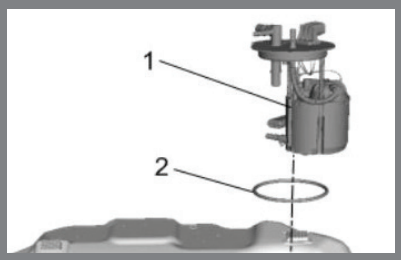
TECH LINK

December 2019, Volume 21, No. 23

Use Dielectric Grease to PREVENT Spark Plug Carbon Tracking



Extended Engine Crank Time

see page 5

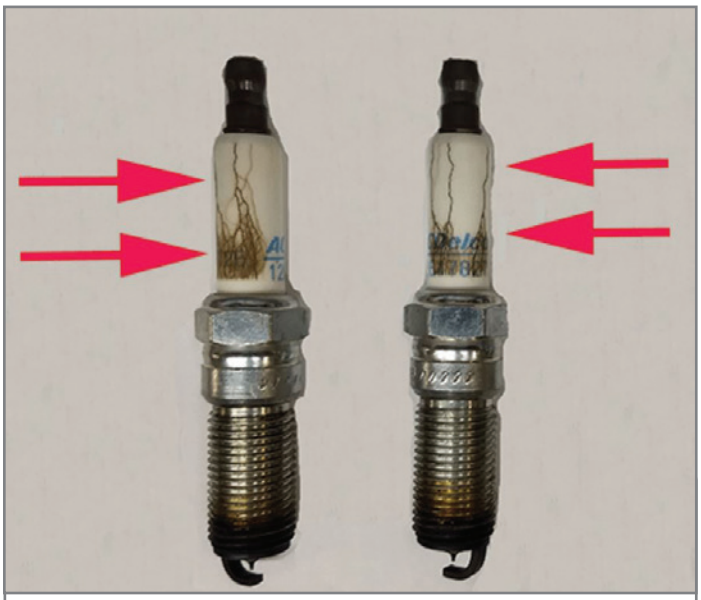
Cooling Fans Running for an Extended Period

see page 6

Use Dielectric Grease to Prevent SPARK PLUG Carbon Tracking

Talc powder applied inside the rubber boot of the ignition coil may be causing a rough running engine or misfire condition on some 2019 Envision, Regal, ATS, CTS, Camaro, and Traverse models equipped with the 2.0L 4-cylinder engine (RPO LTG). The Check Engine MIL also may be illuminated along with DTC P0300 (Engine Misfire Detected) set in the Engine Control Module (ECM).

Talc powder was applied to prevent the rubber boot from sticking to the porcelain insulator of the spark plug. However, the talc powder has a lower insulating strength than dielectric grease, which may lead to possible arcing, eventual carbon tracking and, ultimately, a misfire condition. A prolonged misfire condition can result in piston damage.



Inspect the spark plugs for carbon tracking.

SPARK PLUG INSPECTION

If a misfire condition is present on the 2.0L engine, inspect all spark plugs for signs of carbon tracking and inspect the pistons and cylinder walls for damage.

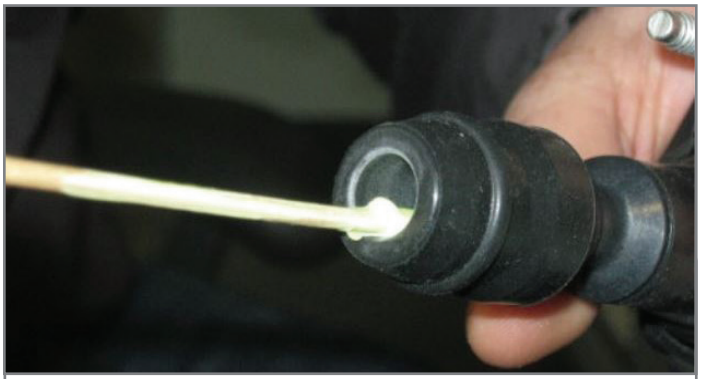
In addition, perform a cylinder leak down test on the affected cylinder or cylinders to check that the misfire is not caused by piston leakage and leakage into the crankcase. Refer to Cylinder Leakage Test in the appropriate Service Information.

If there is no high cylinder leakage found, replace all four spark plugs and all four coils if any carbon tracking is seen on any of the spark plugs. All spark plug boots also will require an application of Molykote G-5008 Dielectric Grease.

Molykote G-5008 Dielectric Grease

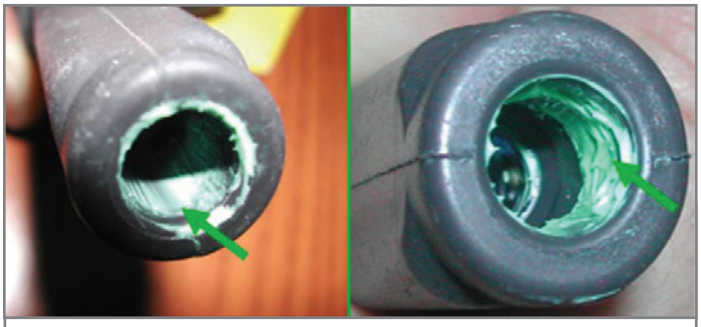
Inspect all the ignition coils and apply additional dielectric grease if required. Using an applicator stick or equivalent, apply a thin coating of grease in the rubber boot of the coil, up to a depth of 15 mm. Remove any extra grease from around the end of the boot. Do not use an excessive amount of grease in the boot.

The dielectric grease should be applied evenly inside the boot, from the end of the terminal to the edge of the boot.



Apply a thin coating of grease in the rubber boot.

CONTINUED ON PAGE 3



The dielectric grease should be applied evenly inside the boot.

TIP: Be sure to only use the specified dielectric grease (U.S. – 19260901; Canada – 19260902) and apply it correctly or the engine conditions/damage may reoccur.

PISTON AND ENGINE CYLINDER INSPECTION

When inspecting the condition of all cylinder walls, there may be some light vertical marks visible on the cylinder wall. In these areas, check that the cross-hatch marks are still visible in the marked area. If the cross-hatch marks are visible, the cylinder surface has not been compromised and the engine block can be used. A good test is to run a fingernail across the cylinder wall. If you catch your nail on anything on the cylinder wall, the engine assembly must be replaced.

Fractured piston

Damaged piston

If any of the cylinder walls are damaged, replace the engine assembly (engine comes with spark plugs), all four ignition coils (apply dielectric grease to the spark plug boots as previously described), the fuel injector of the cylinder(s) that had damaged pistons, and other components necessary when an engine assembly is installed.

If the cylinder walls are not damaged, remove the pistons and inspect for a fractured piston between the top and second rings.

If the cylinder walls are not damaged and one or more of the pistons are found fractured, replace all four spark plugs, all four ignition coils (apply dielectric grease to the spark plug boots as previously described), the fuel injector of the cylinder(s) that had damaged pistons, all four piston kits, all ring sets for all four pistons, all rod bearings, all four connecting rod assemblies, and other components necessary when pistons are replaced.

When installing the pistons, use the J-43953 tapered ring compressor special tool. Use care when installing the piston assemblies into the cylinder so the rings are not damaged.

Refer to Bulletin #19-NA-246 for additional information and part numbers.

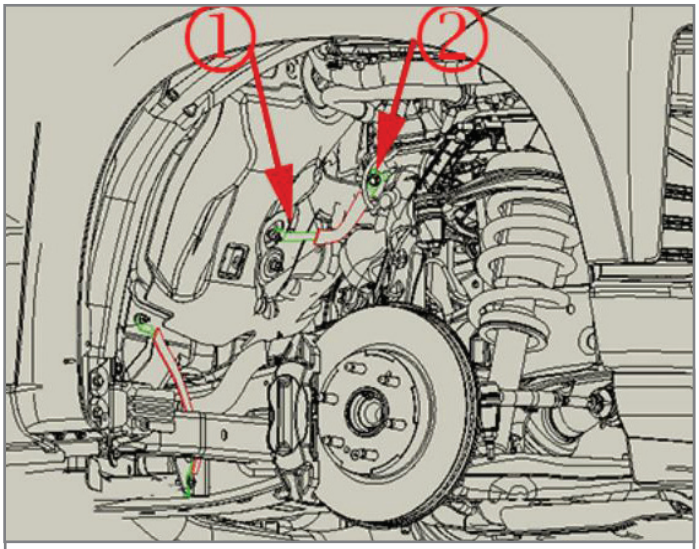
▶ Thanks to David Rutkowski and Javier Hinojos

Broken or Loose Engine Ground Cable

A broken or loose engine ground cable/strap on some 2019-2020 Silverado 1500 and Sierra 1500 models equipped with the 2.7L engine (RPO L3B), 5.3L engine (RPO L84) or 6.2L engine (RPO L87) may result in the following conditions:

- Engine does not start after an Auto Stop event
- Intermittent no crank
- DTCs set (any of the following DTCs: U0102, U0284, U0285, U0672, P0617, P26E6, P305D, U111A, U111E, U1348)

Inspect the engine to body ground cable/strap, G132 and G134 for any damage or loose connections.



1. G132 2. G134

Tighten any ground connections that are loose or replace the ground cable/strap if it is damaged. Ensure that the ground cable/strap is properly orientated to prevent future damage to the ground cable/strap that may be caused by powertrain movement.

For additional information, refer to the latest version of #PIT5689.

Thanks to Jim Will

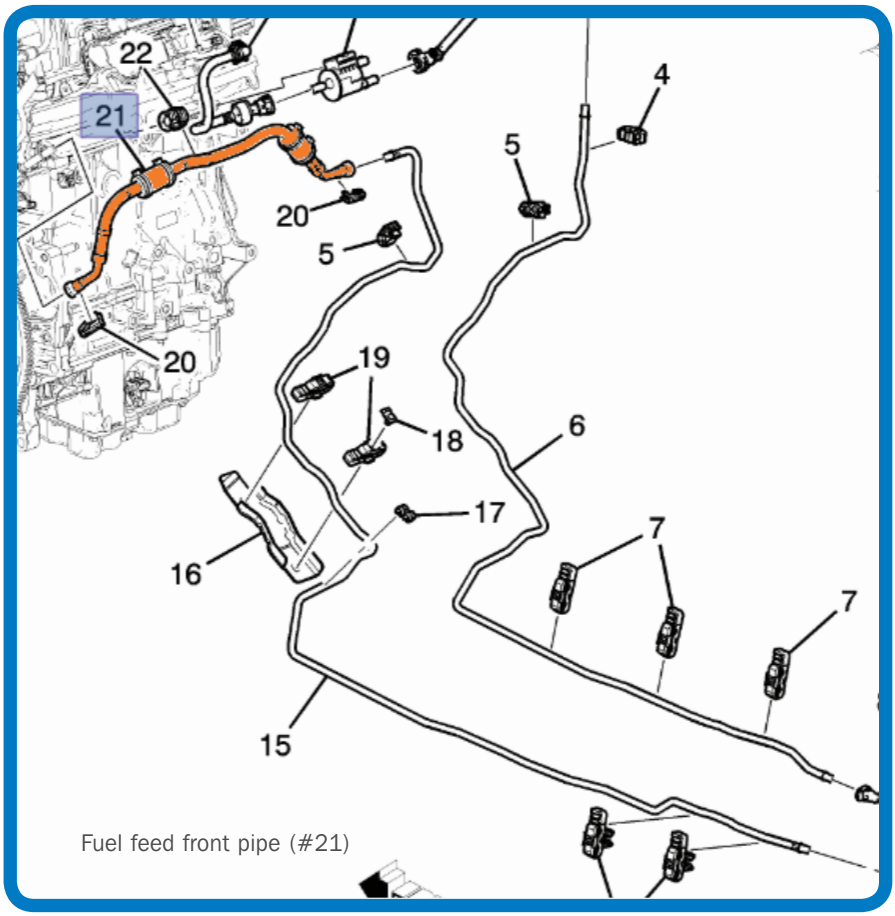
Loose G132 cable/strap

Broken G132 cable/strap

Extended Engine Crank Time

Some 2018-2019 Equinox and Terrain models may have an extended crank time that occurs intermittently after the vehicle has been sitting for at least 20 minutes. In this case, it may take three seconds of crank time before the engine starts.

If there is an extended crank time condition, it may be caused by the check valves stuck open in the fuel feed front pipe and the fuel tank fuel pump module. After verifying the extended crank time, replace both the fuel feed front pipe and the fuel tank fuel pump module.

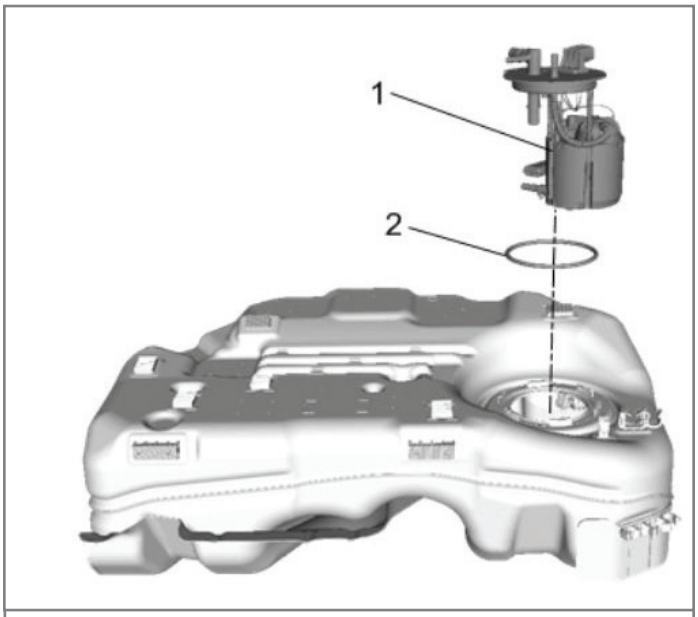


Fuel feed front pipe (#21)

Fuel feed front pipe on the 1.5L engine (RPO LYX)

When ordering a fuel tank fuel pump module, use the latest part number in the Electronic Parts Catalog with the VIN filter on.

For the fuel feed front pipe, there are different part numbers for vehicles equipped with the 1.5L engine (RPO LYX) and the 2.0L engine (RPO LTG).



Fuel tank fuel pump module

Refer to Bulletin #19-NA-176 for additional information and part numbers.

▶ Thanks to Rob Smith

GDS 2 CORE

SOFTWARE UPDATE RELEASED

An update to the GDS 2 core software (Version 21.2.08000) was released on December 9 in TIS2Web. The GDS 2 update includes numerous bug fixes, including a fix for the communication issue with the Engine Control Module (ECM) in certain platforms within the Vehicle-Wide DTC function.

The GDS 2 software update is available by selecting the GDS 2 icon in TIS2Web.

Select the GDS 2 icon to update GDS 2 with the latest software.

UPDATING SOFTWARE

When updating to a new core version, many firewalls/antivirus programs will recognize it as a new application. It may be necessary to engage your local IT support to ensure GDS 2 is entered as an exception in these programs to allow normal functionality. GDS 2 users also need full administrative rights to install the update. If issues are encountered with GDS 2 not functioning properly, right click on the GDS 2 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).

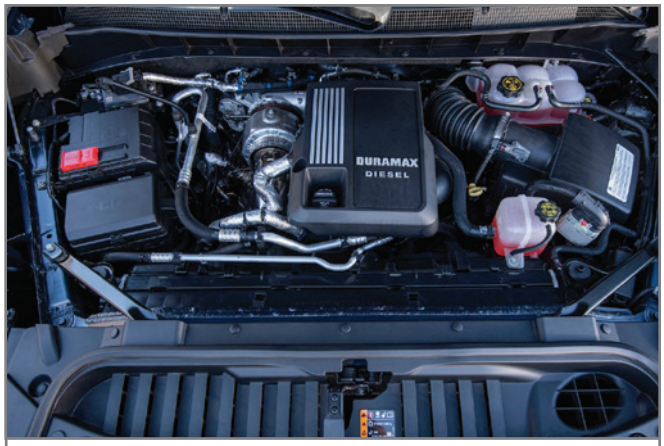
Thanks to Chris Henley

Cooling Fans Running for an Extended Period

Some 2020 Silverado 1500 and Sierra 1500 models equipped with the 3.0L diesel engine (RPO LM2) may have the engine cooling fans running continuously for an extended period of time. The Check Engine MIL also may be illuminated.

Currently, an engine calibration in the Engine Control Module (ECM) will falsely set DTC P0111 (Intake Air Temperature (IAT) Sensor 1 Performance), which occurs when the engine block heater is used in ambient temperatures above 0°F/–18°C. As a result, the cooling system will go into remedial action and turn on the cooling fans at 100%. The remedial action will continue until the engine goes through a six hour cold soak.

If this condition is found, clear the DTC and return the vehicle to the customer. Do not perform any further diagnosis or replace any related components. An updated calibration will be available shortly.



3.0L diesel engine

Also inform the customer to avoid engine block heater use in temperatures above 0°F/–18°C. While the owner's manual states an engine block heater should be used in temperatures less than 0°F/–18°C, it isn't vital until much lower temperatures of less than –13°F/–25°C.

Thanks to Robert Bastien

2020 MARK OF EXCELLENCE

Program Enrollment Now Open

For 20 years, the Mark of Excellence program (U.S.) has recognized the achievements of GM dealership personnel. Service technicians enrolled in the program can earn both recognition as well as a number of awards when they meet program qualifiers and other criteria.

The enrollment period for the 2020 Mark of Excellence program is December 4 – December 20.

The 2020 Mark of Excellence program runs from January 3, 2020 through January 3, 2021.

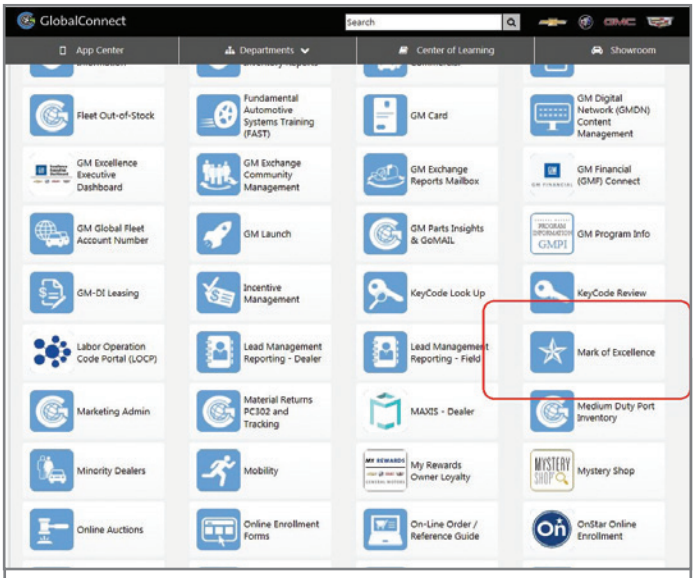
NEW FOR 2020

In the 2020 program, service personnel have the opportunity to win a combination of earnPOWER points, service medallions, and Certified Service apparel as well as attend nationwide Service Award banquets and trips to Detroit.

In addition, there are several new aspects of the program:

- **FIRTFT (Fix It Right the First Time):** Based on technician feedback, results for FIRTFT will now be calculated monthly, and the sum of all 12 months will be used as the final year-end ranking score.
- **Product Knowledge Tests:** All service technicians who complete the quarterly Product Knowledge Tests with a score of 80% or better will receive an entry into a quarterly drawing for 250 earnPOWER points. 25% of the qualified service technicians per zone will be randomly selected to win
- **Toolbox Medallion:** Service technicians who have earned seven or more toolbox medallions will receive a personalized display plaque
- **MOE Xccelerate Initiative:** Starting Q1 2020, service technicians enrolled in the MOE program will have the opportunity to participate in the MOE Xccelerate initiative. The new communication application service leverages Progressive Web App (PWA) technology to deliver a mobile-first interface designed to engage participants in Mark of Excellence by providing convenient, easy access to service-related information for technicians just about anywhere.
  - Enrolled service technicians will receive details about the MOE Xccelerate initiative on January 3, 2020
  - Service technicians who choose to participate in the MOE Xccelerate initiative will be eligible to earn an additional ranking score of 25 for the program
  - Service Technicians must be enrolled in the MOE Xccelerate initiative by January 31, 2020 to earn

For more information about the 2020 Mark of Excellence program, select the Mark of Excellence app on the GM GlobalConnect App Center.



Mark of Excellence app icon

Thanks to Diana Sancya

Printing to a PDF File in GDS 2

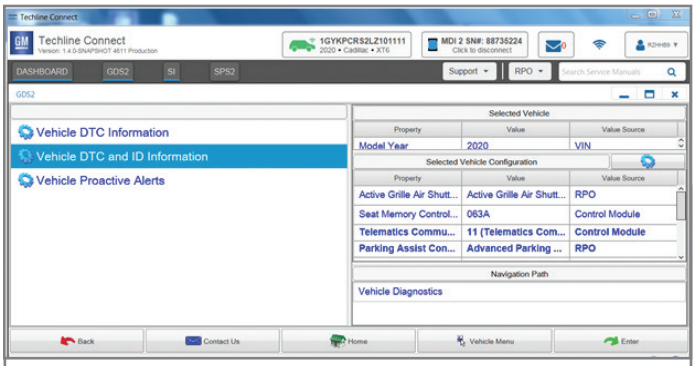
When running Vehicle DTC and ID Information in the GDS2 application, it will run the Vehicle DTC service to check all vehicle modules for DTCs. When the Vehicle DTC check is complete, GDS 2 will produce an ID report containing specific vehicle-related data. The report is created as a web-based HTML file. However, there may be circumstances when it would be helpful to save the report as a PDF file. The GDS 2 app cannot be used to create a PDF file, but this functionality does exist as part of the Windows 10 Operating System.

Use the following instructions to save the ID report HTML file in a PDF format.

TIP: Any report within GDS 2 that is created as an HTML file can be saved as a PDF file using these instructions. Keep in mind that this function only applies to PCs running Windows 10.

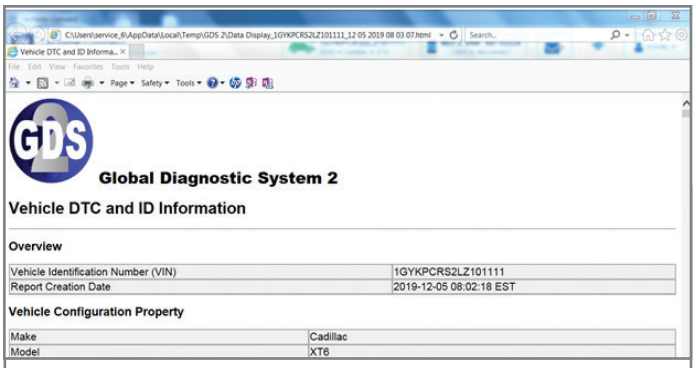
Save as PDF Format

1. Select the Vehicle DTC and ID information.



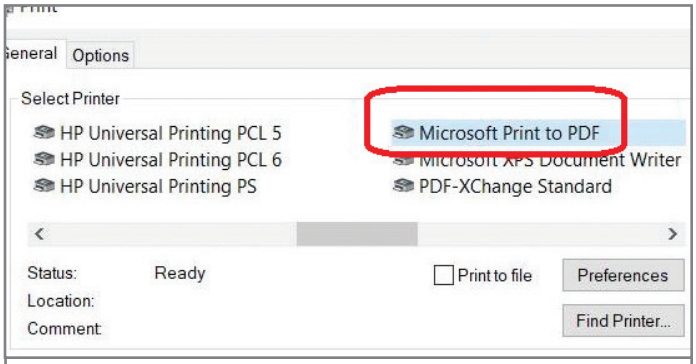
Select DTC and ID information.

2. From this page, select File, and then the Print function.



Select File, and then Print.

3. Under the Select Printer feature, select the Microsoft Print to PDF option.
4. Enter your file name and select the file location where you wish to save the PDF file. It will then be saved to your PC for reference.



Select Microsoft Print to PDF.

Thanks to Chris Henley

TECHLINK

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