

## **Ted Holochuk's Painting and Finishing Models – Part 1**

I've finally done it! Some time ago, I promised Bob that I would write an article. I made it. This is just the first in a planned series of articles that I hope will help will eliminate some of the mystery of painting and finishing models. The equipment, materials, techniques and approach are mine. This "stuff" works for me, as well as for others in our hobby. Some of my ideas may seem unusual, but they are based on experience. The methods, equipment and materials I use provide reasonable and consistent results. Most of my techniques are based on commercial application in the painting and finishing of real life objects. It works for the professionals, so why not for us?

I intend to cover the whole aspect of painting & finishing from my experience (*such arrogance*). I will cover air supply, exhaust systems, equipment, materials, painting and weathering techniques. I intend to share "philosophy" of building, painting and finishing models. I will begin by explaining my approach to building and painting most any model.

### **General Notes:**

I believe that in order to achieve good, consistent results, it is important to use good quality, reliable equipment, materials, and techniques. We modelers should always follow the "KISS" principle (*Keep It Simple, Stupid!*). Oh yeah, another important ingredient is time. Stop rushing to complete something for the upcoming show. There will be another show or event later. I see and hear a lot of excuses for poor or sloppy work blamed on "lack of time" or "good enough" attitude.

My approach is to do a very credible job every time. I know this is a hobby and it is for your personal enjoyment. However, striving for good results is also fun. The personal pride of turning out a good model is a satisfying feeling that is one of the rewards of the hobby and should spur you onto better work. Push yourself a little and enjoy the accomplishment. The more effort, the more fun from better results. Just ask the quality builders. You must remember this, (*gee, that would make a good line in a song*) most model work is not difficult, but it can be time consuming. I work toward a higher standard because it is fun to solve the problems. It doesn't matter to me if anyone ever sees another of my models. I do it for me. Sort of selfish, don't you think? Yes, I am very serious about my modeling, but I don't take it too seriously. I hope you understand the difference?

I know the cost of some of the equipment and materials may seem high. However, all of us spend our money on foolish things (*food, rent, fuel, taxes, etc.*) as well as the newest kits to hit the hobby shop. We lament the cost, complain that we can't afford it, yet end up buying the latest McBoeing F-99G-2, because we can't live without it. When will we actually build that white elephant?

The equipment and materials you buy should be the best you can afford (*buy one or two fewer kits*). Buy cheap tools and you get cheap tools! We all know this. Inferior tools are really not worth the cost. A few extra dollars will buy a quality piece of equipment that will provide reliability and a quality job for a long time.

I would encourage each of you to search out and study references (*books, plans and photos*). This is an area where I am somewhat lacking, but I am learning and working on it.

Lastly, I would also encourage you to ask questions of your fellow modelers. I hope you know that here in the Northwest and especially in our modeling group, we have a number of excellent modelers. I know from first hand experience that all willingly answer any questions and help with any problems. I don't mean to embarrass anyone, but I do feel that these guys deserve some recognition. Now you know whom to bug! They have all helped me with numerous problems. The list includes our illustrious IPMS leader, Terry Moore, Jim Schubert, John Frazier, Bill Johnson, Steve & Stan Cozad, George Stray, Les Knerr and on and on. Each one has been an inspiration (*even when pointing out one of my goofs*).

This list is incomplete. For that I apologize. Seek out and talk to the guys around you.

Now on to the real meat of this series.

## **Chapter 1: Choose Your Painting System**

- The Air Supply: In order to use any piece of air operated equipment (*e.g. the airbrush*), you need a source of air. The air source should provide clean, dry air at a constant pressure and sufficient volume. Most air systems, can provide enough pressure for our use, but not all can provide volume of air or constant pressure. See my note about "pulsing" air supplies below.
- The Regulator: To provide even pressure you should have a regulator.
- The Air Filter: Clean, dry air is a necessity. An air filter and or water trap in your air supply system is a good idea.

The following is a run down of different kinds of air supply systems most of you have heard of or used. Some I will cover only briefly, others I will elaborate on. My biases will come forth. All systems have pros and cons. Some just have more cons than pros.

## **Your 5 Choices:**

### **1. Air cans:**

Freon or whatever: cans of compressed gas that you hook up to your airbrush. High initial pressure, which drops as the can gets cold, and ice forms on the can. This system may spit ice or drops of water at a crucial time. These are expensive, throwaway cans that have to be replaced often. I do not consider these worth the cost, effort, or problems. Cost \$6 - \$8 each can.

### **2. Air Storage Containers:**

These are rubber inner tubes, compressed air tanks, etc. Like air cans, I consider these to be not worth the effort. Consider these only if you like running down to the local filling station (if you have one) in the middle of a paint session to tank up your deflated tube. You still need a regulator and probably a filter. I recommend you read the Fine Scale Modeler, November 1994 that contains a very good article on air tanks. Cost for an inner tube is free to about \$15 depending on your source. A pressure tank costs about \$45 at Grainger. *[Ed's note: Grainger Industrial is located in King County in several places as well as across the country and is primarily a wholesale only business; I recommend you ask Ted for assistance with his resources]*

### **3. Small, one "lung" compressors:**

Many modelers are familiar with these units. To use it, you turn it on and let it run. Some will run constantly, others cycle on and off

continuously. They are noisy, jump around, maybe even off your bench top. The air supply is usually pulsating and may occasionally "spit" moisture. I am not too fond of this type of equipment. However, they are useable and the expensive ones (*with the goodie features*) will work satisfactorily. These compressors can be upgraded by adding a regulator and filter. The type of filter, with a (*usually*) glass or Lexan bowl can act as an accumulator tank and eliminate the "pulsing" air supply. The filter also eliminates the water "spitting." This can be a usable system. The cost (*less filter and regulator*) can be about \$120 to \$175 or more.

#### **4. CO2 Cylinder:**

These are an excellent, quiet source of dry, clean air/gas. I will not elaborate on this system, because it was covered in an excellent article by Bill Johnson in the Seattle IPMS Newsletter April, 1997 issue. If you don't have the article, talk to Bill Johnson or me for a copy. This system is being used by a number of club members with excellent results. You can expect to pay about \$180 for such a system.

#### **5. Air Compressor with storage tank:**

This is my personal favorite. This system covers all of my modelling needs (*painting, casting, cleaning*) as well as blowing out the sprinkler system in the fall, inflating my flat tires and putting air in "Kwaakers" my rubber ducky. A storage tank type compressor of about 3/4 to 1 1/2 hp (*horse power*) with a 5 - 10 gallon storage tank is available from Sears, Grainger, and most paint/tool supply stores. They are usually a 110/120v, 10-15 amp unit that is useable in home electrical outlets. Some can be used at 230v if you have a 230v source. Plugging your compressor into any outlet is OK, but, a dedicated circuit is best if possible to avoid flickering lights or maybe a tripped circuit breaker.

Tank compressors, like all compressors can be noisy when running. However, they run only until the upper limit tank pressure is reached (*about 115 psi on most of these types*). They then shut off and will come back on at the lower pressure (*about 80 psi*). Running time is usually about 15 seconds to 30 seconds. Useable working time between the cycling, on my compressor with steady use is about 10-15 minutes.

The only problem is with "Murphy's Law". Imagine if you will, it is late and you are into some intricate paint scheme when the compressor kicks in. This causes you to jump a foot into the air and drop the model or squirt a load of paint on your prizewinner. Well, I have gotten used to this noise and it doesn't bother me. A few visitors have been startled - to my delight. A way around this noise and surprise problem is to put the compressor in another part of the shop/home and run an air line into your spray area. Actually it is a good idea to run an air line for a little distance. This cools the air before it gets to the airbrush and helps prevent water "spitting" from the air brush. The air line can be rubber air hose, Schedule 40 PVC pipe, copper pipe, or black pipe.

I use Schedule 40 PVC for its ease of installation and low cost. It is not legal to use PVC in commercial installations, but for home use it is fine, especially when you put only 30 - 40 psi into the line. Incidentally, PVC was used commercially here in Washington until about 1988 at which time, because of a few accidents it was made illegal to use. I understand the accidents occurred when the PVC pipe air line was charged with overly high pressure.

Below is a sketch showing a typical compressor, air line regulator filter set up. [Please refer to the sketch on the following page]

Note the drain valve on the tank in Figure 1, open this valve and drain frequently depending on the amount of use. A surprising amount of water is generated by compressing air. Also note the angle of the air line, this angle down to the compressor allows moisture to drain back to the tank where it can be drained off. Most small tank compressors have a regulator on the tank. Use this regulator to set the pressure to the air line at about 30-40 psi. Now, set up your filter, regulator, and airbrush at the end of the air line (*see figure 1*) as far from the compressor as is reasonable. Yes, you can use the regulator on the compressor tank, but you should still have a filter/water trap combination after (downwind of) the tank regulator to catch moisture generated by the compressor. It is better to have another regulator with water trap and filter at the end of the line. In order to use my compressor in a portable manner all of my connections are made with air quick disconnects.

References: [Finescale Modeller](#), February 1989 had a very good article covering 17 different types of compressors. A compressor alone will cost about \$200 - 275

5-A **The Regulator**. Any air supply system needs a regulator to control the pressure coming out of the air line to the airbrush. This pressure should be steady and adjustable. I know, I know, you may already have a regulator on the tank. As I said, it is useable, but I find these regulators don't give fine adjustments like a better quality unit. I use a good quality end of line unit for my set up. Remember, this is my recommended, top of the line method that works well with no problems (*see Fig 1*) A good regulator alone will cost about \$25.

5-B **Filter/ water trap**. In order to clean up your air and remove the moisture a filter/water trap is also a good idea. Some companies offer

in line cartridge-like filters. These "toys" do an OK job for a while. I opt for the serious quality type. A decent filter/water trap is best installed at the end of the air line just before the regulator (*you should see what the moisture in a regulator can do - rust and crud and a non-working regulator*). A good filter will cost about \$25. In addition to the individual filter and regulator, there is a combination unit called a "piggy back" filter and regulator. This is a single unit that puts both functions into one piece of equipment. This unit will cost about \$45 and I consider it a good idea.

The approximate cost of the entire package; compressor, air filter, regulator, some pipe, hose and fittings will run about \$350-400.

To summarize this section, you have 5 air supply systems to choose from. Systems 1 & 2 are useless and just create headaches. System 3 can be a viable set up if the right combination of equipment is put together (*filter and regulator*). Systems #4 & 5 are initially the most costly, but are truly the best and most versatile of the lot. Think it over and decide what is best for you.

Also, if you have any questions or comments anything to add (or pick on me for), please feel free to harass me. As an afterthought, (*I know I should have done this earlier*) all availability and prices of the equipment was based on catalogs and information from Sears, Grainger, Wesco Paint, Badger and Paasche. That is the end of the line! AIR line that is! Just hook up the airbrush and as 1-800 Bob Ross would say, "spray a happy little model."

Next we will discuss air exhaust systems (*spray booths, airbrushes paint brushes etc.*)