TECHlink
GM
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2007 Saturn VUE Green Line Hybrid System

A new intermediate-voltage GM hybrid system debuts in the 2007 Saturn VUE Green Line.

This is one of three innovative hybrid systems that GM plans to introduce on up to 12 models. GM launched the world's first hybrid pickup trucks in 2004, the Chevrolet Silverado and GMC Sierra. GM is also developing an all-new Two-mode full hybrid system, which will first be marketed in the new Chevrolet Tahoe and GMC Yukon full-size SUVs in 2007.

The Saturn VUE Green Line hybrid uses a 2.4-Liter variable valve timing (VVT) Ecotec engine, a modified 4T45E automatic transmission, sophisticated controls and a precision generator assembly (with starter). This system will be featured in upcoming passenger vehicles as well.

In this application, the engine is estimated to produce 170 peak horse power at 6600 rpm and 162 lb-ft of torque at 4400 rpm. This is 27 hp more than the 2.2L engine that powers the conventional VUE. The hybrid-enabled transaxle includes an auxiliary oil pump to maintain oil pressure when the engine is off and unique hybrid controls to ensure seamless hybrid operation.

REASONS FOR IMPROVED FUEL ECONOMY

The Saturn VUE Green Line hybrid delivers an estimated 20% improvement in fuel economy, depending on driving conditions. It is expected to carry an EPA fuel economy rating of 27 mpg city and 32 mpg highway, the best highway fuel

continued on page 4

Techline News

Tech 2 Navigation

There is an update to the Tech 2 navigation for the NAO Tech 2 software download.

For 2007, the Hummer H3 is built in two locations: Shreveport, Louisiana and Struandale, South Africa. Each has a unique selection in the Tech 2.

Vehicle	World Make Identifier (1st three characters of VIN)	Built in:
Hummer H3	5GT	Shreveport, Louisiana
Hummer H3	ADM	Struandale, South Africa

The World Make Identifier (1st three characters of the VIN), is how the two vehicles are differentiated and selected on the Tech 2.

Be careful to select the correct vehicle, based on the World Make Identifier. This will ensure that you access the correct Tech 2 diagnostics for the vehicle you are working on.

– *Thanks to Gary McKay*

TECHlink GM

Contents

GM Service and Parts Operations

Crank Sensor Connector

A 2007 full-size utility may exhibit stalling, crank no start, or a DTC P0335.

The crank sensor connector may be loose, not plugged in completely, and the connector retaining tab may not be locked.

Complete the SI diagnostics for any trouble codes or symptoms found. If a DTC P0335 is found with a stalling or no start condition, inspect the crank sensor for a loose connection. Also inspect the crank sensor wiring for short to ground, pinched wiring, or chafes.

If there is no damage to the crank sensor connector, terminals, or wiring, properly connect the crank sensor connector, and evaluate repairs.

If there are no wiring concerns found, and the crank sensor connector was properly installed, replace the crank sensor.

If the crank sensor was properly installed, and a wiring or terminal repair is necessary, complete a Field Product Report using bulletin number 02-00-89-002D.

– *Thanks to Donald K. Langer, TAC*

Recovery Loops

The Cadillac CTS, SRX, and STS are equipped with provision for installing a recovery loop. These loops are used to assist in pulling the vehicle from snow, mud, etc. Using the loop avoids having to dig beneath the vehicle to locate a suitable location to attach a cable.

To use the recovery loop, remove the access panel to expose a weldnut on the vehicle's frame. The loop is installed by screwing it into the weldnut.

The STS and SRX have front and rear attachment points. The CTS with dual exhaust has a rear attachment point only, and the CTS with single exhaust has none.

Recovery loops are available from GMSPO, using the following part numbers.

CTS	25729106
SRX	25729106
STS	1529287

Typical recovery loop location

Typical recovery loop location

TIP: It would be helpful to equip tow trucks and Roadside Assistance used to service these vehicles with appropriate recovery loops.

– *Thanks to Toby Davis*

Driver's Position Module

After SPS programming any module on a 2007 full-size utility, you may experience a no communication concern with the Driver's Position Module (DPM) (memory seat module) when using the Tech 2 scan tool. However, the DPM is fully functional.

Do not replace the module to resolve the concern.

The following procedure will restore communication with the Tech 2 scan tool:

– rotate the ignition switch to the Off position

– open the driver's door

– wait 60 seconds

– rotate the ignition switch to the Run position

This gives the DPM adequate time to reset and properly respond to the Tech 2 request before you attempt to check and clear DTCs which may have been set as a result of the SPS programming process.

– *Thanks to Paul Radzwilowicz*

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Keyless Ignition

The keyless access system used in the Cadillac XLR and STS and Chevrolet Corvette does not use a traditional key for door locks or ignition. Instead, the driver carries a transmitter fob. When the vehicle senses the presence of the correctly coded transmitter fob, the doors can be opened. With the transmitter fob inside the passenger compartment, the engine can be started by pressing the START button on the instrument panel.

Ignition On, Engine Off Mode

There may be times, such as when you are performing diagnostics on the vehicle, that you need to have the ignition turned on, with the engine not running. In this mode, all modules are powered up and communicating on the serial data line.

TIP: This information is covered in SI. Follow this path: Accessories > Keyless Entry > Description and Operation > Keyless Entry System Description and Operation > Ignition On Engine Off Mode

- Make sure the transmitter fob is inside the passenger compartment.
- Depress the brake pedal.
- Be sure the transmission is in Park or Neutral.
- Press the ACC button and hold for 5 seconds. The instrument panel will light up and the ignition will be turned on, but the engine will not start.
- You must press ACC again to turn the ignition off.

TIP: If you press the ACC button only briefly, the accessory mode will be turned on. This is not the same as turning the ignition on.

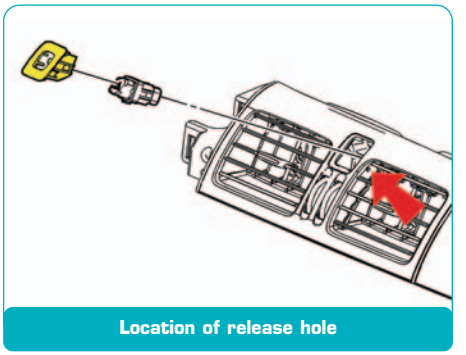
TIP: Programming cannot be performed in the Accessory position.

TIP: Retained Accessory Power will function for 10 minutes after the ignition is turned off, or until a door is opened.

– Thanks to Todd McKee

Hazard Warning Switch

When removing the hazard warning switch from the 2006-07 Buick Lucerne, do not attempt to pry out the hazard switch bezel. Damage will occur to the HVAC outlet assembly.



Location of release hole

Insert special tool J 42214 or similar tool into the hole in the air outlets **on each side** of the switch to release the retaining tabs. For details, refer to document 1646965 in SI.

– Thanks to Martin Tulashie

SIR Light and Codes

This information applies to the following vehicles:

2005-2007
Rainier
Cobalt
Equinox
SSR
Trailblazer
Envoy
G5
Pursuit
SAAB 9-7X

2005-2006
Trailblazer EXT
Envoy XL

2006-2007
Lucerne
Cadillac DTS
Corvette
HHR
Impala
Malibu
Malibu Maxx
Malibu SS
Monte Carlo
Solstice

2007
Allure
LaCrosse
Escalade (900)
Escalade ESV (900)
Escalade EXT (900)
Avalanche (900)
Silverado (900)
Suburban (900)
Tahoe (900)
GMC Acadia
Sierra (900)
Yukon (900)
Yukon XL (900)
Torrent
Saturn Outlook
Sky
XL7

The DTCs which might be set are B0012, B0013, B0016, B0019, B0020, B0022, B0023, B0026, B0033, B0040, B0042, B0044.

Inspect for a loose, missing, or broken Connector Position Assurance (CPA) retainer. If loose, remove the connector and reinstall correctly by first pushing the connector body in completely and then pushing in the CPA completely.

If the CPA is broken, missing, or will not seat connector correctly, replace the CPA retainer with part number 54590003 (orange CPA) that is located in the SIR Repair tray of the J-38125 Terminal Repair Kit.

Typical CPA not in locked position

TIP: If the CPA retainer part number 54590003 (orange CPA) can't be located in Terminal Repair Kit, contact SPX/Kent-Moore at 1.800.GM.TOOLS to obtain a new package of five.

– Thanks to Mark Haning

State of Health Codes

While diagnosing for driveability or other concerns on a 2006 Cadillac CTS, SRX or STS with LP1 and LY7 V6 engines, you may observe a U1016 diagnostic trouble code in history. This code may be caused by a door module or other module not responding to the state of health message sent by the ECM.

This concern will not turn on the check engine light, or cause other symptoms for this code alone. Do not replace the ECM or door module for a U1016 DTC alone stored in history. Follow routine diagnostic procedures to correct the customer's original concern and clear all stored DTCs when done.

– Thanks to Dave Dickey

2007 Saturn VUE Green Line Hybrid System – *from page 1*

economy of any SUV presently on the market. (8.8 L/100 km city and 6.7 L/100 km highway in Canada, determined using approved Transport Canada methods)

These fuel savings are the result of aerodynamic design and the functions of the hybrid system.

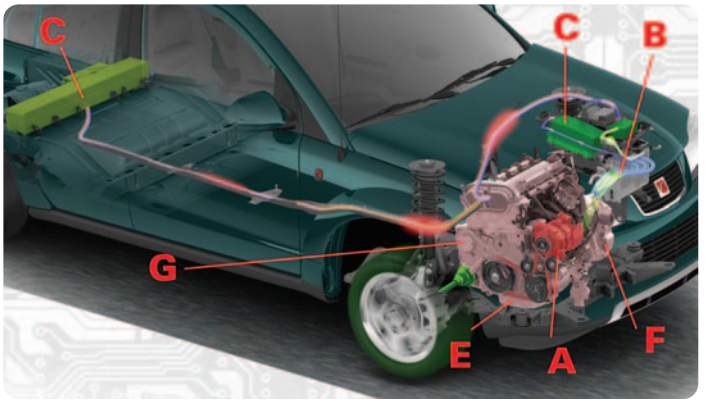
Improved aerodynamics include a 1-inch reduction in ride height, a rear spoiler, and elimination of fog lights and roof rack.

The Saturn hybrid functions include:

- Engine shuts off when vehicle is stopped to minimize idling
- Engine restarts as brake pedal is released
- Early fuel cutoff during vehicle deceleration
- Regenerative braking during deceleration to help charge the hybrid battery
- Performs intelligent battery charging when it's most efficient

The Saturn VUE hybrid also provides electric power assist while driving or during acceleration when needed. During wide-open throttle or an aggressive passing maneuver, the system improves vehicle launch and acceleration feel by assisting the engine to achieve maximum power.

The system is designed to automatically maintain accessory functionality and passenger comfort when the engine is stopped so that hybrid operation is transparent to the driver and passengers.



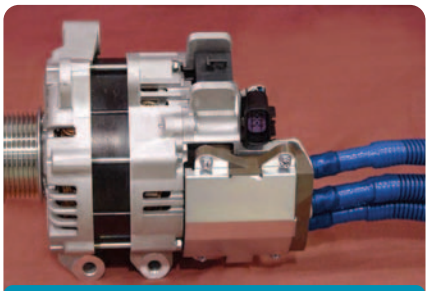
COMPONENTS

TIP: Many hybrid-specific parts are on restriction and must be obtained through TAC.

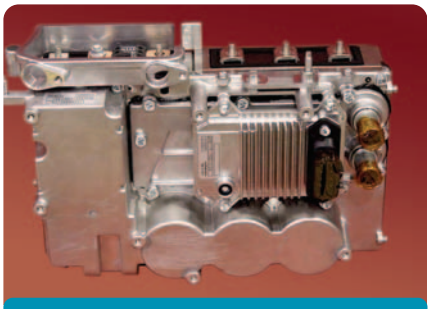
The Saturn VUE Green Line hybrid utilizes these major components:

A A precision generator with starter (3-phase, 65 Nm stall torque, 3kW continuous power, hard-mounted to engine)

B Generator Control Module with inverter and power converter, that controls the generator with starter and provides 12-volt vehicle accessory power



Generator with starter



Generator control module

C A 36V advanced, nickel metal hydride (NiMH) hybrid battery pack capable of delivering and receiving more than 10kW of peak power

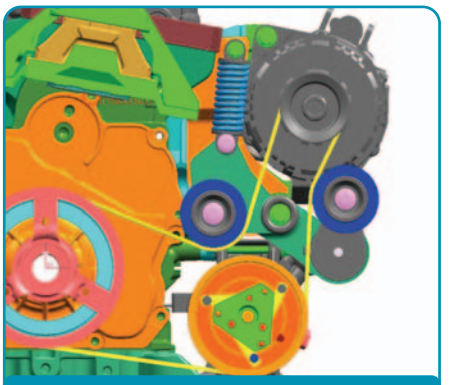
D E67 engine control module with sophisticated Hybrid Supervisory Software to manage both engine and hybrid system operation

E A new engine accessory drive with dual tensioner assembly and 7-rib Aramid cord belt that enables reliable transfer of torque for both motoring and generating

F The hybrid-enabled 4T45-E electronically controlled overdrive transaxle that includes an auxiliary oil pump and unique hybrid controls to ensure seamless hybrid operation.

G Standard 2.4L 4-cylinder VVT Ecotec engine

NiMH batteries



Accessory drive

Tensioner

POWER ELECTRONICS FUNCTIONS

The power electronics provide three basic functions.

When the system is in the **motoring** mode, the power electronics invert the hybrid electrical power from direct current (DC), to 3-phase alternating current (AC) which is then passed on to run the generator with starter as a motor. This provides quick engine auto-starts, torque smoothing, and electric power assist as needed.

When the system is **generating** electricity for subsequent hybrid battery storage, the power electronics rectify the 3-phase AC electrical power input to a DC electrical power output. In this mode, the energy required to drive the engine may come from either gasoline when accelerating or the kinetic energy of the moving vehicle when decelerating with the fuel cut off.

Finally whether **motoring** or **generating**, the power electronics convert the hybrid battery DC electrical input to a low voltage electrical output that is used to provide both vehicle accessory power and to keep the 12V battery charged.

GENERATOR WITH STARTER DRIVE DETAILS

Because the generator with starter has to operate both as a motor and as a generator, accessory drive torque transfer must be well managed. A novel, dual-tensioner assembly combines a hydraulic tensioner and friction-based rotary tensioner on a common, pivoting arm. This design ensures sufficient tension is

available in both motoring and generating modes, while helping to reduce overall belt tension. A high strength Aramid cord belt is used to ensure robustness.

HILL START ASSIST FEATURE

When a conventional vehicle is stopped on a hill, it's held in place by the engine-idle torque on the driveline as well as by the brakes. In the Auto Stop Mode, the hybrid's engine is not running, and the brakes hold the vehicle in place until the pedal is released. In the hybrid, it's necessary to release the brake pedal to restart the engine.

The hill start assist feature minimizes vehicle rolling during the transition between brake release and engine restart. The Brake Delay Valve maintains pressure in the brake lines as the pedal is released and the engine starts. Then the Brake Delay Valve seamlessly releases the brakes.

A/C OPERATION

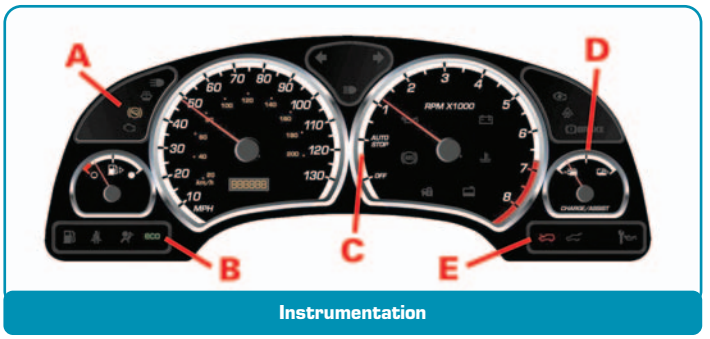
The A/C controls on the VUE hybrid permit the driver to select several operating modes.

Economy mode (green light) allows the engine to auto-stop. When this happens, the A/C compressor also stops, which may allow cabin temperature to rise. But fuel economy is maximized. To maintain cabin comfort in the economy mode, the recirculation button can be energized.

Normal mode (yellow light) does not permit the engine to auto-stop, so cabin cooling is maintained. This mode may be necessary in conditions of high ambient temperatures and humidity. But fuel economy is reduced.

ELECTRONIC CONTROLS

All of the sophisticated hybrid control algorithms are stored in the conventional engine control module (ECM). An additional hybrid supervisory control module was not needed. The ECM communicates with the other vehicle and powertrain controllers to supervise all hybrid functions.



Instrumentation

INSTRUMENTATION

There are several unique instruments and lamps on the IP of the VUE hybrid.

A Hill Hold telltale

B Fuel Economy (eco) telltale

C Tachometer, with AUTO STOP (will auto restart) and OFF (requires key for start) modes indicated

D Charge/Assist Gauge

E Hood Ajar telltale

SERVICE SAFETY CONSIDERATIONS

IMPORTANT: The 36V hybrid system (charged at 42V) produces voltages higher than a conventional 12V system (charged at 14V), and even small currents can be dangerous.

IMPORTANT: All intermediate-voltage circuits are identified with blue wiring conduits.

IMPORTANT: The appropriate safety precautions are described in SI. Become familiar with these precautions and always observe them.


Class 0 isolation gloves

Some important safety practices:

- Avoid wearing jewelry or watch
- Remove or cover belt buckle
- Wear safety glasses
- Wear rubber-soled shoes
- It is recommended to wear class 0 isolation gloves (leather outside, rubber inside), which are rated up to 1000V
- Know where the components are located in the hybrid system and treat them with respect

– Thanks to Keith Newbury and Bob Wittmann, Brand Quality

Hybrid Training and Tools

Training

GM Service Technical College is offering these hybrid training courses. To enroll, refer to http://www.gmtraining.com

TIP: Canadian retailers should refer to latest training availability in the Product Service Training Course Catalogue located on the GM infoNET.

Course Number	Course Name	Medium	Intended Audience
18070.01W	Hybrid Introduction and Safety	Web	All Service Personnel
18070.40W	Hybrid Vehicles: Theory, Operation, and Service	Web	Hybrid Technician (minimum 1 per dealer)
18078.00D	Hybrid Diagnosis and Repair	IDL	Hybrid Technician (minimum 1 per dealer)

Tools

The following tool is required to service the hybrid VUE (available from SPX/Kent-Moore 1.800.345.2233)

EN-48079 Hydraulic Belt Tensioner Compressor

Diesel Fuel Facts

This information applies to GM light and medium duty diesels.

Some fuel companies may be putting warning labels on their diesel fuel pumps which describe the sulphur content of the fuel and also advise customers not to use 500 ppm (parts per million) sulphur fuel in a 2007 or later vehicle.

At this time, customers may find more than one type of number 2 diesel fuel available.

LSF (low sulphur diesel fuel) has a 500 ppm sulphur content. ULSF (ultra low sulphur diesel fuel) has a sulphur content of 15 ppm or lower. Off Road Fuel has a 500 ppm or higher sulphur content.

All fuel companies will start transitioning to ULSF (15 ppm sulfur max) in mid-2006. Refineries in the US and Canada are required to start producing ULSF on June 1. US and Canadian supply terminals must be converted to ULSF by September 1 and retail stations must be converted by October 15.

In the US, EPA's pre-compliance reports indicate that 95% of on-road diesel fuel will meet the 15 ppm standard on a nationwide basis. All High Sulfur Fuels (500 ppm sulphur) and Off Road Fuels must be segregated and clearly marked. In Canada, only 15 ppm on-road diesel fuel will be available nationwide by October 15.

Proper Fuel Usage for GM Vehicles

In January 2007, a new 6.6L Duramax Diesel will be released (RPO code LMM – eighth digit of the VIN is a 6). The 2007 LMM diesel equipped vehicles will require the use of ULSF for proper operation of the emission control system. Per regulation, these vehicles will be labeled ULSF Required in two locations – near the fuel filler and on the IP. The owner manual and diesel supplement will have several instances and sections which define proper fuel use.

All other light and medium duty 6.2L, 6.5L, and 6.6L RPO codes LB7, LBZ, and LLY diesel engines (including 2007 model year LBZ and LLY) can use either the LSF (low sulphur diesel) or ULSF (ultra low sulphur)diesel fuels.

Off Road Fuels should not be used in any General Motors highway use vehicles.

– *Thanks to Don Langer*

Noise from Navigation Radio

This information applies to the 2007 Cadillac Escalade, Chevrolet Tahoe and Suburban, and GMC Yukon and Denali with RPO U3U or UVB or U3R.

Some customers may comment that there is an unusual or unwanted noise coming from the navigation radio. This noise has been described as a fan sound, a disc spinning or a small dog barking.

Fan Sound – It is normal for the radio fan to run under the following conditions:

- while the vehicle is turned on
- for up to three minutes after the vehicle is turned off and the driver's door has been opened and closed.

Disc Spinning or Sounds Like a Small Dog Barking – This is caused by the map disc spinning behind the tilt screen. It is normal operation under the following conditions:

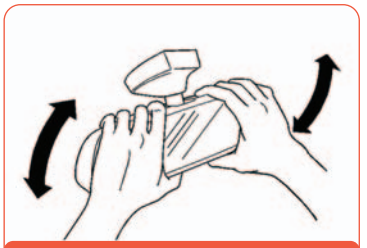
- after the RKE is used to unlock the vehicle or the driver's door is opened
- during normal vehicle use
- up to three minutes after the vehicle is turned off and the driver's door has been opened and closed.

Do not replace the radio to resolve any of the conditions described above.

– *Thanks to Paul Radzwilowicz, TAC*

Mirror Removal

Instructions in SI have been revised on servicing the Inside Rear View Mirror (ISRVM) assembly RPO DD8 on the 2005-06 Chevrolet Corvette. See document 1332917. The procedure has been revised for releasing the mirror from the windshield.


Removing mirror

Remove the electrical connector from the back of the inside rearview mirror.

Rotate the mirror counterclockwise until an audible click is heard. Remove the inside rearview mirror.

To install, reverse the procedure. An audible click is heard when the inside rearview mirror is fully seated.

TIP: Do NOT pull rearward on the rearview mirror while removing or installing the mirror. Damage to the support or to the windshield may occur.

TIP: A slight movement of the mirror base from left to right is considered normal.

– *Thanks to Dino Poulos*

Transmission Case or Channel Plate Replacement

This information applies to front-wheel drive vehicles built between 1996-2005 with the 4T40/45E transmission.

If the transmission case or channel plate has to be replaced, the bolt holes will not be threaded. The case and channel plate bolt holes are not tapped by the manufacturer.

The bolts are self-tapping and are to be used to thread the component. When threads are complete, back off the bolt and then retorque to the proper specification.

– *Thanks to Ronald Mitchell, TAC*

Yellow Discoloration on Carpet

On some 2007 Cadillac Escalade, Chevrolet Avalanche, Suburban, Tahoe and GMC Yukon and Denali models, a slight yellow discoloration may show on the seat back carpet on the second and/or third row seats. This is caused by residue from a cleaning solution used during manufacturing.

Do not replace the seat back carpet to resolve this concern. Remove the yellow discoloration by cleaning the area with water and a clean washcloth or towel.

– *Thanks to Paul Radzwilowicz, TAC*

Steering Noise Summary

A new bulletin 05-02-32-007C is being issued to consolidate information about power steering noise concerns from three previous bulletins 05-02-32-007B, 01-02-32-001G and 06-02-32-005.

Refer to bulletin 05-02-32-007C for details and applicable vehicles. Here are some highlights.

MOAN, GROAN OR WHINE

A moan, groan or whine type noise may occur during steering maneuvers or while driving. It may be more noticeable on a cold engine when turning a corner.

The noise may be the result of **low power steering fluid** which may be caused by:

- variations in factory fill
- system purges air over time
- hose expansion and contraction
- fluid level not being checked regularly due to location of reservoir

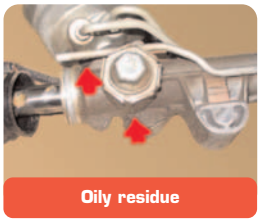
TIP: If the fluid level appears low, don't assume a leak exists until it is verified.

TIP: Inspecting fluid level is part of new car PDI. Fluid should be between the add and hot marks on the dipstick.

Diagnostic Tips

With the fluid at the proper level in the reservoir, start the engine and turn the steering wheel lock to lock a few times. This simple step will frequently correct moan, groan or whine conditions.

If large amounts of oil residue suggest a leak, add dye to the system and inspect with a blacklight. If a leak is found, repair the source. If the source cannot be found, DO NOT replace any steering system components.



Oily residue

Liquefied grease

TIP: Three **apparent** leaks may be from external causes. Gears should not be replaced for these conditions.

- Fluid on the steering gear body may be residue from assembly plant processes.
- Fluid on convoluted boots may be liquefied assembly grease from the rack teeth.
- An apparent fluid leak at the pinion adjuster plug may be assembly grease containing lithium. This grease appears yellow like leak detection dye when viewed through yellow tinted goggles.

TIP: A quick check for a rack seal leak is to remove the air equalization tube from between the convoluted boots. Hold the tube vertically and tap on a firm surface 5 or 6 times. If no oil comes out, the inner rack seals are not leaking.

SNAP OR POP NOISE

A snap or pop type noise may come from the front of the vehicle, usually during steering wheel rotation.This may be caused by the inner tie rod boot collapsing unevenly, allowing for contact between the inner tie rod and the boot. This condition is sometimes referred to as snaking.

Diagnosis

The bulletin explains how to detect the contact condition with your fingertips on the inner tie rod boot boot, while an assistant rotates the steering wheel from lock to lock.

Correction

If contact exists, replace the inner tie rod boot. Refer to the Rack and Pinion Boot Replacement procedure in SI. DO NOT replace the steering gear.

TIP: If the boot is not snaking and you cannot feel the inner tie rod contact the boot, refer to the next condition, Clunk Noise While Turning.

CLUNK NOISE WHILE TURNING

A clunk type noise may come from the front of the vehicle during a turning maneuver. This condition may also be felt through the steering wheel when the vehicle is stationary and the wheel is rotated from stop to stop.

Cause

This condition may be caused by inadequate lubrication of the steering intermediate shaft, which results in a slip stick condition.

Diagnostic Tip

IMPORTANT: Misdiagnosis may lead to replacing the steering gear. During replacement, if the I-shaft is stroked, the original grease will be distributed in the I-shaft. It appears that gear replacement eliminated the clunk. But, after the customer drives the vehicle for several miles and dissipates the original grease, the noise may return.

The bulletin explains how to duplicate the customer's concern and isolate the I-shaft. If a clunk is felt in the steering wheel, the MOST likely cause is the I-shaft, not the steering gear.

Correction

Lubricate the intermediate I-shaft with Grease Kit p/n 26098237. Do not replace the intermediate I-shaft.

Instructions for using the kit are included in the bulletin.

– *Thanks to Chris Anderson*

Window Lock-Out Feature

This information applies to the 2007 Cadillac Escalade, Chevrolet Tahoe and Suburban, and GMC Yukon and Denali.

Some customers may comment that the passenger's front window will operate from the passenger's switch when the window lock-out feature is activated on the driver's switch. The rear windows will lock-out correctly

This feature prevents operation of the rear passenger windows from the rear door switches only. The driver's and front passenger's front windows will not be disabled when the lock-out switch is activated.

This is the normal design intent of the vehicle. Do not replace any of the door modules or the BCM to try to repair this concern.

– *Thanks to Paul Radzwilowicz, TAC*

Lamps Inoperative

Owners of some 2007 full-size utilities may comment that the courtesy/reading lamps or sunshades lamps are inoperative and the ISLPS 10 amp fuse is blown.

The ISLPS fuse is a power feed to the BCM, and it uses the power from this fuse to feed some of its outputs. One of the outputs is the inadvertent power supply to the courtesy/reading/sunshade lamps on circuit 6815 (orange). If this circuit (6815) shorts to ground, the ISLPS fuse will blow.

TIP: Reports of this circuit shorting at the overhead DVD screen or at the sunshades have been received.

To correct this concern, repair the short and reroute harness so it does not reoccur.

– *Thanks to Jim Will, TAC*

Car Issues – Fix It Right the First Time

Model Year(s)	Vehicle Line(s) / Condition	Do This	Don't Do This	Reference Information / Bulletin
2005-2006	Cobalt/Pursuit – Seat Belt Stop Button Becomes Dislodged from Seat Belt Pretensioner System	Replace stop button.	Don't replace seat belt assembly.	06-09-40-001
2005-2006	Cobalt/Pursuit, HHR – Water Leak on Passenger Floor in Hot Climates/Muggy Weather	Reseal case halves with new seal (on car).	Don't replace entire HVAC case or R&R from car to reseal.	05-01-38-016A
2004-2006	Malibu, ION, Cobalt/Pursuit, HHR with L61 Engine – MIL/SES Lamp Illuminated with DTC P0171, Fuel Trim System Lean, Set	Reflash ECM.	Don't replace ECM.	06-06-04-033
2002-2007	ION, VUE – Instrument Panel Cluster (IPC) Lens Cloudy, Scratched, Cracked or Broken	Replace only lens.	Don't replace cluster for scratched lens.	06-08-49-002
2006-2007	HHR, Solstice, VUE, ION, SKY – Poor Audio Quality, Radio Reception, Static	Update radio calibration per bulletin.	Don't replace radio assembly.	06-08-44-016, 06-08-44-007B
2000-2005	DeVille – I/P Cluster Inoperative/Erratic	Reprogram I/P cluster.	Don't replace I/P cluster.	04-08-49-029B
2004-2005	Malibu, G6 – Sunvisor Mirror Cover Breaks Off at Hinge Pins	Replace mirror and cover assembly.	Don't replace sunshade assembly for broken mirror cover.	05-08-110-005D
2005-2006	Cobalt/Pursuit – Fabric on Door Trim Too Short	Replace pull cup.	Don't replace entire door panel assembly.	05-08-64-036B
2005	Chevrolet Corvette w/Navigation Radio – FM Radio Static or No Reception	Test radio when condition occurs by switching from FM to AM and back to FM. If this clears signal, no repairs required.	Don't replace radio and/or antenna module.	05-08-44-014A
2005-2006	G6 w/Panoramic Sunroof – Potential Noise Issues	Refer to bulletin.	Refer to bulletin.	05-08-67-014C

Truck Issues – Fix It Right the First Time

Model Year(s)	Vehicle Line(s) / Condition	Do This	Don't Do This	Reference Information / Bulletin
2003-2007	Chevrolet and GMC Full Size Pickups and Utilities — Broken Front Seat Armrest	Replace lid.	Don't replace entire console assembly.	06-08-50-004
2005-2006	HUMMER H2 SUT — Roof Rail End Cap Seal Comes Loose/Falls Off	Replace only roof rail end cap.	Don't replace entire roof rail.	06-08-67-005
2003-2004	Vans, Full Size Pickups, Midsize Pickups and Utilities — Low Power at High Ambient Temperatures	Update engine calibration to TIS 12.5 for 2005.	Don't replace engine module, catalytic converter, fuel pump, MAF sensor or O2 sensor.	05-06-04-077
2006	Fullsize Pickups and Utilities – Throttle Actuator Control Module Codes	Perform diagnostics for DTCs P2108, P1516 and U0107 but delete steps involving replacing TAC module.	Don't replace TAC module if DTCs P2108, P1516 and U0107 are present.	PIP3812A
2000-2007	Cars and Trucks – Intermittent No Crank, No Start	Clean battery terminal threads and/or replace cable bolt wiring and/or connector.	Don't replace battery.	02-06-04-015A
2006	Midsize Utilities – EBCM Replacement and YAW/LAT Calibration	New calibration allow YAW sensor calibration to existing EBCM.	Don't replace EBCM.	PIT3992
2002-2005	TrailBlazers, Envoys, Rainier, Bravada – SES/Check Engine Light on with DTCs	Replace EV fan clutch wire harness tether.	Don't replace EV fan clutch assembly.	05-06-02-012A
2003-2005	Full and Midsize Utilities and Pickups, Vans – Low Power at High Ambient Temperatures	Upgrade engine calibration to TIS 12.5 for 2005.	Don't replace engine module, catalytic converter, fuel pump, MAF sensor or O2 sensor.	05-06-04-077
2004-2005	Midsize Utilities – Front Drive Axle Leak at Case Half	Install one shim/washer between front axle case/housing and engine oil pan at rearmost mounting hole.	Don't remove and reseal or replace front axle assembly for case half leak.	04-04-19-002
1999-2006	All Fullsize and Midsize Pickups/Utilities, Vans and H2, H3 – Brake Issues	Burnish rotors for cosmetic brake corrosion.	Don't resurface brake rotors for cosmetic corrosion.	00-05-22-002F

Know-How Broadcasts for October

10206.010D Emerging Issues	October 12, 2006	9:30 AM and 12:30 PM Eastern Time
New Model Features	For Web NMF courses, log on to the GM Training Website (www.gmtraining.com). Select Service Know-How/TechAssists from the menu, then choose New Model Features for a selection of courses.	

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– Thanks to Tracy Rozman