TECH LINK

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Programming Radio Software

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Programming Radio Software

CHECK THE BUILD NUMBER

The software on many 2018-2021 GM models equipped with an Infotainment 3 System (RPOs IOR, IOS, IOT, IOU, IOV) can be updated over the air to the vehicle or via USB in the vehicle.

How do you know if the infotainment system has the latest software? Simply selecting Updates in the Settings menu on the infotainment screen does not confirm that the software is current. Unlike a mobile device such as a smartphone, the infotainment system does not look at the current version of software and go online to check for available updates.

The Update menu on the infotainment screen is only used for locating an Over-the-Air (OTA) update that has already been pushed

Infotainment 3 system

to the vehicle, downloaded, and is waiting for user acceptance in order to be installed.

SOFTWARE VS. CALIBRATIONS

Radio software updates are not the same as radio calibrations. Software and calibrations are not interchangeable terms. Calibrations instruct the radio what to do while the software tells the radio how to do things.

Calibrations for the radio are not updated frequently. In the Service Programming System (SPS), the radio calibrations are updated by selecting Radio – Programming.

Software updates occur much more often in order to address fixes and continuous improvement enhancements, such as issues with Bluetooth, device projection (Android Auto/Apple CarPlay), Sirius XM, screen displays, and instrument cluster/Driver Information Center (DIC)/Head-Up Display (HUD) concerns. Each software update includes all enhancements from previous software version releases and includes hundreds of enhancements.

Software releases are usually announced with a Service Bulletin once the programming is available. The bulletin will list most of the enhancements included in the software update. However, due to limited text space, the bulletins are simply titled Radio Software Update.

Be sure to check the bulletin to see if a specific condition is included in the software update. Don't' assume that the new software addresses a specific condition simply by seeing a change in overall radio system operation after the programming update.

Update menu

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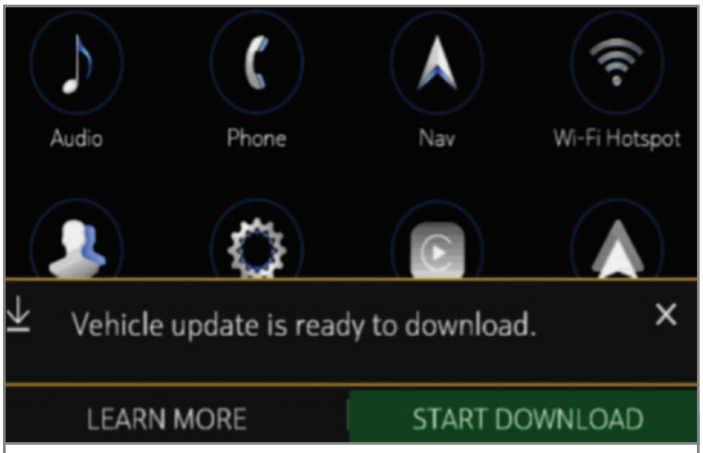
SOFTWARE UPDATES

Some software releases may be pushed to vehicles remotely through an OTA update. If the remote vehicle update cannot be completed, the radio must be updated through SPS via USB. Keep in mind that not all software releases are distributed as OTA updates.



Download any updates available.

If a customer declines a vehicle update, or the update is unsuccessful, it will be necessary to reprogram the radio with the new software package.

In Techline Connect, the radio software is updated by selecting USB File Transfer. Use a USB 3.0 flash drive with a minimum capacity of 16 GB when updating the software.

Before proceeding with a USB File Transfer to update the software, check for any Infotainment System OTA updates on the infotainment system. Go to Settings > System tab > Updates on the infotainment screen to verify if an update package has been remotely downloaded to the vehicle.

If an update is shown on the Updates screen, the software update must be performed using the download that is present on the vehicle. Follow the prompts on the infotainment screen.

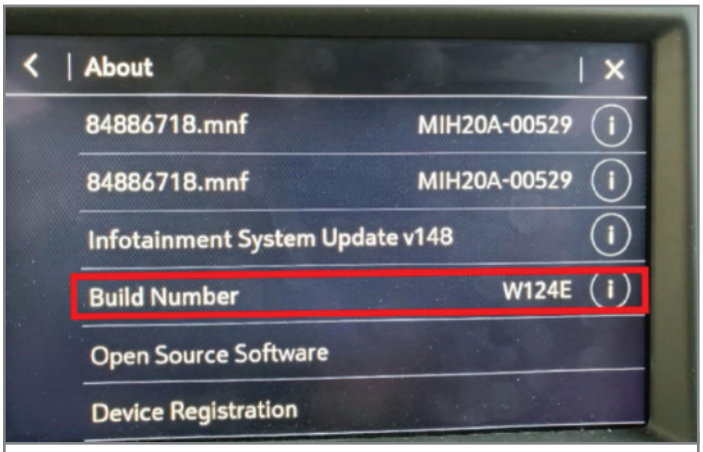
TIP: It is normal operation of the OTA update process for a radio to remain on from 30 seconds to up to 10 minutes after the ignition is turned off and Retained Accessory Power (RAP) has been disabled, depending on the vehicle, radio RPO and current software version. The radio will return to normal power-down operation (radio off when RAP is disabled) once the OTA update has been installed.

If there is not an update available, the Build Number must be verified before a software update is performed using the USB File Transfer.

BUILD NUMBER IDENTIFICATION

To view the full software version file name, check the Build Number of the software. It may appear that the radio does not have the current version of software, even after a software update is completed, if checking only the software version without identifying the Build Number.

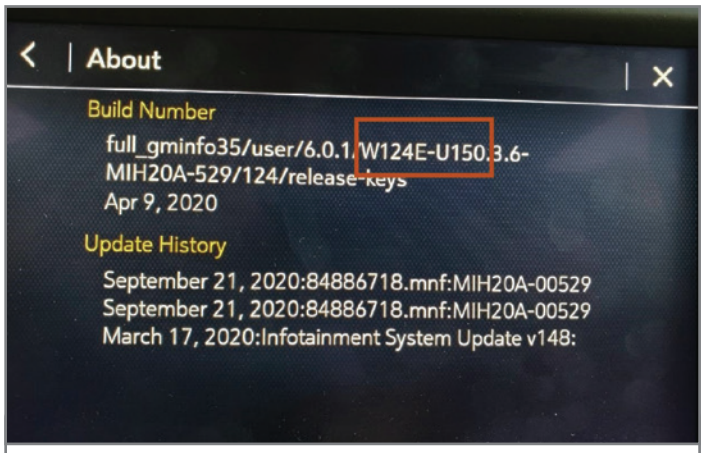
Under the About menu, select the Information icon ⓘ on the Build Number line to see the full software version file name. In the middle of this long file name, the current software version is listed.



Select the Information icon to see the full software version file name.

The Infotainment 3 Systems have six different series and each series has a different branch of software. Each branch includes numerous versions of software that have been released into production and service. Looking at the alphanumberic name, the numeric portion increases as the updated software is released.

For example, after installing software version U150, Infotainment System Update v148 may be listed with a Build Number of W124E. The W124E number relates to production timing, not the software version, and is not unique to the U150 software release.



The current software version is listed in the Build Number.

TIP: When calling TAC, the software Build Number must be known. Telling a TAC agent the vehicle has the latest software

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Programming Radio Software

version is like saying an engine has an illuminated Check Engine light with codes set. The exact radio software version is needed to provide the best possible assistance.

BEFORE BEGINNING A USB UPDATE

When performing a USB update, and during all programming events, the battery voltage must be stable. Preventing low battery voltage is important, but high voltage issues should also be considered. Any fluctuation, spiking, over voltage or loss of voltage will interrupt programming.

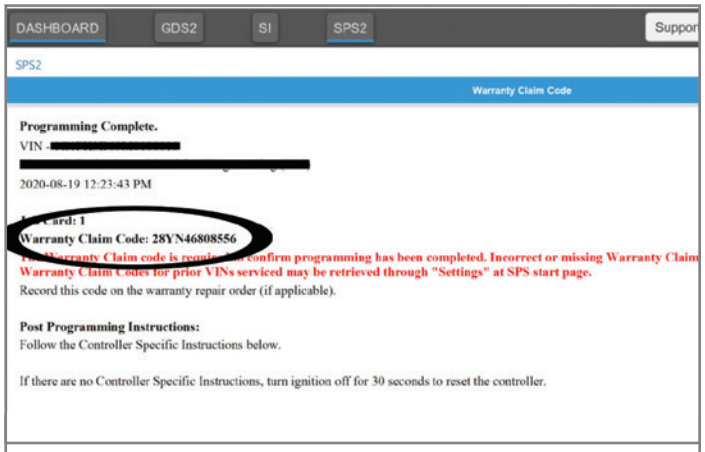
A damaged or outdated battery maintainer tool, a damaged charging system, or unstable voltage from various accessories in the vehicle being on or activated prior or during a programming event can impact the programming process. Install a GM Authorized Programming Support Tool to maintain system voltage, such as the Midtronics PSC 550 Battery Maintainer (SPS Programming Support Tool EL-49642). If not available, connect a fully charged 12V jumper or booster pack disconnected from the AC voltage supply. Do not connect a battery charger.

In addition, tripping the door latch will allow easy entry/exit of the vehicle during the programming event and help prevent errors from occurring from opening a door and waking up modules while programming.

Finally, remove all other devices connected to any USB data ports (not charge-only USB ports) in the vehicle. Items such as flash drives, phones, or illuminated charging cords plugged in to a USB port could potentially cause programming issues. Check all USB ports in the vehicle, including hidden USB ports concealed in the center console compartments.

COMPLETE ALL STEPS

Once the remote vehicle update has completed, verify there are no additional updates. Select Settings, scroll down and select Updates. If no updates are available, verify the software Build Number is correct.



Record the Warranty Claim Code

If the software was updated via USB, be sure to record the SPS Warranty Claim Code (WCC) on the job card (repair order). The warranty claim may be rejected without the WCC.

Look for additional articles on radio programming in future editions of TechLink.

Thanks to Jeremy Richardson, Jeremy Krall and Zach Gillett

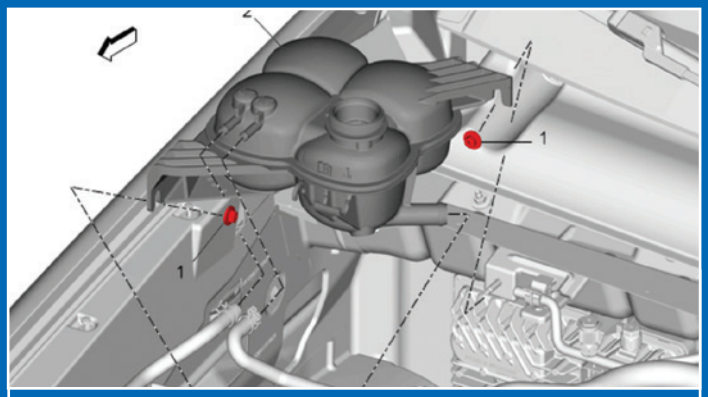
Air in the Cooling System

A water rush or gurgle sound from the heater core at the center of the instrument panel on some 2015-2019 Colorado and Canyon models may be caused by air ingestion in the cooling system.

If the water rush or gurgle sound is heard, replace the radiator surge tank on vehicles from Start of Production (SOP) to the VIN breakpoint listed in Bulletin #19-NA-007. 2019 and later model year vehicles produced after the VIN breakpoint already have the new surge tank.

ADD COOLANT OVER THE FACTORY FILL LINE

When filling the surge tank after installation of a new tank or if the water sound is heard on a vehicle with a new tank, check the



Radiator surge tank

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Cleaning and Disinfecting Infotainment Screens

A ghost or phantom touch, where random touch inputs occur on the infotainment screen display, and/or the infotainment display is non-responsive to touch immediately after having been cleaned, wiped, or disinfected may occur on some 2019-2021 Buick, Cadillac, Chevrolet and GMC models equipped with infotainment system RPOs IOS, IOT, IOU or IOV. The phantom touch or non-responsive conditions may last the entire ignition cycle. After the radio has gone through a sleep cycle, the conditions are no longer present.

These infotainment display conditions may be caused by the presence of liquid or certain physical touch during the boot-up sequence that can corrupt the display boot-up for that ignition cycle, causing false touch input or no touch input to be received until the radio can reboot.

CLEANING THE INFOTAINMENT DISPLAY

When cleaning and disinfecting the infotainment display, always have the infotainment system turned on. Wait for the vehicle brand splash animation to complete. Using a clean towel, apply the cleaner or disinfectant on the towel. Do not spray any cleaner directly on the infotainment display. Wipe the display surface with the towel. Be sure to always dry the display to ensure there is not any liquid, debris, or streaks on the display.

TIP: Refer to the latest version of Bulletin #06-00-89-029 for interior cleaning precautions, steps, and suggested product usage.

After cleaning the infotainment display, if the phantom touch or non-responsive conditions are present, turn off the ignition, disable Retained Accessory Power (RAP), and allow the system to go to sleep (at least three minutes). Verify the conditions are no longer present. If the issue persists, check that the display is thoroughly clean and completely dry before allowing the system to go into sleep mode again.

▶ Thanks to Jeremy Richardson

coolant level. The coolant in the surge tank should be 150 ml over the factory fill line, as shown in the graphic.

In some circumstances, it may be difficult to remove the air from the heater core using the Vac-N-Fill method because the radiator cap and heater core are at about the same height. If the sound persists, raise the front of the vehicle with a hoist until the radiator cap is above the cowl after adding the additional coolant to the surge tank. Remove the radiator cap and run the engine for an hour. Run the throttle up to approximately 1500 RPM three or four times during the hour.

The coolant in the surge tank should be 150 ml over the factory fill line.

For more information, refer to Bulletin #19-NA-007.

▶ Thanks to Matt Singer

TOP XFUEL EARNERS

Recognized as Mark of Excellence Xccelerate Pilot Program Ends

The Xccelerate mobile application, launched as a pilot program in the 2020 Mark of Excellence (MOE) program (U.S.), has concluded. The interactive Xccelerate app provided technicians with more opportunities to complete missions for XFuel, recognize peers in the service department, and track MOE performance in a convenient, mobile-first interface.

Phase 2 of the Xccelerate pilot program ended December 31, 2020. All enrolled technicians were sent an email announcing the conclusion of the Xccelerate program in early January.

The Mark of Excellence program has recognized the achievements of GM dealership personnel for 20 years. Service technicians enrolled in the program can earn recognition for their outstanding performance as well as a number of awards when they meet program qualifiers and other criteria. The 2021 MOE program runs from January 5, 2021 through January 3, 2022.

XCCELERATE XFUEL

The Xccelerate app offered technicians a convenient, easy way to access service-related information just about anywhere. But it also enabled participants to earn MOE Ranking Score points by collecting XFuel.

Completing the missions on the app to collect XFuel during Phase 2 of the program encouraged technicians to help build better habits on the job while also earning additional Ranking Score points toward 2020 MOE year-end rewards (1 XFuel = 0.25 Ranking Score).

With over 130 missions earning XFuel, there were 2,000 XFuel possible (500 potential MOE Ranking Score points) in Phase 2 of the Xccelerate program. Two technicians tied for the top spot with each collecting 1,890 XFuel.

TOP 20 XFUEL EARNERS

The Top 20 XFuel earners are being recognized by MOE for their outstanding engagement with Xccelerate with a $250 prepaid MasterCard.

The Top 20 XFuel earners, in alphabetical order, are:

- **Roger Adams**, Crest Cadillac, Frisco, Texas
- **Michael Andrews**, Classic Buick GMC, Painesville, Ohio
- **James Babb**, Kenny Kent Chevrolet, Evansville, Indiana
- **Edward Claypool,** Priority Chevrolet Newport News, Newport News, Virginia
- **Matt Covington**, Dave Hallman Chevrolet Inc., Erie, Pennsylvania
- **Samuel Grayson**, Kenny Kent Chevrolet, Evansville, Indiana
- **Anthony Guarino**, Kerbeck Chevrolet Buick GMC, Atlantic City, New Jersey
- **James Jacobsen**, Lake Motor Company, Devils Lake, North Dakota
- **Charles Labonte**, Goodwins Chevrolet Company, Brunswick, Maine
- **Keith Lankford**, Crest Cadillac, Frisco, Texas
- **David Letendre**, Dick Norris Buick GMC, Clearwater, Florida
- **Shawn Lucas**, Capitol Chevrolet of Salem, Salem, Oregon
- **Michael Mastalski**, Classic Buick GMC, Painesville, Ohio
- **Donald Motal**, Covert Chevrolet Buick GMC, Bastrop, Texas
- **Jeffrey Neel**, Everett Buick GMC, Bryant, Arkansas
- Gregory Ruckman, Berglund Chevrolet Buick, Roanoke, Virginia
- **William Shearer,** Kerbeck Chevrolet Buick GMC, Atlantic City, New Jersey
- **Robert Spivak**, Classic Buick GMC, Painesville, Ohio
- **Will Toomb**s, Crest Cadillac, Frisco, Texas
- **David Xenos,** Biggs Cadillac, Buick, GMC Trucks, Elizabeth City, North Carolina

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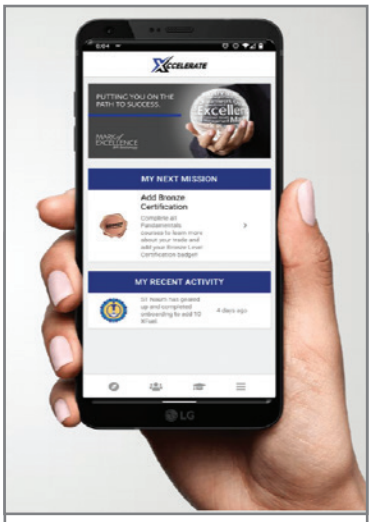


Xccelerate app

NEXT FOR XCCELERATE

Based on technician participation and feedback, there are plans to launch the Xccelerate app again at a later date. For now, the Xccelerate program has concluded so that some of the recommendations from program participants can be implemented to enhance the overall MOE experience.

For more information about the 2021 Mark of Excellence program, select the Mark of Excellence app on the GM GlobalConnect App Center.

▶ Thanks to Diana Sancya

Interior Door Handle Replacement

The chrome may be starting to peel off the interior door handle on some 2016-2020 Camaro models. The chrome separation may be noticed at the parting line of the handle.

If the chrome trim is starting to peel, the interior door handle should be replaced. The front side door trim must be removed to access the door handle. Also disconnect the electrical connectors from the inside handle.

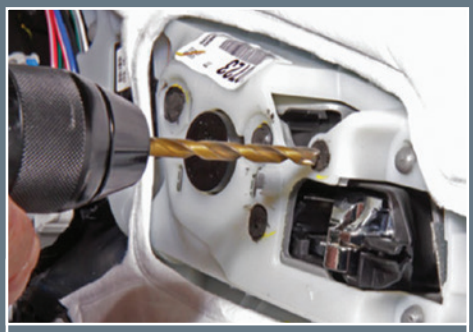
To replace the interior door handle, the four heat stakes need to be drilled out to release the assembly. Do not drill too deeply or the hole in the substrate will become too large. Drill only enough to release the handle assembly and then use a suitable tool to remove the remaining heat stake material.

The new door handle will be secured with stamp nuts. With the aid of another person, support the door handle in position before installing and tightening each stamp nut. Do not overtighten the nuts.

Verify the fit of the inside door handle to the trim before reconnecting the electrical connectors and reinstalling the door trim.

Interior door handle

Interior door handle chrome separation



Drill out the four heat stakes to release the handle assembly.

The new door handle is secured with stamp nuts.

For complete details on the repair procedure as well as a service parts list, refer to Bulletin #21-NA-008.

▶ Thanks to Kurt Hoezee

GE-52250 POWERSMOKE

DIAGNOSTIC LEAK DETECTOR WARRANTY UPGRADE (U.S.)

GE-52250 PowerSmoke Diagnostic Leak Detector

The GE-52250 PowerSmoke Diagnostic Leak Detector is a GM Essential Tool that can be used to help find induction and exhaust system leaks on 2010-2020 GM models equipped with a turbo-charged engine.

EXTENDED WARRANTY OFFER

An extended warranty offer is now available to U.S. dealerships for the GE-52250 PowerSmoke Diagnostic Leak Detector. The offer includes the choice of extending the standard one-year warranty for two or three years. The extended warranty covers all parts and labor to repair or replace the PowerSmoke detector, including all power intake inflatable bladder devices included in the accessory kit.

The five PowerSmoke adapters that connect to inflatable bladders in the accessory kit are used on almost every repair with the leak detector. Replacing the bladders individually can be costly. The extended warranty offers a savings to dealerships if replacement is needed.

EXTENDED WARRANTY REGISTRATION

To register for the extended warranty online, go to http://bit.ly/GMPSWarranty. For additional information or to register by phone, call 1-877-557-6653.

The extended warranty offer expires March 3, 2021.

Power intake inflatable bladder devices included in the accessory kit are covered by the extended warranty.

TOOL OPERATION

To locate leaks, the GE-52250 tool introduces compressed air and smoke into the system without disassembling a number of components, saving time and reducing the chance of missing a faulty connection. The tool is similar to the EVAP smoke machine, but produces up to 60 times the volume of pressure and smoke.

The multiple adapters included with the tool feature inflatable bladders that allow one or both ends of the system to be sealed off. The adapters also have a connection point that enables smoke to be injected into the system.

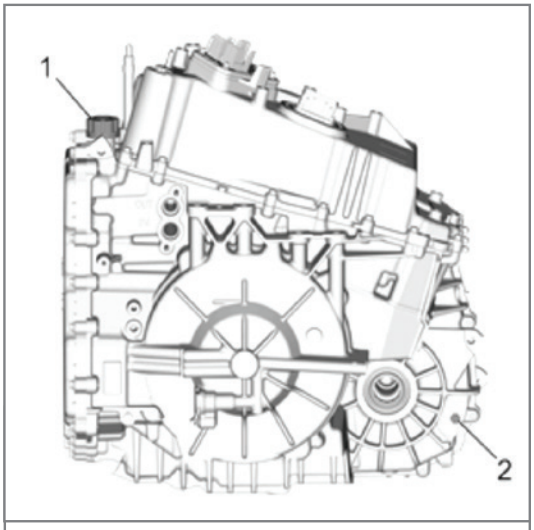
TIP: Due to the high pressure output produced by the GE-52250 tool, it should not be used to diagnose EVAP system leaks.

▶ Thanks to Rick Jackson

Speed Limited Due to Low Transmission Fluid

A Speed Limited or Reduced Propulsion Power message may display on the Driver Information Center (DIC) along with reduced power on some 2016-2019 Volts. The message may display for a brief time only. When the message clears, full propulsion power is restored. No DTCs will be set.

If there is a brief reduced power condition with related DIC messages displayed, inspect the transmission for fluid leaks and verify the fluid level. The 5ET50 transmission has a fluid fill cap and a fluid drain plug. The vehicle may have reduced power if the transmission fluid is low.



Check the fluid level of the transmission.

Due to the sensitive and complex nature of the Volt's drive unit, if the transmission fluid level is low, it may result in reduced power. If the fluid level is low or a leak is found, follow the appropriate Service Information to complete the repair. Possible points of fluid leaks include the control valve body cover, transmission case, torque dampener and differential housing, and vent.

TIP: The transmission fluid level must be checked when the transmission fluid temperature is at 113–131°F (45–55°C). If the transmission fluid temperature is not in this range, operate the vehicle or allow the fluid to cool as required. Setting the transmission fluid level with fluid temperature outside this range will result in either an under- or over-filled transmission.

If a fluid leak is not found and the fluid level is full, review the Battery Pack Capacity and compare the vehicle Battery Pack Capacity to the published Hybrid/EV High Voltage Battery Reduced Range Analysis document in Service Information.

In addition, verify that the vehicle is getting occasional full charging, which is how the Hybrid/EV Powertrain Control Module 2 (HPCM2) evaluates the battery. An extended period of time of not receiving a full charge may lead to a less accurate battery capacity estimation, which could result in power being limited from the battery under certain conditions while the engine is running.

▶ Thanks to John Riker

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