



CROSSED FLAGS

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About the Author

Bob Tuchrelo is the auto body and paint guru responsible for the outstanding body work done on Gene and Sue Manno's '67 silver coupe.

On May 11, 2002, Bob presented the chapter Technical Event during which time those in attendance saw him in action as he conducted a body work seminar in his garage. The subject of that was the work being done on Gene Manno's '57 Nomad.

Since that time Bob has written numerous columns for our newsletter. He is a true craftsman, has a wealth of information, and is willing to share the minutest details to help others achieve a measure of success in their projects. Thanks, Bob!

■ Topcoat

by **Robert Tuchrelo**, *Nationally Recognized Auto Body Technician*

Topcoat—sounds kind of harmless, I guess? It's only a color coat, right? Well, I haven't really talked much about the application of topcoats; this is a huge topic. I'll try covering some key elements, which I consider to be quite beneficial, in obtaining the ultimate finish!

So then, what is it that makes a paint job so dominating? Everything that you "don't see", is what actually reflects in the final product! Interesting concept. Believe me when I tell you, every painter is different. What I mean is, eventually you'll "feel" a way within yourself, a kind of working sense, which guides your hand and eye coordination, allowing for a fairly satisfactory finish. You will naturally adapt to your spray gun, material and environment subconsciously. Intelligence is key; knowing ahead of time, what it is you're trying to achieve (i.e. finish characteristics). Wouldn't it be nice to equip your subconscious with a little pre-conscious before you ever pull back that trigger? Like thinking outside the box. Believe me when I tell you, considering every little thing that can possibly be considered is what I'm driving at. Hopefully, I'm not driving you into unconsciousness with all this conscious stuff.

I'm sure you've heard the coined phrase "It'll all come out in the wash". I don't know about you, but after a long hard day of working in the garage, my clothing rarely ever becomes completely clean again. Well, what they're actually referring to is anything that is visibly unwanted in the final topcoat (i.e. sand scratches, orange-peel, fish-eyes [inverted dimples caused by airborne silicone-based materials], dry and or heavy application); the possibilities can be endless. But, with a good wet sand and rub, eventually all will be washed away; I beg to differ. Yes, these conditions will be unquestionably lessened, but somewhere down the road, the overall quality of your finish will be anything but top shelf.

Stay away from the mindset of saving your paint work with a good wet sand and rub; a wet sand and rub should only complement the paint work. To begin with, let's start with your surroundings. I'm simply going to rifle through a lot of things for you to consider, without any major reflection; I'll leave that part up to you! This can seem pretty silly, self explanatory or even pointless for that matter. But I'm asking that you really apply everything I'm going to mention into a possibility on how it may (positively or negatively) impact your final coat.

SURROUNDINGS

| | |
|-------------|--|
| Ceiling: | Finished surface? Height? Opened or closed? |
| Walls: | Finished surface? Distance from object to be painted? |
| Floor: | Finished surface? Material (i.e. concrete, wood, dirt)? Dry, wet, damp, cold? |
| Compressor: | Location? |
| Air Flow: | Location of exhaust-fan(s)? Air intake (volume)? Direction of flow (if any)? |
| Heat: | Location? Forced, radiant, infrared? |
| Time: | Morning, afternoon, night? Hint: afternoon (Big contributor to airborne dirt contamination) Climate: Dry, humid, hot, cold, raining? Hint: dry (Big contributor to airborne dirt contamination) |
| Lighting: | Sufficient? Florescent vs. daylight? |

Here's what I suggest:

- Preferably 10' ceilings (if not finished, cover with plastic).
- A minimum of 6' all the way around your work in progress (you need room to move).
- Walls should be finished (if not, drape with a thin 2-3 mil plastic).
- Painted floor to eliminate dust (if not, lay down a > 3 mil plastic).
- Compressor should always be located away from everything (I have mine in the basement), nice.
- Air should always be moving around your work piece (I prefer a downdraft; I converted a bay in my garage for less than 3 thousand dollars). Works incredible! Cross flow is fine. Hint: In order for your fan to move air, a sufficient air inlet is required (no air in, no air out)
- Forced air for spraying, radiant or infrared for curing. Remember to keep the air flowing while the paint is drying, all the way to completion. Hint: Your VOC can fall back down onto the painted surface costing you major gloss deprivation.
- Avoid the afternoon; electrostatic is far greater. I always spray during the night. Ground the object (chain to ground or clamp the negative side of battery charger somewhere on the object). Try spraying the surface with distilled water prior to application, naturally. This produces two fold: Reduction of electrostatics and it also simulates a first coat. You'll be surprised by what might jump out onto the surface. Oh yeah, notice how much tighter your masking paper is.
- Climate, this is tough. But if you're spraying Acrylic Urethane, simply wait around for a really nice rainy day; you'll obtain incredible results...
- Florescent lighting for everything except color matching. Daylight florescent bulbs are a must for color matches.

PREPERATION

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|----------------------|--|
| Shop Condition: | Clean (try prepping the shop a day in advance) |
| Personal Protection: | Mental (think positive) Eye protection (eye wash?) Face Full Face Fresh Air Supply (Recommended) Remember charcoal is inadequate for filtering Isocyanates (very bad). http://www.osha.gov/SLTC/isocyanates/ Painters Suit. Hint: Nothing containing lint! Head sock (Contain lint?) |
| Surface: | Contamination free? Hands off surface? Containment of potential dust clouds (i.e. sealing off inside door shell, trunk space, etc). Your tape job is to be taken serious (can make or break your final coat) Tack Rags (new or used - preferably used for topcoat) |
| Air: | Required PSI (Pounds/ Square Inch), CFM (Cubic Feet / Minute) Airline I.D. (Inside Diameter: _ to _ in.) Copper, Plastic, Black Iron, Galvanized (I prefer PVC) Hose I.D (min. 3/8 in.) Dedicated for painting only? Filters (Desiccant dryers) http://www.desiccantcity.com/ Correct coupling I.D. (HVLP sensitive) |
| Spray Equipment: | Tip, Needle and Cap combination (critical) Cup Size (Liter preferred) Agitated metallic? (Try using a couple of marbles) Spray Gun Conventional Pressurized Gravity HVLP (High Volume Low Pressure) requires high CFM output delivered to the gun Second gun (loaded with cleaning solvent?) Spray Gun Air Filter (warm air inside your hose will condense while against a cold concrete floor!) Paint Cup Bags (nice) Paint Suitable for your environment? Strainers (both cup and paint) Paint Supply (always buy more) Always buy your Hardener in the smallest container size available (prefer 4 oz). Once you open it, it's dead! Premix enough paint to complete one entire coat Paint sticks (never put the Paint Stick that you stir paint with into your paint cup! - grab a clean one) |
| Time: | Application Between coats (critical) |

I think most of you may know Gene Manno. I sold him my '57 Nomad a couple of years ago. I wanted to paint the Nomad with a HVLP. They have come a long way in the last few years. I was reluctant at first, because as you may already know, an HVLP can load a surface with paint pretty fast. I'm saying all this for a reason. It has taken me years to figure out the exact combination between hardware, material and environment. Most of us don't have the luxury of working in the suggested surroundings as I described above, which requires a little bit of considering on your end. The EPA says less VOC in the air is better, better for whom? Not for you, you say, but for the ozone. God bless the ozone. But who is going to bless your paint job? An HVLP was designed for this main purpose; if I'm applying more material to the surface, I'm considerably reducing the amount of pollution and all is good.

Heavy application can produce undesirable results: greater orange-peel, paint waves, accentuated defects, longer dry time in between coats and on and on it goes. If you're equipped with a compressor that can keep up with the demands of an HVLP, suffer from an extra clean work environment, and use the minimal allowable needle and tip sizes available, then you'll probably fare pretty good.

I'm sure an HVLP is the way to go, but if your conditions are not all that favorable, this is what I suggest. The average spray gun comes equipped with a 0.070 in. (1.7mm) orifice, corresponding needle and air cap. Now, I want you to think in a different light for a moment. Recall some of my earlier columns, the parts where I suggest "excessive anything is simply excessive." This totally applies to painting too! I say, go with a conventional spray gun. Make sure you equip it with a 0.049 in. (1.2 mm) orifice, corresponding needle and air cap. First things first: Over reducing is required, faster application speed, shorter distance between the spray gun and the painted surface, and a little more air pressure. You'll have to play with the air pressure to insure your atomization is not too much. I'm sure you can do the math: If an 0.070 tip applies an average of 4.0 mil of material for two to three coats of paint, an 0.049 tip will only apply about 2.8 mil of material for the same two to three coats of paint. Yes, this means you'll need to make a couple more passes to insure that an adequate amount of material is applied.

Reducing the amount of material applied between coats sounds crazy! More coats of paint, more painting materials, possibilities of dry application, and let's not forget about a longer day mixed with a lot more cardio—nice. For all this, what's in it for you? Total control I say, total control: Dirt, not a problem, you'll be able to eliminate the nibs in between coats. Fish eyes: A thinner coat of paint with adequate flash time in between eliminates their possibility. Orange-peel on the surface, no way. Accentuated defects and solvent penetration become a thing of the past (even when you use a higher temp reducer [thinner], which I recommend you do). Much more vibrant metallic and better control over color blending (which is a whole other column in itself) is achieved effortlessly; on and on the list grows.

Go ahead, and give it a try. Try any one of these suggestions, and I'll bet your bottom end that you'll be back to read our next column on "Color Blending" and many other painting techniques, which will bring you one step closer to the ultimate finish.