

Tech Tips 002

A help series

Dedicated to the dissemination of Detail model building methods and techniques.

Materials and methods presented here are not intended as the best or only solutions to the modeling challenge(s) discussed, rather as methods and procedures which have a proven record of success in actual use. Please keep experimenting with new materials and techniques as this is the only way to expand the fields of knowledge.

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Body Tube Seam Fillers.

One of the most vexing problems in scale modeling is successfully filling the spiral wrap seams. A number of modelers I know spend those long winter evenings filling and sanding "STOCK" body tubes. These tubes are "finished" in standard full tube lengths for later use on an as yet undetermined model prototype. While I admit this would be a good idea, I just can't find the time, I must fill and sand as I go. Most of the things mentioned here I have tried and found useful I hope you will also.

Most sport models will not get the attention Scale and Sport Scale models do so I will address these techniques from that vantage.

After building and flying the boilerplate model to confirm stability, gather the required cut to length tubes for filling. If your model has simple transitions, boat-tail, or permanently attached nosecones, it may be helpful to fill and sand these parts along with the tube, I find it helpful to install the motor mount prior to filling also to catch and glue joint shrinkage which may occur.

Step ONE: Using Medium Grit Sandpaper (180-240 grit) lightly rough up the entire surface to be filled. Tube seams seem to come in two varieties: the GOOD; or the VERY BAD, and VERY UGLY. If yours is the latter try one of these.

Squadron Green or White Putty is a heavy filler putty normally used on plastic models. It can be thinned with lacquer thinner or acetone to a brushable consistency. Apply the material with a fine soft bristle brush and layers letting the layers tack before applying the next. Usually 3 coats of 50% solution will completely fill a .005" deep seam. Please note: this putty is tough; sanding is usually done with 120 to 180 grit sandpaper. Care must be taken not to sand through the glassine coating on the adjacent areas to the joint.

Light Weight Drywall fillers: Drywall filler or ceiling spackle can be used on the large ugly seams. These materials are cheap and readily available at most hardware and do-it-yourself stores. The trick with this stuff is to moisten the tube with rubbing alcohol BEFORE attempting to fill the gaps. Apply with a small oil painters spatula, dipping frequently in alcohol to obtain a smoothish PACKED finish. Sand very carefully with light grit papers (220-360). The finished tube will have a slight grain which will be taken care of when you prime and sand everything later.

Model Magic or Master-modeler fillers: Every darn one of these type materials I have tested over the last couple of years has turned out to be about the same as the drywall spackle, in smaller containers at a much higher price. If you feel more comfortable with a product packaged specifically for hobby use, feel free to spend your dough, sand with 320 -400 grit .

Medium CA/ Coating Epoxy: You may remember Med. CA's have about the same sanding characteristic as styrene plastic (120-220 grit). This should be fine if you remember to coat the rest of the tube etc. with a *coating epoxy*. Fill the seam joints and other imperfections with several light passes with the medium CA, don't use accelerator as it will "foam" the CA causing bubbles. After you are happy with the

thickness of the CA, apply a thin coat of coating epoxy and let dry HORIZONTALLY, turning every 5 minutes for the first hour, or until the epoxy sets.

A couple of warnings concerning epoxy application : Wear gloves. Some people develop an allergic reaction to repeated exposure to and contact with epoxy resins. Use in a well ventilated area. 5 minute epoxy has about 5 minutes of **pot life**; after about 5 minutes any material in the cup is unusable. 30minute epoxy has between 8 and 10 minutes of **pot life**; Devcon 2-ton epoxy had about the same **pot life**; and all three are able to be handled in about an hour. Ultimate cure strength varies by brand and set time. Most of the Coating epoxies I have sampled have a 12-15 minute **pot life** , are the consistency of thin honey, are self leveling (meaning it will run), and have a moderately strong aroma. Coating epoxy is applied with an old nylon bristle brush or a disposable brush 1" to 2" in width. The finer the "hair" in the brush the better the feathering will be when we go back to smooth the "dripping" goo every 5 minutes or so for the first hour after application or until it sets, 45-70 minutes depending on temp and humidity. Clean your brushes, bowls, stirring sticks, and yourself with epoxy remover or rubbing alcohol when the material begins to set on the model. You can extend the set up time by mixing a small amount of alcohol in the resin just after mixing in the hardener.

Together the CA/ Epoxy combinations give the hardest, most rigid and most resilient filling. It is also the filling that will try your patience in sanding, requiring hours of work with 80 and 120 grit sandpapers. Finish with 220 grit, then prime and paint . To justify the time, I recommend this method only for the very serious scale modeler or large models with wide fin areas.

If the seams are not too BAD: I highly recommend a high build brushable primer such as 1-shot "Blockout white", PPG high build spot \primer, or any of several Automotive spray can "sandable primers". K-Mart sells one called Dupli-color or "Fresh & Easy" in gray and black which are very good. Fill the seam lines by brushing on the high build prime (a couple of coats should do it): then spray on a couple of coats of sandable primer. Sand with 120 -180 grit "first pass" than reduce the pressure and sand with 220 grit to remove any surface blips. If the tube paper is reached, recoat (Check the recoat time on the can!) continue sanding with 360 grit until a clean smooth cylinder is obtained. I usually Finish sanding with 600 grit, wipe down and base coat with white. All the above can be used on the balsa, wood or cardstock parts. Fins will be addressed in another tech tips to follow. Over the past couple of years I have been skipping the Hi build brushable primers, instead using three coats of sandable primer then 220 grit paper to remove almost all three coats followed by three more spray coats, and repeat until all seams and blemishes are filled. the average model usually takes about ½ to a full can of spray primer.

Keep um flyin
John