TECHlink

GM

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Pontiac G8

G8 Features

Pontiac's new flagship sport sedan is based on a new global rear-wheel drive architecture, and is available in two levels, the G8 with V-6 engine and the G8 GT with V-8 engine.

Powertrains

Two levels of performance are offered.

The 3.6L DOHC VVT V6 (LY7) on the G8 model is teamed with a 5-speed automatic transmission that offers Driver Shift Control (DSC).

And the 6.0L OHC V8 with Active Fuel Management (L76) on the G8 GT model is teamed with a 6-speed automatic transmission. This is the first application of AFM on a rear-drive sedan. The transmission offers DSC and two overdrive gears.

TIP: DSC allows the transmission to be shifted like a clutch-less manual.

Wheels, Tires and Brakes

Depending on model and package combinations,

Pre-Delivery Inspection

Bulletin 08-00-89-008 explains the G8 Pre-Delivery Inspection (PDI) in detail. Here are some highlights.

Delivery Condition

Vehicles are delivered with factory-installed protection materials on external surfaces and on interior components. To ensure that they can be easily removed, they should be removed within six months of the vehicle build date.

TIP: Shipping vehicles from GM Holden in Australia includes about two months of ocean transit and up to four weeks of rail and truck transit from the west coast port. So, the protective materials may have been on the vehicle three or more months by the time you receive the vehicle. Shipping materials should be removed within 90 days of when you receive the vehicle.

TIP: You can find the month and year of manufacture on a white label in the driver's door jamb area.

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New Service Information (SI)

In February, GMSPO released the long-awaited Service Information (SI) with a new look and robust new search engines. The following is a quick overview of its key changes and enhancements.

Browsing in SI

New to SI is the Navigation Build History (also known as the 'bread crumb trail'). The trail appears at the top of the screen as you travel through the service publication. Navigation Build History provides a quick reference so you can easily jump to previously viewed selections.

Searching in SI

The new and enhanced search engines allow much greater flexibility when searching for information in SI. Understanding how they work will make your searching quicker and more efficient. The keyword searches should never be used as a way to circumvent the diagnostic process.

There are two methods for searching – Basic (the default) and Advanced. Under either method, you can search the full text (known as Document) or just the Titles. Document search is the default. The new search feature is available in all publications, including Service Manual/Bulletins, Owner Manuals, and Labor Time Guide.

The key difference between the two is that Basic treats each keyword individually, while Advanced treats multiple words as a phrase (requires two words or more).

Basic search performs a search on keywords – up to five keywords can be used. If multiple keywords are entered, you can further define the search for 'any'

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or 'all' of the keywords. The words 'and/or' are not allowed in the search field.

TIP: The Basic search treats each keyword individually. If multiple words are entered, the program rearranges them in alphabetical order after the search begins.

For example, Throttle Position Sensor becomes Position Sensor Throttle. This produces entirely different results

TIP: Search results under the Basic method will find derivatives of the keywords entered. Example: Keyword Brake will find brakes, braking.

Unlike the old SI, partial words are not recognized as valid keywords. Example: Previously Sche would find schematics; this search method is no longer valid.

Advanced search searches on a phrase (two or more words). Searching for Throttle Position Sensor produces results that are an exact match, and in the order they are entered. Understanding what is considered a phrase is the key to understanding the Advanced search method.

TIP: A phrase of up to five words can be searched. Valid search characters include slash (/), period (.) and hyphen (-). Example: a/c, 5.7L.

Example: 5.7 is considered a phrase and not a keyword. Within the Basic search, 5.7 is treated as three keywords: 5, . , and 7.

For a more detailed explanation of the Basic and Advanced search features, select the Search Help link at the top right of the page.

All document lists are now displayed with alternating background shading and with larger line spacing. On the home page, there is a link to the user guide that includes helpful information regarding SI.

Category Search

After you select a Service Category, a Basic or Advanced search can be performed within the selected section or the entire manual.

Unit Repair and Specialty Publications

The SI application now offers Specialty Publications located with the Unit Repair Manuals. The Specialty Publications are not related to a specific year, make or model. The SI application offers the search feature for these publications as well.

– 2008 Performance Engines Manual
– 2008 Marine Engines Manual
– *Thanks to Michael Raposa, Mike Rice and Lisa Scott*

Transmission Tick Flutter Noise at Highway Speed

On some 2007-08 Cadillac DTS vehicles equipped with 4T80E MH1 transmission, a ticking/fluttering noise can be heard in the vehicle at highway speed.

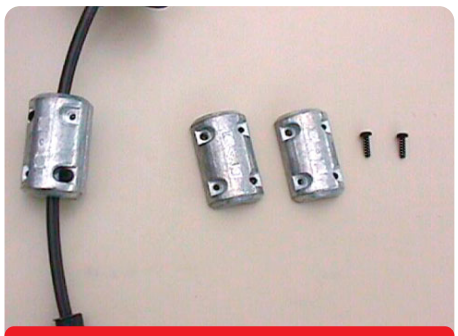
The noise is generated by the modulation of the TCC solenoid. Movement within the solenoid excites the shift cable, resulting in a low level, high frequency noise that can be heard in the passenger compartment

To correct the condition, install a solid lead clamp mass damper to the cable. This has been shown to significantly reduce or eliminate the noise.

Contact BQM Darryl Butler at 586.575.7478 or email to darryl.a.butler@gm.com to obtain the damper.

– *Thanks to Darryl Butler*

Damper located on shift cable



Damper details

GM *TechLink* is a monthly magazine for all GM retail technicians and service consultants providing timely information to help increase knowledge about GM products and improve the performance of the service department.

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Pontiac G8 features – *continued from page 1*

both 18- and 19-inch aluminum wheels are offered, with either all-season or summer-only tires. Both models use 4-wheel vented disc brakes with an antilock brake system (ABS) and StabiliTrak. GT models are equipped with larger rotors.

TIP: The summer-only tires must be replaced for winter driving. Details are found in bulletin 04-03-10-013B

Keys

IMPORTANT: Keys are ordered through GM SPO with overnight service from FM-Reps.

Ignition/door lock keys feature either an attached remote fixed key or an attached compact flip key housing. An 8-bit code requires a new code adapter to enable keys to be cut from the key code using previously specified Silca key cutting equipment. A third key (no remote) is for the glove box lock.

TIP: See the October 2007 issue of *TechLink* for an in-depth explanation of the side-milling feature of these keys.

Flip key

Fluids and Lubricants

Many of the fluids and lubricants specified for the G8 are new. Be sure the fluids and lubricants are available in your dealership, and be sure that only correct fluids and lubricants are used. Damage may result from use of incorrect materials. A chart in New Models Features Bulletin 08-00-89-008 summarizes some of the most critical. Refer to SI and the Owner Manual for a complete list.

Battery

The G8 battery is located in the trunk. To prevent explosive gases from entering the passenger compartment, the battery is fitted with an external ventilation tube which carries gases to the outside of the passenger compartment. A replacement battery must incorporate the external ventilation feature which must be correctly fitted when the battery is installed.

TIP: If the replacement battery does not come with the ventilation tube, it is vital that the tube be removed from the old battery and securely fitted when the new battery is installed.

Do not disconnect the main vehicle battery or remove the OnStar fuse with the ignition key in any position other than OFF. Allow Retained Accessory Power (RAP) to time out, or disable by opening the driver's door before disconnecting power.

Disconnecting power to the OnStar module while the ignition is ON or with RAP activated may cause activation of the OnStar Back-Up Battery (BUB) system and will discharge and permanently damage the back-up battery.

Accessory Power Outlet

The Accessory Power Outlet is not powered all the time. The APO is tied to the retained accessory power, so the APO will power off when retained accessory is off.

– *Thanks to Chris Graham and Fred Tebbets*

Pontiac G8 Pre-Delivery Inspection – *continued from page 1*

Exterior

Rapguard film for paint protection is applied to external horizontal painted surfaces to provide protection from ultraviolet light, fallout and chemical attack from bird droppings, etc.

Scotchcal, a heavier grade of adhesive film, is applied to front and rear fascia and provides protection against minor contact in transit.

Under normal circumstances, the Rapguard and Scotchcal films should easily peel away from the surfaces and leave no residue. Films may become brittle and difficult to remove if left on the painted surfaces for longer than six months from the date of manufacture.

Interior

The interior protection package consists of a seat cover on the driver's seat, plastic film on the driver's floor carpet and plastic protective tape on driver's door sill plate.

TIP: All interior protection film/tape must be removed no later than six months from the vehicle manufacture date.

PDI TIPS

In addition to removing the protective materials, the following procedures and inspections are outlined in bulletin 08-00-89-008.

Brake disc protection covers are manufactured from a high-strength plastic material with vapor-emitting paper attached to the inner surface. They are designed to provide disc surface corrosion protection.

These covers can be removed by tearing them away from the brake disc area. There is no need to remove the wheels. Be sure that all protective material is fully removed.

TIP: There is no need to remove covers while the vehicle is in storage; however, effectiveness of the cover will progressively reduce as the cover ages.

Spring chocks are fitted between the front suspension coils to prevent excessive suspension travel during shipping. These must be removed before the vehicle is driven.

With the front of the vehicle raised and the wheels at full hang, remove the chocks by pulling them out by hand.

Tire inflation – Tires are inflated to 60 psi (413 kPa) for flat spot prevention during transportation and storage. This is not suitable for normal driving. Ensure that this pressure is maintained while the car is in storage but deflate the tires to the specified pressure before delivery to the owner.

TIP: The tire pressure placard is located on the rear face of the left hand front door opening.

G8 GT models (all V-8s) are equipped with a tire inflator kit only. G8 models (all V-6s) have a space saver tire and jack equipment.

Battery transit isolator – To minimize battery drain in transit, some circuits have been disabled by disconnection of a transit isolation connector located above the battery in the trunk.

Blue connector in battery compartment

Locate the blue connector in the battery compartment. Connect the two mating blue connectors to energize the radio, HVAC, supplemental instrument clusters in the IP center stack area, IP cluster and remote locking.

IMPORTANT: It is critical that the two parts of the connector are fully assembled. Push the connector until a click is heard, then tug to be sure it's seated. The connector connects only one way.

Immediately after the vehicle is received, check the battery open cell voltage. Battery voltage must not be allowed to drop below 12.3 volts during storage.

Other – Numerous other checks and procedures are outlined in the bulletin. Be sure to perform all of them as directed. Print the G8 PDI worksheet from DealerWorld and review it for items specific to the G8.

If you have any product concerns with the vehicle, complete a Field Product Report. Review the information with your dealership Service Management Team before sending the communication.

– *Thanks to Chris Graham and Fred Tebbets*

Biodiesel Fuel Information

Traditionally, diesel fuel has been refined from crude oil, and is referred to as petroleum-based (or petro) diesel. It is now possible to manufacture diesel fuel from biological (plant and animal) materials. This fuel is referred to as biodiesel. Biodiesel fuel is blended with petrodiesel fuel (typically 5% bio and 95% petro), and the result is referred to as a blended fuel. Because the characteristics of petroleum diesel and biodiesel fuels are different, questions arise about the use of biodiesel fuels in GM vehicles. Here are some typical questions and answers.

Owner manuals state that GM diesel engines can operate on up to 5% biodiesel fuel. Are all 5% biodiesels the same?

GM currently supports the use of up to 5% blend of biodiesel (B5) in all its diesel vehicles.

GM does not distinguish between the types of feedstocks (different vegetable oils and animal fats) used to make biodiesel. However, biodiesels are not all the same. Biodiesels made from different feedstock will have different cloud points (see below) and subsequently blends made from these feedstocks will have different cloud points. In addition, some variations in cloud point can be expected due to processing differences.

Inconsistent blend compositions might result based on blending methods (example splash blending) and temperature of blending (it is recommended that biodiesel be kept at least 10°F (6° C) above its cloud point during blending). Cloud point will increase with increasing amounts of biodiesel in blends.

Feedstock	Cloud Point
Soy	approx. 32°F (0°C)
Beef-tallow	approx. 53°F (12°C)

When using 5% biodiesel, are there negative performance or durability considerations?

ASTM International (originally known as the American Society for Testing and Materials) is the organization which defines the desired quality of biodiesel for vehicular use in the US.

If the biodiesel meets the ASTM standard, there are no durability concerns at the 5% level. However, if the original biodiesel does not meet the ASTM specification, even with 5% there is potential for negative effects. For example, glycerin is a byproduct formed when vegetable oil is processed to make biodiesel. This is a potential contaminant. In addition, any unreacted vegetable oil is also a potential contaminant. Biodiesels high in glycerin and unreacted vegetable oil content (>0.24 mass %) can result in gelling at higher temperatures, causing filter plugging, and can also cause long term injector damage.

5% biodiesel can cause negative effects if the fuel in the tank deteriorates to form insoluble (plastic-like) constituents and corrosive products.

Biodiesel fuel has a higher tendency to foul and oxidize compared with petroleum diesel fuel. Performance at cold temperatures will be somewhat worse because biodiesel naturally has a higher cloud point than diesel fuel.

Could 5% biodiesel be a cause for premature filter plugging?

Yes, if biodiesel is out of spec for glycerin or when it oxidizes to form polymeric constituents. Biodiesel can act as a solvent, loosening sludge in the bottom of the tank that will cause the filter to plug.

How much does ambient temperature affect biodiesel's ability to flow in a suction-only fuel delivery system?

Ambient temperature affects the fuel's tendency to gel and its ability to flow. As the fuel is cooled, its ability to keep the wax dissolved decreases, and eventually, a temperature is reached when the wax precipitates from the fuel. The temperature when the fuel first becomes cloudy due to wax precipitation is called the cloud point. As the fuel is cooled further, more wax precipitates from the fuel. At about 10°F (6° C) below the cloud point, the fuel becomes so thick that it cannot flow. This temperature is called the pour point or gel point.

A 5% biodiesel will raise the cloud point of the fuel about 4 to 5 degrees F (2 to 3 degrees C). A 20% biodiesel will raise the cloud point 5 to 10 degrees F (3 to 6 degrees C). Because fuel passes through the fuel filter before it reaches the suction side of the pump, the expectation is that this type of system would be susceptible to filter plugging due to wax or precipitates.

Are there GM recommended additives that may reduce negatives of biodiesel?

No, at present GM does not recommend any additives. Diesel Fuel Conditioner (p/n 88861009 or p/n 88861038 in Canada) is meant for diesel fuel only. Its effectiveness in biodiesel blends is unknown.

What happens if the customer increases the percentage? 10-20% is apparently available on the street.

An increase in percentage will raise the cloud point of the fuel. It can also cause compatibility issues with elastomeric (rubber-like) constituents. And if the base biodiesel is out of spec then it will worsen the problems caused by bad biodiesel.

Where can information be obtained about what the major fuel distributors are blending and offering for sale in various geographic areas?

Check out the National Biodiesel Board website (http://www.biodiesel.org) for maps of producers and retailers. There are also lists of what products are sold at each retail location.

What are the state or Federal requirements for filling stations to post blending percentages?

At present, pump labeling is an individual state issue. There is no Federal mandate to label biodiesel pumps.

– *Thanks to Shailesh Lopes and Andrew Buczynsky*

Bluetooth Summary

Bluetooth® technology has been discussed in two previous 2008 issues of *TechLink* — an introduction in February and the service test tool in April. Here are some additional facts and a summary.

Bluetooth technology will be available on most General Motors vehicles beginning in model year 2009 as either optional or standard equipment. Bluetooth is being pulled ahead as an interim change on the 2008 Cadillac CTS. The Bluetooth technology hardware is physically located in the OnStar Module.

GM Bluetooth Tool p/n 453-U260-000-R is available through GM Dealer equipment: http://www.gmde.net/index.cfm.

Customer support will be available through the GM Customer Assistance Center and a website. The website should be up and running in April 2008. The website will be able to be accessed through the brand website, i.e.:

www.cadillac.com/bluetooth, www.pontiac.com/bluetooth, etc.

TIP: Only the Cadillac website will be active by April 2008. The other websites will be available as Bluetooth is launched on each respective brand.

The website will have pairing instructions and a list of GM

Fast Facts About Ethanol

Energy Balance

- While E85 gets 20 to 25 percent fewer miles per gallon compared with gasoline, it is less expensive than gasoline in most parts of the country and has 96 octane compared with 87 octane for regular unleaded gasoline. Premium gasoline has less octane than E85 and sells at a higher price. (Clean Cities)
- Ethanol does not require more energy to produce than it delivers as a fuel. The net energy balance of making fuel ethanol from corn yields about one-third more energy for automotive fuel than is used to grow the grain. (Argonne National Laboratory)
- Next generation cellulosic ethanol produced from switch grass generates 540 percent more energy than consumed in production. (USDA)
- Coskata's cellulosic ethanol process generates up to 7.7 times as much energy as what is used to make the fuel compared with conventional gasoline. (Argonne National Laboratory)

Greenhouse Gas Emissions (GHG)

- Corn ethanol reduces GHG by 18-29 percent while cellulosic ethanol yields 85-86 percent reduction per gallon. (Argonne National Laboratory)
- Average GHG from cellulosic ethanol derived from switch grass are 94 percent lower than estimated GHG from gasoline. (USDA; University of Nebraska)
- The use of 6.5 billion gallons of ethanol in the United States during 2007 resulted in the reduction of GHG by approximately 10 million tons. E85 alone contributes to a 20 percent reduction in ozone-forming pollution and a 30 percent reduction in GHG. (Argonne National Laboratory)

Reducing Oil Dependence

- In 2007, the production and use of ethanol in the U.S. reduced oil imports by 228 million barrels, saving $16.5 billion from being sent to foreign and often hostile countries. (Renewable Fuels Association; LECG, LLC)
- By 2030, enough biomass could be produced using existing farmland to reduce oil consumption by 30 percent. (DOE; USDA)

Coskata/Cellulosic

- Coskata will begin producing cellulosic ethanol from a pilot plant in late 2008, and from a full-scale plant capable of 50 million to 100 million gallons annually coming on-line in 2011. (Coskata)
- Coskata's process can convert each ton of biomass into more than 100 gallons of low-cost ethanol. (Coskata)
- In the U.S. alone, there is more than 1 billion tons of biomass that can be converted into fuel annually. (USDA)

Infrastructure

- There are more than 1,520 E85 ethanol fueling stations in the U.S. (National Ethanol Vehicle Coalition)
- Working with government, fuel providers and fuel retailers, GM has helped usher in more than 300 E85 fueling pumps at stations in 15 states and the District of Columbia since 2005. (GM)

Public Support

- A 2007 Harris Interactive poll shows that 88 percent of U.S. adults agree the nation should pursue the development of homegrown, renewable energy sources such as ethanol. More than half of adults, or 54 percent, strongly support such development of domestic alternative energy sources. (Clean Fuels Development Coalition)
- Seventy-four percent of Americans want to see increased use of renewable fuels. Furthermore, 87 percent believe active support of the federal government should go toward developing the renewable fuel industry while 77 percent support congressional action to encourage oil refiners to blend more ethanol into their products. (Renewable Fuels Association)

Water Use

- Nearly nine out of ten acres of corn require no water other than rain. In 2006, 87 percent of corn cropland in the U.S. was non-irrigated. (National Corn Growers Association)
- The majority of the water used in ethanol production is recycled and reused at the facility or is included in one of the plant's co-products such as distillers wet grains, which are fed to beef and dairy cows. (National Corn Growers Association

Ethanomics

- The U.S. ethanol industry generated $2.7 billion in tax revenues in 2006, returning more than half of the federal investment back into the U.S. economy. (National Corn Growers Association)
- According to a U.S. General Accounting Office study in 2000, tax incentives for the petroleum industry have ranged from $134 billion to $149 billion since 1968, significantly more than the $7 billion to $11 billion that the ethanol industry has received since 1979. (GAO)

– *Thanks to Alan Adler and Jay Dankovich*

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tested Bluetooth cellular phones. The GM tested Bluetooth cellular phones will list the features that are compatible for each cell phone tested. Based on the cellular phone manufacturer's implementation of Bluetooth, not all phones will support all functionality.

Technician support will be available through SI, training, videos, and TAC.

Diagnostic Tip

TIP: A Bluetooth diagnostic flow chart is available in the TechLink website Reference Guide.

The first thing that should be done on a customer's vehicle with a Bluetooth concern is to verify the customer's phone via the website. If the customer's phone has been tested and deemed compatible with the GM Bluetooth system, then diagnostics should be done via SI. There is only one additional DTC being added for Bluetooth functionality. The DTC is B2485 Wireless Communication Antenna Circuit 1 (Bluetooth) with the failure type bites of $01 Short to Ground and $04 Open Circuit.

The Bluetooth antenna part number is separate from the OnStar module. The Bluetooth antenna must be removed when ordering an OnStar module, as the new module will not come with an antenna attached. Be careful when replacing an OnStar Bluetooth module so the antenna doesn't get damaged.

– *Thanks to Howard Owens*

2-Way Advanced Remote Start

An innovative new 2-Way Advanced Remote Start kit is available for installation in select 2007-08 GM vehicles, including Enclave, Lucerne, Avalanche, Equinox, HHR, Silverado, Suburban, Tahoe, G6, Acadia, Sierra, Yukon, Escalade and H2. The kit includes a receiver (RCDLR), key fob transmitter with LCD display screen, antenna and owner manual.

TIP: Depending on vehicle equipment, the kit may also include a factory style 1-way transmitter, a service part ID label, authorization code to reprogram the vehicle to add remote start (similar to the current remote start accessory kits), a hood latch and a hood switch wiring harness.

TIP: The kit can be ordered through the local Accessory Distributor Installer (ADI) or the dealership parts department.

This upgrade adds functions to the factory keyless entry or remote start systems, and the 2-way feature allows the owner to view various vehicle data on the key fob's LCD display screen.

Availability of features and displays varies by vehicle and other equipment. Depending on model, functions include*:

- extended range remote keyless entry
- extended range remote vehicle start
- door lock/unlock
- power liftgate open/close
- scroll through preset radio stations
- vehicle locator/panic alarm

* A 2-way Advanced Remote Start Vehicle Model/Function Matrix is available on the Accessory Information Center (AIC) via DealerWorld.

And also depending on model, the LCD screen displays:

- fuel level
- tire pressure
- odometer
- clock/remote start countdown timer
- key fob battery life indicator
- visual (and audible) confirmation that key fob commands were received

Transmitter Types

There are three types of 2-Way transmitters, depending on the equipment on the vehicle:

- 4-button with a trunk/liftglass/power liftgate button
- 4-button with a panic button
- 5-button with both a liftglass and a power liftgate button

The appearance of the fob control buttons varies slightly depending on vehicle equipment, but basically all fobs have four or five buttons on the top face and one button on each side. The face buttons control typical remote functions (lock/unlock, start), while the side buttons are used to navigate the various feature menus of the Advanced Remote Start fob (radio, odometer, tire pressure, fuel level, etc.).

Owner Benefits

The 2-way fob has an operating range up to three times as far as the factory installed system. It is able to pre-heat or pre-cool the vehicle interior (when temperature is pre-set). It can be programmed to control a second vehicle that is also equipped with the 2-Way Advanced Remote Start system. And factory key fobs remain operational if reprogrammed (except HHR and G6; the kits for these vehicles include one new factory-style key fob to replace the factory fob).

Installation Tips

Estimated installation time runs from 1.1 to 2.3 hours, depending on the vehicle. Installation instructions are not in the kits. They are available on SI. There is an Accessory Installation Manual for each vehicle.

The installation involves replacing the RCDLR on the vehicle with the 2-Way RCDLR and installing the antenna in a

Reprogramming Procedures

– Sensing & Diagnosing Module (SDM) and Passenger Presence Module (PPS) SDM Module

Before reprogramming or replacing the SDM module, be sure the condition is irreparable by known diagnostic procedures in SI. Replace the SDM only when DTC B1000 sets. Other faults can be addressed by reprogramming the module.

In the event SDM module has to be reprogrammed, use this procedure.

1. Key ON, engine OFF. Program the SDM using SPS.
2. Key OFF and then ON. Airbag Light SIR indicator should flash when reprogramming is successful and there are no DTCs.
3. Using a scan tool, perform setup SDM Primary Key in BCM special functions module setup.
4. Using a scan tool, perform Setup New SDM in special Functions in the SDM.
5. Key OFF and then ON. Verify no DTCs are present. If present, repair and then clear faults.

PPS Module

Due to the sensitive data and software operation, PPS modules can be reprogrammed only in special circumstances. However common faults can be fixed by diagnosing the condition and by module reset. Detailed procedures on how to repair PPS module conditions are available in SI.

In the event PPS has been replaced or SI instructs to reset (Rezero) the PPS module, use these steps.

1. Empty the front outboard passenger seat.
2. Verify that all SIR and PPS components, connectors, and connector positions assurances (CPAs) are properly connected.
3. Install a scan tool.
4. Turn on the ignition, with engine OFF.
5. With a scan tool, clear DTC B0081 4B if present. Perform a Passenger Presence Rezero or Preload procedure based on SI and scan tool instructions.
6. If the test fails, adjust the seat trim, massage the seat surface to ensure even pressure across the seat sensor pad. Repeat the Passenger Presence Rezero or Preload procedure.

IMPORTANT – Service Programming System (SPS) maybe required on some vehicles to unlock PPS modules before Rezero or Preload procedure is done. SPS should be used when the PPS module locks upon unsuccessful attempts to rezero or preload.

– *Thanks to Reuben Wanjala*

location specific to each vehicle make/model. The antenna is mounted with double-sided adhesive tape, which requires one of the following adhesion promoters (not included in the kits).

Promoter	GM p/n 12378462
	Canadian p/n 10953554
Glass Primer and Adhesion Promoter	GM p/n 12378555
	Canadian p/n 88901239

TIP: The antenna mounting location described in the instructions is very important for achieving the transmitter's optimal operating range and tire pressure sensor receiving performance of the system.

Programming Tips

The 2-Way RCDLR is programmed using SPS. This is common with how Omron RCDLRs are set up, but not common with how Lear RCDLRs are set up. For most vehicles, there is a series of questions that need to be answered about the vehicle to narrow down the correct calibration file. Options that the system cares about are steering wheel remote controls (UK3), power liftgate (E61) and radio option for fullsize trucks.

One of the questions for the full size pickups only is whether the vehicle has the Tire Pressure Monitoring System (not on some heavy-duty dually pickups). If you incorrectly answer that the vehicle doesn't have TPMS, the IPC TPMS telltale will be illuminated, but there will be no DTCs in the 2-Way RCDLR.

Service Tips

Because the 2-Way RCDLR replaces the regular production RCDLR, service of RCDLRs in the future will require determining which part to order for replacement:

- an RCDLR from the regular production section of the catalog (Group 16)
- or the Accessories 2-Way RCDLR from the Accessories section of the catalog (Group 21).
- or a 1-way transmitter from the Accessories section of the catalog (Group 21).

Identification Tips

The 2-Way RCDLR has a bright yellow label on it.

The Tech 2 shows "Code" as the supplier of the RCDLR under the Module ID information.

The 2-Way transmitter is a positive indicator that the vehicle is equipped with the optional system, but if the customer brings in only the factory-style transmitter, the vehicle could still be equipped with a 2-Way RCDLR. A SPID label indicating that the 2-Way Advanced Remote Start system has been installed on the vehicle is included in the HHR and G6 kits.

Operating Tips

The 2-Way Advanced Remote Start owner manual states that the transmitter's odometer display is accurate within one mile, and the clock is within a couple of minutes. The odometer should normally not differ from the IPC. Differences are slightly more probable on Acadia and Enclave.

The fob clock will likely be one minute behind the clock on all applications. When the fob synchs with the vehicle, it gets only the hour and minute information, not the seconds, and it assumes that there are zero seconds. This, combined with the fact that some radios send time of day as exactly one minute behind what is on the display, will cause the clock to be two minutes behind on some vehicles. This is normal operation.

The fob fuel level display is approximate (only shows 5 bars) so it does not exactly represent the IPC fuel gage pointer position. The point at which a particular bar will disappear will be consistent for the life of the vehicle, but may differ from a vehicle of a different model. For instance, if the 2-way fob is used for two different vehicles, there may be discernible differences when compared to the IPC fuel gages.

– *Thanks to Joyce Henk and Sharon Folts*

Floor Mat Does Not Lie Flat

This information applies to the 2007-08 Acadia and OUTLOOK and the 2008 Enclave. According to bulletin 07-08-110-001A, the 2nd or 3rd row floor mat may not lie flat.

The floor mat retainer posts may be located too close together, so the post and retainer in the mat do not align.

Gently pry apart the appropriate retainer from the underside of the mat. Enlarge the cutout in the mat a maximum of 0.12–0.16 in (3–4 mm) to allow the retainer to shift the amount necessary to align to the post spacing.

IMPORTANT: Be sure to enlarge on the proper side of the cutout.

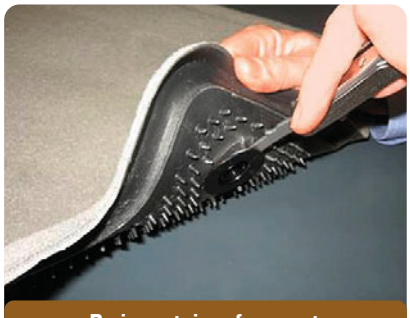
TIP: In some cases, all cutouts may need to be enlarged.

Reassemble the retainer to the mat. Before pressing the two halves of the retainer together, apply a thin coat of Instant Gel Adhesive, p/n 12345632 (10953475 in Canada) or equivalent, to the inside flange of the lower piece. This will secure the retainer to the backside of the mat and prevent movement of the retainer.

– *Thanks to Gary McAdam*

Post and retainer misaligned

Enlarging opening in mat



Prying retainer from mat

Adhesive on lower retainer

Car Issues – Fix It Right the First Time

Model Year(s)	Vehicle Line(s) / Condition	Do This	Don't Do This	Reference Information / Bulletin
2004-08	AURA, Malibu, G6 – Clunk/knock/rattle noise from front of vehicle when driving/turning over bumps at low speeds	Lubricate intermediate shaft	Don't replace intermediate shaft	06-02-32-007C
2006-08	All except Saturn and Saab – Replacing batteries on vehicles in dealership inventory	Maintain battery for vehicle in inventory	Don't allow battery to discharge through lack of maintenance	
2007-08	AURA – IP compartment door not closing	Replace I/P storage compartment latch	Don't replace complete knee bolster	07-08-49-021A
2004-08	Corvette, XLR – Rear axle clunk and/or chatter type noise on turns	Drain and fill rear axle using Dexron LS gear oil	Don't replace differential clutch discs or remove axle covers	07-04-20-002A
2007-08	Cobalt, G5 – TCC surge or chuggle	Clear adaptives	Don't replace converter, transmission, valve body or PCM	PIP4314C
2004-07	Aveo/Wave – Oil leak at front of engine	Replace with improved gasket	Don't replace oil pump	07-06-01-012A
2006-08	Lucerne, Monte Carlo, Impala – SIR Light On, DTC B1019	Reprogram IPC with latest software	Don't replace SDM, passenger presence indicator or passenger occupant sensor	07-09-41-008A
2006-07	HHR – Front and rear carpet wet, water/blower motor inoperative	Inspect HVAC case cover butyl patch for incorrect installation or warping	Don't reinstall old butyl patch using RTV	07-08-57-001A
2006-07	Lucerne – Poor headliner fit in rear	Repair headliner	Don't replace headliner	PIC4189
2006-07	Lucerne – Front or rear door trim panel/map pocket squeaks	Install new retainers	Don't replace door trim	06-08-64-034
2004-07	SRX – Turn signals flash fast/front turn signal inoperative	Bulb and socket for turn signal are available separately	Don't replace complete fog lamp assembly	Parts Catalog

Truck 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	Enclave, OUTLOOK, Acadia – Squeak noise on brake apply/release	Replace brake fluid with revised fluid	Don't replace brake booster, master cylinder or brake pedal assembly	08-05-22-002
2007-08	Tahoe, Yukon, Escalade, Avalanche, Sierra, Silverado – Squeaking/itching in upper door area	Clean top of door frame and install 3M Squeak Reduction Tape	Don't replace upper door sill	06-08-64-035D
2006-08	Colorado, Canyon, H3 – Loose module, broken tab under passenger seat	Reattach ECU with 3M two-way tape	Don't replace ECU and seat sensing pod assembly	08-08-50-003
2007	Acadia, Enclave, OUTLOOK – Power driver seat jerks when moved	Burnish track by moving seat forward and rearward 30 times with heavy load	Don't replace seat track	07-08-50-016
2003-07	Kodiak, TopKick, HTR, HVR, HXR – Arm rest being pulled off door	Replace armrest and install improved fasteners	Don't replace door panel assembly or reuse old fasteners	07-08-64-016
2007-08	Fullsize utilities – Apparent steering rack leak may be excess fluid	Determine source of leak	Don't replace power steering rack	07-02-32-002C
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	Silverado, Sierra – Service 4WD message, DTC B2725	Replace IP switch	Don't replace transfer case module	PIP4101
2007	Fullsize utilities – Passenger airbag door not flush with IP	Reposition locking tabs	Don't replace passenger airbag	06-09-41-004B

Know-How Broadcasts for June

10208.06D Emerging Issues	June 12, 2008	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 John Miller