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Cadillac ATS-V Expands Lineup, Intensifies Passion

First Twin Turbo V-Series delivers track-capable driving experience

LOS ANGELES – Cadillac today introduced the 2016 ATS-V, expanding the acclaimed ATS product range and elevating the brand's elite high-performance V-Series to its next generation.

Available in sedan and coupe forms, the first-ever ATS-V will introduce class-leading twin-turbocharged power and a comprehensive suite of design and performance systems when production begins in spring 2015.

Since its inception in 2004, Cadillac's V-Series has driven remarkable power and performance capability into the brand's growing luxury car range. Building on the strengths of the award-winning ATS product line, the V-Series adds impressive track capability to what was already the lightest and most agile-driving car in the luxury compact class. The result is a dual-purpose luxury performer – a car with true track capability right from the factory that is also a sophisticated luxury car on the road.

"Cadillac's V-Series is the best example of Cadillac's emerging product substance – and the purest expression of the passion at the core of the brand," said Johan de Nysschen, Cadillac President.

The ATS-V arrives next spring, powered by the first-ever twin-turbocharged engine in a V-Series. Rated at an SAE-certified 464 horsepower (346 kW) and 444 lb-ft of torque (601 Nm), the engine is the segment's highest-output six-cylinder and enables 0-60 performance in 3.8 seconds and a top speed of 189 mph. It is backed by a six-speed manual – with Active Rev Match, no-lift shifting and launch control – or a paddle-shift eight-speed automatic transmission featuring launch control and Performance Algorithm Shift.

The Cadillac Twin Turbo engine supports comprehensively redesigned chassis, suspension and drivetrain systems developed to make the ATS-V one of the most agile, responsive and confident luxury performance cars on the market. Key performance technologies include:

- Brembo high-performance brake system developed to provide durability, consistency and the capability for track-day performance straight from the factory
- Third-generation Magnetic Ride Control, which delivers 40 percent faster damping response
- Integrated chassis controls that provide balanced performance for touring and the track, including class-exclusive Performance Traction Management
- Structural stiffness increased by 25 percent for higher cornering loads
- Driver-selectable driving modes for touring, sport and track
- Tri-compound tires offering excellent grip with extended tire wear

- Available downforce-generating track aerodynamics package
- Functional exterior design for powertrain and drivetrain cooling, as well as aerodynamic performance
- An interior with high-performance seats and ergonomics focused on the driver's interfaces with key features for performance driving.

"As the smallest and lightest V-Series ever, the ATS-V forges a great connection with the driver, with exceptional nimbleness and responsiveness," said David Leone, Cadillac Executive Chief Engineer. "It's adaptable to the driver's preferences, with every selectable mode developed to deliver the best performance for all types of driving scenarios, including the track."

A Performance Data Recorder onboard the ATS-V allows drivers to record high-definition video, with data overlays, of their driving experiences on and off the track, enabling sharing on social media.

First twin-turbocharged V-Series

With a more powerful iteration of Cadillac's Twin Turbo 3.6L V-6, the ATS-V represents the first twin-turbo powertrain in the history of the V-Series lineup. Exclusive features for the ATS-V version of the Twin Turbo are designed to make power faster and sustain it longer. Highlights include:

- Turbochargers with low-inertia titanium-aluminide turbines and vacuum-actuated wastegates for more responsive torque production
- Compressors matched for peak efficiency at peak power levels, for optimal track performance
- Patent-pending low-volume charge-cooling system that optimizes packaging efficiency and maximizes boost pressure
- Lightweight titanium connecting rods that reduce inertia of the rotating assembly, complementing the quick-spooling turbochargers.

The Cadillac Twin Turbo also features a high-performance lubrication system designed to maintain optimal oil pressure and ventilation during high-lateral driving maneuvers typically encountered on a track.

Stronger foundation and track-honed driving experience

The underlying ATS structure is highly mass optimized and designed to meet higher performance requirements, with enhancements to the V-Series developed to respond to cornering and torque loads that go significantly beyond the levels experienced by the non-V models.

The new elements include:

- Unique shock tower-to-plenum brace
- Strengthened rocker bulkhead
- Stronger rear cradle-to-rocker braces
- A unique aluminum shear panel at the front of the chassis
- V-braces for the engine compartment.

The result is 25-percent greater structural stiffness than non-V models, which contributes to more precise handling and more direct steering responsiveness.

“The ATS-V feels like it was machined from billet steel,” said Tony Roma, chief engineer. “Along with supporting the higher performance capability of the car, the enhanced structure conveys confidence to the driver through a greater feeling of solidity and sharper, more precise responsiveness.”

With the stronger body structure – and more than a decade of V-Series production models and the CTS-V racing program experience under their belts – engineers tuned the ATS-V to deliver greater body motion control for a more agile feel, while maintaining excellent ride quality.

“The result is class-leading capability on the highway or track, balanced with luxury and refinement,” said Roma. “In fact, the car is ready for the track right off the showroom floor, with no special modifications required.”

A key component of the car’s dual-purpose performance are Michelin Pilot Super Sport tires developed specifically for the ATS-V. They feature a tri-compound tread that delivers excellent grip in performance driving situations, but delivers excellent ride quality characteristics and extended tread wear.

Also, the V-Series models share the same 109.3-inch (2,775 mm) wheelbase as other ATS coupe and sedan models, but feature wider front and rear footprints that enhance grip, reduce body motion in turns and contribute to more direct-feeling steering.

Additional contributors to the ATS-V’s dual-mode driving experience include:

- A revised multi-link double-pivot MacPherson-strut front suspension delivers a quicker response and increased lateral control, incorporating new ride and handling links, where traditional elastomeric bushings are replaced with zero-compliance cross-axis ball joints, higher-rate springs and a stiffer stabilizer bar – for 50 percent greater roll stiffness
- The ZF Steering Systems Servotronic II variable-ratio electric power steering gear, with increased system stiffness offering an improved feeling of precision and greater driver feedback
- Cadillac’s five-link rear suspension features reduced roll center migration, stronger lateral control and effective anti-squat geometry, complementing the front suspension with greater body motion control. Contributing components include stiffer bushings, new cradle mounts, higher-rate springs and a stiffer stabilizer bar
- A standard electronic limited-slip differential supports optimal traction and enables maximum corner exit acceleration
- Larger prop shafts and greater half-shaft asymmetry (stiffer driver’s side shaft) mitigate power hop during acceleration
- A Brembo high-performance brake system provides durability, consistency and the capability for track-day performance. The system includes 14.5-inch-diameter (370 mm) front rotors with staggered six-

piston calipers and 13.3-inch-diameter (339 mm) rear rotors with four-piston calipers.

The ATS-V also features third-generation Magnetic Ride Control and Performance Traction Management. Five driver-selectable settings include the segment's only competition-level settings for stability and traction control.

Magnetic Ride Control "reads" the road a thousand times per second, sending data to magneto-rheological fluid-filled dampers that can independently control the damping characteristics of all four dampers. Third-generation improvements enable 40-percent faster damping response. In fact, at 60 mph, the third-generation magnetic ride control system calculates the optimal damping force for every inch of the road.

Functional design

Almost every exterior panel on the ATS-V is unique, from the fascias and fenders, to the hood, rear spoiler and rocker moldings – and every one was designed to support the car's capability.

"All of the design elements have a purpose," said Andrew Smith, executive director, Cadillac Global Design. "They contribute to lift reduction, enhanced cooling, reduced mass or all of the above."

The unique elements include:

- A lightweight carbon fiber hood features an air-extracting vent that not only pulls hot air out of the engine compartment, but helps reduce lift at speed by channeling air pulled through the radiator out and over the top of car rather than allowing trapped air to exit under the car
- Unique front and rear fascias provide optimal aero performance, with larger grille openings in the front fascia to feed more air to the new twin-turbocharged engine. Even the mesh pattern of the signature grille openings is enlarged to allow more air into the radiator and multiple heat exchangers
- A front splitter enhances handling by forcing air to push down on the front of the car rather than flow under it, where it can cause lift
- Wider fenders to accommodate 18 x 9-inch front wheels and 18 x 9.5-inch rear wheels that are wrapped with Michelin Pilot Super Sport tires
- The aluminum wheels, unique to the V-Series, are constructed of a low-mass forging that helps reduce unsprung weight for greater agility and a more direct feel to steering inputs
- The rocker moldings and rear spoiler are aero-optimized.

Available Carbon Fiber and Track packages take aero performance and mass optimization to higher levels. The Carbon Fiber package includes a more aggressive front splitter, hood vent trim and rear diffuser, along with composite rocker extensions and a taller, body-color rear spoiler. The Track package includes the components of the Carbon Fiber package, plus the

Performance Data Recorder and a low-mass battery. It also deletes the standard floor mats and tire inflator kit to save weight.

“V-Series is the emotive core of the Cadillac brand and the apex of the Art and Science design philosophy,” said Smith. “A car offering a bold sense of arrival, serious performance, seamless integration of technology, and precision craftsmanship. The exposed carbon fiber components, for example, are book-matched on the centerline for a more precise, tailored appearance.”

Also, the lightweight forged aluminum wheels and brake calipers are offered in three finishes, allowing owners to personalize the presence of the ATS-V.

Performance-focused cabin

The aura of track-inspired precision carries over to the interior, where the design and relationship of key components are aimed squarely at performance-driving ergonomics.

“With the performance the new ATS-V is capable of delivering, the interior needs to be as functional as the other vehicles systems,” said Smith. “All of the contact points – the steering wheel, seats, shifter and pedals – are designed to make performance driving experiences direct and intuitive.”

New, available 16-way-adjustable RECARO performance front seats are the lynchpins for the driving experience, with aggressive, adjustable bolsters that help hold the driver and front passenger in place during high-load cornering. They’ve also got a luxury-performance feel, trimmed in Mulan leather with sueded microfiber inserts and seatbacks.

The rest of the interior features Cadillac’s handcrafted cut-and-sew elements, with decorative stitching and authentic materials, including carbon fiber. Three interior color combinations are offered: Jet Black, Jet Black with Saffron accents and Light Platinum with Jet Black accents.

The ATS-V also features a unique version of the 5.7-inch, three-window instrument panel cluster display, with V-Series graphics and distinctive gauge readouts. It is also equipped with the latest connectivity technologies from Cadillac, including:

- CUE with Bluetooth connectivity with natural voice recognition
- Text-to-voice that converts incoming text messages to speech and reads them over the audio system speakers
- USB, auxiliary and SD memory card ports
- OnStar 4G LTE connectivity with built-in Wi-Fi hotspot.

The Performance Data Recorder is controlled via CUE’s color touch screen and recordings can be reviewed on the screen when the vehicle is parked.

Cadillac has been a leading luxury auto brand since 1902. In recent years, Cadillac has engineered a historic renaissance led by artful engineering and advanced technology. More information on Cadillac can be found at media.cadillac.com.

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CONTACT:

Brian Corbett
Cadillac Communications
586-612-6569
brian.corbett@gm.com

2016 CADILLAC ATS- V PRELIMINARY SPECIFICATIONS

Overview

Model:	Cadillac ATS-V coupe and sedan
Body style / driveline:	2-door luxury sport luxury coupe (RWD) or 4-door sport luxury sedan (RWD)
Construction:	unitized welded steel body with direct-mounted front cradle and rubber-isolated, multi-link independent rear suspension
GM vehicle class:	compact luxury car

Engines

	3.6L V-6 Twin-Turbocharged DI VVT
Displacement (cu in / cc):	217 / 3564
Bore & stroke (in / mm):	3.7 x 3.37 / 94 x 85.6
Block material:	cast aluminum
Cylinder head material:	cast aluminum
Valvetrain:	DOHC, four valves per cylinder, continuously variable valve timing
Fuel delivery:	direct high-pressure fuel injection
Compression ratio:	10.2:1
Horsepower (hp / kW @ rpm):	464 / 346 @ 5850
Torque (lb-ft / Nm @ rpm):	445 / 603 @ 3500
Recommended fuel:	premium
Max engine speed (rpm):	6500
EPA-estimated fuel economy (city / hwy):	16 / 24 (automatic) 17 / 23 / (manual)

Transmissions

	TREMEC TR6060	Hydra-Matic 8L90
Type:	fully synchronized six-speed manual with double overdrive; active rev matching and no-lift shifting features	paddle-shift eight-speed, electronically controlled, automatic overdrive with torque converter clutch
Gear ratios (:1):		
First:	3.01	4.56
Second:	2.07	2.97
Third:	1.43	2.08
Fourth:	1.00	1.69
Fifth:	0.84	1.27
Sixth:	0.57	1.00
Seventh:	--	0.85
Eighth:	--	0.65
Reverse:	3.28	3.82
Final drive ratio:	3.73	2.85

Chassis / Suspension

Configuration:	rear-wheel drive
Differential:	electronic limited-slip

Front suspension:	MacPherson-type with dual lower ball joints and direct-acting stabilizer bar; magnetic ride control with monotube inverted struts
Rear suspension:	independent five-link with magnetic ride control
Steering type:	ZF rack-mounted electric, power-assisted and variable assist
Steering ratio:	15.54 (on center) to 11.1 (full lock)
Steering turns, lock to lock:	2.35
Turn circle (ft / m):	38.38 / 11.7
Chassis control:	four-channel StabiliTrak w/ brake assist and traction control; Performance Traction Management

Wheels and Tires

Wheel size and type:	18 x 9-inch front / 18 x 9.5-inch rear aluminum
Tire size:	front: 255/35ZR18 Michelin Pilot Super Sport rear: 275/35ZR18 Michelin Pilot Super Sport

Brakes

Type:	four-wheel disc; four-channel ABS/TCS w/ DRP; Brembo brakes with staggered six-piston calipers (front) and four-piston calipers (rear)
Rotor type and thickness (in / mm):	front: 14.5 x 1.34 (370 x 34) vented, with Ferritic Nitro Carburized process for corrosion resistance rear: 13.3 x 1.02 (339 x 26) vented, with Ferritic Nitro Carburized process for corrosion resistance

Dimensions

Exterior

Wheelbase (in / mm):	109.3 / 2775
Length (in / mm):	184.7 / 4691 – Coupe 184 / 4673 – Sedan
Height (in / mm):	54.5 / 1384 – Coupe 55.7 / 1415 – Sedan
Width (in / mm):	72.5 / 1841 – Coupe 71.3 / 1811 – Sedan
Track (in / mm):	front: 60.5 / 1538 – Coupe front: 60.5 / 1538 – Sedan rear: 61.4 / 1559 – Coupe rear: 60.4 / 1536 – Sedan
Curb weight (lb / kg):	3700 / 1678 (est.)
Weight distribution (% front / rear):	51 / 49

Interior

Legroom (in / mm):	front: 42.3 / 1074 rear: 33.5 / 850
Headroom (in / mm):	front: 37.6 / 954 rear: 35.1 / 891
Shoulder room (in / mm):	front: 54.1 / 1375 rear: 51.1 / 1298
Hip room (in / mm):	front: 54.1 / 1374 rear: 44.5 / 1131

Capacities

Seating capacity (front / rear):	2 / 2 – Coupe 2 / 3 – Sedan
EPA passenger volume (cu ft / L):	83.9 / 2377
EPA trunk volume (cu ft / L):	10.4 / 295
Fuel tank (gal / L):	16 / 60.5
Engine oil (qt / L):	TBD
Cooling system (qt / L):	TBD

Note: Information shown is current at time of publication. Please visit <http://media.gm.com> for updates.