

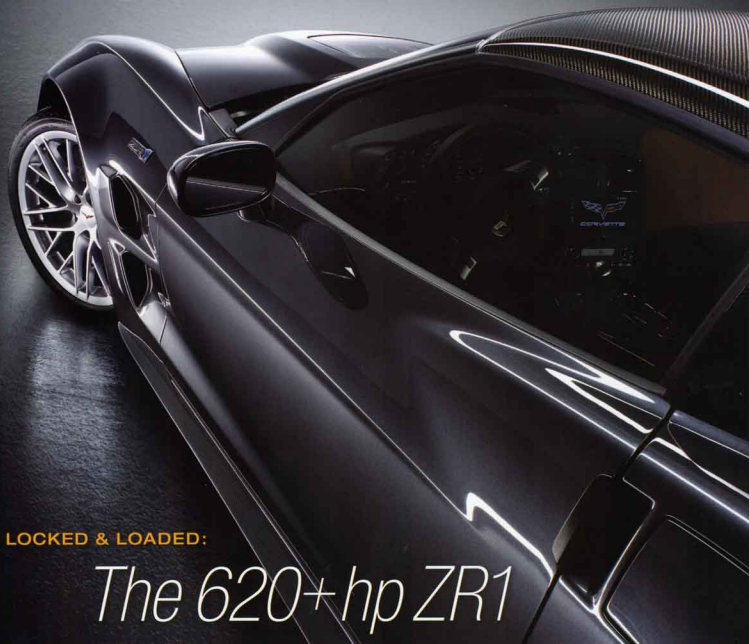
CORVETTE



Z06 V. SUPERBIKE ON TWISTY HWY 36
PRATT & MILLER'S SMOKIN' C6RS

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The 620+hp ZR1





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departments





industrial **STRENGTH**

BY DON SHERMAN PHOTOS BY JOHN ROE



When a monumental task is exacerbated by a miniscule window of opportunity, the best hope is to step aside and let the racers do it. That's precisely what Corvette marketing manager Gary Claudio did when he needed a Gen Six Corvette capable of wowing Jay Leno, the Corvette enthusiast who moonlights as a talk show host.

Claudio wisely called Gary Pratt of Pratt & Miller (P&M). Never mind that this New Hudson, Mich., race shop has been busy the past eight years stuffing the Corvette's trophy case with Le Mans trophies; Pratt's fertile imagination runs at the redline. In fact, the essence of what Claudio needed already existed in Pratt's head: a street-legal Corvette nurtured by the wealth of lessons P&M has learned at the track.

Barely eight months after Claudio's call, P&M delivered a spectacular Corvette to last fall's SEMA show. Leno has logged thousands of joy-filled, ticket-risking miles with his car. But this showpiece was merely the preview of what Pratt had in mind all along: building a limited edition of C6RS Corvettes that anyone with \$185,000 and a donor Z06 can own.

The nameplate says it all: the spirit of the C6.R that twice won its class at Le Mans, double distilled and fine filtered for street use. Don't assume that Pratt and project manager Mike Atkins have created a ragged track refugee. The concept behind their C6RS is a Corvette

with phenomenal performance that can be comfortably driven daily with no hearing loss or need for a kidney transplant.

The C6RS mule I drove on local roads near their shop left me smiling for a week. It rode like a dream, even though P&M engineers have just begun dialing in the air-spring dampers. The prototype Corsa exhaust system did an excellent job curbing audio fury with practically no cruising boom. One issue that probably won't be resolved is what happens when the throttle is indulged. First gear: plenty of wheel spin. Second and third: more of the same. Fourth: when the Michelins finally bite, the speedometer whirs around the dial like a runaway tach needle. "We're into the realm where the factory traction-control algorithms have trouble keeping up with the acceleration extremes we're seeing," notes Pratt.

Packing 600 or more horses under the hood would have been easy with forced induction, but P&M had a more elegant solution in mind: a new, naturally aspirated V8 that looks like the classic small block on the outside but with big things going on inside. For this piece of the C6RS action, P&M turned to its faithful racing-engine partner, Katech Performance. Caleb Newman, Katech's director of aftermarket operations, explains the logic that led to the creation of the world's first street-legal 8.2-liter Chevrolet "small" block: "We're all racers but also

WHO BETTER than Corvette Racing's Pratt & Miller
to do the ultimate street racer — the C6RS?



Dream drive: The Pratt & Miller C6RS combines the brutality of an 8.2-liter 600 hp small block with practicalities such as ArvinMeritor adjustable ride height air dampers. Above left: Corsa exhaust system is framed through carbon fiber diffuser. Above right: Custom-built Lear seats add extra lateral support.



Top and bottom: The C6RS features rocker extensions and an aggressive front splitter. Below right: BBS black chrome wheel showcases huge Brembo brakes and features a single locking hub.



purists at heart, so no one at P&M or Katech wanted to add weight to the front of the Corvette, which would upset its balance. The approach we agreed upon for the C6RS is an aluminum-block V8 with a 4.2-inch bore and a 4.5-inch stroke that yields the 500 cubic inches of displacement we needed to produce 600 horsepower and 600 lb.-ft. of torque with flawless street behavior. By that I mean emissions compliance, a smooth idle, and suitable part-throttle performance."

Pratt notes a second reason for taking this approach: "Our C6.Rs are naturally aspirated, so we wanted C6RS to follow suit to reinforce the racing-to-street tie-in."

Cylinder blocks with 8.2 liters capacity are not exactly shelf items. To achieve this mega piston displacement, Katech teamed with racing block manufacturer Dart to exploit the latest high-strength, lightweight manufacturing techniques. Instead of casting the block, Dart supplied an assembly machined from a solid billet of 6061 aluminum alloy. After heat treating, this material provides a lack of porosity and yield strength far exceeding what's possible with cast aluminum.

Katech contributed 15 design changes to Dart's design, including a deck height raised by half an inch to allow the block to properly support the long-swing forged-steel crankshaft, tough forged-steel connecting rods, and beefy forged-aluminum pistons. After the necessary internal coolant passages are machined, cover plates are securely welded to the block's flanks. The durable bore surfaces are electroplated NiCom (nickel silicon carbide composite) material.

Standard LS7 V8 cylinder heads top the block. In combination with the dished pistons fitted by Katech, this yields an 11.0:1 compression ratio. Torque peaks at 4600 rpm, the power curve reaches its 600-hp crescendo at 5800 rpm, and the redline is 6200 rpm. The finished product is what Pratt aptly calls "out-of-the-box thinking."

Hiding this engineering tour de force under a chintzy plastic shield would constitute a crime against humanity. To properly showcase the C6RS's horsepower bounty, P&M deferred to Atkins' eye for detail and respect for the hood rod aesthetic. Ignition coils are relocated, wiring and plumbing are tidied up, and fuel injectors are tucked under polished stainless-steel covers. A few components, such as the power steering reservoir and the fuse box, are repositioned to achieve a neat, symmetrical presentation. The Katech Performance connection enjoys prominent billing on the bright red rocker covers.

The new molded carbon-fiber body panels that mimic the C6.R were created in-house and are manufactured by Motorsports Composites, the same Wisconsin firm that supplies P&M's racing needs. Hand sketches refined via computer-aided design tools were modeled in clay on the very mule Z06 I drove. Use of a computerized coordinate measuring system eased the task of achieving side-to-side symmetry. When the sculpting was complete, skinning the car with silver Di-Noc film yielded an accurate preview of the finished appearance.

A notable difference between the C6RS's new suit and typical aftermarket body panels is that these are actual working pieces. Vents

NEW SPORTS TECHNOLOGY

New lure's catch rate may be too high for some tournaments.

Out-fishes other bait 19 to 4 in one contest.

Uses aerospace technology to mimic a real fish.

ORLANDO, FL— A small company in Connecticut has developed a new lure that mimics the motion of a real fish so realistically eight professionals couldn't tell the difference between it and a live shad when it "swam" toward them on retrieval. The design eliminates wobbling, angled swimming and other unnatural motions that problem other hard bait lures. It swims upright and appears to propel itself with its tail.

Curiously, the company may have designed it too well. Tournament fishermen who have used it said it's possible officials will not allow it in contests where live bait is prohibited. They claim it swims more realistically than anything they have ever seen. If so, that would hurt the company's promotional efforts. Winning tournaments is an important part of marketing a new lure.

3 to 1 advantage

Fish would probably prefer to see it restricted. I watched eight veteran fishermen test the new lure (called The KickTail®) on a lake out-

side Orlando FL for about four hours. Four used the KickTail and four used a combination of their favorite lures and shiners (live bait). The four using the KickTail caught 41 fish versus 14 for the other four. In one boat the KickTail won 19 to 4. The KickTail also caught bigger fish, which suggests it triggers larger, less aggressive fish to strike.

The KickTail's magic comes from a patented technology that breaks the tail into five segments. As water rushes by on retrieval, a little-known principle called aeronautical flutter causes the tail to wag left and right, as if the lure were propelling itself with its tail. Unlike other hard baits, the head remains stationary—only the tail wags. A company spokesman told me this.

"Marine biologists will tell you that the more a lure swims like a real fish, the more fish it will catch. Well, the only live thing the KickTail doesn't do is breathe. It's always swimming wild and free."

Whether you fish for fun or profit, if you want a near 3 to 1 advantage, I would order now before the KickTail becomes known. The company even guarantees a refund, if you don't catch more fish and return the



New lure swims like a real fish--nearly triples catch in Florida contest.

lures within 30 days. There are three versions: a floater, a diver and a "dying shad" with a weed guard. Each lure costs \$9.95 and you must order at least two. There is also a "Super 10-Pack" with additional colors for only \$79.95, a savings of almost \$20.00. \$/h is only \$7.00 no matter how many you order.

To order call 1-800-873-4415 (Ask for item # kits), or click www.ngcsp.com/gear anytime or day or send a check or M.O. (or cc number and exp. date) to NGC Sports (Dept. KT-1276) 60 Church Street, Yalesville, CT 06492. CT add sales tax. The KickTail is four inches long and works in salt and fresh water.

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in the hood and front fenders help cool air flow through the radiator and out of the car in such a way that aerodynamic lift is avoided. Large scoops in the fascia ram air to the front brakes. Tunnels molded behind the front air dam ease airflow up and over the front wheels. Fender flares and vents are both larger than in the Z06 for enhanced airflow and to shroud the wider Michelin Pilot Sport radials. Splitters attached to the front fascia and sill extensions, a subtle lip spoiler stretching the width of the tail, and a more aggressive under-car diffuser help ground the C6RS to earth at high speed.

To enhance the C6RS's chassis, Pratt solicited aid from various long-term P&M partners. BBS helped engineer a special set of center-lock pin-drive forged-aluminum wheels. The 11.2x18-inch front and 12.6x19-inch rear rims are finished with a stunning black-chrome powder coat. One clever feature contributed by Pratt is a locking cap that screws into left-hand threads located inside each wheel hub. The 42-inch long wrench required to torque the wheels to 550 lb.-ft. is included with the C6RS, along with a drive socket that's nylon-lined to avoid damaging the wheel nuts' finish.

An innovative ArvinMeritor Dynamic Height Control system engineered just for this car combines air springs with aluminum monotube air shocks. Shifting a portion of the wheel load off the Corvette's composite leaf spring facilitates easy adjustment of ride height. C6RS cruises 1.5 inches lower than stock for improved



Top: Side profile on C6RS is clean yet purposeful sans excess appendages. **Middle:** The normally aspirated 8.2-liter Katech motor is machined out of a solid billet of aluminum. **Bottom:** Front profile showcases fender louvers and front splitter.



appearance and handling, but can be raised at the twist of a cockpit knob to clear parking curbs and other road hazards. The second benefit with this system is fully programmable control over both damping and the pressure in the air springs. This is how P&M expects to achieve that rare combination of excellent handling with a supple reaction to bumps, heaves and expansion joints.

The meaty Michelin Pilot Sport rubber — 295/30ZR-18 in front, 345/30ZR-19 in back — provide serious grip. Michelins are also original equipment on the ZR1 and P&M helped lead the way, having raced on Michelins for several years.

The Brembo brake system features monster 14-inch front and 13.5-inch rear cross-drilled iron rotors attached to aluminum centers. The stiff Brembo monobloc calipers have six pistons in front and four in back. Track testing has demonstrated that the brakes have plenty of capacity for stopping the C6RS repeatedly without fade.

No racer likes piling weight into a performance car, so P&M avoided loading up the C6RS with non-functional items. The most notable add-on is 60 lb. or so of Dynamat material under the carpeting. This foil-over-butyl-rubber blanket does an admirable job of holding road and powertrain heat and noise at bay. To further upgrade comfort functionally, the stock Lear Corvette bucket seats are rebuilt by Lear with bolsters fortified in the shoulder and headrest for better restraint during the inevitable hard braking and cornering.

The finished product is a well-orchestrated, remarkably comprehensive transformation of a car that's best in class to start with. If a C6RS sounds like the type of Corvette that belongs in your garage, don't hesitate to raise a hand. Cars are scheduled to roll forth from P&M this April, and the supply is strictly limited by the number of engine blocks to 25 units per year. Be advised that Aston Martins, Ferraris or Lamborghinis eligible for spanking have already been identified in your 'hood. ■

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