TECH LINK

April 2026, Volume 28, No. 7

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Engine Oil Consumption Guidelines

All engines require oil to lubricate and protect internal moving components from wear. When a piston moves down its cylinder, a thin film of oil is left on the cylinder wall. During the power stroke, part of this oil layer is consumed in the combustion process. As a result, varying rates of oil consumption are accepted as normal in all engines.

GM has provided guidelines for engine oil consumption in 2026 and prior model-year passenger cars, light trucks, and heavy-duty trucks and SUVs at or above 8,600 GVW. The latest versions of Bulletins #01-06-01-011 and #03-06-01-023 highlight the factors that can affect an owner's concern with oil consumption as well as the driving habits and vehicle maintenance issues that impact oil consumption. Use these guidelines to thoroughly evaluate each case before deciding whether the vehicle in question has abnormal engine oil consumption.

PASSENGER CARS AND LIGHT-DUTY TRUCKS

The accepted rate of oil consumption for engines used in passenger cars and light-duty trucks is 1 qt. in 2,000 miles (0.946 liters in 3,200 km). This rate only applies to personal-use vehicles, under warranty, that are driven in a non-aggressive manner, maintained in accordance with the appropriate maintenance schedule, and driven at legal speeds in an unloaded (for trucks) condition.

HD TRUCKS (8,600 GVW AND ABOVE)

Oil usage has a direct relationship with the amount of fuel used — the harder an engine works, the more fuel and oil it will use. For heavy-duty trucks and SUVs (at or above 8,600 GVW), oil usage as a factor of fuel usage is a more accurate indicator of acceptable oil consumption levels than vehicle mileage.

The accepted rate of oil consumption for gasoline engines in vehicles at or above 8,600 GVW is 1 qt. within 100 gallons (1 liter within 400 liters) of fuel used. This rate only applies to vehicles under warranty, maintained in accordance with the appropriate maintenance schedule, driven at legal speeds and within the design intent of the vehicle.

OIL CONSUMPTION CHECKLIST

Bulletins #01-06-01-011 and #03-06-01-023 review a number of factors to check when determining engine oil consumption, including:

- Gasket and external leaks – Inspect oil pans, engine covers and the engine oil cooler.
- Improper reading of the oil level – Park the vehicle on a level surface, check the oil level reading properly, and ensure the proper dipstick part number for the engine application is being used.
- Waiting to check oil level – Do not take an oil reading for at least 15 minutes after shutting off the engine.
- Improper oil fill – Verify the proper amount and type of oil was added to the engine.
- High speed/RPM driving – Continuous driving at high speeds/RPMs may increase oil consumption.
- Towing or heavy usage – Towing a trailer or hauling additional weight will increase oil consumption.
- PTO operation – Operation of a PTO will increase oil and fuel usage.
- Crankcase ventilation system – Verify the positive crankcase ventilation (PCV) system is operating properly.
- Oil dilution – In colder weather, condensation generated from a cold engine may not evaporate out of the oil when driving short distances. When this occurs, the dipstick may indicate the oil level is over-full. Subsequent longer trips may then give the impression of excessive oil consumption.
- Engine temperature – Verify all cooling system components are working properly so that oil does not oxidize faster than normal.
- Engine wear – Worn components will cause an increase in oil consumption.

Use the Oil Consumption Worksheet in the bulletins to document all testing, including recording the amount of oil and fuel used.

Following the guidelines properly, check and record the vehicle mileage, date and exact oil level. Ensure that the oil level is at, but not above, the full mark on the dipstick (add oil if necessary) and that the proper viscosity and quality oil are being used as recommended in the Owner's Manual. The customer should return to the dealership for inspection once the vehicle has consumed 100 gallons of fuel.

▶ Thanks to Bryan Salisbury

High Resistance in Glass Breakage Loop

There may be a low or dead battery, no crank due to a dead battery, or an unwanted theft-deterrent alarm on some 2021-2026 Tahoe, Suburban, Yukon and Escalade models. These conditions may be due to high resistance in the glass breakage loop, which consists of the rear window defogger grid and each rear quarter glass, that is part of the content theft deterrent system (RPO UTT, UTR).

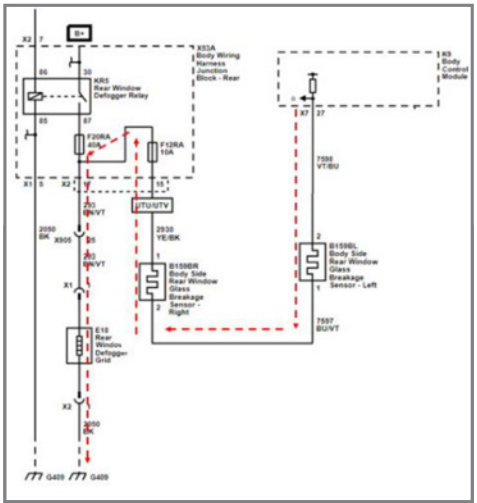
The glass breakage sensors are supplied a reference voltage of approximately 8 volts. The Body Control Module (BCM) monitors the glass breakage sensor signal circuit. If the rear side glass or back glass is broken, the glass breakage sensor signal circuit will open and the BCM will enter the alarm mode.

The rear window defogger grid and each rear quarter glass are all connected in series. Normally, the complete glass breakage loop should have less than 20 ohms of resistance to ground. High resistance or a break at any place in the series circuit may lead to an unwanted battery draw.

In some cases, the battery draw only can be duplicated if the vehicle is completely closed with all doors and hood latches tripped and the vehicle locked.

SENSOR SIGNAL

A low battery or battery disconnect can cause DTC B192A (Glass Breakage Sensor 2 Signal) to set current in the BCM. To clear the DTC, the BCM must run and pass its diagnostic when the theft deterrent system is armed.



Glass breakage loop shown by the dotted red line.

To arm the theft deterrent system, exit the vehicle with all the remote key fobs and close all the doors, liftgate and hood. Next, lock the vehicle with the key fob and allow several minutes for the theft deterrent system to arm. The system is not armed if the doors are locked manually. During this time, the BCM will test the glass breakage loop. If the loop is complete, the DTC will go to history and no further repairs are needed.

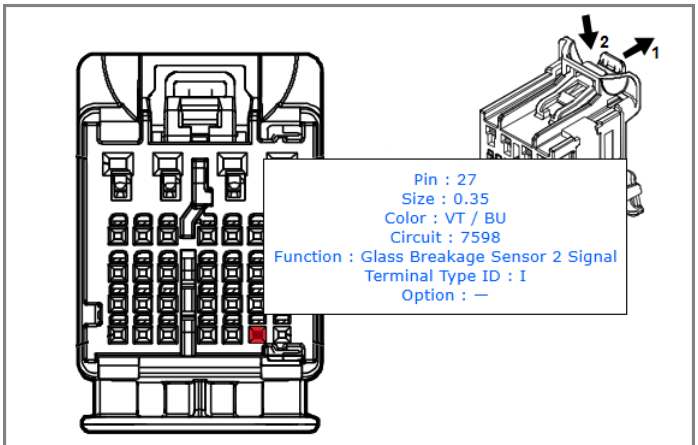
GLASS BREAKAGE LOOP

To test the glass breakage loop, disconnect the battery and the BCM X4 and X7 connectors. Using test probe EL-35616-58 (BK), check for proper terminal tension at the BCM X7, terminal 27. If the terminal tension is good, then use an ohmmeter to check the resistance of the glass breakage loop to the BCM ground. Measure the resistance by connecting one lead of the ohmmeter to the BCM ground at connector X4, terminal 24 or 25, and the other ohmmeter lead to terminal 27 of the BCM X7 connector.

If the resistance to ground is greater than 20 ohms, inspect the glass breakage loop for poor connections, which could occur at any point in the series circuit. The most common areas to check are the connections at either of the rear quarter glass assemblies.

If the resistance to ground is less than 20 ohms, the loop resistance is within specification and there may be an intermittent issue. Inspect and manipulate the glass breakage loop connections and wiring to see if the resistance increases. Repair any points of high resistance.

In some cases, it has been found that connection issues at the rear quarter glasses were caused by the installation of aftermarket window tint, decals, stickers, etc. These types of failures are not covered under warranty.



BCM X7, terminal 27

For more information, refer to Bulletin #26-NA-038.

▶ Thanks to Jim Will

TCSC Top Issues This Week

The Techline Customer Support Center (TCSC) is available to help dealerships with diagnostic and programming issues related to Techline Connect (TLC) and the Service Programming System (SPS).

TCSC has now released their latest tips to help technicians when using Techline Connect applications. Look for the latest tips on TechLink each week.

To get the most out of Techline Connect, be sure to review the following items before making a call to the TCSC.

The following information covers current issues and trends facing dealerships as of April 8, 2026.

WEEKLY ISSUES

1. NEW – Accessory/Reconfigurations Programming Window Reduced from 90 Days to 14 Days on VIP Vehicles Only

Starting April 25, 2026, Accessory/Reconfigurations added to a VIP Vehicle VIN by TCSC must be reprogrammed by the dealership within 2 weeks (14 days). If programming is not completed by this time, the changes will be reverted, and the dealership will be required to reach out to TCSC again and re-request the update(s).

Note: There will not be an additional charge for changes that need to be re-requested.

2. NEW – 2024-2025 Blazer EV with Radio RPO IVD.

Currently, EPC results are showing 3 different radio hardware part numbers for MY24 and MY25 Blazer EV.

Hardware part number 85777610 is the only correct part number among the list. Please disregard any other listed hardware parts. PN 85777610 must be ordered via the ESC (Electronic Service Center).

Engineering is currently working to update the EPC results to only show the correct part number.

3. 2021 T1 SUV (Yukon, Suburban, Escalade, Yukon) Unable to Complete SDAC (Serial Authentication Data Configuration)

There is currently a known issue affecting 2021 T1 SUVs where the SDAC may fail. The radio, IPC, or Telematics (OnStar) module may be the cause of these failures.

DO NOT REPLACE THE MODULE. This is a known SPS issue and the current workaround is to disconnect the SDGM X3 connector and re-attempt SDAC. Engineering is aware of this concern and working on a permanent resolution.

4. 9G8 (DRL/AHL Disable), SK4 (Engine Idle Timeout), UTQ (Content Theft) and 6N6 (Rear Window Disable) are NOT yet Available on 2026 Vehicles

Calibrations for RPOs 9G8, SK4, UTQ and 6N6 are not yet available for model year 2026 vehicles but are planned to be released. However, there is not currently an ETA.

5. 2026 Envision SDM Programming Setting DTCs

There is currently a known issue affecting the SDM modules on 2026 Envision causing DTCs to set after programming. DTCs may include B10B4 or B120C, and B17F0 or B17F2.

This is being investigated by Engineering and a PI/Bulletin is being developed to address this issue. As a temporary workaround, Techline can be contacted to inquire with Engineering for a VCI to resolve this concern.

Note: The DTC reference documents in SI have been updated to check the EPC for the correct H/W part number(s).

6. 2026 T1 Trucks Governor Changes (9C2/9B9/9D7) Require Certain Tire Sizes

Please be aware that for 2026 T1 Trucks, governor changes now require the vehicle to be equipped with certain tire sizes.

Refer to the Online Order Guide for specifics for your Year/Make/Model/Equipment Group to determine which tires are required for these changes.

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7. 2020 Trax IPC Programming Issue

GM is aware of an issue affecting 2020 Trax models where a replacement IPC may fail with E-4491 and line/op/error indicate (X, B0, 85).

This issue is currently being investigated by Engineering. Please reach out to TCSC if you are experiencing this issue.

8. 2023-2026 HUMMER EV RWQ (37-inch Tire) Calibration Freeze

Currently, TCSC is unable to add 37-inch "RWQ" tires to any 2023-2026 HUMMER EV.

A resolution for this issue is being developed by Engineering but there is currently no ETA or workaround.

9. 2025 Blazer EV Radio USB File Transfer Option Missing

For 2025 Blazer EVs built with an RPO IVE Radio, the USB Programming option has been removed from Radio programming. No USB update is required for replacement parts. Refer to #PIC6641A for more information.

10. Corvette E-9056/E-9113/E-9114 Errors with Park Lock Valve PUN Learn.

GM has identified an issue with certain Park Lock Valve (PLV) parts on Corvette vehicles. The 21-digit PUN on the package/box will differ from the PUN on the physical part itself and cause errors if used.

The 22-digit PUN on the physical part should be used in these cases. It is recommended to notate and/or screenshot the PUN before installation in case further support is needed from TCSC.

For more information, refer to Document ID 6970447 in the appropriate Service Information.

11. Front-View Camera Programming or Camera Learn Issues Specific to 2024 Colorado and Canyon (ZR2)

There is currently a known issue with the Front-View Camera involving ONLY 2024 Colorado/ Canyon built with ZR2 and UHY, and without UWI, UKW, or ULV.

The Front-View Camera may fail to program or set loss of communication codes such as DTC U0265. The Camera Learn also may fail in GDS2 with various errors.

A VCI is required to correct this problem. Please reach out to TCSC for this fix.

COMMON ISSUES AND HELPFUL INFORMATION

1. NEW – Do Not Run VWP to Complete an Accessory/ Reconfiguration Add/Removal

Please be sure to perform stand-alone reprogramming for a module(s) requiring update(s) as specified by TCSC. Do not run VWP to update a module(s).

2. T1XX Trucks ECM/Radio/IPC Part Missing from SPS2 Part Dropdown

When performing IPC Graphics programming, Radio USB, or ECM programming, you may be prompted in SPS2 to select "Service Hardware." However, this is misleading.

For IPC Graphics programming, use the "Boot Software Part Number 1" found in GDS2 under Identification Information.

Similarly, for the Radio USB Programming, use the "Calibration Part Number 1" (also may be called "Application Part Number 1") found in GDS2 under Identification Information.

Additionally, for the ECM, use the "Calibration Part Number 1" (also may be called "Software Module Part Number 1") found in GDS2 under Identification Information.

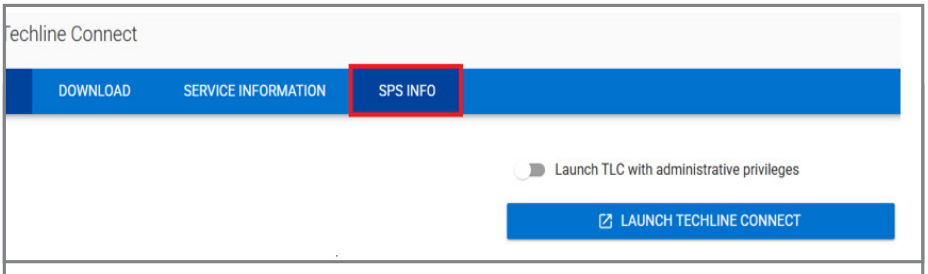
3. 2015+ Chevrolet Express SOSM E-4399 Issue

GM is aware of a known issue where programming current/ replacement SOSM modules (Left/Right) will cause an E-4399 in SPS2, despite the modules having communication.

Please reach out to TCSC for a VCI to correct this concern.

4. SPS Info Location

Several requests have been made regarding where SPS Info is currently located. SPS Info is available for calibration lookup and is located on its own tab within the TLC launch page through Global Connect.



SPS Info on the TLC launch page.

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5. 2024+ Silverado 2500HD/3500HD and Sierra 2500HD/3500HD Adding ZW9 (Bed Delete) Support

Engineering has confirmed that there are not any compatible calibrations that support both RPO ZW9 (Bed Delete) and RPO UV2 (HD Surround Vision Camera). RPO ZW9 cannot be added to vehicles with RPO UV2 regardless of trim level.

Note: RPO ZW9 is supported for both long- and short-bed models and is also supported regardless of 17/18/20/22-inch tire sizes.

Refer to the GM Vehicle Order Guide for details, including equipment groups supported (e.g., 1WT, 1LT).

6. Bulletin #24-NA-098: SPS Best Practices and Programming Error Troubleshooting

Document ID: 6662319 has been published to assist with common programming errors, descriptions and recommended helpful/general troubleshooting for SPS errors. Please refer to this page if you encounter a programming error within SPS2/TLC.

7. TLC Restricted Access

The following message may be seen when attempting to access Techline Connect:

The message indicates the current ID is blocked from accessing Global Connect.

The message indicates that the current ID is blocked from accessing Global Connect. This can be for several reasons but typically is due to a counterfeit MDI device.

To unblock the account, reach out to TCSC via CX Connect with the following information:

- User ID in Global Connect
- Email of User
- First and Last Name of User
- BAC/Dealer Code and Name of Dealership

TCSC will be able to reach out to the Cybersecurity team that will be able to determine the cause of the block and may be able to unblock the account. In the case of a counterfeit MDI, the counterfeit tool must be destroyed, and a legitimate Bosch device must be used to ensure the ID is not blocked again. Repeat offenders may not be unblocked from access.

8. E-9111 or E-9113/E-9114 TCM/MCVM Operation Errors

An E-9111 or E-9113/E-9114 error may occur when programming the TCM, or after replacing the transmission assembly/valve body, and entering the TUN/PUN under MCVM Operations in SPS2.

The error is caused by a mismatch in data between the vehicle's TUN/PUN and the TUN/PUN uploaded in the GM database. Please ensure the complete TUN/PUN number is entered correctly, and that the TUN/PUN is in capital letters. Double check that the number zero (0) is not a letter "O" and that there are not any typos or extra characters.

If the TUN/PUN is correct, open a case with TCSC and attach a clear picture of the replacement TUN/PUN in the case, as TCSC will require these to work with Engineering and have the issue addressed.

If you are receiving these errors via programming and the TUN/PUN was not replaced, TCSC may still require the TUN number.

9. T1 Full-Size Trucks and SUVs Downsizing of Tires is Not Supported

Please be advised that downsizing tires of any kind is not supported on any T1 series vehicle from 2021 – Current. This includes full-size trucks (Silverado, Sierra) as well as SUVs (Tahoe, Suburban, Yukon, Escalade).

HOW TO CONTACT TCSC

- **U.S. ONLY:** Assistance can be provided by using the CX Connect portal in Global Connect. If additional support is needed once the CX Connect case is created, contact TCSC at 1-800-828-6860. For U.S. only, a case is required for phone support.
- **Canada:** Contact TCSC at 1-800-828-6860 (English) or 1-800-503-3222 (French).
- **All other regions:** Contact your regional Technical Assistance team for Global Techline Support.

▶ Thanks to the Techline team

Midtronics DCA-8000 Diagnostic Charger

IS THE ONLY ACCEPTED BATTERY TESTER FOR WARRANTY BATTERY REPLACEMENT

The Midtronics DCA-8000 Diagnostic Charger is the latest generation battery charger and tester from Midtronics. It provides fast, accurate testing results and is the GM-required tool for charging and testing batteries under warranty.

Shipments of the Midtronics Diagnostic Charger DCA-8000P Essential Tool have concluded and all U.S. dealerships now have at least one DCA (8000 or 8000P) for charging and diagnosing 12V batteries. DCA-8000P shipments to Canadian dealerships will continue throughout the year.

DCA-8000P with cart

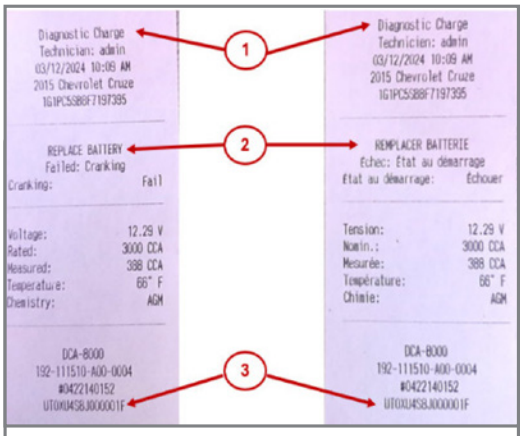
REQUIRED TOOL

All warranty job cards (U.S.) must use the DCA to test 12V batteries under warranty. Only warranty codes generated from a DCA tool will be accepted in support of warranty replacement of a 12V battery.

The DCA battery test result printout must include:

1. Diagnostic Charge test information
2. Test result that reflects "Replace Battery"
3. The 16-digit Warranty Code, which is the correct code to enter on the warranty transaction. This code is unique to each test performed and is decodable by GM.

Midtronics GR8 Battery Tester/ Charger (GR8) and E-XTEQ Diagnostic Charge Battery Station (DCBS) test codes are not accepted in support of replacement warranty claims (U.S.).



DCA printout showing (1.) Diagnostic charge test information, (2.) Replace battery result, and (3.) 16-digit warranty code.

In Canada, dealerships may use a DCA Battery Tester/Charger (DCA-8000 or DCA-8000P), GR8 Battery Tester (EL-50313), or an E-XTEQ Diagnostic Charge Battery Station/DCBS (EL-52800) until further notice.

Refer to Bulletin #20-NA-132 for more information about 12V battery testing and warranty replacement requirements.

Additional DCA units also can be purchased directly from Midtronics. Go to http://gmdca8000.midtronics.com for current pricing and ordering or contact Midtronics at 866-592-8052 for further information.

DCA ASSISTANCE

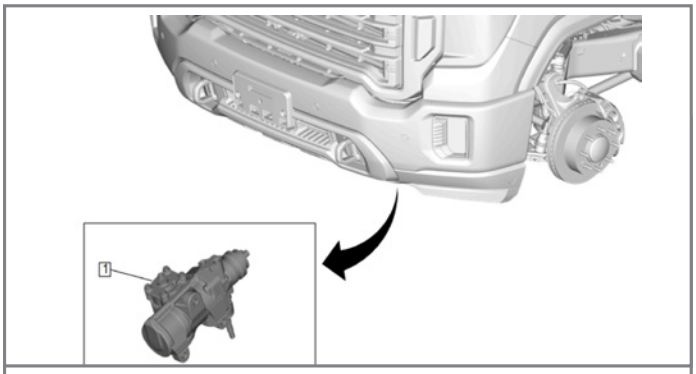
To help with using the DCA in dealerships, Midtronics has produced an operator's guide with a variety of tips, tool updates, connections, and other support topics. Additional information on assembly, getting started using the tool, details on the service apps and more can be found at http://gmdca8000.midtronics.com.

If you have questions or need assistance with the DCA-8000P, contact Midtronics toll-free at 866-592-8052.

▶ Thanks to Josh Shuck

Power Steering Leak Diagnosis Using Fluorescent Dye

A fluid leak may be visible on the steering gear or power steering fluid lines on some 2015-2026 Silverado 2500HD/3500HD and Sierra 2500HD/3500HD trucks. The leak may be due to a damaged seal or leaking lines.



Hydraulic recirculating ball steering gear

Fluorescent dye can be used to determine the source of the leak. Clean off any residual oil from the steering gear using an oil/grease cleaner.

Next, add a bottle (1 oz; 30 cc) of fluorescent dye to the power steering reservoir and operate the vehicle for 10 minutes. Use a black light to check for any signs of dye leaking past the seals, lines, coolers, gear and hydraulic brake booster. Mark the location of any leaks. Also check for any fluid dripping from the reservoir/pump.

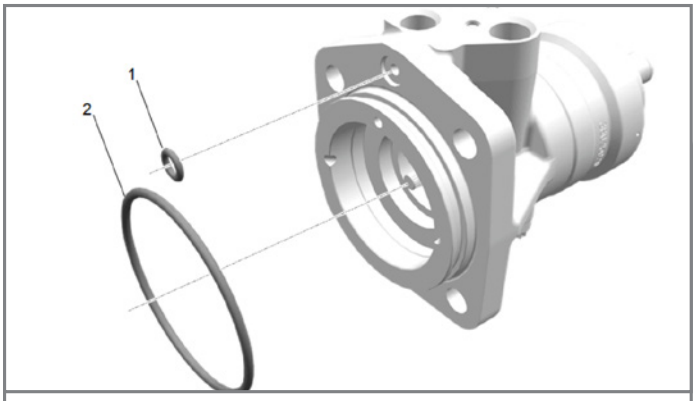
If a leak is found, check the appropriate Service Information and the Electronic Parts Catalog to see if the leaking component can be repaired.

SEAL KITS

Several seal kits are available, so it is usually not necessary to replace the steering gear. Available seal kits include:

- Pitman shaft seals
- Steering gear pitman shaft
- Steering gear valve housing seals
- Pressure sensor
- Pressure sensor gasket

If the steering gear needs to be replaced, mark the location of the leak and identify the type of leak and location in the verbatim section of the repair order.



Steering gear valve housing seals

LEAK VS. SEEPAGE

Refer to Bulletin #15-00-89-004 for help identifying the differences between what is considered a fluid leak and what is considered seepage. Seepage is defined as oil, film, or dust accumulation on the exterior of the component. When fluid droplets appear hanging from a component or fluid has dripped to another component, it is considered a leak. Improper diagnosis may lead to unnecessary component replacement.

Be sure to check Investigate Vehicle History (IVH) in the GM Global Warranty Management system for any issues relating to a specific VIN prior to beginning any inspections and/or repairs.

A leak leaves a droplet of fluid on the bottom of the power steering line and fluid has dampened the drive axle.

For more information, including part numbers, refer to Bulletin #26-NA-051.

▶ Thanks to Kevin Minor

Camshaft Position Sensor Performance Diagnosis

When diagnosing engine performance issues, DTCs P0340 (Intake/Single Camshaft Position Sensor Circuit), P0341 (Intake/Single Camshaft Position Sensor Performance), P0011 (Intake/Single Camshaft Position System Performance) or P0016 (Crankshaft Position Sensor and Intake/Single Camshaft Position Sensor Correlation) may be set in the Engine Control Module (ECM), depending on the engine application, leading to further inspection of the camshaft position sensors (CMP).

The CMP contains a hall-effect sensor and additional electronics that processes the signal. It detects the change of strength of the magnetic field caused by the reluctor ring. There are 4 teeth on the edge of the camshaft position reluctor ring mounted on the camshaft. When the strength changes, the sensor changes the amount of current it consumes. This results in a square wave signal of current and voltage. The control module detects the frequency in which the signal changes, which is proportional to the rotational speed.

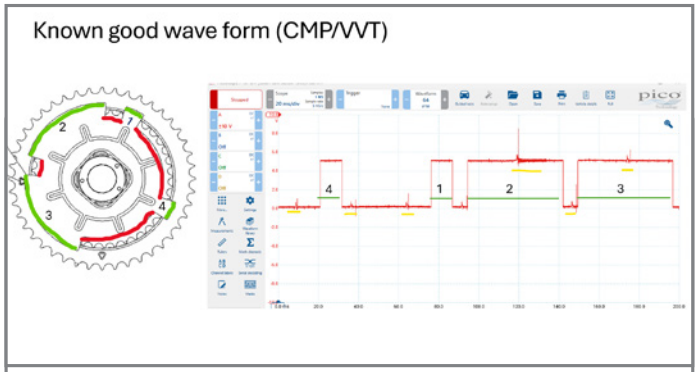
CMP actuator

To help with diagnosis, the PicoScope can be used to evaluate the CMP sensors. The GM Technical Assistance Center (TAC) has seen an increase in sensor, circuit and ECM replacement due to DTCs P0340/341 and P0011/0016 without checking a scope pattern of the actuator interrupter ring. Comparing the wave form of a possibly damaged actuator ring with a known good wave form can speed up diagnosis due to the time and labor involved with engine disassembly as well as reduce unnecessary parts replacement.

COMPARE WAVE PATTERNS

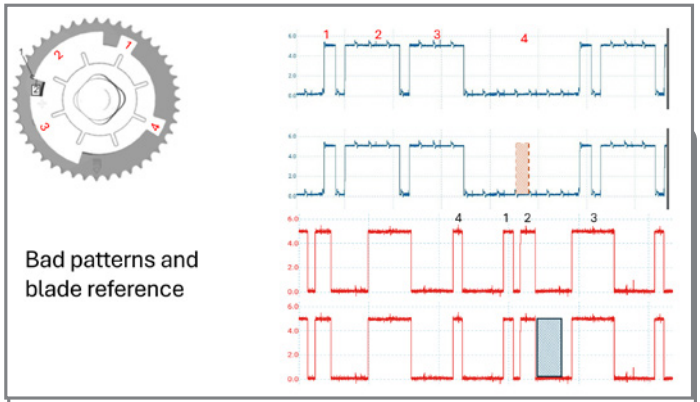
Following is a good wave form (CMP/VVT).

- Red is sensor off time, or 0V.
- Green is on time, or at 5v.
- Noise in the signal, underlined in yellow, is normal and does not affect ECM interpretation of the signal.



Good wave form

Following is a bad wave form pattern.



Bad wave form

CONTINUED ON PAGE 10

CHECK FOR ACTUATOR DAMAGE

Damage to reluctor rings can be seen easily with the actuator placed on a flat work surface. The damage may not be as easy to identify when viewing from the face of the actuator.

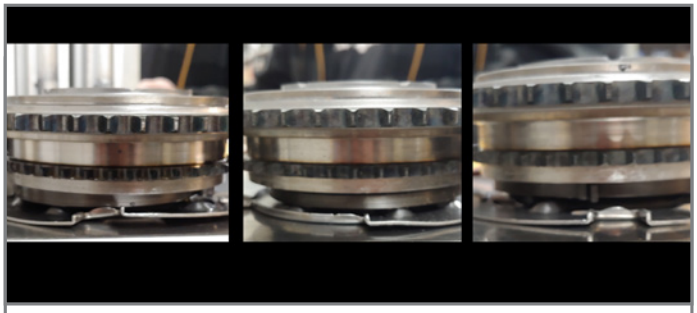
If excessive clearance of the actuator ring is suspected, the blades of the ring can be measured through the CMP sensor hole with a tire depth gauge after removing the water pump.

All new actuators should be carefully inspected on a bench for flatness before installation to ensure a damaged part is not installed in an engine. TAC has seen some damaged actuators in reman engines.

There also have been some cases where the timing chain shoe breaks and rides up the chain, causing interference between the ring, tensioner and timing cover.

A number of engine actuators, including HFV6 engines and 4-cylinder engines, use this interrupter spacing, so these diagnostic tips may be helpful when repairing other vehicles.

Thanks to Phil Forster, Tim Lightfoot, Don Langer and Bryan Salisbury



Damaged reluctor rings

Check for excessive clearance of the actuator ring.

TECH LINK

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