Luxurious New CT6 is Cadillac’s Range-Topping Sedan

The all-new CT6 leads Cadillac’s nomenclature change at the top of the Cadillac line-up. Riding on the rear-wheel-drive Omega architecture, the new sedan is built using GM’s most advanced manufacturing methods and has many features that are first-time offerings on any GM model.

Powertrain

The CT6 has three available engines. The base engine is a turbocharged 2.0L 4-cylinder engine (RPO LTG) that generates 265 horsepower and 295 lb.-ft. of torque.

The all-new twin-turbocharged 3.0L V6 engine (RPO LGW), producing 404 horsepower and 400 lb.-ft. of torque, features Active Fuel Management (AFM). The engine features turbochargers with lightweight, low-inertia titanium-aluminide turbine wheels and an efficient, patented low-volume charge-air cooler.

The all-new 3.6L V6 engine (RPO LGX) is a clean-sheet engine redesign of the DOHC V6 engine family and offers 335 horsepower and 284 lb.-ft. of torque. It incorporates Active Fuel Management (AFM) and Auto Stop/Start technology along with direct injection and continuously variable valve timing.

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Windows 10 Pro Now Supported for Techline Applications

GM Customer Care and Aftersales recently announced it will support Windows 10 Professional (64 bit) for use with the Techline applications, including TiS2Web, GDS 2, MIDI Manager, Service Information, and others. This support of Windows 10 Pro for Techline applications is in response to the numerous technician inquiries that have been received regarding the use of Windows 10 in dealership service departments.

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The fuel-saving engine Auto Stop/Start system is integrated on all three engines. It turns off the engine under certain driving conditions when the brake pedal is applied and the vehicle is at a complete stop. An upgraded starter motor and advanced battery technology support the increased number of engine starts. The starter motor has a high performance electric motor and stronger pinion engagement mechanism. An intelligent battery sensor module monitors the state of charge and health of the battery, which are used by the ECM to determine if the Stop/Start function may be performed.

Two transmissions are available. The Hydra-matic 8L45 8-speed automatic transmission (RPO M5N) is mated with the 2.0L turbo engine and the 3.6L V6 engine. The Hydra-matic 8L90 8-speed automatic transmission (RPO M5X), which is designed and tuned for higher power outputs, is matched with the 3.0L twin turbocharged V6 engine.

**Body Structure**

The CT6 features one of the industry’s most advanced automotive body structures with an aluminum-intensive architecture that incorporates 11 different materials.

For the CT6, engineers developed new body construction techniques and technologies to allow various types of advanced and lightweight materials to be combined within the manufacturing environment, including proprietary aluminum spot welding technology that is more efficient and helps reduce weight. Laser welding, flow drill fasteners and advanced structural adhesives are also employed. Thirteen high-pressure aluminum die castings in the lower body construction reduce complexity and are significant contributors to the architecture’s low mass. The CT6 also has all aluminum exterior body panels.

**TIP:** In the event of a collision, CT6 vehicles requiring structural repairs should be sent to a Cadillac Aluminum Repair Network (CARN) facility. These approved facilities have the training, equipment and tools necessary to properly perform structural repairs. In the U.S., contact the Cadillac Collision Transport Center at 1-877-798-2989 to arrange transport of the vehicle to the nearest CARN facility. This number is for dealerships only. In Canada, dealerships should refer the vehicle to one of the Cadillac-certified aluminum repair facilities in Canada.

The CT6 uses an aluminum-intensive body structure.

The CT6 comes equipped with a high arm multi-link short/long arm suspension. The control arms are made from forged aluminum to reduce weight. The multi-link suspension replaces the lower control arms with two lower links.

The 5-link rear suspension uses forged aluminum control links to increase strength and reduce weight. The long suspension links minimize caster and camber change.

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**Techline News**

**Windows 10 Pro Now Supported for Techline Applications**

Internet Explorer (IE) 11 (32 bit) will continue to be the recommended internet browser. The new Microsoft Edge browser does not support the plugins needed for use with the TIS2Web and Service Information applications.

Updated GM Dealership Infrastructure Guidelines will be available soon outlining the latest technology specifications recommended for dealership service operations.

Additional information also will be released when all dealership applications are ready for use with Windows 10 Pro.

For information about PC hardware that meets Techline requirements, visit gmdesolutions.com.

Thanks to Lisa Scott
Luxurious New CT6 is Cadillac’s Range-Topping Sedan  
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Interior Features

Inside the CT6, extended comfort seats feature premium Opus leather, five massage programs, reclining rear seats and Cadillac’s first application of woven-in-seat heating elements.

An articulating rear seat package offers approximately 3.3 inches (83 mm) of adjustable seat travel, lumbar adjustment, tilting cushions, a massage feature, heating/cooling features and an armrest with media controls.

The Bose® Panaray® audio system, which is the first to use Bose VideoWave®, Articulated Array® and line array speakers in an automotive environment, has 34 speakers strategically integrated in the vehicle cabin, of which 33 are 3.94 inches (100 mm) or less in size. The VideoWave speakers are integrated into the floor.

The CT6 is equipped with a large 10.2-inch (259 mm) diagonal Cadillac CUE interface screen. The capacitive-touch screen reacts faster when scrolling and recognizes handwriting for address and points of interest searches. The touchpad allows control of CUE features while resting an arm on the center console rather than touching the screen.

Safety Features

There are many new safety and technology features available on the CT6. The Backing Warning and Rear Automatic Braking system on vehicles equipped with Adaptive Cruise Control can warn of rear objects when backing up at speeds greater than 5 mph (8 km/h). When the system detects a potential collision, beeps will be heard from the rear, or five pulses will be felt on both sides of the Safety Alert Seat. There may also be a brief, sharp application of the brakes.

The Night Vision system can help the driver see and be alerted to pedestrians or large animals ahead of the vehicle beyond the area lit by the headlamps. A thermal heat image of the view ahead is displayed when it is dark enough outside. If a pedestrian or large animal is detected more than 82 ft. (25 m) away, an amber pedestrian or animal icon displays and a box appears around the pedestrian or animal on the instrument cluster. When the system detects that the vehicle is approaching a pedestrian ahead much too quickly, the amber box changes to red. With the Front Pedestrian Braking system turned on, Night Vision provides a red Head-Up Display (HUD) alert when the system detects that the vehicle is approaching a pedestrian ahead much too quickly.

Also available on the CT6 is Cadillac’s patented new industry-leading Rear Camera Mirror system, which enhances the driver’s rear vision by an estimated 300 percent compared to a conventional inside rearview mirror. A high-dynamic range camera records wider images behind the car, streams the image to video processing software that removes obstacles — such as the roof, rear pillars and rear seat passengers — and projects an unobstructed view to the in-mirror display. The display is a 1280 by 240-pixel TFT-Liquid Crystal Display (LCD) with 171-pixels per inch.

Drivers can disable the mirror’s video streaming function and use the traditional electrochromic rearview mirror by flipping the toggle on the underside of the mirror.

Automatic Vehicle Hold (AVH), when activated, can prevent the vehicle from moving when stopped. It can be turned on by pressing the AVH button with the driver’s safety belt fastened, the driver’s door closed, and the engine running. After the brake pedal has been released and before the accelerator pedal has been pressed, AVH uses braking pressure to hold the vehicle stationary. In addition, the ABS pump motor may activate to build brake pressure to maintain the vehicle at a standstill if necessary. If AVH is holding the vehicle, the AVH indicator will change to green. While AVH is holding the vehicle, the parking brake will engage if the driver’s door is opened or the driver’s safety belt is unfastened.

Special Tools

The following new tools were released for the CT6:

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For additional information on the all-new Cadillac CT6, refer to Bulletin #16-NA-112.

(*) Thanks to Sherman Dixon and Blake Sterling
Steering Wheel Airbag Removal

The steering wheel airbag on 2016-2017 Malibu and Volt models is secured using spring fasteners. These fasteners can be accessed from access holes behind the steering wheel on both sides of the wheel.

The removal procedure for the airbag has been updated. Here is the new procedure.

1. Disconnect the battery and wait 20 seconds before beginning the removal procedure.
2. Locate the two access holes on the back of each side of the steering wheel, located at approximately 5 o’clock and 7 o’clock.

3. Insert two 3mm or 1/8-inch Allen wrenches into each access hole. A screwdriver is too large and will not clear the metal guides inside the access holes.

4. Slide the Allen wrenches through the metal guides (shown in green) inside the access holes until they bottom out against the retaining fasteners. The guides will properly position the wrenches against the fasteners. Do not wiggle or force the wrenches.

5. Once the wrenches contact the retaining fasteners, apply pressure straight inward simultaneously to push the spring fasteners inward and disengage the airbag from the steering wheel. This will release all three airbag attachments.

6. Carefully rotate the top of the airbag down until it is horizontal to the steering wheel. Release the Connector Position Assurance (CPA) retainer and disconnect the electrical connectors to remove the airbag.

Thanks to Dallas Walton and Chuck Wieseckel

GM TechTube Videos Offer Quick, Concise Technical Information

The GM TechTube videos available on the GM Center of Learning provide technicians with quick and concise reviews of specific repair procedures, offering repair insights and just-in-time knowledge. Topics range from high pressure fuel pump replacement and transmission fluid level checking procedures to circuit load testing and AFIT setup and testing.

The short, informative videos, which run 10 minutes or less, can be accessed on laptops, tablets or smartphones. A number of new TechTube videos have been released recently, with more on the way.

To view the videos, click the GM TechTube link on the Center of Learning home page.

A user account is required to log in to the Center of Learning website or through GM GlobalConnect.

The available videos are organized by the following technical categories:

- Maintenance
- Engine/Propulsions
- Electrical/Electronics
- Transmission
- Auto Body and Paint
- Body Systems
- Driveline Axle
- Brakes
- Steering and Suspension
- HVAC
- Tech for Non-Tech
- Tools and Equipment
- Power and Signal Distribution

The TechTube videos also can be viewed by selecting Video on Demand under the Resources tab at the top of the home page. Select the GM TechTube channel to view a list of all available TechTube videos.

To search for a specific video, enter the course number or course name in the search box.

Thanks to Ken Billings
CT6 Active Chassis System

The advanced performance chassis system of the Cadillac CT6 is designed to deliver an engaging driving experience — delivering segment-best ride, handling and isolation qualities — with active on-demand all-wheel drive, active rear steering and Magnetic Ride Control on the available Active Chassis System.

**Active Rear Steering**

Active Rear Steering (ARS), standard on the Platinum edition and offered as an option on the Luxury and Premium models, improves low-speed maneuverability and increases agility at higher speeds. At low speeds (below 22.3 mph or 36 km/h), the rear wheels turn in the opposite direction of the front wheels in both forward and reverse gears. The system allows the rear wheels to turn in unison with the front wheels at higher speeds (above 22.3 mph or 36 km/h), which enhances the vehicle’s ability to change direction. The result is a full-size car that handles like a mid-size sports sedan.

**Active Rear Steering Smart Actuator**

The ARS system consists of a smart actuator that contains the control module and motor and the linkage that transmits the force from the actuator to the rear steering knuckle and wheels. The ARS system is controlled by the Electronic Brake Control Module (EBCM), which uses inputs including vehicle speed, steering wheel angle sensor, and steering wheel angle rate of change to determine the correct rear wheel steering angle.

The EBCM uses the Chassis GMLAN bus to command the Rear Wheel Steering Control Module (RWSCM) to turn the rear wheels. The RWSCM provides feedback to the EBCM for the steering position and rate of change. The ARS system can mechanically move 4.6 degrees but the controller limits movement to 3.5 degrees.

**Active On-Demand AWD**

Active-on-demand all-wheel drive (AWD) — standard on all CT6 V6 models — is also part of the Active Chassis System, making the most of handling and stability in all weather conditions. The AWD configuration adds an active transfer case after the transmission that splits the power between the one-piece front propeller shaft and the two-piece rear propeller shaft.

The AWD system features a Magna model MP 3713G one-speed transfer case. Software calibrations tune an on-demand torque biasing friction clutch. When a driver enters a turn, clutch torque decreases based on the various GM LAN inputs, such as steering angle and vehicle speed, to prevent crow-hopping or driveline binding from occurring at low speeds.

The torque split between the front and rear axle is not fixed, which differs from an open center differential transfer case. The active design can transfer 0 to 100 percent of the torque to the front axle. The torque transfer is adjusted based on multiple inputs, including wheel slip, engine speed, throttle position, transmission gear and the selectable driving modes of Tour, Snow/Ice or Sport mode.

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CT6 Active Chassis System continued from page 5

Torque is moved to the front axle through an active wet clutch within the transfer case. The actuator motor turns a worm gear that rotates the shift shaft, which actuates a scissor mechanism and applies the clutch.

The selectable driving modes use magneto-rheological technology to independently control each of the shock absorbers and struts and change the characteristics of the suspension system. Magneto-rheological technology independently controls the fluid viscosity in each strut and shock absorber. Front struts and rear shock absorbers contain an internal electrical coil and micron-sized metal particles in the magneto-rheological fluid. The suspension control module uses pulse width modulated (PWM) current to the electric coil within each strut or shock. The PWM current increases the fluid viscosity by aligning the metal particles within it, which increases or decreases the suspension damping force during both compression and rebound.

In all types of weather and road conditions, the system allows drivers to tailor the system to deliver a customized ride and precise handling.

(Thanks to Sherman Dixon and Blake Sterling)

Fuel Odor or Leak from Top of Fuel Tank

A fuel odor, fuel leak or fuel weeping may be noticed at the top of the fuel tank on some 2015-2016 Colorado and Canyon trucks. This condition may be caused by chemicals being carried in the truck bed.

Sulfuric acid, such as from leaking batteries, or other chemicals placed in the bed of the truck may leak or be washed through the holes in the pickup box and settle on the top of the fuel tank. As a result, chemical damage to the fuel pump module may be seen as a fractured port or cracks in the plastic flange.

Vehicles with a spray-on bed liner also may exhibit the condition because the floor/front panel seam is not fully sealed. Verify fuel pump damage or failure and replace the fuel pump module.

Before reinstalling the fuel tank to the vehicle, install a drain hole plug to the open left side drain hole location.

After installation of the new fuel pump module, apply seam sealant to the top-side front joint of the pickup bed floor and front panel.

(Thanks to Charles Hensley)