AIRBRUSH 101

A simple guide to understanding airbrush terminology, types of airbrushes, and their recommended uses

This guide is offered to help airbrush users select the best airbrush for their application, and to provide important usage/maintenance information.

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BADGER AIR-BRUSH CO.

"Your own personal airbrush department"

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AIRBRUSH TERMINOLOGY, TYPES, SELECTION, AND OTHER BASIC INFO

ACTION – refers to trigger functions of the airbrush

SINGLE ACTION refers to airbrushes on which the trigger controls only the airflow. The amount of sprayed material is adjusted by turning/setting a needle (color) adjustment screw. When the trigger is depressed, a pre-set amount of material is sprayed.

DUAL ACTION refers to airbrushes on which the trigger controls both air and material flow (press down on the trigger for air, pull back on the trigger for material flow adjustment). This style airbrush allows the user to adjust line width while spraying.

Single action is simpler for applying uniform even coats of color without any notable shade or tone variation, and is almost always preferred for single color and basic spray coating applications. Dual action is preferable for "artistic" applications as it allows the user to vary spray pattern while spraying the airbrush, this enables the artist to go from fine to wide lines (and vice-versa) without limitation. Dual action is preferred for shading effects and color gradations, as well as being more proficient for detail airbrush applications and truer realism effects.

The **105 PATRIOT** and **155 ANTHEM** are dual action airbrushes. The **200 PRECISE**, **350 EASY**, and **250** are single action airbrushes.

MIX – refers to the manner in which air and material come together (atomize) while airbrushing

EXTERNAL MIX indicates that air and paint mix outside the airbrush, producing a coarse round spray pattern.

INTERNAL MIX indicates air and paint mix inside the airbrush, producing a precisely atomized "fine dot" spray pattern.

Airbrushes spray a series of dots (atomized material). An external mix airbrush sprays a larger coarser dot pattern, which is preferable for larger surface coverage and volume spray applications. An internal mix airbrush sprays finer "softer" dots, and is preferred for precision finishing needs, such as color gradations, shading effects, and fine lines.

The **350 EASY** and **250** are external mix airbrushes. The **105 PATRIOT**, **155 ANTHEM**, and **200 PRECISE** are single action airbrushes.

FEED – refers to the place of entry and manner in which the sprayed material enters the airbrush

BOTTOM FEED refers to airbrushes on which material enters through a siphon tube or color cup attached to the bottom of the airbrush. This type of airbrush should have at least 18 PSI while spraying to operate properly.

GRAVITY FEED refers to airbrushes on which material enters at the top of the airbrush through a top-mounted color reservoir. Gravity draws the material into the airbrush. This type of airbrush can be operated at spray pressures as low as 8-10 PSI.

The Bottom Feed airbrush is best for general and production applications. The bottom feed airbrush facilitates the use of more material without having to frequently fill the material reservoir. The bottom feed airbrush also allows (or causes) the artist to work at a brisker pace, enabling faster spray application when desired.

The Gravity Feed airbrush, alternatively, allows the artist to slow down. Gravity pulls material into the airbrush, so the airbrush can be operated at a lower pressure for improved airbrush control. This makes it easier to do finer detail work as the finishing process can be done at a more deliberate pace. Gravity feed is usually the best choice for detail airbrushing.

The **105 PATRIOT** is a gravity feed airbrush. The **155 ANTHEM**, **200 PRECISE**, **350 EASY**, and **250** are bottom feed airbrushes.

What is PSI? Pressure per square inch, it is a measurement of the level of air pressure.

Nozzle sizes - There are varying airbrush nozzle sizes for spraying a range of materials. Although they have some effect on the line an airbrush produces, nozzle sizes (Detail/General or .3/.5) apply more to the material that should be sprayed through the airbrush than the fineness of line an airbrush will produce. The line fineness is ultimately determined by multiple factors – nozzle size, the needle's linear air flow angle, pigment/base ratio of paint, pigment size, operating pressure, etc. **NOTE: You must to have the right nozzle/needle size with the right spray medium for optimum airbrush performance.**

Detail/.3: Best suited to spray thin, low viscosity mediums (inks, water colors, dyes, stains and gouache).

General Purpose/.5: The most popular choice; will spray airbrush ready paints, properly thinned acrylics, lacquers, enamels, and special application materials (food airbrushing colors, tanning solutions, airbrush cosmetics, body paints, etc.).

SPRAYING AND CLEANING THE AIRBRUSH

Spraying –

The key factors in properly spraying an airbrush are operating air pressure, amount of material being released by the airbrush, and the distance the airbrush is being held from the surface being sprayed.

For fine lines the airbrush should be held as close as possible to the surface with a small amount of material being released, for broader spray coverage the airbrush should be held 4" to 6" from the surface being sprayed with a larger volume of material being released.

NOTE: The airbrush will produce overspray. This is the "fuzz" of dots that sprays outside of or around the spray's desired focal point. If a sharp edge is desired, a masking medium (stencil, frisket, low-tac masking tape, spray shield, etc.) must be utilized when airbrushing.

There are some simple learning exercises that can be practiced to help develop skill, comfort, and confidence in using the airbrush: creating a grid of dots (on a blank sheet) with your airbrush – then going back and connecting the dots, drawing figure eights, and/or simply writing your name with the airbrush. These are all basic, but effective, airbrushing exercises. To practice airbrush technique on three dimensional objects, paint items such as scratch plastic/metal, pop cans, shampoo bottles, or other contoured items that are of little or no value.

THE ONLY THING THAT CANNOT BE TAUGHT RELATED TO USING AN AIRBRUSH IS PRACTICE.

Cleaning –

Step one: The key to keeping an airbrush clean is to not let material set up (dry) in it. This can be done by simply spraying the appropriate cleaning agent through the airbrush with reasonable frequency (when changing color and when setting the airbrush to rest for any period of time). Three important things to remember: 1. Your cleaning agent should be determined based on the material you are using, not the airbrush you are using 2. Material dries as fast in an airbrush as it does on the surface it is being sprayed on to. 3. Anything you think will take 2 seconds will take 2 minutes, and anything you think will take 2 minutes will usually take at least 20 – so spray the cleaner.

Step two: Should material set up (dry) in the airbrush, it may be necessary to back flush the airbrush. This is done by suffocating the air flow of the airbrush at the nozzle by carefully "pinching" a soft cloth or paper towel over the nozzle's end. This will deflect the air back into the airbrush chamber and loosen any dried material, sending it into the cleaning bottle. If done correctly, the cleaner will bubble during back flushing. It is advisable to spray fresh cleaner through the airbrush after you have back flushed it.

Step three: On what should be rare occasions it may be necessary to disassemble some parts of the airbrush for more thorough cleaning. This should only be done if the user has neglected to do step one of regularly spraying cleaner through the airbrush, and/or step two of back flushing is unsuccessful in getting the airbrush to spray properly again. If disassembly is required, it should be only of parts that come in contact with the sprayed material; from the material's point of entry into the airbrush and forward. The included parts for disassembly are the nozzle assembly and the needle. To thoroughly clean the nozzle assembly, use an ultrasonic cleaner or denture cleaner (yes, denture cleaner – follow the directions on the package). The needle should simply be wiped down with a soft cloth saturated with the appropriate cleaning agent. If residue on the needle is still apparent it may be removed by gently rubbing a fine steel wool over the residual deposit area. While the needle and nozzle are removed from the airbrush it is OK to run a pipe cleaner saturated with cleaning agent through the chamber of the airbrush, following the same path as sprayed material, and out the airbrush front. For bottom feed airbrushes that is up the stem and out the front, for gravity feed airbrushes it is down the color cup and out the front. Only do this when the needle and nozzle are removed as forcing anything through the nozzle will damage it. After using the pipe cleaner, blow out the airbrush to remove any pipe cleaner "fuzz". After all nozzle/needle cleaning steps are complete the airbrush can be reassembled and will be ready for use. This disassembly process should be rarely necessary if steps one and two are followed, but it is recommended if storing your airbrush for an extended period of time.

OTHER AIRBRUSH RELATED EQUIPMENT, MATERIALS, AND ACCESSORIES

Air Sources –

COMPRESSORS - A unit that generates at least 30 PSI is recommended to start airbrushing. Some applications, such as T-shirt painting or other fabric painting, may be more efficiently done at higher pressures (up to 55 psi). Other applications, such as finger nail art and illustration may be more effectively done at lower pressures (as low as 10 psi). For applications requiring higher and lower pressure it is recommended to use a regulator as found on the 80-3N and TC910.

PROPEL - A can of "air" that enables spraying an airbrush for up to 12 minutes can also be used to airbrush. This is OK for beginners and those not certain they will continue airbrushing after trying it. Rule of thumb – if you pay for 5 cans of Propel you have paid for more than half of a compressor – start looking for one!

Air Hoses –

BRAIDED air hose is the most common and most durable type of airbrush hose. A braided air hose can handle over 100 psi, which is more than enough for any airbrush application.

Accessories -

FastBlast jar adaptors connect the jar to a bottom feed airbrush. The FastBlast one piece siphon tube design is much easier to clean and is available in a variety of jar mouth sizes. Many professional artists put an adaptor on each color they're using, and it is recommendable to have additional adaptors and jars for quick color changes and occasional color mixing needs.

Paints - The rule of thumb for preparing paints (or other materials) for airbrushing is to reduce them to the approximate visual viscosity of 2% milk. Varying paint types and materials, including proper viscosity acrylics, lacquers, enamels, urethanes, inks, water colors, dyes, stains, cosmetics, and food colors can be applied with an airbrush. And airbrushing can be done on canvas, paper, textiles, plastics, metals, wood, etc. Even the human body (skin/nails) can be airbrushed. All Badger paints, including SPECTRATEX, are pre-reduced and ready to spray.

Learning Aids – DVDs on general usage and/or specific technique provide excellent instruction for the aspiring airbrush artist. Specific technique DVDs on the most popular airbrush applications (fine scale model detailing, cake decorating, and t-shirt painting) are a part of Badger's airbrush education product line.

AIRBRUSH APPLICATIONS / RECOMMENDED AIRBRUSH

APPLICATION	MICHAELS' BEST AIRBRUSH
AUTOMOTIVE/HARD SURFACE CUSTOM FINISHING	105 PATRIOT
AUTO NICK & SCRATCH TOUCH-UP	200 PRECISE
T-SHIRT/TEXTILE PAINTING	155 ANTHEM
GENERAL HOBBY FINISHING	200 PRECISE
FINE SCALE DETAIL MODEL FINISHING	105 PATRIOT
FINE ART	155 ANTHEM
COMMERCIAL ART/ILLUSTRATION	105 PATRIOT
DECORATIVE PAINTING	155 ANTHEM
SCRAP BOOKING and STENCILING	200 PRECISE
BASE COATING & GLAZING (CERAMICS, WOODWORK, TAXIDERMY, ETC.)	350 EASY
HOME AND SMALL BAKERY CAKE DECORATING	105 PATRIOT
PRODUCTION BAKERY DECORATING	155 ANTHEM
FINGERNAIL ART	105 PATRIOT
AIRBRUSH TANNING	155 ANTHEM
COSMETIC/MAKE-UP	105 PATRIOT
BODY ART	155 ANTHEM
SIGN PAINTING	155 ANTHEM
WOODWORK FINISHING & ANTIQUING	155 ANTHEM
TAXIDERMY BASECOAT APPLICATIONS	350 EASY
TAXIDERMY DETAILING	105 PATRIOT
FISHING LURE PAINTING	200 PRECISE
SMALL SCALE PRODUCTION APPLICATIONS	200 PRECISE
VOLUME SPRAY PRODUCTION APPLICATIONS	350 EASY

THE AIRBRUSHES

105 PATRIOT

Double Action, Internal Mix, Gravity Feed airbrush – excellent for detail applications

155 ANTHEM

Double Action, Internal Mix, Bottom (Siphon) Feed airbrush – excellent for all general applications

200 PRECISE

Single Action, Internal Mix, Bottom (Siphon) Feed airbrush – excellent for simple precision spraying

350 EASY

Single Action, External Mix, Bottom (Siphon) Feed airbrush – excellent for controlled volume spraying

Model 250

Single Action, External Mix, Bottom (Siphon) Feed spray gun – a reliable and inexpensive spray tool

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