

TP Tools Latest Restoration Project - 39 Cadillac LaSalle

TP TOOLS 39 Cadillac LaSalle



**Restoration is
Easy...with the Right Tools!**
Complete restoration story next 6 pages



**1st Place Cadillac LaSalle
2008 Grand National Winner
1939-'40 LaSalle Primary Class**



Dash Restoration by
Matt Willoughby Paint Designs,
New Middletown, OH



Trunk Restoration by Fred Zwicker,
owner. Original material as it was in 1939.



Engine Rebuilding by Shepard's
Automotive, Akron, OH

1939 Cadillac LaSalle Specs

Owner: Fred Zwicker, Columbiana, OH
Year/Make/Model: 1939 Cadillac LaSalle Convertible
Restoration: Bob Darney, Leetonia, OH using tools from
TP Tools & Equipment
Production: 1040 Conv. Coupe (22 listed Cadillac-LaSalle Club)

Engine/Transmission/Rear End

Engine: original 322 cubic inch flat-head V-8
Transmission: 3 speed column shift
Rear End: 3.92 to 1 rear axle ratio

Body/Paint/Exterior/Interior

Body: All steel original, no modifications
Bodywork and Painter: Bob Darney
Paint: R-M Diamond - Oxblood Maroon Base Coat
Clear: Transtar Euro Classic Clear Coat
Convertible Top/Carpet: Jim Roll, Tailored Trim
Dash: Matt Willoughby Paint Designs
Trunk: Fred Zwicker - material, Jenkins Restorations

Chassis

Wheelbase: 120" **Brakes:** Drum/Hydraulic
Wheels: 16" **Gas Tank:** 22 Gallons
Tires: Firestone Bias 4-Ply - 700 x 16" **Weight:** 3900 lbs
Front Suspension: Coil Spring
Rear Suspension: Leaf Spring



**Rare original rubber floor
mat** with carpet inserts and
all-leather bench seat with
rear fold-down opera seats.



Paint: TP-90PLX
Turbine Spray System,
Oxblood Maroon



1939 Cadillac LaSalle Restoration - Part 1

'39 LaSalle History

In 1939 only 1040 Cadillac LaSalle Convertibles were produced. Of those, 22 are currently registered in the Cadillac LaSalle Club roster. One of these is owned by Fred Zwicker, founder of Tip Sandblast Equipment. Fred had previously owned a '39 four-door sedan version in the late 60's, and he has always had a passion for this type of vehicle.

This '39 LaSalle rolled off the Chesapeake Cadillac showroom floor in Baltimore, MD with a \$1395 price tag. It was one of many produced between 1927 and 1940 known as the "Junior Cadillac" because of its smaller size. Later the car moved to Oklahoma and spent most of its life after that in different museums. Fred Zwicker purchased this beauty from the St Louis Car Museum in 2006. The LaSalle features an original 322 cubic inch flat-head V-8 with a 3.92 to 1 rear-axle ratio. The 3-speed transmission with column shift was one of the fastest production cars of its time. (This same powerful V-8 engine helped in the World War II war effort, as it was used to power US Army tanks and ultimately helped us win the war.)

The '39 was original and complete but needed a little tender-loving-care. Initially, Fred had only a paint touch-up in mind; but because of the quality and rarity of the vehicle, he soon decided that a full restoration was in order. Knowing the challenge that lay ahead, Fred asked car builder and restorer Bob Darney for his help and expertise in the project. Bob had recently restored the TP Tools Ram Jet and several other restorations. He gladly accepted the challenge.

LaSalle Disassembly - The first step was to put the car on jack stands and remove the wheels, foglights, bumpers, doors, carpet, interior, and deck lid. Fred explains, "The most important thing for me was to classify and keep track of all the irreplaceable parts after removal. Bob and I kept good notes, took plenty of pictures, and kept everything in bins by alphabetical order; so when it came time to reassemble, the parts were easy to find."

Darney finished the disassembly by removing the hood, grilles, headlight buckets, front and rear fenders, and radiator. The LaSalle was now down to the firewall and rear clip. Darney checked over the body and, amazingly, there was

little rust. Both doors and deck lid had small rust holes on the bottom which would later be patched with steel, then leaded with auto body solder. Bob and Fred decided to leave the body on the frame since, with convertibles, there was a risk of the floor buckling if removed. They also left the windshield, as it was perfect.

Engine and Transmission Removal -

Darney removed the 1100 lb monster engine and transmission using our 2-Ton Engine Crane (TP-5026). The flat-head engine was a little too heavy for our engine cradle; but with the help of our mig welder, we built one custom in our fab shop. The engine was then sent to Shepard's Automotive in Akron, OH for a turn key remanufacture including rebuilt fuel pump, carburetor, starter, generator, wiring, ignition, clutch, and pressure plate. Shepard's specializes in rebuilding older, flat-head Cadillac engines. When finished, the motor will be the original color, plus Shepard's will run the engine for several hours on a stand, so you are assured of a quality rebuild and easy reinstall.

Fender Restoration -

Darney's first step was to remove the old paint from the fender and get down to bare metal. He placed the fenders inside the 1536 Skat Blast Abrasive Cabinet using First Choice abrasive @80 psi. Within a short time, one fender, then the next were down to bare metal. Afterward, he sanded each with a TP 6" DA Sander and 80 grit paper. This revealed low spots and dings. Any small holes were mig welded, then ground or filed smooth. After welding, Darney used auto body solder (lead) to fill in. Darney claims, "Lead seals the surface, does not shrink, and won't pop like body filler can. Plus, this is how imperfections were filled in the 30's."

To remove any small dings and reshape the rolled fender edge, Darney pulled out two more of his favorite tools, the Martin Hammer and Dolly. Darney explained, "By placing the dolly under the ding and striking the metal with the hammer, you can easily raise the metal surface to a smooth finish. Also, you can lower a high spot in the same manner. It takes a little time and patience, but you can get the fender factory-smooth. I prefer this method to a lot of body filler."

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1939 Cadillac LaSalle Restoration - Part 1

(Continued)

Fender Primer Application -

After the rear and front fenders were repaired, Darney reinstalled them on the car body for a final fitting. Now it was time to primer. Darney chose Transtar Euro Classic Primer for this restoration. He said, "This primer does it all. It etches to bare metal, it covers and fills in like hi-build primers; and with extra thinning, it can be used as a sealer. This primer eliminates the need for three different products and saves me money. I wouldn't use anything else."

Darney, also admirably known around the TP Tools restoration shop as "Showtime Bob", used the new TP-90PLX HVLP Paint



System. In addition to the turbine power unit, this system features a 1 qt primer gun and a 20 oz gravity Finish Gun.

Darney filled the TP Tools 1.8 mm HVLP primer gun and was ready to spray. The Euro Primer had a 4 to 1 mix ratio, which he applied two heavy coats to the fenders. Grinning, he said, "The new ProLine Primer Gun was amazing! It laid down the material perfectly and without all the overspray. I'm going to like this gun and can't wait to use the Finish Gun on the base coat/clear coat!"

Door Repair/Restoration - The LaSalle's doors had some minor rust on the bottom from the drain holes being clogged over the years. Darney decided the best approach was to replace the lower section with new steel. After removal, Darney used SEM XXX Paint Stripper to remove the original paint and primer coat, then he used the TP DA Sander with 40 grit paper to get down to bare metal. Next, he slit the original panel with a TP-3012 Cutoff Tool and TP-3013 Air Grinder. Within minutes, the old panel was off. Darney said, "TP Air Tools made this removal fast and easy. By hand, this would have been over an hour's work."

Darney proceeded by cutting and blending a new patch panel out of metal. He then tack welded the panel in place and leaded the seam. Again, he stated, "Lead seals the area and will keep the water out, so no surprises later." Next, he sanded the area and reinstalled it on the LaSalle to insure the fit. The finished door was a work of art, unbelievable!

Parts Component Blasting - While Darney was busy with the restoration, Fred was quite busy reconditioning parts.

His most useful tool - the Skat Blast 1536 Abrasive Blast Cabinet. Every component that was removed from the car was blasted, primed and then painted, ready for reinstallation. Zwicker chose First Choice abrasive for the rusty parts. He said, "The First Choice abrasive did the job fast and left a nice smooth finish! This left the perfect texture for the primer to adhere."

Cabinet Blasting -

The 1536 Abrasive Cabinet was a true performer - whatever Fred put in it, came out like-new. 60 plus years of rust were gone in seconds. Fred stated, "What's nice about the cabinet is it's always hooked up and ready. Just put your part in, aim the gun, and watch clean metal surface before your eyes! Plus, the abrasive recycles for reuse. A Skat Blast Cabinet is the most useful tool a shop can have!"



1536 Abrasive Blast Cabinet



Powder Coating and Painting -

Most of the under-the-hood parts were powder coated black. The powder coating would leave a nice finish when the hood is opened. All other parts that required primer were sprayed using the TP-90PLX HVLP sprayer with Transtar Euro Primer. This filled and sealed all minor blemishes, plus the primer is waterproof. Most small components were



then sprayed with Seymour Stainless Steel aerosol paint for a factory original look.

Trunk and Floor Cleanup - Fred handled this job while Bob finished the driver's door. After removing the original trunk flooring material, a lot of glue and material residue was stuck to the metal. Fred used "The Stripper" Air Operated Rust & Paint Remover Kit to get the metal surface ready for a coat of Transtar Euro primer. He said, "I was amazed at the ability and speed of this tool. It made an almost impossible job fairly easy. The metal was clean and shiny."



NEW TP-90PLX



1939 Cadillac LaSalle Restoration - Part 1

Quarter Panel, Rear Clip and Rear Splash Repair - Darney's next step was to finish the rear section of the LaSalle. He sprayed the areas with SEM XXX Stripper to remove paint and primer, and sanded it with the TP-3006 DA Sander with 40 grit disc. The passenger-side lower quarter and rear splash pan were the only areas of concern. Darney cut out the areas in need of repair, then crafted patches using his metal brake for the quarter. He turned to the Shrinker/Stretchers to curve the rear splash patch. All were welded in and leaded with auto body solder. Once again, Bob's *metal magic* was a sight to see.

Now that this major part of the car was finished, Darney moved on to the deck lid, hood, and fire wall.

Hood/Deck Lid and Fire Wall - Since these parts were too large to fit into the 1536 Cabinet, Darney used the SEM XXX Paint Stripper to carefully get to bare metal. These



parts of the car were in excellent condition, no rust or dings anywhere. This was amazing for a 1939 car. The parts were set aside for later primer application.

Splash Apron - There were no running boards on the '39 LaSalle; one of the first cars without them. After the splash aprons were removed, Bob saw they were quite rusty. Darney knew this would not be a problem. He cut a new piece of steel the proper length and width and then bent a u-shape in it using a TP Tools large metal brake. The part was correct except for the curve in the piece. Again, Darney turned to his Shrinker/Stretchers machine to form the curve in the splash apron. By shrinking one side, flipping it over, and shrinking the other side, back and forth the part took shape. When set side by side, you could not tell the difference between the two (if the red paint didn't give it away). Darney said, "Most people think the Shrinker/Stretchers is for shaping small parts; this tool can put a curve in large pieces such as the splash aprons I made and are also excellent for curving a skin on a door."



Frame Cleanup - Since the body was left on the frame, this step took some time. Darney also used "The Stripper" to remove years of rust, scale, paint, and undercoating from the '39 Frame. Darney said, "This is a remarkable tool; the high-speed wire brush has sharpened ends which really clean fast. The bristles reach into crevices and cracks, especially useful on the front suspension cleanup."



Frame Restoration - When Darney had everything down to bare metal, he applied 2 coats of Transtar 2K Self Etching Primer using the TP Tools HVLP Turbine unit. Darney claims, "The 2K Primer has excellent adhesive properties and will slow down the corrosion process. It also provides a durable base for my topcoat finish paint to adhere to. But



remember, before applying your topcoat, always scuff pad or sand the primer. If not, your topcoat could flake or peel."

Bill Hirsch Paint - Darney wanted the LaSalle frame paint to match the way it was in 1939. He insisted on Bill Hirsch Super Black Chassis Undercarriage Paint. Darney says, "This paint has the right semi-gloss to duplicate the factory finish and it is tough." Darney sprayed the Hirsch Paint using the TP Tools Turbine with ProLine Gravity Gun and applied three coats to the frame. The results were fantastic, and the gloss was perfect. Darney noted, "The new TP Tools ProLine Gravity Gun hooked up to my turbine and gave me results beyond what I expected. When spraying, I could hardly see any overspray; the paint just went on the frame. I only used 1-1/4" qts on the entire frame. That's a real savings!"



Transtar Euro Classic Primer Application - Darney's last primer application was applied before the LaSalle went to the Paint Booth. The Transtar Euro Primer was mixed 4 to 1 and poured into the TP Tools ProLine 1 qt gun with 1.8mm nozzle setup. Darney applied two heavy coats to the rear clip, inside the trunk, on the floor, and fire wall. The LaSalle was now starting to look somewhat complete. Darney stated, "This primer dries quickly and is easy to sand with no shrinkage, plus your base coat can be applied over this primer. I highly recommend this product!"



Ready for paint - For a final coat, Darney further reduced the Transtar Euro Primer 4:1:2 as a sealer, prior to painting. LaSalle will be painted Oxblood Maroon Metallic, the same as original.



Products Used in Part 1 of Restoration

TP Tools Engine Crane.....	pg 166
1536 Skat Blast Abrasive Cabinet	pg 30
TP Tools TP-3006 DA Sander	pg 64
First Choice Abrasive.....	pg 36
Auto Body Solder (Lead).....	pg 98
Martin Hammers and Dollies	pgs 80-81
Transtar Euro Classic Primer	pg 106
TP-90PLX Turbine Paint System.....	pgs 12-13
SEM XXX Paint Stripper	pg 107
TP Tools TP-3012 Cutoff Tool	pg 67
Stainless Steel Paint	pg 115
"Stripper" Rust and Paint Remover Kit	pg 71
Shrinker/Stretchers	pg 93
Bill Hirsch Super Black Chassis Paint.....	pg 109
Transtar 2K Self Etching Primer.....	pg 106

1939 Cadillac LaSalle Restoration - Part 2

Final Preparation - Prior to receiving the finished coat, Darney spent a lot of time priming and block sanding the LaSalle body and components to insure straight panels. He relied on Dura-Block Sanding Blocks and our abrasive roll sandpaper plus SEM Guide Coat Black Sanding Guide.

In The Paint Booth - Darney did his final masking on the frame and windshield. He chose 3M™ High Performance Masking Tape and our Green Masking Paper. Darney said, "The 3M™ Tape is a must. It sticks well and conforms to curves and contours and; most important, it comes off easily after painting. It's not like cheaper tapes that pull off in strands and little pieces. 3M™ Tape is well worth the little extra cost because it saves a lot of aggravation."



Base Coat Application - Darney started up his TP Tools Turbine and away he went. He started spraying the Oxblood Maroon in the trunk area, then moved to the floor boards. Next, he coated the entire LaSalle body with a coat. In between filling the spray gun, Darney mentioned, "The new TP Tools ProLine HVLP Gun is really spraying well. The base coat is going on evenly and atomizing perfectly." Once the gun was refilled, Darney applied three additional coats of base coat material (four coats total) to the LaSalle body, fenders, hood and



trunk lid. When finished, Darney said, "This material had a lot of metallic in it; but once again, the engineers at TP Tools did their homework on their new ProLine HVLP Turbine Gun. It performed flawlessly, and the metallic laid down evenly." Darney also stated, "There are four steps I always do when spraying metallics with a Turbine System: always overlap your spray pattern by 50%, 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 the car. These steps will help you avoid tiger stripping and uneven metallic coverage when using a Turbine System or any type of spray gun. The TP Tools Turbine System is my #1 choice; just plug it in any 115 volt outlet and start spraying. Never any moisture, oil; and there's no compressor required."



Pgs 12-16
TP HVLP



HVLP Turbine Paint Spraying - Once inside the paint booth, Darney scuffed the primer one last time and used a tack rag to remove any fine dust particles. He was now ready to apply the first step to the finish. As with all his restorations, Darney entrusted the TP Tools HVLP Turbine System to put on the finishing touches to the LaSalle. Darney noted, "This is the

first time I am using TP Tools new ProLine HVLP Finish Gun to apply a base coat/clear coat system. It worked excellent when I sprayed the Bill Hirsch Paint on the chassis. I can't wait to see how it will perform with this paint product." Darney chose the standard 1.0 mm nozzle/needle setup for the base coat.

Base Coat Mixing - Fred found that the original Oxblood Maroon Metallic color was available in R-M Diamont brand manufactured by BASF. The mixing ratio was 2:1 (2 parts base coat to 1 part UR reducer). The material was strained and poured into the TP Tools ProLine HVLP Turbine Gun and then ready to be sprayed. Darney said, "Don't forget the Quick Mix Cups and Gravity-Fed Gun Stand; they are a must!"



The TP Tools Turbine System is my #1 choice; just plug it in any 115 volt outlet and start spraying. Never any moisture, oil; and there's no compressor required."

Continued pg 6.

1939 Cadillac LaSalle Restoration - Part 2

(Continued)

Clear Application -

Darney chose Transtar Euro Classic Clear Coat (available in TP Tools showroom only) to top the R-M base coat. The Euro Classic Clear Coat is designed for applications requiring the ultimate appearance. It contains high solids and provides optimum flow and leveling. Plus, it stays flexible yet resists stone chips and abrasions. Darney again turned to the TP Tools Turbine System with the ProLine HVLP Gun with 1.0 mm nozzle/needle setup to spray the clear. Darney noted when mixing the clear, "I swapped cups on my gun and installed a TP Tools optional 1-liter Ultimate Clear Cup Assembly. This larger cup is the ticket. I can go around the whole car and then some without refilling. This cup is ideal for larger vehicles."



The Transtar Euro Classic Clear Coat was mixed per the manufacturer's specs at a 2:1 ratio (2 parts clear to 1 part activator) and poured into the Quick Mix Cup; then he added about 10% urethane reducer. Darney said, "The urethane reducer will help the clear flow better, leaving a smoother finish. This cuts a little time when sanding and buffing later." Darney quickly tack ragged the body

and parts and started applying the clear. Within seconds, the

metallic in the Oxblood Maroon was magnified by the Euro Classic Clear; and the true beauty of Darney's hard work was starting to show. Darney applied four coats of clear to the vehicle and body parts. When finished, Darney stated, "The TP Tools new ProLine Gun was a complete success - it got the job done fast, effectively, and without all the overspray. If you're interested in a gravity gun for your turbine, try TP's ProLine Series Turbine Guns. They're priced right and will give you fantastic results with automotive materials."



Dash Restoration by Willoughby Paint Designs

- To finish off the interior, Fred contacted Matt Willoughby in New Middletown, OH to put his finishing touches on the LaSalle dash. Matt goes through a special process to duplicate the original wood grain and finish. After priming with TP Tools TP-20 Touch-up Gun connected to the Turbine Paint System, then sanding, Matt began his restoration process. The finished dash is stunning; you would think it is real wood. Beautiful job, Matt!



Wet Sanding -

Darney wanted the LaSalle finish to be flawless, so he pulled out the Hutchins "Waterbug III" Wet Sander. He used Mirka Abralon paper with 1000 grit, then 2000, and lastly 4000 grit paper. The same process was used on areas the Waterbug could not reach. He used a soft block sanding block, wet paper, and a spray bottle to lubricate the surface when sanding. Darney stated, "If you want your restoration to stand out, then you have to sand and buff. This process really puts the depth in your paint; it looks like it is still wet. This is one thing that draws people to your car and wins shows."

Darney used the Hutchins "Waterbug III" Wet Sander. He used Mirka Abralon paper with 1000 grit, then 2000, and lastly 4000 grit paper. The same process was used on areas the Waterbug could not reach. He used a soft block sanding block, wet paper, and a spray bottle to lubricate the surface when sanding. Darney stated, "If you want your restoration to stand out, then you have to sand and buff. This process really puts the depth in your paint; it looks like it is still wet. This is one thing that draws people to your car and wins shows."



Buffing Process -

Darney went to his buffing cabinet and chose the Makita Buffer and the Meguiar's Solo™ Polishing Kit. He turned and said, "I really like this Solo™ System. The first time I used it was on the Corvette restoration, and I was sold. It saves so much time by not having cleanup and using the one compound from start to finish. You just change the pads; and before you know it, you have an outstanding finish." Darney also raved about TP Tools Mag Wheel & Detail Buff Kit for buffing door jambs and other small areas. Darney said, "It includes a backing pad that screws right on the Makita buffer and has four grades of buff pads. It is a real lifesaver in areas like door jambs, firewall recessed areas, or any other small area the larger pads won't reach." The process of wet sanding and buffing is truly worth it; the LaSalle is definitely going to be a show stopper.



1939 Cadillac LaSalle Restoration - Part 2

TPM Sound Deadening

- Fred wanted the LaSalle to be quiet and cool inside when driving down the road. He tried TP Tools new TPM - Total Protection Mat to sound deaden the interior. Fred took on this part of the restoration while Darney finished buffing the fenders and other body parts. After he was finished, Fred said, "The TPM was easy to use; just draw your pattern on the light gray surface, cut with scissors, peel, and stick. The product easily conforms to irregular surfaces and contours. You can stretch, push, or pull it into any position. Once it is down, it is almost impossible to pull up; the product really sticks, plus it looks great compared to others I used with advertising all over them." After Fred was finished, everyone was amazed at how clean and crisp the inside looked. It was almost a shame to cover the TPM with carpet!



Trunk Restoration - Fred located the original material to line the trunk at Jenkins Restoration in NC. Since Fred's an ex-Dry Cleaner, sewing is one of his fields of expertise. Down to the shop came Fred and his Juki sewing machine. 40 short hours later, the LaSalle trunk was back to its original form. Even the little lines in the pattern all lined up. Hats off to Fred; this trunk is something to lift the lid and be proud of!



Door Installation - While Fred was renewing the trunk area, Darney was busy putting the windows and track back into the doors and preparing the deck lid and hood for installation. His first step in the assembly process was to install and align the LaSalle doors. When finished, the doors practically closed themselves; no slamming required.

Deck Lid Installation - Next, Darney moved onto the rear deck lid and lock assembly. This thing is massive; but within no time, Darney had it on the car, opening and closing, and with a perfect gap around the edges.



Engine/Transmission Installation - Back from Shepard's Automotive in Akron, OH was our fully rebuilt LaSalle engine. This engine was immaculate and pruned at their shop. The LaSalle engine looked like a show piece; and as much as we wanted to put in on display, we knew it belonged in its home of over 69 years. Thanks again, Shepard's, for a quality job well done!

Final Assembly - Darney's final and hardest phase of assembly was the front end. There are several body components that all bolt together, and the fit must be just right; otherwise, the hood and side panels won't line up. Darney started by installing the radiator and support rods to the firewall. Next, the front nose clip; then grille and radiator cover were installed. The hood was then bolted on, then front fenders. Most parts were snugged, but all needed tedious adjustment and alignment. After several hours, all pieces were in place and working perfectly.



Convertible Top by Jim Roll - The LaSalle was transported to Tailored Trim in New Philadelphia, OH.



Owner Jim Roll has been in the automotive upholstery service since 1957. His expertise and craftsmanship can be seen in the maroon trim and chrome accents. This really sets off the LaSalle.

Finished! Thanks to everyone involved in this restoration, and special thanks to Bob Darney for all the helpful hints and ideas he shares with TP Tools customers and for another **FANTASTIC and ENJOYABLE RESTORATION!**

Products Used in Part 2 of Restoration

Dura-Block	100	Quick Mix Paint Cups.....	125
SEM Guide Coat Black	101	Hutchins Waterbug III.....	72
3M™ Masking Tape.....	116	Mirka Abralon Paper	72
Machine Finish Paper.....	116	Makita Polisher	130
TP-90 PLX Turbine	12-13	Solo™ Polish System	132
TP ProLine HVLP Gun.....	14	Mag Wheel Buff Kit.....	139
Ultimate Clear Cup	14	TPM Sound Deadening	105



Congratulations ... !
Fred Zwicker for winning
1st Place in the Cadillac
LaSalle 2008 Grand National.
1939-1940 Primary Class, Cherry Hill, NJ



TP Tools
Trophy Winner