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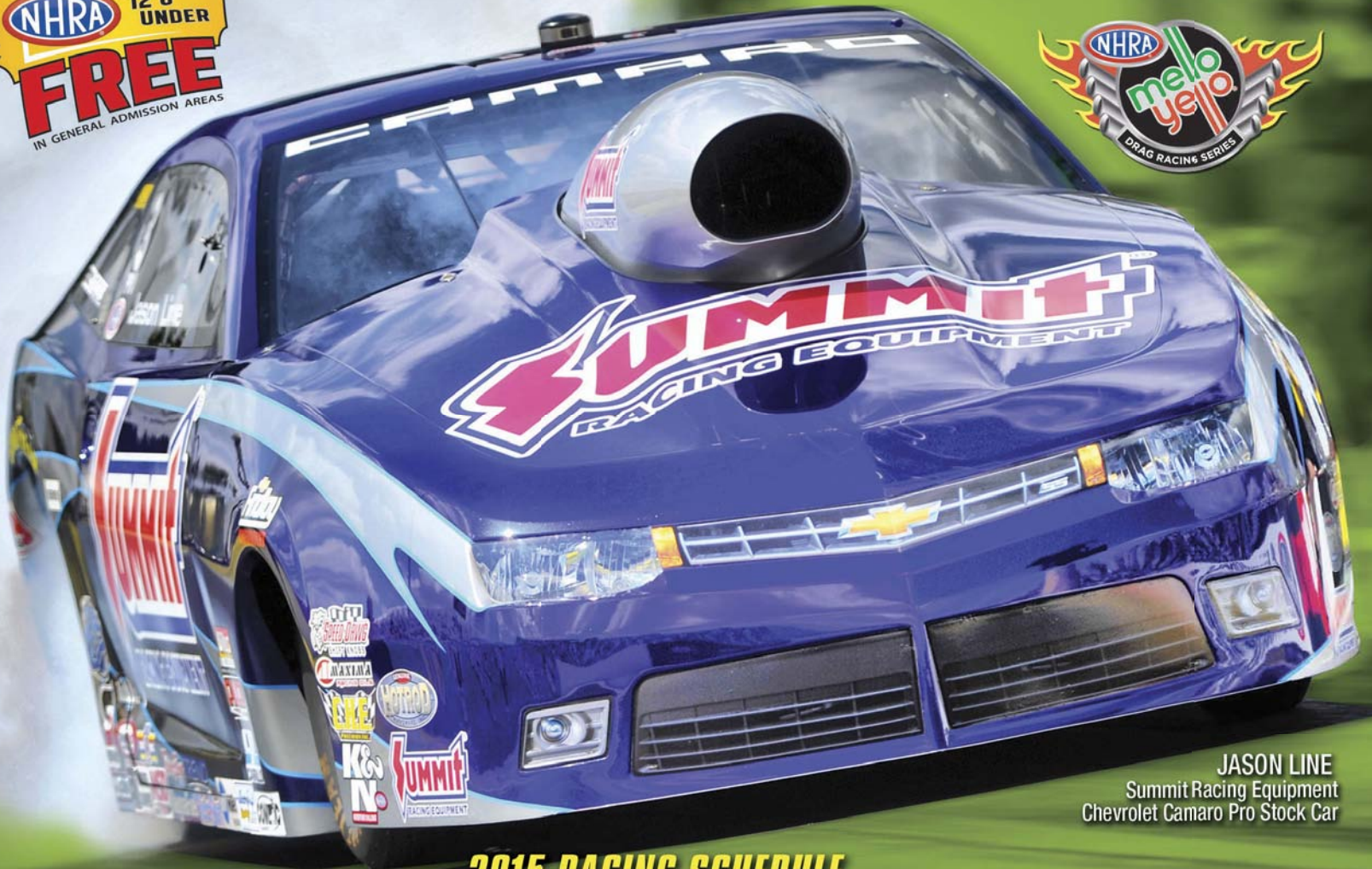
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MAXIMUM DRIVE

Issue No. 3 May/June 2015



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The Bird makes over 1000 bhp and conquers Corvettes on road courses. PHOTO BY ROBERT McGAFFIN

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No Replacement for Displacement

Sometimes too much is just barely enough

BY JEFF ZURSCHMEIDE



This spring at *Maximum Drive*, we're thinking big. The legend goes that A.J. Foyt is the man who said, "There's no replacement for displacement" or words to that effect. But no matter who originally said it, the phrase has stuck around because it's true. When it comes to making power, there's just nothing like moving a lot of fuel and air through a big engine. That's why this issue is dedicated to big-block and big-inch engines. You'll find examples from all of the Big Three in these pages, and we present them to show exactly what's possible.



We also loved last issue's cover Mustang so well, we went back to look at the buildup and documented that process for you. There's also a look at the new turnkey 8-Stack fuel-injection system that brings classic looks and extra horsepower to your new Ford Coyote 302 crate engine.

Our focus is always on American cars, but while we were at SEMA this year, we met a man from Australia whose passion for American muscle is as great as our

own—so we are pleased to present his story. Some things really are universal.

Our road trip this issue was down through the wonderful Texas hill country, right in the center of that great state in Chrysler's new 300, outfitted with our favorite mill in the new Chrysler line—the 5.7-liter Hemi. Come with us to the land of barbecue and the Austin music scene.

Our collection of classic muscle cars

and hot rods ranges from an amazing Pontiac and powerful Mercury to a couple of over-the-top rods featuring big twin-turbos and an unbelievable 904-cu.-in. engine. We also got out to the workshop to test and learn about Rust Bullet coatings, and we'll share what we discovered.

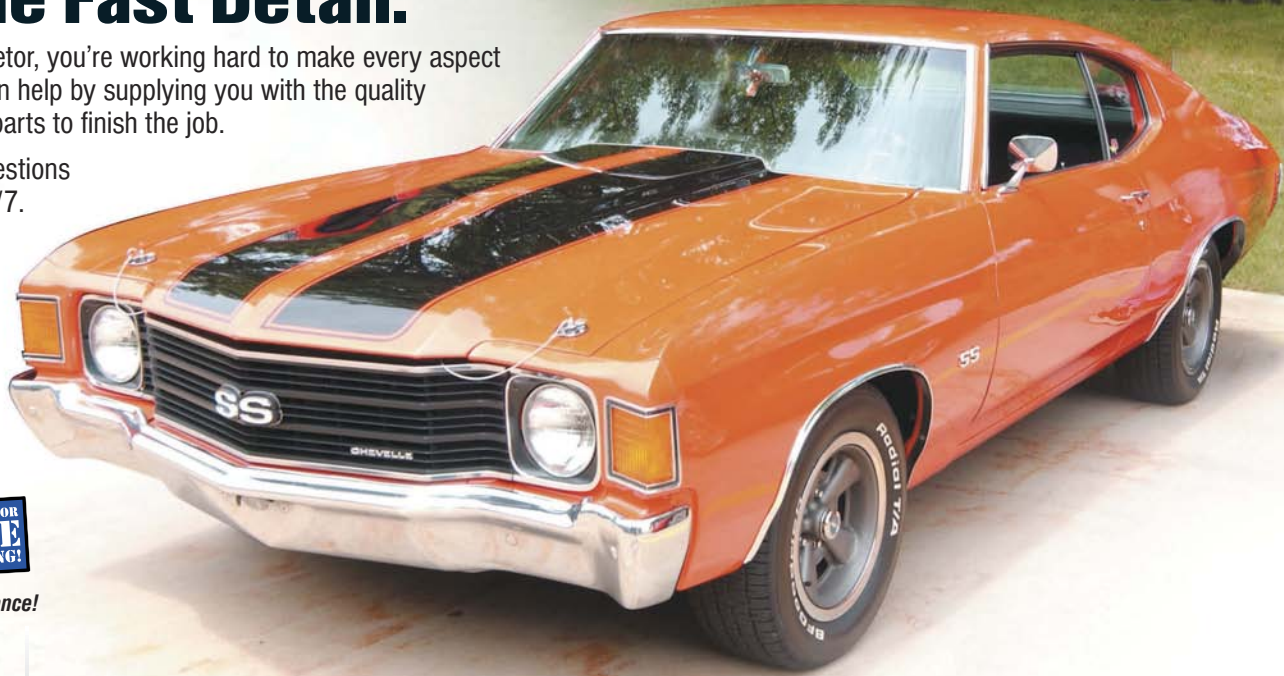
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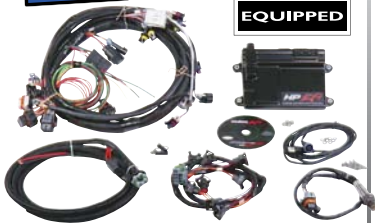
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The Scottsdale classic car auctions set records again this year, with \$292.8 million realized by Barrett-Jackson, Bonhams, Gooding & Co., RM, Russo and Steele, and Silver, up from \$248.6 million in 2014.

The only American iron in the top 10 list was B-J's 1966 Shelby Cobra 427 Super Snake at \$5,115,000 for No. 4, the 1950 GM Futureliner bus at \$4,000,000 at No. 6, and the 1954 Pontiac Bonneville Concept for \$3,300,000 at No. 8.

The muscle car boom drove this event in 2006–2007, and there are rumblings in the distance again. Brian Rabold, the top analyst at Hagerty's Classic Insurance notes that Barrett-Jackson got \$550,000 for a 1969 Boss-Nine Mustang and \$440,000 for a 1971 Hemi 'Cuda Coupe, while Gooding managed \$330,000

Rumblings in the Distance

BY PAUL DUCHENE



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■ \$5 million will buy you an original 427 Cobra these days. Carroll Shelby's signature should come on every car at that price!

for a 1964 Pontiac GTO. Gooding also sold a 1967 Yenko Camaro for \$357,500 but its 1968 Yenko failed to sell, like RM's 1970 Oldsmobile 4-4-2 W30 convertible. Two of B-J's three L88 Corvettes also failed to sell.

Failing to sell is an interesting statistic. The high bids on unsold cars (often not reported by auction houses) totaled \$69.5 million for 408 cars in 2015, up from \$40.8 million last year for 494 cars. That suggests that sellers' expectations are running ahead of buyers' prices, or as auction reporter B. Mitchell Carlson put it "Sellers see No. 1 cars, but buyers see No. 3s."

Longtime muscle car collector, writer and racer Colin Comer says great cars are doing exceptionally well but "cars with stories, no paperwork and the like—what I call UFOs—are not. Hemi Mopars, 1968–1971, are coming back strong. They were hardest hit when the market hit bottom and among the last to recover, because people want to make sure they're trending upward."

■ \$330,000 for this 1964 GTO seems like pocket change compared to the Cobra.



Comer also thinks well-documented Yenko Camaros are sound. "So few great ones exist, and the not-great ones sold at auction have created an artificially low perception of value. I've seen the best Yenkos sell privately for 50 percent more than some at auction. Shelby Mustangs from 1965–1970 are as strong as ever." Comer also thinks that demand for the best muscle cars is so strong that buyers have no need to consign cars to auction "further swaying auction prices downward."

Jim Pickering, editor of *American Car Collector* magazine, agrees that Hemis are driving the muscle car market. "B-J sold an A12 Road Runner for \$165,000 last week, but the last one ACC profiled a couple of years ago was \$90,000 and change. I think that's going to continue for Hemis, L88, ZL1 and Boss 429s, etc. Part of this has to do with cool modern

muscle focusing attention on the originals. Collectors want an original ZL1 to go with their 2014. But this only applies to the best cars."

"Limited-edition low-production models from the 1970s and 1980s are good bets, as those are models Gen Xers imprinted on," says Rabold. "A Bandit-era 1977 Trans Am sold for \$44,000 at Barrett-Jackson and Russo and Steele sold a black and gold 1981 Trans Am for \$35,750. Mustang Cobras, Cobra Rs and ZR-1 Corvettes are all poised to beat inflation."

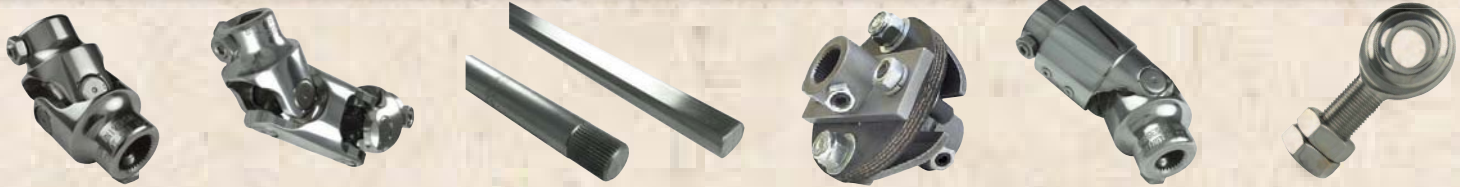
All three experts think tributes and clones are a tough sell, but Pickering sees a glimmer of light in pickups, where resto mods are driving up values of 1973 and later GM trucks. "They're catching on and it's happening pretty quickly. B-J sold a 1977 longbed 2-wheel-drive Chevy for \$35,000 with 9000 original miles."

Another bright spot for muscle car fans was particularly apparent at Barrett-Jackson. During the muscle car boom, a great deal of money was spent restoring average cars to superior condition. Those cars are coming to market from \$20,000–\$40,000. If your budget doesn't extend to Hemis, you can have fun with a smaller—but just as noisy—V-8, which is what it's all about.



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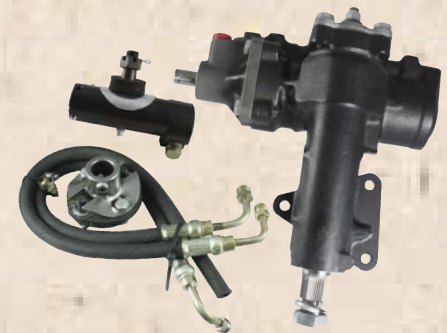


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BY ALAN GALBRAITH ■ PHOTOS BY THE AUTHOR



When Rich Fiechter started talking about his latest project with Ed Umland of Eddies Chop Shop in Orangevale, California, the idea was to build a mild 1934 Hot Rod that Fiechter could take to the coffee shop on Sunday mornings without scaring the neighbors. But by the time the project was done, Fiechter's 1934 Ford three-window coupe would end up capable of putting out over 2500 bhp and running mid-7-second quarter miles. Even at that, Fiechter still drives it to the coffee shop on Sunday mornings, though his neighbors are more than a little scared of the car.

Fiechter is a drag racer from way back, having run Super Comp and Super Gas cars in NHRA's Division 7, so he enjoys blasting through the timing lights as much as cruising the boulevard. When he got the idea to build a 1934, he wanted a car that could do both comfortably. Fiechter approached Umland with the idea and they sourced an abandoned project from one of Umland's other customers to start the build. Fiechter originally wanted the 1934 to easily clock 9-sec. quarter-mile times. The more Fiechter and Umland talked about the project, the faster Fiechter wanted the car to go, but still remain streetable. Eventually Fiechter decided he wanted to run in the mid-7s in the A/Gas class at the track. Those discussions and the problems and solutions they created dictated the kind of car that Fiechter would drive out of the shop when it was all done.



First thing on the agenda was to nail down what type of engine would make the power needed to solve the time slip versus street driving conundrum. When Umland and Fiechter started talking, the time slip goal in the mid-9s could be met with a blown big-block, but as the target times dropped Umland consulted with Motor Machine in Carmichael, California, to come up with the right powerplant.

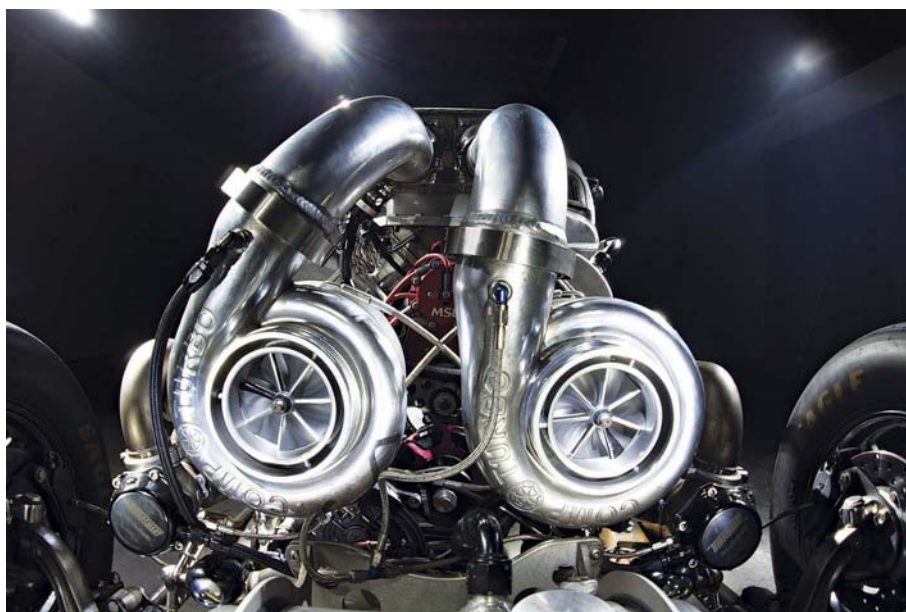




ONCE THE CAR WAS ALL TOGETHER, THE PLAN WAS TO GIVE IT SOME SHAKE-DOWN MILES AND PASSES BEFORE BLOWING IT APART AND SENDING IT OFF FOR PAINT, BUT THE BARE LOOK HIT A CHORD WITH ONLOOKERS AND FIECHTER ALIKE.

The blower concept was scrapped in favor of a big-block turbo engine. Using turbos allows for a low-compression motor that can run on pump gas when just putting around town at low rpm. At those speeds the turbos practically freewheel, giving the set up a very streetable driving characteristic. At the track with the octane, boost and rpm's turned up, the setup can deliver the power needed to meet the ¼-mile time requirement. Motor Machine built a 598 Big-Block Chevy running 9.5:1 compression with Big Chief CNC-ported heads using some very large valves and spec'd a pair of 88-mm Comp Turbos. The traditional hot-rod grille shell was scrapped so that the turbos could be positioned at the very front of the car to take advantage of the uninterrupted airflow.

Once the turbos and motor were in place Umland set about fabricating up the plumbing needed to feed the massive mill. Headers, waste tubes, intake runners, intercooler and plenum soon adorned the front of the 1934. Keeping it somewhat traditional looking, a Moon tank caps off the front end and serves to feed ice water to the intercooler for high



■ 88-mm Comp twin-turbos feed the Big-Block producing just over 1200 bhp.

HP runs. All this hardware up front meant that the radiator had to go to the back. Fed by an electric water pump and hidden under a louvered trunklid, the aluminum unit provides more than enough cooling for

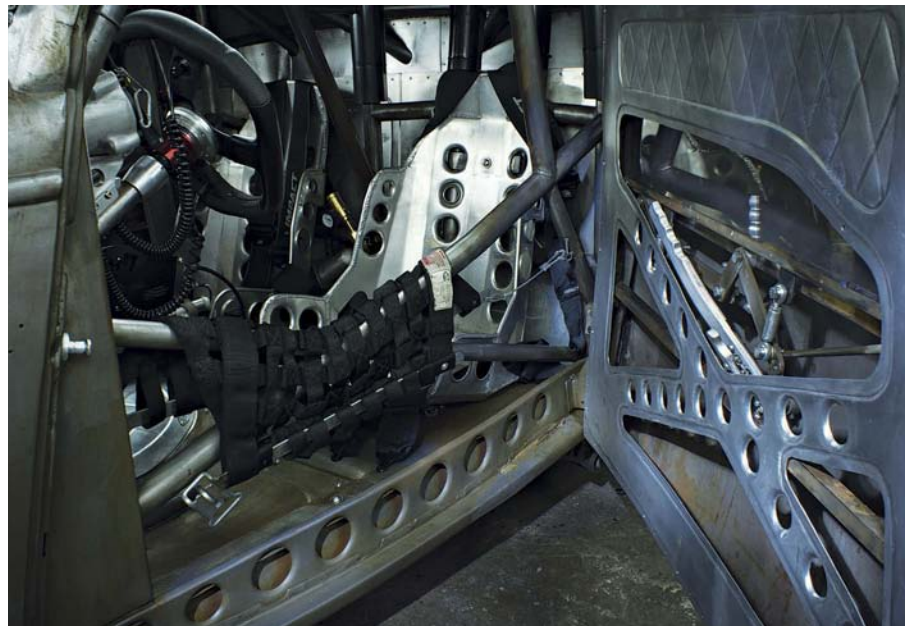
extended street cruising or fast passes at the strip.

With the airflow to the engine in place Umland mounted an Aeromotive belt drive fuel pump and regulator fed by 5/8-in. fuel line from

the tank in the back. Two 120-lb. injectors per cylinder were fitted to keep up with the airflow from the turbos. A Mallory dual sync trigger in the distributor hole drives the oil pump and sends the crank trigger and cam position signal to a fast electronic controller that keeps all the fire, fuel and air going to the engine in the right proportions.

Even with the over-the-top turbo motor exposed for all to see, Fiechter wanted to keep the coupe looking somewhat like a traditional hot rod so Umland fitted a 4-in. drilled drop axle with transverse leaf spring held in place with drilled and sleeved split wishbones. The shocks had to be laid down parallel to the frame to clear the engine, so Umland fabbed up a bell crank system to help dampen the front end.

The target time of 7.50 was reached partially due to safety regulations interfering with aesthetics. Any faster than that and the stock frame rails, which help retain some of the car's traditional hot rod feel, would have to be replaced with a full tube chassis. As it is, the chassis from the back edge of the doors rearward, which can't be seen from the outside, is a full tube section with an Alston Chassis works 4-link with Varishocks holding the Winters quick-change rear end in place. A tubular crossmember braces up the center and positions the PowerGlide 2-speed transmission behind the massive motor. Connecting the car to the pavement are Goodyear Drag radials and Front Runners mounted on Weld wheels.



When it came to the outward appearance of the car, Fiechter trusted Umland's style, which is evident in the quilted sheet metal of the firewall, dash and door panels. The bare metal custom fabrication look carries over to even the smallest details such as the tach mounting pod. Umland fabricated it from various pieces of aluminum stock to look like a cast fixture.

Fiechter wanted to be able to raise and lower the windows quickly and easily when racing or cruising in the warm California summer so Umland made a Linko-themed window crank that actuates the Lexan windows. Two large metal levers in the door ride on one pivot. The big lever puts the window up and down in one throw via a bell crank, while the smaller lever is the door handle. Custom-made racing seats and an engine-turned dash accent the Spartan yet very functional interior. A 7.50 spec roll cage helps protect Fiechter as he drives, and also stiffens up the chassis.

Once the car was all together, the plan was to give it some shake-down miles and passes before blowing it apart and sending it off for paint, but the bare look hit a chord with onlookers and Fiechter alike. Besides, Fiechter is having too much fun driving and racing it to take it out of service just yet.

At the strip, Fiechter has been running the car faster and faster. At 14 lb. of boost, the setup runs in the mid-8s. Crank it up to 18 lb. and dump in some 116-octane fuel and the times dip into the 7s. The car was dynoed at 1240 bhp at the

rear wheels running 14 lb. of boost on pump gas. Umland estimates the current setup is good for approximately 2500 bhp at a jaw-dropping 30 pounds of boost.

Before Fiechter could get close to the car's potential on the strip, he had to chase some problems that only surface at high speed. At the big end of the strip, at speeds over 170 mph, a GoPro camera mounted on the wheelie bar revealed the rear end getting light and allowing the tires to haze, so Umland took the car back to the shop and fitted the massive rear wing to keep everything planted at speed. With that in place, so far the best time Fiechter has clocked in the quarter mile is a 7.91-sec. pass.

Rich intends to keep probing the car's potential on the track and eventually plans to take it to Bonneville to see what it's really capable of. In the meantime, look for this 1934 Ford cruising near the local coffee shop, despite the nervous glances from Fiechter's neighbors. **MD**



Thunder DOWN UNDER

Australian muscle fanatics keep the dream alive
BY JOHN McCOY-LANCASTER ■ PHOTOS BY THE AUTHOR

Have you ever wondered about the life of a car when it is being put together on a production line. What will happen to it? We see the photos of cars being made, a few of us get to be the ones who do the work, and all of us have had the opportunity to drive the finished product. What will happen to these creations? Will they spend their life in the snow, will they travel to exotic locations, will they be modified and will they be loved?

John and Donna McCoy-Lancaster are from Australia and own a number of rare muscle cars. The three Chevelles on these pages are a few of the cars in their eclectic collection. They may not be the same, in all cases, as when they left the production line but they are still alive and they are still very much loved.

The McCoy-Lancasters share a passion with their family for Chevrolet vehicles, and they have built their

collection from their first Chevelle—a 1969 coupe.

If you look closer, you will see that all three are right-hand drive. Now, in Australia, you don't need to have a right-hand-drive vehicle to get either full or conditional (club) registration, but it sure makes sense when driving them on the other side of the road. Chevrolet produced cars in Australia from 1913 to 1972, mostly from knock-down kits imported from Canada. Until recently, there were only a few Chevelles in the country, and they are still not sought after the same way that some Cadil-





lacs, Camaros, Mustangs and Shoebox Chevys are. Unlike the cars made in Australia, all of the Chevelles have been specially imported by mostly private owners. There are now about 100 Chevelles across all of Australia, and they are recognized for the muscle and handling they can provide as a real touring car. Many of them are now being used in drag racing or for the country's major motorsport mecca—Summer-nats—as special burnout cars.

However, McCoy-Lancaster cars are for the road. The couple regularly takes them out to car events throughout the city of Sydney and around the island.

1965 Chevelle Malibu Magic

In the mid- to late-1970s, a man named Graham Stubbs took a factory right-hand-drive 1965 4-door Chevelle, modified it extensively and launched the Street Machine scene. Chevrolet manufactured

right-hand-drive vehicles in South Africa and this was one of a very small batch of cars that were brought into Australia. It is thought that there were between three and five Australian Chevelles in 1965 and this is the only one still alive today. The car was dubbed (and painted) with its name: Malibu Magic. The car was an enigma because at the time, the main show vehicles were hot rods and vans. Stubbs was one of the pioneers of the modified car scene. He helped form the Australian [National] Street Machine Association (ANSMA), establishing the judging rules for modified vehicles, supporting the registration requirements and

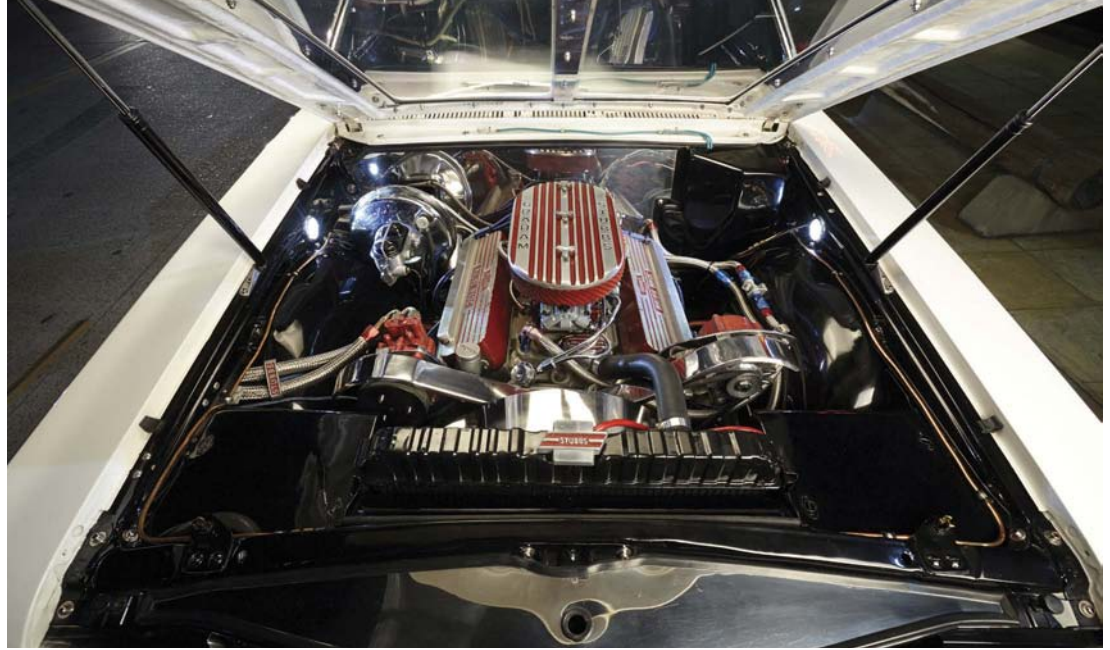
also organizing insurance for clubs to enable them to put on events. He was a visionary and a huge support for the burgeoning scene.

Stubbs suffered from emphysema and was ill for many years. After the car won all it could, including being the Top Street Machine for four years in a row, Stubbs parked the car in 1993 in his back shed and she stayed there for 20 years. Recently in 2013, Stubbs passed on. Donna and John contacted the family to pay their respects and to offer to bring the car back to life. And so it is that this car has now joined the McCoy-Lancaster family and proudly resides in their garage.



MAGIC

The car has been modified from top to bottom. The paint is straight white tinter, the color being something that very few modified cars are painted in—but it works. To highlight the shape of the car, Stubbs had special striping painted with a burgundy and blue. The car now provides the true red, white and blue from the Chevrolet Heartland. There is a specially fabricated fiberglass and Lexan hood that was created so people could see the engine without keeping the front lid open and retaining the ability to look at those classic muscle lines. The grille was originally a metal tube grille, later being changed to a dark blue metal horizontally lined grille that covers the lights and makes the front look fully custom. Below the front bar, the number plate folds down via a



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control next to the steering wheel inside the car to reveal two spotlights that can show the way. The back of the number plate is adorned with a sticker that is the catchcry of ANSMA: Together We Cruise, Divided We Lose. At the rear of the car is a specially designed light cluster with Malibu Magic lighting up at night. And the rear glass is etched with the outline of Australia on both sides with the Australian Street Machine Association logo. The wheels are Centerlines with 15 x 8 and covered with fresh 245 rubber all round from Mastercraft. When John was at SEMA in 2014, the guys at the Centerline booth couldn't help admire how good the wheels look after all these years and miles the car has covered.

The original engine was a 283 that was taken out and replaced by a modified 327 that Stubbs built. Showcased under the Lexan hood is an 11:1 compression engine with a 1967 Corvette TriPower manifold and carbies. There is a Holley 350 in the center surrounded by two 500s. The car also runs a Turbo 400 Gearbox and a custom rear end built like a hot-rodder would. In 2014, the engine was dropped out and a complete refresh of the internals and all the gaskets was completed so as to stop any nasty oil leaks. For suspension, it has the standard coils up front and a nice anti-sway bar. The engineering work went into the rear end where we find it has the standard coils and coilover shocks, anti-sway bar, tramp rods and a custom-engineered Watts linkage. And it all works, the car handles the bumps beautifully and is a dream to drive. Many claim that the car looks like a gasser, but it is actually riding at factory ride height. It's just that all the good bits hanging down in the car make it look like it's sitting taller.

"We also heard that Stubbs was a pattern maker, John mentioned. "When we bought the car, we were given a number of the molds that Stubbs did by hand in his backyard." The car was built a long time before billet was determined

to be a volume material. When John caught up with some of the early pioneers of the scene, they recalled that Stubbs had all these great bits on the car but none of them could be stolen from him because he put his name all over them. He handcrafted molds for the air cleaner, tappet covers, radiator cap, and many brackets and handles throughout the car. He also had his name crafted onto the deep sump, bottom of the shock absorbers and the rear diff.

THE OVERALL EFFECT OF THE CAR IS A TRUE TIME CAPSULE. FOR THOSE WHO WERE AROUND IN THE LATE 1970S THROUGH THE 1980S AND INTO THE EARLY 1990S, THIS CAR BRINGS BACK A LOT OF MEMORIES.



Inside there is a set of bucket seats from an early Mitsubishi that have replaced the front bench seat. They are set up with harness seat belts front and rear. There is a custom console with an early CompuTracker installed (with features for security, measurement of fuel consumption and an early version of aftermarket cruise control). The switches for the thermos fans, second fuel tank, idle speed and other details can be accessed here as well. The dash has been treated to additional gauges to measure the vital stats for the engine. Above there is another center console with a CB radio, equalizer and overhead lights. There are also diodes that light up like disco lights to the beat of music. The trim is specially built with the name included in the fabric. It is interesting to note that Stubbs had two sets of trim he could swap out overnight because they were attached via Velcro. In the rear seat is a black-and-white television that is installed with another equalizer and cassette player to give those in the rear the feel of a limousine muscle car. The trunk is also tricked out with compartments for tools, a specially constructed drawer in the shape of a Chevrolet bowtie and a big yellow bottle that is a custom-made fire extinguisher system with copper tubing through the car to the engine bay. It can be activated by a switch located next to the driver's steering wheel.

In the ceiling of Stubbs's garage, John and Donna found the original fiberglass mold for the custom hood, as well as the original hood, windscreen, factory grille and custom tube grille, as well as the grille and glass protectors used when Stubbs traveled long distances to shows. A number of the trophies also accompanied Magic to her new home including the stainless-steel and silver cups awarded to her for Top Street Machine.

The overall effect of the car is a true time capsule. For those who were around in the late 1970s through the 1980s and into the early 1990s,

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| 1970 Nova | 64-67 Skylark |
| 71-72 Nova | 65-66 Impala |
| 67-68 Camaro | 64-67 Chevelle / Malibu |
| 1969 Camaro | 70-72 Chevelle / Malibu |
| 70-73 Camaro | 68-69 Chevelle / Malibu |
| 70-73 Firebird | 68-69 Cutlass / Skylark |
| 86-98 Mustang | 70-72 Cutlass / 70 Skylark |
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this car brings back a lot of memories. Stubbs used to paint the car every year to ensure the quality was kept at the highest level.

“As a family, we are more into keeping Magic as originally modified by Stubbs and those who worked with him. This is actually the most modified car that we own,” says John. “We are very fortunate that Malibu Magic is part of our collection. Stubbs touched both of our lives at different times over the years. Every time we get into the car we’re like, okay, which buttons? Donna relates, “Even the other day, we popped down the sun visor and found Stubbs’s judging notepad and pencil attached by elastic straps.” There are so many more stories to tell.



TODAY, NUGGET IS A STUNNING EXAMPLE OF A FIRST-CLASS COUPE. THE CAR WAS FULLY RESTORED IN 2012 WITH A BODY OFF THE CHASSIS REBUILD.

1969 Chevelle Malibu Coupe (Nugget)

Donna’s mom and dad (Irene and Allan McCoy) actually owned this 1969 Gold Malibu Coupe, which joined the family in 1974. It was purchased new in Colorado by an American serviceman who later received a posting to Darwin.

Today, Nugget is a stunning example of a first-class coupe. The car was fully restored in 2012 with a body off the chassis rebuild. The original vinyl roof was painted in the deep charcoal color, also used on the chassis and key details under the car. Below the sweet new hood lies a brand-new crate 350 hooked to a turbo 700 auto and a 10-bolt Salisbury original limited-slip diff. With enough go-fast goodies to put 360 bhp to the pavement, the neat small-block rumble echoes through aftermarket headers and a 2-in. twin stainless system.

Viewed from the rear, the 1969 Malibu coupe cuts a powerful muscle car profile that’s amplified by a full set of original SS wheels. Rescued from a wrecked 1969 Chevelle, John had the cool hoops restored before wrapping them in period-perfect Bridgestone Eagers complete with white letters. It’s cool riding on the original 14-in. wheels.

The interior has been completely restored with a new stitched fabric that is impeccable and closely remains faithful to the original design. Black vinyl and button-studded cloth

cover original SS bucket seats, which gives a color break to the black-on-black interior. Interestingly all 1969 right-hand-drive Chevelles utilize 1968 dash components changing the gauge arrangement from square to the predated circular instruments. The lens for the shifter has been updated to reflect the new 4-speed auto box and changes like a dream.

Many in Australia state that the striking pose of the 1969 coupe looks downright race-ready. The metal flake in the gold pops in the sunlight. In the right light, a keen eye will spot the added gold fleck in the charcoal hood for a surprising highlight. Also note the double hump hood that was available only on the SS while the Malibu remained flat.



NUGGET



MUSTANG SPORT II



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67 Sport II



68-69 Sport II



69-70 Mach I Sport II



71-73 Mach I Sport II



64 1/2 - 66 Sport Console



67-68 Sport Console



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65 Sport



66 Sport



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69 Sport



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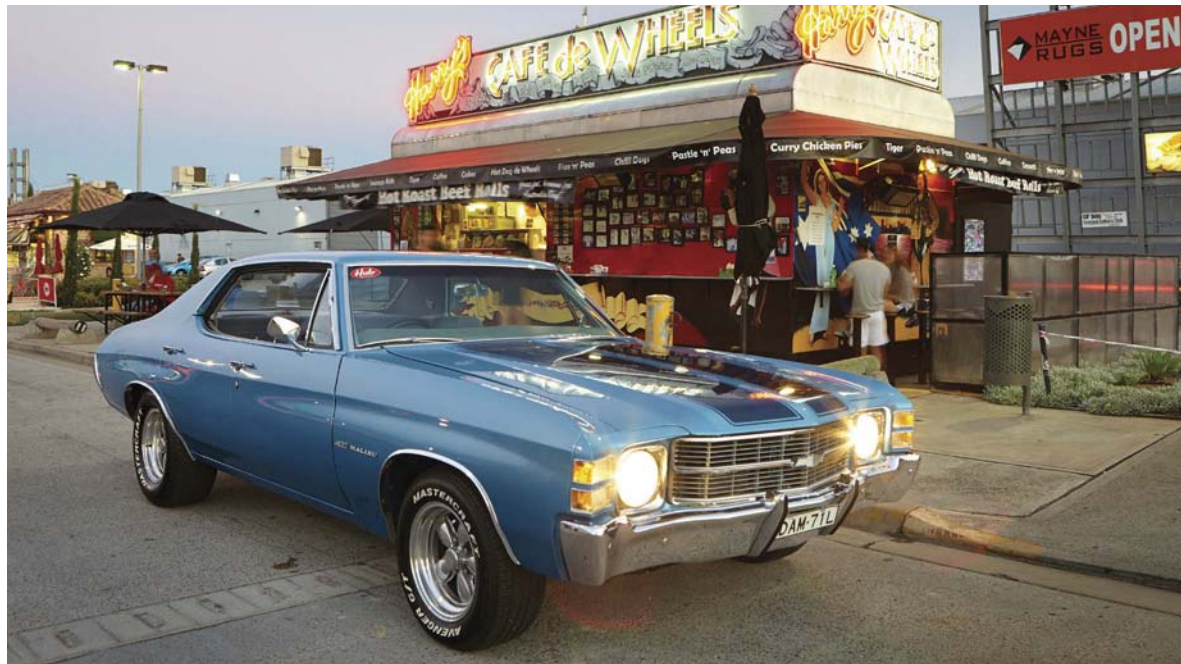
Deluxe 2-Tone

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THUNDER



1971 Chevelle Malibu 400 4-Door Hardtop (Thunder)

This particular Chevelle is a Malibu 400 4-door hardtop. John has been informed by one of the suppliers of car parts that this is one of just six factory big-block 402 Chevelles made with this body in 1971; she's pretty rare, even in America. The Malibu 400 sat between a Chevelle Malibu and a Chevelle SS, and they are so rare they have their own web page. It is a numbers matching car with 27,000 original miles on the clock. The big 6-seater was purchased as a practical family run-around.

GM and other car manufacturers at this time built cars with up to 300 options. So this particular car was ordered with more than 45 factory options from new and initially went to its first owners in Newcastle. When the car was imported from the U.S., many Australians thought if you're going to order a special car then why not choose a whole bunch of options. This has resulted in many of the early imported cars being particularly sought-after or very rare optioned cars. Thunder was first registered in Australia right-hand drive in 1971. The car was drag raced and used as a tow vehicle until being put away for 20-plus years.

The original color was gold but with the family already having a gold car, John found a metallic light blue a good alternative factory color. The highlights for the challenge stripes, drivetrain and chassis are also painted in dark metallic blue from 1971, also a factory color. John says:

"We wanted something different. Donna's mom and dad traveled with me for the 1998 Hot Rod PowerTour that went from Los Angeles to Detroit. On the second night at Mesquite, we spotted this beautiful 1971 Chevelle with the metallic blue and black stripes. So we worked with a few colors and Thunder gets many compliments for how good she looks in all shades of light."

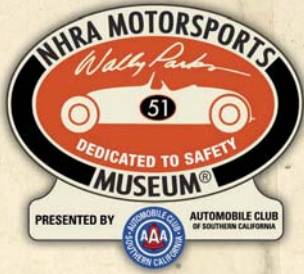
Inside the muscular 4-door, Michael at Mr Trimmer in Sydney outfitted the family friendly interior to best represent the early 1970s time period and still be functional. A Mark IV underdash air conditioner fits perfectly within its surroundings and delivers comfortable relief during Australian summers. Originally left-hand drive from Chevrolet, the big Malibu 400 retained its stock dash arrangement and gauges during the side-to-side swap providing a factory finish to the

completed cabin quarters. You will see that the door trims have stainless-steel molded high-lights. Donna's father Allan is a master craftsman and created these molds as part of his business focusing on molding repairs and polishing.

So, what's next? Well, John thinks there is a gap in the collection and is looking for a 1967 Malibu coupe, or maybe a wagon, to complete the odd-year Chevelles. American muscle is alive and well down under. If you ever head to Sydney, look up John and Donna and maybe they can take you for a tour. Just remember, they're not what they seem and if you get in what you think is the driver's side door, you may be searching for the steering wheel on the other side. **MD**

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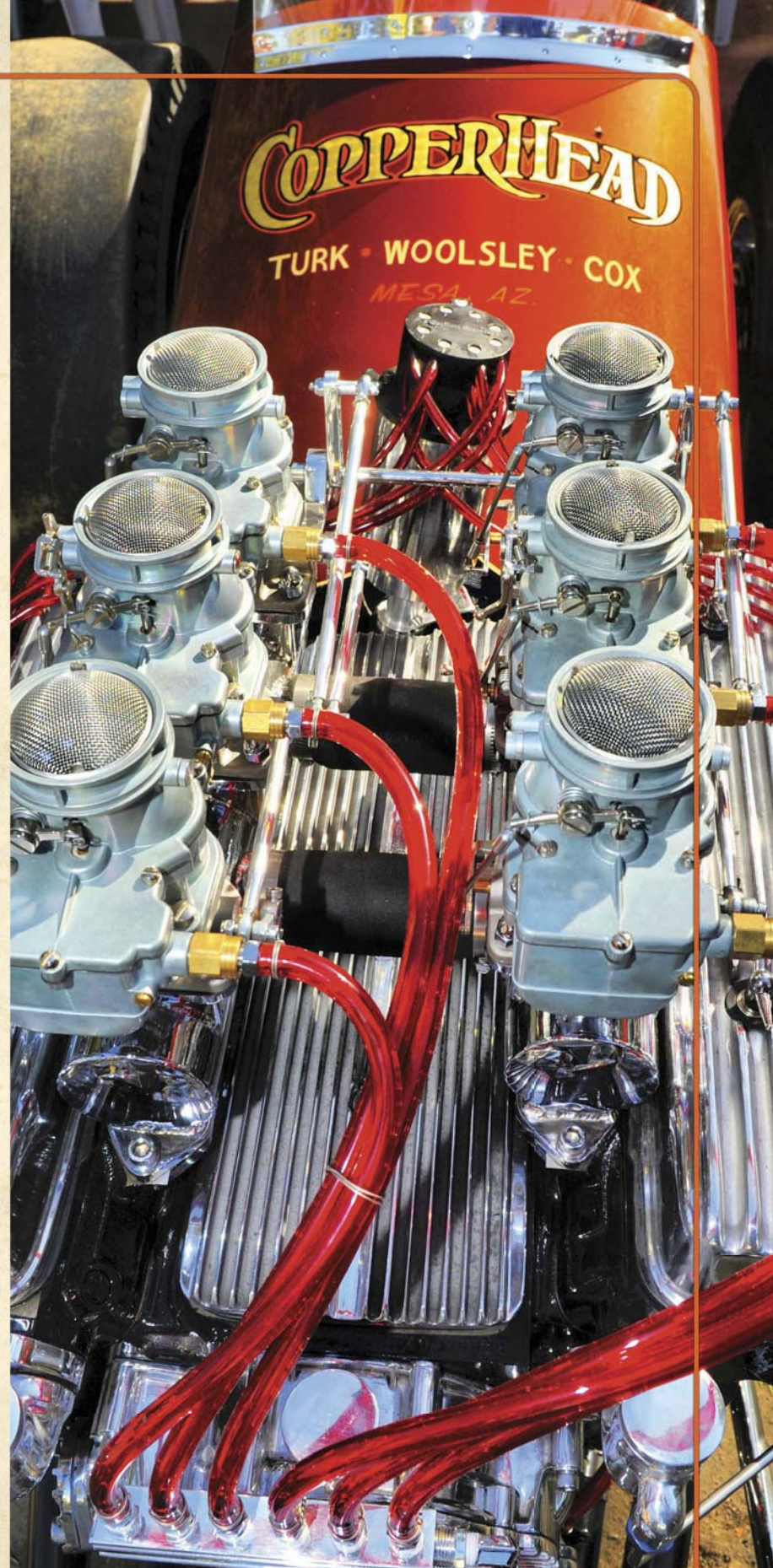
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Rare **BIRD**

Brad Reikkoff's Pro Touring
Trans-Am is truly one of a kind

BY JEFF ZURSCHMEIDE

PHOTOS BY ROBERT McGAFFIN



In the pages of *Maximum Drive*, it's not hard to find stories about lifelong relationships between cars and their owners, but few have taken their passions as far as Brad Reikkoff of West Bend, Wisconsin. Reikkoff has taken a once broken-down 1980 Pontiac Trans-Am that he bought as a teenager and turned it into the ultimate road and track muscle machine—with the finesse of a sports car.



YOU NAME IT, WE DID IT—FROM THE CARBON-FIBER FENDERS AND DOORS TO THE MOTOR, DRIVETRAIN AND FRAME. **WE DID EVERYTHING OURSELVES, AS A SHOP.** THAT'S **THE SHORT VERSION** OF THE STORY.

—Brad Reikkoff

"THE BIRD" 1980 PRO TOURING PONTIAC FIREBIRD TRANS-AM

ENGINE/DRIVETRAIN:

- Wegner Motorsports 416 CI LS3 with CNC-ported LS9 heads
- Lysholm 3.3L Supercharger with custom adapter plate
- Custom Billet CNC front drive
- Custom Dailey Engineering Dry Sump system with Billet Aluminum low-profile oil pan
- Stainless Works Long Tube headers
- Custom 3-in. stainless-steel exhaust with x-pipe and Borla mufflers
- FIC/Bosch 120 lb/hr fuel injectors
- AFCO Radiator with dual fans
- Custom Billet fuel rails
- Custom oil catch can
- Fast 102-mm Throttle body
- Custom fabricated and painted cold air intake
- Bowler T56 6-Speed manual trans (from a 4th Gen Camaro) with upgrades
- Quicktime bellhousing
- Centerforce twin-disk DYAD
- Mark Williams custom driveshaft
- Custom Aeromotive fuel system
- Custom fuel cell

BODY AND FRAME:

- Heidts full front frame
- Heidts Subframe with connectors
- Heidts Rear Pro-G 4-Link with Moser axles and Strange center section
- Heidts adjustable front and rear sway bars (pre-production)
- AFCO double adjustable coilovers with remote reservoirs
- DSE Wheel tubs
- Custom Wilwood 6-piston front and 4-piston rear disk brakes
- Custom Painted Formula 43 3-Piece wheels
- BFGoodrich G-Force Rivals (295/35-R19 front, 335/30-R18 rear)
- Carbon fiber inner and outer door skins
- Carbon fiber inner and outer front fenders
- Custom modified Turbo T/A style hood with Aerolatch hood latches
- Custom graphics, paint and pinstriping

INTERIOR:

- Complete SPARCO interior including seats, rails, steering wheel, harnesses
- Complete roll cage with frame integration and functional T-Tops
- SFI Rollbar padding
- Custom-wrapped rear seat and door panels
- Autometer gauges
- Lokar shifter and shift boot
- Custom fire extinguisher with harness bar mount



WITH A **BUILD AND POWER** LIKE THIS, YOU MIGHT **EXPECT A FANCY NAME** FOR THIS RIDE, BUT REIKKOFF KEEPS IT REAL—THIS CAR IS JUST KNOWN AS **"THE BIRD."**



MAKE IT YOURS

With a story like this, you might expect the usual pious pronouncements that this car will stay with Reikkoff all his life. But believe it or not, The Bird is for sale.

As he looks to the future for West Bend Dyno Tuning, Brad isn't one to dwell on past glories, and so he's planning his next big project.

"We have a Studebaker we're building. It's going to be pretty slick. So The Bird is for sale, but if it doesn't sell it won't break my heart. We're selling it because we want to build that Studebaker. If it doesn't sell, that's just going to slow down the process of this other build. That's all," Reikkoff says.

Contact Brad Reikkoff at West Bend Dyno Tuning at (262) 692-9035.

"I always was a Pontiac guy. My first car—even before this one—was a 1969 Firebird that I restored in my mom's garage before I even had my license. I always built Pontiacs. The biggest reason I like this one is that it was a father-son project," Reikkoff says.

The car came to him in the usual condition for a teenage buyer—cheap and busted.



"I bought the car when I was 16 years old. My stepfather and I went to the parts swap and bought the car—someone had brought it up from Oklahoma. It had a really bad header leak, and little did we know until we got it home—rod knock!" Reikkoff recalls.

The broken Pontiac went into the garage, and together with his stepfather, Reikkoff got to work learning the craft of engines and cars.

"My stepfather and I rebuilt the motor, and I probably blew it up three or four more times!"





I drove it through high school and when I got out of school, I couldn't afford it any more. My stepfather bought the car and parked it in the garage," Reikkoff says.

The Trans-Am sat in the garage from 1993 until 2010 while Reikkoff established himself in life and built his business at West Bend Dyno Tuning. Like many other cars in many other garages, Reikkoff's stepfather held onto the old bird, keeping it dry until the time was right.

"When I was a couple years into my business, there was a local Fourth of July parade. We wanted to take a bunch of customer cars in the parade, and we decided to pull the Trans-Am out. It had a 455 motor bored .030 over and just the basic headers and cam. It had some old Holley Pro-Jection on it—the ancient stuff with a box under the seat with some dials," Reikkoff notes with a laugh.

Even 20 years later, some things happen in exactly the same way.

"We got it running and drove the Trans-Am in the parade and it acquired a rod knock. At that point, we decided to put an LS into it. My stepfather was going to fund the project. We bought a used 6.0-liter to put in it, and about \$3000 into the project he decided he was done funding it. He said, "Do what you guys want, but

WE GOT IT RUNNING AND DROVE THE TRANS-AM IN THE PARADE AND IT ACQUIRED A ROD KNOCK. AT THAT POINT, WE DECIDED TO PUT AN LS INTO IT.





I'm not putting any more money into it," Reikkoff remembers.

The next step was obvious. Reikkoff bought his old high school ride back from his stepfather and went to work.

"The coolest thing is it still had the Kewaskum Indians parking sticker from my high school in the rear window. It's still in there today. Anyhow we took that and we slowly built it up to what it is now. You name it, we did it—from the carbon-fiber fenders and doors to the motor, drivetrain and frame. We did everything ourselves, as a shop. That's the short version of the story," Reikkoff says.

The amount of work and money invested is significant. Reikkoff can point to over \$125,000 in receipts covering every system in the car. That starts with a Wegner Motorsports 416-cu.-in. LS3 engine with CNC-ported LS9





THE MOTOR **WORKED WAY BETTER** THAN WE EXPECTED. THE MOTOR HAS A LOT OF **HORSEPOWER** FOR WHAT WE DO WITH THE CAR, AND IT HOOKS UP **PRETTY DARN GOOD.**



heads fed by a Lysholm 3.3-liter supercharger. Oiling is provided by a custom Dailey Engineering dry-sump system. Long tube headers and a custom exhaust make the noise that announces that this Firebird has hit the 1000-hhp mark.

“The motor worked way better than we expected. The motor has a lot of horsepower for what we do with the car, and it hooks up pretty darn good. It’s got a mild cam in it, so you can drive it around. It idles smooth, so you’d never know it had that type of power,” Reikkoff says.

But the team at West Bend Dyno Tuning wasn’t content to just have a big numbers engine. They mated the blown LS to a Bowler T56 6-speed manual transmission sourced from a fourth-gen Camaro, with a few key upgrades to handle the power. A Centerforce twin-disc clutch takes up the slack, and a Mark Williams custom driveshaft was made to get the power to the back end.

To keep the tub from just twisting itself up into a pretzel, Reikkoff selected a Heidts full front frame and rear subframe, with connectors.



Then he suspended the rear end with a Heidts Pro-G 4-Link with Moser axles and a Strange center section. Heidts also provided adjustable front and rear sways to go with AFCO double adjustable remote reservoir coilovers. Binders are custom Wilwood 6-piston front and 4-piston rears actuated by a Wilwood master cylinder.

“We modified it so much it’s not really Pontiac’s design anymore. It took a while to get it set up. We did a lot of running around at Road America,” Reikkoff says.

Yes, you read that right. Reikkoff uses this street-legal



WHEN IT GETS UP TO HIGH SPEEDS, WE DO GET SOME LIFT. AT 160-170 MPH THE CAR STARTS TO FLOAT, BUT IT'S GOT A LOT MORE LEFT IN IT. THE CAR FLIES. EVERY TIME WE RUN IT, WE MAKE CHANGES AND IT GETS FASTER.

supercar for track days at Wisconsin’s famed Road America race course, where he’s been known to outrun ZR-1 Corvettes.

“We’re hitting 160 at the top of 4th gear, and we still have one more gear left. Sixth is pretty much useless. We need to put a splitter on the front, instead of the chin spoiler that’s there now. When it gets up to high speeds, we do get some lift. At 160–170 mph the car starts to float, but it’s got a lot more left in it. The car flies. Every time we run it, we make changes and it gets faster,” Reikkoff insists.

With a build and power like this, you might expect a fancy name for this ride, but Reikkoff keeps it real—this car is just known as “The Bird.”

“When I was a kid, my stepdad called them Fire Chickens. But everyone around the shop just called it The Bird. I never really cared for the name, but that’s what everybody called it, so that’s what we named it,” Reikkoff says. **MD**





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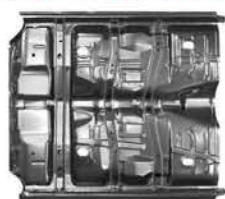
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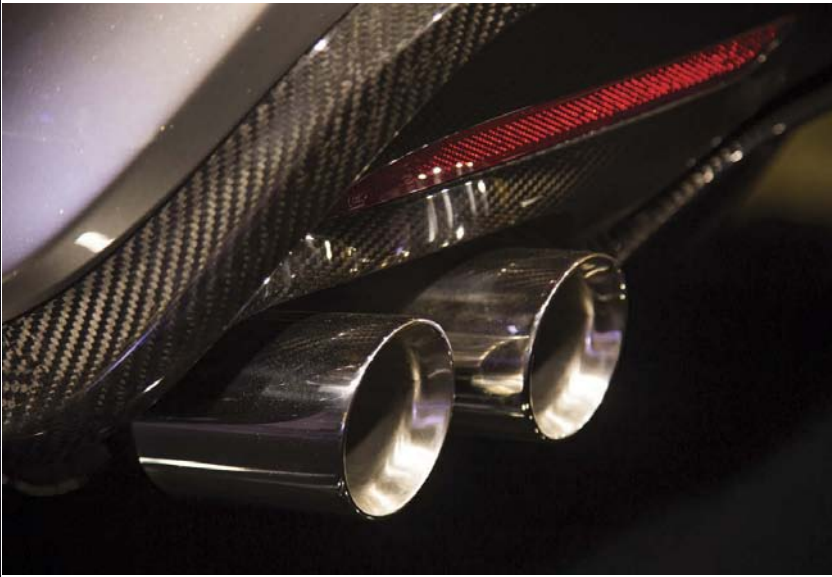


Rocket Science

Henrik Fisker flexes his muscles with the Rocket

BY SCOTT FISHER ■ PHOTOS COURTESY OF GALPIN AUTO SPORTS





It's said that the first auto race took place shortly after the first two automobiles were built. It's pretty certain that the modification and tuning business started shortly after that first race. And when you've got a car as immediately popular and successful as Ford's Mustang was at its introduction, it's no surprise that the first tuning efforts actually preceded the pony's release to the public on April 17, 1964: Ford, with the help of Holman and Moody, had been developing performance modifications for the Fairlane V-8, and raced them (along with improvements to braking and cornering) on the 1963½ Falcon Sprint that competed in European endurance rallies, while the Mustang was still in its final stages of development.



So it's a matter of long-standing tradition that the all-new Ford Mustang for 2015 spawned a high-performance, low-production variant before the first factory models hit the dealerships: the Fisker Rocket 725. Introduced at the Los Angeles Auto Show in November 2014, the Rocket hopes to follow in the black stripes laid down by such legends as Jerry Titus, Steve Saleen and Carroll Shelby.

The two men behind the Rocket certainly have the credentials for the job. Beau Boeckmann is COO of Galpin Motors, whose Galpin Auto Sports division is handling production of the Rocket. Galpin's involvement in motorsports extends back to 1960, when their NASCAR team with drivers Ron Hornaday and Eddie Gray took two consecutive West Coast division championships. And after Ford ceased production of Mustang convertibles in the 1980s, Galpin picked up the gauntlet and showed Dearborn how it was done. The pedigree and the passion are clearly there.



The other half of the team responsible for the Rocket has an equally deep automotive pedigree: Henrik Fisker, designer of such iconic vehicles as the BMW Z8, the Aston Martin DB9 and V8 Vantage, and of course his own Fisker Karma, of which approximately 2000 were produced by the company that once bore his name. It was while the Danish-born Fisker was design director of Aston Martin (from 2001–2005) that he first



■ From the external skin to the interior treatment, Fisker and Galpin touched every part of this car.

met Boeckmann; at the time, Ford owned Aston Martin, and Galpin Motors not only owned the world's largest Ford dealership, but also an Aston Martin dealership in Los Angeles. The two men soon discovered they had a similar passion for cars that were beautiful, exclusive and fast.

In addition to the two men involved in the Rocket, none of this would have come about if not for the third player on this team: the 2015 Ford Mustang. At 435 bhp, the 5-liter V-8 in the stock Mustang GT would easily be more power than the average person needs, strictly speaking. But we aren't average people, and neither are Boeckmann and Fisker, so the first mod they made to the Rocket was to supercharge it. The 67-percent increase over stock power brings it up to 725 bhp, significant because it's 18 bhp up on the Hellcat. (The line for the comparison test between the Hellcat and the Rocket starts here. ...)

Given Fisker's skill at the drawing board, it's the looks of the Rocket that are going to attract attention from across the parking lot or paddock. And there, Fisker has it where it counts. "I love the 1960s American muscle cars," Fisker says. "My favorite Mustang is the 1968 Shelby GT500 that had this long hood and huge air intakes; it gave me butterflies the first time I saw it. We wanted to recreate that feeling with this car."

The grille of the Rocket certainly echoes the hexagonal intake of the 1968 Shelby; a thin chrome strip across the middle of the grille (sporting a

THE NAMING OF 'STANGS

The Rocket 725 moniker, of course, reflects the horsepower of the supercharged Mustang. But Mustangs with numbers in their name go back 50 years. Mustang fans will no doubt recall the famous story of how Carroll Shelby came up with the name of his own modified Mustang, the GT-350. In order to produce the required 100 of these modified 1965 fastback Mustangs to qualify for Sports Car Club of America (SCCA) production category road racing, Shelby's team had been concentrating on getting the cars built, not on nonessential things like names. According to legend, when the time came to name these cars, Shelby looked out the door of the office and asked legendary fabricator Phil Remington how far it was to the next building. Remington paced it off and came back with the answer: 350 ft. Presto: The GT-350 was born. At the end of the 1965 season, five of the six SCCA divisional championships went to the GT-350. Moral: The name really doesn't have to mean anything if you've got what it takes.



galloping horse like the 1960s Mustangs) hearkens back to the Shelby's bumper treatment, splitting the enlarged air intake on the Shelby big-block powered muscle car. The Rocket's intake is even larger, no doubt for the additional cooling requirements of the supercharged engine—making 725 bhp generates a lot of heat. (We haven't yet been granted a peek under the hood, but hopefully those air intakes direct cold air to the supercharger's intake, the way they did on the "Ram-Air" Mustangs of the early 1970s.) And true devotees of the original pony will no doubt also see visual references to the "Ram Air" hoods of the 1972 and 1973 Mustangs in those

on-hood air intakes. There's a lot of heritage and history in this design—yet it's also completely modern and fresh.

Other Fisker modifications to the stock Mustang sheet metal are extensive—in fact, practically the only parts of the car left in the original factory steel are the roof and floor pan. The rest is all carbon fiber, penned by Fisker and produced by GFMI Metalcrafters in Fountain Valley, California, that previously worked with another famous name from Mustang history: Steve Saleen. The Saleen S7 supercar is one of GFMI's products, as are a number of concept cars from a wide range of automakers. The composite panels not only "add lightness" to the Mustang: Fisker's attention to detail helped ensure that airflow over, under,



GIVEN FISKER'S SKILL AT THE DRAWING BOARD, IT'S THE LOOKS OF THE ROCKET THAT ARE GOING TO ATTRACT ATTENTION FROM ACROSS THE PARKING LOT OR PADDOCK.



around and through the Rocket keeps it planted, cool and composed. Those dual side scoops just behind the doors? They feed cool air to the Rocket's 15-in. Brembo Grand Turismo brakes. And the carbon-fiber rear diffuser is meant to help extract air from under the car and contribute to stability at high speed—of which this car should certainly be capable.

Speaking of stability, the Rocket's rolling stock is an upgrade from even the top-of-the-line Mustang's gear: 21-in. ADV.1 wheels shod with Pirelli P-Zero extreme performance tires (up from 19-in. standard and optional 20-in. on the GT). This massive rubber, of course, gets mounted to the first fully independent suspension in Mustang history. The Rocket team describes the suspension as fully adjustable, and further suggests that owners can set up their car for "optimal street or track duty." We were unable to confirm if this includes damping adjustments



on the car (either electrically or by dialing in settings on the shocks manually), but it's certainly promising for those who want to take the car to the track and really wring it out. We look forward to crawling

around the Rocket's suspension, and hope to have a functional and technical analysis (that is, both how it works and also what kind of geometry it includes) as soon as we can get our hands on one.

"Ford's engineers and Moray Callum's design team did an amazing job with the new Mustang," says Fisker. "So good, in fact, I think the design additions and power upgrades we have made to the car help it play in a higher league, against much more expensive supercars."

And that, in a nutshell, is what Shelby's original modified Mustang was all about: beating the world with American muscle derived from a mass-produced family sedan, but put into a chassis that could handle the upgrade in power learned from years of hot-rodding and performance mods. Will the Rocket keep up the 50-year tradition of high-performance Mustangs? We can't wait to find out.

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I THINK THE DESIGN ADDITIONS AND POWER UPGRADES WE HAVE MADE TO THE CAR HELP IT PLAY IN A HIGHER LEAGUE, AGAINST MUCH MORE EXPENSIVE SUPERCARS.



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EVERYTHING'S BIGGER IN **Texas**



Exploring Austin's Hill Country in the Chrysler 300

BY JEFF ZURSCHMEIDE ■ PHOTOS BY CHRYSLER



The Chrysler 300 is a big, fast car. The whole point of the 300 is to be in your face with a full-size, rock-solid slab of powerful and luxurious performance. The Chrysler 300 makes no apologies for what it is. Dating back to 1955, Chrysler's 300 badge has always stood for performance, style and luxury, and this 60th anniversary model is no exception to the rule. The new 300 brings in almost everything that Chrysler has been developing on the performance side, and delivers the best luxury package in Chrysler history.

So where else could we take this mighty road machine except deep into the heart of Texas to explore the legendary hill country between Austin and San Antonio. This is the part of the world that gave us Patsy Cline, Willie Nelson and beef brisket barbecue. The roads in this part of the world run in big sweeping curves, up through beautiful hills dotted with the traditional Texas ranches that produced generations of authentic cowboys.

The modern Chrysler 300 Series was introduced in 2005 after decades in hiatus. The new car was boldly styled with long, straight lines and a slab-sided look that suggested power and heft. A mid-cycle refresh in 2011 softened the look of the car, which led to increased sales after the recession lows, but did not quite take the 300 back to its initial sales volume. The 2015 update brings back the edgy look of the original modern 300, with a bolder grille and extensive use of LEDs in the lighting clusters. More importantly, the new Chrysler 300 comes to market with the best of Chrysler's engine and drivetrain lineup.

The basic Chrysler 300 Limited for 2015 comes with the 3.6-liter Pentastar V-6 engine, rated at 292 bhp and 260 lb.-ft. of torque, or 300 bhp in the 300S model. But the engine you want is the potent 5.7-liter Hemi V-8 engine, rated at 363 bhp and 394 lb.-ft. of torque. Compared with the V-6, all that extra torque changes the new 300 from an enjoyable car to a serious performance choice. V-8 buyers will see fuel economy of 16-mpg city/25-mpg highway, which is quite reasonable for a car that weighs in at over 4300 lb.



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We were introduced to the 300 in Austin, at the studio where country music's greatest artists perform for the "Austin City Limits" TV show. Then we hit the town for a big steak dinner at Sullivan's Steakhouse, close to the live music and nightclubs on the town's legendary 6th Street.

Leaving in the morning, we headed west out of Austin on Texas Highway 280, getting out into the country toward Dripping Springs and Johnson City. There are places to stop along the Edwards Plateau where you can see evidence of the ancient seabed in the limestone cliffs. If you chance to make this drive in the spring, you'll see why this area is known as the Bluebell capital of Texas.



2015 CHRYSLER 300 SPECIFICATIONS

AS TESTED: \$35,890

TYPE: 4-door sedan

ENGINE: 5.7-liter Hemi V-8

LAYOUT: front-engine, rear- or all-wheel drive

TRANSMISSION: 8-speed TorqueFlite automatic

0-60: under 6 seconds

MPG: 16 city/25 highway



One side trip you might consider if you've got an hour or so is the 51-mile loop around the Devil's Backbone. This curvy country road takes you through the historic town of Wimberly and offers scenic views of the Balcones fault and the Edwards Plateau cliffs.

Along the way, keep your eyes peeled for barbecue and yield to the temptation to stop early for lunch. If you manage it right, you can get four or even five meals in a day to maximize your enjoyment. If you don't spy barbecue, Tex-Mex is a worthy substitute, and easy to find in the small towns. The road continues west, past Lyndon Johnson State Historic Park, and if you're lucky, you might see the herd of Texas longhorn cattle that live there.

Riding in the big Chrysler, we made excellent time through the curves and hills. The Hemi engine is mated to Chrysler's wonderful 8-speed TorqueFlite automatic transmission, and this is a key performance enhancer for this car. Because the transmission is fully electronically controlled and in communication with the engine at all times, the Chrysler 300 is always in the right gear to move out smartly. You can choose an all-wheel-drive 300 if you like, but we love the traditional rear-wheel drive.

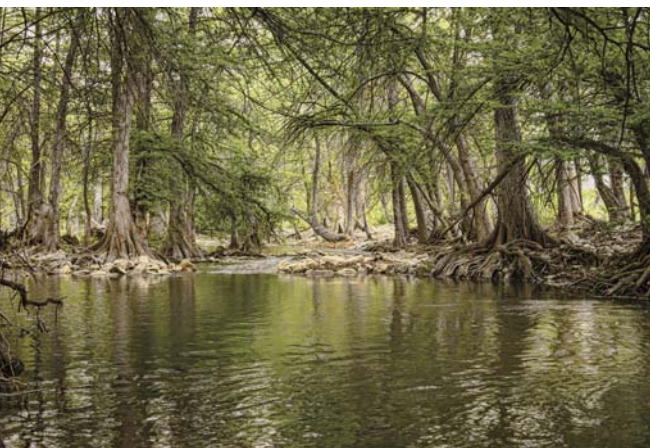
Every 300 comes with a rotary dial gear selector, but as an option, paddle shifters are available with the V-8 on the 300S and 300C models. All editions of the new 300 come with a Sport mode button, which reduces gear shift times from approximately 400 milliseconds to 250 milliseconds, increases engine and throttle responsiveness, adjusts the electronic stability control settings and firms up the electric power steering system. You'll want to punch that one up and just leave it there.

YOU KNOW YOU'RE REALLY IN THE **GOOD PART OF THE TRIP** WHEN YOU'RE DRIVING ON ROADS THAT **DON'T EVEN RATE A PROPER NAME.**



By the time you hit the western end of this journey at Farm Road 1120, you're moving into Texas' new wine country, where they're producing some decent vintage these days. But turn south on 1120 and take it down to Farm Road 1050. You know you're really in the good part of the trip when you're driving on roads that don't even rate a proper name. But if you were on the main highway, you'd miss the real Hill Country—like the town of Utopia, a ranching community that dates back to the 1850s. Or maybe you'd prefer Bandera, the "Cowboy Capital of the World." Don't sweat the choice, you'll pass through both on your way to San Antonio.

The entire trip from Austin, including the Devil's Backbone, is just over 300 miles. In the past, that might have been a tall order to drive in a single day—or you needed a cast-iron butt to stay that long in the saddle. But the Chrysler 300



THE BOTTOM LINE ON THE NEW CHRYSLER 300 IS THAT THERE'S STILL A PLACE IN THIS WORLD FOR A BIG, FAST, COMFORTABLE SEDAN.

blends luxury and performance nicely enough that you'll make it to your destination in time for dinner still feeling ready to hit the town.

In modern cars, luxury and technology are synonymous, so the new 300 features an updated version of Chrysler's Uconnect Access system controlled through a big touchscreen interface. Uconnect now offers 9-1-1 and roadside assistance, theft-alarm notification, 3-D GPS navigation, voice texting, internet radio streaming and the ability to turn the vehicle into a Wi-Fi hotspot.

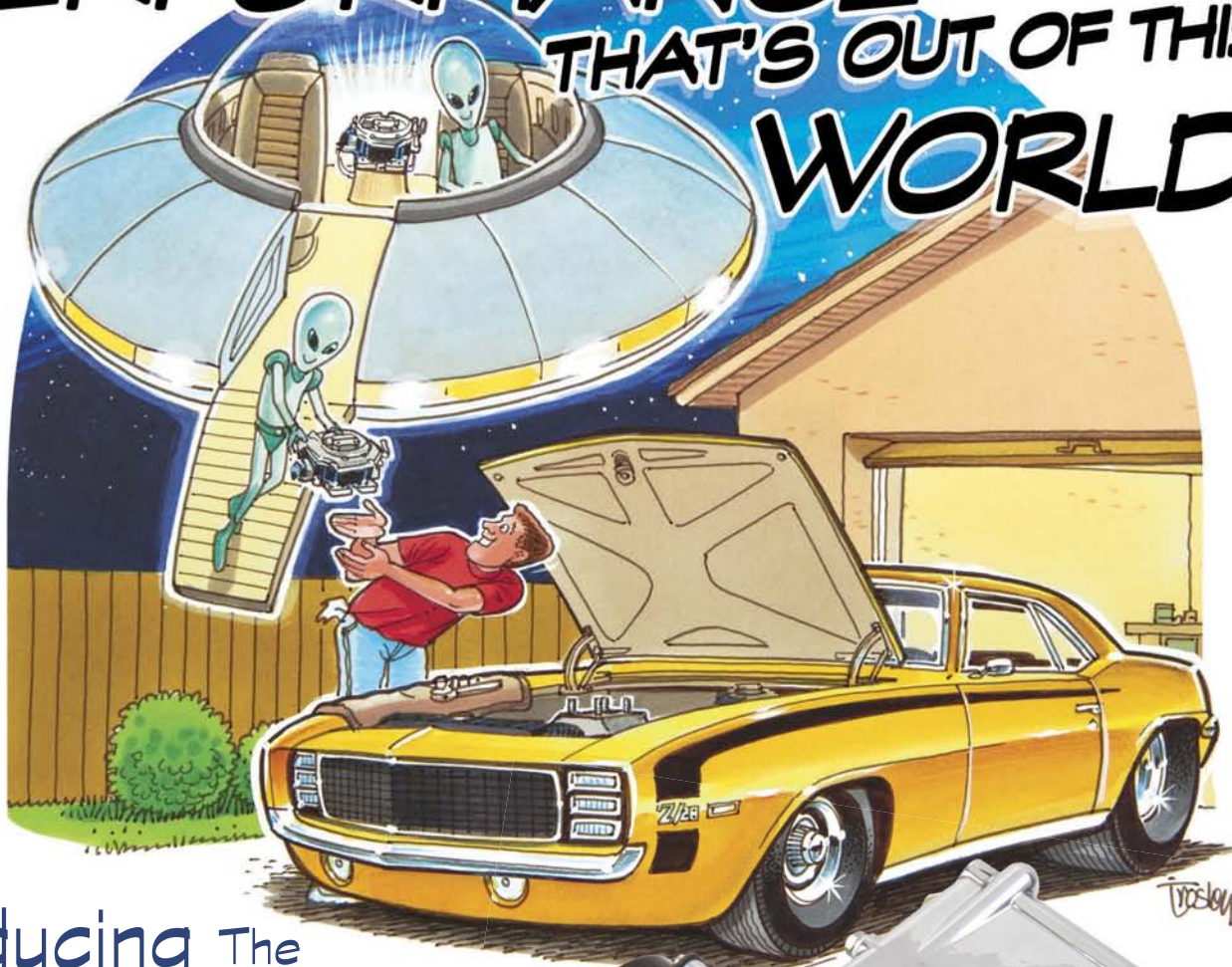
The last leg of your trip takes you back eastward on Texas Highway 16, through the beautiful Guadalupe River Valley and right into the heart of San Antonio. This is perhaps the most beautiful city in all of Texas. If you waited for the Tex-Mex, you'll find it here. Don't neglect the town's famous River Walk or The Alamo as well.

Chrysler is serious as a Texas thunderstorm about getting the new 300 into your driveway, so they've priced the car attractively, starting at \$32,390 (including destination) for the base 300 Limited, and ranging up to \$43,390 for the top-level 300C Platinum.

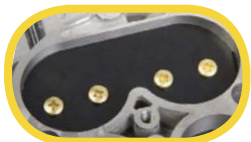
But really, the car you want is the 300S for \$35,890. The 300S offers sport-tuned suspension, upgraded brakes, 20-in. hyper black cast-alloy wheels, LED foglamps and blacked-out exterior appointments that include black headlamp and LED taillamp bezels, a black chrome grille surround, gloss black window moldings and the Chrysler wing badge with black accent. Inside, the 300S comes with leather trimmed seats, steering-wheel-mounted paddle shifters, sport mode and blacked-out interior materials.

The bottom line on the new Chrysler 300 is that there's still a place in this world for a big, fast, comfortable sedan. The 5.7-liter Hemi V-8 is the sweet spot in Chrysler's lineup—placed attractively lower in the price range just above the economical V-6. This engine offers most of the performance of the SRT V-8s you can get in the Charger and Challenger, but at a fraction of the ticket price. Plus, you get the serious good looks of the 300 and an honest rear-wheel-drive American sedan in the classic style. **MD**

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THERE CAN BE

This 1967 Ford GT 500 is
unique in all the world

BY J. MICHAEL HEMSLEY
PHOTOS BY THE AUTHOR

Only One

When you have the only one ever built, it's hard to convince people that it is real. That's what Brian and Samantha Styles face every time they show their 1967 GT 500 convertible. From 10 feet away it looks like a 1968 Shelby GT convertible. Lift the hood or look at the interior and it's all 1967. However, a closer inspection of the Shelby fiberglass shows handbuilt prototype components foreign to both model years. Confused? Even well-informed Shelby enthusiasts do a double take. When Brian Styles, who refers to himself as the car's caretaker and historian, tells them that Samantha's car is actually a 1967, they immediately reject his claim. Everyone knows there are no 1967 Shelby GT 500 convertibles. Well, there is one, and this is its story.



■ Brian Styles has been a “car guy” for as long as he can remember. His first car was the “Dude Wagon” pedal car.



■ In every way, this is a classic muscle car—it sounds like one, it accelerates like one and it handles like one.

The effort Brian Styles put into determining what this car actually looked like during its life was considerable. When they acquired the car in May 2009, he undertook an investigation involving a “dream team” including Shelby experts and former Shelby and Ford employees. They had to determine what was true and what was rumor about the car’s history and styling. There was plenty of discussion and even occasional disagreements, but in the end, everyone on the team endorsed the result—it was the car shown at the 2013 Concours d’Elegance of Texas.

The documented history of this car begins with an August 9 dated “Special Order” placed with Ford. Shelby American ordered three 1967 cars—a coupe, a fastback and a convertible—all Candyapple Red. All three were to be identically equipped with a 428-cu.-in. (7.0-liter) “Police Interceptor” V-8 engine with dual 4-barrel carburetors, a C-6 automatic transmission, air conditioning, power steering, power brakes, closed crankcase emissions system, AM pushbutton radio, tinted glass and black décor interior. All three were completed in November 1966 and became the first three big-block Shelby cars ordered and built. The convertible was finished two weeks after the fastback and coupe, and wears Shelby sequence No. 0139. “Company Car—Engineering Proto” was handwritten on the Shelby American Production Order. Other factory notes referenced the car as 062, its California inventory number.

Carroll Shelby wanted very much to include a convertible in his 1967 offering; however, Ford decided to shelve the convertible until the following model year. The one convertible that had been ordered was still delivered and, upon arrival at Shelby American, was promptly designated



■ **The dual-quad topped 428-cu.-in. Police Interceptor engine had full emissions equipment, air conditioning and power steering, which resulted in having three belts wrapped around eight pulleys.**

■ **Best of the Shelby’s Automobiles class at the Concours d’Elegance of Texas was this 1967 GT 500 owned by Samantha Styles. It was the styling prototype for the 1968 GT 500 convertible.**

as Carroll Shelby’s “personal driver” and sometimes enjoyed by friends, employees, visiting Ford executives and celebrities.

When it was time to prepare for the 1968 model year, Ford’s go-to “skunk works” shop, Dearborn Steel Tubing (DST), was given artist renderings and tasked with fabricating two sets of redesigned fiberglass hoods, front-ends, taillight panels and interior center consoles. These components would be the most visible differences over the 1967 styling.

With DST’s 1968-styled fiberglass on its way to California, Shelby American would need to allocate a fastback and a convertible so they could be repurposed as “1968 styling prototypes,” or “1968 photographic cars.” Plenty of fastbacks were on hand, but there was only one convertible, and that was No. 0139. About April 1967, both cars were updated (disguised) with the handcrafted prototype fiberglass received from Dearborn, Michigan.

During the spring and early summer of 1967, both styling prototypes were extensively

photographed. These photos would be used for print advertisements, press releases and dealer literature. Based on subtle clues found in the vintage photos, it is believed that the first professional shoot of the convertible took place on Malibu Beach and another at the Hollywood Park Race Track. For years, these photos suggested there were two convertibles—one red and the other white; it was one of the mysteries that Styles and his team had to resolve. The first print ad—titled “Carroll Shelby has gone and done it!”—appeared in November 1967 issues of *Road & Track*, *Car Life* and *Playboy*. In some



■ **Once transformed into the “1968 Styling Prototype,” the convertible was first photographed at Malibu Beach in April 1967. Photos taken during this iconic shoot were eventually given to the press and a modified photo from the shoot would later appear on the cover of the 1968 tri-fold brochure handed out by dealerships. Interesting clues that this car is not a true 1968 can be seen in some of the photographs. For example, side marker lights on the rear quarter panels, which were new for 1968 and did not appear on the 1967 cars, were most likely cardboard mock-ups. If you look closely, the one in the vintage photo appears to be lifting up.**



■ During the restoration, a number of telltale signs were discovered which indicated that this was originally outfitted with 1967 Shelby GT styling, including these holes for the 1967 badge found hidden in the dash.

of the test reports, Styles mentioned, journalists appear to have been the first to be deceived by this car, since they praised its performance and handling as being better than the 1967 Shelby cars. As Styles says, “This car was intended to fool people, and it has been successfully doing so for the last 46 years.”

By November 1967, the Shelby American operation facility in Los Angeles had closed, a small staff was relocated to Ionia, Michigan, and the GT convertible was returned to Dearborn. Because the convertible was a regular production car, Ford made the decision to sell it through their employee purchase and auction program. It is most likely that an employee of the Ford Motor Company acquired the car, but Styles has only been able to trace its ownership back to January 1977. Those owners thought it was a 1968, until sometime after James Ventrella acquired it in August 1978. This wasn't his first Shelby



and he began to notice things about the interior and engine compartment that were clearly from 1967. Frustrated by denunciations by experts, Ventrella sold the car to his friend Richard Kot in December 1985. During Kot's ownership, the Shelby American Automobile Club (SAAC) obtained original factory records, but it wasn't until August 1989 that the club registrar for the 1967 Shelby cars authenticated it as a 1967 after finding the convertible's hidden Ford VIN. In 2000, it was acquired by the Volo Auto Museum where it was further verified with information provided by the Carroll Shelby Foundation. An authentication letter signed in 2003 by Shelby confirmed that it was originally styled as a 1967, and the Volo Museum restored it to that specification. In March 2007, Dana Mecum added it to his personal collection and subsequently put it up for auction in May 2009. Samantha Styles purchased the car on May 17 of that year.

Now the hard work began. There were questions to be answered about the car before restoration could begin, such as whether to restore it as a 1967 or a 1968 and whether it have two 4-barrel carburetors like all 1967 big-blocks or a single 4-barrel like all 1968 Shelys?

With the “dream team” in place, Styles began the search for documentation on the car. He researched paperwork obtained from Ford and Shelby American; reviewed press materials, advertisements, magazine articles, press kits, dealer literature and vintage photographs; and even uncovered a June 1967 Shelby American invoice referencing the insurance claim that indicated that the car had two 4-barrel carbs. Styles also contacted former Shelby employees and conducted many interviews.

In February 2010, Jeff Yergovich of R&A Motorsports began the historically correct restoration to concours level. The physical



■ The car had the large cutouts to accommodate the 1965 Cougar taillights that were used on the 1967 Shelby GT cars.

■ Holes found in the floorpans line up perfectly with the mounting pattern of a 1965 Shelby R-model roll bar. Clearly a roll bar mounted to the floorpans would have been there purely for aesthetics.

restoration took nearly two years, as the research effort continued in parallel. Some discoveries were minor; some were major. As Styles recounts, “Each time the team would reach a conclusion on one theory, we came up with two new theories.”

Details that might seem trivial today were completely the opposite when Styles did his research. He and his team had only a few low-resolution photographs to reference. Some of the interesting facts learned included that the convertible was outfitted with the very first Ford C-6 Automatic transmission built, No. 000001. It was also the first Shelby GT500 to receive emissions control equipment. Ford and Shelby experimented with different emblem and stripe treatments before deciding



■ A 2003 restoration by a previous owner returned the car to its original 1967 styling. This is how it would have looked prior to being repurposed as the “1968 Styling Prototype.”

on the final product. When the convertible was first transformed, there was one emblem/stripes treatment on the passenger side and a different one on the driver's side. The white and red convertibles in vintage marketing photographs were the same car. This was confirmed when paint removal revealed that it was originally Candyapple Red, then Wimbledon White and Acapulco Blue, before being painted Candyapple Red again circa 1980. A letter from A.O. Smith to Ford's Ken VanAkin identified Dearborn Steel Tubing as the source for the handcrafted components. Interior woodgrain appliqué, blacked-out brightwork on the seats and faux reflectors on the quarter panels were other aesthetic changes to the car that helped to make it look more like a 1968 in the marketing photos. Side marker lights were not required in 1967 but were mandated for 1968, so lights were cut into the sides ahead of the front wheels, but the rear lights were a photograph outlined with metal tape. In the Malibu beach photos, they appear to be peeling away from the fender. Styles did an inkjet version of the lights, stuck them to a metal plate, and glued them to the car to replicate the ones on the car in 1967. Interviews with former Shelby employees verify that the convertible did receive 1967 fiberglass. Other telltale signs included 1967-only headlight wiring, holes in the rear valance to accept 1967 Cougar taillights and holes in the rear floor for a cosmetic roll bar. Photos of the convertible

I WAS THE FIRST JOURNALIST TO DRIVE THIS CAR SINCE JULY 1967. IT BROUGHT BACK A LOT OF MEMORIES OF CARS YOU COULD STEER WITH YOUR RIGHT FOOT. TURN THE KEY TO START IT AND OOOHHH THE SOUND.

between April and June were “retouched.” Rocker stripes, fender emblems and fuel filler cap were hand painted on the color negatives. The Malibu beach photo used for the dealer brochure is a perfect example.

Styles and crew had some other details to resolve. Letters in the word “Shelby” on the nose of the car were closer together than on production 1968s, so they had to scale the spacing between the letters to get it correct. The license plate in the photos has no mounting holes, so a new one was made and magnets were used to attach it to the car. The 1967 had a convex gas filler cap, but the photos showed a flat one. Styles had a flat aluminum plate made so the insignia could be put on it. Different photos showed different badges on the car's flank and a variety of striping on the rocker panel. Malibu beach photos show striping that includes “GT 500” in the stripe and a cobra on the side of the car. Other photos show a badge in the striping and no words. And still others had just a stripe, sometimes with chrome letters on the flank. Because a variety of insignia and stripings were used, Styles settled on the simple stripe on the driver's side and the unique emblem

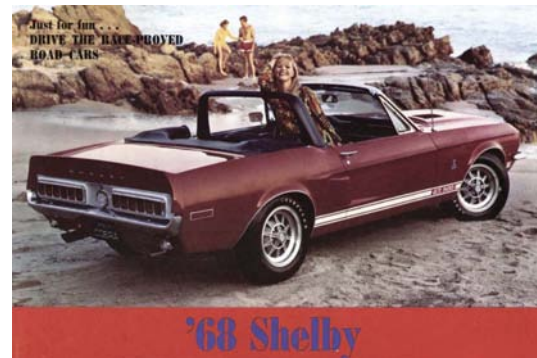


■ It was a tight fit to get the fully assembled big-block into the engine bay, but R&A Motorsports did it—just like Ford's San Jose plant did 46 years ago.

in the stripe on the passenger's side. The passenger side emblem appeared the same as the one on the woodgrain above the glovebox. But they had no badge, so it was scaled using the known dimensions of the stripes. Initially, they guessed that the emblem was the same as the one on the gas cap. In April 2012, Styles met stylist John Chun and his son at a Shelby employee reunion. When Styles showed them the photographs, Chun's son said he had one of the prototype emblems. Two weeks later, Styles flew to Detroit where Chun produced an original rectangular emblem. It was Lucite and hand painted on the reverse side. Finally, Styles



■ The chrome letters on the nose that spelled “Shelby” were closer together than on the production 1968 cars, so the spacing had to be determined by scaling the spacing using known dimensions in the photographs. DST built the front of the car as a single piece of hand-laid fiberglass. The 1968 production cars would have a 4-piece nose. It required close study of the factory photos that were eventually found to verify these details.



■ Photos from the April Malibu Beach photo shoot were retouched to change the appearance of the gas cap, rocker stripes and fender emblems, the design for which was finalized in July, before they were put in the dealer brochures produced in September.



■ Styles and Yergovich settled on using an inkjet printed image of a reflector atop a precisely cut thin piece of aluminum, which is slightly more appealing than what Shelby did in the spring of 1967.

had an emblem to copy. Valued at \$4249.76, it was the most expensive GT 500 in Shelby American's company car inventory.

Maybe because my first new car was a 1966 Shelby GT 350, I was the first journalist to drive this car since July 1967. It brought back a lot of memories of cars you could steer with your right foot. Turn the key to start it and ooohhh the sound. The rumble of the big-block just makes you smile. Pull the lever into "D," and the car lunges forward against the brake. This car wants to go, and I'm happy to let it. This is a one-of-one car, so no joy riding—joyful, yes; but no antics. As I pull out, it is obvious that this car wants to go fast, even with light throttle pressure. Onto a tree-lined road, I'm able to open up the throttle a bit—the car nearly jumps forward. It's anxious to be released, and it demonstrates

■ It is likely that Shelby used magnetic-backed, raised chrome letters on the driver's side front fender. This would allow for quick changes between "GT 350" and "GT 500" and would explain why no letters at all are present in this picture.



■ Various badging and striping were used on the car for the photo shoots. This photo helped determine how an emblem was placed on the passenger side of the car.

that desire by accelerating with considerable verve. We quickly triple the posted speed limit, so I back off and experiment with the handling by taking a few curves quickly—nice. Shelby understood handling better than most muscle car builders. This car goes and turns. There's a little lean, but much less than its competitors. This car stays nearly flat through the U-turns. Eventually, I get out with a broad smile on my face, and return the keys to Brian Styles whereupon he took it through its paces with a bit more "enthusiasm" than I used. It's Samantha's car, and I'd rather he answer to her if something happened.

As reported originally in *Vintage Roadcar*, the car won best in its class—The Automobiles of Carroll Shelby—at the Concours d'Elegance of Texas in May 2013. A significant achievement—one of several it has won since it was first shown in November 2011. It was awarded 768.25 out of a possible 783 points by the SAAC in June 2012, qualifying for Gold in SAAC Division II judging.

Brian Styles is a true car enthusiast and remembers his first car, a metallic blue Murray pedal car called

"Dude Wagon." His collection includes both full-size automobiles and a die-cast model collection numbering about 2000. For even more detailed information about this car, please visit www.1967shelbyconvertible.com. **MD**



■ Photos taught the researchers that the stripe and emblem treatments used on the passenger side of the car and on the dashboard evolved through at least two iterations between April and July 1967.



■ The gas filler cap on the 1967 GT 500 was convex, but photos showed that the one on this car was flat. An adapter piece was fabricated from aluminum to site between the convex fuel filler cap and the flat emblem—just like the other "early" built 1967 Shelby GT cars.

Steve Barton's passion for all things automotive runs deep, but there's something inside of him that likes a twist. The Las Vegas resident is most interested when the vehicle has an extra special component that is rare, spectacular or unheard of; that's when Barton is most pleased.

The man owns more than 30 vehicles. He has a stable of interesting Cadillacs and Corvettes, there's a Lincoln concept car, a McLaren/Cadillac LMP (Le Mans Prototype) racer, a 950-bhp twin-turbo Impala, the legendary Frankenstude, an SSR turned into a 1959 El Camino (complete with hardtop convertible), and a lot more.

But what we're looking at right now is this insane 1932 removable-top roadster. You might want to sit down and get comfortable, because the tale we're about to tell you has many twists and turns.





Xtreme MACHINE

A car designed around an engine

BY BOB CARPENTER ■ PHOTOS BY THE AUTHOR

“I had always wanted a ’32,” Barton told us, “but, of course, I didn’t want just a nice ’32. I wanted something that was different, something extraordinary.” In 2000, during a chance encounter with famed drag racer and SEMA Hall of Fame member Joe Schubeck, the project began to take shape.

Schubeck had designed and built a 902-cu.-in. dohc engine decades ago that was supposed to take on the Hemis in AA/FD drag racing, however, before the project was ramped up, the NHRA decided to ban the engine. The project was dead in the water. Schubeck had built no more than 10 of the engines and most ended up in offshore racing boats. It didn’t take long for Barton’s conversation with Schubeck to turn to the unusual and rare engine. After some convincing (and \$100,000) Schubeck parted with one of the two engines that were left and Barton had the first, and most important part of his extraordinary 1932.

The engine was put in storage for a while as Barton formulated a plan for the ’32. Barton wanted to have the car of his dreams built by someone of the caliber required for a very special project; he turned to Boyd Coddington in 2003. This was just before Coddington got involved in the “American Hot Rod” TV show. After getting the frame built and the engine mounted, not much more happened as Coddington was becoming more and more interested in his TV show.

Well, there was the issue over the body. Barton had specifically requested a custom body built by Marcel Delay, but Coddington



■ **HID head-lights from EX-7 compete for attention with the Aldan shocks and independent front suspension.**

■ **The wheels are custom one-offs from Evod Industries.**

kept insisting that a steel body from one of the aftermarket suppliers would be “just fine.” Anyone who knows Barton knows that “just fine” was not what he was looking for. Eventually Delay did, in fact, build a custom body for the car, but the lack of work being done and the disconnect between Barton’s desires and Coddington’s willingness to strive for them led to the car being pulled out of the shop and put into Barton’s storage warehouse. “I felt like it was like a death sentence for the car,” Barton told us. You could hear the hurt in his voice as he recounted the story. He added: “I didn’t think it would ever get built after that. It’s hard to find someone who will take over someone

else’s work and straighten out the problems.”

But it just so happens that Barton did meet someone that he felt he could trust to complete the car in the manner it deserved. In 2001, Barton met Jordan Quintal at a hot rod shop in Escondido, California, where many award-winning cars and trucks had been built. Shortly thereafter Quintal opened up his own shop—Super Rides By Jordan in Escondido—and

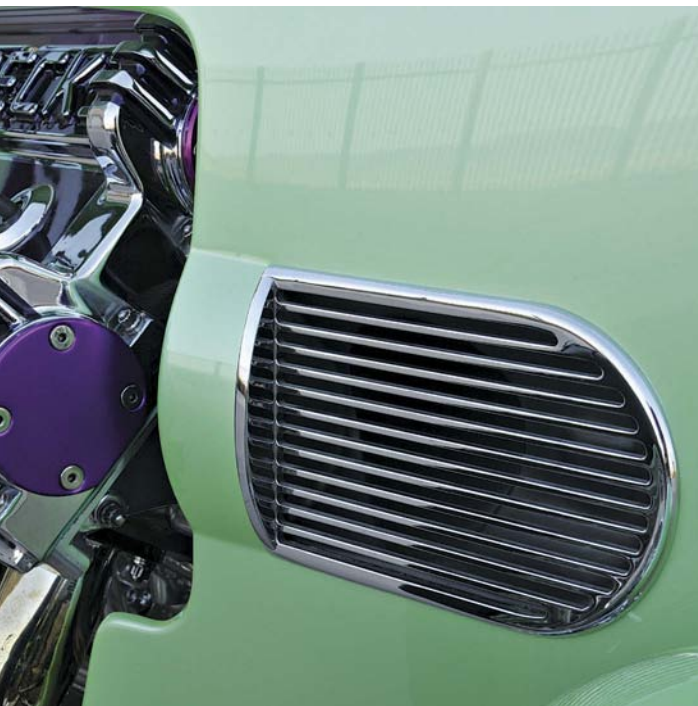
STEVE WASN'T OBSESSED WITH TROPHIES AS HE BUILT THE CAR FOR HIMSELF. HE TOOK THE CAR TO JUST A COUPLE MORE SHOWS BEFORE PUTTING IT INTO HIS GARAGE AT HOME.

in 2005 Barton decided to hand the entire project over to Quintal to finish. It was a big job as there was much to be done but Quintal completely understood Barton's dream and managed to both complete the car and fulfill Barton's vision.

When the car was completed, it was entered in America's Most Beautiful Roadster show in 2007. The car, by most accounts, should have won. But it didn't. Some say the green was too much for the judges to handle.



■ Left: The trunk holds the sump tank for the engine oil.



■ This custom vent grille is a perfect example of the kind of craftsmanship that Jordan Quintal put into this car.



■ The oval tube exhaust was hand-built at Super Rides By Jordan.

Others say the secondary burgundy color was the reason for not winning. Barton wasn't obsessed with trophies as he built the car for himself. He took the car to just a couple more shows before putting it into his garage at home.

Only one photo shoot of the car was ever conducted and



it never surfaced as the magazine went out of business before the feature could run. It's almost as if the car was cursed. But the fact remains that this is one awesome car and now that some time has passed, Barton was willing to let us shoot a full feature on it and tell you all about the car. It was probably good for him to drag it out, have it detailed and see a bunch of guys slathering all over it. The original love for the car was kind of rekindled in 2014 as we wrapped up our photo session in Barton's driveway.

So, how about some more information on the engine that got the whole project started? The 904 cu. in. are derived from a 4.90-in. bore and a 6-in. stroke. The engine has dual overhead cams



■ Jordan Quintal of Super Rides By Jordan sits on the tire of the car he built.

■ Engine builder Joe Schubeck (left) and car owner Steve Barton (right).



■ A Dan Fink grille graces the 1932 Ford grille shell.

■ Joe Schubeck built very few of these double-overhead-cam engines. It was the basis of the entire concept of this car.



■ Of course the steering wheel had to match the one-off wheels. Larry Dove at EVOD made it.

and 32 valves. At 3000 rpm, it puts out 1200 bhp and 900 lb.-ft. of torque. The custom port fuel injection was built by Schubeck and an Accel engine control module ignition system lights the fire. A dry-sump system was used for the oiling; the tank is in the trunk. Everything on the engine is polished, chromed or powder-coated. A GM 4L80E transmission from Jet Transmission sits behind the potent mill.

The differential, built by Currie, has a 3.58:1 ratio. A GearVendors overdrive allows for a final ratio of 2.7:1. The differential housing and axles were made by Mark Williams. The tube and reproduction 1932 box rail chassis, built at Boyd's, has independent front suspension with Aldan shocks. The wheels are custom one-offs made by Evod Industries. Mickey Thompson tires cover the 18 x 8 wheels in the front and the 20 x 15 wheels in the rear.

The steel body and aluminum top were made by Marcel Delay and his sons Marc and Luc. The Ex-7 HID headlights are by Headwinds. Charley Hutton did all the body fitment, final finish and



■ The Hurst shifter controls a GM 4L80E automatic transmission. The button on top is the reverse lock out.



custom paintwork. He used PPG paint (now called Axalta). The striping was laid down by Pete Finlan.

This was definitely a project that took a lot to get done and Barton is quick to point to those who helped. He wanted to be sure to thank Jordan Quintal III, Phil Hayes, Roy Schmidt, Mike Curtis and Steve Waldron for their craftsmanship.

Barton, it should be noted, hasn't completely lost interest in the high-end show car field. He's currently working with Quintal on a Cadillac to try and win the Ridler Award. You can bet that car will be pretty special whether it wins a trophy or not.



■ The seats are quite comfortable and there's plenty of room for regular-size people.



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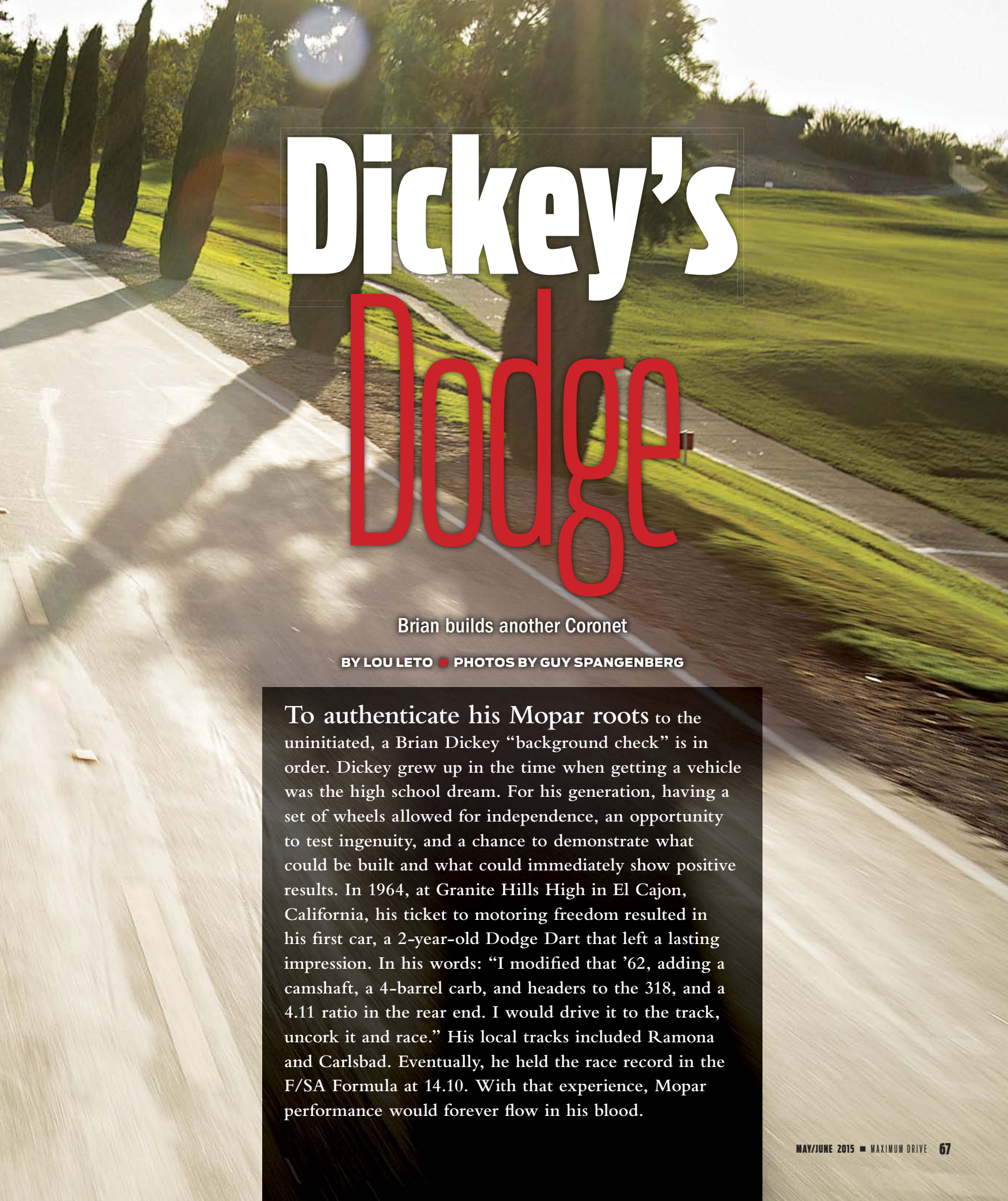


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Dickey's Dodge

Brian builds another Coronet

BY LOU LETO ■ PHOTOS BY GUY SPANGENBERG

To authenticate his Mopar roots to the uninitiated, a Brian Dickey “background check” is in order. Dickey grew up in the time when getting a vehicle was the high school dream. For his generation, having a set of wheels allowed for independence, an opportunity to test ingenuity, and a chance to demonstrate what could be built and what could immediately show positive results. In 1964, at Granite Hills High in El Cajon, California, his ticket to motoring freedom resulted in his first car, a 2-year-old Dodge Dart that left a lasting impression. In his words: “I modified that ’62, adding a camshaft, a 4-barrel carb, and headers to the 318, and a 4.11 ratio in the rear end. I would drive it to the track, uncork it and race.” His local tracks included Ramona and Carlsbad. Eventually, he held the race record in the F/SA Formula at 14.10. With that experience, Mopar performance would forever flow in his blood.



"In 1968, I bought a brand-new '69 Dart GTS with a 340 and automatic," he reminisces. "I drove it until '75." When asked about his track forays, Dickey admits, "I raced it a few times." Then like many stories of the era, he took a hiatus due to a growing career, gaining much success in an emerging industry and creating a distribution company with his wife.

Pro or Amateur? Good Question!

Fast forward to 1997, when he bought "a two-owner 1964 Plymouth Belvedere 2-door sedan, with radio delete. It had only 65,000 miles. It was the perfect donor for my first A990 clone." It took Dickey two years to complete, in his newly formed hobby shop called Dickey's Hot Rods. The factory color LL-1 Green Plymouth became what I refer to as his "burger car," as he drove the now-Hemi-powered Plymouth to many local car scene activities. Dickey's Hot Rods was not a commercial enterprise, as he was "trying to



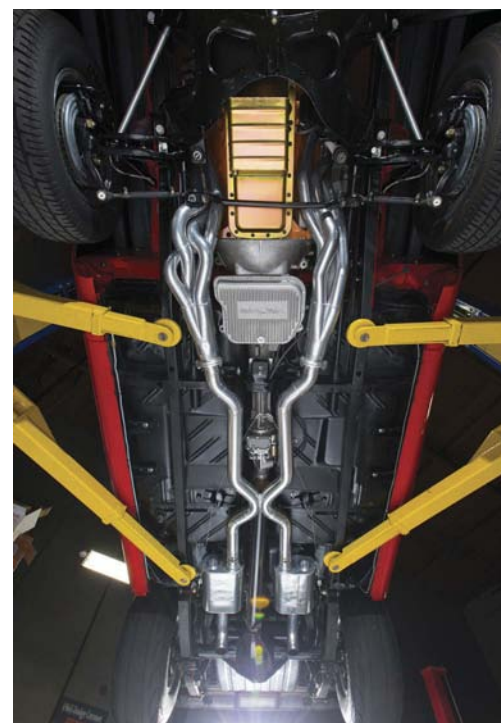
have fun and keep active." Any work that was accepted was by referral only. With the "burger car," Dickey confessed that he "re-gained the Mopar bug again." With a vengeance. Customer projects coming through the shop included a 1962 Dart Max Wedge, a ground-up 1963 Dodge build and a black 1965 Plymouth.

Yet true to the Hot Rods moniker of the hobby shop, Dickey was also building serious

rods. How serious? Dickey's Rods have been judged in the granddaddy of all hot rod events: the Grand National Roadster Show (GNRS). His first entry was in 2000, a 1937 Ford coupe. "I won my class," he humbly admits. Dickey came back in 2012 with a roadster to compete for the towering trophy awarded to America's Most Beautiful Roadster, with Merlot, a 1933 Ford-powered roadster; it was selected as a Top 10 contender. He's currently finishing his next personal rod, a 1936 Ford five-window coupe that has been selected for the 2015 GNRS.

Back to His Roots

Dickey longed to get back to drag racing where he started. Six years ago, he built and raced what became the quickest naturally aspirated B-body in the country, a Keith Black Hemi-powered 1965 Dodge Coronet coated in Viper Red, eventually laying down an 8.70 elapsed time at 160 mph. After selling the purpose-built race car, "I had to have another Viper Red '65 Coronet," he admitted. That's where the story of this feature vehicle begins.





repetitive word when Dickey describes “a more aggressive cam and more aggressive compression (11 to 1). Quality and detail was the edict for the Dale Reed build, and is evident in the choice of the Holley, Comp Cams, Fluidamper, Mellings, Mopar Performance and Milodon engine components. Equal to that quality is the rebuild of the stout, fully automatic, 727 transmission, the Dana 60 rear end and the Gear Vendors overdrive. Dickey built this car to drive. “With the overdrive, the 4.11’s become a great cruising gear,” he says.

Chassis Modifications

While the Coronet was considered a mid-size car in its day, in 1965 it still required special front-end modifications by the factory to shoehorn in the 426 “elephant” engine equipped with the wide hemispherical cylinder heads. Dickey had to do the same. “The

The Current Coronet

“I bought this Coronet three years ago,” Dickey reveals. “It was a California survivor, found on an Indian reservation near Temecula.” He also found and acquired a rusty 1963 Dodge 4-door sedan. “Someone had put \$100,000 inserting a huge Hemi drivetrain,” Dickey exclaims. Looking at photos of the condition of the 1963 as it arrived at his shop, one still wonders why. But no one had to wonder about the direction he was taking the project.

Dickey disassembled both Dodges. The ’63 drivetrain was treated to a full rebuild and detail. What started as a 528-cu.-in. Hemi crate motor (from Chrysler) ended up with much more than a cosmetic make-over. First, the obvious: The Indy manifold with throttle body fuel injection was jettisoned, replaced with an A-and-A cross-ram, an accurate reproduction of the 1965 factory drag race intake manifold. Dickey installed a brace of correct Holley carburetors to add to the authentic look that he desired. When the Hemi was rebuilt, aggressive is the





passenger shock tower was cut and moved to make room for this Hemi," he advises, "and I had access to a rare correct Hemi K-member that was in the shop, left over from a customer car straight-axle conversion."

The chassis prep was equal to the engine preparation. This Dodge received the full rotisserie treatment after being media-blasted to bare metal, and more. "Frame stiffeners, mini-tubs and a narrowed rear end for more tire," are just some of the back-end reveal. Michael Santacruz of Energy Suspension supplied a number of component upgrades that Dickey dictated. Disc brakes all around provide more than adequate halting from high speeds.

Making it Pretty

The final appearance was of importance, too. Jeff Johnson at Carlsbad Village Auto Body

capably coated the Coronet in Viper Red. All brightwork was re-chromed, all stainless-steel trim was straightened and all-new glass went into the all-steel, now laser-straight Coronet body. The single headlight grille indicates the A990 origins.

Factory A990 cars had Dodge A100 van bucket seats with lightweight aluminum mounting brackets in their Champagne-colored interiors. Dickey chose Danny Romo in Irwindale to duplicate the interior color



■ **This car is a true show and go—no detail was left unattended.**



and textures for this Dodge. Redline Instruments rebuilt all the gauges, installed into a newly re-chromed dash insert.

A Crowning Achievement

Built with a daily driver/racer concept, this Coronet has "an 11-second potential," Dickey surmises. To preserve the look and the ride, it rolls on 15-in. traditional American Racing Torque Thrust D wheels; sevens up front with Mickey Thompson (M/T) tires and 10s slung with M/T drag radial tires in the rear.

Those who can remember the Dodge commercials of the mid- to late-1960s, using the little old lady from Pasadena who would drive up in some Dodge performance car and say: "Put a Dodge in your garage, Honey!" couldn't have predicted that Brian Dickey would do just that again with a superb example, a half-century later.



Prestige Hobbies



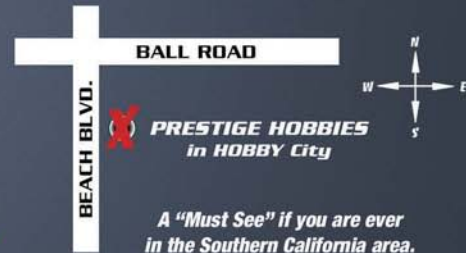
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2015 Mustang GT Perfected!

Built for the Big Show—how the CGS Performance 2015 Mustang was made

BY BOB RYDER ■ PHOTOS BY THE AUTHOR



■ After the 2015 Mustang GT was delivered and the transportation papers signed, within minutes it was raised on jackstands and the wheels, hood, front grille, headlights and bumper cover assembly were all removed.



■ The factory Ford 5.0L V-8 Coyote engine was factory-rated at 435 bhp. That is about to be increased a whole lot.

Since 1999, General Motors, Ford and Chrysler have displayed their latest vehicles at the Specialty Equipment Market Association (SEMA) trade show in Las Vegas. Along with displaying their latest factory models, they also invite the leading custom builders to showcase their talents. These builders produce incredible custom one-off machines.

This year, the Ford Motor Company introduced its all-new sixth-generation 2015 Mustang S550. This vehicle featured an entirely new platform and updated body styling. Ford delivered only six Mustangs to a select set of custom builders. One of the leading builders was CGS Performance from Chino Hills, California. Over the years, Ron and Casey Scranton, a father and son team, have won numerous prestigious manufacturer awards from Ford at SEMA. 2014 marked CGS' 28th SEMA build with Ford.

Ford delivered the 2015 Mustang to CGS Performance on September 23, 2014. With only six weeks to complete the build, CGS was able to finish the project in five weeks, with one week to spare before the

car had to be delivered to the Las Vegas Convention Center. The Mustang was driven into the Central Hall where it was displayed in the Ford mezzanine display area on Sunday, November 2.

We were invited to set up camp and witness firsthand the CGS 2015 Ford Mustang SEMA transformation. After capturing more than 2000 images of the build, we had a deep pool from which to select the best images. We wanted to highlight the Mustang's journey for you. Here are just a few of those images for you to enjoy. Follow along as Casey and Ron Scranton, Robert Henry, Brett Oakes, Andy Meeh, and David and Greg Engle work their magic to build this SEMA Ford Award Winning 2015 Mustang project.



■ The cockpit received a racier look and feel with a 6-speed short shifter and a remote push-button start, as well as a sport steering wheel with multiple controls.



■ The team chose a pair of Recaro high-bolster racing bucket seats, with forward-back sliding rack, up-down action and tilt seatbacks featuring shoulder harness ports.

CGS 2015 MUSTANG BUILD SHEET

CGS PERFORMANCE
CHINO, CALIFORNIA

BUILDERS/OWNERS:
CASEY SCRANTON AND RON SCRANTON

CGS PERFORMANCE TEAM:

- Casey Scranton
- Ron Scranton
- Ryder Scranton
- Brett Oakes
- Robert Henry
- Andy Meeh
- David and Greg Engle
- Kris Horton

BASE VEHICLE:

- 2015 Mustang GT

DRIVELINE PARTS:

- Ford 5.0 V-8 Coyote Engine, 435-bhp stock and 740 bhp when finished
- 6-speed manual (P8F/400A) transmission
- Whipple twin-screw roots-style front-feed Supercharger with Crusher 132-mm oval throttle body
- Whipple billet aluminum pulley mounting bracket
- Whipple 8-rib billet aluminum pulleys
- Whipple 8-rib serpentine belt
- Whipple heat exchanger
- Whipple intercooler and 2.4-gal. aluminum reservoir tank
- Cal Pony Cars carbon-fiber valve covers
- CGS Performance cat-back exhaust system
- McLeod clutch
- J.E. Reel Driveline driveshaft

CHASSIS PARTS:

- Engle Bros. 20-gal. aluminum gas tank and cover
- Cal Pony Cars hood strut lift kit
- Chassis Works Engineering FAB-9 rear-end housing
- Chassis Works Engineering back-half subframe
- Chassis Works Engineering 4-bar, rear suspension
- Chassis Works Engineering Watts-link
- Chassis Works Engineering Cantilevered rear torsion bar
- Chassis Works Engineering Vari coilover adjustable shocks with reservoirs
- Strange Engineering ST 35-spline axles
- Strange Engineering third-

- member/posi-unit 4.11 gears
- Engle Bros. rear inner wheel tubs
- Engle Bros. rear frame clip sheet metal
- Engle Bros. trunk sheet metal floor
- Eibach Suspension 1.5-in. front lowering springs

BRAKES:

- Brembo front: 15-in. cross-drilled, ball-milled, vented rotors
- Brembo front: 6-piston billet aluminum calipers
- Brembo rear: 15-in. cross-drilled, ball-milled, vented rotors
- Brembo rear: 4-piston billet aluminum calipers
- Brembo rear: GT Series 1-piston hand parking brake

WHEELS AND TIRES:

- Kompression 3-piece forged aluminum
- Front: 22 x 8.5
- Rear: 24 x 15 with 3.5-in. backsparing
- Pirelli P Zero Nero tire
- Front: 255/30ZR-22XL
- Rear: 405/25ZR-24XL

BODY MODIFICATIONS:

- Extreme Dimensions carbon-fiber front and side aero-splitters
- AXALTA Coatings Boyd Red/Jet Black/Silver/Clear paint
- 3M paint prep and finish detailing compounds, polishes and waxes

INTERIOR MODIFICATIONS:

- Pecca Leather Automotive Interiors Black/Red seats and door panels
- Ultrasuede Interior headliner
- R-Blox sound-deadening material

ACCESSORIES:

- Cover King satin stretch custom car cover

Casey would like to thank his wife Alison for letting him take the time to head up another time-consuming SEMA build.



■ The second step was gutting the interior by removing the front buckets and rear seat, center console, rear/door panels, carpet and headliner.



■ The all-new 2015 Mustang independent rear suspension (IRS) was unbolted and removed to make room for the Chris Alston Chassis Works back-half, subframe with 4-bar, cantilevered torsion bar suspension and VariShock coilover reservoir shocks.



■ Reel Driveline Service in Pomona, California, measured and fabricated a new driveshaft (top) to link the Ford 6-speed manual transmission to the Strange third member.



■ The factory fuel tank was removed to make room for the Engle Bros. aluminum fuel tank.



■ Before Casey flipped the switch on the Lincoln Tomahawk plasma-cutter, the inner trunk and interior were reinforced with welded-in square tubing. This would allow the unibody sheet metal to be removed and prevent the body and structure from flexing or moving afterward. The Lincoln plasma-cutter made cutting through the unibody panels a breeze.



■ Because the Mustang was a unibody design, the triple-layered sheet metal with its multiple compound bends and radiuses gave the Mustang strength and rigidity. As we can see, the entire trunk floor and inner wheel wells were removed all the way to the crossmember bulkhead underneath the back seat.



■ The Chris Alston Chassis Works weld-in, 4 x 2 rectangular tubing 4-link back-half, frame clip later would be fitted with Chris Alston Chassis Works rear suspension components.



■ A Chris Alston Chassis Works FAB9 rear-end housing was gusseted for added strength to eliminate any axle tube flexing. Strange third member with 4.11 gears and a posi-unit was ready to bolt up to the FAB9 rear-end housing. A pair of Strange 35-spline axles was slid into the FAB9 rear-end housing to engage into the Strange third member gearset.



■ The Chris Alston Chassis Works FAB9 rear axle housing and canted 4-bar rear suspension was assembled to the Chris Alston Chassis Works back-half frame clip.



■ Casey and Robert Henry rolled the assembled Chris Alston Chassis Works back-half clip and suspension under the Mustang for preliminary fitment.



■ After aligning/squaring the back-half frame clip with the suspension assembly, it was then removed and cut to fit.



■ The back-half clip was then welded to the rear unibody bulkhead crossmember underneath the rear seat.



■ David and Greg Engle fabricated the massive inner wheel-well tubs and rear back-half frame clip and trunk floor sheet metal.



■ Time to paint. After removing grille, headlights/running lights, front and rear bumpers, door handles, gas tank filler door, hood vents, and other small body components, the Mustang was rolled into the CGS paint booth. The factory black exterior was scuffed using 3M pads and made ready for masking and sealer.



■ Well-known custom painter Andy Meeh from Vista, California, began his color transformation by applying AXALTA Sealer Gray Value Shade 4.



■ The body and door jams were then given color by spraying four coats of AXALTA CGS Red.



■ After spraying AXALTA Super Silver where pinstriping would be laid out, Andy and Casey eyeballed the straight and curved tapelines.



■ The hood center and scalloped areas were then painted with AXALTA Super Jet Black. Then the masking tape was removed.



■ After wiping down the entire body, Andy began to apply the five coats of AXALTA Clear to achieve depth and glistening shine. The Mustang was left in the spray booth overnight to let the clear coats cure.



■ Casey wet-sanded every square inch of the freshly painted sheet metal using 3M products.

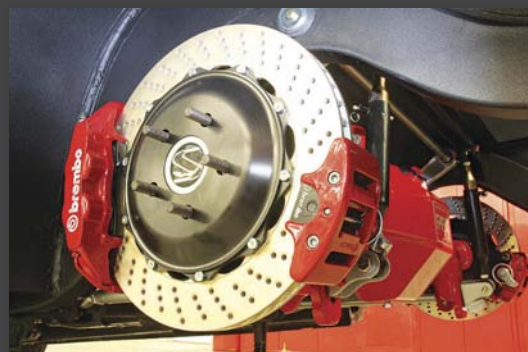


■ A 3M electric variable speed rotary polisher with foam polishing pad was used along with 3M Protect-It machine polishing compound to achieve a high-quality shine.

■ The Chris Alston Chassis Works FAB9 rear-end housing and 4-bar suspension were retrieved from Inland Powder Coating in Ontario, California, and reassembled. A pair of Speedway Motors adjustable mockup shocks were used to locate the FAB9 rear-end housing.



■ After bolting up the Strange third member fitted with 4.11 gears and posi-unit, a pair of Strange 35-spline axles were inserted into the FAB9 rear-end housing. A pair of Brembo 15-in., cross-drilled, ball-milled, vented rotors were slid over the axle studs. Brembo caliper mounting brackets were then bolted in the factory location to anchor the Brembo 4-piston Monoblock billet aluminum calipers. A pair of smaller Brembo hand lever parking brake calipers were also assembled and mounted.





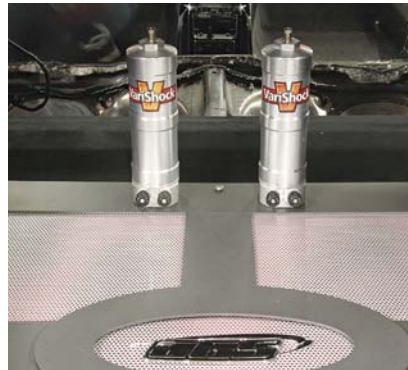
■ A pair of Chris Alston Chassis Works VariShock Q4R 4-Way adjustable remote shocks were fitted with Chris Alston Chassis Works adjustable coil springs, spring seats and adjusting collars. The adjustable coilover shock allows for easy ride height adjustment.



■ A 20-gal. baffled gas tank was designed, fabricated and welded by David and Greg Engle. The Ford factory dual-electric pumps were removed from the Mustang's factory gas tank and utilized with the new tank.



■ A custom-perforated aluminum gas tank cover was designed and fabricated by the Engle Bros. to add a stylish appearance to the trunk floor. The Chris Alston Chassis Works VariShock QuickSet 4 remote-reservoir shocks were installed to help control rebound, extension, and independent high-low piston speed during shock travel. With the gas tank cover installed, it became a base for mounting the VariShock remote-reservoirs in their vertical positions.



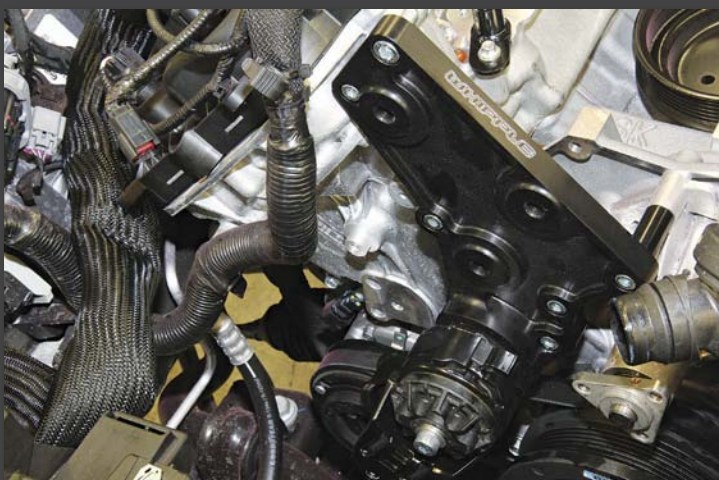
■ To acquire the correct lowered ride-height of the front end, a pair of Eibach (35145.001) 1.5-in. lowering springs were installed over the factory Mustang struts.



■ Dynamic front braking was handled by installing a pair of Brembo 15-in., cross-drilled, vented hats/rotors with billet aluminum 6-piston calipers that used the factory mounting location.



■ To make room for the Whipple Supercharger, Casey removed the Coyote's factory air/throttle body intake manifold system.



■ The Whipple 1-piece CNC billet aluminum pulley bracket was mounted to the engine block.



■ Casey carefully installed the front-feed 2.9L Whipple Supercharger between the Coyote heads and secured it using supplied bolts.



■ The integrated "Crusher" 170-mm oval inlet throttle-body was bolted to the supercharger housing.



■ The Whipple carbon-fiber air intake tube and rubber boot were inserted and secured to the Whipple oval inlet throttle body. To draw cooler air, the Whipple air intake filter box was fitted with the Whipple MAP airflow intake tube, which allowed for the factory MAP sensor to be located and secured. Whipple also provided the S&B conical, pleated, cotton gauze, mesh air filter.



■ The Whipple aluminum heat exchanger was mounted in front of the factory radiator.



■ An oversized aluminum intercooler reservoir tank (1.2 gal.) was mounted under the driver's side headlight and behind the driver's side front bumper.



■ Before starting the engine, Whipple Supercharger Oil was poured into the supercharger oil reservoir with glass oil-level sight-gauge.



■ Whipple engineers have developed a unique PCM calibration that configures all the necessary engine functions including fuel, spark, knock detection, torque management, transmission control and electronic throttle control. Just plug the unit into the OBD II port under the dash on the driver's side and download the OEM engine code. The information is then recalibrated for the Whipple computer and loaded into the system. The result is a neck-snapping 740 bhp.



■ To add support and style when lifting the hood, a pair of California Pony Car billet aluminum CNC-machined mounting brackets and struts were installed.



■ With safety in mind, a Chris Alston Chassis Works bolt-in roll bar hoop with rear down bars and diagonal door bars were installed.



■ The Mustang interior was transformed into a racy cockpit. Pecca leather covered the door panels with black leather and red leather inserts. The factory Recaro high-back bucket seats were covered in matching black leather red inserts and inner bolsters. To make sure driver and passenger backsides stay in their assigned seats, a pair of Crow Enterprises 3-in. 5-point shoulder harnesses, lap and sub belts, with cam-lock quick release were installed.



■ The CGS Mustang was fitted with a set of Pirelli P Zero 255/30ZR-22XL front and Pirelli P Zero 405/25-24 rear tires were installed. With all that power, this car needs those meats to provide grip for the road.



■ A set of custom one-off Kompression forged 3-piece 10-spoke aluminum wheels measuring 22 x 8.5 were mounted up front. Then a pair of Kompression one-off forged 3-piece 10-spoke 24 x 16 deep-dish aluminum wheels were bolted on in the rear. Each of the highly micro-polished wheels received a Cerakote protective clear-coat finish that was sprayed on by Casey.



■ The massive rear wheel/tire combos were tucked tightly into the wheel tubs and secured. They definitely make a statement. With a slight forward rake, the front wheels and tires filled the wheel wells just right. Then a set of Extreme Dimensions carbon-fiber front and side aero-splitters added to the racy attitude of the CGS Mustang.



■ The CGS Mustang was bigger than life on the sides of the CGS Performance hauler as it pulled into Las Vegas to make its debut at the SEMA Show.



■ Throughout SEMA, the CGS 2015 Mustang drew huge crowds under the lights in the Ford mezzanine display. The CGS 2015 Mustang received the prestigious SEMA Ford Design of Excellence Award.



■ The CGS 2015 Mustang concept started with a blank sheet of paper and the rendering 3-D talents of Kris Horton.



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Cat's MEOW

Herb Stuart's EFI, dohc, 32-valve, road race Cougar is the cure for the common Mustang

BY STEPHEN KIM ■ PHOTOGRAPHY BY ROBERT McGAFFIN

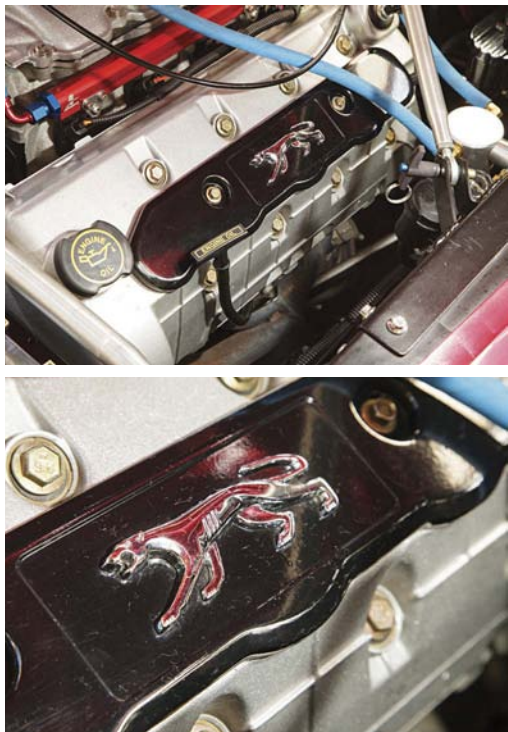


Legend has it that when Ford execs approached Carroll Shelby about modifying the Mustang for road-racing duty, he responded, “How can you, it’s a secretary’s car?” As the success of the GT350 soon proved, Shelby vastly underestimated the performance potential of the Falcon-based platform, as well as his own race prep know-how. However, his reservations reinforced the perception that there’s just something about early first-gen



Mustangs that appeals to the ladies. This might explain why the typical macho muscle-car enthusiast is willing to pay two-to-three times as much money for a fastback model. Some sheet-metal restoration suppliers even sell conversion kits to transform coupes into fastbacks. Fortunately, there's a far easier solution: Buy a Cougar, the Mustang's much brawnier-looking cousin. The money saved will go a long way toward building something really cool, like Herb Stuart's fully modernized, Cobra-powered, fuel-injected, road-course-ready, street bruiser.

■ The Cougar's sheet metal needed some work, but it was in good shape overall. Only the driver-side quarter-panel needed repair, and Herb Stuart replaced it himself.



Like his father and grandfather before him, Stuart was destined to be a Ford guy. Grandpa had a 1931 Model A coupe. Dad drove a 1969 Mustang GT500. After taking a break away from his hobby to raise a family, Stuart bought his son a 1968 Cougar for \$800 as a high school graduation present. The car needed lots of attention, and the father and son team installed a new interior and suspension to get it back on the road. “My son drove it all throughout his college years, and brought it back home after he graduated. One morning the Cougar dropped a valve, so we had to get him another vehicle he could take to grad school,” Stuart recalls.

The Cougar sat neglected for the next several years until Stuart decided to give it a ground-up restoration in 2000. Although he had never tackled a project of this caliber before, Stuart hails from Wisconsin and the Midwestern hot-rodding culture frowns upon hiring others to work on your car. Besides, Stuart teaches auto shop at the local high school, so he knows his way around turning wrenches and laying down welds. Sure, his go-for-broke approach may seem a bit haphazard, but there was method behind the madness. “I bought a rotisserie and started the garage restoration without a solid plan. It was intended to be a learning experience to build upon so we could also someday restore the Model A coupe and Shelby Mustang GT500

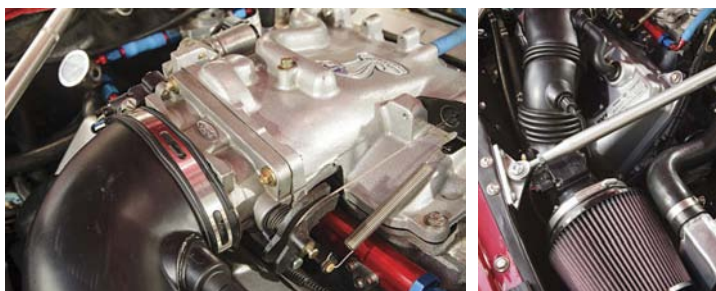
■ **The large dohc cylinder heads of the 4.6-liter Cobra motor are a tight fit inside the Cougar's engine compartment. To make room for the big motor, Herb cut out the factory shock tower and replaced them with custom patch panels.**

that are still in the family,” Stuart explains.

The plan took shape very quickly when Stuart came across an opportunity to mend the Cougar's engine while also earning some extra style points. “Someone dangled a 4.6-liter dohc small-block out of a 1999 Mustang Cobra in front of my face, and I had to have it. It also came with a Tremec 5-speed manual transmission,” Stuart recalls. To make it all work, he ordered up a reprogrammed factory ECU and wiring harness from The Detail Zone, which allowed running the factory a/c system through the OE computer. Considering that he already planned on upgrading the antiquated front suspension with a Rod & Custom Motorsports Mustang II setup—a system that includes

tubular control arms, coilovers and rack-and-pinion steering—the Cougar was suddenly taking on a fully modernized persona. Consequently, Stuart applied the same Pro Touring approach throughout the rest of the car by replacing the entire leaf spring rear suspension and driveline with a RideTech 4-link system, and a Currie 9-in. rear end fitted with 31-spline axles and 4.11:1 gears. Other chassis enhancements include custom subframe connectors, a Chassisworks rollbar and a Stam-Bar rear sway bar.

With late-model EFI firepower now providing propulsion and a cutting-edge suspension upping the cornering ante, Stuart needed a way to stick it all to the pavement and bring it to a halt. For stopping power, he upgraded the brakes to a set





■ The shifter isn't a retro piece, but rather an old T-handle that had been laying around Herb's garage for decades. It's bolted to a Hurst gear lever.

of Wilwood 12.19-in. discs at each corner. The front calipers utilize six pistons to clamp down on the rotors with authority, while the rear calipers make do with four pistons. Although the Cougar isn't blessed with the most accommodating wheel wells, Herb took advantage of the available real estate by installing 17 x 8-in. American Racing Torq-Thrust II wheels. They're wrapped in Dunlop rubber measuring 245/40-17 up front and 275/40-17 in the rear.

As the Cougar neared completion, the performance potential of its new engine and chassis had Stuart itching to hang it all out on the road course. This required putting together an interior that was both functional for track use, yet comfortable for street driving. As such, he installed a set of Corbeau racing buckets and 4-point harnesses. For the sake of consistency, he covered the rear seats and door panels in matching leather and micro-suede. Since track driving requires keeping a close eye on a car's vitals,

Stuart fabricated a custom center gauge panel that mounts in front of the shifter, and houses the oil pressure, water temperature and volt gauges. While so much focus on track performance might suggest that street comfort isn't a priority, that's certainly not the case. He rigged up the factory Cobra a/c system to function seamlessly inside the Cougar's cabin; he also installed Electric Life power windows. Even the rearview mirror is a modern auto-darkening unit that has an integrated thermometer, compass and map lights.

Now that the car is complete, Stuart loves putting all that modern hardware to good use on the road course. He's a regular at track days at Road America, Gingerman Raceway, Autobahn Country Club and Blackhawk Farms. He also enjoys taking the Cougar to the drag strip every now and then, where it has run a best elapsed time of 13.7 second at 102 mph in the quarter mile. "Every winter brings a new mod. A driven hot rod is never really done," he quips. "We have



a ton of fun running the Cougar on the street and at track events. Our biggest thrill was being selected to attend the 2012 Optima Ultimate Street Car Invitational in Las Vegas. It's an event where select cars compete on the road course and in a series of braking and handling tests. My school district was very accommodating, and I had a great time racing and spending time with some of my good friends who went with me."

Considering that the craftsmanship and performance of the Cougar exceeds that of many pro-built hot rods, it's truly astounding that Stuart built the entire car in his garage. By putting the money saved in buying a Cougar over a Mustang toward high-tech engine and chassis hardware, he got himself a lot more bang for his



■ As a avid road racer, Herb knows all of his car's pertinent specs. It tips the scales at 3300 lb., and lays down 295 rear-wheel horsepower on the chassis dyno.



hot-rodding buck. Obviously, do-it-yourself projects often require a large supporting cast, and Stuart thanks his wife, Johanne, as well and the many friends and family members who contributed to the project. Interestingly, the car's title is still in the name of Stuart's son, but he doesn't plan on handing it over to its legal owner any time soon. "His name might be on the title, but he's going to need to bring a big bucket of cash to get it back." **MD**



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Stack the Deck

Plug and play your EFI for more power and a retro look

BY DAN BURRILL ■ PHOTOS BY THE AUTHOR

Hot rodders and car builders by their nature are visionaries. They are able to start with an idea, imagine how it is going to work and go with it, no matter how long it takes. Scott Merrell of Classic Connection is a good example. Three years ago, Merrell along with two other like-minded individuals bought two Ford GT40 Mark 4 chassis and bodies from Fran Hall at Race Car Replicas (RCR). Then, instead of the traditional 427 FE engine/transaxle combination, they decided to power these cars with the new Ford Coyote crate engine.



For those who are new to this, Ford Racing's all-aluminum 5.0-liter Mustang crate engine is a modern 5.0-liter 32-valve dohc V-8 that uses advanced features such as Twin Independent Variable Camshaft Timing (Ti-VCT) to deliver 420 bhp at 6500 rpm and 390 ft.-lb.-plus of torque at 4250 rpm (with premium fuel). The lightweight aluminum cylinder block features cross-bolted main bearing caps and thick main bearing bulkheads for bottom-end strength. Optimized oil drainback and windage control improves high-rpm performance. The headers that come with the engine are designed for any late model Mustang, or an early model Mustang that has chassis modifications, or early street rods or pickups. These headers can be used by hooking an exhaust system to them, and they work very well.

Now comes the rub. Merrell and his crew want to use the sexy, exotic, 8-Stack fuel injection system. It puts out more power than the stock fuel-injection unit, and it has the retro look of the 1960s. The only problem was that no one made the intake manifold, or the wiring harnesses or the computer for that matter, to make it all work.

"Well, I approached Bob Hockenberry, who at that time owned 8-Stack Injection, and Dale Schaller, his number one guy, about building the mechanical system for the Ford Coyote configuration," says Merrell. "And they both got on board with it in very short order."

So Merrell ordered three of the Coyote crate engines from Ford. Two of the engines were shipped to his shop in Sequim, Washington, for fitting purposes in the two GT40 cars. The other engine was shipped to 8-Stack in Youngstown, Ohio, so they could do the pattern work and engineering to build the manifold and the Weber look-alike throttle bodies with the internal fuel injectors.

"The whole concept behind this was to build a 21st century technology engine, with 1965 looks, and do it with a computer system that is plug-and-play," says Merrell. "The other important goal was that there was to be no after-install tuning."

The only way this concept could be utilized was by having a consistent engine supply with a consistent base, with no internal modifications. So the Ford coyote engine at that time was the perfect choice, not only because of technology that was in it, but also because Ford Motor Company came out and said that that was going



■ The crate engines sold by Ford are sold without the alternator, belt and pulleys. These parts are sold separately in what Ford calls their alternator kit.

to be their performance engine for the next 10 years, and it was also going to be their production motor for their Mustangs and light trucks. The Coyote is a ready-made base engine platform.

Ford's engine program supported Merrell's idea to build a computer program to make it plug-and-play, with the idea that it could be used in other applications. As it turned out, it's taken a year and a half to put the mechanical parts together on the engine. Then it's taken another year and a half to find a quality computer manufacturer, and a quality programming company, to build the program.

"The computer and the program are the brains," Merrell says. "We needed these two companies to satisfy my ideas as far as building a real out-of-the-box plug-and-play aftermarket fuel-injection system that looks like 1965 Weber carburetors."

The engines being used are right out-of-the-box, 5-liter, 302-cu.-in. and weigh 400 lb.

each. This is 60 lb. less than the original small-block Ford. This is the only normally aspirated engine that's ever been designed and built that is capable of 1.5 bhp per cubic inch. That tells you how good the design is.

The next obstacle, once they got to the point of seeing a reasonable time frame for having the dyno work done and the computer program built and functioning, was they needed a test bed.

The two Mark 4 GT40s were not and are not even close to being completed. So, late last year Merrell worked out a deal with Karen Salvaggio to purchase her old Factory Five Daytona Coupe. It was a dedicated race car and had been retired when she built her new Daytona Coupe.

So Here's How it Works

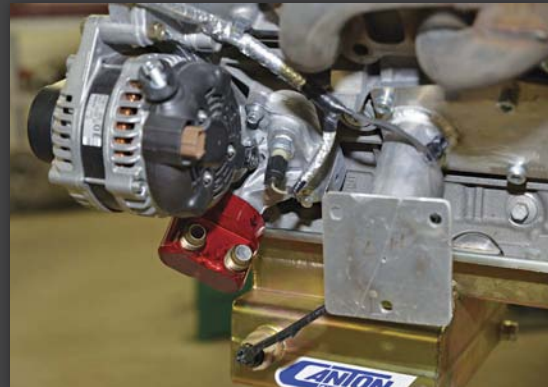
For this application, the Canton oil pan is installed on the engine. The stock Ford pan is a rear sump operation. This engine was designed for the Mustang and they had to go to the rear sump pan because of the "K" member. Most of the performance applications don't have a "K" member so they use front sump pans rather than rear sump pans. It is a better system because the oil is that much closer to the oil pump, which means less chance of having a cavitation problem. Not every vehicle will accept the front sump pan and, if that's the case, we use the stock pan. Also the Canton oil pan is used with this engine because it has a deeper front sump.



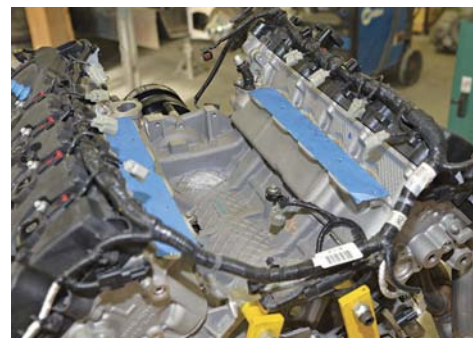
■ These engines come from Ford with a 1-piece plastic pan gasket, with a built-in windage tray.



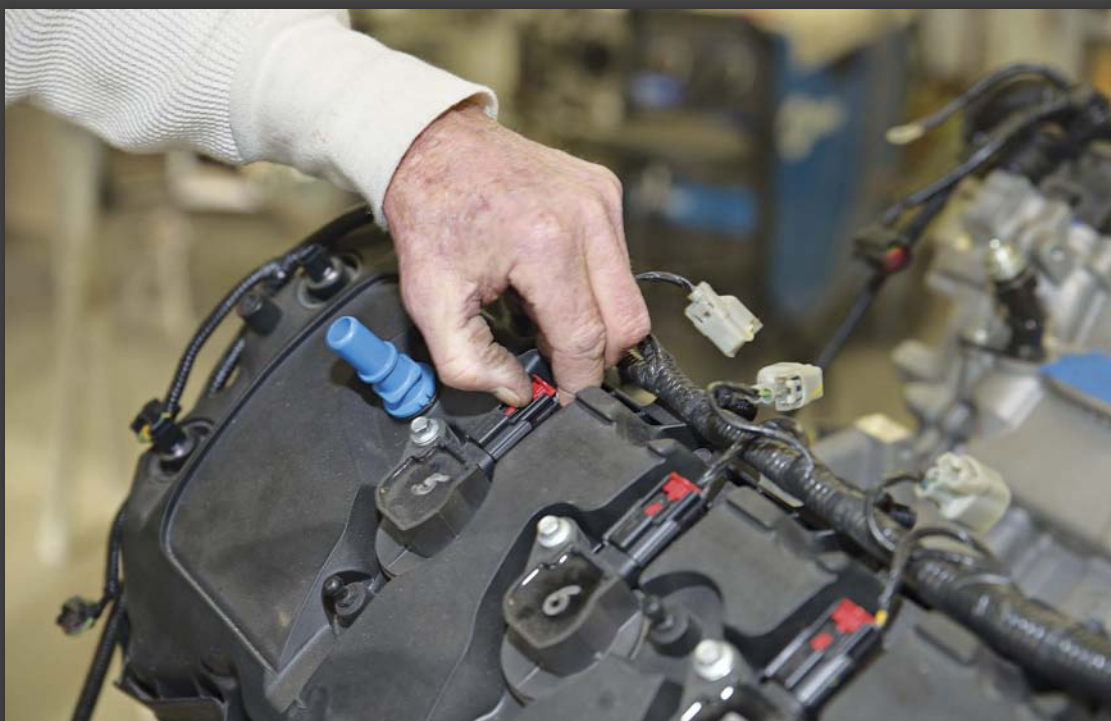
■ The Serpentine belt on this engine is a very deceiving belt configuration and routing. When you first remove the belt from the manufacturer's sleeve, and you look at the 68-in. length, it is difficult to figure out how it is routed on the front of the engine, unless you have a factory diagram. Here we have mounted the turnkey AC compressor and aftermarket power steering pulley system.



■ Due to space restrictions, we use the remote oil cooler and oil filter adaptor. It is located on the left side of the engine where the oil filter normally goes.



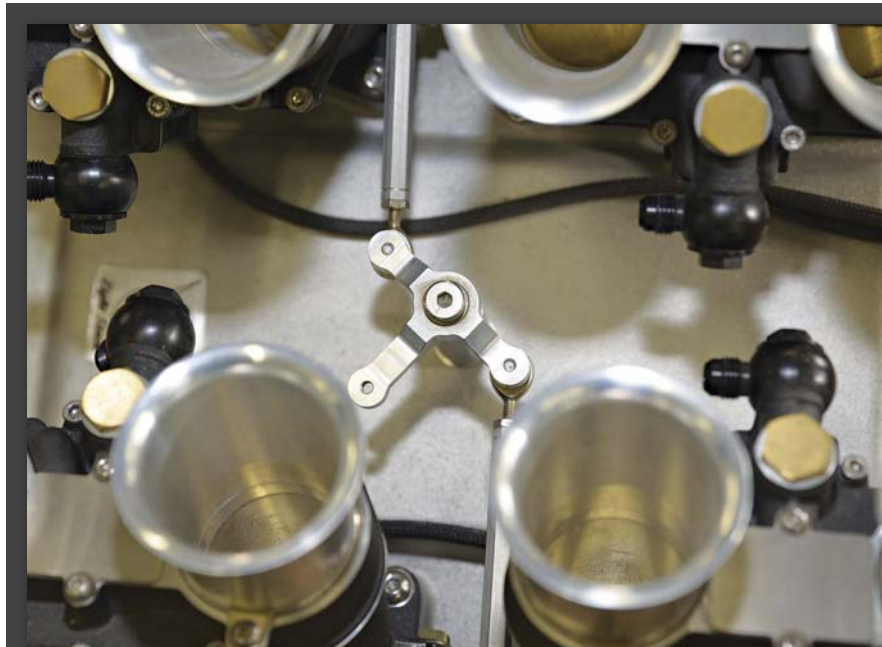
■ Next up, the stock harness is removed from the intake manifold and set aside. Note the deep open valley below the intake manifold.



■ Starting at the front, the coil pack connectors are carefully removed. On the front of the heads are the leads for the cam sensors. The gray plugs on the top of the coil pack covers are for the injectors on the stock manifold. The coil packs sit on top of the spark plugs.



■ The very impressive 8-Stack system has that shiny retro fuel-injection look. (In the 1960s, guys were putting the original Webers on everything imaginable, including the 35-hp Volkswagen Beetles.)



■ 8-Stack uses this unique bell crank to open and close the throttles.

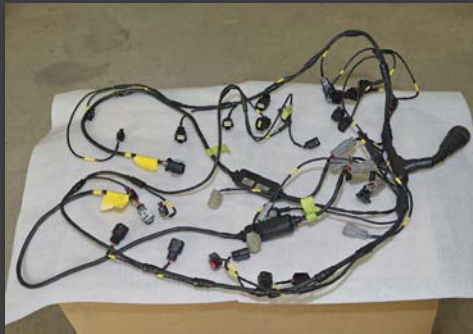


■ These are the green intake O ring that are located on the bottom of the stock Ford intake manifold. They are reusable. This manifold has been CNC-machined to accept this type O rings. When changing out the stock manifold for the 8-Stack manifold, simply remove the green O ring and install them in the new manifold. These are installed dry, no lubricant.

“For an old school guy like me, who has worn out about a dozen gasket scrapers over the course of my lifetime, these new O ring, and the oil pan and the windage tray are really neat innovations from Ford,” says Merrell. “You can install and remove them as many times as you want without having to use any gasket seal or lubricant.”



■ Next comes the trial fit. Once we are confident that we are ready, the tape is removed and the manifold is fitted and bolted in place.



■ The harness comes ready to plug in and everything is labeled, so there is no wondering what comes next.



■ Going from the stock Ford fuel injection to the 8-Stack is a very easy change to make. As we stated before, this literally is a plug-and-play system. This is the forward section of the ACM harness, and this is the part that we are going to attach to the engine. It has an aircraft quality, waterproof, 60-pin quick disconnect, that is designed to be disconnected at the firewall.

“We have incorporated this water-sealed quick disconnect in the harness so that if a customer needs to pull the engine out of their vehicle, they don’t have to tear out all the wiring under the dashboard just to get the engine out,” says Merrell. “Also note the yellow tags. Every connection on this harness is marked and coded as to where it goes on the engine.”



■ “When matching up and plugging in the connectors, the easiest way to do it is to start at the front and work your way back,” says Merrell. “Read the labels and plug it in. All the wires are marked.”



■ These are the two O2 sensor leads and the drivers for the O2 sensors. These two are exceptionally long because they don’t fit this set of headers. They are exceptionally long because they go in the Daytona Coupe. These can be custom-built to any length depending on the customer’s header system.



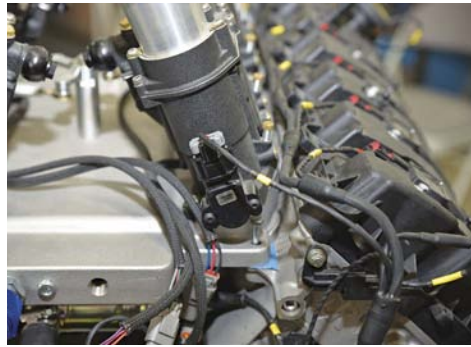
■ We also use an IAC system (Idle air control motor). This is what stabilizes the airflow system at 1500 rpm and less. And that goes on just like that. The reason is that this 8-Stack system has a difficult time balancing airflow at low rpms, so this IAC works off a vacuum signal in the computer and the computer opens and closes the IAC to balance the fuel mixture in the vacuum at low rpms.



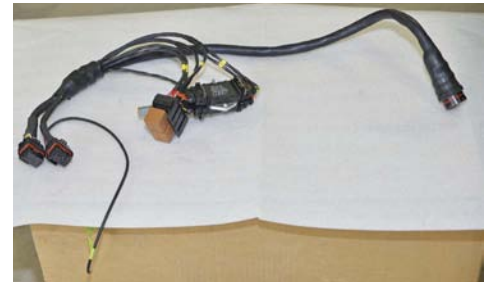
■ These are the cam sensor connectors. Intake side at the top, exhaust side is at the bottom.



■ Hooking up the coils 5, 6, 7 and 8.



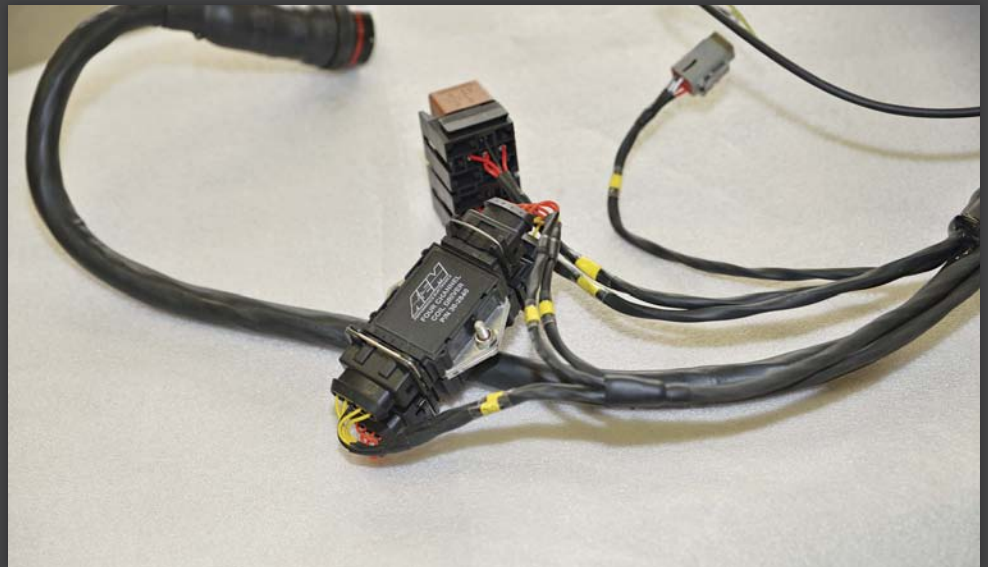
■ This is the throttle position sensor.



■ This is the rest of the harness from the connector back to the computer. It starts at the firewall and goes in under the dashboard.



■ Hooking up the coils 5, 6, 7 and 8.



■ These are the drivers for the coil pack.



■ Hooking up the coils 5, 6, 7 and 8.

"So basically, when the customer gets this unit, and they get everything wired up on the engine, inside the car the other half of this quick disconnect has got the power leads and the three or four wires that go to the ignition switch and the starter, and that powers this computer," Merrell says.



■ Now we are ready for the fuel system. We are installing the fuel manifold system for this particular engine because it will be used primarily on the race track. This is a parallel fuel system. This system is used to ensure that the last two injectors don't run lean, which is a possibility with the street setup under heavy use. All cylinders receive the same amount of fuel with the parallel fuel system.



■ This custom application required a custom-built thermostat housing and expansion tank with the radiator service cap. It was fabricated by Merrell for the high-performance application, and it was necessary for fitting the Coyote engine in the Daytona Coupe for testing and tuning.

REBUILDING A RETIRED OLD RACE CAR FOR THE TEST BED



In 1964–1965, Peter Brock designed the Shelby Daytona Coupe to compete with Ferrari for the FIA World Manufacturers Championship, which they won in 1965. There were six original cars built and all six still survive today. All six are collectors' cars and carry a high value.

Several kit car builders have re-created the Daytona Coupe. Factory Five's car is at the top of the list and some people buy them to build as dedicated race cars. Karen Salvaggio is one of those people. She has won two national championships with Factory Five roadsters. She and her now deceased husband bought this Daytona Coupe in 2004. She raced this car for seven years, and then the car was retired when she had a new one built. This car won two 25-hour races at Thunder Hill, California. The retired car has been sitting in a museum.

Now, as we mentioned, Merrell's GT40s were not ready and he needed a race car for a test bed for the new engine and 8-Stack combination. So he called Salvaggio and ultimately bought the old race car. Former Shelby driver, Alan Grant, towed the car up to Merrell's shop in Sequim, Washington.



THERE WAS A TREMENDOUS AMOUNT OF MODIFICATION TO THIS CAR TO MAKE EVERYTHING FIT, SO IT REALLY WOUND UP BEING A ONE-OFF BY THE TIME THE CAR WAS READY TO GO TO THE TRACK.

Of course, the Coupe needed to be completely dismantled. All new parts needed to be ordered or fabricated, and the car needed to be extensively modified to accept the new Coyote engine. Coupe Connection has a full machine shop, which made it a lot easier to do fabrication and machining in-house, and not have to farm it out.

Merrell, along with Larry Reece and Duane Babinski did all the work on the Coupe, with the exception of the ceramic coating on the headers and side pipes. Working non-stop, the crew of three were able to have the car ready for the track in just a few months. The new paint scheme was designed and applied by Merrell to promote Coupe Connection, and to stand out from the other Daytona Coupes that are painted with the Shelby Identity.

Hand-lettered, just above the left-hand door, are the names of the three drivers: "Curly, Larry and Moe."

The wheels are 17-in. with 9.5-in. in the front and 10.5-in. in the rear. Tires are Nitto 555 and the sizes are 275/R-17 in the front and 315/R-17 in the rear. The wheels are an aftermarket



copy of the Ford Mustang FR 500 that came from American Muscle.

The instruments are all Stewart Warner analog. The transmission is a Tremec T-600 5-speed bolted up to the Ford Coyote engine, with independent rear suspension with 2:73 gears. The car has a stock Ford Mustang rack with power steering, a KRC variable pressure pump and a cooler.

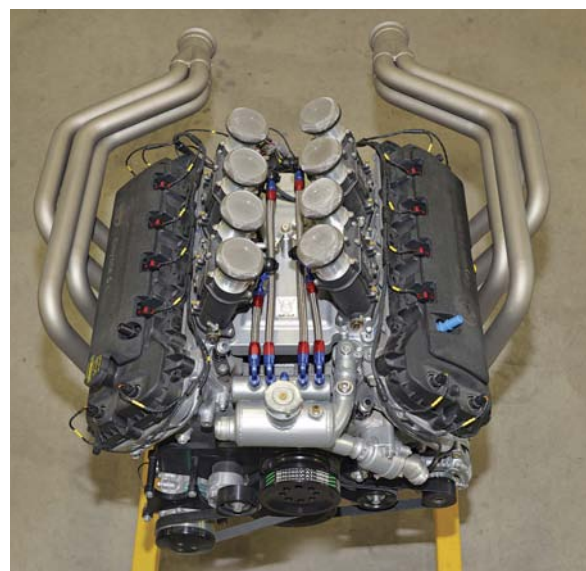
"This allows me to change the pressure in the rack to either increase or decrease the speed of the steering and also the feel in the steering wheel," Merrell says.

There was a tremendous amount of modification to this car to make everything fit, so it really wound up being a one-off by the time the car was ready to go to the track.





■ And for the final touch, the custom cast-aluminum coil pack covers are installed.



■ The complete package with the headers for the GT40.



■ The proof is in the Dyno verification. By going to the new 8-Stack fuel injection, Merrell and his team have increased the horsepower rating, with no internal changes to the engine, from Ford's advertised 420 bhp to a verified 438 bhp. They also increased the peak torque rpm from 4200 to 5350, which is a huge gain. The only change made to the engine was to put on a competition oil pan, just for safety. This pan was built by Merrell and holds about 10 quarts; the whole system is about 12 quarts.

MD

SOURCES

Coupe Connection
145 Bravo Rd.
Port Angeles, WA 98362
(360) 461-7248
www.coupeconnection.com

Borla California
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A Fully Modern Big-Block

This 1967 Camaro is the
Pure Spirit of Pro Mod

BY TITUS BLOOM

Meet Mike Norcia. In 1978, during his junior year in high school, he bought an 11-year-old Camaro, which has remained in his possession since. Today, the car is rebuilt in the style of a Pro Street machine, or perhaps more accurately a Pro Mod Street. Endowed with a 572-cu.-in. power unit (9.4-liter), GM's biggest crate engine and rated at 620 bhp/650 tq the car is fast—operating in the high 9-second range over the quarter mile.

Norcia, who with his brother Pat, heads Ram Clutches in Columbia, South Carolina, was born in Canton, Ohio, and a few years ago, began to relish the challenge of shaping the hot rod just the way he wanted it. His affection for race cars and hot rods was awakened at an early age—undoubtedly transmitted by his father, John, who had formed the noted competition clutch company in the early 1970s.



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“At the time I bought the car,” says Norcia, “I would have been satisfied with a 1967, 1968 or 1969 model. Although the body of the 1969 Camaro is different, the dissimilarities between my 1967 car and the 1968 model are minor—detected mainly in the grille, the quarter vent windows on the doors and the taillights.” Investigation into the serial numbers indicated the car was a Rally Sport model. The RS option represented an appearance package that included concealed headlights, revised taillights with backup lights under the rear bumper, RS badging and exterior bright trim.

“For \$1200,” Norcia says, “I got a clean body with 34,000 miles of use, a Muncie M22 transmission, a Dana rear end and enlarged rear wheel wells, which indicated that the car had probably seen competition use. In the engine bay, it sported a nice 327-cu.-in. power unit—split down both sides of the block!” Abandoned in a barn over several winters and with a cooling system filled with water without antifreeze, crankcase destruction was inevitable. “I suspected the only tools the previous owner used to work on this car



THE ENGINE WAS REPLACED WITH A **FAIRLY RADICAL 350** AND THE CAR WAS **PRESSED INTO ACTION** FOR ANOTHER YEAR UNTIL ONE EVENING WHEN SETTING THE VALVES, OIL ISSUED FROM **THE EXHAUST AND UP THE GARAGE DOOR BEHIND.**

were a dead-blow hammer and a blow torch!” Norcia says.

The engine was replaced with a fairly radical 350 and the car was pressed into action for another year until one evening when setting the valves, oil issued from the exhaust and up the garage door behind. This was the result of multiple valve-seal failures on one side, following some spirited driving the night before.

The next engine combo was an LT-1 from a 1970 Corvette. “Around this same time,” says Norcia, “and with the help of a friend we stripped the car and repainted it. We chose Corvette Dark Red and incorporated Silver Blue flames coming off the front rally stripe. Being a typical 17-year-old, I didn’t do as good a job as I could have with the paintwork. But it certainly was an attention-getter!”

■ **At 572 cu. in., this is Chevy’s largest crate engine—and it delivers a blistering 620 bhp.**

By late 1983, however, Ram had moved its competition clutch business from Canton, Ohio, to South Carolina and the car remained idle for over a decade. Norcia devoted most of his energies to the preparation of racing clutches and nitrous systems, working with several Top Sportsman teams in the infancy of Pro Modified racing. Then out of the blue in 1994, he towed the car to Stroupe Race Cars in Kings Mountain, North Carolina, for a complete





IN THE ENGINE BAY, DYNATEC, AWARE OF THE NECESSARY ENGINE OFFSET, PRODUCED AN ADMIRABLE HEADER PACKAGE THAT ADAPTS THE BIG-BLOCK TO THE CAMARO. WITH COATED PIPES IN DURABLE SILVER, EXHAUST GASES FLOW INTO SUMMIT STAINLESS MUFFLERS WITH SIDE EXITS.

12-point roll cage and back-half job—rebuilding the car from the firewall to the back end. The intention was to develop it as a Pro Street car.

But at the same time he started a family and, as a consequence, the car languished in the garage for the next 17 years. Then in late 2010, his son began showing an interest in reviving the project. The body was sent to Color by Weasel in Lugoff, South Carolina,

and the car was completely rebuilt to its current condition, incorporating much of what he had learned over the years—“mainly patience!” he bristles.

When recounting the more memorable events of the project, the transmission initially came to mind. With the engine in place and while installing the Tremec TKO 5-speed gearbox, he encountered a peculiar difficulty. Fortunately, Hurst Driveline had figured out that

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■ **The engine installation is exceptionally clean and simple, highlighting the basic V-8 design.**

to install the big-block in the Camaro an offset of around 0.750-in. to the right (the passenger side) was required. As a result, the transmission location is different from that of stock and for this reason a special crossmember is required.

“Transmissions vary and some Pro Street guys even run Lencos,” Norcia says, “but I use a 5-speed Tremec TKO 600, which has an overdrive top gear. It transmits through a Ford 9-in. rear end with a Strange spool, 4.10 gear and axles. This gearing arrangement generates around 55 mph at 2000 rpm, which suits my street driving.” The Tremec, incidentally, uses its own shifter with a round-style knob by Lokar, who also provided the pedals and pads.

Inside the Quicktime bell housing, which adapts the big-block to the TKO, Norcia, predictably, used a Ram Force 10.5 dual-disc clutch pack with their new hydraulic release bearing and connected the system to an American Powertrain master cylinder. Perhaps the best news for Tremec enthusiasts is that Ram recently announced information of their hydraulic release bearing development program that adapts Tremec’s range of transmissions to all muscle cars.

As the power increases, so too must the capacity of the rear tires to provide additional traction. Transmitting its power to the road is achieved by Billet Specialties Comp 5 wheels and Mickey Thompson 15 x 31.5-18 Sportsman radials (fronts: 15 x 5).

In the engine bay, Dynatec, aware of the necessary engine

offset, produced an admirable header package that adapts the big-block to the Camaro. With coated pipes in durable silver, exhaust gases flow into Summit stainless mufflers with side exits. Speaking of the acclaimed Ohio speed shop, the car also uses a Summit aluminum radiator with a Flex-a-Lite fan and shroud. “I



tried several fans,” Norcia says, “but this one is superior to the others. It maintains a reliable 192 degrees Fahrenheit regardless of ambient conditions.”

To increase the spark charge at the plugs, and therefore ignite the air-fuel mixture more completely, an MSD 6AL ignition box was installed in tandem with its electronic distributor and Blaster coil. Wires are by Moroso. More notably, perhaps, is that all the original wiring was replaced with American Autowire’s Highway series. “It’s a great deal,” Norcia says, “because you can conveniently rewire the entire car; it even accommodates an electric fan. You just terminate the ends and make the connections where you need them.” A 12-volt XS Power battery provides the electrical



■ The interior shows the same attention to detail as the rest of the car—the true spirit of Pro Mod Street.

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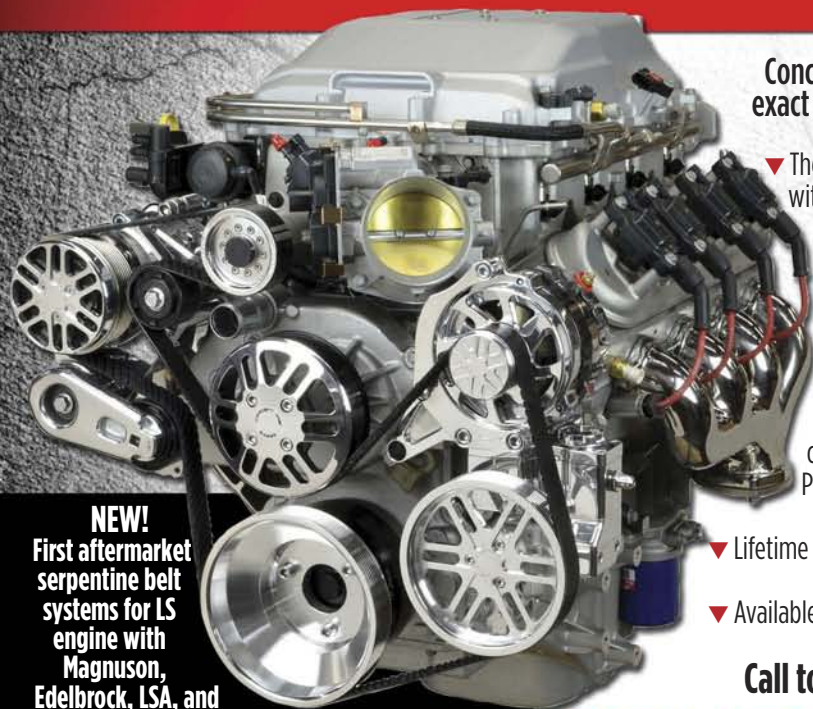
To feed the thirsty 572 big-block, the excellent Aeromotive A1000 fuel pump was put to good use. Pumping from a modest 12-gal. fuel cell, the pump is assisted by an Aeromotive fuel-pressure regulator and two filters; one placed before the pump, the other before the carburetor. Lubrication for the engine, transmission and rear end is entrusted to Royal Purple.



Common interests get projects going, but it is shared experiences that accumulate the memories—it builds the community—as no doubt Norcia and his pals will confirm. “I have always been a Pro Street and a big-cubic-inch admirer, and on this project we pursued a theme of ‘modern Pro Street’ or, put another way, what would the car look like if it were built to match the style of high-horsepower race cars today? The result is this—what I term Pro Mod Street. Could we be starting a new trend?”



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CONCEPT ONE



The year 1970 might be considered the pinnacle of the production muscle car wars that had been going on for six years. In stock car racing, the OEMs were trying to slide special components and experimental setups through tech inspections. In drag racing, these same manufacturers specifically engineered products that they supplied to compete in the Super Stock, Stock or Factory Experimental classes, championing their victories for attention while escalating performance packages in their vehicle catalogs. More importantly, the philosophy of “Win on Sunday, Sell on Monday” was being rewarded by buyers who flocked to the showrooms to acquire the biggest, the baddest, and the newest offerings as they became available.

MAYA'S SILVER

A sterling specimen

BY LOU LETO ■ PHOTOS BY THE AUTHOR AND SCOTT SHEW

LS6



I LIKED THE DRIVE, AND I LIKED THE NOISE. THAT EXPERIENCE STAYED WITH ME. AFTER THAT, I ALWAYS WANTED ONE.

■ **The rear end shows off dual exhaust tips and the resilient bumper insert. Note SS identification subtly added on the passenger side. Desirable, yet rare Cowl Induction hood option included hood pins.**

Chevrolet, already successfully selling Super Sport packages in Chevelles, had secretly evolved the 396- to 402-cu.-in. while still marketing their Big Block as the SS396. In 1970, GM relinquished its internal mandate that limited its intermediate models to 400 cubes. Chevrolet pulled out all the stops, and offered its biggest big-block engine yet, at 454 cu. in.

The most amped-up version of this bigger-than-big big-block, the LS6, came with a conservative 450-bhp rating. With 11:1 compression, rectangular port high-performance heads, a solid lifter cam and an aluminum intake topped with a 780 cfm Holley carburetor, it was built and offered for one purpose: win. Win the advertised horsepower ratings against the Dodge/Plymouth 426 Hemis, the Boss 429 from Ford, and the 455 offerings from

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Chevrolet's GM cousins at Buick and Oldsmobile. No other manufacturer had the boldness to offer that high a rating in the entire era. The LS6 option caused a sensation that continues through today, 45 years later. It was rare then, representing less than 1 percent of the total 1970 Chevelle production, and it is even rarer now. A quick check of the dedicated website for LS6 registry reveals that only 146 are currently identified.

With only a few thousand originally built, how could this number of documented survivors now be so small? The attrition factor of vehicles raced for over four decades on dark remote highways and/or sanctioned tracks, took its toll on engines, drivetrains and sheet metal. They

■ **Discreet emblem on front fenders was the only indication that this SS was equipped with a 454 engine, yet the LS6 option remains a secret. Tires of the era were sized by letters. Polyglas was a desirable performance tire.**



were cars. Muscle cars. Built to test who was the undisputed king of the road wherever the venue might be: stoplights, two lanes or racetracks. While the high-performance engines, heavy-duty transmissions and positraction rear axles, were capable enough, not all drivers were. Breakage from missed

shifts often meant engine or transmission replacement. A known phrase, proven again and again during many exhibitions of speed on the blacktop, is that all the big, heavy, high-horsepower, muscle cars were typically "faster than their brakes," even if equipped with the front disc brake option. The





■ Side marker lamps were becoming more stylized with each model. The rectangular theme continued in the 1970-only taillights.

LS6 Chevelles that survived all the mechanical carnage and wrecks are considered in today's collector market as the Holy Grail. In 2006, the most successful drag racing 1970 LS6 Chevelle in history went on the block at a Scottsdale auction, and after frenzied bidding a sale was hammered at \$1.2 million.

Bill Maya confesses, "My first impression of a high-horsepower 1970 Chevelle was during a ride in the late 1970s from a friend of a friend." While he wasn't offered a chance to get behind the wheel, "I liked the drive, and



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■ This is a high option example, as indicated by the bucket seats and center console. The dashboard is all business for a factory muscle car, with a full complement of gauges. The clock still works!

I liked the noise. That experience stayed with me. After that, I always wanted one.”

Twenty years ago, Bill and his wife Kim were in a position to start collecting cars, always seeking out the most impeccable examples of what they liked. “In 2008, during a visit to a classic car auction in Monterey during Speed Week,” he stumbled upon his dream Chevelle. “After checking it out thoroughly, I learned that this LS6 had just been restored to perfection. It had only two miles on it since finished. Kim encouraged me to bid on the car,” he says.

Their LS6 is a numbers-matching example. It came with the build sheet that revealed it was built in the Leeds plant in Kansas City, Missouri, and delivered to Witte Chevrolet in Blue Island,



■ No restoration is complete without detailed attention to upholstery and cabin touch points.

Illinois. It was produced in Cortez Silver, with black SS stripes, along with the optional black vinyl roof. Studying the original build sheet makes Maya wish that he could “find and talk with the first owner, as someone specified the performance options,” he concedes, “including the LS6 engine, along with the M-22 4-speed that was the mandatory heavy-duty version if a manual transmission was selected to back up the 450-hp engine.” Positraction and the performance axle ratio were also checked off boxes during the ordering process. The ZL2 ducted hood, boldly labeled as Cowl Induction, has a special flap that opens to allow outside fresh air access to the sealed air cleaner when the pedal is stomped to the metal. While all SS Chevelles featured a dedicated hood design, the highly desirable Cowl Induction option is much rarer.

“The impeccable restoration is what really caught our attention,” admits Maya. All the markings that were affixed during the 1970 factory assembly are preserved or were painstakingly duplicated during the restoration process. The



THE BOLDNESS OF THE BODY STYLING CHANGES FROM THE PRIOR YEAR ARE A DEFINITE STATEMENT THAT THIS CHEVELLE WAS POWERFUL; **THE BLUNT FRONT END**, WITH AN SS-SPECIFIC BLACKED-OUT GRILLE CREATES AN IN-YOUR-FACE ATTITUDE.



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distinctive markings are visible on the cylinder heads, the firewall and on the center section of the rear axle.

Maya is not the only one who appreciates the design features of the 1970 model. The boldness of the body styling changes from the prior year are a definite statement that this Chevelle was powerful; the blunt front end, with an SS-specific blacked-out grille creates an in-your-face attitude. Seen from the side, the bodywork reveals a less than subtle muscular emphasis around the front and rear fenders. The SS-specific rear bumper has a black resilient insert. Overall, the impression is that this is a force to be reckoned with. Remarkably, Chevrolet toned down any announcement that this was its biggest Big Block, adding only an SS454 insignia to the front fender flanks. While the air cleaner had a decal that identified the 450-bhp rating, there is no identification on the vehicle



■ The big-block engine compartment is accurate, from the assembly markings to the hose clamps. The air cleaner decal does not call excessive attention to the 450-bhp message. There is no indication that it is an LS6.



that this was equipped with a special LS6 engine option.

Since becoming part of the Maya motoring collection, the Mayas take their LS6, as they frequently do with all their unique and elegant vehicles, out for long weekend trips, touring up and down Southern California from their coastal city base. Embracing the *Putting you first, keeps us first* tag line offered by Chevrolet in their 1970 SS Chevelle advertising, Bill and Kim Maya often make their sterling LS6 their first choice. **MD**



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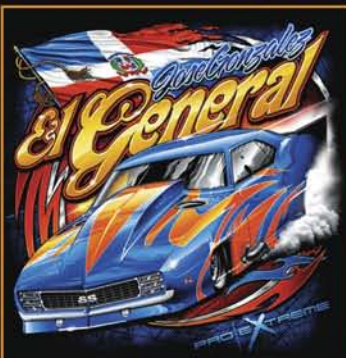
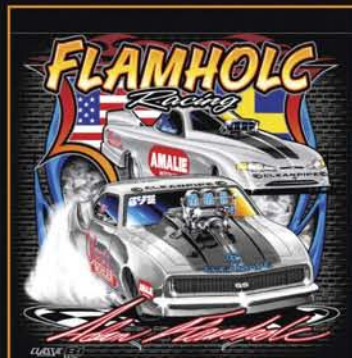
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Color and Motion in the NHRA

Drag Racing Photo Gallery

The big-time drag racing season begins and ends each year at Pomona—site of the National Hot Rod Association Auto Club Finals. 2014 was the 50th annual running of this event, drawing the best in Top Fuel, Funny Car, Pro Stock and Motorcycles to compete for the biggest prize available on the quarter mile. *Maximum Drive* was on hand to document the drama. ■ PHOTOS BY GUS ALONZO



■ The heat from Matt Hagan's funny car turns the raceway scene into an impressionist painting as he prepares to win his second national championship in Funny Cars.

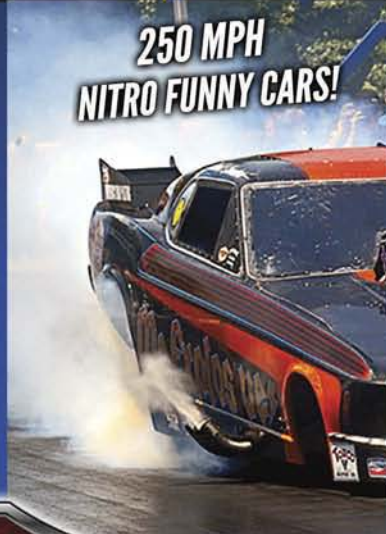
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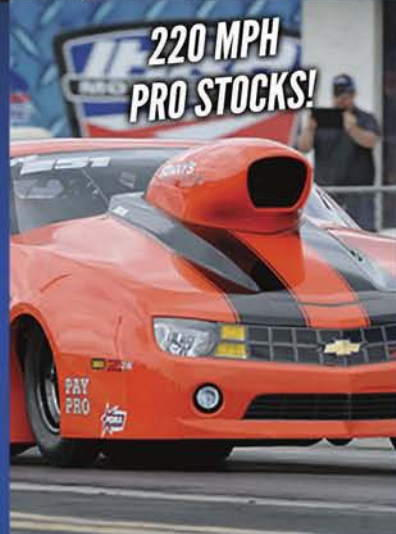
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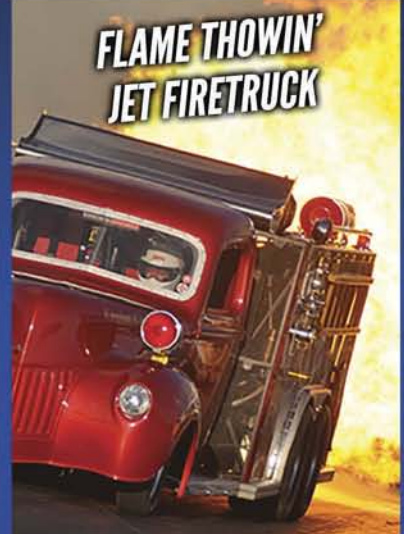
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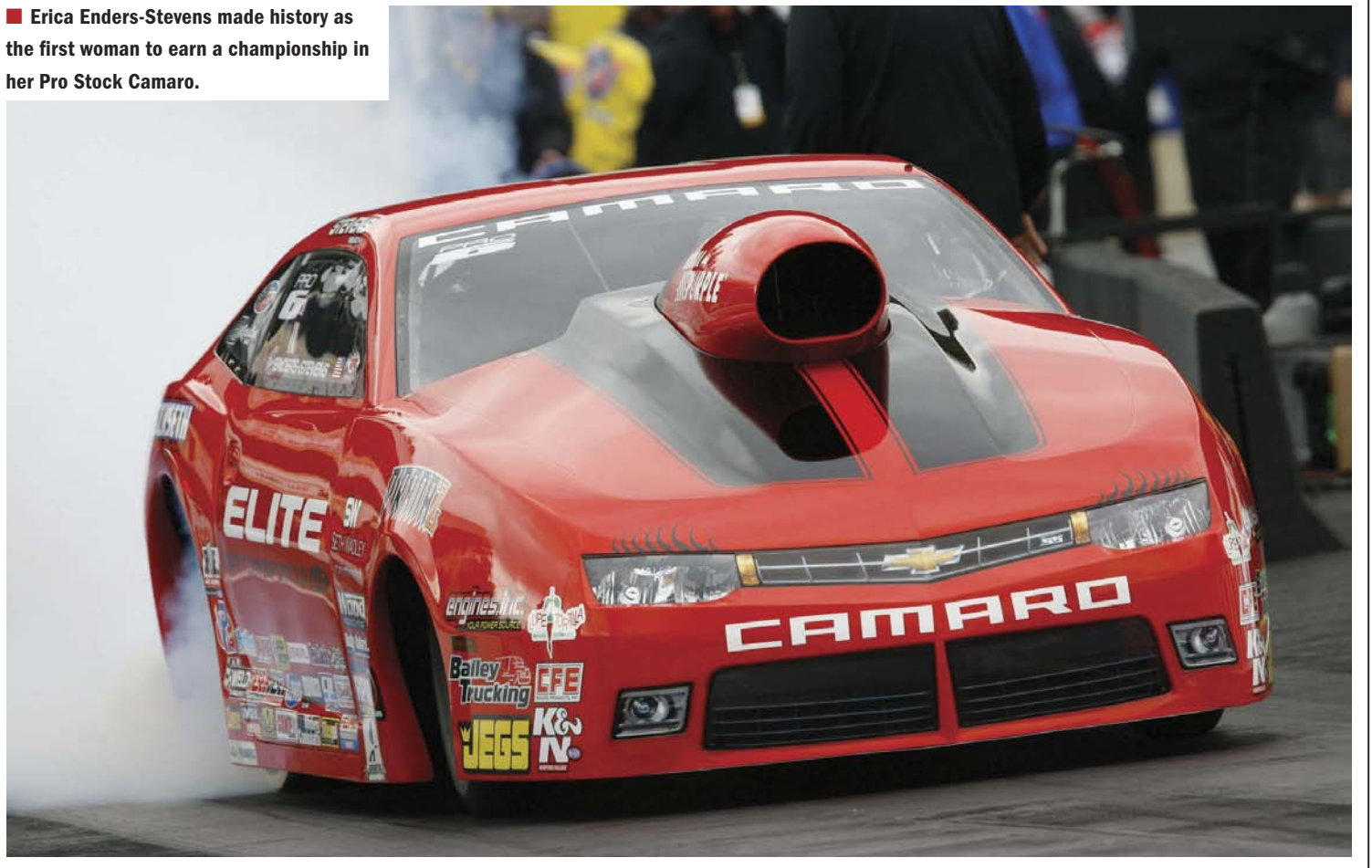


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■ Eighteen-time Funny Car champion John Force was edged out for the championship this year, but his Castrol GTX Mustang was there for the show.



■ Erica Enders-Stevens made history as the first woman to earn a championship in her Pro Stock Camaro.



What's NEW from T&D?

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Drag Racing

■ Courtney Force carried on the family tradition in Funny Cars with her Mustang, finishing 4th in points for the year.



■ If you could see through his helmet, Bob Bode's face would show the intense concentration necessary to stay on top of 7000 bhp in a Funny Car.

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Drag Racing



■ Tommy Johnson Jr. drives his Funny Car, and also drives a special two-seat dragster to give rides to kids through the Make-A-Wish foundation.

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Drag Racing



■ John Force has been the leading drag racer of the last 20 years, winning 18 NHRA championships.



■ Erica Enders-Stevens is pleased with her “Wally.” Each championship trophy is a statue of NHRA founder Wally Parks.



■ Drivers get the glory, but drag racing, like all motorsports, is a team effort.

Rusty Parts Deserve a Bullet

Rust Bullet makes metal parts restoration simple and lasting

BY JEFF ZURSCHMEIDE

■ PHOTOS BY THE AUTHOR

■ The Rust Bullet Automotive Undercarriage Kit comes with everything you need to coat the entire underside of a car, or a whole lot of panels and parts. You get the Metal Blast, metallic gray undercoat, and a can of top coat in your choice of color.



It's not often that we run a straight product test and example in *Maximum Drive*, but then it's not often that we get ahold of a product like Rust Bullet. This product impressed us enough to warrant some special attention.

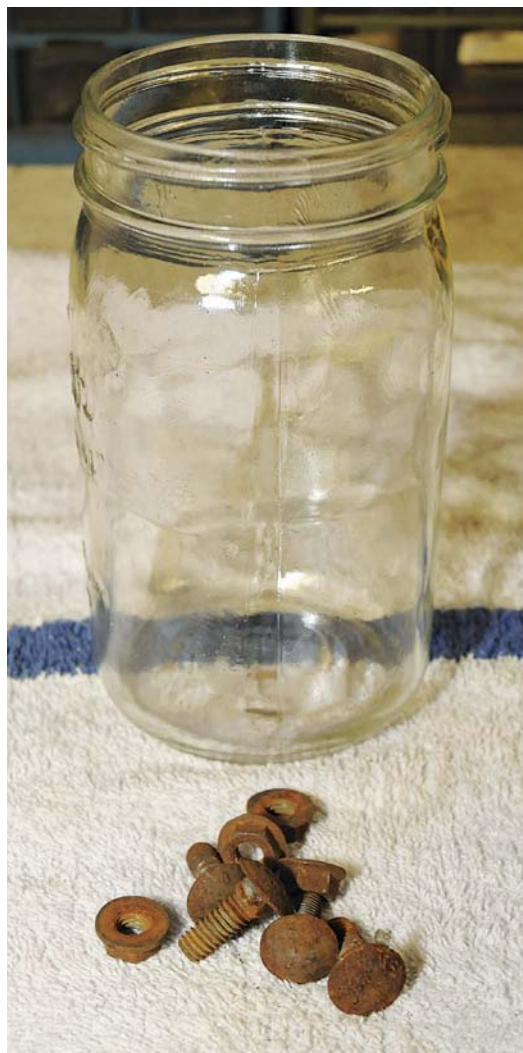
A little background is in order. We have a 1969 Corvette Stingray in the *Max Drive* garage. Nothing special, just a small-block with an automatic, but it's ours and we love it. Last year, we got the basic 350 engine sorted out to the tune of 240 RWHP and 300 lb.-ft. of torque.

This year, the project is to get the tired TH400 slush box out of there and replace it with a more interesting Muncie 4-speed. Lucky for us, Chevy makes that swap comparatively

easy. You just have to change some panels on the firewall, replace the pedal assembly, bolt on the brackets for the clutch linkage and then do all the greasy work to install the new trans. We'll cover the rest of that another day, but what has us occupied today is getting the conversion parts for the firewall and chassis ready to install.

We sourced our conversion kit from a Corvette junkyard and like most junkyard parts, the plates and brackets are all

THE RESULTS ARE SPECTACULAR AND UNLIKE POWDER COAT, YOU DON'T NEED ANY SPECIAL EQUIPMENT TO GET GREAT RESULTS.



■ These are the fasteners for our test panel. We'll just get them de-rusted by soaking them in Metal Blast in a mason jar.



■ Here's one side of the panel, and it's as bad as the other one. This is going to take some serious work.



■ This panel is as rusty as a junkyard part can be. But we'll get it ready to dress up our firewall and last forever.

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Spokane County Raceway

July 17-19
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Castrol Raceway

August 7-8
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US 131 Motorsports Park

September 11-12
IHRA Nitro Jam Nationals
Dragway 42

October 9-10
Summit World Finals
Memphis Int'l Raceway

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covered with a good layer of surface rust. So we started looking at what to do about that. Spray paint was rejected out of hand. We want to do this job only once, and we need it to last. We strongly considered powder coat, but we needed to neutralize any remaining rust. Then we looked at epoxies and other sealant coating products, and that's where we encountered Rust Bullet. This product has multiple patents and uses a different approach from anything else on the market, so we decided to give it a try. The results are spectacular and unlike powder coat, you don't need any special equipment to get great results.

What is Rust Bullet, Anyway?

Rust Bullet is a polyurethane-based coating that neutralizes rust and seals metal to prevent

new rust from forming. That's the core thing you need to know. Of course, there's more to it than that. We're product nerds, so we read safety data sheets.

If you get the automotive undercarriage kit, Rust Bullet comes with a jug of metal prep solution to dissolve rust, two cans of automotive metallic gray base coat, and a can of black topcoat paint, and the solvent you use as paint thinner. Each of these components has its own custom attributes that make Rust Bullet different from other coatings.

The Metal Blast cleaner uses phosphoric acid to dissolve surface rust, and has some detergents and corrosion inhibitors to help it clean metal effectively. The best thing about this stuff is that cleanup and neutralization happens with just plain warm water.



■ You can see the rust starts to come off the fasteners immediately on contact with the Metal Blast.

■ We put the panel into a plastic box to keep the Metal Blast under control. Spray it down thoroughly and reapply a squirt if it dries.



Rust Bullet Automotive in metallic gray is a polyurethane paint that is activated by a catalyzing chemical related to the stuff used to make crazy glue, but this particular catalyst is used to harden industrial polyurethane. Rust Bullet automotive paint also contains aluminum, which is key to its function, and some special high-grade solvents. The resin penetrates the remaining rust on the metal and sucks the water right out of the oxidized steel. The water/moisture actually cures Rust Bullet into an armor-tough finish. By dehydrating the steel and then encapsulating it in polyurethane, no new oxygen can get to the metal to create any more rust. What you end up with in the base coat is a hard polyurethane

THE WATER/MOISTURE ACTUALLY CURES RUST BULLET INTO AN ARMOR-TOUGH FINISH. BY DEHYDRATING THE STEEL AND THEN ENCAPSULATING IT IN POLYURETHANE, NO NEW OXYGEN CAN GET TO THE METAL TO CREATE ANY MORE RUST.



■ The front side gets the same treatment. Keep it wet with Metal Blast from the spray bottle.

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■ After about 20 minutes, we worked on the panel with the scrubby to get some of that loose rust off.



■ Within an hour, our panel looks like this. The loose rust is all gone and when it's dry, it will be ready to paint.



■ The backside looks just as good as the front—we're ready to paint!

shell that seals your metal parts against the elements.

The BlackShell is a different kind of paint designed specifically for surface coating. This paint uses cellulose acetate butyrate, which is a tough plastic with extra ultraviolet resistance and high-surface gloss. This material is catalyzed by another variant of the crazy glue family of chemicals. Put them together and you get a great topcoat that lasts through all kinds of abuse.

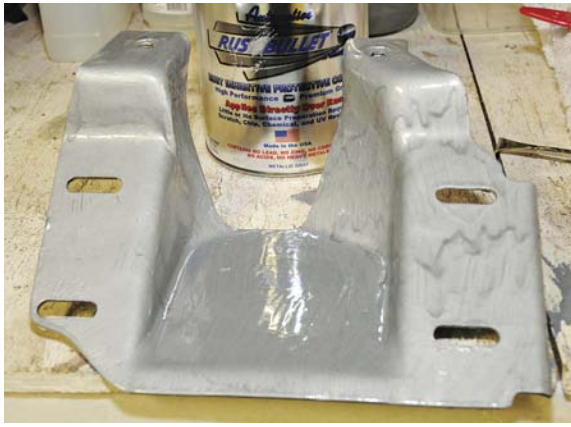
To finish this chemistry lesson, it's almost as important to note what Rust Bullet does not contain. Rust Bullet has no zinc, no lead, no chromates and no heavy metals of any kind. That's key, because it makes Rust Bullet one of the safest and environmentally friendly products you can use.

How Does Rust Bullet Work?

So, here's how it all works together. You can follow the procedure with the photos to see our actual garage results on one particularly rusty panel and some fasteners.

The Automotive Undercarriage kit from Rust Bullet includes everything you need for a project, up to and including a whole ladder frame for a car. The kit comes with two quarts of the metallic gray paint, one quart of the BlackShell paint, a bottle of Metal Blast rust dissolver, a bottle of solvent thinner, three scrub sponges, three paintbrushes and even a supply of chemical-resistant gloves. All you need is a bucket of warm water and a reasonably warm, dry, well-ventilated place to work. Metal Blast and Rust Bullet products do throw off some fumes.

The first thing you need to do is to get rid of the powdery or flaky rust on the surface of the metal. You can stick paint to the rust but



■ The Rust Bullet base coat goes on with a very metallic look. You can ignore a few bubbles or the iridescent look. It will smooth out as it dries



■ The front side would look fine in this paint, and it would be perfectly protected. But black is correct for our engine bay.

if the rust won't stick to the underlying metal, any kind of coating will come off as the rust flakes off. So start by spraying on the Metal Blast cleaner, then let it work for anywhere from 20 minutes to a couple of hours. Give it some more applications and scrub the part to help loosen the surface rust and any other grime. Then rinse with water to check your results.

TIP: Hit stubborn areas or nooks and crannies with a wire brush or wire wheel to get them as free as possible of loose rust.

When your part is completely dry, you can stir up the can of Rust Bullet Automotive and brush it onto the metal surface. You can spray it on if you have that kind of equipment, but brushing it on works perfectly well. You don't have to use too much, just enough to give the part a good coating.

The aluminum in the paint helps to create the metallic color and fill in any pits or flaws in the metal, and helps to make the resulting coating even stronger. You need two coats of the metallic gray base coat, applied about four hours apart if temperatures are normal (60–80 degrees) for indoor work.

When the base coats are well dried, you can apply the BlackShell topcoat as an option. Rust Bullet doesn't strictly need the black topcoat, but the BlackShell looks more correct for ladder frames and

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■ The BlackShell coating goes on glossy and should dry glossy. Be careful when testing it for dryness, we put a couple fingerprints into the paint when it was still tacky!

suspension components, yielding a gloss black finish that is resistant to moisture, abuse and to UV if it's subject to direct sunlight. The BlackShell topcoat goes on with the brush just like the base coats.

Rust Bullet Results

We finished our panels and brackets in a weekend, allowing plenty of drying time between coats. We took our time and coated both sides of each part, and used the Metal Blast in a glass mason jar to remove rust from our fasteners while we were at it. We didn't use a 10th of the paint and Metal Blast that came in our kit, so we're already thinking of pulling some suspension components and giving them the Rust Bullet treatment. Then there's the car-hauling trailer, then the boat trailer, you get the idea.



■ The finished product is hard, and will last indefinitely in this car. Note that we plan to run a chase through the threaded nuts welded to the panel before installation. There's no good way to keep paint out of the threads, so we'll fix that later.

TIP: When it's fully cured, Rust Bullet has amazing heat resistance—up to 314 degrees Fahrenheit continuously and up to 617 degrees Fahrenheit for up to 72 hours at a time. This means you can use it in engine bays.

You can pick up the Automotive Undercarriage kit direct from Rust Bullet for \$149.99. If you just have some panels and brackets to do, you might choose the Rust Bullet Automotive Double Shot for just \$22.99. The Double Shot gives you two 4-ounce cans of the Metallic base coat, plus gloves and brushes. Big-time users can get the Truck Kit with three quarts of Automotive base coat and two quarts of BlackShell, plus two jugs of Metal Blast for \$239.99. You can also buy Metal Blast by itself. A 24-ounce jug will set you back \$19.99.

You can order all Rust Bullet products directly from the manufacturer through their website (www.rustbullet.com) and get free shipping on most orders over \$75.

The bottom line is that we recommend Rust Bullet products. We use it on our own cars, and that says it all.

MD

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EVENT SCHEDULE 2014

Circle K NHRA Winternationals
Feb. 6-9 · Pomona, Calif.

CARQUEST Auto Parts NHRA Nationals
Feb. 21-23 · Phoenix

Amalie Motor Oil NHRA Gatornationals
March 13-16 · Gainesville

SummitRacing.com NHRA Nationals
March 28-30 · Las Vegas

NHRA Four-Wide Nationals
April 11-13 · Charlotte, N.C.

O'Reilly Auto Parts NHRA Spring Nationals
April 25-27 · Houston

Summit Racing Equipment NHRA Southern Nationals
May 16-18 · Atlanta

NHRA Kansas Nationals
May 23-25 · Topeka, Kan.

Toyota NHRA Summernationals
May 29-June 1 · Englishtown

Ford NHRA Thunder Valley Nationals
June 13-15 · Bristol, Tenn.

Auto-Plus NHRA New England Nationals
June 19-22 · Epping, N.H.

O'Reilly Auto Parts Route 66 NHRA Nationals
June 26-29 · Chicago

Summit Racing Equipment NHRA Nationals
July 3-6 · Norwalk, Ohio

Mopar Mile-High NHRA Nationals
July 18-20 · Denver

NHRA Sonoma Nationals
July 25-27 · Sonoma, Calif.

O'Reilly Auto Parts NHRA Northwest Nationals
Aug. 1-3 · Seattle

Lucas Oil NHRA Nationals
Aug. 14-17 · Brainerd, Minn.

Chevrolet Performance U.S. Nationals
Aug. 27-Sept. 1 · Indianapolis

THE COUNTDOWN TO THE CHAMPIONSHIP

NHRA Carolina Nationals
Sept. 12-14 · Charlotte, N.C.

AAA Texas NHRA Fall Nationals
Sept. 18-21 · Dallas

AAA Insurance NHRA Midwest Nationals
Sept. 26-28 · St. Louis


NHRA Nationals
Oct. 2-5 · Reading, Pa.

NHRA Toyota Nationals
Oct. 30-Nov. 2 · Las Vegas

Auto Club NHRA Finals
Nov. 13-16 · Pomona, Calif.

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Attention to Detail

What is compromise when it comes to your car?

BY SCOTT FISHER ■ PHOTO BY BOB RYDER



Approximately 30 years ago or so, a major producer of high-end European automobiles proudly touted their product line as being made “without compromise.” The idea was to make buyers think that these cars were made without cost-cutting, without ever substituting of a less-expensive solution in place of a more-expensive one, and to present the brand as top-of-the-line in the eyes of upscale buyers.

And those of us who have worked on a custom, modified, or racing car laughed at them and shook our heads.

Why? Because we know that every car—from the cheapest loss leader on a discount import lot to the latest road rocket halo car—is essentially a big box o’ compromise. It’s just not usually thought of that way. But this is a useful way to look at your choices, and a very useful way to maintain satisfaction in the long term. Let’s talk about how.

Here’s a simple example: rear-end gearing for the quarter mile. Do you optimize for acceleration, or for top speed? That depends on your torque curve, redline, how well it hooks up, maybe even aerodynamics if you’re

fast enough that drag or lift is a factor by the end of the strip. (Remember, drag racing was originally called drag racing because the first modifications involved cutting or removing body parts that stuck out into the airflow to reduce drag.)

But compromise affects virtually every area of car design, redesign, customization and modification. Think about your project: What do you want the car to do? Are you building a quarter-mile supercar? Are you just working to make a good car great, or a great car superb? Do you want it to go around corners, perhaps with passengers? Will you drive it long distances to car shows and events, or will it be trailered? And of course, how much money do you have to spend on it?

All of these questions highlight where your attention to detail—at the planning stage, the parts-buying stage, the stages of assembly and tuning and sorting—can make the difference between satisfaction and disappointment. Because it’s a lot more satisfying to have a project that meets your original goals than to have a big box o’ compromises, even if they’re compromises that seemed like a good idea at the time.

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