

All-New Cadillac XT4 Enters Compact Luxury SUV Market



All-new 2019 XT4

The all-new 2019 XT4 is Cadillac's first entry in the compact luxury SUV market. The 5-passenger SUV is available as a front-wheel drive (FWD) or all-wheel drive (AWD) model with three trim levels: Luxury, Premium Luxury, and Sport.

The compact XT4 has a wheelbase of 109.4 inches (277.9 cm) with an overall length of 181.1 inches (460 cm). It has 6.7 inches (17 cm) of ground clearance.

New Turbocharged Engine

The XT4's new 2.0L 4-cylinder turbocharged engine (RPO LSY) — featuring Active Fuel Management (AFM), Spark Ignited Direct Injection (SIDI), Dual Overhead Camshafts (DOHC), and Variable Valve Timing (VVT) — produces 237 horsepower and 258 lb.-ft. of torque with a 0–60 mph (0–97 km/h) estimated time of 7 seconds (FWD) or 7.2 seconds (AWD). It's the first engine built off the new cylinder set strategy (CSS) engine architecture.

Cadillac designed the new turbocharged 2.0L engine for the XT4 to deliver performance along with fuel efficiency. It has a twin-scroll turbocharger to help reduce turbo lag while also using Active Fuel Management (AFM) and an automatic engine stop/start system to help improve fuel economy. To better balance power output with fuel economy, the engine also has a Sliding Cam Valve Lift System (SCS) that modifies camshaft timing under changing engine demand.

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Customer Care and Aftersales

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A new active thermal management cooling system on the engine is used to control the coolant temperature, sending heat where it is needed to reduce friction and to heat the passenger compartment while also cooling the engine and transmission.



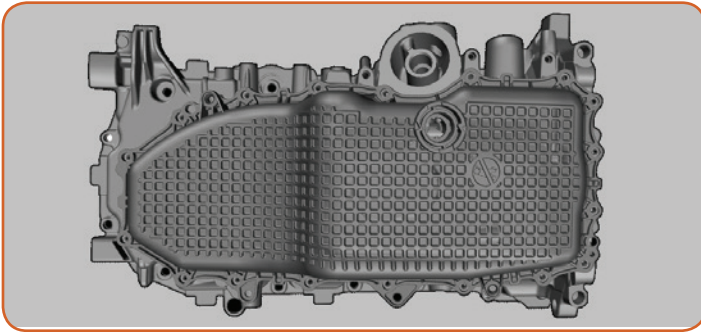
New 2.0L 4-cylinder turbocharged engine (RPO LSY)

An electric water pump is mounted to the bottom left side of the engine and supplies the coolant flow through the entire active thermal management system. The ECM controls the water pump over the Local Interconnect Network (LIN).

The main rotary valve and the block rotary valve are combined into one unit called the coolant control valve. The main rotary valve distributes coolant to the transmission and engine oil heat exchangers as well as the radiator and cabin heat exchangers. The block rotary valve provides coolant flow for engine block temperature control as well as cabin heating during warm-up.

Engine Oil

Use dexos1® - GEN 2 full synthetic SAE 0W-20 engine oil in the 2.0L turbo engine.



Engine oil pan

TIP: The lower engine oil pan is made of plastic and is attached at the engine block lower structural extension. Do not use the oil pan to lift the engine.

Air Filter

The Engine Air Filter Monitor is a software feature that uses sensors to read the pressure drop across the engine air filter. A higher pressure drop indicates that more debris has accumulated in the filter. A computer-based algorithm uses the pressure drop reading and the age of the air filter to calculate a precise reading of air filter life, which can be viewed as a percentage on the Driver Information Center (DIC).

If the air filter should be replaced at the next engine oil change, the Replace at Next Oil Change message will display on the DIC. If the Replace Now message is displayed, the air filter should be replaced

as soon as possible. The air filter life status should be reset using the DIC controls after replacing the air filter.

9-Speed Transmission

The Hydra-Matic 9T50 automatic transmission (RPO M3H) is a 9-speed, transverse-mounted, electronically-controlled transmission. It consists primarily of a 4-element torque converter, a compound planetary gear set, friction and mechanical clutch assemblies, and a hydraulic pressurization and control system. Drivers make a gear selection using the Electronic Precision Shift lever.

Electronic Precision Shift (EPS), or Electronic Transmission Range Selector (ETRS), features a console-mounted lever to shift gears electronically. It does not use a mechanical connection. The shift pattern, displayed on the top of the shift lever, is a straight up-and-down pattern, which is slightly different from the pattern of the EPS in the XT5.



9T50 automatic transmission (RPO M3H)



Electronic Precision Shift

The selected gear position illuminates in red on the shift lever, while all others are white. If the shift is not immediate, as in very cold temperatures, the indicator on the shift lever may flash until it is fully engaged. The shift lever always starts from a center position and, after releasing the shift lever, returns to the center position. The shifter has a dedicated Park button at the top of the lever and a Shift Lock Release button on the left side of the lever. The Shift Lock Release button must be pressed to shift out of Park or to shift into Reverse.

AWD System

The all-wheel drive (AWD) system with Active Twin Clutch on the XT4 electronically splits the torque as needed between the rear

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wheels using twin clutches. Compared to a single clutch system with a 50/50 split, the Active Twin Clutch has the capability to enhance traction and stability across all driving conditions. Plus, by not pushing torque when it's not needed, the system improves vehicle fuel economy.

Active Sport Suspension

Available as an option on the Sport Trim is the Active Sport Suspension, which features Continuous Damping Control with electronic sensors that monitor the road in real time and make damping adjustments every two milliseconds.

Suspension characteristics as well as steering and powertrain tuning can be changed at any time by the driver by using the Mode button on the center console to select a different Drive Mode setting.



Drive Mode settings

Integrated Brake Control

The XT4 is the first Cadillac to use electro-hydraulic braking assist, which enhances fuel economy and takes up less space under the hood compared to a traditional vacuum-assisted power braking system.

The system uses an Integrated Brake Control (IBC), also called the K160 Brake System Control Module, that interprets and converts driver brake pedal input and provides a corresponding hydraulic pressure output to activate a standard brake system.

Depending on optional equipment, vehicle performance systems may include antilock brakes (ABS), traction control, electronic stability control, brake pad life monitoring, Dynamic Rear Proportioning, brake drying, Hill Start Assist, Hill Descent Control, Adaptive Cruise Control, and others.

Next Generation Infotainment Systems

The XT4 offers two infotainment systems (RPOs IOS, IOT) that include the next generation of the Cadillac User Experience. The system is designed to operate more like a smartphone and features high-resolution screen graphics, faster response to inputs, and improved voice recognition technology.

It also includes Near Field Communication (NFC) device pairing. NFC is a set of communication protocols that enable two electronic devices, such as a smartphone, to establish communication by bringing them within 1.57 inches (4 cm) or less of each other. To pair a compatible smartphone using the NFC system, simply hold the phone up to the NFC icon near the Home button below the infotainment screen. After pairing is initiated, confirm the codes that appear on the infotainment screen.

The Bluetooth system also enables two phones to be paired at the same time. The infotainment system will connect to the phone that is set to First to Connect, which can be selected by going to Settings > System > Phones and touching the Information icon by the phone name. The secondary phone can only receive calls.



NFC icon near the Home button

Rotary Controller

In addition to the touch screen, a multi-function rotary controller for interacting with the infotainment system is located on the center console. The center console controls consist of a large dial that enables movement between apps and menus (press the controller to select an item); a small dial for audio volume/tuning along with seek buttons; and shortcut buttons for Home, Audio, Phone, and Navigation (if equipped) menus as well as a Back button to return to a previous menu.



Infotainment controls on the center console

Driver Assistance Systems

Depending on option packages, the new XT4 features a number of active safety and driver awareness systems. Available systems include:

- Safety Alert Seat
- Rear Camera Mirror
- Surround Vision 360-degree Camera
- Lane Change Alert with Side Blind Zone Alert
- Lane Keep Assist with Lane Departure Warning
- Front/Rear Park Assist
- Rear Cross Traffic Alert
- Front Pedestrian Braking
- Forward Collision Alert
- Forward/Reverse Automatic Braking
- Head-Up Display
- Automatic Parking Assist with Braking

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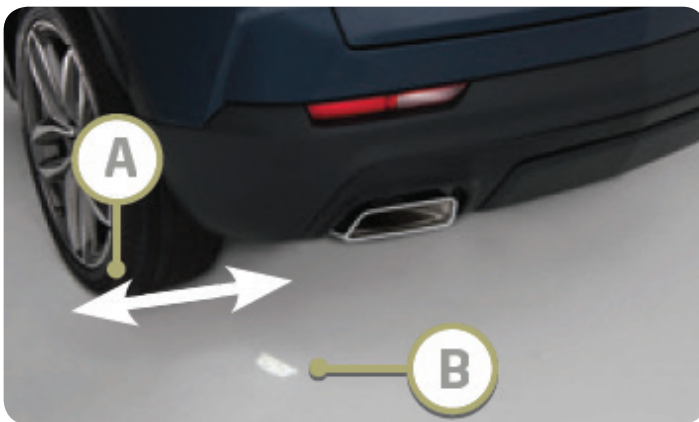


XT4 features a number of active safety and driver awareness systems.

Hands-Free Power Liftgate

The power liftgate can be programmed to an adjustable height using the power button next to the pull handle. It also features hands-free operation, which is activated by kicking your foot straight under the left corner of the rear bumper. The Remote Keyless Entry (RKE) transmitter must be within 3 feet (0.91 meters) of the liftgate.

To indicate the hands-free kicking location, the vehicle logo projects on the ground near the left corner of the rear bumper. The RKE transmitter is detected within 6 feet (1.8 meters) of the liftgate. The logo is shown for one minute, depending on operating conditions.



Hands-free kicking location (A) and projected vehicle logo (B)

Special Tools

The following new special tools were released for the 2019 XT4.

For more information on the new 2019 XT4, refer to Bulletin #18-NA-258.

Special Tools	
Tool Number	Description
EN-51955	Injector Seal Protector, Installer, Size
EN-52287	Harmonic Balancer Holder
EN-52436	Timing Chain Tensioner Retention Tool
EN-52439	Crankshaft Oil Seal Ring Guide – Rear
EN-52441	Balance Shaft Timing Tool
EN-52442	Balance Shaft Holding Tool
EN-52442	Balance Shaft Holding Tool
EN-52443	HP Fuel Pump Alignment Tool
EN-52461-100	Adapter 50T of Cam Phaser Torque Reaction Tool
EN-52462-A	Camshaft Tool
EN-52476	Flywheel Lock and Alignment Tool
EN-52461	Cam Phaser Torque Reaction Tool
EN-52486	Oil Pressure Gauge Adapter
EN-52483	Guide Pins (Cover Inst.)
EN-50791-100	Adapter, Fuel Injector Installation Tool
CH-52519	EVAP Service Port Adapter
EN-51007-10	Engine Support Fixture Adapter Feet
CH-47976-517	Adapter, Cable G8
EN-52055-150	Lift Table Adapter
EN-52055	Lift Table Adapter Set
GE-52200	Powertrain Lift Table
<p>9T50 Transmission (RPO M3H) Special Tools have been shipped previously for other GM vehicles. The tools also are available through the GM Loan Tool Program (U.S.) and for purchase by calling 1-800-GM-TOOLS.</p>	

🌐 Thanks to Richard Miller and Sherman Dixon

2019 XT4 Features New Integrated Brake Control

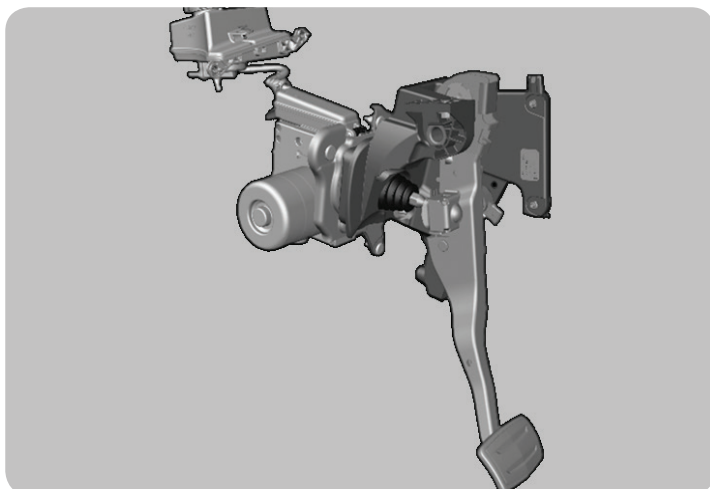
The 2019 XT4 is the first Cadillac to use electro-hydraulic braking assist, which enhances fuel economy and takes up less space under the hood compared to a traditional vacuum-assisted power braking system.

The system uses an Integrated Brake Control (IBC) — the K160 Brake System Control Module — that interprets and converts driver brake pedal input and provides a corresponding hydraulic pressure output to activate a standard brake system. In the event of no electrical energy or a failure condition, the driver's brake pedal input is mechanically converted to a hydraulic pressure output.

The IBC is a one-piece module that eliminates the master cylinder, vacuum pump and associated hoses while incorporating electronic stability control, traction control and an electric motor to push hydraulic fluid to the brakes at all four corners. The module is 13 lbs. (6 kg) lighter than the total weight of a conventional system.

Brake Pedal Signal

When the driver applies the brake pedal, the brake pedal position sensor reads the driver's intent to apply the brakes. The Body Control Module (BCM) monitors the brake pedal position sensor signal and sends a high-speed serial data message to the IBC indicating the brake pedal position. By using a digital signal, brake rotor runout feedback to the driver at the brake pedal also is eliminated.



Integrated Brake Control

During a panic stop, the system does not rely on brake pedal apply force to determine the driver's intent but rather the speed with which the driver applies the brake pedal. Increased brake pressure is provided electronically through the IBC, which activates the anti-lock braking system if necessary and stops the vehicle as quickly as possible.

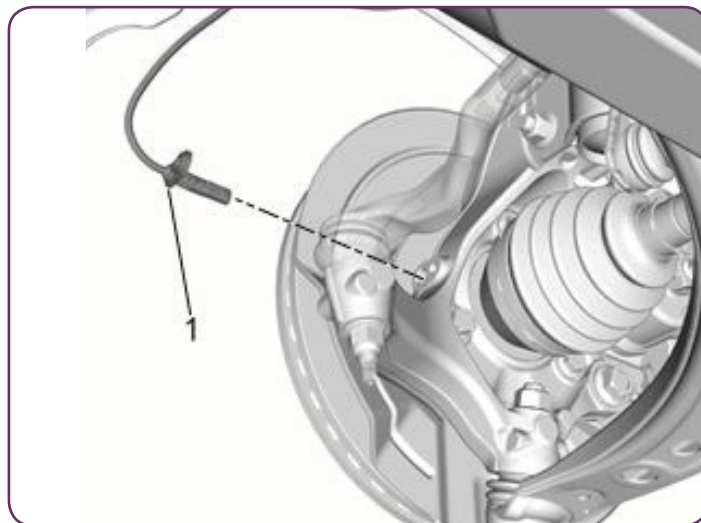
Brake Pad Wear Sensors

The XT4 features a new brake lining wear sensor system that estimates the remaining life of the front and rear brake pads. When the feature is active, brake pad life can be displayed on the Driver Information Center along with a percentage and distance for each

axle. The IBC supplies voltage to the brake pad wear sensor, which is part of the brake caliper assembly.

Wheel Speed Sensors

The XT4 also is equipped with unique directional Wheel Speed Sensors (WSS) that can detect wheel direction as well as zero wheel speed. As the wheel spins, the WSS sends the IBC a DC square wave signal. The IBC uses the frequency of the square wave signal to calculate the wheel speed.



Wheel speed sensor

If excessive wheel slip is monitored for greater than five seconds with a vehicle reference velocity of less than 1.9 mph (3 km/h), the traction control system will recognize this as a "stuck" condition. Once detected, the traction control system will allow additional wheel slip of 5% to help assist the vehicle. The additional wheel slip does not guarantee the vehicle will get out of the stuck condition, but is designed to assist the driver.

Power-Up-Self Test

The Brake System Control Module is able to detect many malfunctions whenever the ignition is on. However, certain failures cannot be detected unless active diagnostic tests are performed on the components. Shorted solenoid coil or motor windings, for example, cannot be detected until the components are commanded on by the Brake System Control Module. A power-up self-test is performed by the Brake System Control Module when the ignition is first turned on to verify correct operation of system components along with electrical checks of system sensors and circuits.

🙏 Thanks to Richard Miller and Sherman Dixon

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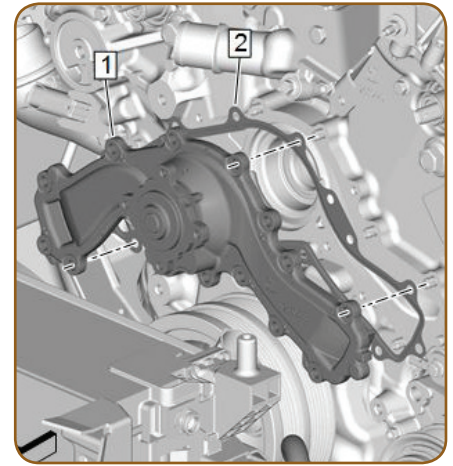
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Engine Belt or Water Pump Noise

Some 2016-2018 ATS, CTS, Camaro and 2017-2018 Acadia, LaCrosse, and XT5 models equipped with the 3.6L V6 engine (RPO LGX) and 2016-2018 CT6 models equipped with the turbocharged 3.0L V6 engine (RPO LGW) or the 3.6L V6 engine (RPO LGX) may have a slight, intermittent squeak noise coming from the front of the engine belt area. The Check Engine MIL may be illuminated and DTC P0324 (Knock Sensor System Performance) may be set in the Engine Control Module (ECM). At times, DTC P0324 may be set by noise from the water pump.



Water pump on the 3.6L engine

If a sound is heard, listen to the water pump with a stethoscope or chassis ears tool for any unusual noise. Compare the noise to a similar vehicle.

In addition, observe the knock retard bank-to-bank using GDS 2 and then remove the belt and check the knock retard again.

If there is a difference in the knock retard or a noise is heard at the water pump, replace the water pump and reevaluate the condition.

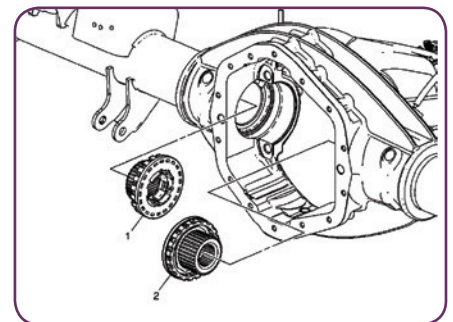
If there are not any noises heard or a different in knock retard, follow the normal diagnostics outlined in the appropriate Service Information.

For additional information, refer to PIP5545A.

🙏 Thanks to Aron Wilson

Intermittent ABS Light on Express and Savana Vans

The Antilock Brake System (ABS) light may illuminate intermittently and a Service StabiliTrak message may be displayed on some 2018 Express and Savana vans equipped with dual rear wheels (RPO R05). DTC C0050 Sym 0F (Right Rear Wheel Speed Sensor Circuit Signal Erratic) also may be set.



Axle shaft-mounted wheel speed sensors

Follow the published diagnostic procedure in the appropriate Service Information for DTC C0050 Sym 0F.

TIP: The inboard axle shaft-mounted wheel speed sensors, sensor retainers and bolts, sensor rings and ring retainers are unique to the updated 11.5 HD dual rear wheel axle. These components are mounted inboard near the differential, rather than near the wheel ends of the axle tubes as on other axle models. The Wheel Speed Sensor Ring is attached to the differential adjuster with a clip type retainer.

If the condition is not corrected after following the normal diagnostics, ask the customer if the conditions only occur after driving on rumble strips on the right side of the road.

Do not perform any additional repairs for these conditions. For more information, refer to PIT5623A.

🙏 Thanks to Scott Fibranz

Navigation System SD Card Now Shipped in Keys Bag for 2019 Silverado 1500 and Sierra 1500

2019 Silverado 1500 and Sierra 1500 models equipped with infotainment system RPO IOT are the only models that will have an SD card for the navigation system. There is not an SD card for infotainment system RPOs IOR and IOS because they do not have embedded navigation systems.



Navigation radio RPO IOT

In response to dealership feedback, the assembly plant no longer places the navigation SD card separately in the Loose Items bag. The navigation SD card is now placed in a smaller bag labeled Keys, which is included inside the Loose Items bag.

In addition, the Pre-Delivery Inspection (PDI) Form Special Instruction Items section has been revised to point out the inclusion of the navigation SD card, how it is shipped, and that it should be inserted into the SD card slot during the PDI process.

During PDI, the SD card should be inserted into the SD slot in the center console or the center of the instrument panel below the climate controls.

If the navigation SD card is not inserted into the SD slot, the infotainment system may display an SD card error message. Do not remove the SD card during the same ignition cycle. If an error message is displayed across ignition cycles, follow the appropriate Service Information.



Navigation radio RPO IOT

Check paint finish for dents, dings, chips, scratches, or blemishes.
 Set clock/calendar to local time
 Using a clean cloth, clean the wiper blades using GM OptiClean windshield washer fluid, if necessary
 Thoroughly clean all glass surfaces, use plain water on interior glass
 Adjust tires to pressures specified on the Certification/Tire Label (including spare, if equipped)
 Check condition and charge battery using **PDI Mode** on the EL-50313 battery tester/charger (Midtronics GR6)
 Check Investigate Vehicle History (IVH) for required field actions. All open field actions must be completed prior to vehicle delivery

Special Inspection Items

Interior - "Transport Mode On" may display on the DIC or the red battery light may flash. To turn the mode off, start the engine, activate hazard flashers, press brake pedal and turn the ignition key to the crank position for 10 seconds.
NEW Interior - Set NAV radio to the correct region. NAV Map data is on an SD Memory card (included with loose ship parts on vehicles with RPO IOT) to be inserted into the console or center stack SD slot.
 Interior - Place plastic bags from loose shipped parts in tote/cart Center Stack behind the seat/crate (if equipped). Otherwise, place in glove box.
 Note - Vehicles in dealer inventory need to be properly maintained for a quality delivery. Refer to latest TSB 09-00-89-002.
 Exterior - Check operation of power-retractable running side board (if equipped).
 Exterior - Ensure all GM accessories are installed. Examples: cargo lamps, running boards, cargo hooks. Refer to accessory installation manual in SI.
Final Inspection & Prep - For vehicles that are equipped with RPO ZL6 and RPO PTT. (Chevrolet Silverado Advanced Trailering Package) there will be four additional Tire Pressure Monitor Sensors for installation into up to four trailer tires that can be monitored and displayed on the vehicle trailering application.
Final Inspection & Prep - Due to normal daily & seasonal temperature changes, tire pressures MUST be rechecked at time of delivery. Consult Tire Loading Label Recommended Cold Tire Inflation Pressure.
Final Inspection & Prep - Vehicles built with Duramax Diesel engines (RPO LM2) only. Diesel Exhaust Fluid (DEF) MUST be filled with 2.5 gallons (9.5L) at the time of Pre-Delivery Inspection. Refer to the Duramax Diesel Owner Manual supplement.

Declaration: I certify that this Pre-Delivery Inspection has been completed by:

Technician (Print Name)	Service Manager (Signature)	Date
	File With Repair Order	062818 r1.2

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Updated PDI form

🙏 Thanks to Dave MacGillis

Service Know-How

10218.09V - Emerging Issues - September 13, 2018

The latest service topics from GM Brand Quality and Engineering are covered, including a preview of the 2019 Camaro and a look at Service Information wiring diagram symbols and icons.

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