

PEAK OF FLIGHT

NEWSLETTER

ISSUE 421 | JULY 12th 2016

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Achieving a Glossy, Even
Finish With Spray Paint



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PEAK OF FLIGHT

Achieving a Glossy, Even Finish With Spray Paint

By Chris Michielssen

You finish a model rocket and are satisfied with the finish. You take it to a launch and under bright sunlight you notice some areas are glossy and other areas rough. This article will give a few answers and different techniques for an overall gloss finish using regular spray cans.

Good finishes are all about surface preparation before color coats. If the balsa grain and body tube seams aren't filled and smooth, don't expect a catalog finish. The phrase "catalog finish" is a bit misleading. Many of the rocket photographs you see in early catalogs were airbrushed. Today, flawless face card rocket photos are touched up and "finished" on a computer. I've seen some of the same rockets that were featured on catalog pages. In person they aren't as perfect as you are lead to believe.

I should note that I use Rustoleum 2X spray paints on my rockets. It's easy to find and there is a wide color selection available. Everybody has their favorite brands. Play it safe and don't mix cans from different manufacturers. A word of caution - The Rustoleum 2X Gloss White can be unpredictable. It can be an even spray one minute, then (rarely) shoot out a rough cottage cheese. Luckily a bad spray sands off easily. Still, it's very frustrating. I haven't had this problem using other Rustoleum 2X colors.

The Rustoleum 2X paints have more pigment and cover quicker than other brands. Cheaper

paints can require many more coats for a good opaque coverage.

Read the spray can directions to find out how much time to wait between re-coats. Different brands of paint have different drying times. For example: "Apply a second coat within one hour or after 48 hours." Follow the rules and there shouldn't be any surprises. Body tubes and fin areas will dry faster than a plastic nose cone will. Tubes and fins "breathe" more than a non-porous plastic nose cone. Allow more drying time when painting plastic.

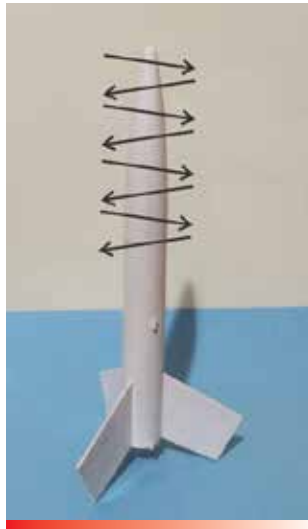


Figure 1: Don't paint your rocket in a zig-zag pattern.

I'll typically spray a model in three coats. Two light coats waiting ten minutes between coats. Note that the ten minute time between coats falls into the re-coat within one hour window. You may see some rough areas that might require some smooth sanding before the final heavier coat. Let the paint dry, sand and wait 48 hours before the "wetter" final coat. That wetter last coat is where the overall gloss finish is achieved. The trick is to lay it on heavy enough to be shiny, but not thick enough to run or drip.

The larger the model, the harder it is to get an overall gloss. More fins and more details make total coverage difficult. The model in this tutorial is a three fin / nose cone classic, the Estes Red Max. I follow the old Centuri painting directions: ***"Most important is the number of coats of paint. DO NOT try to paint your model with one heavy coat! Instead, give it a couple of quick light coats, THEN a (heavier) finish coat."***

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Don't paint your rocket like a housewife painting a patio chair (**Figure 1, Page 2**). First timers set their rockets on the ground and spray in a zig-zag pattern from top to bottom. Then walk around the rocket and repeat the process.



Figure 2: Make your own painting wand to aid in the painting process.

If you aren't already, start using a painting wand. It's simply a 5/8" diameter dowel with an engine casing friction fitted on one end (**Figure 2**). Slide the casing into the engine mount and clip the engine hook over the engine casing. It's sturdy and makes all rocket surfaces more accessible for painting. I cover the dowel stick with a wrap of paper held on with tape.

A rolled paper towel is pressed into the open area around the engine mount to keep paint out (**Figure 3**). Use tweezers to place the crumpled paper in. Be sure the paper towel doesn't stick out or block paint from covering the fins or body tube edge.

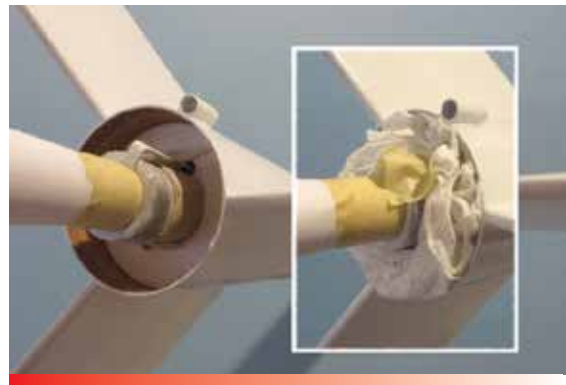


Figure 3: Keep paint away from the engine mount with a rolled paper towel.

To keep paint out of the open body tube front, roll some paper and tape it so it stays open and tight against the inside of the tube (**Figure 4**).



Figure 4: Insert rolled paper into the body tube to keep paint out of the body tube.

Before spray painting, I brush off the dry rocket with a soft brush. Lint and dust will collect and could end up under your paint. Some suggest using a tack cloth but a new tack cloth can leave oil on the surface. Did you ever think you were done spraying only to find small areas that didn't get paint? Start with the areas that you could miss. Spray the leading and

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trailing edges of the fins and tip of the nose cone first. Spray the front and back ends of the launch lugs and let dry (**Figure 5**).



Figure 5: Spray the leading and trailing edges of the fins and the launch lug first.

your spray pass off the model from the left. Go to the right, move down a bit and spray to the left. Continue down the fin surface, back and forth until you reach the root edge (**Figure 6**).

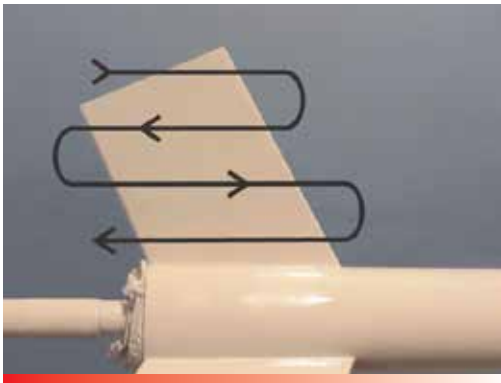


Figure 6: Paint the upper fin horizontally from top to bottom like the above example.

Paint the upper fin horizontally, like it is on a slow turning rotisserie. My left hand holds the painting wand dowel, my right hand holds the spray can. Start with the top of the upper fin in the picture. Start



Figure 7: Paint the rocket tube using the same horizontal pattern that was used on the fins.

Now spray down the entire length of the body tube from left to right. Turn the model slightly counterclockwise and spray down the entire length of the body again.

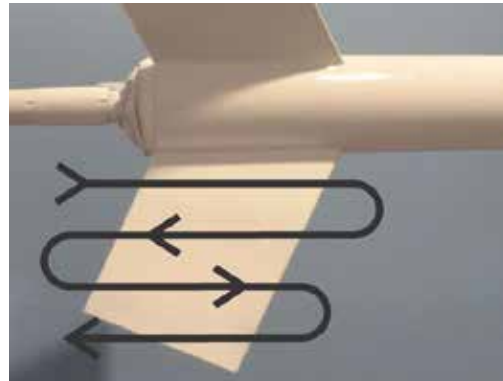


Figure 8: Paint the bottom fin horizontally from top to bottom like the above example.

Next spray the lower fin surface from the root edge down to the outside tip. Back and forth, each pass goes lower than the previous one (**Figure 8**).

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Still holding the painting wand, turn the model one-third turn counterclockwise and repeat what you just did over the second section of the model. Down the top fin, across the length of the tube then down the lower fin. Then (obviously) finish up with the last third section of the model.

As mentioned before, two lighter coats are applied first with ten minutes between each coat. If you notice any rough areas that need some light sanding, you'll have to wait for the paint to fully dry, at least 48 hours before sanding and re-coating. Lightly sand then apply the second light or third thicker finish coat.

When spraying the last heavier coat, do so under bright sunlight. With light reflecting directly off the surface you can better tell if you are getting full, wet even coverage. That last coat should go on glossy and dry glossy.

After finishing the heavier third coat, set down the spray can. Keep the model horizontal and slowly turn the model on the painting wand like a rotisserie. This prevents any paint from "pooling" and starting runs. Turn slowly for a minute until the paint "skins" over, preventing a run.



Figure 9: For touch-ups, spray paint into a cup with a plastic bag as a liner. Then use a Q-tip to apply to the needed areas.

As careful as I was to get total color coverage, I missed the trailing edge of one fin and the de-

calcs were already applied, I couldn't go back and spray again without some complex masking. For touch-ups, use a small plastic cup and line it with a sandwich bag. Then spray some close, quick shots of paint into the small lined cup. Use a Q-tip, and dip the cotton end into the paint. Wipe off the excess on a scrap of cardboard (**Figure 9**).



Figure 10: The touch up blends well into the un-painted areas.

Roll (don't brush) the Q-tip over the edge. Over a fin edge like this, the Rustoleum 2X paint blends in well. Nobody will ever notice the touch-up (**Figure 10**).

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Figure 11: The final product.

It's hard to take a picture showing an overall gloss finish. This back end shot gives an idea of the light reflection (**Figure 11**). Like any new technique, spray painting takes practice. Learn from each model and your gloss finishes will improve.

About the author:

Chris Michielssen is an avid builder and flyer of low power model rockets. He produces Odd'l Rockets and accessories, available from Apogee Rockets. His building blog: www.modelrocketbuilding.blogspot.com is followed by 1,500 people each day worldwide.



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