New 2016 Camaro Convertible is Here

The all-new 2016 Camaro Convertible is rolling into Chevrolet dealerships across the country. The convertible model is offered in the same trim levels and powertrain configurations as the Camaro coupe, including the new 2.0L 4-cylinder turbocharged engine (RPO LTG).

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Buick Debuts the New Cascada Convertible

The all-new 2016 Cascada, Buick’s first convertible in a quarter of a century, blends performance, sophistication and innovation in an appealing mix that will delight those who love open-air driving.

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Power Folding Top

The operation of the convertible top is fully automatic. Press the folding top switch and the control module latches and unlatches the convertible top while hydraulic power actuation provides the force to raise and lower the top.

Features of the 2016 Camaro Convertible include:

• The convertible top power switch, located on the overhead console, must be held active for the full range of motion. Cycle time is approximately 20 seconds.
• The hard tonneau cover automatically cycles with the convertible top.
• All windows lower automatically when operating the top.
• Seals on the top provide a clean appearance to the header.
• The convertible top can be operated at speeds up to 30 mph (48 km/h).
• The convertible top can be opened remotely using the key fob. Press and hold the convertible top button on the key fob to lower the top.

The folding top control module determines folding top movement by controlling the activation and direction of the hydraulic pump's electric motor and three solenoid valves based on inputs and vehicle status information it receives via low speed GMLAN. The folding top control module also contains an internal thermocouple, which it uses to measure the outside ambient temperature and take into account its effect on the hydraulic fluid. This internal thermocouple value is not accessible. The top will not operate in cold weather below 32° F (0° C).

Luggage Barrier Partition

Before operating the convertible top, the luggage barrier partition in the trunk must be in the fastened position with no objects forward of the partition and the trunk must be closed. The partition ensures there is an area for the folding top to retract into.

The barrier contains a magnet and fits over the folding top luggage barrier sensor post. The folding top luggage barrier sensor is sensitive to the presence or absence of the magnetic field produced by this magnet. When the luggage barrier is deployed and properly seated in the retainer, the magnet is close enough to change the sensor’s output current into the 2 to 7ma range and the sensor is considered active.

The convertible top uses sensors to determine the proper stowage compartment lid position, top tension bow position, and top up/down position — all which provide signals to the control module whether the top is in the up or down position or fully retracted and in the stowed position.

If the top is left in a not fully closed or open state, the hydraulic pressure will be released after approximately two minutes and the top can be operated manually.

System Protection

Normal operation of the folding top system may be altered by one of the following events:

Obstacle Detection – If an excessive current draw is detected while the folding top motor is operating for a defined period of time, the folding top control module will turn off the folding top motor to prevent overheating or damage to the mechanical structure of the top.

Folding Top System Thermal Protection – The folding top control module has a thermal protection algorithm to protect the folding top pump motor from damage due to overheating conditions resulting from excessive motor actuation. After the thermal protection has been triggered any new power convertible top command in the open direction will be ignored until the motor is allowed to cool. A close request during an over temperature condition will be allowed.

Power Windows

All windows lower automatically when operating the convertible top. Operation of the windows using the power window switches on the driver’s door is based on whether the front or rear window indicator is activated. This switch operation is different than the previous generation Camaro.

Press the front or rear window button first to select the desired window, and then press the left or right window switch to open/close the window. All four windows cannot be closed at the same time.

TIP: Raise the rear windows before the front windows to help ensure proper convertible top sealing.

TAC Action Center

A Technical Assistance Center (TAC) Action Center has been established to support the Camaro convertible. In the U.S., call the TAC Action Center regarding convertible-specific issues.

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Buick Debuts the New Cascada Convertible
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Powertrain Features
The Cascada comes standard with an exclusive 1.6L turbocharged 4-cylinder engine (RPO LWC) that produces 200 hp and 206 lb.-ft. of torque. An overboost feature allows the engine to increase torque to 221 lb.-ft. Direct injection and variable valve timing complement the turbocharged engine’s performance.

The cylinder block is a hollow cast aluminum frame structure with five main journals. The cylinder head is a dual overhead camshaft (DOHC) design made of cast aluminum alloy with four valves per cylinder. The engine uses a crankshaft harmonic damper to control torsional vibration and has an integrated one-way clutch with reduced NVH for the drive belt system.

Premium unleaded gasoline with an octane rating of 91 or higher is recommended. Regular unleaded gasoline rated at 87 octane or higher can be used but acceleration and fuel economy will be reduced, and an audible knocking noise may be heard.

The engine is paired with a HydraMatic™ 6T45 6-speed automatic transmission (RPO MH7). The transmission is an electronically controlled, automatic overdrive transaxle with an electronically controlled torque converter clutch.

When performing fluid checks, refer to the appropriate Service Information for the proper procedure, as the compact design of the transmission makes it crucial to maintain the proper levels. The transmission fluid level must be checked when the transmission fluid temperature is between 185–203°F (85–95°C). The engine must be running when the transmission fluid oil level check plug is removed.

Brakes and Suspension
The Cascada is equipped with a Continental Tires Mk60/Mk70 brake system. The electronic brake control module and the brake pressure modulator valve assembly are serviced separately.

The HiPer Strut Front Suspension features dual-path top mountings that separate the transfer of spring and damper loads to the body structure. This provides improved tire contact with the pavement under load, reduced torque steer and more responsive steering. The Watts Z-Link Rear Suspension — lighter than traditional systems — helps center the axle during cornering for a more balanced driving experience.

Doors and Trunk Access
The central locking switch locks and unlocks both doors, the trunk, and the fuel door. The Remote Keyless Entry (RKE) transmitter also controls the fuel door lock and unlock feature. Press the unlock button on the key fob to unlock both doors, trunk and the fuel door.

To open the trunk, the vehicle must be off or the shift lever must be in Park. Press the lower half of the emblem on the trunk lid to open the trunk.

Safety Belt Presenters
The electronic rear seat entry system automatically powers the front seats forward by simply pressing the seatback forward. It moves the seats rearward when the seatback is returned to the upright position.

The electric safety belt presenters, mounted at shoulder level behind the doors, use telescopic arms to slide the upper front safety belt assemblies from behind the front seat into closer reach for easier buckling.

The seat belt presenters are operated by the Folding Top Control Module. They are fully automatic and are triggered when the doors are closed and the ignition is on. If resistance to movement is detected, the presenters will reverse and then extend again.

The Cascada offers several optional advanced safety features that employ camera sensors. Forward Collision Alert (FCA) provides a visual alert on the Driver Information Center — along with beeps — when approaching another vehicle too quickly. (FCA operates at speeds of 25 mph or above.) In addition, Lane Departure Warning will alert the driver with a flashing amber indicator should the vehicle change lanes at 35 mph or greater without using a turn signal. Other driver assistance features include the Rear Vision Camera and available front and rear park assist.

Stay Connected
The latest in voice-recognition and touch-screen technology is seamlessly integrated into the Buick IntelliLink™ infotainment system, Plus, passengers can stay connected to the internet and their favorite apps with the OnStar® 4G LTE built-in Wi-Fi hotspot.

Servicing Cascada
Technicians may need to use a Low Profile Lift Arms System to avoid contact with the Cascada’s body and structure.

When utilizing a frame-contact lift, place the front and rear lift pads on the rocker outer panel weld flanges. When using a service jack under the front or rear of the vehicle, use the same locations.

Special Tools

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<thead>
<tr>
<th>Tool Number</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>EN-51147</td>
<td>Crankshaft Holding Tool</td>
</tr>
<tr>
<td>EN-51148</td>
<td>Camshaft Holding Tool</td>
</tr>
<tr>
<td>EN-51151</td>
<td>Seal Ring Installer Crankshaft</td>
</tr>
<tr>
<td>EN-51152</td>
<td>Seal Ring Installer Crankshaft</td>
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(Thanks to Steve Bruder and Sherman Dixon)
As with any convertible, the new Buick Cascada’s first impression starts at the top — in this case, a premium soft top driven by an electro-hydraulic power roof system. It is made from traditional fabric with a fleece lining for superior acoustics and thermal insulation.

**Take It from the Top**

Operation of the roof involves just one switch located on the center console, with the ability to lower the top in just 17 seconds at speeds up to 31 mph. The top stores neatly under a hard tonneau cover that sits beneath the car’s belt line.

TIP: Before operating the convertible top, the trunk cargo partition must be in the lowered position and the trunk must be closed.

**Rollover Protection System**

A reinforced torsion box bulkhead behind the rear seats incorporates the Rollover Protection System, which includes a reinforced windshield frame and spring-loaded, pyrotechnically activated, pop-up rollover bars. When deployed, the rollover bars will extend approximately 14-inches (356 mm) to match the height of the windshield.

The Rollover Protection System is controlled by the Inflatable Restraint Sensing and Diagnostic Module (SDM). The system activates during a vehicle rollover, head-on collision or side impact. The system deploys with the soft top opened or closed.

In the event of a vehicle rollover, head-on collision or side impact, the pyrotechnically activated, spring-loaded bars deploy upwards automatically within milliseconds. They also deploy together with the front and side airbag systems. Objects should not be placed on the covers behind the head restraints.

SIR safe handling and storage warnings apply to the rollover bars. Replacement rollover bars are shipped to the dealership ready to install and they should be handled and stored the same as an airbag.

**Convertible Top Service Tools**

If the convertible top anchor plates have been moved on the Cascada, causing the convertible top to be misaligned to the body, special tool BO-51074-NA Convertible Top Alignment Tool is required to align the hinges to the body and re-establish anchor plate location.

The tool BO-51074-NA is not required for removal and installation of the convertible top assembly as long as the anchor plates are not moved out of position.

Due to the size and cost of tool BO-51074-NA, Buick dealerships WILL NOT automatically receive this special tool kit as part of the Essential Tool Program. Tool BO-51074-NA is only available for loan via 1-800-GM-TOOLS and ships from Owatonna, MN via a common freight carrier. There is an estimated $1,300.00 charge applied to cover transportation costs due to the 450 lbs. of shipping weight. The tool must be returned no more than 10 business days after receipt. Damaged or non-returned tool kits may incur a charge of $8,800.00 USD debited to the dealership’s Parts Account.

Additionally, for stowage compartment hinge adjustment, tool BO-51074-30 is required and only available for loan via 1-800-GM-TOOLS. There is an estimated $100 charge applied to cover transportation costs.

(©) Thanks to Steve Bruder and Sherman Dixon

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**Foam and Cardboard Insert for Tire Inflator Kit**

During the pre-delivery inspection on the 2016-2017 Volt, a piece of foam that is surrounded by a cardboard shell will be found in the trunk. Do not discard these parts.

The cardboard shell is a spacer for the tire inflator kit. Insert the spacer between the compressor assembly and the tire sealant canister. The spacer prevents any damage to the contents of the tire inflator kit bag when tightening the hold down for the tire inflator kit.

(©) Thanks to Chuck Wieseckel

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Foam and cardboard spacer

Insert the spacer in the tire inflator kit bag.
Emergency Trunk Release Handle Interference

The power trunk may not open when using the Remote Keyless Entry transmitter (key fob) or the touch pad on the trunk on some 2016 Malibu models. During an attempted activation of the power trunk, a low volume audible click may be heard.

Check the Emergency Trunk Release (ETR) handle for interference with the trunk trim material. The interference may be caused by the handle being positioned incorrectly at the opening in the trunk lid trim panel or by being moved by items in the trunk.

Interference from the trim can cause the handle and cable to bind. Any sort of preload on the cable will not allow the latch to release when any of the electric switches are used.

Open the trunk by entering the trunk through the rear seat access and pulling the ETR handle. To correct the interference, modify the trunk lid trim panel to provide more clearance around the ETR handle.

Remove the rear compartment lid inner trim panel and, on the back side of the trim panel, mark off and remove approximately 5-10 mm (0.20-0.40 in.) from the outboard, raised side of the opening.

Reinstall the rear compartment lid inner trim and confirm proper operation of the handle and the power trunk release switches.

Thanks to Dallas Walton

Vented and Non-Vented Slip Yokes

Technicians diagnosing a transmission fluid leak from the rear of the transmission on 2014-2016 Silverado and Sierra 2WD models may notice the fluid is coming from the plug in the propeller shaft slip yoke.

2WD trucks use a vented slip yoke that has a small hole in the plug. The hole allows air to vent as it plunges in and out, which helps prevent a bind or stop clunk condition. The vented slip yoke is sealed by a propeller shaft oil seal sleeve on the output shaft of the transmission.

If fluid is leaking out of the hole in the vented slip yoke on a 2WD truck, the propeller shaft oil seal sleeve has failed and needs to be replaced, not the slip yoke.

In addition, be sure not to replace a vented slip yoke with a non-vented slip yoke that is used on 4WD vehicles. This is not the proper repair for the leaking seal and it will cause a bind condition in the slip yoke as it fills with transmission fluid.

Thanks to Kevin Minor
Modern engine technologies used in GM passenger cars and trucks today require different oil filtration needs than in the past. Bearing clearances are tighter, and the replacement of lead overlay to aluminum overlay bearings has put an increased significance on oil filtration. Proper oil filtration is dependent on oil filter paper area and paper filtration efficiency.

New technologies also have increased oil flow rate, leading to higher engine pressure differentials across the oil filter and requiring higher oil filter bypass settings. Oil filters made by different manufacturers may have significantly lower oil filter bypass settings than required by today’s GM engines, resulting in unfiltered oil to the engine bearings and accelerated bearing wear. Some engine oil filters with the same exterior dimensions may have filters with reduced paper area, which is achieved by reducing the number of pleats.

Oil filter misapplication may cause abnormal engine noise or internal damage. Refer to the most recent parts information to ensure the correct part number filter is installed when replacing an oil filter.

When selecting a filter, do not rely on physical dimensions alone. Counterfeit copies of name brand parts have been discovered in some aftermarket parts systems. Be sure that the parts being installed are from a trusted source.

Engine damage resulting from an incorrect or improperly installed engine oil filter is not a warrantable claim. The best way to avoid oil filter quality concerns is to purchase ACDelco® oil filters directly from GM Customer Care and Aftersales.

Refer to the appropriate Service Information installation instructions when replacing any oil filter. It’s important to follow the correct procedure for proper cartridge filter element alignment.

If the diagnostics in the Service Information lead to the oil filter as the cause of internal engine noise or damage, submit a field product report. In the U.S., refer to Bulletin #02-00-89-002 for more information on submitting a field product report. (In Canada, refer to Bulletin #10-00-89-006.)

Thanks to Tracy Lucas

Upper and Lower Oil Pan Parts Restriction

The upper oil pan (part number 12637301) and lower oil pan (part number 12637773) used on 2016 Encore, Cruze, Malibu, Spark and 2016-2017 Volt models equipped with engine RPO L3A, LE2, LFV or LV7 is on part restriction.

Before performing any repairs, inspect for an engine oil leak. If the leak appears to be from an area of the engine other than the oil pan, follow the appropriate Service Information diagnostics.

If the leak appears to be from the oil pan area, do not remove the lower oil pan from the upper oil pan. Take a clear photo of the oil leak as observed. Next, clean the affected area and add engine oil dye. Run the engine until the oil leak dye can be detected.

If the leak is confirmed to be at the upper or lower oil pan, mark the location of the oil leak on the oil pan by circling the leak or drawing an arrow pointing to the leak. Take a clear photo of the leak. Contact the Product Quality Center to order parts.

Thanks to Raymond Haglund