Airbrushing – By Johan Leeflang

One of the most important steps in airbrushing is selecting the correct airbrush for the type of work planned, the size of work to be done, the fineness of line and the materials to be sprayed.

TYPES OF AIRBRUSHES:
There are two categories of airbrushes

- Single action airbrushes
- Double action airbrushes

These types of airbrushes include those that use gravity and those that use suction. The most practical kind are those that use gravity, simple and easier to clean. There are so many makes of airbrushes that it is impossible to mention them.

SINGLE ACTION AIRBRUSHES:
These airbrushes have a trigger to regulate the flow of air, while the outlet of paint remains fixed. It is however necessary to stop painting to change the flow of paint through an adjustable needle. This type of airbrush is recommended as one of the best for beginners. It can be used for any type of paint and because the flow rate of paint is constant, it is simple to handle.

DOUBLE ACTION AIRBRUSHES:
These airbrushes are designed for retouching photographs. They are more complicated and harder to use but once mastered, they offer far more possibilities for modeling. A trigger controls the outlet of both air and paint: the air is controlled by a vertical movement of pressure downward and the paint with a horizontal movement from front to back. The vertical movement activates a valve that allows the entry of more or less air; the horizontal movement moves a needle that regulates the supply of paint. It is in this double action that its capacity lies - as well as its difficulties. It is necessary to find the right balance between the flow of the air and the paint.

ADVICE WHEN BUYING:
Given the enormous variety of airbrushes, deciding which one to buy needs careful thought - not only in terms of price but also in ease of use. Spray guns are all practically the same: the best advise is to buy the most affordable. Single action airbrushes vary considerably in price: you just have to shop around to find the best deal. In double action airbrushes it is recommended to buy those with gravity feed and a medium-size tank on the top, that allows good access for cleaning.

AIR SUPPLY:
It is very important that the airbrush has a proper source of air.
Examples are:

- Bottled compressed air
- Pedal operated mechanical pump
- Compressors

WEATHERING TECHNIQUES:
No matter how detailed a model is, it is not authentic looking without being weathered. Dirt, grime, grease and soot are all present even on the newest real life version. Serious modelers in the railroad and diorama categories weather their projects. The degree of weathering is up to the modeler. Though other means exist, weathering and aging effects are best achieved with an airbrush. Before attempting to weather a model, practice on a card, paper or an old model so that fine control is developed before application on the new project.

SPRAYING BRASS/METAL LOCOMOTIVES:
The airbrush has become the accepted paint spraying tool for most locomotive and railroad hobbyists. Because of the fine detail on metal and brass locomotives, a fine detailing tool like the airbrush is needed to apply the paint effectively without covering detail and etching. The airbrush should be set at fine setting to prevent overspray. This will prevent build-up in corners and possible runs. **To obtain a quality paint job, proper cleaning and disassembly is required prior to painting.** The drive train and motor should be removed or masked. To assure proper paint adhesion, all oil and grease must be removed from the surfaces to be painted. The best is to use a water soluble degreaser and not thinners because the thinner does not clean the surface but only spreads the contamination evenly over the surface.

AIRBRUSHING METAL CASTINGS:
White metal and brass lost wax castings can be painted by brush or airbrush. Although favourable results can be achieved with camels hair or sable brushes, the airbrush is the ideal tool. The airbrush will apply the paint in thinner but more complete covering coats and will not blot-out the cast-in detailing. The airbrush coating will also be more even and smoother.

CLEANING AND MAINTENANCE OF THE AIRBRUSH:
The airbrush is a precision engineered tool for professionals and hobbyists. Like a good watch, it 'requires proper handling. Proper care and common sense will produce a long service life. Keep the airbrush and jar clean at all times and do not leave the airbrush standing with paint for long periods, since this tends to gum up the internal feed channels. **Keeping the airbrush clean cannot be stressed too strongly**. Most of the problems encountered can be traced back to an airbrush that has not been cleaned properly. If the needle is removed from the airbrush for cleaning purposes, which should be done after using, (use proper solvent) make sure it is replaced properly and is snug against the tip. Do not jam it into the tip. Residual stain will remain on the needle. A method of polishing it is to hold the needle flat on a worktable, run a pink eraser the length of the needle (being extremely careful not to bend the tip) turn the needle slowly by rolling it towards yourself. This will remove all stains and paint particles from the needle body. Be sure to remove all eraser particles by running the needle between your thumb and forefinger. Always protect the tip of the needle; it may project beyond the spray regulator and be susceptible to bending.

TROUBLESHOOTING:
1. **Grainy spray:** Caused by paint being to thick; add water sparingly to paint mixture, check the needle and regulator tip for dried paint, and check the air supply.
2. **Buckling paper:** Paint may be too thin; add pigment to thicken the mixture. Do not airbrush as heavily in one area; move more rapidly or lessen your spray.
3. **Paint blobs at ends of stroke:** Paint is sprayed before moving the hand and the hand is stopped before the paint flow is shut oft.
4. **Flared ends**: Caused by turning the wrist while airbrushing; the whole forearm should move horizontally across the surface.
5. **Centipedes**: Caused by spraying too much paint too close to the surface. If a fine line is desired, lightly pull back on the front lever.
6. **Splattering:** Caused by permitting the needle to snap back into tip. Always release the lever gently. Check for dried paint on needle or tip.
7. **Curved stroke:** Caused by arcing the arms too close to the surface; the arm should always be parallel to work, unless this effect is desired.
8. **Restricted spray**: Can be caused by spray regulator being screwed too tightly into head; open up a turn or two.
9. **Bubbles through colour cup**: The spray regulator might be turned out too far; turn it back in, a few turns. Colour cup stem may be clogged.
10. **Colour spray cannot be shut off:** Tip may be clogged; this is recognised by a "spongy" feel when needle is set into tip. A reamer can be used to clean out dry, gummy colour in tip by pushing it gently into the tip, slowly remove and rotate at the same time, removing the reamer gently, turning the reamer, and pushing it gently back into the tip. Repeat until residue is out of the tip. Run clean water through the airbrush. Take extreme care throughout this operation.
11. **Spitting**: Caused by residue on the needle or in the colour cup. Paint may be too thick to operate properly, Teflon head seal may not be seated properly.

TIPS:
- Always spray in a well ventilated area or use a spray booth as the fumes of the paint is not good for the health. A respirator is also a good idea (Its your lungs you are protecting)
- The paint must be sieved through a tea strainer to eliminate any foreign particles as the needle of the airbrush can clog up very quickly. .
- When measuring and mixing small quantities of paint use an eyedropper. .
- Preparing and cleaning up between colours is rather tedious and therefore it is practical to spray several projects with one colour at a time, before going on to the next colour.

Once you have tried airbrushing you find your models take on a new dimension.

Bibliography:

- “Hobby and Craft Guide to Air-brushing” by Badger
- “Airbrush Painting Techniques” by Osprey Modelling