

Prepping Instructions for Resin and Plastic Sculptures

by Danielle S. Feldman

Prepping a resin model for the first time can be quite intimidating. For me, it took having two of the same model before I would even attempt prepping one! This article is intended to walk you through the process step-by-step. And for those experienced with prepping, these instructions may give you new ideas.

Resin and plastic model sculptures need to be prepped in order to properly prepare them for a paint job. Lack of prepping will show through even the most beautiful finish work, so it is an important step toward creating a quality piece. It will also insure that the paintwork adheres properly to the sculpture, aiding longevity of your creation.

Supplies needed include...

Sandpaper in several grits, I recommend 120, 240, 320, 400, and 600. The higher the number, the finer the sandpaper. Start with a rougher paper and proceed down the numbers to a finer paper as you work. Not all models will need the courser papers, I reserve those for removing large areas of epoxy, major flashing (resin or plastic excess along seams), or other hard jobs.

On the average horse I start with 320 sandpaper on the rougher spots and proceed to 400 for smoothing. The 600 paper I usually use only to remove imperfections after the model is in primer, as the 400 grit can leave tooth marks.



Prepping preparation

I tear off small squares of sandpaper at a time and fold it over so that my fingers are on the back side pinching it together, then I rub the sandpaper that is exposed in a circular motion to avoid scratch marks. When that part of the sandpaper gets gummed up, fold over a different portion of it and use the fresh part to sand. I find this saves my poor fingers from getting raw.

Wet or dry sanding is a matter of preference in my opinion. I only dry sand as I like to get comfortable on the couch for a sanding session. Be sure to wear your mask and don't worry, your Significant Other/Roommate/Friends will get used to seeing you in it!

Carbide Scrapers available from <http://riorondo.com>. I've gotten to the point that I can't prep without them. If you are serious about prepping your own models for painting, I recommend investing in the set. If you can't purchase the entire set, they offer the availability to buy the handle and the rounded tip as a package. This is the tip I use the most and is well worth the investment.

Liquitex Medium Viscosity Modeling Paste is the perfect filler for gouges, pinholes, and misaligned seams. It is white, so you don't waste extra layers of primer to cover up red spot putty. Keep the jar covered up while you work as it will dry quickly. When kept fresh, a small bottle lasts for a long time, making up for the cost. Look in your art supply section for this product.

Use moisture, on your fingertip or brush, to smooth modeling paste when wet and a fine grade sandpaper, 320 or 400, to finish off when dry. Bondo Spot Putty is a suitable alternative, but it's red, which drives me nuts. Another medium for filling pinholes that I have not yet tried is IBD Brush on Resin Gel.

Baking Soda and Super Glue (not the gel variety) are another source of filler for repairing raised areas (ear tips, nostril rims, tail and mane tips) and large depressed areas. Apply a bead of glue to the area and drop a pinch of soda on it. It will harden instantly to white. Continue the same process drop by drop until you have the shape roughly that you want. Or the inverse also works, fill a small hole with baking soda and drop glue into it. Build up large areas slowly. A dremel or jeweler's files can be used to sand down the area, followed by sandpaper to refine it smooth. This is a stronger repair solution for larger areas or raised areas than modeling paste. But it is harder to sand, so I don't prefer it for air holes, seam depressions, etc.

Gapaxio (Martin Carbone Epoxy) or Apoxie Sculpt are another medium for rebuilding missing ear tips, mane and tail tips, larger depressions and filling in repairs. Also used for major resculpting and customizing, it is a must have on the shelf of every customizer. It sands easier than soda glue, but may not be as durable when applied in layers. If you are going to do any resculpting to the piece, this needs to be done prior to the primer application.

Rubbing Alcohol for smoothing out the epoxy edges. Also use with a soft brush when you are finished shaping to remove epoxy beads and for final smoothing. Too much rubbing alcohol will cause the epoxy to pull up from the plastic or resin, so use it sparingly.

Krylon White Sandable Primer is my preferred choice. I always use white as I start applying pastel directly on top of the primer. Other brands work great, another choice is Rustoleum. You may find certain primers work better in your area than others due to humidity and other factors. It is best to use primer on dry, warm, windless days. Of course, this isn't always practical, so use your best judgment. Some artists may use gesso instead of a spray on primer.

If you shake your primer thoroughly (up to 5 minutes or more) before applying, you are less likely to get primer that will not cure (or spatter or crackle). And always allow your models to dry outside, if possible (keep in mind drying temperatures should be warm, not too cold or hot). I have shelving set up in my garage and in my basement covered in aluminum foil for models to dry on. The out gassing is terrible on primer and matte sprays. And always spray outside. Never, never spray inside. Do not fool yourself into taking a short cut on primer and spray use, *your health is not worth risking.*

Always wait overnight for primer to cure completely before sanding or moving on to painting. If you find your primer just won't dry after several days, it will need to be stripped and reapplied. I recommend Easy Off Oven Cleaner for stripping primer and paint.

Mask to protect yourself from breathing the resin and plastic dust created when sanding.

Disposable gloves to protect your hands from primer.

Jeweler's files are good for filing down metal support rods if they are protruding out of the resin.

Emery boards are great for leveling out the bottoms of hooves on tipsy models or club footed models that need shaping.

Comet cleaner, or similar scouring product, and a scrubbing sponge and old toothbrushes are the perfect way to wash off the residual mold release on your resin model.

Dremel Mototool with various heads. Most prepping does not require one, but all major customization will. Ideal for plastic carving of details like nostrils, ears, and hooves. It is also handy for the major shaping of soda glue repairs.

Now to get started...

Washing the model is the first step for me, otherwise I forget to do it! Other artists like to wash theirs after sanding to also remove dust. I wipe dust away with a cloth. Whenever you decide to do it, I recommend doing it before you use fillers (modeling paste or spot potty) as the scouring may remove it or cause deep scratches in it causing you to refill that area.

Sprinkle some Comet directly on the model, add water to create a paste, and scrub, scrub, scrub with your sponge and old toothbrushes. Get in all the nooks and crannies, under tails, between legs, in nostrils and ears, as these areas are likely to have residue from casting left over. The reason for washing is that this residue may prevent the primer from properly adhering to the resin sculpture. I skip this step on plastic models. And as an aside, I do not strip paint from original finish plastics either. Be sure to rinse the model thoroughly so no Comet remains and set aside to dry on a towel. Or go ahead and sand during this phase if you prefer to wet sand. Just use caution in sinks that fragile ears, tails, and legs do not get bumped! And keep a firm grip so you don't drop a wet model.

Repair work is sometimes needed as part of the preparation process. Use soda glue or epoxy to repair broken ear tips and similar areas. Some artists will even use soda glue for filling pinholes and large depressions. Also look for mane and tail tips that are broken or have air holes on the tips at this time. Be sure to sand the areas around repairs so they blend into the model. More heavy repairs, like legs, and major resculpting are out of the scope of this article.

I will add here filing down metal wires that protrude from the sculpture. I use my jeweler's files to sand them down as flush as I can get with the model, followed by



Models shown have both had right ear built entirely with soda glue. Foal shows the rough form before refining, the other model shows an almost completed ear.

filler to smooth the area and sanding. Sometimes though, just a little filler alongside the wire will be enough to fix it, especially on pasterns where the wire barely breaks the surface..

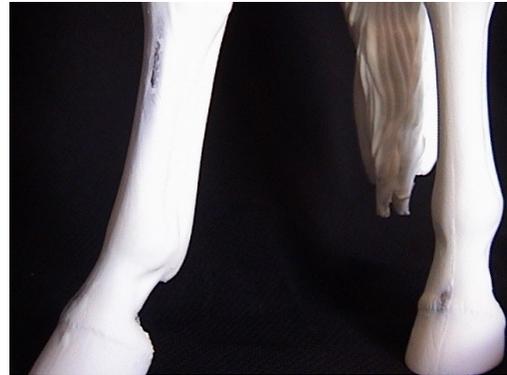
Also want to mention leveling of hooves on tipsy models. Set the model on a flat surface to determine which hoof is too long. Then hold an emery board parallel to the bottom of the hoof and sand it down until the model stands properly. You may need to sand a couple of hooves in order to get the model to stand flat. Note that raw cast resins may have sprues coming out of the hooves; they can be clipped with wire cutters carefully and then sanded with an emery board.

Seam removal follows. I use the flat side of my Carbide Scraper bit for running along seams (use rolled up or folded sandpaper if you do not have scrapers). Aim for scraping the seam flush with the body of the model. I start on the head, following each seam until it meets another seam, so as not to overlook any. There is generally a seam around the edges of each ear, in between the ears, and from the forehead straight down over the muzzle to the underside where it meets the neck. It continues down the neck, where there is a seam across the chest and down and up each leg, across one or both sides of the barrel, between the hind legs, up and down both back legs. Then under the tail to the tip, and over the top of the tail, across the back and up the crest/mane.

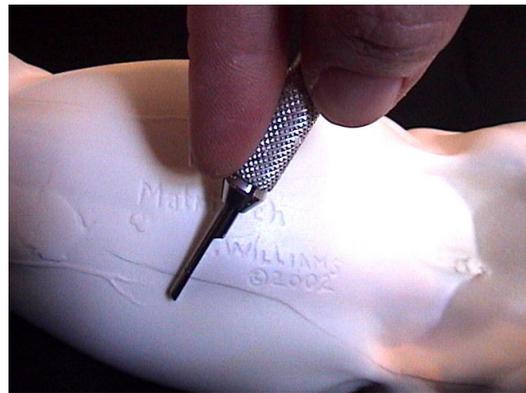
To be on the safe side, I usually follow the seams again with 320 grit sandpaper to remove any etch marks from the scraper and any bits of seam that weren't removed. If there are depressions along the seams, make a mental note of them as they will need to be filled in the next step.

Wrinkles, veins, and hair textures of the mane and tail and any feathers present a special challenge for seam removal. I use the pointed Carbide tip to scrape the seams from between wrinkles and hair grooves, trying to keep the original sculptural shape intact and removing only the excess flashing. Folded up fine sandpaper can also work parallel to the groove. Veins require special care as careless sanding can obliterate them completely! Go slowly and use fine sandpaper around that area. If you sand off a vein, careful application of modeling paste with a paintbrush can recreate veins.

For plastic models, now is a great time to do any additional nostril, ear, and hoof carving with a dremel and/or carbide scrapers. I sometimes use the round, tapered Carbide tip to gouge out hoof bottoms and hair like textures in manes and tails.



Wire coming through resin on cannon and pasterns. This model will only need modeling paste filler over wires. More extreme protrusions may require filing.



Carbide scraper run parallel over seam. Note the artist's signature, which I do not fill in.

Filling depressions, pinholes, gouges, and the like is one of the more tedious portions of prepping I find, but one of the most important. Take your modeling paste or spot putty and apply a small portion into the depressed area. Use a little moisture on your finger or brush to remove the excess in an effort to smooth the area. This will save you sanding time after it dries. I used to goop it on and then spend forever sanding it back down before I discovered this time saving trick. I try to fill all areas at once in one sitting. It dries fairly quickly, so the first model will be dry and ready for sanding by the time I apply filler to a second model. I use 320 and 400 grit paper to smooth the filler. Use the sandpaper in a circular motion to help avoid scratch marks.



Model's belly had many air or pin holes. Shown here filled with soda glue, which has yellowed over time due to exposure to air, but won't effect the end product..

On plastic models, it is common to fill in the mold maker's mark. However, I feel strongly that resin pieces should not have the artist's mark/signature filled in. Resin castings are usually done in smaller runs, which qualifies them for protection under certain copyright laws. If nothing else, I think it is respect to the artist for their creation.

Prime the model with a sandable primer. You will start by shaking the can pf primer for about 5 minutes. The Krylon can will generally feel cooler when shaken properly. Don't rush this as it may spatter, or worse, not mix enough in the can to cure on the model, causing you more work by stripping and starting over. Put on a disposable glove and hold the model by one body part. I like to use the tail first if I know it is reinforced with wire. Necks and legs work also. *Go outside* and hold the model away from you. Start the spray away from the model to avoid any initial spattering. Then apply a light, misting coat to the areas you're not holding keeping even pressure on the nozzle. Don't stop and start the primer while pointed at the model. Keep the spray going and move the model around with your other hand to cover all exposed areas. Don't go right up against your glove either or you will create a line that will have to be sanded off. The first light coat will dry quickly, so apply a second light coat when it appears the first has dried, then set aside to dry. Come back later and when the model is dry to the touch, pick it up and spray the opposite end in the same fashion.

Do not apply primer too heavily as it may run, as well as fill in detail on the model. The exception to this is if there is a rough area on the model that would be more time consuming to sand out. Sometimes a little thicker primer will fill irregularities well. Use caution though and avoid losing details in other areas. Thicker primer will also take longer to dry, as much as days more.

Set the model aside to dry overnight before further sanding or painting. Subsequent coats will be added as you further inspect the model.

Checking your work is a crucial step. After the initial application of primer, bring the model under a bright light or in front of a window on a sunny day. You want to hold the model up and examine it entirely. You will be surprised at how many imperfections you missed the first time around. The primer gives it an even finish and the lighting will cast shadows on any imperfections. At this point, you may need to repeat any or all of the above steps (minus washing and repairs, of course). If you find that the sandpaper is gouging the primer, then it is not fully dry. Set it aside to finish curing. And keep checking your work after every priming session until the prep job is without blemish.

For additional tricks, tips, and sharing of information...

I recommend subscribing to the ModelHorsePrepping Yahoo discussion group where you can ask fellow preppers questions, learn of new methods and share ideas.