







November 2017, Volume 19, No. 21

2018 Buick Regal Debuts with New Models

For the 2018 model year, the Buick Regal is all new and features two new body styles — Sportback and TourX — and an aggressive top-ofthe-line GS model. The Sportback is available in Front-wheel drive (FWD) and All-wheel drive (AWD) while the rugged TourX (U.S. only) and GS are available only as AWD models.

Three Unique Models

The Sportback is a five-door hatchback with a long, sloping backlight, which provides the ability to accommodate more cargo while offering the utility of a traditional hatchback or wagon. The Sportback rides on a longer wheelbase and weighs around 200 pounds (91 kg) less than its predecessor. The FWD Sportback has a 2.0L turbocharged 4-cylinder engine (RPO LTG), with 250 horsepower and 260 lb.-ft. of torque, which is mated to a 9T50 9-speed automatic transmission (RPO M3D).



continued on page 2

GDS2 Core Software Version 19 Released

A new version (19.0.04100) of the GDS2 core software has been released recently. The new release includes numerous software fixes, including a resolution to the Vehicle-wide DTC concern as well as numerous visual updates to improve the readability of the buttons, scroll bars, grid lines and font sizes in some areas of the application.

To download the software update, click the GDS2 icon on the TIS2Web home page.



Click the GDS2 icon to download the software update.

continued on page 4

CONTENTS

2018 Buick Regal Debuts with New Models1
GDS2 Core Software Version 19 Released
Warranty Claim Codes Verify Repairs
Successful Control Module Programming
Super Cruise Freeways Near You 6
GM Customer Care and Aftersales



2018 Buick Regal Debuts with New Models

- continued from page 1



Regal Sportback

The TourX is an AWD crossover with the driving dynamics of a car and the versatility of an SUV with seating for up to 5 passengers. The TourX rides higher than the Sportback for greater ground clearance and capability. It has a rugged exterior appearance with standard roof rails.



Regal TourX

The hands-free power liftgate with a Buick tri-shield logo lamp that illuminates the ground beneath the sensor is available on upper trim levels. The power liftgate control knob for setting the liftgate height mode is located on the driver's door.



Buick tri-shield logo lamp illuminating the ground beneath the sensor

As AWD models, the Sportback and TourX feature a 2.0L turbocharged four-cylinder engine (RPO LTG) that generates 250 horse-power and 295 lb.-ft. of torque. Both models have a standard Aisin AF50 8-speed automatic transmission (RPO MRC).



Regal GS

The Regal GS is distinguished by sportier front and rear fascias, side skirts and a rear spoiler. The GS is powered by a new 3.6L V6 engine (RPO LGX) that produces 310 horsepower and 282 lb.-ft. of torque, delivered to a more refined 9T60 9-speed automatic transmission (RPO M3T). It features Intelligent AWD, a second-generation Continuous Damping Control (CDC) suspension that is capable of 500 adjustments per second, and Interactive Drive Control so the suspension and other settings can be adjusted using three programmable drive modes. The AGR-certified (Aktion Gesunder Rücken, or Campaign for Healthier Backs) performance seats offer heating, cooling and massaging functions with adjustable seat and seat-back bolsters as well as thigh support.

Powertrains

The 2.0L turbocharged 4-cylinder engine generates up to 20 pounds (138 kPa) of boost, thanks to its twin-scroll design that helps optimize the usable power from 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. The side direct fuel injection cools the intake process, which allows the engine to safely operate at higher boost and a relatively higher compression (9.5:1) ratio than a conventional turbo engine.

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. 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.

The engine also features a two-stage variable displacement oil pump that changes its capacity based on the engine's demand for oil. Use dexos1® SAE 5W-30 viscosity grade engine oil.

The new 3.6L V6 engine represents the fourth generation of GM's DOHC V6 engine family. It incorporates Active Fuel Management (AFM) and advanced Stop/Start engine technology.

The AFM system consists of the camshafts, valves, the switching roller finger followers (also known as the valve switching rocker arm), the dual feed hydraulic lash adjusters and the oil control valve (also known as the valve rocker arm oil control valve). With the AFM system ON, which depends on engine RPM, the oil control valve directs oil to the dual feed hydraulic lash adjuster unlatching the switching roller finger followers, which creates zero lift and does not allow the valves to open on cylinders two and five. With the AFM system OFF, the switching roller finger followers operate as normal rocker arms and AFM is inactive.

2018 Buick Regal Debuts with New Models

- continued from page 2

The engine also uses a dual-pressure control and variable-displacement vane pump that enhances efficiency by optimizing oil pressure. The oil pump is located beneath the cylinder block inside the oil pan. Use dexos1® SAE 5W-30 viscosity grade engine oil.

Both engines feature Stop/Start technology (RPO KL9) to improve fuel efficiency in city driving. The engine automatically turns off, depending on operating conditions, when the vehicle comes to a stop, such as at a traffic light. To support the increased number of engine starts, the starter motor is upgraded with a high performance electric motor and a stronger pinion engagement mechanism with reduced noise levels. There also is an Intelligent Battery Sensor connected to the battery that continually monitors the battery charge and state of health.

Active Twin Clutch AWD System

The AWD system with Active Twin Clutch delivers enhanced handling and stability by preemptively and electronically splitting the torque as needed between the rear wheels using twin clutches to provide added traction, stability and control versus a 50/50 split in a single clutch system.

The Active Twin Clutch system with active torque bias has increased capability to add stability across all driving conditions, including when one side of the vehicle is on a slippery surface and the other side has more traction.

Buick QuietTuning™

QuietTuning™ is a Buick-pioneered process to reduce, block and absorb noise and vibration to create a quiet cabin. QuietTuning™ features enhancements with ultradissipative materials and Active Noise Cancellation (standard on V6 and AWD models). Active Noise Cancellation uses an amplifier and a computer with three or four strategically-placed microphones (three in GS and Sportback AWD models and four in the TourX) in the vehicle headliner. The system detects undesirable frequencies from the engine and then directs undistinguishable counteracting sound waves through the speakers to cancel out the noise.



The tires are manufactured with quiet foam within the tires.

In addition, the Regal features the first GM application of tires designed to be quieter on the road. The Continental ContiSilent 235/50R18, P245/45R18 or 245/40R19 tires are manufactured with quiet foam within the tires.

Infotainment Systems

The infotainment technology in the Regal models includes a new, frameless 7-inch (178 mm) color touchscreen system (RPO IOB), or a frameless 8-inch (203 mm) color touchscreen system with enhanced connectivity (RPO IO5) and available embedded navigation (RPO IO6).



Infotainment system with embedded navigation

Safety Features

The Driver Assistance Systems on the Regal are designed to enhance driver awareness and help reduce potential collision situations

Some of the available Driver Assistance features include:

- Adaptive Cruise Control
- Forward Automatic Braking
- Forward Collision Alert with Following Distance Indicator
- Front Pedestrian Braking
- · Lane Keep Assist with Lane Departure Warning
- Lane Change Alert with Side Blind Zone Alert
- Rear Cross Traffic Alert
- · Rear Parking Assist



Collision/Detection Systems menu settings

For additional information on the new 2018 Regal, refer to Bulletin #17-NA-376.

() Thanks to Sherman Dixon and Lori Brohl

November 2017 3

Warranty Claim Codes Verify Repairs

When repairs involve control module reprogramming, technicians must document the Warranty Claim Code on the shop copy of the job card. The Warranty Claim Code is provided in the Service Programming System (SPS) when programming is complete.



Warranty Claim Codes from SPS.

For campaign events, GM uses the Warranty Claim Codes to verify that repairs have been completed as required. Vehicles with multiple open campaigns may need multiple programming events. One programming event, or one Warranty Claim Code, will not close a campaign if additional reprogramming of other modules is required. The completion of campaigns can be validated through OnStar.

It's important to ensure that all necessary repairs are performed. Procedures that are not completed properly can lead to other issues or the need to reopen a campaign.

TIP: The Warranty Claim Code is only available when using TIS2Web. Warranty transactions with inaccurate or missing Warranty Claim Codes are subject to audit.

Programming Complete

The Warranty Claim Code from the "Programming Complete" screen in SPS must be entered in the "SPS Warranty Claim Code" field on the transaction (in Canada, enter the SPS Warranty Claim Code in the "Correction" comment field). DTC information, if applicable, should be included in the Cause field of the transaction.

Some control modules require programming with a USB flash drive with uploaded files from TIS2Web. For these repairs, the programming transferred to the USB flash drive will generate a Warranty Claim Code.

If a control module requires additional set-up procedures to be completed after reprogramming, each of these events also will generate

a Warranty Claim Code. Refer to the appropriate Service Information for any specific programming and set-up instructions.

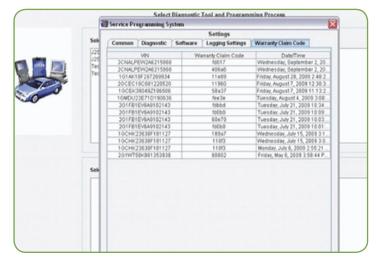
When more than one Warranty Claim Code is generated for a control module programming event, all codes should be entered into the "SPS Warranty Claim Code" field.

Labor codes applicable to reprogramming control modules that have service software/calibration files released should not be used when replacing a module.

Warranty Claim Code Retrieval

If the specific SPS Warranty Claim Code is needed for a prior programming event, the code can be retrieved in SPS:

- 1. Open up TIS on the computer used to program the vehicle.
- 2. Select and start SPS.
- 3. Select Settings.
- 4. Select the Warranty Claim Code tab.



Warranty Claim Codes of recent programming events

The VIN, Warranty Claim Code and Date/Time will be listed for recent programming events.

For additional information about warranty transaction requirements for control module programming and set-up, refer to Bulletin #06-08-47-001M.

(5) Thanks to Dan Carter, John Yadlosky and Bret Raupp

GDS2 Core Software Version 19 Released - continued from page 1

When updating from one core version of GDS2 to the next, the dealership firewall/antivirus program will recognize it as a new application. It may be necessary to engage your local dealership IT support to ensure GDS2 is entered as an exception in the security programs to allow normal functionality.

Users also need full administrative rights to install the GDS2 core

update. If any issues are encountered with GDS2 not functioning properly, right click on the GDS2 icon on the desktop and select "Run as administrator."

For assistance, contact the Techline Customer Support Center (TCSC) at 1-800-828-6860 (English) or 1-800-503-3222 (French).

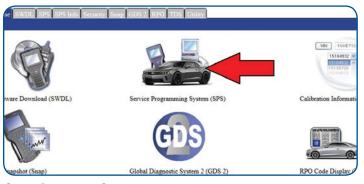
Thanks to Chris Henley

4 November 2017

Successful Control Module Programming

It's becoming second nature for many repairs — reprogramming vehicle control modules with updated calibration files using the Service Programming System (SPS). The calibration files contain the data that manage vehicle control functions. The programming process uses Pass-Thru Programming through the Multiple Diagnostic Interface tool (MDI/MDI 2).

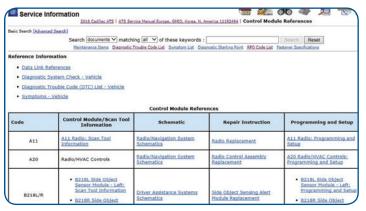
But successful reprogramming of an existing control module as well as programming a new module, including for installation of GM Accessories, requires that the programming process be followed properly every time, including correctly preparing the vehicle for programming, setting up the necessary tools, and reviewing the Service Information.



Service Programming System

Check the Service Information Every Time

The Service Information should always be reviewed for the appropriate programming and set-up procedures of an individual module. Based on the control module being programmed, some vehicle modules will require configuration, reset or learn functions to be performed after programming. Review the Control Module References in the Service Information for module-specific programming and related procedures. These procedures must be completed in the correct order. Failure to perform all programming actions at the same time on a vehicle may result in additional drivability concerns.



Check the Control Module References for programming and set-up procedures.

Programming Basics

There are a number of steps that should be followed for all programming events

- Do not program a control module unless directed to by a service procedure or a Service Bulletin. Programming a control module at any other time will not permanently correct a customer concern.
- · GM does not recommend reprogramming with the same calibra-

- tion. If the Same Calibration/Software Warning is noted on the SPS Controller screen, do not attempt to program the module.
- Ensure the programming tool is equipped with the latest software and is securely connected to the Data Link Connector. If there is an interruption during programming, programming failure or control module damage may occur.
- The MDI 2 has wireless capability; however, it is recommended when programming a control module that it is hard wired to the programming tool with the SPS application.
- Maintain stable battery voltage during programming by installing the EL-49642 SPS Programming Support Tool. Any fluctuation, spiking, over voltage or loss of voltage will interrupt programming. If the EL-49642 tool is not available, connect a fully charged 12V jumper or booster pack disconnected from the AC voltage supply. Do not connect a battery charger.
- Turn off or disable systems that may put a load on the vehicle battery such as: interior lights, exterior lights (including daytime running lamps), HVAC, radio, etc.
- During the programming procedure, follow the SPS prompts for the correct ignition switch position. To help avoid damage to vehicle control modules, do not turn off the ignition during reprogramming unless instructed to do so.
- Clear Diagnostic Trouble Codes (DTC) after programming is complete. Clearing powertrain DTCs will set the Inspection/ Maintenance (I/M) system status indicators to NO.
- Refer to the appropriate Programming and Set-up procedures in the Service Information for the control module being programmed for additional information on programming.
- Always record the SPS Warranty Claim Code on the job card for warranty transaction submission.

USB Programming

USB port programming allows for Human Machine Interface (Infotainment, Navigation, XM, and Audio programming) and Instrument Cluster programming. A USB File Transfer is used to transfer data files from SPS to a USB flash drive, or memory stick. Using the USB flash drive reduces the programming time of large calibration files. The USB flash drive should have a USB 2.0 specification with a minimum of 512 MB.

When using a USB flash drive, follow the precise order outlined in the programming procedures. Performing the steps out of



EL-49642 SPS Programming Support

order or not completing all steps may cause the programming to be unsuccessful or cause features to work improperly.

Before programming, be sure to check the appropriate Service Information to determine the correct USB port in the vehicle to use for programming. The USB port used for programming depends on the optional equipment on the vehicle.

Once the USB flash drive is installed in the proper USB port in the vehicle, the system will recognize that update files are available and the download will start automatically. Instructions will appear on the infotainment display. After the USB programming is completed, SPS programming should be performed.

continued on page 7

November 2017 5



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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Super Cruise Freeways Near You

The Super Cruise hands-free driving technology available on the 2018 Cadillac CT6 automatically steers the vehicle to maintain lane position when driving on limited-access freeways.

GM has mapped over 130,000 miles of limited-access freeways for the Super Cruise system using precision LiDAR mapping, which works with in-car cameras, radar sensors and GPS to detect every curve and hill on the road ahead. Some CT6 owners might ask where all of those freeways are. The answer can be found at a new website that provides a searchable map of all the freeways where the Super Cruise system will operate.

Super Cruise Freeway Map:

Go to https://supercruise-map-viewer.cp.gm.com/

When the vehicle is on a limited-access freeway, which is separated from opposing traffic and accessible by entrance and exit ramps only, the driver should look for the white Super Cruise icon, which shows that Super Cruise is available to use.

If the driver tries to activate Super Cruise when not on a limited-access freeway where Super Cruise is available, a message will display in the Driver Information Center stating "Super Cruise unavailable."



Super Cruise freeways

Super Cruise Unavailable

If Super Cruise is not available, and the white Super Cruise icon is not present, while driving on a limited-access freeway over multiple key cycles, check the following:

- · Verify any DTCs
- · Verify that Adaptive Cruise Control is on
- Verify the Forward Automatic Braking setting is Alert and Brake. Go to Settings > Vehicle
 Collision/Detection Systems > Forward Collision System.

If Super Cruise is not available intermittently during a drive cycle, the following operating conditions may be the cause:

- The vehicle must be centered and stable in the lane to illuminate the Super Cruise available icon.
- Difficulty tracking lane markings due to missing or poor lane markings, sun glare on the road surface, heavy rain or snow, or sun shining into front camera at dawn/dusk.
- Lock out message for driver attention state (will be present for entire key cycle)
- Exceeding Super Cruise speed in corners
- Exceeding Lane Centering Control (LCC) speed capability (85 mph or 137 km/h set speed)

Warning Escalations

When Super Cruise is engaged, the steering wheel light bar indicates the current system status.

The steering wheel light bar may go from solid green (Super Cruise active and automatically steering the vehicle) to flashing green (system detects driver lack of attention) and then to flashing red (system cannot operate under the current conditions) for the following reasons:

- Sun glare in Driver Attention System camera on top of the steering column, making it difficult to determine the driver attention state.
- Sun glare on driver's face or driver squinting can make it difficult to determine the driver's attention state or incorrectly identify the driver as not being attentive.



Flashing red alert on the steering wheel light bar

- Objects blocking the driver's face can obscure the Driver Attention System camera view.
- Super Cruise will correctly escalate if the driver is looking off road.

continued on page 7

Successful Control Module Programming - continued from page 5



Select USB File Transfer to transfer files to a USB flash drive.

TIP: Instrument Cluster Module Programming requires SPS programming first, then set-up and configuration, before USB file transfer.

Do not use the software on the USB flash drive to update multiple vehicles. A USB software validation must be done for each vehicle to be properly updated. This may or may not require writing new files to the USB flash drive.

Solenoid Valve Characterization Reprogramming

The solenoids in some transmissions require unique performance characteristic data in order to function at maximum efficiency. The data is stored in the Transmission Control Module (TCM). When a transmission assembly, TCM, or valve body is replaced, the performance characteristic data for the solenoids must be retrieved from an online web server and reprogrammed into the TCM using SPS.

Before beginning repairs, document the new Transmission Unique Number (TUN) on the transmission or the Part Unique Number (PUN) on the control valve solenoid body. These numbers can be difficult to access when the components are installed on the vehicle.

In SPS, once on the MCVM (Mechanical Characterization and Virtual Matching) Operation Selection screen, the TUN or PUN will be needed if replacing a transmission part. SPS will read the VIN from the Engine Control Module and retrieve the applicable genealogy data tree from the online web server. The data tree includes the original characterization data so that it can be updated with the new component information. The TCM is updated with the correct solenoid characterization data, and the online server is updated with the new genealogy relationship.

Solenoid valve characterization reprogramming must be completed before performing a transmission Service Fast Learn procedure. The characterization data is needed in order for the TCM to learn the individual clutch apply pressures during the Service Fast Learn procedure. Be sure to follow the exact sequence of the Service Fast Learn procedure as outlined in the appropriate Service Information.

Electrical Procedures

Following is a list of electrical procedures that are associated with reprogramming or control module replacement.

Procedure	Description
Set-up	A procedure that configures a control module to vehicle-specific content. This is done one time as part of control module replacement.
Learn	A procedure that stores operating ranges, component identifiers, etc. of components or systems. Also known as "initializing." This is done one time as part of a component or control module replacement or, in some instances, after a battery disconnect.
Programming	A procedure for loading the operational software or calibration files of a newly installed control module performed using the SPS application.
Reprogramming	A procedure to update a module with new software or calibration files. This is a labor-only procedure performed using the SPS application.
USB Programming	A procedure to update a module with new software or calibration files using the vehicle's USB port. This is a labor-only procedure performed using the SPS application.
Sequential Programming	A procedure to update more than one module with new software or calibration files in a predefined order or sequence. The sequence is critical to the outcome of the event and is done automatically by the SPS ap- plication.
Accessory Configuration	Some GM Accessory installations require SPS reprogramming or set-up procedures.

(Thanks to John Yadlosky and Bret Raupp

Super Cruise Freeways Near You - continued from page 6

The steering wheel light bar may go from solid green to flashing red under the following conditions:

- Difficulty tracking lane markings due to missing or poor lane markings, sun glare on the road surface, heavy rain, snow, sun shining into the front camera at dawn/dusk, or exiting from under a bridge/overpass
- Vehicle in exit lane (0.3 miles or 0.5 km before exit)
- Freeway ending (0.3 miles or 0.5 km before end)
- Freeway split (0.3 miles or 0.5 km before end)
- Adjacent vehicle in close proximity
- Driving in a tunnel for more than 0.6 miles or 1 km

- Lanes entering or exiting on both left and right side of the freeway
- Areas of construction where roadway deviates from mapped road

Super Cruise Control

Under various driving conditions, Super Cruise may reduce or limit vehicle speed to confidently navigate curves. A curved road icon will illuminate on the instrument cluster while in curve speed control if there is no car icon present. Super Cruise also may think a vehicle in an adjacent lane is in the same lane and decelerate the vehicle. When decelerating the vehicle, the car icon will illuminate on the instrument cluster. These are normal operating conditions of the Super Cruise system.

(Thanks to Katul Patel

November 2017 7