

Tech Tips 005

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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Brushes and Brushwork for Hand Painted Details:

Paint brushes and brushwork seems to have a very strong influence on most modelers. In my travels, many of the hobbyist and modelers I've had the pleasure of talking with have almost universally complained hand brushwork is an "art" they just didn't feel comfortable enough to attempt; hopefully this article will dispel many of the myths.

When working on a scale or historic model, how often has a third or fourth color been indicated by the documentation and simply omitted because the technique for applying it just wasn't in our bag of modeling tricks? How DOES one apply those tiny details? Get the third color into that 3/32" crevice or feather out flat weathering to seem like real dirt and grime? Most of these items will be handled by a brush and a little practice. I have not meet anyone who could not do decent brushwork if given a little instruction, the right tool(s) and some practice. My background is in commercial art. I am a sign painter by trade, and commercial artist by training. None of that is necessary to do good brushwork, actually it is often a hindrance. The almost obsessed terror of brushwork is not new, in fact the fear can be traced all the way back to your toddler days with everyone harping on "you must stay within the lines" Friends Fear Not for I bring you Glad tidings of what should be great JOY!!! Each and every one reading CAN and WILL be doing fine brushwork very shortly.

For openers let me give you a well kept secret. It is nearly impossible to mess up a properly prepared subject while doing detailing. If a mistake is made simply erase it. A little mineral spirits and a clean rag are all that is required. If I may regress for just a minute: Please remember our discussions in an earlier Tech-Tip on the virtue of matte clear coats between color coats. If the last color coat has been matte clear and scotchbrighted, your detailing "canvas" is blank, just waiting for the next item to be added. If the brush skips, or a drop is applied in the wrong place, or you just don't like the application, simply wipe it away!. Use care to use only a very small amount of thinner on the clean rag, only wipe or dab once with each "clean Spot" on the rag. All signs of the misplaced material will be removed without touching the previously applied finish. SEE! hand detailing is easy, and any error CAN be corrected until the paint has dried.

Tips on the tools, and selection:

Let's talk about the "TOOLS" before we tackle the "How and Why" Brushes are tools and as such have proper use and care. I am amazed how many good modelers believe those 10 cent plastic bristle brushes are good for model making. Please regard this item as JUNK, to be used only for the application a epoxy and such.

While brushes like all tools come in varying grades of quality, unlike most tools inferior brushes will only give mediocre results even in the hands of a master. Your purchases should be based solely on quality not quantity. Buying brushes will take a little time. You will probably visit several shops and stores before making a single purchase. You will be buying by the Feel and Spring of the "Hair". Here are a couple of buying tips that may be of help.

- 1.) Never bend the hairs of any dry brush! This will damage the "memory" of the hairs, making them almost useless in keeping a fine line.
- 2.) Never "wet" a brush in the store by putting it in your mouth! You have no idea how many other people have "licked" that same brush.

- 3.) Carry a small water bottle during the quest of your brushes. Most shop and store owners will not mind your wetting of brushes in this manner as long as they see you are not bending the tips on the container sides, or jamming them into the bottom of the bottle.
- 4.) Have a small Blank unlined tablet to gently run a water line with the subject brush to observe the "flow and Holding" characteristics and "Pallet" flare of the hair.
- 5.) Always carefully return the plastic sleeve to its proper place on the ferrule, before placing an unwanted brush back in the rack. This will also make points with the management.
- 6.) Check the Spring of the wet brush tip against the paper in your tablet or on the plastic ferrule cover, NOT ON YOUR OILY SKIN. Again buy good quality brushes.. Brushes made of Bristle, Nylon, Rayon, or other plastic fibers are to be avoided.

If properly cared for good quality brushes will last many years. I have a few gray squirrel quills and flats in my sign kit that are well over 20 years old and still in great shape. More on brush care and storage later

The right tool for the job:

Brushes are sold by "**Hair type**", **Shape, Size, and intended use** here are some pointers on selection.

Sizes: Points, Quills, Sables, fans and Liners are sold in 0000000000 (10 Zeros) to # 28.

Flats, Chisel point (Doe foot), Broad Strokes, and Shaders are in sizes 1/16" to 6". No you will not need one of everything. I'll give a suggested list for "starter" a little later.

Hair Types: Fine Round Points, Chisel Points, and small Flats are available in Red Sable, Brown Camel, Brown Squirrel, and Badger.

Quills, Rounds, Flats, and Broad Strokes come in Brown Camel, Brown Squirrel, Gray Squirrel, and Ox hair.

The large 1/8" to 6" Flats, Fans, And Broad Strokes sport; Badger Brown Camel, Ox Hair, and a few Gray Squirrel hair types.

Hair types and uses:

Gray Squirrel Gray Squirrel is one of the very best all around materials for Brushes, and unlike some of the other Hairs the Squirrel doesn't have to die to make the brushes, just run around with a shaved tail for awhile until it grows back. It has excellent "memory"(returns to its original dry and/or wet shape) and very good spring,(allows very good lift and line control.) Quills and Flats of Gray Squirrel will allow very sharp lines in very tight places. They hold a good amount of paint and pallet to a fine edge for superb control. They are useable in water, acrylic or oil base paints and mediums. If your pocket book will allow I suggest your first brushes have Gray Squirrel hair.

Red Sable: All " Red Sable" brushes are now blends containing a percentage of real Sable hair (A close cousin of the Llama) and either badger or brown Camel hair. Sables are very Stiff when dry. When wet they are rather soft with very little spring. Paint holding is very good and will pallet to a good line. Sables are available in Rounds , Flats, Chisel, and fans. These are the number one choice of the water color artist. The more Sable hair in the brush the finer the hair and better the line, also the higher the price. Sables have very little memory and must be cared for carefully. They are very good for extremely tiny details in the 4 to 10 zero sizes.

Brown Camel: This is the third "top" choice of Hair types. Camel is somewhat coarser than Squirrel with less memory and spring. Paint holding ability is close to that of Squirrel. This is an Oil only brush: not at all suited of water colors.

All the other Hair types and "Bristles" (Hog Hair Bristle) are used as fillers in "Economy" artists brushes and the Cheap and almost useless "Hobby" brushes we have all seen on the counters at most hobby shops.

Again let me brainwash brush buyers. DECENT detail brushwork comes from DECENT tools and paints. BUY QUALITY BRUSHES. Stay away from any brush sold as "Bargain" or Economy. If the brush being considered is less than \$1.50, don't buy it. I have some 1-1/4" and 1-1/2" gray squirrel flats that were

\$60.00 each and they are worth it. Most Gray Squirrel Quills from "0" to #12 will run between \$2.50 and \$17.00. Sables are generally more expensive, some may give you sticker shock. Buy your brushes a few at a time. I will leave hair type and order of importance to your wallet and intent

Choosing the right tools:

Here is a minimum list of good brushes you should have in your cabinet for detail painting.

<u>Red Sable:</u>	1- 10 zero Pointed	<u>Flats:</u>	1- 1/8" Long Hair Flat
	1- 4 zero Pointed/round		1- 1/4" " " "
	1- 2 zero Pointed/round		1 - 1/2" " " "
<u>Quills:</u>	#0. Square tip	<u>Liners:</u>	1 - #0 Very long hair
	#1 "		1 - #1 " " "
	#2 "		1- #3 " " "
	#3 "	<u>Utility:</u>	1-1/4" Camel Flat
	#6		1-1/2: " "
			1-3/4" " "

The Camel utility flats are for application of 50/50 Clears, and other paint DOPES, as well as Lacquer thinner thinned filler materials.

Other Sizes, Shapes, and hair selections will be helpful as you become more confident with brushwork. Sword Strippers are very useful in variable width and camo. work.

Now we have the Tools, lets look at some of the ways to use and care for your investments.

Using new tools

Paints Viscosity: Proper consistency (viscosity) is most important to proper paint "flow" and proper brush "Drag" Yes, guys, even paint brushes have a *drag coefficient* :-> Paints should be thick enough to remain in the brush when fully loaded (withdrawn from the paint jar) and thin enough to "flow" back on itself when applied without changing the line or running. Paint flow /brush drag are linked and best explained as a combination of thinning the "Stock" bottle to a little less than "as purchased" consistency, then palleting the paint to proper brush drag. I use 5 1/2" x 8" paper pads as throw away pallet sheets. Dab a small puddle of paint onto your pallet from the stock bottle. Quickly dip you brush in and out of the appropriate thinner, trying to get out of the clean thinner without leaving any paint. Take the small amount of thinner just picked up by the brush back to the puddle of paint on the pallet and gently mix with the brush tip. Drag the brush from the puddle to check the flow. If too thick or the brush "feels" like its sticking add a little more thinner to the puddle. If the paint seems to run from the brush and/or gives a fuzzy line it's too thin; add a drop of "stock" paint to the puddle. Unfortunately this is a process learned by experience and practice, so don't lose heart if you end up with a few unusable puddles of paint. Proper brush viscosity (drag) is also an acquired skill which will come with practice, and that is a KEY to good brushwork

Practice, Practice, Practice!

. Please practice; it is time well spent. Practice on old newspapers, used computer paper, notebook paper or whatever you have laying around. Practice on old pieces of body tube to get a feel for maintaining constant pressure on the brush on curving surfaces. Practice with a Quill (A Quill is a round bundle Square tip brush who's ferrule is a natural feather quill) and a 1/4" flat. Making constant thickness (Stroke) lines holding the brush between the thumb and middle finger slightly supported by the first finger. Holding the brush in this manner will allow the turning of the brush by rolling the handle between the finger and thumb. Practice a half page of line strokes like this, always working toward yourself, left and right.



Water based and Acrylic water base brushes are just the opposite. They should be washed in mild detergent and water to remove all traces of paint. No, rinsing under the water in the sink will not do it, Jen. Ha. A small amount of dishwashing liquid will usually do the trick and be followed by plenty of clean warm water. Once clean of paint and bubbles, spin the handle back and forth a few times between the palms of the hands. This will air dry the individual hairs and fray them out for inspection. If satisfied moisten the thumb and forefinger with clean water to reshape to the proper profile. Water base brushes should be stored DRY and standing upright or suspended upside down in an artists coil spring brush holder. If watercolor brushes must be stored lying flat, roll each brush in a paper sheath or towel to protect the dry brittle bristles. Again, Never bend or flex the dry hair or bristles of any brush.

The next time you visit any of the museums, pay close attention to the details on the exhibit models. What you will be looking at is most likely hand painted. You can do the same on your models. With practice and effort you will be able to have hand brushed painted detail that cannot be distinguished from the sprayed painted finishes. Practice is the KEY.

If enough interest is raised by this Tech-Tip it may be possible to schedule a brush stroke and detailing class meeting activity. If there are additional questions please feel free to contact the author.

keep um flyin well stroked.

John