

# August 1, 2006: V Series: Cadillac Performance and Luxury Taken to the Fullest Extent



## **V-SERIES: CADILLAC PERFORMANCE AND LUXURY TAKEN TO THE FULLEST EXTENT**

The landmark V-Series is a core part of Cadillac's historic renaissance, providing a group of powerful cars able to seriously compete with the world's best and attract new consumers to the brand's revitalized product range. V-Series is about expressing Cadillac performance and luxury to the fullest extent.

The V-Series also has adopted a "handcrafted" approach featuring hand-cut, sewn and wrapped interiors and custom-built engines, bringing a new level of attention to detail, accuracy and craftsmanship to the vehicles, as well as more elegant executions.

**XLR-V:** The 2007 Cadillac XLR-V ultra-luxury, high-performance roadster is a landmark car in Cadillac's long history, and is the quickest, most agile and most exclusive Cadillac ever offered. Launched in early 2006, the supercharged XLR-V combines technology with hand craftsmanship that harkens back to Cadillac's origins as a custom luxury coach builder.

The XLR-V's supercharged Northstar V-8 SC (supercharged) engine is hand assembled to exacting standards at GM's Performance Build Center in Wixom, Mich. Each engine is built from start to finish by a single expert craftsman. The engine is mated to the all-new Hydra-Matic 6L80 six-speed automatic transmission with Driver Shift Control. This powerful combination enables 0-to-60 (mph) acceleration in less than five seconds.

The engine produces 443 horsepower (330 kW) at 6400 rpm and 414 lb.-ft. (561 Nm) of torque at 3900 rpm (SAE certified\*) – and the engine’s power is underscored by its ability to deliver 90 percent of its peak torque between 2200 and 6000 rpm. The SC also features variable valve timing that enables outstanding top-end performance while maintaining the expected refinement and quality associated with a luxury marque.

The 6L80 is one of the most technologically advanced automatic transmissions in the industry, using clutch-to-clutch operation and an advanced integrated 32-bit transmission controller to deliver smooth, precise shifts. In addition, a wide 6.04:1 overall ratio spread enhances performance and fuel economy. The transmission incorporates advanced Performance Algorithm Shifting (PAS), Performance Algorithm Liftfoot (PAL) and Driver Shift Control (DSC).

The XLR-V also includes numerous chassis enhancements for outstanding performance, include larger brakes; recalibrated Magnetic Ride Control (MR); larger front stabilizer bar and the addition of a rear stabilizer bar; stiffer rear lower control arm bushings; larger wheels and tires; a power steering fluid cooler; and a higher-capacity fuel pump. The vehicle was developed and tuned at some of the world’s most demanding environments.

XLR-V styling modifications create a bolder character in keeping with its performance capabilities, yet communicate refined elegance. Design refinements include:

- Polished wire mesh upper and lower front grilles, a V-Series signature
- Aggressively sculpted hood that makes room for the supercharger
- New 10-spoke aluminum wheel design with sterling silver finish
- Unique V-Series and Supercharged badging
- Four polished stainless steel exhaust tips
- Black finish brake calipers with machined V-Series logo
- Three exterior color offerings: Infra Red, Black Raven and Light Platinum
- Zingana Wood on the shifter knob, cupholder area, steering wheel and

- on portions of the door and center console
- Ebony leather with French stitching on interior components
- Soft, supple leather seats with French stitching and matching perforated suede fabric inserts
- Aluminum accent pieces throughout the interior

The interior features extensive use of leather wrapped surfaces, created by craftsmen who cut, wrap and sew leather around components individually. The XLR-V marked the initial phase of a new approach to vehicle interiors for Cadillac. In this first incarnation, the existing luxury interior of the XLR roadster has been significantly enhanced for the limited-production V-Series variant.

Kinetic aluminum accents adorn the steering wheel and instrument panel and exotic Zingana wood trim appears throughout the cabin.

Production of the XLR-V is limited to ensure exclusivity. The MSRP XLR-V in the U.S. market is \$100,000, including destination. Both the STS-V and XLR-V are the first V-Series cars to be developed for international sales outside North America. The XLR-V, like XLR, is built at GM's state-of-the-art, award-winning Bowling Green (Ky.) assembly center.

**STS-V:** The 2007 STS-V is the most powerful Cadillac ever offered. It extends the sophistication of its STS sibling, but elevates it to a new level of performance and luxury. Designed for everyday driving, the STS-V delivers supercharged, rear-drive performance with an elegant design statement that is unmistakably Cadillac.

The STS-V is powered by a 4.4-liter Supercharged Northstar V-8 DOHC engine with variable valve timing. It produces 469 horsepower (350 kW) at 6400 rpm and 439 lb.-ft. (595 Nm) of torque at 3800 rpm (SAE certified\*). Like the XLR-V, the engine delivers 90 percent of its peak torque between 2200 and 6000 rpm. Vehicle redline is 6700 rpm.

Like XLR-V, each engine is hand assembled to exacting standards at GM's Performance Build Center in Wixom, Mich., and is built from start to finish by a single expert craftsman. Manufacturer's Suggested Retail Price (MSRP) is \$77,090, including destination. Production is limited to ensure its exclusivity in the marketplace.

The engine is mated to the all-new Hydra-Matic 6L80 six-speed automatic transmission – the first use of GM's new six-speed automatic with Driver Shift Control. This powerful combination enables 0-to-60 (mph) acceleration in less than five seconds.

The STS-V features numerous chassis enhancements for outstanding overall performance and a balanced ride feel, developed and tuned at some of the world's most demanding environments.

These changes include higher rate 75N/mm front springs and a larger diameter, 36 mm stabilizer bar. In the rear, spring rates are increased to 80 N/mm with an increased diameter, 25.4 mm stabilizer bar.

Specifically tuned Sach monotube shock absorbers manage tire and wheel masses and smooth out road disturbances. A specific, faster 17.2:1 steering gear is included in the chassis tuning package. Additionally, a high-capacity steering cooler is added.

The STS-V is equipped with massive Brembo 355 mm x 32 mm front brake rotors and 365 mm x 28 mm rear brake rotors. Both front and rear brake rotors are vented for extra cooling capacity. Four piston calipers on all four corners assure excellent stopping performance.

To ensure superior traction and handle the additional power of the engine, rear tire size increases to P275/40R19 extended mobility Pirelli tires fitted to 19 x 9.5-inch aluminum alloy wheels. Front tires are P255/45R18 Pirelli run flats mounted on 18 x 8.5-inch alloy wheels.

Chassis controls include four-channel StabiliTrak with four modes:

- Traction and Stability Control on
- Traction Control off and Stability Control on
- A performance mode that provides a less governed level of stability control
- Both Traction and Stability Control off.

The vehicle's top speed is electronically limited to 155 mph.

The STS-V exterior enables higher performance; yet is elegant and sophisticated. Exterior refinements include:

- A larger, polished stainless steel wire mesh front grille that enables the required additional airflow for engine heat dissipation
- A new, lower front fascia that incorporates a larger lower grille (also wire mesh) for increased cooling capability; brake ducts for front caliper and rotor cooling and splitter to counteract lift created by larger grille openings
- A new lower rear fascia that facilitates smooth airflow under the vehicle for improved cooling
- Lower rockers that visually bridge the lowered front and rear fascias
- A specific, fluidly sculpted hood designed to provide space for the engine's supercharger
- Ten-spoke, flangeless, painted aluminum alloy wheels that assist in brake cooling
- A higher, more rearward-positioned rear spoiler that enables balanced aerodynamic downforce with the front splitter
- V-series badging on the vehicle's rear decklid and front doors, and "Supercharged" block lettering on the doors

The interior features extensive use of leather wrapped surfaces, created by craftsmen who cut, wrap and sew leather around components individually. Along with XLR-V, the STS-V marks the initial phase of a new approach to

vehicle interiors for Cadillac. In this first incarnation, the existing luxury interior of the STS sedan has been significantly enhanced for the limited-production V-Series variant.

Kinetic aluminum accents adorn the steering wheel and instrument panel. STS-V features deep-tinted Olive Ash Burl wood accenting the center stack and door trim.

The STS-V will be exported to international markets in 2006, with details on pricing in markets outside the U.S. forthcoming.

CTS-V: The charter member of the V-Series vehicles, the CTS-V is an emphatic statement of Cadillac's entry into top-level competition with the world's finest luxury sports cars.

The four-door, rear-wheel drive CTS-V uses the overhead valve 6.0L V-8 LS2 engine with 400 horsepower (298 kW) and 395 lb.-ft. (536 Nm) of torque. It achieves 0-60 mph in less than 5 seconds with a top speed of 163 mph (262 km), and the quarter mile in 13.1 seconds at 109 mph.

Engine highlights include an aluminum block, two-valve cylinder heads with revisions to the air induction system, and an enlarged dual exhaust system for an impressive V-8 sound. The LS2 V-8 provides CTS-V with racetrack-proven performance, along with smooth, quiet operation and outstanding reliability, durability and quality. The engine's lightweight aluminum construction – including its cylinder heads and block – delivers an excellent power-to-weight ratio (1:9.6) and good chassis balance (53 percent front / 47 percent rear).

Power is delivered through the six-speed manual Tremec T56 transmission that features a dual mass flywheel for reduced noise and vibration harshness. A heavy-duty, increased diameter, 70-mm prop shaft is used for the higher torque requirements. The limited-slip rear axle is fitted with a 3.73:1 final drive ratio to optimize acceleration.

To help develop and manage its higher horsepower and torque output, and to reduce noise, vibration and harshness, the CTS-V features several modifications, including:

- High-profile camshaft opens the valves faster and higher, enabling more airflow in and out of the combustion chambers and contributing to horsepower gains
- High-strength pistons help improve engine durability, particularly under high-performance operating conditions
- Revised valves and stiffer valve springs better accommodate valve operation with the high-lift cam
- Enhanced induction system enables enhanced engine breathing, helping to increase horsepower output
- High-flow intake manifold delivers high amounts of airflow to the intake ports, helping to ensure a broad torque curve while delivering maximum power
- High-flow fuel injectors deliver fuel at the faster rate needed due to increased intake airflow
- Dual exhaust constructed of 2.5-inch (159-mm) diameter stainless steel pipe to help minimize back pressure, increase horsepower and ensure proper exhaust tone. Polished stainless steel tips cap the exhaust pipes
- Engine cover helps reduce underhood noise and features the Cadillac wreath and crest in its center and V-Series identification over each cylinder bank

CTS-V chassis refinements include revised front engine cradle to handle the high horsepower and torque from the V-8 engine. The front stabilizer bar was increased from a 23-mm hollow bar to 26.6-mm hollow bar. Spring rates also were increased from 55 to 70 – a 27-percent increase.

Shock diameter was increased from 36 to 46 mm and valving refined to suit the vehicle's high-performance driving characteristics. For weekend racers and performance enthusiasts, a "Nürburgring" shock package featuring firmer

dampers is available through General Motors Service Parts Organization.

A new steering gear also is included for more precise steering tuning.

A Brembo brake system with 355 x 32 mm front and 365mm x 28 mm rear rotors is incorporated in the CTS-V. The vented rotors are complemented by four-piston front and rear calipers, and linings are tuned for reduced noise and outstanding braking performance.

Tires are Goodyear 245/45WR18 EMT (run flats) mounted on 18 x 8.5-inch aluminum alloy, six-lug rims.

Underneath, a belly pan is positioned under the most forward portion of the vehicle to reduce aero drag and lift at high speeds.

Exterior enhancements on the CTS-V are designed to increase performance, including a unique front fascia with an integrated aero splitter for better aerodynamics and brake ducts vented to cool front brakes. Stainless steel mesh grilles, both below and above the bumper, offer a unique front appearance and allow for free air flow into the engine compartment. Sides include a unique aero rocker design that flows into a specific rear fascia.

CTS-V offers a unique instrument cluster trimmed with satin chrome rings around each gauge. Aircraft-style, white lettering on a black field is used on gauges for better legibility. Other interior design features include a three-spoke steering wheel with an aluminum bezel and specific controls for CTS-V. Satin chrome finishes also are used on the shift knob, door pulls and door handles. The center armrest has been lowered significantly for easier shifting during driving.

CTS-V is produced at GM's Lansing Grand River assembly center, the award-winning manufacturing site for the CTS, SRX luxury utility and STS luxury sedan.



\* SAE certified: A voluntary power and torque certification procedure developed by the SAE Engine Test Code Committee was approved March 31. The procedure (J2723) ensures fair, accurate ratings for horsepower and torque by allowing manufacturers to certify their engines through third-party witness testing to the SAE J1349 standard. GM was the first auto manufacturer to begin using this procedure and expects to use it for all newly rated engines in the future.

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