

Spark Ignited Direct Injection (SIDI) Engines



Several GM engine families presently use Spark Ignited Direct Injection (SIDI) technology – the LNF 2.0L turbocharged 4-cylinder and the LLT 3.6L V-6. Some projections indicate that in a few years, one in six engines will be built with this technology.

Direct injection refers to the fact that the fuel is injected directly into the combustion chamber. Direct injection is not new. In fact, it's a basic principle of the diesel engine. A diesel engine depends on the heat of compression to ignite the diesel fuel the instant it's injected into the cylinder (this is Compression Ignited Direct Injection or CIDI). By comparison, SIDI engines inject gasoline directly into the air in the cylinder and the resulting mixture is then ignited by a spark plug.

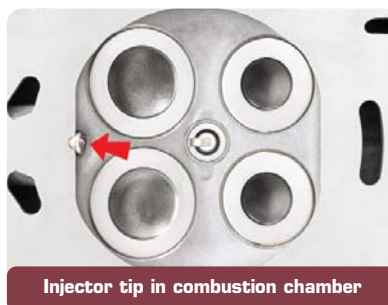
The injection system used on SIDI engines differs from standard fuel injection in one important way. With SIDI, the fuel is injected at a much higher pressure (up to 2176 psi or 15000 kPa) because it's injected directly into the combustion chamber rather than into the intake manifold (port injection).

BENEFITS OF SIDI

When compared with port injection, benefits of SIDI include:

- lower emissions, particularly at startup
- higher compression
- better fuel economy (particularly on turbocharged engines)
- increased horsepower

All gasoline engines depend on atomizing the fuel before combustion. But with carburetors, throttle bodies, and even port injection, the atomization takes place at a distance from the combustion chamber. By the time the atomized fuel and air reach the combustion chamber, some of the fuel has separated out and collects on intake surfaces. SIDI eliminates all of this by atomizing the fuel directly in the combustion chamber.

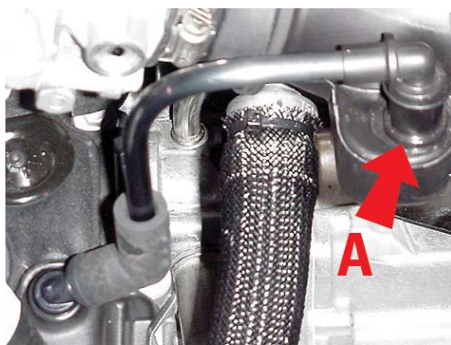


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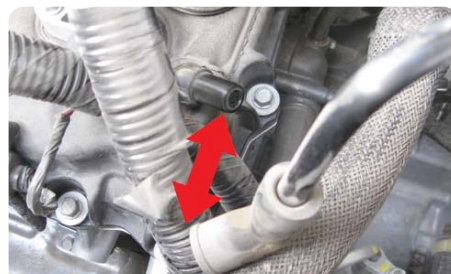
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PCV Tube – Reminder



Disconnecting PCV tube
A Do not attempt to disassemble this connection



Rubber tube disconnected from cam cover fitting

On the Acadia, OUTLOOK and Enclave, the positive crankcase ventilation (PCV) fresh air tube is difficult to remove from the outlet duct. It is very easy to damage the outlet duct to PCV tube interface

point when attempting to remove the tube. Once the upper intake manifold sight shield is removed, the tube can be easily disconnected at the camshaft cover fitting and repositioned out of the way, without having to remove it from the outlet duct assembly.

TIP: Refer to SI document 1860669.

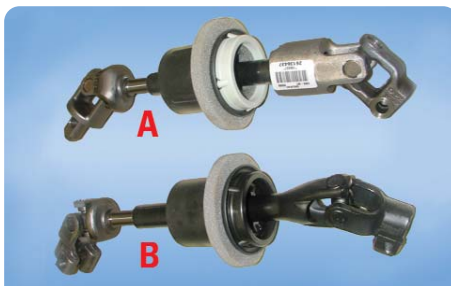
– Thanks to Gary McAdam

Greaseless Intermediate Shaft Correction

An article in the November *TechLink* introduced intermediate steering shafts for the 2009 Malibu, G6 and AURA that do not use grease at the sliding interface. The new service shafts should never have grease applied to the sliding interface. The photo in the article was incorrectly labeled. Both intermediate shafts in the photo are the new greaseless type.

Here are the correct labels.

– Thanks to Jason Piepho



A New I-shaft for vehicles equipped with Hydraulic Power Steering
B New I-shaft for vehicles equipped with Electric Column Power Steering

Brake Pedal Clunk

Some owners of a 2008 Malibu, G6 or AURA with EPS (Electronic Power Steering) and adjustable pedals may comment that, with the steering wheel adjusted in the full down position, there may be a clunk when the brake pedal is released. The clunk can be felt in the steering wheel as well. There may also be a code C0131 set and comments of brake drag.

The EPS column motor housing is contacting the bracket for the adjustable pedals.

1. Remove the brake booster from the cowl, keeping the gasket with the booster.
2. Install one washer, p/n 11518111, on each stud of the brake booster and reinstall the booster. The washer should be positioned between the cowl and the seal.
3. The new brake pedal position must be learned. Otherwise, the brake lights may be on without pedal apply. To learn the new pedal position, install Tech2/Candi Module and access Body systems/ BCM/ Module set up/ BPP Sensor Calibration and follow the instructions.

IMPORTANT: The BPP sensor calibration should be done with the steering column in the full down position.

4. Evaluate that there is no clunk noise when the pedal is released and the steering column is in the full down position and that the brake lights are off with the pedal released.

TIP: If a new booster seal is needed, the p/n is 22729487.

– Thanks to Brian Quinn

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Coolant Air Bleed Passage Plug Small-Block V8

Previously, on the small-block V8, the coolant air bleed passage at the top rear of the cylinder head was sealed with a bolt-on cover. Beginning interim 2008 model year, the opening is sealed with a rivet plug, which is essentially a solid, soft aluminum "pop" rivet.

If one of these plugs needs to be replaced in service, the rivet can be installed using any commercially available hand-held rivet gun.

TIP: The rivet plug is available as p/n 12602048 – Plug, engine coolant air bleed.

Installation Tips

The cylinder head must be removed from the engine before removing the production plug.

Using a 6.43 mm (0.25 in) or smaller punch, remove the plug assembly from the cylinder head.

The production plug cannot be driven deeper into the cylinder head, to make room for installation of a replacement plug. If this is done, the original plug may be driven down too far, fall out of the bore, and enter the cooling system.



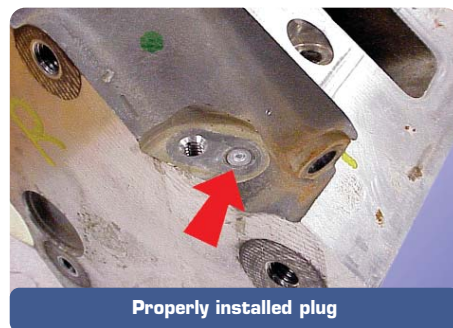
Plug and rivet gun



Plug installed in rivet gun



Installing plug in cylinder head



Properly installed plug

Insert the plug into the rivet gun, insert the plug into the bore, and activate the rivet gun to seat the plug.

A properly installed plug should be installed flush with the surface of the head.

– Thanks to Ron Minoletti

Corvette ZR1 Brake Burnish Procedure

This is a followup to the article on ZR1 ceramic brakes in the November 2008 issue of *TechLink*.

NOTICE: These procedures are specific to the ZR1 with ceramic brake rotors. This procedure should not be run on other Corvette models as damage may result.

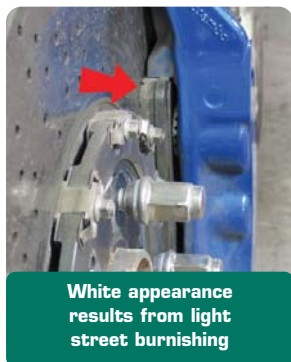
NOTICE: The new vehicle break-in period should be completed before performing the brake burnish procedure or damage may occur to the powertrain/engine.

When performed as instructed, these procedures will not damage the brakes. During the burnishing procedure, the brake pads will smoke and produce an odor. The braking force and pedal travel may increase. After the procedure is complete, the brake pads may appear white at the rotor contact.

Street High Performance Brake Burnishing Procedure

Run this procedure in a safe manner and in compliance with all local and state ordinances/laws regarding motor vehicle operation. Run this procedure only on dry pavement.

1. From a stop, accelerate as rapidly as possible without activating traction control to a speed of 97 kph/60 mph.
2. Use enough pedal force to completely stop the vehicle in 4 to 5 seconds. If ABS activates, braking is too hard.
3. Repeat steps 1 and 2, 50 times. This should take about 10 minutes.
4. After completing the 50 stops, cool the brakes by driving for 8km/5miles at 97kph/60mph.



White appearance results from light street burnishing

As with all high performance brake systems, some amount of brake squeal is normal.

Racing/Track Brake Burnish Procedure

To prepare the ZR1 brake system for track events and racing, complete the Street High Performance Brake Burnish as described above. Then, complete the following additional procedure to make the ZR1 brake system ready for track events and racing.

This procedure should be run only on a track and only on dry pavement.

NOTICE: Brake pedal fade will occur during this track burnish procedure and can cause brake pedal travel and force to increase. This could extend stopping distance until the brakes are fully burnished.

1. Drive a normal first lap and not too aggressive.
2. Laps 2 and 3 should be gradually driven faster and more aggressively, while allowing for reduced brake output and increased stopping distance due to brake fade.
3. Lap 4 as near to full speed as possible, while allowing for reduced brake output and increased stopping distance due to brake fade.
4. Laps 5 and 6 should be cool-down laps.
5. Lap 7 should be normal driving or an easy-out lap.

– Thanks to Vincent R. Sicilia



White appearance results from heavier track burnishing

Spark Ignited Direct Injection (SIDI) Engines

– continued from page 1

As the fuel atomizes, the air and fuel mixture are cooled, enabling the use of a higher compression ratio.

Better atomization contributes to a reduction in pre-ignition and detonation, which is why the SIDI engine can operate at a higher compression ratio and consume less fuel. SIDI allows the engine to run on a leaner mixture (more air, less fuel) at full power. SIDI also allows a higher compression ratio, which in turn provides better fuel economy at part and full throttle.

Direct injection permits controlling a richer mixture around the spark plug, making it easier to ignite when the engine is cold. The SIDI engine runs smoother and generates lower emissions during cold start and warmup.

COMPONENTS

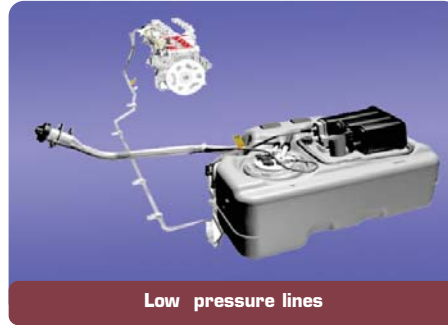
The fuel delivery components of SIDI are divided into two groups, the low pressure system and the high pressure system.



Fuel Tank

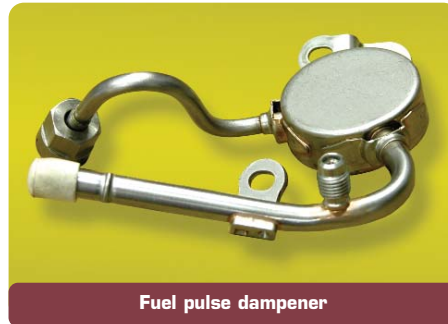
Low Side

Low side components are essentially the same as those in a port injection system. The **fuel tank** contains a **modular reservoir assembly (fuel pump)**. Fuel pressure in the low side is approximately 60 psi (410 kPa).



Low pressure lines

Low pressure lines deliver the fuel from the in-tank fuel pump to the engine compartment. Here a stainless steel pipe, containing the **fuel pulse**



Fuel pulse dampener

dampener and fuel pressure service valve, connects the fuel line to the high pressure pump.

TIP: The fuel pulse dampener may have an audible clicking sound when the engine is idling.

High Side

The high side starts at the **high pressure pump**, which is located at the rear of the cylinder head. It is driven by extra lobes on the camshaft. This pump is capable of delivering fuel at a pressure of 2176 psi (15000 kPa).

The high pressure pump incorporates the **fuel rail pressure (FRP) regulator**. The FRP is operated by the ECM, using pulse width modulation, to provide the fuel pressure commanded by the ECM. And the high pressure pump also incorporates a pressure relief valve.

The **fuel rail** delivers fuel from the pump to the injectors. A **fuel pressure sensor** is attached to the fuel rail, and it contains a diaphragm and strain gauges. Both the fuel rail and pressure sensor are made of stainless steel.



High pressure pump

continued on page 5

Emission System Testing Tips

– Inappropriate Use of Fuel Tank Cap Adapter GE-41415-50 and GE-41415-50A

IMPORTANT: Follow the SI instructions specific to the vehicle being worked on when connecting the Evaporative Emission System Tester (EEST).

It is inappropriate to use Fuel Tank Cap adapter GE-41415-50 and GE-41415-50A to test fuel caps on many of today's vehicles. The best way to test the fuel cap is to **leave it on the vehicle** while using the EEST, connected at the service port. By doing so, the critical cap-to-filler neck interface is tested for leakage.

TIP: The cap adapter cannot be used to test the cap on some vehicles because it may falsely show a leak at the cap. For these vehicles, a leaking cap on the test adapter does not necessarily indicate that the cap will leak on the filler neck. Use the adapter only when called out in SI instructions.

Background

Before the government mandated On-Board Refueling Vapor Recovery (ORVR) to combat hydrocarbons (passenger cars in 1998, light trucks in 2003 and heavier trucks in 2006), there was no good way to test for a leak at the cap-to-filler neck interface because of a check valve on the end of the filler neck. So, an adapter had to be used. After ORVR, there is now a vapor recirculation tube that connects the vapor dome at the top of the tank to the upper end of the filler neck. This tube allows the entire EVAP system to be leak tested from the front of the vehicle at the service port. This eliminates the need for installing the adapter to the cap for leak testing.

This test is more meaningful because it tests the actual cap-to-filler neck interface

seal, rather than testing to see if the cap seals against an adapter surface.

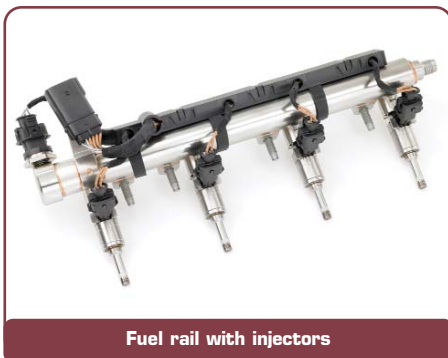
Using The Fuel Tank Cap Adapter GE-41415-50 and GE-41415-50A

Part of the adapter is still needed when testing for a restriction in the diagnostic for P0455. The filler neck end of the tool is used. The cap end must not be used, so remove that end and insert a brass cone (J 41413-311) in its place. This is fully explained in the SI procedure for P0455.



GE-41415-50A shown

continued on page 5



Fuel rail with injectors

TIP: A silicone-free lubricant should be used before mounting the sensor.

Electro-magnetic **fuel injectors** are used. They mount to the cylinder head and spray fuel directly into the combustion chamber. Precision-machined holes generate a cone shaped spray pattern. The injector hold-down clamp must be replaced if removed.



Fuel injector

The ECM contains a converter that steps up voltage from 12V to 65V and charges a capacitor. The capacitor



Precision holes generate cone shaped spray pattern

provides 65V to open the injector. Then the ECM provides pulse width modulated 12V to hold the injector open for the prescribed time.

SIDI OUTPUT CONTROLS

The Tech 2 can be used to perform the following (see SI for details):

- Cylinder Power Balance
- Fuel Injector Balance
- Fuel Pressure Control
- Fuel Pump on/off
- Fuel System High Pressure Reduction

SIDI SERVICE HIGHLIGHTS

See the appropriate section of SI for details.

Low side system pressure relief is the same as with standard fuel injection systems.

High side system pressure relief can be done two ways:

- Shut engine off and wait at least 2 hours, then cover high pressure fitting with a shop towel and loosen
- Use Tech 2 to command fuel pump relay OFF, run engine until it stops (approximately 30 seconds). Turn off ignition and confirm fuel pressure with Tech 2.

To **remove injectors**, it may be necessary to use tool J-37281-A if there is high carbon buildup. If there is high carbon buildup, use EN-47909 to clean the injector bore.

IMPORTANT: This tool can remove cylinder head material.

When removing injectors, the following must be discarded and replaced:

- fuel injector hold-down clamps
- O-rings
- plastic spacers
- fuel injector seal

The Teflon seal on the tip of the fuel injector must be installed and sized using EN-48266. See the appropriate section of SI for details.

When **removing the high pressure fuel pump**, the following must be discarded and replaced:

- fuel pump bolts
- fuel pump gasket and O-ring
- high pressure fuel pipe

When installing the high pressure fuel pump, be sure the roller lifter is oriented properly, the camshaft is at base circle, and the number 1 piston is at top dead center (TDC) on the exhaust stroke.

– Thanks to GM Powertrain

The fuel tank cap adapter is also needed when there is a check-valve in the purge line; i.e., on some turbocharged vehicles. on some turbocharged vehicles.

Using Evaporative Emission System Tester (EEST)

For vehicles that do not have a service port, to connect the EEST, install essential tool CH-48096 EVAP Service Access Port Tool in the purge line between the purge valve and the EVAP canister.

Since its introduction, the EEST has had a decal on it, and a manual, that describe using the fuel tank cap adapter. Two years ago, a new updated decal and an update to the EEST manual were sent out. Be sure the EEST has been updated with the new decal and that the new manual is available.

TIP: The new decal emphasizes following the appropriate SI procedure when connecting the EEST to the vehicle.

– Thanks to Bill Coleman



EEST J-41413-200

Refrigerant Dye

Additional refrigerant dye for leak detection is not required on the 2008 Tahoe and Yukon 2-mode Hybrid. The dye is added to the system at the assembly plant and will remain there unless removed during a flushing process, at which time the dye can be replaced only by replacing the AC accumulator. The new AC accumulator contains a new dye tablet which will dissolve when the system is recharged.

Most ultra violet (UV) dyes (including dyes from GMSPO and Kent Moore SPX) contain PAG oil that is not compatible with the Hybrid Polyolester (POE) oil. Introducing even small amounts of PAG oil (contained in most AC dyes) can cause damage to the high voltage insulation in the hybrid AC compressor. The insulation damage may lead to a ground isolation fault which would result in a no-crank condition.

If the vehicle Hybrid AC system has already been injected with a commercially available ultra violet (UV) dye, the system should be flushed of all system oil.

1. Flush the system immediately following the procedures in SI document 2047704
2. Replace the AC accumulator.
3. Drain the compressor and perform the proper oil balancing procedure. See SI document 2105559.

– Thanks to Paul Radzwilowicz

Automatic Climate Control Operation Explained

Some owners of vehicles with automatic climate control may comment that airflow is barely perceptible when a cold vehicle is started. This may affect vehicles with or without remote start.

An understanding of proper operation will help explain that this may be normal. According to the owner manual, "To avoid blowing cold air in cold weather, the system will delay turning on the fan until warm air is available. The length of delay depends on the engine coolant temperature."

As the engine warms up, the blower speed gradually ramps up until it is operating at normal speed.

Additionally, when remote start is used, the climate control system has three zones of operation (in these zones of operation, the auto blower speed will ramp up as described earlier, eventually reaching the optimum speed):

- **Cold ambient temperature** that is below 10°C (50°F) – the system uses 74°F setpoint, auto blower, defrost mode, rear defrost and/or heated mirrors on, heated seats on, rear in mimic.
- **Hot ambient temperature** that is above 30°C (86°F) – the system uses 74°F setpoint (60°F setpoint in 2008), auto blower, auto mode, rear in mimic.
- **Mid ambient temperature** that is anything between the cold and hot values – the system uses 74°F setpoint, auto blower, auto mode, rear in mimic.

– Thanks to Steve Love

Correct Starting Procedure

The owner of a 2009 Aveo with 5-speed manual transmission may have a concern of an intermittent no crank, no start. The condition can be caused by the driver not completely depressing the clutch pedal before turning the ignition switch to the start position. The correct starting procedure is as follows:

1. Depress the clutch pedal fully to the floor.
2. Turn the ignition key to the start position.

TIP: If the clutch is depressed after the ignition switch is in the start position, the starter will not engage. Then the following is necessary:

1. Move the ignition key out of the start position back to run.
2. Depress the clutch pedal fully to the floor.
3. Turn the ignition key into the start position after the clutch pedal is fully depressed.

This start sequence is by design and no attempt should be made to change this condition.

– Thanks to Jeff Gorenflo

Accessory Wiring Tips

This information applies specifically to fullsize trucks.

There are two different locations on a truck that power and grounds can be acquired without having to splice or cut into existing wiring. One is the Mid-Bussed Electrical Center (MBEC) and the other is the Underhood Bussed Electrical Center (UBEC).

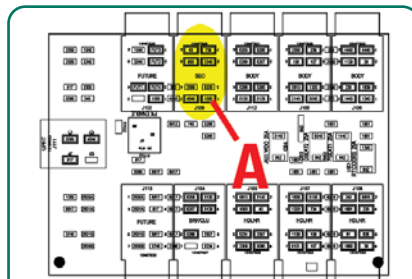
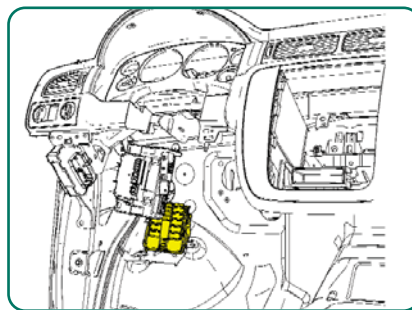
MBEC

The MBEC is located below the instrument panel to the left of the brake pedal. The MBEC has 10 positions for connecting electrical connectors. One of these positions is designated for aftermarket utilization.

Within the connector there is a fused 30 amp battery feed, a fused 15 amp battery feed, a fused 10 amp Run/Crank feed, a 300 milliamp RAP (Retained Accessory Power) feed and a ground.

The connector part number is 13516837 (black in color) and this is the pin-out:

Cavity	Circuit Description	Circuit Number	Fuse Size
1	Ground	1050	NA
2	Battery feed	4540	15 amps
3	Not Used		
4	Not Used		
5	Battery feed	2340	30 amps
6	Not Used		
7	Run/Crank feed	739	10 amps
8	RAP feed	43	300 milliamps



A – Location of connector for aftermarket utilization

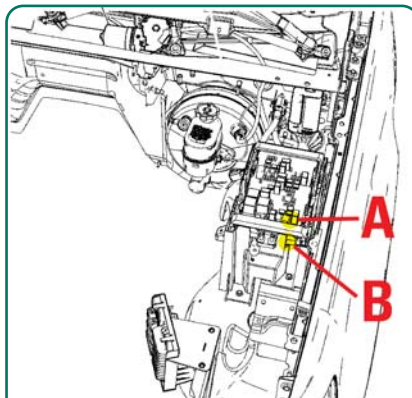
UBEC

The UBEC is located on the left side of the engine compartment. On vehicles not equipped with an auxiliary battery (RPO TP2), there is a stud that can be used as a fused battery feed at the UBEC.

Wire Gauge Selection

For any of these powered connections to be used, Circuit Protection Guidelines must be followed to assure that the circuit gauge is selected appropriately so that it will be protected by the fuse in the case of a short circuit.

– Thanks to Steve Love



A – Insert a J-Case fuse with a 40 amp maximum rating into this position for stud to be powered.

B – Use outboard M6 stud for a fused battery feed.

Bluetooth Issues

This information applies to the following vehicles with UE1 and UPF:

2008-09 CTS, CTS-V, 2009 Allure, Enclave, Lacrosse, Lucerne, DTS, Escalade, SRX, STS, XLR, Cobalt, Corvette, Equinox, HHR, Impala, Malibu, Silverado, Suburban, Tahoe, TrailBlazer, Traverse, Acadia, Envoy, Sierra, Yukon, H2, H3, G5, G6, Solstice, Torrent, 9-3, 9-7x, AURA, OUTLOOK, SKY, VUE.

Customers may report various issues when trying to use an Apple iPhone with the embedded Bluetooth system that is part of the GEN8 OnStar system. They may state that the system had been working properly and recently developed the issue.

DO NOT replace the radio or OnStar VCIM for this condition.

An issue has been identified with the Apple iPhone software version 2.1 released September 12, 2008. The customer would have received this software update upon connecting to iTunes and saying "yes" to the update after 9/12/08. This may cause such issues as inability to hear incoming/outgoing calls, or dropped calls while using the Bluetooth.

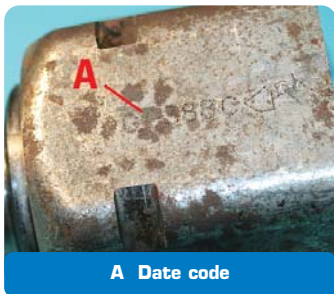
Investigation is ongoing.

– Thanks to Jim Loomis

Driveline Shudder or Vibration

IMPORTANT: This information applies ONLY to all-wheel-drive vehicles.

Some owners of a 2008-09 Cadillac CTS, SRX or STS equipped with all-wheel-drive (AWD) may comment on a shudder or vibration



from the driveline when accelerating from a stop, or low speed acceleration, typically 20 to 40 mph (32 to 64 kph). This concern may be more noticeable when the vehicle is loaded, such as with four passengers.

Verify the concern by duplicating the condition on a vehicle road test. The condition may be caused by a tripot joint on the right front wheel drive shaft (halfshaft) that was improperly heat treated. Inspect the tripot joint housing on the right front wheel drive shaft. If it has the date code G0388C, replace the right front wheel drive shaft tripot joint.

– Thanks to Chuck Krepp

Rear Camera Display Blank

Some owners of a 2009 fullsize utility equipped with inside rearview mirror with rear camera display (RPO DRC) may comment that the rear camera display in the rearview mirror has a blank screen when shifting into reverse.

This may be caused by a loose or disconnected connector behind the right side C pillar trim. Examine the 10 pin connection that is behind the passenger's side C pillar trim (located in front of the rear HVAC case if equipped) and repair as needed.

– Thanks to Paul Radzwilowicz



Auto Stop Does Not Function Two-Mode Hybrid

The owner of an Escalade, Tahoe or Yukon equipped with the two-mode hybrid option may comment that the Auto Stop function does not operate at all in hot or cold temperatures or takes a long time to activate in cold ambient temperatures. Customers may also comment that fuel economy is less than expected. This concern may be considered normal under certain conditions and driving maneuvers.

Inform the customer that environmental conditions and driving habits have a direct correlation with fuel economy. The Auto Stop mode may not be enabled if certain hybrid and vehicle components are too hot or too cold. In winter, the hybrid battery module temperature, engine coolant temperature, transmission fluid temperature, and cabin temperature must be warmed up before Auto Stop is allowed. The hybrid controllers also monitor ambient temperatures and interior temperature along with the above mentioned criteria to determine desired Auto Stop conditions.

In cold temperatures, the Auto Stop criteria are highly dependent on the outside air ambient temperature. Depending upon the overnight soak time, specific drive cycles, and the factors listed above, it may take an hour before the first Auto Stop occurs. In the summer, the hybrid batteries, the hybrid cooling system and the engine must all be kept cool for Auto Stop mode. Running the interior air conditioning and keeping the hybrid battery vents unrestricted will help keep the hybrid batteries cool.

Fuel economy will be the same as a base truck under heavy throttle and brake apply. Heavy acceleration requires more engine operation and thus more fuel consumption. Heavy braking does not allow regenerative braking to occur. Adjusting both braking and acceleration driving habits will result in the highest system efficiency.

Refer the customer to monitor Active Fuel Management (AFM) information on the Hybrid Navigation/Radio Display Screen or the efficiency gauge to learn driving habits/conditions that improve fuel economy. This includes trying to keep the efficiency gauge in the green zone as much as possible and trying to drive in 4-cylinder mode as long as possible.

Tips to Improve Fuel Economy

- Place the transmission gear shift selector in Drive and not in manual. Auto Stop is inhibited in the manual transmission shift ranges.
- Keep tires properly inflated.
- Accelerate to allow for as much Mode 1 electric propulsion as possible.
- Limit the use of remote start.
- Drive at reasonable highway speeds.
- Minimize carrying unnecessary cargo or mass.
- Keep the transfer case in 2WD instead of auto.

If there are no DTCs found in the vehicle modules that would prohibit Auto Stop and the hood switch reads correctly, this will be considered an operating characteristic. The technician can monitor the Hybrid Powertrain Control Module (HPCM) and Auto Stop Inhibit Reasons data list to identify the normal inhibit reason.

– Thanks to Chuck Krepp



Car Issues – Fix It Right the First Time

Model Year(s)	Vehicle Line(s) / Condition	Do This	Don't Do This	Reference Information / Bulletin
2007-08	SRX – Upper storage compartment will not open	Push plastic retaining finger and move pendulum forward	Don't replace upper I/P storage compartment	08-08-49-007
2006-08	Impala – Key cannot be removed in Park, shifter cannot be moved	Repair wiring damage and reroute wiring	Don't replace shifter	08-07-30-007A
2008	Lucerne – Front edge of headliner frayed	Install protector with longer adhesive side facing down	Don't install complete headliner	07-08-110-006B
2006-08	All vehicles with TPM – Transfer sensors to replacement wheels	Move TPM sensor to new wheel	Don't install new TPM sensor	08-03-16-003
2006-08	Vehicles with aluminum wheels – Tire leaking air	Repair wheel and paint	Don't replace wheel	08-03-10-006
2007-09	DTS – Doors may not open although unlocked	Adjust front and rear inner door latch rods	Don't replace door handle or latch	08-08-64-015
2007-08	2.8L, 3.6L (VIN T, 7, V) – SES light with DTCs	Install camshaft thrust washer	Don't replace cylinder head	08-06-01-011A
2006-09	G6 – Convertible top inoperative, hinges broken, flipper door cables broken, brackets bent	Perform repair and adjust tonneau and flippers per SI	Don't fail to perform critical steps 1-11	AIC3517
2007-08	Impala – SES, fuel gauge erratic	Inspect connectors and terminals	Don't replace pump or level sensor	PIC4878C



Truck Issues – Fix It Right the First Time

Model Year(s)	Vehicle Line(s) / Condition	Do This	Don't Do This	Reference Information / Bulletin
2008	Acadia, Enclave, OUTLOOK – Power liftgate strut rod disconnected at motor actuator	Replace power liftgate strut rod	Don't replace power liftgate motor actuator assembly	PIT4685
2001-04	LB7 Duramax Diesel – Injector high pressure lines corroded	Clean connection area of line and nut of injector high pressure lines as required	Don't replace lines	03-06-04-036A
2007-08	Fullsize utilities –1500 Series – Power steering fluid leak	Determine source of leak	Don't replace power steering rack	07-02-32-002B
2007-08	Fullsize utilities – Remote mirror inoperative	Perform wiring checks	Don't replace mirror assembly	08-08-45-002
2007-08	Fullsize utilities and trucks, H2 – Clock, clock tab on navigation screen not appearing	Reprogram with 08i software disc	Don't replace radio assembly	08-08-44-002
2004-07	Colorado, Canyon, H3 – Reduced power, P codes	Check battery state of charge and charge or replace as necessary	Don't replace throttle body, throttle body module, accelerator pedal, accelerator position sensor, PCM, or ignition switch	08-06-04-014
2008	Sierra, Silverado – SES P1174	Reprogram ECM using TIS2Web	Don't replace catalytic converter, PCM, injectors, fuel rails, fuel pumps	08-06-04-028
2006-09	All vehicles – Identifying aftermarket engine calibrations	Block the warranty claim if aftermarket calibration is installed	Don't submit warranty claim if aftermarket calibration is installed	08-06-04-033 - Gas 08-06-04-006B - Diesel
2008-09	GMC Sierra, Yukon, Chevrolet Silverado, Tahoe, Hummer H2, H3, Cadillac Escalade Gen IV V8 Engines – Accessory Drive Belt Noise	Replace belt	Don't replace pulley or component	08-06-01-008
2006-07	Silverado, Sierra, Savanna, Express, Topkick, Kodiak – SES light illuminated	Clean EGR motor commutator	Don't replace EGR motor or valve assembly.	06-06-04-066C

**Know-How
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for
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10209.01D Emerging Issues
New Model Features

January 08, 2009 9:30 AM and 12:30 PM Eastern Time

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– Thanks to John Miller