

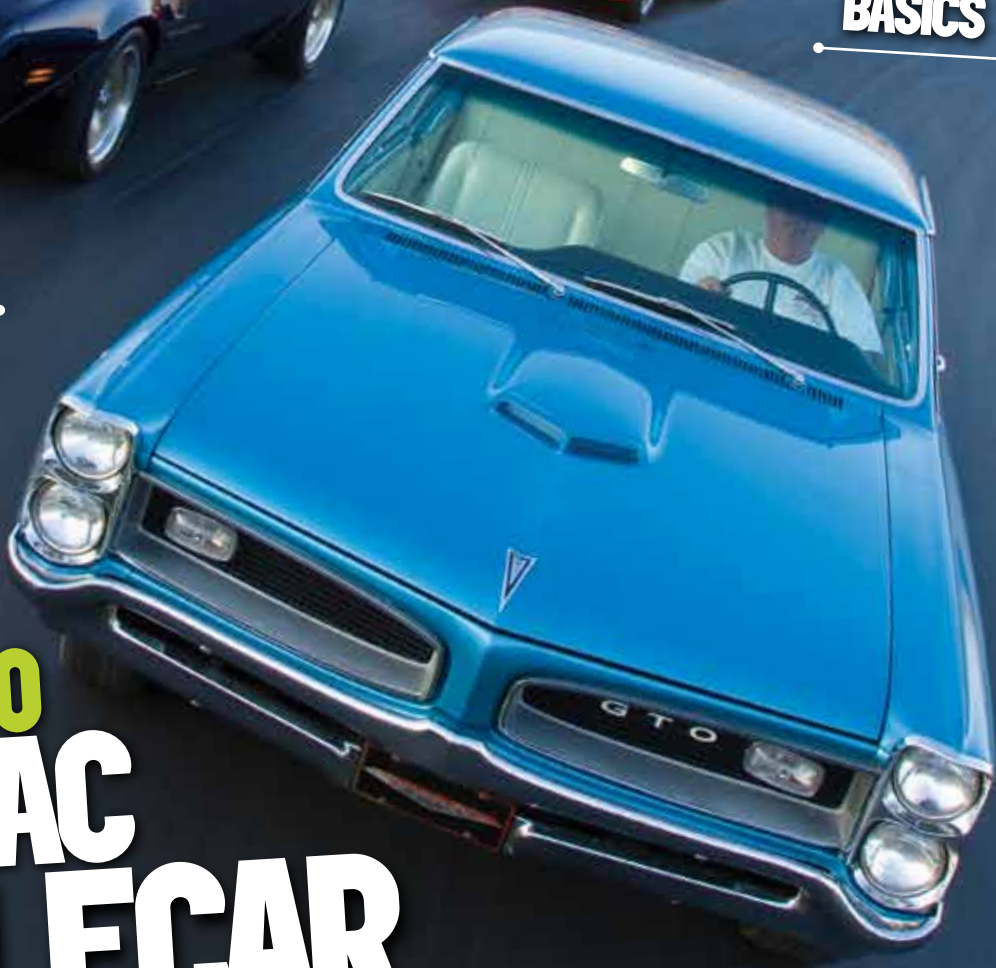
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HOT ROD WHERE IT ALL BEGAN

JACKASS

Mark Stielow's Latest Camaro Is the First Recipient of an LS9 Engine Swap—and This One Makes More Than 700 hp.

By Will Handzell

Photos: Mike Yoksich and Mark Stielow



> The 6.2L supercharged LS9 V-8 usually powers the insane ZR1 Corvette, but this LS9 is powering the first hot rod application on the road—a '69 Camaro named Jackass. And it made 700-plus horsepower out of the box.



> The body is stock '69, but it has a rare OE Endura front bumper and was painted PPG Daytona Yellow by Reiters Metalcraft.

You are looking at the first hot rod powered by the LS9 V-8 crate engine sold by GM Performance Parts, the same supercharged, 6.2L mill used in the latest ZR1 Corvette. But while the engine choice is really cool, don't be fooled; this '69 Camaro is about way more than just an engine. It came together under the guidance of well-known Pro Touring car builder Mark Stielow. Unlike the other 35 or so cars Mark has built, this one started in the mind of his friend Charley Lillard. As a direct descendent of the killer '69 Camaro that Mark unveiled back in 2003, which was called the Mule, Charley decided to simply call this ride Jackass.

The name is somewhat misleading. The Mule represented a huge step forward in the build and performance of a Pro Touring-style muscle car. It featured massive rubber, production-looking mini-tubed rear wheelwells over a streetable four-link rear suspension, a 1,000hp twin turbo V-8, a late-model front suspension, 275/35R18 front tires, 335/30R18 rear tires, and was detailed in 22 consecutive months of magazine buildup stories. The Mule was chassis-dyno-tested in 0-to-200-mph runs, run in track events at facilities such as Laguna Seca, and driven cross-country on four HOT ROD Power Tours®.

Jackass takes all the lessons of the Mule and builds on them with a host of refinements and innovations. The stock LS9 V-8 engine is an obvious innovation, but don't forget to take in the carbon-ceramic Brembo ZR1 Corvette disc brakes, C6 Corvette front suspension on the Art Morrison front subframe, front spoiler relocater kit, trick Rick's stainless gas tank, and coolers for the transmission and rearend.

Is Jackass better than the Mule? Mark says, "We gave the Mule that name because it was a testbed for a lot of the ideas I had rumbling around in my head for years. That car was intended to really make a statement, which it did, but it is also more aggressive than most of the cars I have built. My pal Charley Lillard, who owns the Mule now, felt I could do a car with the same capabilities but with production car manners. Jackass is truly that car—insane power and speed capabilities, but the thing idles like a rumbly taxi cab sitting in traffic with the A/C blowing cold."

So is Jackass the best Pro Touring car Mark has built yet? That is tough to say because it won't get the snotty-cammed, high-compression fanboys fired up, as it quietly idles around town. We guess that won't matter to the true Pro Touring enthusiasts who will once again be awed by Mark's ability to reinvent and refine what performance terror looks like wrapped in the envelope of a '69 Camaro. And for that reason, many will consider Jackass his best yet.

> The 335 tires sit in the vehicle as though the car was built in 1969 with them, and the fuel system isn't hanging down. It all just looks right, and that's what makes this car so incredible.



TOP TO BOTTOM:

1 Packaging is at a premium to fit the 3-inch exhaust system, 18-gallon Rick's gas tank, Currie rearend, trans and rearend cooling systems, and massive ZR1 wheels and tires.

2 The initial start-up and calibration work was performed at Thomson Automotive in Wixom, Michigan. Without any modifications, the LS9 produced a peak of 703 hp at 6,300 rpm. As Mark said at the time, "To make more than 700 hp with a *production* engine is truly astounding."

3 This early mock-up shot shows how Mark has added the factory engine mounts, Reuters Metalcraft has modified the stock inner fender panels to fit nicely around the C6 suspension/Art Morrison frame, and the front rollcage downbars have been installed with slick, unboltable, mating joints near the firewall.

4 The front suspension is all C6 Corvette mounted on an Art Morrison subframe. Here, Stielow is checking that the ZR1 wheels/tires he wants to use will clear all the suspension and frame components during full steering lock. The steering rack is a custom Art Morrison unit that bolts to the stock Corvette uprights. Mark removed the tube engine mounts shown here and installed large pads to accept the factory engine mounts.



DRIVETRAIN

The 6.2L supercharged LS9 V-8 crate engine was the reason the Jackass project was initiated. Charley thought it would produce more than enough power to match the Mule but be dramatically more civil. The LS9 really doesn't sound that special—no blower whine, rough idle, or real exhaust note—but that's the beauty of it. When Mark needed to slide Jackass around for the cameras, he would begin by dumping the clutch with the engine just off-idle. It looked ridiculously effortless to annihilate the monster tires into a ball of smoke.

You need stout parts to get ridiculous power, so there is a six-speed Tremec TR56 transmission (like those that go in the Vipers) bolted behind the LS9. To get the trans to mate up with the stock LS9 surface plate and clutch, he had a 0.890-inch-thick aluminum spacer machined

by D&D Transmission. To maintain the transmission fluid temperature during track events, Mark also installed an external fluid cooler system that consists of a pump, a small heat exchanger, and braided steel hoses.

The aluminum-carrier Currie rearend is the same as what Mark has used on almost all his cars. To set the ZR1 wheels within the Camaro fenders, the rearend is 56.9 inches wide, wheel flange to wheel flange, and has axles drilled for a 5x120.65mm (4.75-inch) bolt pattern. To maintain rearend fluid temps, there's a rearend fluid cooling system and a trunk-mounted puke tank. Mark says, "The trans and rearend coolers are overkill if you are just driving a car on the street, but if you are going to do anything more than an autocross, these are required."

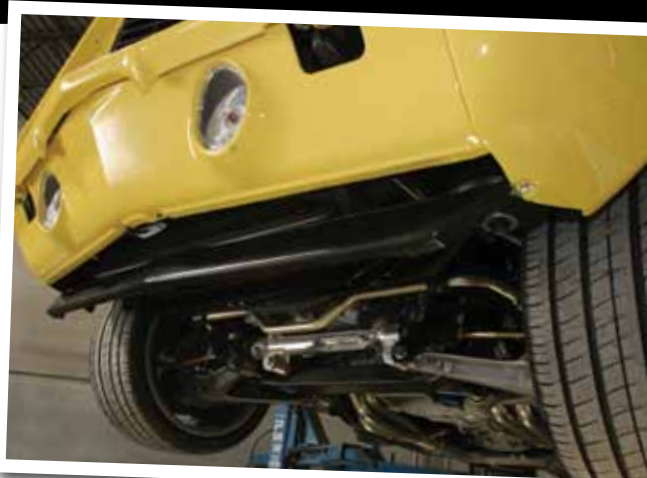


SUSPENSION/CHASSIS

As a performance vehicle development driver for GM, Mark knows how to build and drive fast cars. He used the front subframe with C6 Corvette front suspension pieces from Art Morrison. This made it easy to install the ZR1 uprights, carbon-ceramic rotors, and Brembo six-piston calipers. Detroit Speed & Engineering (DSE) subframe connectors tie together the front and rear sections of the car, and DSE also supplied its Quadra-Link four-link rear suspension. The rear suspension mounts were welded in where the rear seat used to be located by Reiters Metalcraft in Mount Clemens, Michigan. Reiters also installed the DSE shock channel, welded into the body between the wheelwells, and exhaust pass-through panels Mark created. DSE deep tubs make it possible to mount the massive 20 x 12-inch ZR1 rear wheels and 335/25ZR20 Michelin PSII tires under the original '69 Camaro sheetmetal. Reiters did a lot of the other fabrication, paint, and assembly duties to get Jackass completed in time to attend this year's Power Tour®.

COOLING POWER

Mark says, "Since Jackass has a lot of power and knows how to use it, we had to make sure we maximized the airflow going through the radiator, A/C condenser, and other heat exchangers [supercharger, power steering, and so on] at the front of the car. To do that, I installed a Bottomfeedair.com front chin spoiler relocater kit that I helped them develop. The Bottomfeedair.com kits redirect the air that would normally go under an early body-style vehicle, like the '67 to '69 Camaro, up into the radiator. This increases cooling capacity while reducing aerodynamic drag and lift—both bad things for vehicle performance. And I think the chin spoiler looks better set back a little on these vehicles, too."





FUEL, EXHAUST, AND CONTROLS SYSTEMS

To get fuel to the engine, Mark chose the fuel sender from the '09 Cadillac CTS-V because it slides right into the Rick's fuel tank. He then had Kinsler Fuel Injection in Troy, Michigan, update the sender by installing a set of high-flow pumps (the LS9 runs two from the factory) and regulators to supply enough fuel for those late-night WOT runs.

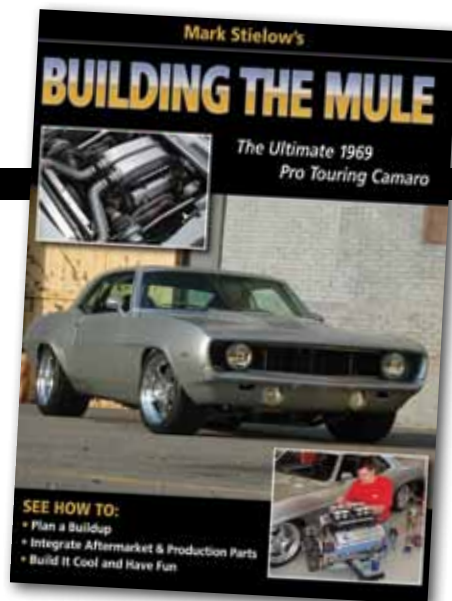
The exhaust system was built by Joe Borschke from Stenod Performance in Troy from an unwelded Kooks header kit, a pile of 3-inch tubing, and Borla straight-through mufflers. Stuffing a 3-inch exhaust into a '69 Camaro so it doesn't hang down or rattle is not easy, but Mark has been to this rodeo before, so he uses a few tricks. Number one on his list is modifying the trunk floor with pass-through plates and a Rick's gas tank with the front corners cut off. Number two is using small Borla mufflers and packaging them as far rearward as possible to maximize ground clearance. Number three is making sure he has at least 3/8-inch clearance from any other part, as stainless grows a lot when it gets hot.

To control the fuel and spark on the LS9, the wiring harness from a GM Performance Parts LS7 crate engine controller kit (PN 19166567) was cut apart and modified by Ryan Kuhlenbeck. Then Matt Harlan from DiabloSport did his magic first on the engine dyno at Thomson Automotive and then later in the vehicle to make the LS9 work properly.

> Mark likes to have the exhaust tucked up tight under the vehicle, and these two shots really show how he does it. The Rick's gas tank has its front corners cut out, and the trunk has two exhaust pass-through panels welded into it to allow the exhaust to swoop up over the Currie rearend and DSE rear suspension.

THE BOOK: BUILDING THE MULE

The car that really changed the way people viewed Pro Touring Camaros was Mark's Mule. While that car was featured in a series of buildup magazine stories, there is still a lot that wasn't shown. Mark wrote a book on the entire buildup of the '69 Chevrolet Camaro that became as world famous as the Mule. It details how he starts a major project, what methods he uses to create his ground-breaking cars, and some excellent tips on how to tune a car to provide enjoyable, consistent performance. It is loaded with more than 700 color photos and is available exclusively from Scoggin-Dickey Parts Center (sdparts.com) for \$26.95.



GM PARTS LIST*

DESCRIPTION	GM PART NUMBER
LS9 crate engine	19201990
LS9 front-drive kit	LS9FEAD1
Fuel sender, CTS-VLSA	19207950
Supercharger, intercooler pump (originally used on Ecotec)	22718756
ZR1 Wheels:	
Front	09597239
Rear	09597241
ZR1 carbon-ceramic brakes:	
Rotors, front	25843121
Rotors, rear	25853128
ZR1 calipers, front, Brembo six-piston:	
Right	25923833
Left	25923832
ZR1 calipers, rear, Brembo four-piston:	
Right	25923821
Left	25923822
Solstice pedal pads	15784794

*All purchased through Scoggin-Dickey Parts Center, www.sdparts.com



> These photos show the DSE deep tubs and Quadra-Link mounting boxes installed in the interior, the custom Reiters-built storage area where the rear seat used to reside, and in the trunk, the DSE shock tower channel and exhaust pass-throughs.



> As with any project, this one required many long nights huddled around the car fitting components and making it all go together right. The car you see here is the result of 22 months of work by Mark and the team he assembled. "Last time I checked, that's the kind of effort it takes to build a world-class hot rod," Mark says. "Thanks to everyone at Reiters and Stenod for staying with the project to get Jackass on the road."