

All-New 2018 GMC Terrain Arrives in Style



The all-new 2018 GMC Terrain 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 new Terrain's bold exterior highlights GMC's evolving design. Plus, a range of three turbocharged engines, including an all-new 1.6L turbo-diesel engine, provides more choices for Terrain customers.

Turbocharged Engines

The 1.5L Ecotec turbocharged gas engine (RPO LYX) 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, and features Central Direct Fuel Injection and Continuously Variable Valve Timing (VVT). It uses ACDelco dexos1 SAE 0W-20 viscosity grade engine oil.

The 2.0L turbocharged gas engine (RPO LTG), which is based on a generation of large displacement four cylinder engines, features a twin-scroll turbocharger that helps optimize usable power from the engine, generating up to 20 pounds (138kPa) of boost. It uses ACDelco dexos1 SAE 5W-30 viscosity grade engine oil.

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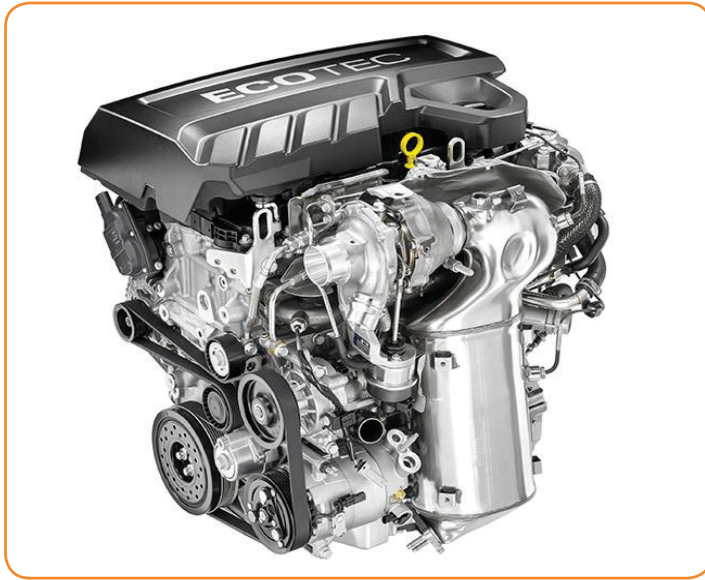


Customer Care and Aftersales

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The 1.6L turbo-diesel engine (RPO LH7) is efficient, very quiet and offers responsive performance with 240 lb.-ft. of torque. Every part on the engine was designed with quiet running operation in mind. Engine noise is barely noticeable for a diesel, even at idle. As a diesel engine, it uses ACDelco dexos2 SAE 5W-30 viscosity grade engine oil.



1.6L turbo-diesel engine

Diesel 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. A 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. The DEF fill point is located in the fuel-filler door.

Fuel-saving stop/start technology is standard on all three engines. The stop/start system includes:

- A tandem-solenoid starter that enables the engine to restart quickly and smoothly.
- 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 that retains the transmission fluid pressure to keep the clutches engaged for immediate takeoff when the brake pedal is released.
- Torque-reaction engine mounts that dampen vibrations associated with an engine restart.

The 1.5L and 2.0L turbocharged gas engines are matched with two unique 9-speed automatic transmissions. The HydraMatic 9T45 9-speed transmission (RPO M3U) is used with the 1.5L gas engine and the HydraMatic 9T50 9-speed transmission (RPO M3H) is used with the 2.0L gas engine.

The HydraMatic 6T45 6-speed automatic transmission (RPO MHG) is used with the 1.6L diesel engine.

Electronic Precision Shift

GMC's new Electronic Precision Shift replaces the conventional transmission shifter with an electronically-controlled gear selection that consists of intuitive push buttons and pull triggers, which enables more storage room in the center console.



Electronic Precision Shift electronically-controlled gear selection

Located at the bottom of the center stack, the system features a row of buttons and switches. Park (P), Neutral (N), and Low (L) are selected by pushing the appropriate button, while Reverse (R) and Drive (D) are engaged by pulling on the R and D switches. The Low range — or selecting among the nine gear ratios — is engaged by pressing the plus (+) or minus (–) button.

In addition, the Terrain comes standard the driver-controllable Traction Select system, which offers choices for different driving conditions, and changes the throttle response and other calibrations for the selected driving mode.



Switchable On-Off AWD control on the center console

AWD Terrain models also include a FWD mode, with a switchable On-Off feature, that mechanically disconnects the AWD system to minimize drag and optimize fuel economy in normal, everyday driving conditions.

Chassis Features

The Terrain has a MacPherson strut front suspension with side-loaded modules, specifically tuned coil springs and a direct-acting stabilizer bar, along with a four-link independent rear suspension. 17, 18 or 19-inch aluminum wheels are available, depending on the model.

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The dual rack and pinion Electric Power Steering (EPS) system 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. Sensors detect the steering correction and adjust the torque applied to the steering system to relieve the effort on the driver, helping to maintain straight driving with less input.

The four-wheel disc brakes feature 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, which creates rotational resistance (or brake drag) on the rotor that negatively affects fuel economy and can cause uneven rotor wear and vibrations when braking. The 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.



The Terrain has a MacPherson strut front suspension and a four-link independent rear suspension.

Infotainment System

A significantly enhanced infotainment system, making its GMC debut on Terrain, comes standard with a 7-inch (178 mm) diagonal color touchscreen or an available 8-inch (203 mm) diagonal color touchscreen. The versatile system has three versions, all of which have Apple CarPlay™ and Android Auto™ compatibility.

RPO IOR

- 7-inch color touchscreen
- Cloud services and Shop not included

RPO IOS/IOU

- 8-inch color touchscreen
- 90 days of Cloud services
- In-vehicle apps via Shop

RPO IOT

- 8-inch color touchscreen
- 3 years of Cloud services
- In-vehicle apps via Shop
- Standard Navigation



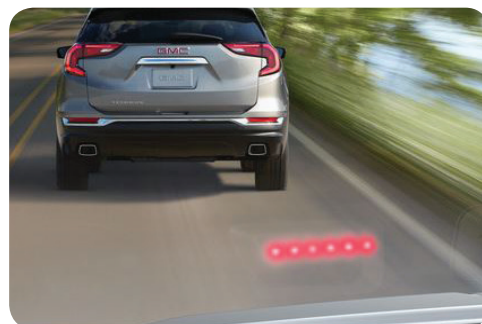
Three new infotainment systems are available on the new Terrain.

Safety Features

An expanded range of radar- and camera-based active safety technologies are available on the 2018 Terrain, all designed to enhance driver awareness and help make it easier to park and maneuver in low-speed situations.

Some of the available safety features include:

- Safety Alert Seat
- Surround Vision camera system
- Forward Collision Alert with Following Distance Indicator
- Low-Speed Forward Automatic Braking



Forward Collision Alert display on the windshield

- Lane Keep Assist with Lane Departure Warning
- Lane Change Alert with Side Blind Zone Alert
- Rear Cross Traffic Alert
- Rear Parking Assist
- IntelliBeam high-beam headlamp control

Special Tools

The following special service tools have been released for the 2018 Terrain:

DT-51983	Installer, Case Side PTU Seal
DT-52000	Installer, Cover Side PTU Seal
CH-52075	Fuel Pump Lock Ring
1.6L Diesel Engine Tools	
KM-523-1	Handle (Used with EN-51144)
EN-49979-100	Adapters, Crankshaft Holder
EN-50509	Fixing Tool, Cam Sprocket
EN-51140	Crankshaft Fixing Tool
EN-51141	Intermediate Drive Gear Fixing Tool
EN-51142	Oil pump Sprocket Holder
EN-51143	Camshaft Fixing Tool
EN-51144	Crank Seal Installer, Front
EN-51144-100	Crank Seal Installer Adapter
EN-51145	Crank Seal Installer, Rear
EN-51146-1-3	Slide Hammer (Used with EN-51187)
EN-51187	Injector Remover
EN-51188	Camshaft Sprocket Support

For additional information on the new 2018 Terrain, refer to Bulletin #17-NA-254.

🙏 Thanks to Sherman Dixon and Kris Villegas

GM TechLink is published for all GM retail technicians and service consultants to provide timely information to help increase knowledge about GM products and improve the performance of the service department.

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Repeat DTCs P2096 and P2098

Some 2014-2017 Corvette models equipped with the 6.2L V8 engine (RPO LT1) and 8L90 automatic transmission (RPO M5U) may have an illuminated Check Engine MIL and repeat DTCs P2096 (Post Catalyst Fuel Trim System Low Limit Bank 1) and P2098 (Post Catalyst Fuel Trim System Low Limit Bank 2) set.

DTCs P2096 and P2098 may set when the driver continuously taps the accelerator pedal (on – off – on – off) to maintain speed.

Fuel trim bias is used to keep the post catalyst air/fuel ratio within a predetermined range, which allows optimal catalyst efficiency under various operating conditions. The Engine Control Module (ECM) constantly monitors how lean or rich the fuel trim bias is commanded to determine if the fuel trim bias is greater than a calibrated amount.

GM Engineering is currently evaluating this condition. At this time, it is considered a normal vehicle operating characteristic.

🙏 Thanks to Richard Renshaw



6.2L V8 engine (RPO LT1)

Engine Noise or Engine Misfire Condition

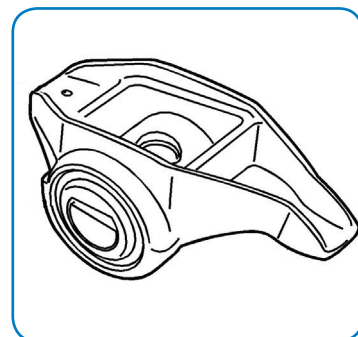
Some 2017-2018 Silverado HD, Sierra HD, Express, Savana and Low Cab Forward models equipped with a 6.0L V8 engine (RPOs L96, LC8) may have an engine noise or misfire condition caused by a broken rocker arm.

If there is excessive engine noise or an engine misfire, inspect for possible broken rocker arms. A broken rocker arm could result in a valve dropping to the cylinder, causing catastrophic engine failure, which would require engine replacement due to cylinder head and block damage.

If a broken rocker arm is found, check to see if the valve dropped into the cylinder. If the valve has dropped, the engine will need to be replaced. If the valve has not dropped, reinstall any valve keepers and replace all the intake rocker arms.

In the 6.0L V8 engine, motion is transmitted from the camshaft through the hydraulic roller valve lifters and tubular pushrods to the roller type rocker arms. The nylon valve lifter guides position and retain the valve lifters. The valve rocker arms for each bank of cylinders are mounted on pedestals or pivot supports. Each rocker arm is retained on the pivot support and cylinder head by a bolt.

🙏 Thanks to Richard Renshaw



Inspect for possible broken rocker arms.

Glow Plug Control Module Software Update

A Glow Plug Control Module (GPCM) DTC or individual glow plug DTCs may be set, along with an illuminated Check Engine MIL, on some 2017 Silverado and Sierra models equipped with the 6.6L Duramax diesel engine (RPO L5P). Follow the appropriate diagnostic information in the Service Information for any glow plug-related DTCs.

Anytime a glow plug is replaced, check the GPCM software level and determine if a newer version is available. Update the GPCM using the Service Programming System (SPS) if needed.

🙏 Thanks to John Stempnick

Questions to ask for Bluetooth Concerns

What's one of the first things drivers do after entering their vehicle? If you said use their mobile phone, you're correct. A recent study shows that the average driver spends 3.5 minutes on the phone per one hour trip. This makes understanding how their phone connects to the vehicle's Bluetooth system and its operation critical to customer satisfaction.

Helpful customer information about the operation of the Bluetooth system and related systems in GM vehicles can be found at the online Owner Center for Chevrolet, Buick, GMC or Cadillac models. The websites provide a variety of information related to vehicle technology and connectivity. Also refer to the vehicle's Owner's Manual for more information.

If a customer has a concern about using the Bluetooth components, it's important to explain that the functionality of Bluetooth can vary with each component, software level and service provider. Because of these variables, it's critical to gather as many details as possible before diagnosing a Bluetooth condition.

If a customer has concerns with a specific Bluetooth device, it will be more helpful to leave the device with the vehicle so that the system can be properly diagnosed.

TIP: If a paired device or infotainment module has recently received an update, the device will need to be deleted from the vehicle list and the vehicle will need to be deleted from the device and a fresh pair performed.



Devices need to be paired to the vehicle again after being updated.

Before contacting the GM Technical Assistance Center, answers to the following questions should be gathered.

Customer Questions

- What is the customer concern?
- When does the customer concern occur?
- When did the concern start to occur?
- Is the concern intermittent or does it happen regularly?
- Can the customer demonstrate the concern?
- Where is the exact location of the device when this concern occurs (In a purse on passenger seat, etc.)?
- What brand and model of device is being used?
- Which service provider does the customer's device use? What software version is installed on the device?
- According to the online Owner Center, my.gm.com (U.S.) or my.gm.ca (Canada), should the device be compatible with the vehicle and should the desired feature be supported for the customer's vehicle and device?

Technician Questions

- Does the same concern occur in this vehicle when using a known-good device?
- Does the same concern occur when using the customer's device in a known-good vehicle?
- Have any Service Information documents, PIs, and/or Bulletins been performed.
- Are any aftermarket accessories used in the vehicle?
- Are any DTCs set in any control modules?
- What diagnosis has been performed so far?
- Have any parts been replaced?
- Is the vehicle equipped with Generation 8 or 9 of the VCIM/On-Star Module? If so, is the vehicle equipped with RPO UPF (On-Star Bluetooth)? How many devices are connected to the vehicle (a maximum of 5 devices are allowed — document them)?
- What is the RPO of the radio and which software version is installed?

🙏 Thanks to Jamie Parkhurst

Service Know-How

10217.10V – Emerging Issues – October 12, 2017

The latest service topics from Brand Quality and Engineering are reviewed, including a demonstration of the updated 2018MY 8-speed transmission clutch learn procedure and a look at Super Cruise operation on the 2018 CT6.

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