Painting Outboard's...Part 1

By Peter McDowell

One of the questions I'm most often asked is "Should I use aerosols or a spray-gun"? The primary reason for preferring to use a spray-gun is cost. A quart of paint contains the same amount of paint as 8 aerosols. There is a 1/4 pint of paint in each aerosol. The 8 aerosols will cost twice as much as the quart. You are paying for a more expensive package 8 times over.

Probably the second most asked question is "Can I do a good job with an aerosol"? The answer is that you can if you know what you are doing. If you don't know what you are doing, just using a gun does not guarantee a good result. It is easier to do a good job with a gun, and more economical, if you ignore the capital costs of a compressor, gun, booth etc. If you are only ever going to paint one motor and don't have the equipment necessary to use a spray-gun then aerosols are definitely the way to go. If you are going to paint many motors you will very quickly pay for the equipment in reduced paint costs with every job.

Spray guns have knobs to adjust the paint/air ratio. Less paint for the first 2 "coverage" coats and more paint for the final "full wet coat", to get the smooth glossy finish that looks so good. Since the paint/air ratio is not adjustable on an aerosol, for the final full wet coat you have two choices. 1- do a double pass over each area, or 2- move your hand more slowly to achieve the heavier coat of paint.

When you learn how to paint one of the first lessons is to always move your hand at the same rate. Speeding up and slowing down will cause more or less paint to be deposited in different areas giving an uneven finish that doesn't look very good. You must also flex you shoulder, elbow and wrist, so that the gun is always held at a constant distance from the part to be painted. If you only pivot your arm at the shoulder your hand moves in an arc and is closest to the object to be painted at the middle and farthest away at each end of the arc. This applies much more paint at the middle and much less at each end, again giving an uneven finish that doesn't look very good. When I had my shop at Yonge and Steele's there was a body shop in the same building.

The painter there needed some work done on an outboard. In exchange I got a spray gun and some lessons. Those were the first two things he taught me.

Paint Gun Sizes and Types.

Paint guns come in large or small sizes, Conventional or HVLP types and also in siphon or gravity feed. Conventional guns are called that because they were the standard for many years. They are not very efficient. Generally they are fed 50psi at the gun inlet. Most of them are about 35% efficient. That means that if you spray a gallon of paint through the gun you have basically poured 2/3rd's of it on the floor, it's gone, completely wasted. I first learned to paint with a large conventional gun. When I painted it was like being in the middle of a cloud, there was so much over-spray. Everything within 6' in all directions was covered with paint. Some went up the booth exhaust and a little even made it on to the part I was painting. To paint like that and not use a respirator would have been grossly irresponsible.

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HVLP vs Conventional guns

HVLP means High Volume Low Pressure. These guns are built differently internally and are more efficient than conventional guns. To be able to call a gun "HVLP" it must be at least 65% efficient. Some of the better guns are in the 85-90% range. Hoses must be minimum 3/8" internal diameter and special quick connectors must be used to allow the higher volume of air to flow unrestricted. When you buy the quick connect is says something like "HVLP Approved" on it. The difference in painting with an HVLP gun compared to a Conventional gun is readily apparent, huge clouds of overspray with the conventional gun and almost none with the HVLP gun. When I first made the switch to HVLP I remember thinking that I could probably get away without the respirator, though I didn't.

Large vs Small guns

You need to match the size of gun to the size of the item you are painting. If you tried to paint a bus with a small gun it would take all day to paint it. If you try to paint an outboard with a large gun you will waste paint. If you are painting the tiller arm, probably about 1.5" wide, with a full size gun that has an 8" wide pattern then you are wasting about 80% of the paint regardless of the efficiency of the gun. Match the size of gun to the item being painted. My first gun was a large conventional gun. When I switched to a conventional mini-gun I seemed to cut my paint use in half. Later after switching to an HVLP mini-gun I again seemed to cut my paint use in half. That makes about a 4 times spread on how much paint will be needed depending on what type and size of gun is used. The question, "How much paint do I need" is difficult to answer without more information like the size and type of gun to be used. I often get the feeling that people who ask me how much paint is needed think that there is only one answer to the question.

Gravity feed vs Siphon

Siphon guns have the paint canister mounted below the gun outlet nozzle and use the air moving over a tube to draw paint up from the canister and out the nozzle, via Bernoulli's principle, just like a carburetor. Gravity feed guns have the paint canister mounted above the outlet nozzle and as the name implies use gravity to feed the paint down to the outlet nozzle. With a gravity gun you can use every last drop of paint. Siphon guns always leave a little in the bottom of the cup. There is no difference in efficiency between gravity feed guns and siphon guns. You can get HVLP guns large or small, in siphon or gravity feed. Some prefer the balance or feel of one over the other.

The question I most often ask people, usually in response to "How much paint do I need"? is, "What is your main goal, cost or quality"? As you can probably imagine, when dealing with large numbers of people I get requests all over the map. Everything from the guy painting a JW who wanted to order 5 cans of paint, to a guy painting a 35hp RD who wanted 1 can, and intends to paint the entire motor top to bottom including the powerhead. People have tried since the dawn of time to get best results with minimum expenditure and minimum input of time. None has yet been successful and I doubt they ever will. If you want a good looking paint job that is also durable it takes more time, effort and money, there are no short cuts. Two cans is more than enough to paint a 3hp. trying to paint a 35hp with 1 can is a complete waste of paint, time and money, in my opinion. If you want to restore a motor and do not intend to actually use it on a boat, what some would call a "Trailer Queen", the paint will not be stressed much and you can get away with a lesser quality paint job and it will last many years. If you intend to actually use a motor and want a professional looking result that has durability, it takes more time effort and money.

You can also go overboard with attempts at perfection. The factory where your outboard was made never made attempts at perfection and neither should you. There is nothing to be gained. Many years ago I had a customer who ordered 8 aerosol cans of Mercury Cloud White, on three different occasions all relatively close together, for a total of 24 cans. When I asked him how many motors he was painting I was shocked when he said just one. Turns out he was painting each part individually down to each nut and bolt. He wanted every part to be fully painted. That's bad for several reasons. 1- it's hugely wasteful of paint, trying to paint each nut and bolt individually. 2 - you get paint where you don't want it, on threads for example, makes it difficult to install the nuts. 3- when you reassemble the motor you are guaranteed to scratch the snot out of it and then you will have to spend a lot of time doing touch ups. The manufacturers never did it this way, too inefficient on time and materials. Most motors were completely assembled, minus carbs, ignition and flywheel etc, hung by the crank and painted in one operation. I don't care, I will sell you a hundred cans to paint one motor if you want. Being that anal about the paint gains you nothing. Every motor left the factory with small spots that didn't get much paint on them. When people bought a new motor they didn't go over it with a magnifying glass looking for tiny flaws.