, be careful that you have it where you want it before you put it down; you probably won't be able to move it. "Waterslide" decals must be cut out and dipped in water until the decal slides easily on the backing. Carefully slide the decal from the backing to the rocket. You'll be able to move the decal around for a few moments; when you have it where you want it, let it dry completely.

Clearcoat

To protect the paint job you've just done, and the decals you've just applied, use a clear spray paint. The clear paint should be the same brand and type as the paint if possible; some paint formulas are not compatible with others and may lead to crackling even when the paint is fully cured.

Allow decals a day to dry fully before applying a clearcoat to the rocket. Apply the clearcoat the same way you applied the paint, being careful not to get any runs in it.