



Service Bulletin

INFORMATION

Subject: 2018 Chevrolet Equinox New Model Features

Brand:	Model:	Model Year:		VIN:		Engine:	Transmission:
		From:	To:	From:	To:		
Chevrolet	Equinox	2018	2018	All	All	Gasoline, 4 Cylinder, L4, 1.5L, DI, DOHC, VVT, Turbocharged — RPO LYX Gasoline, 4 Cylinder, L4, 2.0L, DI, DOHC, VVT, DCVCP, Turbocharged — RPO LTG Diesel, 4 Cylinder, L4, 1.6L, DI, UREA, CRI, DOHC, VGT Turbocharged — RPO LH7	Hydra-Matic™ 6T40, Automatic, 6-Speed, GEN 3, VAR1 — RPO MNH (ATSS Capable) or RPO MNK (AWD or FWD) Hydra-Matic™ 9T50, Automatic, 9-Speed, GEN 1 — RPO M3D (ATSS Capable) (AWD or FWD) Hydra-Matic™ 6T45, Automatic, 6-Speed — RPO MHG (ATSS Capable) (AWD or FWD)

Involved Countries	United States, U.S. Virgin Islands, Puerto Rico, Canada, Mexico, Israel, China, South America, Central America, Middle East, Africa, Korea, Eastern Europe, Australia and New Zealand
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Overview



Chevrolet Equinox

Bulletin Purpose

This is a special bulletin to introduce the 2018 Chevrolet Equinox. The purpose of this bulletin is to help the Service Department Personnel become familiar with some of the vehicle's new features and to describe some of the action they will need to take to service this vehicle.

Overview

The all-new 2018 Equinox is sized and designed to meet the needs of the compact SUV customer. It is a five-passenger, four-door, front-wheel-drive (FWD) vehicle, with available all-wheel-drive (AWD). The 2018 Equinox will be available in L, LS, LT and Premier models. The L model is not available in Canada and Globally, the all-new Equinox replaces the Captiva and will be offered in LS, LT and Premier models. The Equinox's exterior has a lean and muscular look echoing the global Chevrolet design cues and sculpted shapes. Extensive development in the wind tunnel influenced the sleek aerodynamic shape. Projector-beam headlamps are standard, along with LED daytime running lamps. At the rear, horizontal tail lamps emphasize a wide stance, while uplevel models feature LED headlamps and tail lamps. The interior takes advantage of the all-new architecture to offer a down-and-away instrument panel, while a low windshield base provides a commanding outward view. New features such as available denim-style seat fabric blend style with high durability, while a new **kneeling** rear seat enhances functionality. The kneeling rear seat bottom cushions tilt forward when the split-folding seatbacks are lowered, allowing a flat floor for easier loading. Chevrolet's latest connectivity technologies are front and center, including a seven or eight-inch color diagonal MyLink™ infotainment system (depending on equipment), designed to support Apple® CarPlay™ and Android™ Auto™. The available eight-inch diagonal touch-screen has a flat design that's similar to a tablet, a device which many customers are already familiar with.

Vehicle Highlights

Some of the vehicle highlights are:

- Equinox is the first Chevrolet model in North America to offer an all turbocharged multi-engine propulsion lineup. A range of three turbocharged engines, including the compact SUV segment's first turbo-diesel in North America, provides more choices when it comes to performance, efficiency and capability. They include a 1.5L turbo with a 6-speed automatic transmission, a 2.0L turbo matched with GM's new nine-speed automatic transmission and a 1.6L turbo-diesel matched with a 6-speed automatic transmission, to be available later in the year after the initial model launch.
- Equinox is approximately 400 pounds (180 kg) lighter than the current model, which is a 10 percent reduction in weight, improving handling performance and fuel efficiency.
- Capless fuel system offers convenience and prevents scratching that results from a tethered fuel cap dangling across the vehicle's paint.
- Dual rack and pinion electric power steering (EPS).
- Electronically controlled Aero Shutters in upper and lower grilles.
- Four link independent rear suspension.
- Four-wheel disc brakes with ABS and ESC; Duralife™ rotors and low-drag calipers.
- Fuel-saving Stop/Start technology is standard with all three engines.

- IntelliBeam™ headlamps are also new, offering automatic high-beam control.
- MacPherson strut front suspension with side-loaded modules, specifically tuned coil springs and a direct-acting stabilizer bar.
- The AWD system comes standard with a switchable ON-OFF feature that enhances efficiency by disconnecting from the rear axle when it (AWD) is not needed.



- The unique kneeling rear seat enables a flat rear load floor and up to 63.5 cubic feet (1,798 liters) of maximum cargo space.
- Significantly improved turning circle. The all-new Equinox will have a turning diameter of 37.4 feet (11.4 meters) when equipped with 17-inch tires, 38.4 feet (11.7 meters) when equipped with 18-inch tires and 41.7 feet (12.7 meters) when equipped with 19-inch tires. All measurements are a significant improvement, about 10 percent with the 17-inch tire over the current model.
- 17, 18 or 19-inch aluminum wheels depending on model and selected equipment.

Safety Highlights

The Equinox offers a comprehensive suite of available active safety technologies and adaptive crash-avoidance features that provide ease of use when on the road. Teen Driver is also offered, allowing parents to set controls and review an in-vehicle report card in order to encourage safer driving habits, even when they are not in the vehicle. All of the Equinox's crash-avoiding and passenger-protecting technologies are built into a stronger body structure that incorporates high-strength steel in key areas to help prevent intrusion into the passenger compartment.

- New Forward Collision Alert (FCA) with Following Distance Indicator.
- New Lane Keep Assist (LKA) with Lane Departure Warning (LDW).
- New Low-Speed Forward Automatic Braking (FAB).
- New Rear Seat Reminder.
- New Safety Alert Seat.
- New Surround Vision.
- Lane Change Alert (LCA) with Side Blind Zone Alert (SBZA).
- Rear Cross Traffic Alert (RCTA).

Airbag System

Airbag System

Airbags are designed to supplement the protection provided by seat belts. Even though today's airbags are also designed to help reduce the risk of injury from the force of an inflating airbag, all airbags must inflate very quickly to do their job. Everyone in the vehicle should wear a seat belt properly, whether or not there is an airbag for that person. All vehicle airbags have the word AIRBAG on the trim or on a label near the deployment opening. The airbags are located in the following positions:

- A frontal airbag for the driver.
- A frontal airbag for the front outboard passenger.
- Seat-mounted side impact airbag for the driver.
- Seat-mounted side impact airbag for the front outboard passenger.
- A roof-rail airbag for the driver and the passenger seated directly behind the driver.
- A roof-rail airbag for the front outboard passenger and the passenger seated directly behind the front outboard passenger.

Airbag Readiness Light

The Airbag Readiness Light displays if there is an electrical problem with the airbag system. The system check includes the airbag sensors, passenger sensing system, the pretensioners, the airbag modules, the wiring, and the crash sensing and diagnostic module (SDM). The airbag readiness light turns **ON** for several seconds when the vehicle is started. If the light does not turn **ON**, have it repaired immediately.

Brakes

Brakes — Description and Operation

All models have standard four-wheel disc brakes with Duralife™ brake rotors. The vehicle is equipped with a Continental Teves Mk100 with ABS, traction control, electronic stability control and a hydraulic brake system with diagonal brake circuit split. The electronic brake control module (EBCM) controls the system functions and detects failures. The EBCM and the brake pressure modulator are serviced separately. The brake pressure modulator uses a four circuit configuration to control hydraulic pressure to each wheel independently. Brake enhancements include a new brake-apply system and low-drag calipers. A revised brake pedal system complements the brakes with improved feelings of firmness and smoothness. There is very little pedal travel before the brakes start to apply.

Depending on equipment, the following vehicle performance enhancement systems are provided:

- **Antilock Brake System:** When wheel slip is detected during a brake application, an ABS event occurs. During ABS braking, hydraulic pressure in the individual wheel circuits is controlled to prevent any wheel from slipping. A separate hydraulic line and specific solenoid valves are provided for each wheel. The ABS can decrease, hold, or increase hydraulic pressure to each wheel. The ABS does not increase hydraulic pressure above the amount which is transmitted by the master cylinder during braking.
- **Brake Cleaning:** This feature automatically cleans the disc brakes by using the scraping and heat created from applied brake pressure to the brake pads. This helps to improve the brake system response time, especially in wet road conditions.
- **Dynamic Rear Proportioning:** The Dynamic Rear Proportioning is a control system that replaces the mechanical proportioning valve. Under certain driving conditions the EBCM will reduce the rear wheel brake pressure by commanding the appropriate solenoid valves ON and OFF.
- **Electric Park Brake:** An electric park brake comes standard on all trims. It takes the guesswork out of parking on an incline because it eliminates the need for the driver to determine how much to press the pedal foot brake on a steep incline. Simply set the park brake at the flick of a button and accelerate to release, which makes hill starts a breeze. The overall braking system is about 15 pounds (6.8 kg) lighter than the one on the current model, thanks, in part, to a new electric park brake. By making the electric park brake standard, engineers were able to eliminate linkage and cables. This eliminates the cable drag inside the sheath and the related possible brake drag, which can have a positive impact on fuel economy. The new electric park brake system has fewer moving components helping to improve reliability and decrease maintenance costs.
- **Electronic Brake Force Distribution (EBD):** Optimizes control of rear brake pressure on all road surfaces and under all vehicle loading conditions.
- **Electronic Stability Control:** Electronic Stability Control (ESC) provides added stability during aggressive maneuvers. Yaw rate is the rate of rotation about the vehicle's vertical axis. The stability control is activated when the EBCM determines that the desired yaw rate does not match the actual yaw rate as measured by the yaw rate sensor. The difference between the desired yaw rate and the actual yaw rate is the yaw rate error, which is a measurement of over steer or under steer. When a yaw rate error is detected, the EBCM attempts to correct the vehicle's yaw motion by applying brake pressure to one or more of the wheels. The amount of brake pressure which is applied varies, depending on the correction required. The engine torque may be reduced also, if it is necessary to slow the vehicle while maintaining stability. Stability control can be manually disabled or enabled by pressing and holding the traction control switch for five seconds.
- **Fading Brake Support:** In long, hard braking, such as on a lengthy mountainous descent, there is a risk of brake fade. This feature uses the hydraulics to gradually build brake pressure, maintaining brake pedal feel.
- **Hill Hold Start Assist:** The Hill Hold Start Assist allows the driver to launch the vehicle without a roll back while moving the foot from the brake pedal to the accelerator pedal. The EBCM calculates the brake pressure, which is needed to hold the vehicle on an incline and locks that pressure for a certain time by commanding the appropriate solenoid valves ON and OFF when the brake pedal is released. Hill Hold Start Assist is activated when the EBCM determines that the driver wishes to move the vehicle up-hill, either backwards or forwards.
- **Hydraulic Brake Assist:** The Hydraulic Brake Assist function is designed to assist the driver in stopping or decreasing vehicle speed in emergency braking situations. The EBCM receives inputs from the brake pressure sensor. When the EBCM senses an emergency braking situation, it will actively increase the hydraulic brake pressure to a specific maximum by turning the pump motor ON.
- **Intelligent Brake Assist:** The Intelligent Brake Assist function is designed to provide limited braking to help prevent front and rear low speed collisions. The EBCM receives inputs from the brake pedal position sensor, wheel speed sensors, short range radar and ultrasonic sensors to detect a collision. When the EBCM senses a possible collision, it will actively increase the hydraulic brake pressure to apply the brakes.
- **Low-Drag Calipers:** In a conventional disc brake system, there is always slight contact between brake pads and the rotor, even when the brakes are released. This creates rotational resistance on the rotor, known as **brake drag**, which negatively affects fuel economy and can cause uneven rotor wear that results in vibrations felt by the driver when braking. Low-drag calipers incorporate specially designed components to ensure that the pad-to-

rotor gap is precisely maintained, and that reduced slide forces are kept throughout the life of the vehicle, contributing to improved fuel economy.

- **Optimized Hydraulic Braking System:** On turbocharged equipped engines, the EBCM monitors the vacuum in the brake booster with a vacuum sensor and controls a brake booster vacuum pump depending on vacuum sensor input. It also has a hydraulic brake boost feature which supplements the brake system to maintain consistent brake performance under conditions of low brake booster vacuum. Low brake booster vacuum conditions can include initial start up after the vehicle has been parked for several hours, very frequent brake stops, or high altitude driving. The hydraulic brake boost system activates only during a brake apply under low vacuum conditions. In this case the EBCM will actively increase and control the hydraulic brake pressure by turning the pump motor ON and the appropriate solenoid valves ON and OFF. When hydraulic brake boost is active, a series of rapid pulsations is felt in the brake pedal.
- **Panic Brake Assist:** Detects attempted panic braking and provides brake pressure in addition to what's provided by the conventional brake system.
- **Traction Control:** When drive wheel slip is detected, the EBCM will enter traction control mode. First, the EBCM requests the engine control module (ECM) to reduce the amount of torque to the drive wheels via a serial data message. The ECM reduces torque to the drive wheels and reports the amount of delivered torque. If the engine torque reduction does not reduce drive wheel slip, the EBCM will actively apply the brakes on the slipping drive wheel. During traction control braking, hydraulic pressure in each drive wheel circuit is controlled to prevent the drive wheels from slipping. The EBCM commands the pump motor and appropriate solenoid valves **ON** and **OFF** to apply brake pressure to the slipping wheel. Traction control can be manually disabled or enabled by pressing the traction control switch.

Duralife™ Brake Rotors

The vehicle is equipped with Duralife™ Ferritic Nitro-Carburized brake rotors and low drag brake calipers. Application of the Ferritic Nitro-Carburizing (FNC) technology involves an additional manufacturing process that heats the rotors at 1,040°F (560°C) for up to 24 hours in a giant oven. Inside the nitrogen-rich atmosphere, nitrogen atoms bond to the surface of the steel rotor, hardening and strengthening the rotor. This unique surface treatment, equivalent to one-tenth the width of a human hair, creates sufficient friction and allows for effective braking performance while providing corrosion protection and allowing the brake rotor to wear much slower. Over time, the buildup of rust can also lead to brake pedal and/or steering wheel shudder. GM is the only company that has found a way to effectively treat brake rotors using FNC technology.

Electric Power Steering

Electric Power Steering (EPS)

All models feature a standard electric-variable power-assist steering system that helps save fuel by drawing energy only when the steering effort is applied. The EPS system complements Equinox's balance of responsiveness and comfort, with a light and direct feel. The EPS system on Equinox also incorporates Lead-Pull Compensation, which automatically adjusts the steering angle to account for factors like crowned roads or high crosswinds, which can typically cause the driver to turn the steering wheel slightly to maintain a straight path. Without the driver's knowledge, sensors detect the steering correction and adjust the torque applied to the steering system to relieve the effort on the driver, helping to maintain smooth, straight driving with less input. Included is Active Return Assist, which helps the driver return the steering wheel after a turn and Motor Control Software Algorithms that allow smooth performance on the highway by filtering out road vibrations.

Additional EPS advantages over a hydraulic system include:

- Excellent response and on-center characteristics.
- Power is used only when the vehicle is actually turning, as opposed to a constantly running hydraulic power steering pump, which positively impacts fuel economy.
- Variable-effort steering increases the level of power assistance during low-speed maneuvers, such as parking, and decreases the level of power assistance at higher speeds.
- No need for a pump, eliminates fluid leaks and the need to check the power steering fluid level.
- Noise reduction, because there is no pump or fluid flowing through hoses and valves.

Electronic Vehicle Control Features

- **Engine Drag Control:** Prevents the wheels in motion from locking on slippery surfaces under the influence of engine braking, which can happen if the driver releases the accelerator abruptly. The braking effect of the engine may cause the wheels to skid and to temporarily lose traction, making the vehicle unstable. In such situations, engine drag control maintains directional stability and helps boost safety.
- **Engine Stop/Start Pressure Hold:** This feature builds on Equinox's Stop/Start technology by applying brake pressure as the brake pedal is released and the engine is in the process of restarting.
- **Hill Start Assist with Automatic Vehicle Hold:** With Hill Start Assist (HSA), which is standard across the Equinox lineup, the brakes can hold for up to four seconds, depending on road grade, when the driver takes his/her foot off the brake pedal. This prevents rollback for a more confident takeoff on hilly roads or terrain. New for Equinox is the addition of Automatic Vehicle Hold (AVH). With AVH, the brakes can hold for up to five minutes before going

into the extended hold feature, at which point the electric park brake gets applied.

- **Power Hop Mitigation:** Power hop mitigation protects the driveline and engine mounts during a Traction Control event by reducing/transferring engine torque to the slipping wheel and applying brake pressure.
- **StabiliTrak® Electronic Stability Control System:** StabiliTrak® is standard on all models and works with the ABS four-wheel disc brake system and four-channel individual wheel circuits to provide more precise and controlled ABS stops, greater traction and excellent cornering stability.
- **Steering Torque Overlay:** This feature adds or subtracts torque to the steering system to help the driver stay in control of the vehicle during a slip control (braking) event; i.e., it feels easier to counter steer to correct the slip control event and feels harder to steer into the slip control event. Steering torque does not move the steering wheel without driver input.
- **Torque Vectoring by Brakes:** A StabiliTrak® based feature that enhances vehicle agility by precisely applying the brake on the inside drive axle wheel. It may also increase engine torque above what the driver requests to accelerate the outside drive axle wheel as the vehicle is turning near the handling limit of the vehicle.
- **Trailer Sway Control:** Uses the StabiliTrak® Electronic Stability Control System to detect trailer instability and apply differential braking to dampen out trailer oscillation and instability.

Engine — 1.5L Turbocharged Gasoline — RPO LYX

Overview

GM's versatile and technologically advanced Ecotec family of engines expands in the Equinox with a new 1.5L — RPO LYX turbocharged, power-dense version. The engine's wide rpm range for maximum torque, helps it deliver a better driving experience and increased performance. The new 1.5L Turbo engine was tested under GM's strict regimen, one of the toughest sets of standards in the industry, which includes a battery of round-the-clock performance and durability trials. The 1.5-liter shares architecture with other Ecotec engines, but gets its own unique cam timing (later intake valve closure) and an improved turbocharger to boost performance and economy. It has an aluminum cylinder block and head, which helps reduce the vehicle's overall mass. Technologies such as Central Direct Fuel Injection and Continuously Variable Valve Timing (VVT) bring an optimal balance of strong performance and low fuel consumption. The engine should deliver approximately 31 mpg (7.6 L/100km) of fuel economy on the highway (GM estimate). The trailering capability of the Equinox when equipped with this engine is 1,500 lbs (680 kg).

Engine and Fuel — 1.5L LYX

- **Camshaft/Camshaft Drive:** Two camshafts are used, one for all intake valves, the other for all exhaust valves. The camshafts are assembled with steel lobes. The engine design uses a chain to drive the dual overhead camshafts (DOHC). The chain is an inverted tooth or silent design with a 6.35 mm pitch to ensure quiet operation and is hydraulically tensioned to be maintenance-free. The tensioner has a ratchet mechanism to reduce chain movement during engine starts to eliminate noise. The lightweight plastic/composite chain guides have a unique grooved face design to reduce friction. Both the crank sprocket and cam sprockets are hardened to prevent wear even with extended oil change intervals.
- **Camshaft Cover:** The camshaft cover has a steel crankcase ventilation baffling incorporated. The camshaft cover has mounting locations for the ignition system.
- **Central Direct Fuel Injection:** The engine is equipped with a central direct injection system. The fuel system consists of 4 separate direct injection (DI) fuel injectors, one high pressure fuel rail, and a high pressure fuel feed pipe that connects the high pressure fuel pump to the fuel rail. The injectors are each seated into their individual bores in the cylinder head with two combustion seals that provide sealing. The high pressure fuel pump mounts to the rear of the cylinder head and is driven by the intake camshaft. Motion is transmitted to the pump from a tri-lobe on the rear of the camshaft through a hydraulic roller lifter.
- **Crankshaft:** The crankshaft is forged micro alloy steel. It is supported in 5 main journals with main bearings which have oil clearance for lubricating. The thrust bearing is located in the 4th position which controls proper crankshaft axial end play. The crankshaft is also comprised of 8 counterweights that have been scalloped for mass reduction and topped for precise engine balance. A harmonic balancer is used to control torsional vibration.
- **Cylinder Block:** The cylinder block is constructed of aluminum alloy by high-pressure die casting with 4 cast-in-place iron cylinder liners arranged in-line. The block has 5 crankshaft bearings with the thrust bearing located on the second bearing from the rear of the engine. The cylinder block incorporates a bedplate design that forms an upper and lower crankcase. This design promotes cylinder block rigidity and reduced noise and vibration.
- **Cylinder Head:** The cylinder head is DOHC type with 2 camshafts that open 4 valves per cylinder using hydraulic valve lash adjusters. The camshaft sprocket wheels are installed in front of the camshafts. The cylinder head is made of cast aluminum alloy for better strength in hardness and light weight. The combustion chamber of the cylinder head is designed to increase the squish and swirl efficiency, which maximizes the combustion process. The exhaust manifold is integrated into the cylinder head.
- **Continuously Variable Valve Timing:** Continuously Variable Valve Timing (VVT) brings an optimal balance of strong performance and low fuel consumption. Aluminum cam phasers enable variable timing for the opening and closing of the inlet and exhaust valves, optimizing fuel consumption and performance under a wide variety of engine load conditions.

- **Ignition System:** The ignition system is coil-on-plug.
- **Intake Manifold:** The intake manifold is made of composite plastic. The intake manifold incorporates a distribution and control system for positive crankcase ventilation (PCV) gases.
- **Integrated Exhaust Manifold:** The exhaust manifold is integrated in the DOHC cylinder head. The single-piece design results in quicker engine warm-up, which contributes to better emissions performance and enhances durability by eliminating the need for gasket sealing around the exhaust ports, as well as offering an underhood packaging advantage.
- **Math-Modeled Combustion System:** The Math-modeled combustion system used one-dimensional and three-dimensional math-based models in order to refine the parameters of the combustion system design. This process determined the optimal 6-degree injector angle, as well as the shape of the chamber itself and the complementing piston dish, which is shaped to help direct the fuel spray for a more complete burn of the mixture.
- **Oil Pump:** The oil pump is a crankshaft driven oil pump integrated in the pump module. The oil pump draws engine oil from the oil pan and feeds it under pressure to the various parts of the engine. An oil strainer is mounted before the inlet of the oil pump to remove impurities which could clog or damage the oil pump or other engine components. When the crankshaft rotates, the oil pump driven gear rotates. This causes the space between the gears to constantly open and narrow, pulling oil in from the oil pan when the space opens and pumping the oil out to the engine as it narrows. At high engine speeds, the oil pump supplies a much higher amount of oil than required for lubrication of the engine. The oil pressure regulator prevents too much oil from entering the engine lubrication passages.
- **Piston and Connecting Rod:** The pistons are cast aluminum. The pistons use 2 compression rings and 1 oil control ring assembly. The piston is a low friction, lightweight design with a recessed top and barrel shaped skirt. The piston pins are chromium steel and are a full-floating design. The connecting rods are powdered metal. The connecting rods are fractured at the connecting rod journal and then machined for the proper clearance. All applications use a piston with a graphite coated skirt. The piston and pin are to be serviced as an assembly.
- **Turbocharger:** The turbocharger consists of a turbine and compressor on a common shaft. The shaft bearing is constructed for very high rotation speeds and is lubricated by engine oil. The turbocharger is water cooled for improved durability. The turbine wheel is driven by exhaust emissions. The compressor wheel compresses the intake air. A wastegate bypass valve regulates the charging pressures as needed.
- **Upper Oil Pan:** The oil pan is a structural aluminum oil pan with transmission attachment. It includes the oil suction pipe which is connected with the oil pump. The oil pan is attached at the lower crankcase.
- **Valves:** There are 2 intake and 2 exhaust valves per cylinder. Positive valve stem seals are used on all valves.
- **Valve Lash Adjusters:** The valve train uses a roller finger follower actuated by a hydraulic lash adjuster. The roller finger follower greatly reduces friction and noise.

Engine Specifications

- **Displacement:** 1.5L (92 cubic inches)
- **Bore x Stroke:** 74mm x 86.6mm
- **Compression Ratio:** 10.0:1
- **Firing Order:** 1-3-4-2
- **Horsepower:** 170 Horsepower (127 kW) @ 5,600 RPM (GM Estimate)
- **Torque:** 203 lb-ft (275 Nm) @ 1,800-4,200 RPM (GM Estimate)
- **Valves:** 2 intake and 2 exhaust valves per cylinder
- **Valve Lash Adjusters:** Roller finger follower acted on by a hydraulic lash adjuster
- **Recommended Fuel:** Regular unleaded gasoline rated 87 octane or higher

Engine — 2.0L Turbocharged Gasoline — RPO LTG



Typical View of the 2.0L Turbocharged Engine — RPO LTG

Overview

Performance from GM's Ecotec family of engines continues to advance with the 2.0L Turbocharged — RPO LTG, which is based on a generation of large displacement four cylinder engines which are designed for greater efficiency. The turbocharger generates up to 20 pounds (138 kPa) of boost and its twin-scroll design helps optimize the usable power from the engine, virtually eliminating turbo lag and helping deliver a broad power band. It also gives the engine the rapid throttle responsiveness associated with a higher displacement naturally aspirated high performance engine. Electronically controlled turbocharger supporting components including the wastegate and bypass valve, help optimize performance and efficiency. The trailering capability of the Equinox when equipped with this engine is 3,500 lbs (1,588 kg).

Engine and Fuel — 2.0L LTG

- **Cam-Driven High Pressure Fuel Pump:** A high pressure, cam-driven fuel pump provides the higher fuel pressure required by the direct injection system. The engine mounted fuel pump is augmented by a conventional electrically operated supply pump in the fuel tank. The fuel delivery system features a high-pressure stainless steel feed line and a pressure regulated fuel rail without a conventional fuel return line from the engine to the tank. Fuel pressure varies from about 750 psi (5,171 kPa) at idle to 2,250 psi (15,513 kPa) at wide open throttle (WOT).
- **Cylinder Block:** The sand-cast aluminum 319T7 cylinder block is a superior refinement of previous Ecotec engine block castings. It is dimensionally similar with previous Ecotec turbo block variants, while providing improved structural support, as well as enabling greater control of noise, vibration and harshness. The main bearing bulkheads, which support the crank bearings, as well as the cylinder bore walls have been significantly strengthened to support increased engine loads. Refinements to the oil distribution system enable improved oil flow throughout the engine and an expansion of the coolant jacket, along with the use of cast-in-place bore liners, allows more precise bore roundness and improves the block's ability to dissipate heat.
- **Cylinder Head — Rotocast Aluminum with Sodium Filled Exhaust Valves:** The Ecotec 2.0L turbo's A356T6 aluminum cylinder head is cast using a Rotocast process for high strength, reduced machining and improved port flow. The head is also designed specifically for direct injection. The 2.0L turbo head has unique injector mounting locations below the ports. Apart from injector installation, the head has conventional port and combustion chamber designs, both are optimized for direct injection and high boost pressure. The head uses stainless steel intake valves that are nitrided for improved durability and undercut to improve flow and reduce weight. The exhaust valves have sodium-filled stems that promote valve cooling. At normal engine operating temperatures, the sodium inside the valve stem fuses and becomes liquid. The liquid sodium improves conductivity, promoting heat transfer away from the valve face and valve guide to the cooler end of the stem, where it more readily dissipates. This helps maintain a lower, more uniform valve temperature, reducing wear on the valve guide for better alignment and a consistent seal between the valve seat and valve face over the life of the engine. The exhaust manifold is mounted to the cylinder head and is made of cast stainless steel. It is extremely durable and delivers exceptional airflow qualities.
- **DOHC with Continuously Variable Valve Timing:** Overhead cams are the most direct, efficient means of operating the valves, while four valves per cylinder increase airflow in and out of the engine. This arrangement is integrated on the lightweight aluminum cylinder head. Continuously variable valve timing optimizes the engine's turbocharging system by adjusting valve timing at lower rpm for improved turbo response and greater torque delivery. Both the intake and exhaust cams have hydraulically operated vane-type phasers that are managed by a solenoid and directed by the engine control module (ECM). The phasers turn the camshaft relative to the drive sprocket, allowing intake and exhaust valve timing to be adjusted independently. Cam phasing changes the timing of valve operation as conditions such as rpm and engine load vary. This provides an outstanding balance of smooth torque delivery over a broad rpm range, high specific output and improves fuel consumption.

- **Ignition System:** The ignition system is coil-on-plug.
- **Rotating Assembly:** The crankshaft is made of drop forged steel with induction heat-treated fillets and cross-drilled chamfered oil passages for racing grade lubrication characteristics. Forged powdered metal connecting rods incorporate a larger, forged I-beam cross section for added strength in this turbocharged application. The pistons in the 2.0L turbo are lightweight cast aluminum, which reduces reciprocating mass inside the engine. This enhances efficiency and the feeling of performance as the rpm increases. The tops of the pistons have a dish shape that deflects injected fuel. Each piston has its own directed jet that sprays oil toward its skirt, coating its underside and the cylinder wall with an additional layer of lubricant. The extra lubrication cools the pistons, reduces both friction and operational noise and bolsters engine durability.
- **Side Direct Fuel Injection:** Side direct fuel injection moves the point where fuel feeds into an engine cylinder closer to the point where it ignites, enabling greater combustion efficiency. It fosters a more complete burn of the fuel in the air-fuel mixture, and operates at a lower temperature than conventional port injection. This allows the mixture to be leaner (less fuel and more air), so less fuel is required to produce the equivalent horsepower of a conventional, port-injection fuel system. Direct injection also delivers reduced emissions, particularly cold-start emissions, by about 25 percent. The higher compression ratio with direct injection is possible because of a cooling effect as the injected fuel vaporizes in the combustion chamber, which reduces the charge temperature to lessen the likelihood of spark knock. The direct injection fuel injectors have been developed to withstand the greater heat and pressure inside the combustion chamber, and feature multiple outlets for best injection control.
- **Two Stage Variable Displacement Oil Pump:** The variable flow oiling system helps maximize fuel efficiency. Rather than the linear operation of a conventional fixed flow pump, it is accomplished with a crankshaft driven oil pump that matches the oil supply to the engine load. The engine's variable flow pump changes its capacity based on the engine's demand for oil. This prevents using energy to pump oil that is not required for proper engine operation. An engine oil cooler helps maintain optimum oil temperatures. It has a heat exchanger incorporated into the oil filter housing. Coolant to the heat exchanger is provided by the engine's coolant circuit. The design optimizes oil cooling with a minimal pressure loss. During the cold starting, the system also enables faster heating of the engine oil for an earlier reduction of internal engine friction.
- **Twin-Scroll Turbocharger:** An advanced, electronically controlled turbocharger with a unique twin-scroll design is used to increase power in the engine. Each of the two scrolls on the turbine is fed by a separate exhaust passage, one from cylinders one and four, the other from cylinders two and three and virtually eliminates turbo lag at low engine speeds, giving the engine immediate throttle response associated with a naturally aspirated high-performance engine. The turbocharger generates a maximum boost of approximately 20 psi (138 kPa). Because direct injection cools the intake process it allows the engine to safely operate at higher boost and a relatively higher compression (9.5:1) ratio than a conventional turbo engine, increasing both output and efficiency.
 - **Air-to-Air Charge Air Cooler:** The turbocharger intake system is supported by an air-to-air charge air cooler system, which uses fresh air drawn through a heat exchanger to reduce the temperature of the hot compressed air exiting the turbo compressor, prior to delivery to the engine combustion system. Inlet air temperature can be reduced by up to 100°C (180°F), which enhances performance. This is due to the higher density of oxygen in the cooled air, which promotes optimal combustion. The charge air cooler is connected to the turbocharger and to the throttle body by flexible ductwork that requires the use of special high torque fastening clamps. In order to prevent any type of air leak when servicing the ductwork, the tightening specifications, cleanliness and proper positioning of the clamps is critical, and must be strictly adhered to.
 - **Cam-Driven Vacuum Pump:** A cam-driven vacuum pump ensures the availability of vacuum under all conditions, especially under boost, when the engine produces the opposite of vacuum. The pump is mounted at the rear of the cylinder head and is driven by the exhaust camshaft.

Engine Specifications

- **Displacement:** 2.0L (1998cc) — (122 cubic inches)
- **Bore x Stroke :** 86mm (3.39 inches) x 86mm (3.39 inches)
- **Compression Ratio:** 9.5:1
- **Firing Order:** 1-3-4-2
- **Horsepower:** 250 Horsepower (186 kW) (GM Estimate)
- **Torque:** 260 lb ft (353 Nm) (GM Estimate)
- **Maximum Engine Speed:** 7,000 rpm
- **Valves:** 2 intake and 2 exhaust valves per cylinder
- **Valve Lifters:** Hydraulic roller finger follower
- **Recommended Fuel:** Premium unleaded
- **Emissions controls:** Evaporative system, Catalytic converters (close coupled and underfloor) and Positive Crankcase Ventilation (PCV)

Engine Oil — dexos1® — Gasoline Engines



Ask for and use engine oils that meet the dexos® specification. Engine oils that have been approved by GM as meeting the dexos1® specification are marked with either of the approved logos as shown. For additional information, visit this General Motors website: <http://www.gmdexos.com>

Viscosity Grade

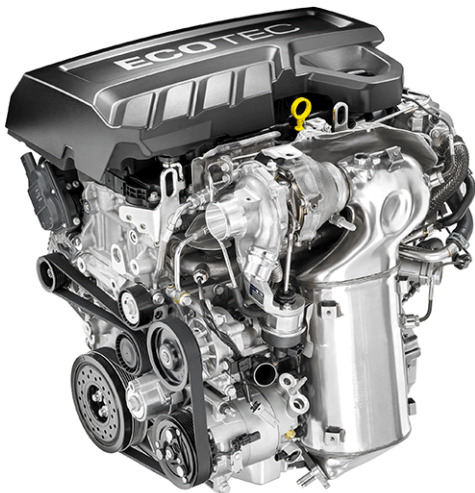
1.5L — RPO LYX Engine: Use ACDelco® dexos1® SAE 0W-20 viscosity grade engine oil.

2.0L — RPO LTG Engine: Use ACDelco® dexos1® SAE 5W-30 viscosity grade engine oil. In an area of extreme cold, where the temperature is less than -20°F (-29°C), use SAE 0W-30 viscosity grade engine oil. An oil of this viscosity grade will provide easier cold starting for the engine at these colder temperatures.

Engine Oil Life System

The vehicle features GM's engine oil life system, which better protects engines by recommending oil changes based on a computer software algorithm using actual engine operating conditions and can save the vehicle owner money by avoiding unnecessary oil changes.

Engine — 1.6L Turbocharged Diesel — RPO LH7



Typical View of the 1.6L Turbocharged Diesel Engine — RPO LH7

Overview

The all-new 2018 Equinox after the initial launch, will offer a segment-first 1.6L — RPO LH7 turbocharged diesel engine that is efficient, very quiet and fun to drive. The engine was designed by GM engineers from the ground up to meet global requirements, leveraging the corporation's technical resources throughout the world. As such, every part on the engine, down to excruciating details were also designed with quiet running operation in mind. It is barely noticeable that it is a diesel, even at idle. This diesel engine provides more low-speed torque than its gas counterparts making the vehicle feel very lively from a stop. The 1.6L turbocharged diesel engine has undergone grueling testing, including being subjected to extreme ambient and engine operating temperatures. Extensive time was devoted to developing the engine cold start calibration to ensure it functions optimally no matter the weather, allowing the vehicle to start at a wide range of altitudes and environmental ambient temperatures. The trailering capability of the Equinox when equipped with this engine is 1,500 lbs (680 kg).

Engine and Fuel — 1.6L LH7

- **Camshaft:** Two camshafts are used, one for all intake valves, one for all exhaust valves. The camshafts are cast iron. The camshafts are driven by a cam to cam gear. The exhaust camshaft has a split gear.
- **Cylinder Block:** The cylinder block is light weight aluminium and the cap inserts are a nodular cast iron. The block has 5 crankshaft bearings with the thrust bearing located on the third bearing from the front of the engine.
- **Cylinder Head:** The cylinder head is made of cast aluminum alloy for better strength and light weight. The cylinder head is a dual over head camshaft (DOHC) type having 2 camshafts that open 4 valves per cylinder with roller finger followers and valve bridges. The cam follower is of the hydraulic type and does not require adjustment for valve clearance. The combustion chamber is designed to increase squish and swirl efficiency, maximizing the combustion process.
- **Crankshaft:** The crankshaft is a forged steel crankshaft with 4 counterweights. It is supported in 5 main journals with main bearings which have oil clearance for lubricating. The 3rd bearing of the 5 main bearings is the thrust bearing and controls the crankshaft axial end play. A crankshaft balancer is used to control torsional vibration.
- **Diesel Exhaust Fluid System:** NOx emissions are controlled via a Selective Catalytic Reduction (SCR) aftertreatment system that uses urea-based diesel exhaust fluid (DEF), which is housed in a 4.9-gallon (18.5 L) tank. It needs to be replenished about every 7,500 miles (12,070 km), the same as the vehicle's recommended oil change interval during typical operation. An information graphic on the Driver Information Center displays **OK** until the DEF reaches a predetermined amount of remaining life expectancy, at which point the remaining DEF life is displayed in percentages, enabling the driver to plan their DEF fluid refill with plenty of notice. The DEF fill point is located in the fuel-filler door for optimal convenience. Electrically heated lines feed DEF to the SCR system to ensure adequate delivery in cold weather.
- **ECU:** GM-developed engine control unit and software for more robust engine calibration, quicker engine response, improved accuracy, quieter engine operation and precision of overall engine control.
- **Fuel System — Brushless Fuel Pump Motor** The turbocharged diesel engine will feature a brushless fuel pump motor to improve the life of the fuel system. Brushed motor fuel pumps create heat due to the brushes rubbing against a commutator. This rubbing wears away both the brushes and the commutator, making the fuel pump a wear item similar to brake pads and rotors. The pumping and pressurizing of fuel also generates additional heat. Brushless motors do not suffer from the friction and wear found on a brushed motor and they generate less heat. That's because nothing touches outside of a few bearings and it uses a controller to determine speed and output. The controller has the ability to lower output when less pressure is needed and to increase output when more pressure is needed. This results in a significantly reduced fuel temperature.
- **Ignition System:** Compression ignition.
- **Intake Manifold:** The intake manifold is made of a composite material for increased strength and reduced weight.
- **Oil Pan:** The oil pan includes the oil suction pipe, which is connected with the oil pump. The oil pan is attached at the lower crankcase.
- **Oil Pump:** The oil pump is a variable displacement type.
- **Piston:** Aluminum pistons with shallow-dish bowl profile.
- **Recommended Fuel (U.S.):** Diesel fuel with ultra low sulfur content (15 ppm, maximum) is required. For best results use No. 2-D diesel fuel year-round because it is blended for seasonal temperature differences, both above and below freezing conditions.
Biodiesel: Blends up to B5 must meet ASTM D975 (Grades No. 2-D or No. 1-D S15 Ultra Low Sulfur Diesel). Blends containing more than 5% and up to 20% biodiesel must meet ASTM specification D7467. For additional information visit www.bq-9000.org for a list of certified marketers.
- **Recommended Fuel (Canada):** Diesel fuel with ultra low sulfur content (15 ppm, maximum) is required. Use diesel fuel that meets the CAN/CGSB-3.517 specification in Canada. For best results use Ultra Low Sulfur Type B Diesel. This fuel is blended for seasonal changes.
Biodiesel: Biodiesel blends that meet the CAN/ CGSB-3.522 specifications up to 20% (B20) can be used. Avoid the use of biodiesel blends above 20%, as they may damage the engine and fuel system. For additional information visit <http://www.nrcan.gc.ca/energy/alternative-fuels/fuel-facts/biodiesel/3515>
- **Recommended Fuel (Mexico):** Use diesel fuel specification NOM-086 Pemex UBA, which meets the Ultra Low Sulfur Diesel fuel requirement of 15 ppm sulfur maximum. This fuel is not available in all regions of Mexico.
- **Variable Geometry Turbocharger:** A variable geometry turbocharger (VGT) is used on the engine. VGTs have a minimal amount of lag, have a low boost threshold, and are very efficient at higher engine speeds. VGTs do not require a wastegate.

Engine Specifications

- **Displacement:** 1.6L (1,600 cc)
- **Bore x Stroke :** 79.70 mm (3.137 inches) x 80.10 mm (3.153 inches)

- **Compression Ratio:** 16.0:1
- **Firing Order:** 1-3-4-2
- **Horsepower:** 137 Horsepower (102 kW) (GM Estimate)
- **Torque:** 240 lb ft (325 Nm) (GM Estimate)
- **Maximum Engine Speed:** 5,000 rpm
- **Valves:** 2 intake and 2 exhaust valves per cylinder

Engine Oil — dexos2® — Diesel Engines



Ask for and use engine oils that meet the dexos® specification. Engine oils that have been approved by GM as meeting the dexos2® specification are marked with an approved logo as shown. For additional information, visit this General Motors website: <http://www.gmdexos.com>

Viscosity Grade

1.6L — RPO LH7 Engine: Use ACDelco® dexos2® SAE 5W-30 viscosity grade engine oil. In an area of extreme cold, where the temperature is less than -20°F (-29°C), use SAE 0W-40 viscosity grade engine oil. An oil of this viscosity grade will provide easier cold starting for the engine at these colder temperatures.

Engine Oil Life System

The vehicle features GM's engine oil life system, which better protects engines by recommending oil changes based on a computer software algorithm using actual engine operating conditions and can save the vehicle owner money by avoiding unnecessary oil changes.

Engine — Stop/Start Technology

Engine Stop/Start Overview — 1.5L and 2.0L Gasoline and 1.6L Diesel

All three Equinox engines come with standard fuel-saving stop/start technology, which shuts down the engine in certain conditions to reduce fuel consumption. There are no buttons to push or procedures to learn. The technology automatically shuts down the engine when the Equinox comes to a stop under certain driving conditions, such as at a stoplight. The engine automatically restarts when the driver takes their foot off the brake. An advanced algorithm determines when driving conditions are optimal for shut-off. The system monitors vehicle speed, climate control system operation and other conditions to determine whether it is efficient to shut **OFF** the engine. In some cases, such as heavy stop-and-go traffic, the engine will not shut down. The engine-stop function is not indefinite. The engine automatically restarts after approximately two minutes if the driver hasn't removed their foot from the brake pedal. The technology also reduces emissions.

Unique components used with stop/start technology include:

- A tandem-solenoid starter that enables the engine to restart quicker and more smoothly, even if the engine hasn't come to a complete stop.
- A unique DC-DC module that maintains voltage during a stop/start event to avoid lighting fluctuations and potential resets/noise in the audio/infotainment system.
- An electronically controlled accumulator retains the transmission fluid pressure to keep the clutches engaged for immediate takeoff when the driver removes their foot from the brake pedal.
- Torque-reaction engine mounts that dampen the vibrations associated with a restart, helping to deliver smooth, nearly imperceptible performance.

HVAC

The HVAC system has a more simplified control head and the front vents have been repositioned to better distribute airflow to the front seat occupants. Rear vents have been added for the back seat passengers. There is a brushless motor to make the HVAC system operation noticeably quieter.

Instrument Cluster — Driver Information Center



There is a Base Level Instrument Cluster, a Diesel Level Instrument Cluster and an Uplevel Instrument Cluster. The Driver Information Center (DIC) displays are shown in the center of the instrument cluster in the Info app. The DIC displays show the status of many of the vehicle's systems.

OnStar® with 4G LTE and Wi-Fi

With OnStar® 4G LTE and Wi-Fi, up to seven devices such as smartphones, tablets and laptops can be connected to high-speed Internet through the vehicle's built-in Wi-Fi hotspot. The built-in 4G LTE Wi-Fi® hotspot has a 3GB/3-month trial (may not be available in all countries); whichever comes first and comes standard on all models, (high-speed internet may not be available in all areas). The powerful OnStar® connection also enables improved access to existing OnStar® safety and security services, including the ability to transmit voice and data simultaneously. That means OnStar® advisors can run a diagnostic check without ever leaving the call, making customer interactions quicker and more seamless. It's the most comprehensive in-vehicle safety and connectivity system available. For assistance, press the blue OnStar® button or call 1-888-4-ONSTAR (1-888-466-7827).

Radio — Chevrolet MyLink™

Chevrolet MyLink™ Overview



On the all-new 2018 Equinox, Chevrolet MyLink™ comes with either a 7-inch or an 8-inch diagonal high-resolution color touch-screen, and their functionality varies based on screen size. Both Chevrolet MyLink™ systems will feature compatibility with Apple® CarPlay™ and Android™ Auto™, and is standard on all Models, which allow certified smartphone content and apps to be displayed and accessed on the vehicle's center stack touch-screen display. More importantly, this means Chevrolet MyLink™ can remain relevant and current for the entire life cycle of the vehicle, since content is leveraged from the smartphone industry rather than being embedded in the vehicle's radio. In addition, Chevrolet MyLink™ with an 8-inch diagonal touch-screen will also offer the ability to download in-vehicle apps to the touch-screen via Shop. The center stack touch-screen has also been moved 2.5 inches closer and is tilted towards the driver's line of sight to help with reach and to reduce glare. Visit my.chevrolet.com/learn for more information about the MyLink™ system. In Canada, visit chevrolet.ca/owner-centre.html OR fr.chevrolet.ca/owner-centre.html

Chevrolet MyLink™ with 7-Inch Diagonal Color Touch Screen — RPO IOB

Standard on L, LS and LT models, MyLink™ with the 7-inch diagonal color touch-screen, display is heavily reliant on the customer's brought-in media devices (e.g., smartphones, MP3 players, etc.) to provide content and features. It's a simpler, more affordable method of delivering connectivity for value-conscious shoppers. Voice recognition, for example, is not embedded into the vehicle. Instead, when the customer uses the steering wheel-mounted voice control button, he/she will pass-through to his/her connected smartphone and leverage the voice recognition capabilities of the device.

Features of this infotainment system include:

- 7-inch diagonal, capacitive-touch display offers a high-resolution, full-color screen.

- Physical buttons and knobs, in addition to touch-screen options, let the occupants easily and quickly control basic infotainment functions.
- Supports Teen Driver. Refer to the Teen Driver section in this bulletin.
- Hands-free calling with access to address book through Bluetooth® wireless technology for select phones.
- Bluetooth® audio streaming.
- Smartphone voice recognition pass-through.
- Siri® Eyes Free.

Chevrolet MyLink™ with 8-Inch Diagonal Color Touch Screen — RPO IO5

Chevrolet MyLink with an 8-inch diagonal touch-screen display offers the most complete and intuitive experience for customers. It provides maximum functionality to accommodate their needs while working to minimize distraction with features that allow them to keep their focus on the road and off their phone. Available on LT models and standard on Premier models, this is an enhanced version of the 8-inch MyLink system that is found on several other models in the current Chevrolet portfolio. This enhanced system features several performance upgrades and new features, such as the ability to download in-vehicle apps.

Features of this infotainment system include:

- 8-inch diagonal, high-resolution full-color capacitive touch-screen display.
- Customizable app tray at the top of the screen is always visible, providing convenient access to the functions the driver uses most often, much like the app tray on popular smartphone devices.
- In-vehicle apps via Shop.
- Fast, accurate voice recognition (embedded and pass-through), now including partial name speech recognition.
- Enhanced radio tuning flexibility allowing the customer to directly tune to stations (AM/FM/SiriusXM®).
- Ability to browse Bluetooth® audio files, similar to USB browsing.
- Supports Teen Driver.
- Cluster integration: Many of the functions available on the 8-inch diagonal color touch-screen display are also available within a 4.2-inch diagonal high-resolution color cluster display.
- Hands-free calling with access to address book through Bluetooth® wireless technology.
- Bluetooth® audio streaming for up to 10 devices.
- Ability to store up to 60 radio presets, songs, genres, albums, artists, destinations and playlists for quick and easy access.
- Gesture recognition control that lets drivers use their fingertips to navigate through menus and within screens by flinging, clicking and dragging and swiping.
- Natural language voice recognition control that lets drivers use conversational voice commands to control the phone and audio system (embedded and pass-through).
- OnStar® integration.
- If multiple media devices are in the vehicle and connected by the USB, MyMedia will aggregate the music contained on each into one playlist for easy access.
- iTunes® Tagging for SiriusXM® Satellite Radio.
- XM Satellite Radio All Access Trial Package (with subscription).
- SiriusXM TuneSelect.
- Text Message Alerts.
- Siri® Eyes Free control for iPhone® running iOS 6 or later.

Chevrolet MyLink™ with 8-Inch Diagonal Color Touch Screen and Navigation — RPO IO6

Chevrolet MyLink with an 8-inch diagonal touch-screen display can be enhanced with available embedded Navigation to help customers conveniently route to destinations with uncomplicated turn-by-turn directions. The Navigation features can be accessed using the touch-screen, voice command or within the cluster using steering wheel-mounted buttons. The system also offers fast searches of more than 1.5 million Points of Interest (POI). Navigation also lets drivers store individual POI in their area, such as a specific Starbucks® location, and gives them turn-by-turn route guidance. When using the route guidance feature, drivers can cancel the route and turn voice prompts on or off via the touch-screen. They will also see what street they are currently driving on and a next maneuver indication in the center stack display.

Navigation system features include:

- 3-D map views for most major U.S. cities and attractions.
- Maps come loaded on the system and are upgradeable via USB
- Map updates are available once per year and must be purchased through the map data supplier's website (<http://allthingsnav.navigation.com/>)
- Drivers can zoom in and out on a map via the zoom icon on the touch-screen or by turning the radio dial.

- Ability to save destinations to favorites.
- Multiple ways to search for destinations and easy-to-find icons to mute Navigation voice or cancel route.
- Drivers can search for destinations by address, intersection, points of interest, recent routes or from within their stored vehicle contacts.
- SiriusXM NavTraffic and Travel Link® (with subscription) adds traffic, weather, fuel price information and movie listings to the Navigation system.

Rear Seat Reminder



New to the 2018 Equinox is the Rear Seat Reminder. The Rear Seat Reminder system works by monitoring the operation of the rear doors. The feature is intended to activate when the rear door is **opened and closed** within 10 minutes before the vehicle is started or if the rear door is **opened and closed** while the vehicle is running. Under these circumstances, the next time the vehicle is turned **OFF** after a door activation, the vehicle will sound five audible chimes and display a message in the Driver Information Center that states: **Rear Seat Reminder / Look in Rear Seat**.

Safety — Driving/Parking Assistance Systems

If equipped, these systems **may** help the driver to park and/or to avoid other vehicles, objects, pedestrians and animals.

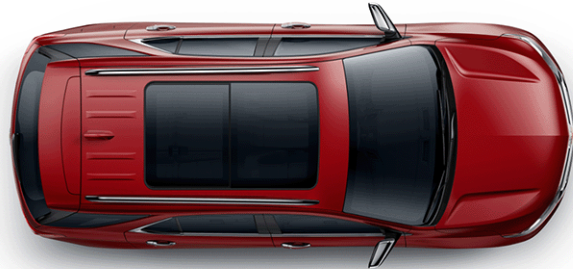
- **Cruise Control:** The cruise control lets the vehicle maintain a speed of about 25 mph (40 km/h) or more without keeping your foot on the accelerator. Cruise control does not work at speeds of less than 25 mph (40 km/h).
- **Forward Automatic Braking:** If the vehicle has FCA, it also has Forward Automatic Braking (FAB), which includes Intelligent Brake Assist (IBA). When the system detects a vehicle ahead in your path that is traveling in the same direction that you may be about to crash into, it can provide a boost to braking or automatically brake the vehicle. This can help avoid or lessen the severity of crashes when driving in a forward gear. Depending on the situation, the vehicle may automatically brake moderately or hard. This forward automatic braking can only occur if a vehicle is detected. This is shown by the FCA vehicle ahead indicator being illuminated.
- **Forward Collision Alert:** The Forward Collision Alert (FCA) system may help to avoid or reduce the harm caused by front-end crashes. When approaching a vehicle ahead too quickly, FCA provides a red flashing alert on the windshield and rapidly beeps or pulses the driver seat. FCA also lights an amber visual alert if following another vehicle much too closely. FCA detects vehicles within a distance of approximately 197ft (60 m) and operates at speeds above 25 mph (40 km/h). If the vehicle has Adaptive Cruise Control (ACC), it can detect vehicles to distances of approximately 360 ft (110 m) and operates at all speeds.
- **Lane Change Alert:** The Lane Change Alert (LCA) system provides outside side mirror alerts to help the driver avoid crashing into a moving vehicle detected in their side blind spot (or zone) or a vehicle that is rapidly approaching their blind spot during a lane change maneuver.
- **Lane Departure Warning:** Lane Departure Warning (LDW) may help avoid crashes due to unintentional lane departures. It may provide a warning if the vehicle is crossing a detected lane marking without using a turn signal in the lane departure direction. This system is part of the Lane Keep Assist (LKA) system.
- **Lane Keep Assist:** Lane Keep Assist (LKA) may assist the driver by gently turning the steering wheel if the vehicle approaches a detected lane marking without using a turn signal in that direction. It may also provide a Lane Departure Warning (LDW) system alert as the lane marking is crossed. The LKA system will not assist or provide an LDW alert if it detects that the driver is actively steering.
- **Rear Cross Traffic Alert:** Rear Cross Traffic Alert (RCTA) displays a red warning triangle with a left or right pointing arrow on the RVC screen to warn of traffic coming from the left or right. This system detects objects coming from up to 65 ft (20 m) from the left or right side of the vehicle. When an object is detected, either three beeps sound from the left or right or three Safety Alert Seat pulses occur on the left or right side, depending on the direction of the detected vehicle. Use caution while backing up when towing a trailer, as the RCTA detection zones that extend out from the back of the vehicle do not

move further back when a trailer is towed.

- **Rear Parking Assist** : Rear Parking Assist (RPA) uses sensors on the rear bumper to assist with parking and avoiding objects while in **R** (Reverse). It operates at speeds less than 5 mph (8 km/h). RPA may display a warning triangle on the Rear Vision Camera screen and a graphic on the instrument cluster to provide the object distance. In addition, multiple beeps or seat pulses may occur if very close to an object.
- **Rear Vision Camera**: When the vehicle is shifted into **R** (Reverse), the Rear Vision Camera (RVC) displays an image of the area behind the vehicle in the infotainment display. The previous screen displays when the vehicle is shifted out of **R** after a short delay. To return to the previous screen sooner, press a button on the infotainment display, shift into **P** (Park), or reach a vehicle speed of 5 mph (8 km/h). Select Guidance Lines on the camera screen to enable or disable the guidance lines.
- **Safety Alert Seat**: The Safety Alert Seat provides the driver the option of getting haptic seat-bottom vibration crash avoidance alerts or beeping.
- **Side Blind Zone Alert**: The Side Blind Zone Alert (SBZA) system is a lane changing aid that assists drivers with avoiding crashes that occur with moving vehicles in the SBZA (or spot) areas. When the vehicle is in a forward gear, the left or right side mirror display will light up if a moving vehicle is detected in that blind zone. If the turn signal is activated and a vehicle is also detected on the same side, the display will flash as an extra warning not to change lanes. This system is part of the LCA system.

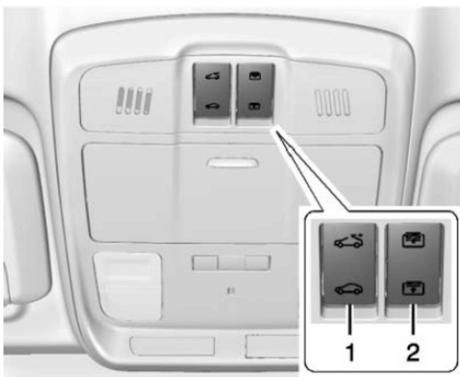
Sunroof

Panoramic Sunroof with Power Sunshade



If equipped, the panoramic sunroof only operates when the ignition is in ACC/ACCESSORY or ON/RUN, or when Retained Accessory Power (RAP) is active. When the sunroof is opened, an air deflector will automatically raise. The air deflector will retract when the sunroof is closed.

Sunroof — Sunshade Operation



To Open/Close (Manual Mode) the sunroof or sunshade, perform the following:

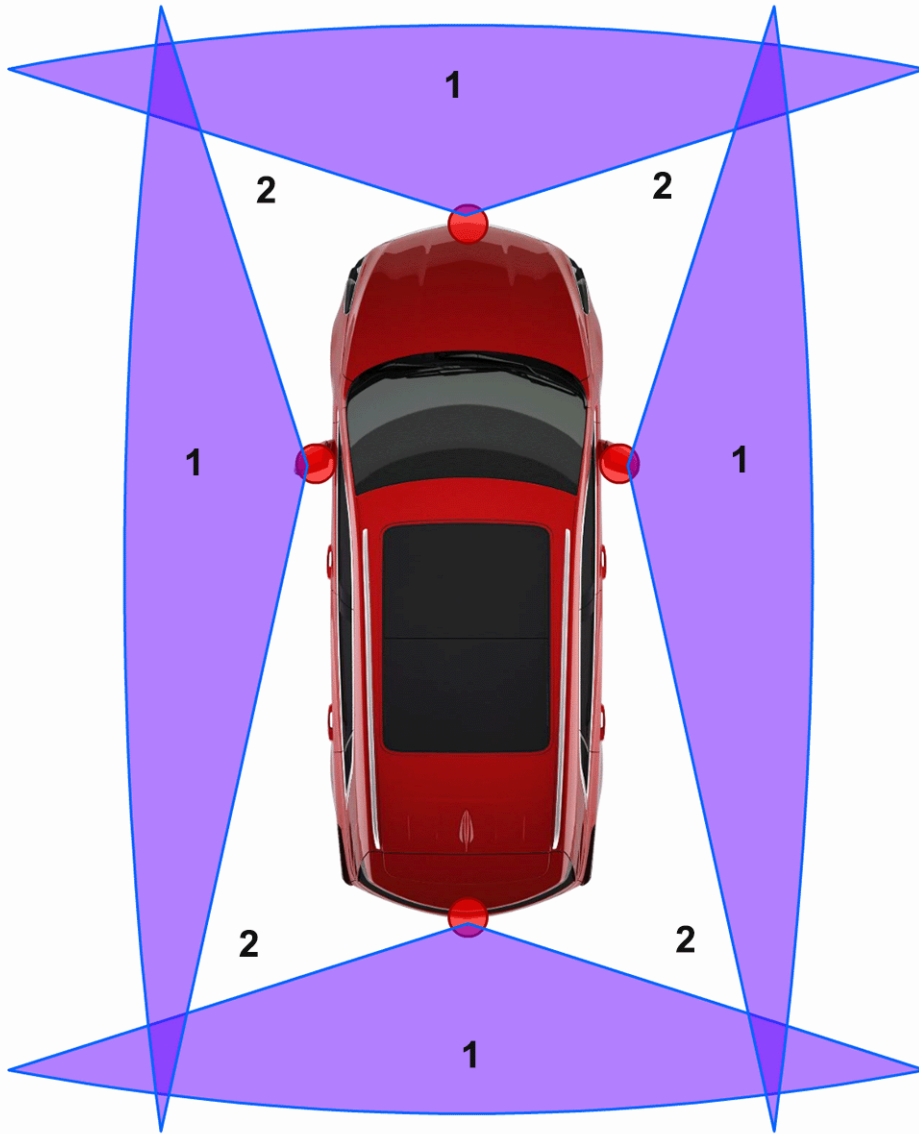
- **Sunroof Switch**: To open the sunroof, press and hold (1) until the sunroof reaches the desired position. Press and hold (1) to close it.
- **Sunshade Switch**: To open the sunshade, press and hold (2) until the sunshade reaches the desired position. Press and hold (2) to close it.

Surround Vision

Surround Vision

Notice: The Surround Vision cameras have blind spots and will not display all objects near the corners of the vehicle. Folding side mirrors that are out of position will not display the Surround Vision view correctly.

New for the 2018 Equinox is Surround Vision, a technology that provides a literal look at the 2018 Equinox's perimeter. The system uses strategically located cameras on all sides of the vehicle to provide a 360-degree *bird's eye* view of the vehicle, helping drivers quickly view the surrounding area at a glance, for more confident maneuvering when reversing, parking or trailering. Surround Vision displays this image of the area surrounding the vehicle, along with the front or rear camera views in the center stack. Equinox models not equipped with Surround Vision have a standard rear vision camera (RVC) system.



1 Areas displayed by Surround Vision.

2 Areas not displayed by Surround Vision.

Switchable All-Wheel Drive

Switchable All-Wheel Drive (AWD) Overview

Switchable AWD technology is a great benefit for improved traction and control because it distributes torque to all four tires on a vehicle. Its advantages are unmistakable and also has a big impact on fuel economy. Switchable AWD lets the customer switch between FWD and AWD operation when conditions dictate without having to stop the vehicle. The AWD Mode will stay selected until the mode is changed. If the customer switches to FWD, the system efficiently disconnects virtually all of the AWD components from the drivetrain so the gears and prop shafts stop spinning to save fuel and reduce emissions. AWD capability is still available, ready for the driver to engage it when necessary, but they must remember to engage AWD when needed, as the system does not react to road conditions automatically. However, if the system senses that the customer may be stuck or losing traction, a DIC alert will remind them to engage AWD.

- Press the AWD switch to activate the system and the AWD light will flash briefly while the system is engaging and stay **ON** to indicate AWD is active.
- Press the AWD switch again to disable the system and the light will flash briefly while the system disables and then stay **OFF**.

Teen Driver

Teen Driver Feature

Teen Driver is a configurable feature supported by Chevrolet MyLink™ that lets parents manage certain vehicle settings to encourage safer driving by their teenager. Using a PIN to configure settings for one or more key fobs, parents can set a volume limiter for the radio and a set maximum speed warning that will deliver a visual warning and an audible chime when the configured speed limit is exceeded. In addition, a visible warning will be displayed until the vehicle's speed drops below the threshold. An additional, optional speed limiter can be set. When Teen Driver is active, the radio is muted if the teen (or front passenger) is not wearing his/her safety belt, and all equipped active safety systems are defaulted to **ON** providing a safer driving experience.

Teen Driver Report Card



Teen Driver also provides parents with awareness of their teenager's driving habits through a Report Card feature. The in-vehicle Report Card will report the distance driven and maximum speed, as well as indicate which of the Teen Driver warnings were activated. If the vehicle is equipped with available Forward Collision Alert or Low-Speed Forward Automatic Braking, the Report Card will show how often the safety alerts were triggered.

Transmissions

HydraMatic™ 6T40 Automatic 6-Speed with Start/Stop — RPO MNH



The HydraMatic™ 6T40 is a 6-speed, front wheel drive, electronically controlled, automatic overdrive transaxle with an electronically controlled torque converter clutch and a surge accumulator for the start/stop system. This transmission features Gen 3 upgrades implemented to enhance efficiency. The pump, for example, has been moved off-axis, which allows better sealing of the torque converter, reducing pump flow demands to enhance fuel economy. Additionally, the pump is now a binary vane-type, which allows lower power consumption during times of lower flow demands and at higher engine speeds. This transmission is used with the 1.5L engine.

HydraMatic™ 6T40 Automatic 6-Speed — RPO MNK

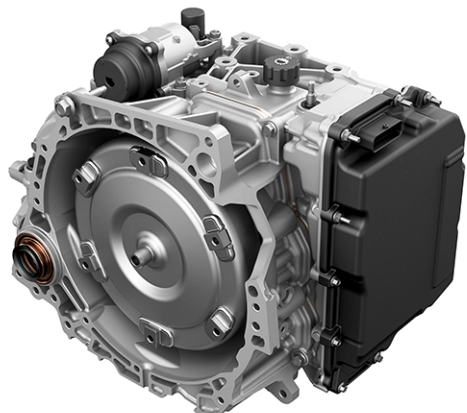
The HydraMatic™ 6T40 is a 6-speed, front wheel drive, electronically controlled, automatic overdrive transaxle with an electronically controlled torque converter clutch. This transmission features Gen 3 upgrades implemented to enhance efficiency. The pump, for example, has been moved off-axis, which allows better sealing of the torque converter, reducing pump flow demands to enhance fuel economy. Additionally, the pump is now a binary vane-type, which allows lower power consumption during times of lower flow demands and at higher engine speeds. This transmission is used with the 1.5L engine.

HydraMatic™ 6T45 Automatic 6-Speed with Start/Stop — RPO MHG

The HydraMatic™ 6T45 is a fully automatic, 6-speed, transverse mounted, electronic-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. There are 2 variants

of the transmission, based on torque capacity. Architecture is common between the variants, and component differences are primarily related to size. The 4-element torque converter contains a pump, a turbine, a pressure plate splined to the turbine, and a stator assembly. The torque converter acts as a fluid coupling to smoothly transmit power from the engine to the transmission. It also hydraulically provides additional torque multiplication when required. The pressure plate, when applied, provides a mechanical direct drive coupling of the engine to the transmission.

HydraMatic™ 9T50 Automatic 9-Speed — RPO M3D



The HydraMatic™ 9T50 is a fully automatic, 9-speed, transverse mounted, electronic-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.

The 4-element torque converter contains a pump, a turbine, a pressure plate splined to the turbine, and a stator assembly. The torque converter acts as a fluid coupling to smoothly transmit power from the engine to the transmission. It also hydraulically provides additional torque multiplication when required. The pressure plate, when applied, provides a mechanical direct drive coupling of the engine to the transmission. This transmission is used with the 2.0L engine.

Special Tools

The following new tools were released for the 2018 Equinox:

Special Tools — Tool Number and Description

Tool Number	Description
DT-51983	Installer, Case Side PTU Seal
DT-52000	Installer, Cover Side PTU Seal
DT-51329-A	Prop Shaft Remover
CH-52075	Fuel Pump Lock Ring

Training Courses

The majority of the systems found on this vehicle are taught in GM's core curriculum from a conceptual theory and operation perspective. The North American technical training core curriculum structure is system based.

To access **all** of the available training courses in the United States, visit the following website: www.centerlearning.com

In Canada, Go to **GM GlobalConnect and select Centre of Learning**

Training Course Name or System — Course Number and Description

Course Name or System	Course Number and Description
New Model Feature 2018 Chevrolet Equinox New Model Features	#10318.02W — 2018 Chevrolet Equinox/GMC Terrain New Model Launch (United States and Canada)

Engines	#16440.12D — Engines: New and Updates for L5P, LH7 and LGZ #16440.17D-V — Engines: New and Updates for LCV, LTG and LLO
Transmissions	#17440.12D — Transmissions: New & Updates: HydraMatic™ 6T40/45 (United States Only) #17036.01V – 6T40/45 Unit Repair (Canada Only) #17440.12D — Transmissions: New and Updates HydraMatic™ 6T40/45 #17440.17D — Transmissions: New and Updates for HydraMatic™ 9T50 and 10R90 and Aisin AF-50 Automatic Transmissions
Safety Systems Forward Collision Alert / Lane Departure Warning and Rear Vision Camera	#22048.42W1-W3 — GM Safety Systems 1-3 (United States and Canada)
Safety Systems Surround Vision	#22048.W2-R2 — Safety Systems 2 (Available Q1 2017)

Version Information

Version	1
Modified	

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