FIXING A BAD PAINT JOB

EXPERT TIPS TO GET YOU STARTED
During the early 1990s, Ronco began hawking food dehydrators via TV ads that were so ubiquitous no one could miss them. The ads were convincing enough for a couple of us in our office to take the plunge and buy one to make homemade beef jerky.

Days after receiving the dehydrator, I was brainstorming with a coworker about my misery of waiting for enamel paint to dry. I had read about someone taking a big box and placing a lamp with a 100-watt bulb inside the box, along with a good deal of time, materials, even a fan, to make a homemade “model dryer.”

I had thought about the home oven, because it also has a bulb inside (leaving the light on but the oven off would make for a warm environment). But this could be catastrophic if someone didn’t know, or forgot, that there was a model in there and turned the oven on – not to mention potential contamination issues between food items and model items.

About the same time, discussing possible real-world solutions to the paint problem, we both looked over to the desk where our new purchase sat, and blurted out simultaneously “what about the dehydrator?” It sounded plausible, but because it was purchased for food purposes (and had already been used for that), it wasn’t going to be used for models.
Dehydrator dos and don'ts

**DO** Measure the temperature inside; if it exceeds 110 degrees, use it with the lid off, or you may want to add more vent holes to the lid or the spacers, or use something to hold the lid a few inches above the spacers/trays.

**DO** Use the dehydrator to dry putty, primer, paint, and decals.

**DO** Use the dehydrator to warm cans of paint and parts prior to painting.

**DO** Place painted bodies in the dehydrator after removing them from paint stands.

**DO** Unplug unit when not in use.

**DO** Use proper precautions.

**DON'T** Put a painted body into the dehydrator mounted to a paint stand that distorts the body with tension used to hold it in place; when it is heated in a distorted shape, it could “set” permanently. And many model plastics will not only distort, but shrink from too much heat.

**DON'T** Place resin bodies in a dehydrator without special precautions; each batch of resin can be different, so use caution to avoid warping bodies or other parts. Conversely, resins do tend to react positively to medium heat to remove warp, so a body that is already warped could be placed in a dehydrator and warmed and reshaped, in the same manner that many users have had success with dunking them in sub-boiling water to reshape warped resin.

**DON'T** Spray paint near a dehydrator in use.

**DON'T** Put any open containers of paint or flammable thinners inside a dehydrator; spilling could and would cause a disaster.

In what has to be the case of the world’s best timing, I returned home that day to a flyer in the mail from a local closeout/liquidation chain. Inside they advertised a food dehydrator that looked nearly identical to the Ronco.

An hour later, I brought home one of these Ronco knockoffs by the name of “Advantage” to see how it might work.

Considering the price was about 25 percent of what the mail-order Ronco unit cost at the time, it was looking quite good, even before I tried it.

**HOW THEY WORK** The Ronco and knockoff Advantage food dehydrators work on the same principle: they have a small electric coil element inside the base, adjustable air inlet vents at the bottom of the base, and outlet vents in the lid allow for convection – drawing outside air through the base and letting the warmed air escape out the top.

There isn’t an on/off switch on these convection units; you just plug them in. The heating element warms the inside of the dehydrator, without getting to oven-like temperatures, intended to slowly dehydrate food.

**LEARNING THE ROPES** I checked the temperature in the rack with a scientific temperature gauge, and it measured 105 to 110 degrees. I figured that would be okay for plastic parts, because they would likely be subject to similar temperatures during shipping.

It didn’t take long to realize that the dehydrator was nearly a miracle-worker for speed-drying the enamel paints.

I was able to lay down final paint and clear on a body one evening, and the following evening wet-sand and buff the final finish. This had previously been unheard-of with enamels; normally I'd have to wait several days or longer to let the paint cure enough to cut and polish.

I began using the dehydrator to speed-dry primer, putty, paint, glue, and decals. It also works to warm a body and a can of paint prior to painting.

**BRAND** A common question is, “which brand should I buy?”

It’s nearly impossible to keep up with the various dehydrators that are currently available. They’re sometimes available at discount stores, outdoor stores, hardware stores, and they’re always readily available on line.

The Ronco unit became available for a short time at Target stores a few years ago, and is still easily available on line.

My friends and I have used at least five different brands of dehydrators, and they all work fine.

**MODIFICATIONS** Regardless of the unit you purchase, you will likely need
to do some minor work to the trays to make them fit model bodies and parts, and to adjust the temperature.

The dehydrator came with five trays, each a bit more than an inch tall; that’s rather shallow for anything larger than smaller parts. I cut out the bottoms of several trays, transforming them into spacers that would allow taller items such as bodies and interiors to sit inside with the lid in place.

Some units make temperature adjustment easy, with a built-in thermostat control; some have an on/off switch; and others are simple units that merely plug in and operate at one temperature. The only way to adjust the temperature is with sliding vents.

I have read that for every 10 degrees above ambient, a dehydrator will cut drying time in half. I cannot guarantee that statement is scientifically accurate, but it seems plausible based on drying times I have encountered.

If ambient is 70 degrees and the dehydrator is 110, 8 hours in the dehydrator works out to more than 5 days ambient; 24 hours in the dehydrator works out to be equivalent to 8 days ambient.

I know that I can easily wet-sand and polish an enamel paint job after 24 hours, and have done so several times in as little as 8 hours.

Now that I primarily use lacquers, it is possible to shoot the body paint, put it in the dehydrator for a few hours, work on something else, and later that day, polish out the paint that was applied earlier.

I once finished a two-tone curbside model in 14 hours; painted, dried, masked, second color applied, dried, polished, and detail-painted/assembled in one long weekend day.

OTHER USES The dehydrator is a simple tool that allows me to work more
efficiently when I’ve begun the process of priming, puttying, painting, gluing, and applying decals to my models.

In addition to speeding up drying, the dehydrator can also help you improve quality.

Primers and fillers have a better chance to cure completely, reducing potential issues later from visible shrinkage under the final paint.

Considering that dehydrators are tools that are generally turned on and used for long-term drying of food products, they should be safe for using overnight or over a few days while drying model parts.

With that said, be safe and use common sense.

Follow along with the photos I have taken of five common dehydrators that I have used. My original Ronco knockoff made by Advantage is still working perfectly nearly 20 years later!

If you cannot find one of the brands mentioned, you should be able to find an alternative.

When I was researching the various dehydrators shown, all but the Advantage seemed to be currently available from multiple online sources.

Japanese customers can purchase a 100 volt “Mr. Dry Booth” dehydrator made by GSI Creos for modelers. It’s a rectangular box with a clear lid and shelves, with a timer that works for up to an hour.

**FINAL THOUGHTS** The dehydrator has become one of my most-important tools, allowing me to accomplish more in less time.

For someone who loves paint and bodywork, and coming from an industrial design background of getting the best results possible in the least amount of time, a dehydrator was tailor-made for my modeling use.

Good luck with yours!
You CAN repair METALLIC PAINT

The Old Man shares more painting tips and tricks

by DONN YOST

In a recent issue, several individuals expressed interest in expanded coverage of paint finishing/polishing techniques.

When our Editor came knocking at my shop door, asking for my input on said subject, who am I to refuse His Lordship's royal request?

I look at it this way: I get to help out, show a viable method of achieving a quality finish, and smack an old wives' tale out of the park – all at the same time.

Sounds like a winner to me!

Murphy (of Murphy's Law fame) came to visit the shop during a painting session, in the form of my youngest child.

She opened the door to the paint booth on a windy day – the “Paint In Progress, Do Not Enter!” sign on prominent display in large block letters evidently did not register within the confines of her college-educated mind – Yup! Dirt and debris had found its way onto what was once a pristine finish.

I can hear the screams now: “This idiot is going to sand a metallic paint job! You can't do that!”

Yes ... you ... can!

The trick is to sand the entire body to maintain the consistency of the color.

When metallics or pearls are propelled through your airbrush, they tumble every which way possible, and land accordingly. They stick to the surface on the body in the same manner. Be it the first coat or the last, they are sticking up however they choose to land.

With me so far?

If you were to lay down 12 mist coats of color, and wet-sand the thickness of two of those coats on all the parts, you are now down to 10 coats overall, correct?

As long as you have wet-sanded lightly and evenly, all of the parts are evenly matched colorwise. Be it the eleventh or the seventh coat being removed, they were tumbling out of the gun on every coat. Wet-sanding will flatten the paint surface; no argument there.

However, when polished or cleared, the quality and properties of the metallics and pearls come back up to the forefront of the finish. You lose nothing – be it sheen or depth and richness of color – by doing so!

And with Murphy's laughter echoing through the shop, it's time to go to work!
Thanks to Murphy’s Law, “Dirt and debris had found its way onto what was once a pristine finish,” says Donn Yost. How to fix this metallic paint job?

Be sure to do all your work under adequate lighting – preferably fluorescent – because almost all show halls have it. What you show under, you must build under!

Starting with the 3200, dip it into the bowl of soapy water and lightly sand the entire body, hood, valances, etc. Watch the edges and high points to avoid burning through the paint. It can and will happen on occasion!

Should you do so, no big deal. A couple of overall mist coats will cover up the burn marks. Be sure to wash and rinse the body and parts periodically to remove the sanding debris. Also, dry it off and inspect it frequently to make sure you haven’t missed any dirt or other imperfections. Continue this process with each grit, up to and through the 12000.

All the tools that are needed to complete the task at hand. Starting in the upper left-hand corner: Micromesh rubber-backed polishing cloths in the following grits: 3200, 4000, bottom of the bowl, 6000, & upper right-hand corner, 8000 & 12000. In the bowl? Cold water with a dash of Original Dawn dish detergent. Missing from the photo are patience, focus, a gentle touch, and more patience.

Home stretch, working the 12000, and I am pleased with the results. Surface is as smooth as the proverbial newborn’s behind. There are a few spots that will need to be touched in with a mist coat or two, but as I stated earlier: not a big deal! I mixed this paint batch on the thin side to begin with.
These are the same areas that were photographed initially. The debris and inconsistencies in the finish have been removed. Yes, the finish is flat in appearance. However, after the clearcoat is applied, the depth and richness of the color will appear. Coupled with a mirrorlike sheen, this will have a show-quality finish after it has flashed out and undergone a light polish-out.

This is a bit of a side step, if only to prove a point. A young modeler recently asked me on line to explain how he could achieve a show finish. I explained the steps in detail, and lo and behold, the boo birds began to descend: “You don’t have to take it up to 12000.” “Ridiculous, 600 is plenty, you won’t even see 12000 alter the surface!” And it went downhill from there!

Look at the lower-right portion of the roof. You can see the scuff marks left by the 12000. Now direct your attention to the center of the deck lid. Burn-through? Uh-uh! That is the dried residue of the clear that was removed when I lightly sanded the trunk with the 12000. And as as another old wives’ tale goes swirling down the drain, I leave you with the words of my Pap, who always said, “visibility lends to credibility.”

Break out the bowl, fill it with cold, clean water, add the dish detergent, and line up your polishing cloths again. I had little orange-peel in the clear finish, so I just started with 4000 and worked my way up to the 12000-grit. Again, sand gently; you want to smooth the surface, not gouge it! Be sure to watch the edges too, and wash and rinse frequently in these steps.

Here we have the body completely wet-sanded. The color looks much lighter in direct sunlight in the photo, but is still that deep, beautiful shade of teal.

I had yet to wash and rinse the body, hence the white residue that you can see, which was left from the final 12000 go-around.

Side note: Periodically clean your polishing cloths by scrubbing them with a toothbrush using Dawn Original Blue dish detergent. This removes unwanted debris and paint particles that could be sanded into your next finish, thereby scratching the surface and having your mouth washed out with soap for cussing.
Now let the fun begin! The body has been washed off, rinsed thoroughly, then blown dry with compressed air. Taking a dab of the Scratch X, I began to gently polish the surface. Gently polish the X into a haze, then follow it with the Novus 2. The Novus will remove any leftover haze and bring about a brilliant shine. Whenever you polish a surface, be sure to use soft squares of cloth. Too harsh of a cloth can and will leave scratches in the finish. Work a section at a time, moving the cloth constantly.

For those of a braver nature, Scratch X will remove light orange-peel. However, it can and will burn through if too much pressure is applied. Better served with the sanding cloths!

Well, here it is: Glass-smooth, consistent color with no loss of metallic brilliance or flattening of the metallics. Another old wives’ tale just bit the dust. The color is Testor’s Teal enamel, cleared with Testor’s Top Coat Clear.

The only thing polished here at the moment is the roof. There is quite a difference between the deck lid and the roof at this time. Hmmm ... I see a cable box, a gutter, electrical feed lines to the house, brick wall, etc. in the reflection of the roof. At this time in direct sunlight, the color appears completely different, but is simply an illusion.

Here we have a lower hood valance that has been cleared with Testor’s Wet Look Clear.

Oh ... excuse me? What was that thud, you ask? No problem, that was Old Man Ken Hamilton falling off his walker. He passed out from shock when I mentioned I had used lacquer. Bob Downie will be along shortly to take him back to the Old Lacquer Users Home For The Aged.

The aforementioned method works just as well with lacquer as it does with the enamels.
Use a barrier coat to keep colors correct

by DAVE THIBODEAU

ONE OF THE MOST difficult obstacles a model builder can face is a kit that is molded in color – especially when a color change is desired from the “suggested color” that the kit is molded in!

Many older NASCAR kits were plagued with the dreaded “molded-in color” plastic, ranging from orange to red, and yellow to blue. Despite proper priming techniques, the colored plastic can still bleed through, ruining your paint job.

Let’s take a look at a tried-and-true method I use to stop the bleeding.

This is a body from a Revell Folger’s-sponsored Monte Carlo Aerocoupe. Revell tried to help the model builder out by molding it in dark red plastic. That’s fine if you’re doing the kit out of the box, but in this case, I want to paint it white for another project. White is the most-challenging color to paint over colored plastic.
The body was cleaned up and sprayed with two light coats of Dupli-Color filler gray primer #FP101, directly from the can. I like automotive-grade primers because of their good buildup properties and finishing abilities.

After the basecoat was dry for 24 hours, I applied two generous coats of PPG OMNI two-part urethane clear. Please protect yourself with a good respirator, goggles, and clothing whenever you spray two-part urethane clear.

As insurance, I sealed the silver with some Dupli-Color primer sealer #DAP1699. This gives the body a smooth finish for the color coat and ensures no bleed-through will occur.

Here are the results of poor preparation on a colored body. This is a 1977 Monte Carlo body from the Revell Wheels of Fire snap kit that is molded in bright red plastic. The same filler gray primer was applied, but the silver barrier and sealer steps were not used. The white base coat was applied directly over the primer, and a pinkish cast is present in the paint. Time to start over on this one!

I sprayed the inside of the body with Tamiya Bright Red from the can. Then I masked the inside and sprayed the exterior with Krylon Fusion Bright White from the can. The silver and gray sealer did their job very well. The white is bright and opaque, with no evidence of bleed-through.

After the basecoat was dry for 24 hours, I applied two generous coats of PPG OMNI two-part urethane clear. Please protect yourself with a good respirator, goggles, and clothing whenever you spray two-part urethane clear.

The most-important step is to add a silver basecoat. This is the barrier needed to prevent the colored plastic from ghosting through to the color coat. For this project, I used a Dupli-Color touchup can of Toyota silver as the barrier.

The pure white Monte Carlo Aerocoupe is ready for the next stage of my NASCAR project. I can't say the same for the 1977 Monte Carlo body! This shows just how important the extra silver/sealer steps are when you want to control bleed-through. Try to use paints that are the same brand as much as possible, so you are only battling bleed-through and not reactions with paint.
How to fix damaged CLEAR COAT

It’s not the end of the world if clear separates from color. Here’s how to repair it and save your project

by MARK JONES

I t’s rare, but it still happens too often: I was building this Miura for a review and having an enjoyable time at it. I pulled the clear off part of the body when I removed the tape after painting a piece. It only made it worse that I had already done the delicate foil trim, and some of it was on the affected area. What to do?

THE DAMAGE: The last step before final assembly and decaling of the body was to paint the rocker panels, which I did using 3M blue tape and airbrushing some Tamiya XF-16 Flat Aluminum.

To get a good line, I cut the tape in the panel line that runs along the top of the rocker. I must have made the cut a bit too deep, and that gave the clear a place to pull up. Had I pulled the tape at a different angle, this might not have happened; I’ll never know for sure.

In reality, I was somewhat lucky, except for the obvious. Fortunately, the damage was confined to the passenger door, and only within its panel lines.

THE REPAIR: The first step was to peel the remaining clear off that single panel. Sanding it off would do more damage, and most likely affect other surrounding panels; and it would ruin the green.

Before peeling it off, I cut through the clear following the front and rear door panel lines and along the lower edge of the foil trim with a sharp knife. Then I began to peel it upward from where the lifting began by grabbing the loose edges.

I prefer the #16 blade for this type of work; it lessens the chance of gouging the color with the sharp point of a #11 blade. A good set of broad-tip tweezers is also helpful.

So here goes with the repair:
The body was prepped and lightly primed before I applied a base coat of Tamiya TS-17 Gloss Aluminum. Several light coats of TS-20 Metallic Green followed, for the color. Two coats of Matrix MSV-21 two-part urethane clear were applied over that, and allowed to dry for about ten days before I applied the foil trim.

I applied the green the same way. I added extra paint in the holes, to the point of bulging, to compensate for shrinkage.

At this point, most of the clear has been peeled off, and I could see that some color touch-up would be needed, as well as repainting the clear. (At first, I hoped I could just replace the clear on that panel.)

Where the clear tore off, it left a few ghost images in the green. These blemishes are often invisible after reclearing. But a couple of small patches of the green and base silver came off down to the primer too.

After fully removing the offending clear, I lightly wet-sanded the door with 1500-grit and carefully sanded into the panel lines, making sure no clear was left behind while smoothing out the door edges. The goal is to knock off any high points, not sand down to the bottom of any low spots.

Had those small patches of paint not been pulled up, I would have been able to go straight to reclearing, or adding a light coat of the same metallic green to hide any ghosting left behind by the clear, but they need to be addressed first.

The two small divots where the green and silver had been pulled off were filled with more of the base silver by brush. When those two spots dried (about 20 minutes in the sun), they shrunk as expected.

I applied the green the same way. I added extra paint in the holes, to the point of bulging, to compensate for shrinkage.

Even with the extra amount of paint, the green shrank enough to warrant a second application. I allowed it to dry a bit longer (an hour in the sun) to make sure it could be safely sanded and to make sure it was fully shrunk. I smoothed the brush-applied green by lightly wet-sanding it with 1500-grit paper. Even though the surface of the divots is fixed, the color is not a match.
As soon as the second coat was applied, I began the unmasking process. I removed the blue tape by slowly and carefully pulling from the outer ends towards the perimeter of the repair area. Extra care was used around the foil as well.

I sprayed the original paint job straight from the cans. For the repair, I sprayed a little TS-20 into my airbrush cup and did not thin it. I applied three light coats to the top edge to hide the divot repairs, and two even lighter coats to the side of the door. The minimal amount of green on the masking shows how little paint is needed.

Masking is the riskiest part of the overall repair; after all, it is what got me into this situation. I decided to try to save the foil, even though replacing it in this case is not a big deal. I used the same blue tape, but lowered the tackiness by applying each piece to my forehead before placing it on the body. I used a sharp knife to trim it to the door lines, and a wooden toothpick to lightly burnish it into those crevices. I masked the foil with a Post-It note cut and folded to fit the car.

The green was allowed to dry for as long as it took to clean the airbrush and set up the clear. I let the first coat of clear flash for about ten minutes.

The results were quite acceptable.
I allowed the clear to dry overnight, then used a polishing kit, followed by a little liquid polish and a coat of wax.

When I polished the door, I was not concerned with polishing beyond the door onto the surrounding panels. In fact, that practice helps make the repair less visible, because the sheen will match the adjacent areas.

A GOOD DAY’S WORK
The entire repair was done in less than 24 hours.

Most of the hands-on labor time was about one hour and forty-five minutes, spread over a few hours. Factor in the drying times in a warm environment, and most of the work was completed in about three hours from beginning to unmasking after clearcoating. I spent another 15 minutes the next day with the final polishing of the repair.

Material cost was minimal; a couple spritzes of paint into the spray-can caps for brush-painting, a little more into the airbrush, and less than a teaspoon of clear and activator.

Compared to stripping and repainting, this saves a lot of time, even more in paint - and maybe best of all, it is a lot less work.

I only lost part of one day in the span of building this kit repairing my gaffe; it took a good part of three days to prep and paint it the first time around. And it is even easier to facilitate this kind of repair on solid (nonmetallic or pearl) colors. – Mark Jones

See Mark’s review of the Miura in “Kit Reviews” on page 53.