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THAT'S FAST

FOR M-CAR AND AMG OWNERS, CTS-V IS
A FOUR-LETTER WORD



Who else but a championship race team would build the world's meanest street legal Cadillac?

It has been almost a year since MLE staff first spotted this widebody Cadillac CTS-V at the 2005 SEMA Show.

While the bodywork alone was certainly original – especially for a Cadillac – the badge that read “427 twin supercharged” is what really attracted our attention. Built by Predator Performance, a DuBois, PA-based motorsports shop, the CTS-V returned to its home after SEMA and there wasn't much chance in mid-November to coax the beast out into the open under the threat of snow. But now, with the height of summer upon us

and the Caddy ready for a little action, this blacked out sedan is ready to lay waste to the competition. For AMG and M-car owners alike, CTS-V is definitely a four-letter word.

Chad Vogele, Bart Grande, Jeff Towns, and the other folks at Predator, built this car to be different. While the Grand Am-style widebody and big HRE wheels certainly give this “formidable sedan” a unique edge on the competition, under the hood things get even better. “In light of the fact that a number of other shops had already massaged the standard

powertrain on this platform substantially, we pondered what could be done with our Caddy to set it apart from the pack,” says Towns, the sales and marketing manager at Predator. “The conversation turned to GM's success with their 427 C5R all aluminum race block. This aluminum block has a tremendous “track record” (no pun intended), has the same outer dimensions as the LS-6 it replaced and we felt it would be the perfect foundation to build the rest of our drive train around.”

The Predator team knew that eventually supercharger upgrades would be in



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the plan, so one of the first things they did was lower the compression on the engine. From the bottom to the top, no item was left stock. Lunati rods connect the Calles stroker crank to the JE pistons, resulting in an 8.2:1 compression ratio. Up top AFR CNC ported LS-1 heads were used with Comp cams and new hydraulic lifters. To help the new head get all the air it needs, a FAST intake manifold was also installed. When the decision came to upgrade the supercharger, instead of swapping pulleys to up the boost, the boys at Predator opted to toss the stock unit and add twin P-1SC superchargers from Procharger. To keep the temperature down a custom intercooler was fabricated as well as a two-pass radiator. To keep the rest of the on-board fluids at a proper operating temperature the CTS-V also features race-quality engine oil, transmission and differential coolers supplied by Phoenix Performance.

With all this extra hardware, the potential for power is huge and so extra fuel is certainly a necessity. An Aeromotive fuel pump was swapped in in place of the stock unit and an Aeromotive FPR helps keep the FAST fuel rails pumped full of gas to feed the RC injectors.

Tuning the beast was another problem. “It was our biggest hurdle,” says Towns. “We had to be very careful working around the factory computer. We didn’t want to trip any fail safes.”

Bart Grande, who performed the tuning explains; “I used a piece of software called LS1 Edit which allows me to ‘break in’ and modify the stock fuel and ignition curves.” This he managed to do, while avoiding any problems with the rest of the car’s complicated gadgetry.

On the exhaust side, plenty of extra space was required to expel all the byproduct. Predator custom fabricated a full length set of headers which

then dump into a Corsa stainless steel exhaust system.

Plenty of tuning was required to get the system just right and the guys at Predator were certainly up to the challenge. While this monster CTS-V is an unusual project for Predator Performance, they aren’t exactly strangers to building high performance cars. While the name might not ring a lot of bells in the luxury tuning industry (not yet, anyway), Predator Performance is well known for building Pro Cup race cars. In a series that Towns described as a level just below NASCAR, the Predator car is a dominating force. Driven by Benny Gordon, the team is already having a successful year after claiming the Series Champion title in the 2005 USAR Hooters Pro Cup series.

“With a championship race team to support we maintain a very well equipped engine department,” says Towns. This includes both an engine dyno and a chassis dyno, not to mention a full machine shop and a paint booth, all located inside their 36,000 sq-ft facility. Once the rear wheels of this twin supercharged Caddy were placed on the rollers and the loud

“Once that baseline has been established we will begin the process of continual improvement until we’re satisfied that we have created the ultimate street legal sedan,” says Towns.

DETAILS

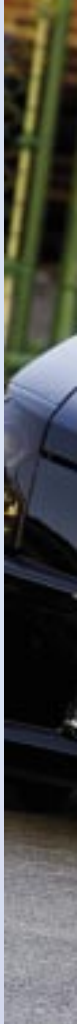
2005 CADILLAC CTS-V

CHASSIS, BODY

Specter Werks CTS-Vr Grand Am body modifications including rear spoiler, side skirts, heat-extractor hood and fender flares

WHEELS, TIRES, BRAKES

(f) HRE 19x10.5-inch wheels with 265/35ZR19 Michelin Pilot Sport tires, Brembo gold series eight-piston calipers with 15-inch rotors and four pads (r) HRE 19x10.5 wheels with 305/30ZR19 Michelin Pilot Sport tires, gold series four-piston 14.5-inch rotors





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pedal pushed the result was astounding; 806hp was created at a modest 6400 rpm with a tire shredding 756 ft-lbs of torque. Towns claims that they could have gone for more horsepower, but that isn't what they wanted for the Caddy. “This engine will easily support well over 1,000hp but we decided to focus on a goal of building a fairly refined luxury sedan that would offer brutal performance on pump gas. In fact, we actually turned the boost down from what it used to be making.”

Getting power to the ground requires more than just some meaty rubber (of which the CTS-V has plenty) so the Caddy has been equipped with a Luk gold-series clutch. Other than the aforementioned diff and tranny coolers, the entire gearing system of the Caddy was shipped out to Rockland Standard Gear where every piece was disassembled, smoothed out and reassembled, a process which reduces friction, and thereby heat, even under strenuous operating conditions. Before the project had even started, however, the staff at Predator knew that with their power expectations some mighty large rubber was going to be necessary to gain any sort of traction. “Once we got the car

Once the rear wheels of this twin supercharged Caddy were placed on the rollers and the loud pedal pushed, the result was astounding; 806hp was created at a modest 6400 rpm with a tire shredding 756 ft-lbs of torque.



and inspected it we saw that there was no room to go inboard, so we decided to go outboard,” says Towns.

The wheels they chose are from none other than HRE and measure 19x10.5-inches in both the front and the back. Michelin Pilot tires sit at each corner, with 265/35ZR19s in the front and great big 305/30ZR19s in the rear. The fenders still have room for wider tires, should the need arise, and according to Towns, that just might be the case. “You can spin the tires at will through first, second and third,” he says, pointing out that with a little judicious right foot work, traction

is certainly possible with the 305s.

The need for huge tires, in turn, led to the addition of the Specter Werkes Grand Am body kit to give the car a serious sportscar look. This eight-piece package consists of side skirts, a rear spoiler, a functional heat-extractor hood as well as some serious fender flares. The package is functional too, as Specter actually produces their parts for use on competition race cars.

And because the guys at Predator are racers at heart, they have every intention of taking this car to the track... repeatedly. With 800-plus horsepower and a sizeable chassis, just a set of big wheels isn't going to cut it and so some other upgrades were required. “Outrageous acceleration being a given with this power setup, we were





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careful in our selection for the brake system,” says Towns. So with big power comes the need for big brakes and Brembo delivered in a big way. “The front kit is a full custom application,” claims Chris Villasenor at Brembo, “to the best of my knowledge that is the only system in existence for a CTS-V.”

“Our goal,” he says, “was to not just give race level performance but to create a system that gives maximum usable braking and a very, very high performance street car that can still impress the best under track conditions, stop after stop after stop.”

While the rear setup remains mostly stock, with the factory four-pot calipers exchanged for Brembo gold ones and slotted rotors used instead of the blanks, the front system is rather extreme. Massive eight-piston calipers, painted in the same Brembo gold make use of four separate pads to greatly increase the braking surface area on the new 15-inch rotors.

With the stopping problem solved, the CTS-V still needs suspension work and some aerodynamic tuning before it is complete. According to Towns, the Predator team plans on taking the car to both the wind-tunnel and the race track. “Once that baseline has been established,” he says, “we will begin the process of continual improvement until we’re satisfied that we have created the ultimate street legal sedan.”

With 806hp and the looks to match, we are certain that if you asked the owner of an M5 that came across this CTS-V, they’d think it is already ultimate enough. They might only have one four-letter word for you, however, and it might not be spelled C, T, S, V. **MLE**

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SPECIFICATIONS

2005 CADILLAC CTS-V

ENGINE

427 7.0L C5R Race Block, LS1 Head

ENGINE MODIFICATIONS

AFR CNC machined LS1 heads with FAST intake manifold, Calles stroker forged crank, JE pistons, Lunati rods, Comp cams, hydraulic lifters, twin P-1SC Procharger superchargers, custom fabricated intercooler and two-pass radiator

ENGINE MANAGEMENT

LS1 Edit reprogrammed ECU

DRIVETRAIN MODIFICATIONS

Treated tranny and differential gears; differential and transmission coolers

NUMBERS

Horsepower: 806 @ 6400 rpm

Torque: 756 ft-lbs @ 5100 rpm



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ZZ-7, 3 Piece Forged



K-One, SUV



ST-1, SUV



K-One F, 10 x 22 on Cadillac Escalade