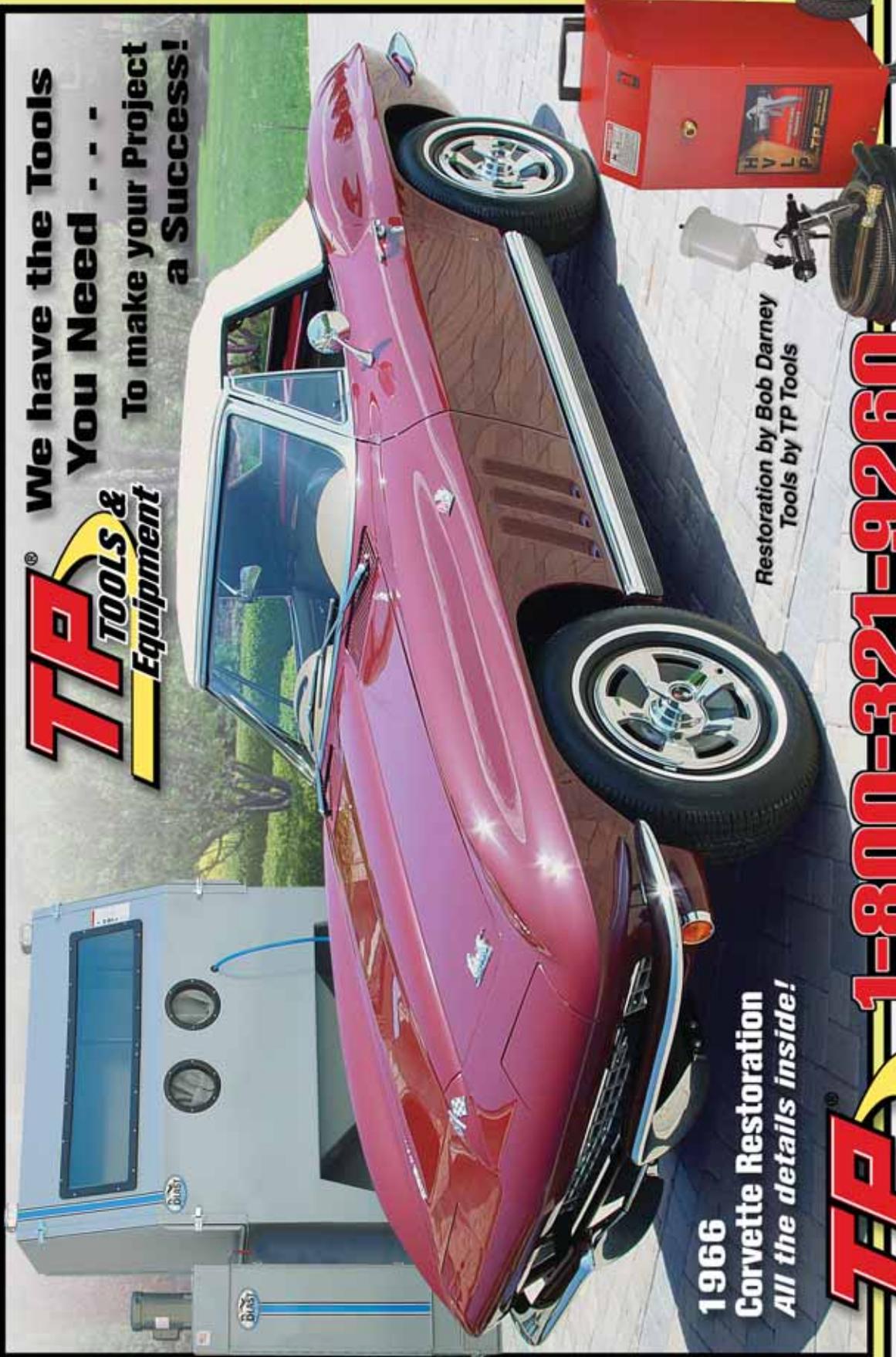


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**1966  
Corvette Restoration  
All the details inside!**

*Restoration by Bob Darney  
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2007-10

# 1966 Corvette Restoration - Part 1

## '66 Vette History

This beauty has been part of the Zwicker family collection since the early 1970's. The car was purchased from its original "lady" owner, who bought the car new in 1966. Her reason for selling? She needed to get a bigger car because her young son could no longer fit between the two front seats. The car was purchased for \$3500, and the Zwickers have been enjoying it ever since!



**2006 Restoration** - Other than a few minor cosmetics, the Vette is an all-original, numbers-matching car that has shown some wear over the years and deserving of a make-over. The car sports a 327 - 300HP V-8 with 2-speed automatic Powerglide transmission with only 66,000 original miles. This is a great car to start with and sure to be a beauty when done! Bob Darney of Leetonia, Ohio was contacted and once again stepped up to the plate. The Vette was rolled into the TP Tools' body shop, and the restoration process began...



**Vette Disassembly** - The first step for Darney was to remove the hood, drain the fluids, and pull out the motor and trans. Once this was completed, Darney removed the doors, deck lid, convertible top, and interior. Next, the body was pulled off the frame and placed on a wooden cradle he made. This cradle would be the body's home for the next several months while the chassis was being restored.



**Chassis Teardown** - Darney proceeded to strip the chassis down to the bare frame but ran into a bit of a letdown. After the rear end and drive shafts were removed, the rear section of the frame dropped to the ground! Years of moisture had weakened the metal just in front of the rear tires and caused severe rusting. After examining the rest of the frame, Darney decided to contact Vette Products in Michigan to order a new frame.



**Plastic Media Blasting** - While Darney was waiting for the new frame to arrive, he decided to strip the paint from the fiberglass parts. Darney turned to his 1536 Skat Blast Cabinet filled with Skat Plus Plastic Abrasive to handle the job. Darney states, "The Plastic Abrasive removed the original lacquer paint and primer fast and did not hurt the original factory gel coat. I used 40-50 psi air pressure and kept the gun moving while blasting. The Plastic Abrasive was a real time-saver. It's amazing how much the 1536 holds! The doors and even the rear convertible deck lid fit inside!"



**Plastic Media Blasting - Body** - Darney also blasted the Vette body with the Skat Plus Plastic Abrasive and achieved the same fantastic results. Darney contacted Brut Mfg in Navarre, Ohio. Brut specializes in outdoor-type blasters for paint and rust removal - if it doesn't fit in the Skat Cabinet, give Brut a call at 1-888-533-2693.



**Frame Restoration** - Our new frame arrived from Vette Products, and it looked great -- a duplicate of the original! Darney wanted to keep

this frame in tip-top shape and prevent it from rusting like the old one. The answer was POR-15<sup>®</sup> Rust Preventive Paint. Darney said, "I am a firm believer in their products; like the can says, it stops rust permanently! It won't crack, chip, or peel; and it lasts ... definitely worth the price!" Darney first cleaned the new frame with Marine Clean<sup>™</sup> to degrease the surface, then sprayed on Metal-Ready<sup>™</sup> Pre-primer. Darney stressed, "Be sure to use both of these products, as this is a process that will ensure long-lasting results. The Metal-Ready<sup>™</sup> really etches the surface so the POR-15<sup>®</sup> Rust Preventive Paint will bond properly."



**Frame Painting** - Darney rolled out his TP Tools HVLP Turbine System with Gravity Gun to apply three coats of POR-15<sup>®</sup> Semi-Gloss Rust Preventive Paint to seal and protect the new frame. Later, he applied two coats of POR-15<sup>®</sup> Chassis Coat Black<sup>™</sup> Topcoat Paint to

duplicate the proper factory finish on the frame. Darney said, "I only used 1 1/4 quarts of unthinned Rust Preventive Paint and 3/4 quart of thinned Chassis Coat Black<sup>™</sup> on the entire frame. As always, the TP Turbine saved me at least 50% on paint materials! And the POR-15<sup>®</sup> will make this frame last!"



**Cabinet Blasting** - Before reassembling the motor and chassis, Darney blasted everything imaginable in the 1536 Skat Blast Cabinet -- engine pulleys, fan blade, oil pan, valve covers, brackets, a-arms, exhaust manifolds, drive shafts, control arms,

and rear end section were all blasted down to bare metal using Skat Magic Abrasive and 80-90 psi air pressure. Darney explained, "Blasting is the only way to get all the paint and rust off and out of those small pits and leave bare "white metal". It avoids problems down the road, plus your primer and paint adhere real well."



# 1966 Corvette Restoration - Part 1

**Chassis Reassembly** - Darney sent all major drive-train and suspension parts to Bair's Inc in Linesville, PA for reconditioning. Bair's Inc specializes in rebuilding and reconditioning Corvette trailing arms, rear ends, half shafts, a-arms, steering boxes, and other components, plus stocks just about everything else you will need for your restoration.



Once all components were back, Darney visited the TP Tools showroom for some hard-to-find restoration paints. Darney chose Stainless Steel paint for the rear end and half shafts; Alumi Blast for the transmission, and Cast Blast for the steering box and master cylinder. Darney stated, "These restoration paints really set off a restoration -- they add the detail that judges look for. Plus, they're in aerosol form so they're ready to use; and, most importantly, they protect the parts." The finished chassis was a work of art, almost a shame it would be covered up later by the body.

**Primer Applications** - It was time to roll the Vette body into one of TP Tools' paint booths. Darney turned to the TP Gravity-Fed Turbine Paint Spray System once again. He installed a 1.4 mm nozzle setup and applied two heavy coats of an epoxy-type primer.

This primer will provide excellent adhesion for the high-build primer and seal the fiberglass. Darney said, "With primers and paints costing so much these days, you need a paint system that will save on materials and reduce overspray ... that's what TP Tools' Turbine Sprayer does -- it saves material and it pays for itself in one or two restorations. Now that's a tool every shop should have!"



**High-Build Primer** - After spraying the epoxy primer, Darney applied a high-build primer to the body and all parts of the Vette. This primer was used to fill in minor imperfections, scratches, and low spots in the fiberglass. Also, the high-build primer saves time when block sanding because it goes on thicker and doesn't shrink like standard primer.



**Block Sanding** - In order to have a straight car when finished, block sanding and prep work are a must. Darney began hand sanding the Vette with our Abrasive Roll Sandpaper mounted on 8038-13 Dura-Block Sanding Blocks. Darney said, "The abrasive rolls come in a variety of grit sizes and can be cut to length with scissors to fit any size Dura-Block in the kit. The sticky-back rolls make installation and removal fast and easy." Darney's two



favorite blocks in the kit are the 2<sup>5</sup>/<sub>8</sub>" wide x 11" long and 2<sup>5</sup>/<sub>8</sub>" x 16" long. Before block sanding, Darney sprayed a mist coat of SEM-38203 Black Sanding Guide over the primer. This product, when sanded, will stay in the low spots showing you exactly where you need to apply filler. After the Vette was completely block-sanded, primer was again applied and reblock-sanded. This process was

done over and over until smooth and all waves were gone.

## Final Fitting and Shimming

- After all parts were in the final primer stage, Darney lowered the Vette body onto his finished chassis for shimming and final door fitting. After the body was sitting on the chassis, the Vette was rolled onto our car lift to make sure it was level before placing



the body shims between the frame and fiberglass body. Once Darney was satisfied with the fit, all shims were removed, counted, and marked where their location was. This is very important, as the shims must be put in the

same location after the Vette is painted.

**Final Masking** - Prior to painting, the Vette was masked off using 3M High-Performance Masking Tape with Green Masking Paper. Darney stated, "I only use 3M Tape and the automotive green paper when masking; anything else could cause problems. 3M's tape provides great adhesion and conforms to any curve. Its adhesive holds up to solvents and removes easily after painting."



**To The Paint Booth** - Darney applied a thin coat of high-build primer to the Vette prior to painting. The Vette was ready for its Milano Maroon finish. Read about it in Part 2!



## Products Used in Part 1 of Restoration

1536 Skat Blast Cabinet.....	pg 21
Skat Plus Plastic Abrasive.....	pg 29
POR-15® Products .....	pgs 96-97
TP Tools HVLP Turbine with Gravity Gun .....	pg 105
Hard-to-Find Restoration Paints .....	pgs 91-97
HVLP Turbine 1.4 mm Nozzle Setup.....	pg 107
High-build Primers .....	pg 86
Abrasive Roll Sandpaper .....	pg 88
Dura-Block Sanding Blocks.....	pg 88
SEM-38203 Black Sanding Guide.....	pg 88
3M High-Performance Masking Tape .....	pg 101
Green Masking Paper .....	pg 101

# 1966 Corvette Restoration - Part 2 - HVLP Painting

**In the Paint Booth** - Now that the Vette was ready to take on its new finish, it was rolled into TP Tools Paint Booth. The first step was to scuff pad the primer and tack rag the surface to remove dust and fine particles prior to applying the color.



**Color Base Coat** - Bob Darney contacted Litwin Paints in Lowellville, OH to track down the original Corvette color. Litwin came through finding the original Milano Maroon mix available by Valspar®.



Pgs 104-105 TP HVLP

**HVLP Turbine Paint Spraying** - Darney once again rolled out the TP Tools HVLP Turbine Spray System with gravity-fed gun to apply the Valspar® Milano Maroon base coat to the Vette. He used the standard 1.0 mm needle and nozzle with .5 mm air cap. (This setup comes standard, is installed in the gun from the factory, and is the most popular setup for auto paints.)



**Base Coat Mixing** - Darney used a Quick Mix Cup to mix the Milano Maroon base coat with their base coat stabilizer (#163) at a 1:1 ratio (1 part base coat to 1 part stabilizer). Darney said, "The Quick Mix Cups take the guess work out of mixing. They are inexpensive and have easy-to-read

reduction ratios and measurements printed on the cups. This way you always have the correct mix." He adds, "Don't forget to have a gravity-fed gun holder on hand to hold your gun. It's a must!"



**Base Coat Application** - After the material was reduced, Darney strained the base coat and poured it into the paint gun. Next, he fired up the TP Turbine and started spraying the Vette body. Darney applied 4 coats of the Maroon to the Vette and loose body parts. He overlapped his spray pattern by 50% to avoid tiger striping and uneven metallic



coverage. Darney explains, "When your material has metallics, you must overlap the spray pattern. Hold the gun perpendicular to the surface you're spraying, stay about 6-8 inches from the surface, and keep the same speed as you move the gun across. Your air supply must also be at a uniform, constant pressure for proper metallic atomization. The great thing about using the TP Tools System is the turbine provides a fixed pressure so metallics always go on evenly. And, you never have to worry about oil or moisture contamination like you get from compressed air spray guns." He adds, "The turbine system is the way to go for individuals like myself or restoration shops. It really makes the finish."



**Clear Coat Application** - Darney chose Matrix #42 Clear to top the Valspar® base coat. Darney claims, "The Matrix clear really flows nice out of the TP Tools gravity spray gun and provides a deep wet-look shine. Plus, it is easy to sand and buff which further enhances the shine." Bob adds, "This clear is my favorite. I use it on 99% of my restorations." Darney mixed the Matrix clear 2:1 (2 parts clear to 1 part hardener) and added 10% urethane reducer. After one pass over the Vette, you could see why Darney likes the Matrix. After 3-4 coats,



we were all believers. We couldn't wait to see the result after it was wet sanded and buffed.

**Back to the Shop** - The 66 was rolled back to TP Tools body shop for its final phases of restoration. These photos were taken while in transit. We were all pleased with the results especially the high gloss and depth; an outstanding finish! And yes, TP Tools Turbine System with gravity gun laid down the Matrix clear evenly and smoothly as Darney claimed.



# 1966 Corvette Restoration - Part 2 - Reassembly



**Wet Sanding** - Darney turned to the Hutchins "Waterbug III" Wet Sander to remove minor dust particles and to level out the clear. The Waterbug hooks up to your air supply and a venturi draws water from your bucket and through the pad to keep the surface wet while sanding. Darney said, "I used the Mirka Abralon paper and started sanding with 1000 grit, then 2000 and finally 4000. This sander really cuts down on the amount of time I spend buffing, it pays for itself in no time." Darney also hand sanded certain areas on the Vette, especially the sharp edges to prevent sanding through the clear. He used the same technique as above, 1000, 2000, then 4000 grit paper folded over a Soft Block sanding block while continually spraying the surface with water to lubricate the surface.



**Buffing Process** - Darney used the Makita MK-9227C Buffer with Meguiar's new SOLO™ Polishing system to put the final luster on the Corvette. The SOLO™ system uses one Cut & Polish Cream for compounding and different grades of pads for polishing to produce a swirl-free finish every time! Darney started out with the heavy (burgundy) wool pad to remove any sanding scratches, then proceeded to the other pads in the kit finishing with the black foam pad. The results were FANTASTIC, the Vette looked wet!



Darney stated, "The SOLO™ system really impressed me. The results were stunning! The best advantage is the time I saved on cleanup by using one compound from start to finish. Normally, I would use three or four different compounds and I would have to clean the car in between each compound step. With the SOLO™ System all you do is change the pad and proceed to the next step. Plus, you will save money by only purchasing one compound instead of 3-4 different types."

**Interior Reassembly** - Darney installed most interior components while the Vette was still on the cradle. Interior renewing included disassembly of the instrument panel to repair the black exterior and clean the gauge glass and dials, carpet installation, new glove box door, repainting of the console, quartz clock movement, new radio and vent knobs and redying of the dash pads. The inside of the Vette was now factory fresh.



**Chassis Completion** - Darney's next step was to complete the chassis before body installation. He installed the remainder of the



engine components (carb, air cleaner, wires, radiator, hoses, stainless covers, etc.) The rear section included gas tank installation, driveshaft, spare tire holder and emergency brake cable installation. Next, he filled all fluids on the engine and drivetrain. The chassis was finally ready for a reunion with the sparkling 66 Vette Milano Maroon body.

**Body Installation** - Before lowering the body to its final home, Darney aligned, installed and tested the headlight assemblies for operation. Next, he installed all new trim components, parking and tail-lights, gas tank door assembly, and rockers from Eckler's Corvette Parts in Florida. (Eckler's is one stop



catalog shopping for all classic Corvette parts.) The body was then lowered to the frame with careful placement of shims between the

body and frame, then bolted down. Darney noted, "These shims were placed in the exact same position as before when the body was fitted to insure proper body and door alignment." Later, Darney installed the rear deck lid and convertible top, along with the doors, hood and the new reproduction radial tires with proper whitewalls.



### The Alignment Shop

- Darney loaded the Vette in the trailer for a short trip to Columbiana Buick, Olds and Cadillac for front and rear wheel alignment. The technicians and mechanics there have extensive knowledge of Corvettes. They did a great job, the Vette tracks down the road perfectly.



### Finished!

Thanks to everyone who helped on this classic, and especially to Bob Darney for his first class restoration! What's next? See TP Tools 2008 Spring Catalog for '39 Cadillac LaSalle restoration.



### Products Used in Part 2 of Restoration

TP Tools HVLP Turbine with Gravity Gun ...	pgs 104-105
Quick Mix Cups.....	pg 113
Gravity-Fed Gun Stand .....	pg 113
Hutchins "Waterbug III" Wet Sander .....	pg 64
Mirka Abralon Paper.....	pg 64
Soft Sanding Block (8038-10) .....	pg 90
Makita MK-9227C Polisher .....	pg 116
SOLO™ System Buffing Kit.....	pg 118