TECHlink

GM

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A Monthly Publication for GM Dealership Service Professionals

Terminal Repair Kit Update J-38125-710

This continuing information will help you understand the J-38125-D Terminal Repair Kit and use it more effectively. This information supplements the Tech-Link article published in September 2002.

Some Definitions

An electrical terminal is the formed metal attached to the end of a wire to provide electrical connection with another wire or with a component.

Groups of terminals are organized into molded plastic blocks called connectors.

Groups of wires, with their terminals and connectors, are gathered into wiring harnesses.

Production vs. Service Terminals

TIP: There are differences between production terminals and service terminals. A single service terminal may replace several production terminal numbers.

Service terminals are chosen so the crimp wings fit the crimp tools in the

J-38125-D kit. You should use the crimp matrix in the Terminal Repair Kit instruction book for best results.

Service terminals may have more tin or gold content than the production terminal.

Service terminals may have a higher contact force than the production terminal. In the assembly plant, where actions are repetitive, connector assembly effort is an issue that does not come up in service.

Where Do Service Terminals Come From?

Service terminals are NOT available from GMSPO. A parts bulletin IB03-044 has been issued to this effect. There have been many ParTec orders placed in error because of this.

Because service terminals are not stocked by GMSPO, the service terminals in the J-38125-D Terminal Repair Kit have supplier part numbers.

All service terminals and all components and tools of the J-38125-D Terminal Repair Kit should be ordered from SPX (Kent-Moore) at 1.800.345.2233.

It is important to keep the complete J-38125-D Terminal Repair Kit in proper order and stocked with terminals and tools, as more wiring suppliers make their appearance in GM vehicles.

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Techline News

VCI Number

Let's begin with a definition. A Vehicle Configuration Index (VCI) is a number assigned to a valid calibration or group of calibrations for each module for a specific vehicle that is programmed using the Service Programming System (SPS). Each VCI represents a specific vehicle configuration. Multiple VCI numbers can be assigned to the same Vehicle Identification Number (VIN) based on the number of SPS programmable modules on the vehicle. When programming using a VCI number, keep in mind that it is valid only for the vehicle and control module that it is issued for, and cannot be used to program another vehicle with the same configuration.

TIP: Also VCI numbers will always take you to the latest calibration or group of calibrations available in TIS.

When the vehicle leaves the assembly plant, a database has already been created for it. This is called the "as-built" data. At that time, VCI numbers are assigned to each VIN and control module based on variables such as engine type, transmission type, tire size, axle ratio, etc.

If a dealer adds certain equipment to a vehicle, or changes certain equipment on a vehicle, the "as-built" data are no longer representative of the vehicle. So, it is necessary to obtain a new VCI number to represent the "as-is" content of the vehicle. An example is installing an optional wheel/tire size.

TIP: It is necessary to call the Techline Customer Support Center (TCSC) at 1.800.828.6860 to change a vehicle's VCI.

TIP: For a given vehicle, it is possible to obtain VCI numbers only for combinations of components and specifications approved by General Motors.

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TECHlink GM

Contents

GM Service and Parts Operations

Fuel Sender Lock Rings

GM Fuel Systems has developed a common fuel sender closure (lock ring) which will be implemented on most GM vehicles beginning in model year 2004.

The tool needed to properly service this closure is J-45722.

Because the removal and installation forces are higher than typical, use a long breaker-bar with J-45722. Have an assistant secure the fuel tank if necessary.

Lock Ring Remover/ Installer J-45722

TIP: The lock ring and tool will rotate approximately 16 degrees. Ensure that the J-45722 is positioned so as to prevent damage to the fuel sender when unlocking or locking the system.

TIP: Any time the fuel sender closure is opened, the fuel sender closure seal must be replaced.

SI procedures are being revised to reflect this change.

- Thanks to Kevin Willcock

Wiper Blade Optimizer

Effective immediately, the assembly plant will be putting two Optimizer pads in the glove compartment of each 2004 Venture, Silhouette, and Montana.

The Optimizer is a wiper blade element cleaning pad. It uses a specific Isopropanol-based formula to remove wax, dirt, and other contaminants from the wiper blade element.

Wiper blade elements all contain wax in the rubber to prevent cracking or deterioration under the effects of ozone, heat and sunlight. It is normal for some of this wax to slowly bleed out over time.

TIP: The wax-removing, cleaning effect has the most impact when performed just before delivery of the vehicle to the customer. Because the PDI process may be done well in advance of delivery, please ensure that this wiper blade cleaner is applied during the final wash and prep just before delivery.

- Thanks to Tom Geist

Elimination of LH Hood Assist Rod

The number of hood assist rods has been reduced from two to one on the 2004 Cadillac CTS. Vehicles built after VIN breakpoint 40137492 will feature a high pressure single hood assist rod located on the RH side.

TIP: Any attempts to modify or add an additional hood assist rod could result in damage to the vehicle.

- Thanks to Terry Bordeau

XLR Keyless Ignition

The Cadillac XLR keyless access system 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.

Key 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

- 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.

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.

It is imperative that you press ACC again to turn the ignition off.

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

- Thanks to Brad Thacher

GM TechLink

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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Terminal Repair Kit Update J-38125-710 — from page 1

How Are Terminals Organized in the J-38125-D Terminal Repair Kit?

There are five Wiring Suppliers for GM Power and Signal Distribution (PASD) systems:

- AFL
- Delphi
- Lear
- Sumitomo
- Yazaki.

These five supply the wiring used in North American-engineered platforms.

The J-38125-D Terminal Repair Kit was originally a Delphi terminal repair kit only. There are now Delphi trays, Lear trays, Sumitomo trays and Yazaki trays, with AFL to be added in 2005.

The 2003 Up-Date (J-38125-710)

You have just received the 2003 J-38125-710 up-date to the J-38125-C Terminal Repair Kit, making it now the J-38125-D Terminal Repair Kit.

This is perhaps the largest up-date to the base J-38125 Terminal Repair Kit to date. The reason is to add all the new service terminals now in GM vehicles that have not been serviced since 1998.

The up-date consists of eight new trays of terminals, numbered 7, 14, 15, 16, 17, 18, 19 and 20. Tray 7 has been filled with new terminals and replaces the existing Lear tray 7.

TIP: You may want to organize your Terminal Repair Kit by supplier (without regard to tray numbers): e.g. Delphi, Lear, Sumitomo and Yazaki.

You will also receive three new terminal release tools. The J-38125-24 green tool is for a very small Tyco terminal found at some sunroof and door modules. The J-38125-211 blue tool is for a JAE terminal found in some steering column connectors. The J-38125-212 green tool is for a Tyco male JPT terminal found in some engine harnesses.

There four cable seals to add to Yazaki tray 13.

The reference guide is completely new and has a complete inventory of the J-38125-D Terminal Repair Kit.

Additional guides can be ordered from SPX (Kent-Moore) under p/n J-38125-620.

Finally, there are new tray labels for the first five Delphi trays and Delphi tray eight.

Setting Up Your Trays

Take your time getting the old labels off, cleaning the tray lids and carefully positioning the new labels on the tray lids so the terminals are correctly identified.

These new tray labels are very important, because a number of old terminals have been replaced or deleted. The new tray labels provide two pieces of information.

- The new service terminal part number.
- The tray in which it is stocked.

There is also a small stick-on label for tray 13, identifying the new cable seals in this up-date.

The metal cabinets that hold the terminal trays can also be ordered from SPX (Kent-Moore) under p/n J-38125-610. The J-38125-710 up-date will fill four of these cabinets. If you have some of the tool trays, you may need a fifth cabinet. You can use tool trays to hold the terminal release tools and Ultratorch.

A Word About the Terminal Test Kit J-35616-B

A number of test probes are added to the J-35616-B Terminal Test Kit, due to the number of new terminals in the J-38125-D Terminal Repair Kit.

There has never been a good way of relating any given terminal to its proper test probe. So with this up-date, all terminal descriptions will have within them a terminal size: e.g., M/P 150 series male. The 150 will now relate directly to a 150 test probe. The test probe will be called the 150 male probe adaptor – gray.

All the test probes will be renamed and a new label will be sent with the up-date for the J-35616-B Terminal Test Kit in 2004.

J-35616-B Terminal Test Kit

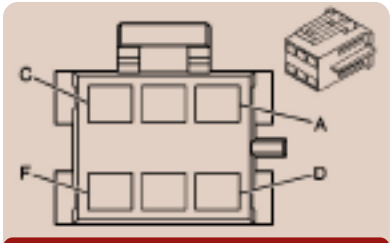
The J-35616-B Terminal Test Kit will then become the J-35616-C Terminal Test Kit.

What's Coming?

Under consideration for 2004 is an AFL service terminal tray, along with new Sumitomo service terminals to the existing Sumitomo tray 6. Additional Sumitomo trays may be added at that time.

There should not be a need for any new crimp tools in 2004.

Information included in SI is being revised. A pilot for a new connector end view is planned for the '04 Cadillac XLR service information. This connector end view will give you the service terminal number that is in the J-38125-D Terminal Repair Kit.



Connector end view

TIP: The new connector end view will for the first time give you the real connector or pigtail part number, which is stocked by GMSPO. This connector end view may take some time to make its appearance in all the service information, but every effort is being made to do so.

- *Thanks to John Roberts and Jim Willockx*

Techline News — from page 1

Important Benefit of the VCI Number

The VCI concept provides an important benefit to dealers: the reconfiguration history of a vehicle does not need to be known before programming. It works like this. If a vehicle's content is changed, requiring module reprogramming, a different VCI number is needed before the Techline terminal and Tech 2 can be used. Only TCSC can issue VCI numbers. When TCSC issues a new VCI number for a vehicle, the changes made to the vehicle now become a part of the vehicle's VIN data record. Once the database has been updated, subsequent Techline releases will contain the new information and a VCI number will no longer be required.

20 Inch Wheel and Tire Example

As explained in the January 2004 issue of TechLink, Chevrolet and GMC dealers can now obtain accessory wheels and tires from SPO and install them on certain trucks. Refer to bulletin 03-03-10-006 for specific details and exceptions.

Because these wheels and tires are larger than the standard ones, it is necessary to recalibrate the PCM and ABS modules.

In order to reprogram the PCM, a new VCI number must be input. The dealer has to call TCSC to obtain it. At that time, TCSC modifies the vehicle's database to reflect the new wheel and tire size.

IMPORTANT: Because this is not a warranty procedure, but is customer paid, TCSC charges a fee for this service.

TIP: In the future, if original equipment size wheels and tires are again installed on the vehicle, it is necessary to contact TCSC, to obtain the necessary VCI number to recalibrate the vehicle again.

- *Thanks to Dave Puzzuoli and Mark Stesney*

3.6L V-6 VVT Engine (RPO LY7)

For 2004, GM Powertrain has introduced an all-new 60° DOHC V-6 engine. It will initially be used in the Cadillac CTS and SRX and the Buick Rendezvous. This engine offers contemporary world-class features:

- all-aluminum construction
- dual overhead camshafts (DOHC)
- 4-valves per cylinder
- roller-finger follower valvetrain
- continuously variable cam phasing
- electronic throttle control
- forged-steel crankshaft
- piston-cooling oil jets
- Oil Life System
- 32-bit microprocessor
- coil-on-plug ignition

Design Philosophy

This 60° DOHC V-6 engine was developed by GM technical centers in Australia, Germany, North America and Sweden for global application in premium and high-performance vehicles. It applies the most advanced technology available. The modular design assures multiple displacement, configuration and content possibilities. The result is an engine that delivers good specific output, high torque over a wide rpm range, fuel economy, low emissions, excellent noise, vibration and harshness (NVH) control, durability, and low maintenance requirements.

Although the initial offering will be 3.6L displacement, variants can be manufactured in 2.8L, 3.2L and 3.8L sizes. Power will range from 200 to 370 hp, while torque will run from 200 lb-ft to more than 350 lb-ft. The 3.6L will provide 255 hp and 250 lb-ft of torque.

The engine was designed to be installed in multiple orientations:

- front-wheel drive, typically transverse
- rear-wheel drive, typically longitudinal
- all-wheel drive, either transverse or longitudinal

Manufacturing

The DOHC V6 engines will be built in GM Powertrain facilities in Port Melbourne, Victoria, Australia and St. Catherines, Ontario, Canada. Initially, rear-wheel drive engines will be built in Canada and front-wheel drive engines will be built in Australia.

Block and Heads

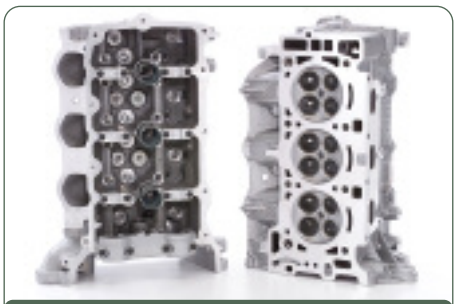
The engine block and cylinder heads are cast of A319 aluminum alloy, for lower weight. This translates to improved fuel economy. Math-based structural analysis permits maximum performance and durability with minimum mass.

Cast aluminum block

The block is cast using the precision sand-mold method, with iron cylinder bore liners in place. Precision casting reduces the need for machining, and reduces material waste. Attachment points are included for all drive configurations in all castings, and are machined as needed depending on application.

The 60° cylinder arrangement provides for smooth, vibration-free operation without the balance shafts typically needed in 90° V6s. Vibration is further limited by the deep-skirt design. Sintered steel main bearing caps are attached with six bolts, a premium feature.

The heads are cast in semi-permanent molds. Inlet passages are designed for optimum airflow, for reduced operating noise. Exhaust ports allow maximum flow, while preserving heat for quick catalyst light-off.



Four-valve DOHC heads

Valvetrain

The LY7 has fully variable valve timing for both intake and exhaust.

Variable valve timing with hydraulic phasers

This electronically controlled, hydraulically operated system places a phaser on each of the four camshafts. The phaser enables changing the timing of the camshaft relative to the crankshaft, over a range of 50° of crankshaft rotation. Fixed camshafts compromise between smooth idle, good low-rpm torque and high-rpm power. Variable camshaft timing accommodates the sometimes divergent needs for power, driveability, economy and emission control.

At idle, the exhaust cams operate at full advance, for minimum valve overlap. Optimizing valve overlap eliminates the need for a separate exhaust gas recirculation (EGR) system and air injection reaction (AIR). By closing the exhaust valves late, at the appropriate times, the desired amount of exhaust gas is forced back into the combustion chamber for burning in the next cycle.

The camshafts are driven by a roller chain. A hydraulically operated tensioner keeps proper tension on the chain, even as it stretches with mileage (a normal occurrence in all chains), which eliminates need for periodic replacement or adjustment.

The cams operate directly on roller-finger followers, which actuate the valves. Hydraulic lash adjusters provide automatic adjustment.

Valve train, showing roller-finger followers and hydraulic lash adjusters

TIP: Setting the camshaft timing is necessary whenever the camshaft drive system has been disturbed such that the

relationship between any chain and sprocket has been lost. Even when only one sprocket is involved, multiple crankshaft rotations will not produce conditions where correct timing can be confirmed. Refer to the complete procedure in SI. Follow the left bank secondary camshaft drive chain replacement procedures to reset the camshaft timing.

Variable Intake Manifold and Electronic Throttle

The variable cam timing is supplemented by a dual-stage variable intake manifold (VIM). When the VIM switch is shut, at low and mid speeds, the cylinders feed from two separate plenums. At higher speeds, the switch opens, causing the cylinders to feed from a single common plenum, boosting cylinder charging. Because the intake runners are all precisely the same length, airflow is consistent to all cylinders. This reduces the intake noise sometimes associated with high-revving engines.

Variable intake manifold with two-stage switch

The electronically controlled throttle (ECT) eliminates the traditional throttle cable between the pedal and the throttle body. Driver input is registered by a throttle position sensor at the pedal, and precision throttle rate and angle are provided by a computer-controlled stepper motor. The ECT also incorporates cruise control, which eliminates components, wiring, and complexity.

Electronically controlled throttle

Pistons and Crankshaft

Pistons are manufactured of forged aluminum, which is lighter than conventional steel pistons. Reduced mass provides greater operating efficiency and reduced noise and harshness.

The full-floating 24-mm wristpins are retained in the pistons by snap rings, but are otherwise free to float in both the piston and connecting rod. This permits tighter tolerances and reduces friction and operating noise.

Pistons are coated with polymer, applied to the skirts. This reduces bore scuffing, despite reduced piston-to-bore clearances.

An oil jet sprays the underside of each piston and surrounding cylinder wall, for reduced friction and extra cooling.

Piston with full-floating wristpin

Oil jet

The crankshaft is forged steel, which is inherently stiffer than cast iron, for reduced vibration. The crankshaft sprocket is cushioned with a molded-rubber ring. And the crank seals are made of Teflon, which is impervious to oil and gases.

Forged steel crankshaft

Powertrain control module

Electronics

A single microprocessor, mounted directly to the engine, manages numerous functions:

- cam phasing
- electronic throttle
- torque management
- fuel injection
- ignition and knock sensors
- variable intake manifold

At the heart of all this electronic wizardry is a sate-of-the-art 32-bit, 25 MHz microprocessor, the most powerful in use in the industry.

All electronic circuitry is embedded in a 4-layer sandwich substrate. This drastically reduces size and offers increased durability. It can withstand temperatures of 230°F and vibration up to 30 g, allowing it to be attached directly to the engine. This simplifies wiring, with fewer junctions. It also frees space in the vehicle, and simplifies assembly at the plant.

Maintenance Requirements

Despite its sophistication, the LY7 engine requires surprisingly minimal maintenance. The cam drive, cam phasing and valvetrain components require no scheduled maintenance. Cam tensioner, cam phasing components and valve lash adjusters ensure optimal valvetrain performance for the life of the engine with no adjustment.

Spark plugs have dual-platinum electrodes, for a service life of 100,000 miles without spark degradation. Even so, the plugs are easily removed from the center of the cam covers. There is a separate ignition coil mounted to each spark plug.

Spark plugs and coils mounted in center of cam cover

Extended life coolant retains cooling and corrosioin-inhibiting properties for 100,000 miles of normal use. And the two accessory drive belts, manufactured of EPDM, using a lapless method, are also intended to last 100,000 miles.

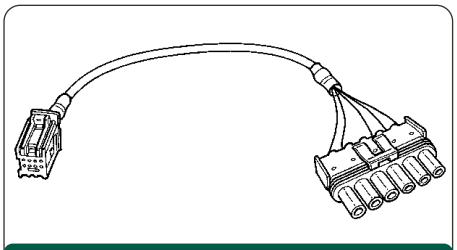
An oil level sensor advises the driver if the oil level drops below a prescribed level. The GM Oil Life System calculates oil life based on engine speed, operating temperature, load or rpm variance, and operation at load and temperature. Oil changes are recommended when they are actually needed. And when an oil change is performed, only the cartridge, not the entire filter, needs to be changed.

- Thanks to Ron Caponey

Electric Power Steering Diagnosis

This additional information pertains to the Electric Power Steering (EPS) on the 2004 Chevrolet Malibu (see details in the September 2003 TechLink).

The power steering motor and power steering control module (PSCM) are serviced as an assembly, separate from the steering column. This results in the need for a test harness EL-47564 for certain diagnostic procedures, to determine if the PSCM is or is not the cause of the malfunction.

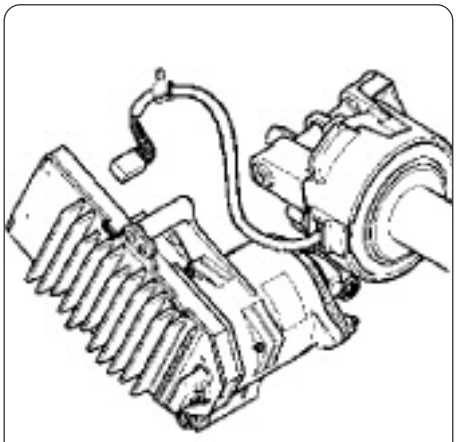


PSCM Test Harness EL-47564

If you are faced with a DTC C0545 (steering shaft torque sensor) or a DTC C0460 (steering wheel position sensor), you will need to use the PSCM test harness when using either of the diagnostic tables. Refer to the appropriate section of SI for details.

Follow this path: > build vehicle > Steering > Power Steering System > Diagnostic Information and Procedures > DTC.

To perform the diagnosis, disconnect the torque/position sensor harness connector from the PSCM. Connect PSCM the test harness. Then, using a 3 amp fused jumper wire, perform the tests listed in the SI procedure, while observing the results on your Tech 2.



Connect PSCM test harness EL-47564 in place of sensor harness

- Thanks to Scott Bower

Exterior Lamp Condensation

Moisture inside exterior lamps continues to be a concern. Bulletin 01-08-42-001A, released in November, defines the causes, and provides guidelines for determining the difference between condensation and a lamp with a water leak.

Refer to the bulletin for details. Here are some of the highlights.

Condensation – Condensation (fog) inside the lamp housing occurs after a period of high humidity, which is an atmospheric condition. The condensation should clear when the vehicle is parked in a dry environment or when driven with the lights on. If condensation occurs, replacing the lamp assembly may not correct the condition.

Leak – Drops of various sizes collecting on the inside of the lens after being exposed to rain or a car wash indicate a leak. Water accumulated from a leak won't clear if the vehicle is parked in a dry environment, or when driven with the lights on. Water accumulation in the lamp assembly indicates a need for service.

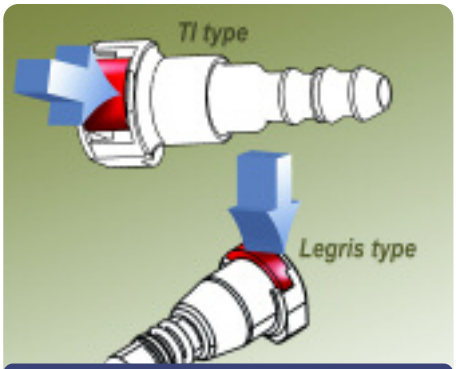
- Thanks to Gary McAdam

Fuel Line Quick Connector

Two new style fuel line quick connects are in use.

The TI Group Global Quick Connector is used on C/K trucks, S/T trucks, Malibu Sedan, Cadillac XLR and the 2004.5 and 2005 Chevrolet Corvette.

The Legris QC is used on Aztek, Rendezvous, Venture, Montana and Silhouette.



Depress with hand pressure only

Release

Both Types – To release the quick connect, push on the retainer using hand pressure only. Do not attempt to remove it

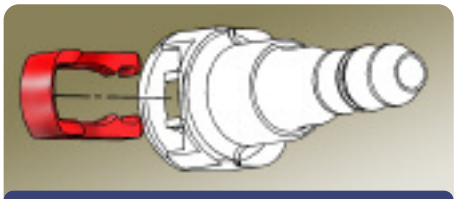
Do not use sharp or pointed objects to put pressure on the connector retainer. Using a tool may fracture the retainer, making it less effective at keeping the connector assembled. Also, attempts to remove the retainer with the line inserted will result in retainer breakage.

5/16-inch	21992748
3/8-inch	22717568
3/8-inch	21992746

TIP: If the connector does not release with hand pressure, thoroughly clean it and blow out grit and dirt with compressed air.

Repair

TI Group Global – If the retainer is broken, it is not necessary to replace the entire fuel line and attached component to repair it. Three sizes of replacement retainers are available.



Replacement retainer available

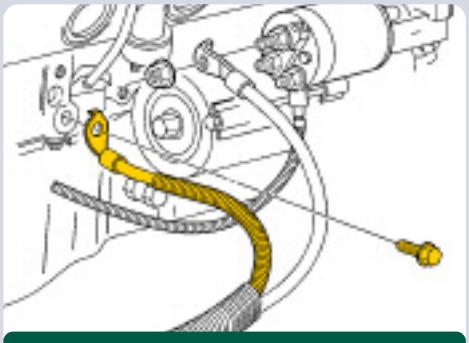
- Thanks to Dave MacGillis

No Crank, No Start

If the owner of a 2004 LeSabre or Park Avenue/Ultra built before December 19, 2003 experiences a no crank, no start condition, check the negative battery cable torque at the engine block. The negative battery cable may be loose or not torqued to specification. The ground location (G101) may not be drilled or tapped deep enough into the engine block to allow the bolt to achieve the recommended torque.

To correct this concern, install a shorter bolt or add two star washers to reduce the height of the bolt.

- Thanks to Bill Metoyer



Bolt at engine block ground G101

original bolt	12556062
shorter bolt	11517862

Quality Service Experience "How-To"

Customers that take delivery of a new vehicle during November and December are eligible to receive a J.D. Power Initial Quality Survey 90 days later. Because the surveys won't reach the customer until February through April, the customer may have the opportunity to return to the dealership for service before receiving their survey. The customer's service experience can positively, or negatively, affect their perception of vehicle quality, so the service department team has the opportunity to influence J.D. Power scores.

It's essential that the customer be provided with an outstanding service experience that exceeds their expectations. This includes:

Providing hassle-free service – Make it easy for customers to do business with you. Do you offer extended service hours? Are you open on Saturdays?

Fixing vehicles right the first time – Use technical service bulletins and Service Information (SI) to identify the correct repair. Pay special attention to the Field Product Reminder - Car and Truck Fix it Right the First Time Issues, Parts Restriction Information and Bulletin Summary bulletin, which is published once a month.

Helping customers understand how vehicle features and controls work – Handle these issues right on the service drive by using the Getting to Know Your Vehicle guides. Are your service advisors trained on new product features, so they can answer customers' questions?

Making each service visit a "non-event" by exceeding customer expectations – An outstanding service experience may more than compensate for the original repair issue. You want your customers to leave your service department feeling completely satisfied.

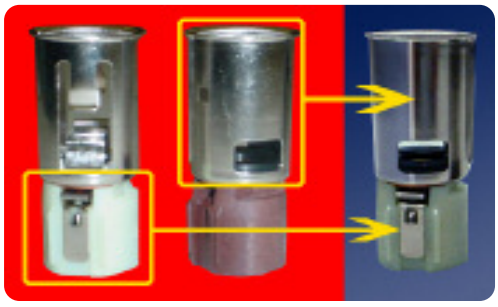
Following-up with customers 2 to 3 days after service – Make sure customers are completely satisfied and understand the repairs that were performed.

Dealer personnel are the last to touch the vehicle and to interact with the customer before they receive a J.D. Power survey, the final link in the quality chain.

- Thanks to Diana Sancya

2004 Cavalier Accessory Power Outlets

Many Cavaliers were susceptible to blowing the cigar lighter fuse when certain power accessory plugs were used in the outlet. For production, Engineering has switched from a cigar lighter housing to an Accessory Power Outlet (APO) on the instrument panel.



Cigar lighters and APOs use different electrical connectors. During the time while the electrial harness was being redesigned, Engineering created a hybrid APO. It consists of the body of a standard APO and the connector base of a cigar lighter housing.

10,500 Cavaliers were built with the hybrid APO (between VIN breakpoints 1G1JC52F947205493 and 232627). After the end breakpoint, the I/P wire harness will be using a universal connector that allows either the APO or the cigar lighter housing to be used.

TIP: The hybrid part will not be available to service. Use only the cigar lighter housing to replace the hybrid.

- Thanks to Ed Kay

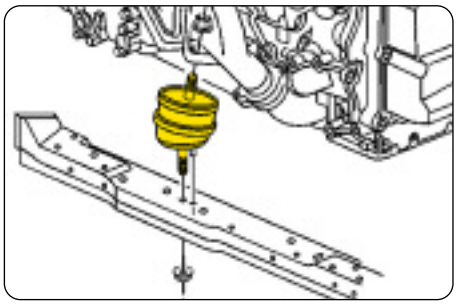
SSR Correction

An article on page 4 of the December 2003 TechLink contained outdated information about the Chevrolet SSR. The corrected information is shown in bold.

Remote Keyless Entry

The Tech 2 must be used for this procedure. When "building" the vehicle, **specify 2003 or 2004 SSR**. Then follow SI procedures to complete the process.

DeVille Engine Mount Replacement



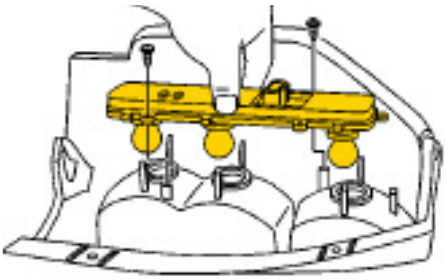
On the 2000-04 Cadillac DeVille, modifications to the front engine mount have resulted in the following changes:

- Front engine mount serviceable as a separate part, without bracket
- Revision of replacement procedure. In SI, refer to Engine Mount Replacement - Front in Engine Mechanical, or document 447931 (MY 2000) or 714354 (MY 2001-04).
- Revision of labor time

Refer to bulletin 03-06-01-029 for complete procedure and details.

- Thanks to Bill Denton

Tail Lamp Circuit Board



Bulletin 03-08-42-006A presents information about the circuit board used in tail lamps of 2002-04 TrailBlazer, Envoy and Bravada, and 2004 Ranier.

A new circuit board is available for repair if diagnosis leads to a failed tail lamp bulb. If the lamp is loose, or the board is failed, install a new circuit board on both sides.

TIP: The preferred bulb is now supplied by Sylvania. Previously, the bulb may have been provided by various suppliers.

- Thanks to Sue Anderson

Part Number	Description
16532713	Tail Lamp Circuit Board – Chevrolet
16532715	Tail Lamp Circuit Board – Oldsmobile/Buick
16532716	Tail Lamp Circuit Board – GMC
12450108	Bulb 3157

Car Issues -- Fix It Right the First Time (new issues in **bold**)

Model Year(s)	Vehicle Line(s) - Condition	Do This	Don't Do This	Reference Information / Bulletin
2003-2004	Cavalier/Sunfire - Grinding noise when clutch pedal fully depressed.	Replace clutch hydraulic line	Don't replace Clutch/Bearing	03-07-31-005 Dated 10/30/03
1997-2004	Grand Am/Alero/Malibu – Brake pulsation	Turn rotor and use brake align procedure	Don't replace rotors for pulsation	00-05-23-002 01-05-23-001 Know How 15040.01B
2003	**DeVille – No Crank/No Start**	**Inspect base of UBEC to ensure wire connectors fully seated, not loose**	**Don't replace PCM**	**03-06-03-009**
2004	**Grand Prix – Steering, suspension or cradle click noise.**	**Re-torque right steering gear mount**	**Don't replace steering gear**	**03-02-32-048 Dated 10/28/03**
2000-2004	**Buick Century and Regal – CJ3 Manual Dual Zone HVAC fan/mode control knob failures**	**Fan and mode knobs are serviceable**	**Don't replace CJ3 HVAC control head for failed knob**	**VSSM BB –12/15/03 Dealer VME 12/15/03 Dealer Bulletin Requested**
2000-2004	**XLR, Impala/Monte Carlo, Grand Prix – Headlamp Replacement for Condensation in Lamp**	**Normal condition when limited to fog or fine mist appearance in high humidity conditions**	**Don't replace headlamp assembly when no water droplets are evident or condensation covers less than 50% of lens**	**01-08-42-001A 11/4/03 Sept 2002 TechLink**
2003-2004	CTS – Variable Effort Steering (VES) "Service Steering Message" DTC C1241 or C0450	Replace VES solenoid only	Don't replace entire steering gear	03-02-36-001
2003	All cars with 4T40/45E, 4T65E and 4T80E – Code P0742	Replace TCC PWM Solenoid	Don't replace transmission or valve body assembly	02-07-30-039B (Part #'s in bulletin have been superceded)
2002-2004	All cars with 4T40/45E and 4T65E – DTC P0716, P0717 and other misc codes	Disconnect, inspect, and reconnect transaxle wiring harness at transaxle	Don't replace input speed sensor	02-07-30-022B (10/03) Sept 2003 Techlink 12/03 IDL
2000 -2004	**NorthStar Crank Sensors -- during limited parts availability period.**	**Replace only sensor that is diagnosised as faulty**	**Don't replace both sensors for insurance**	**Dealer VME Sent 10/03 and 12/03**

Truck Issues -- Fix It Right the First Time (new issues in **bold**)

Model Year(s)	Vehicle Line(s) - Condition	Do This	Don't Do This	Reference Information / Bulletin
2002-2004	**Fullsize and Midsize Pickups and Utilities – Transfer Case**	**Use Labor Operation K9993 whenever transfer case issue cannot be duplicated or resolved after diagnostic efforts.**	**Don't use Labor Operation K9992 (for manual trans) or Labor Operation K9995 (for automatic trans)**	**Service VME VSSM20030117**
1999-2003	Fullsize Pickups – Rear Leaf Spring Slap Noise	Replace inserts and rubber washers	Don't replace leaf spring	03-03-09-002
2002-2004	TrailBlazer, Envoy, Bravada, Rainier with HomeLink Universal Transmitter – Programming Diagnosis	Use J-41540 – GM Integrated HomeLink Tester (essential tool). Follow SI and refer to customers to their Owner's Manual.	Don't replace HomeLink Transceiver without validating internal fault recognized by J-41540	01-08-97-001B
2002-2003	TrailBlazer, Envoy, Bravada – Squeak/Rub/Scrub Type Noise in Steering Column	Lubricate and remove material, per bulletin	Don't replace upper or lower intermediate shaft	02-02-35-006A
2002-2004	TrailBlazer, Envoy, Envoy XL, Bravada, Rainier – Tail Lamp Socket Circuit Board	Replace both tail lamp circuit boards	Don't replace complete tail lamp assembly	Service VME, 9/22/03 03-08-42-006A
2003-2004	Fullsize Pickups and Utilities – Servicing Wide Load Mirrors (RPO DPF)	Replace individual parts as needed	Don't replace complete mirror assembly	03-08-64-028
2003	Fullsize Pickups and Utilities – Transfer Case Service Light/New Venture Gear Transfer Case	Verify that encoder motor is primary cause. Replace encoder motor sensor and reprogram TCCM	Don't replace module, encoder motor or transfer case for DTCs C0327, P0836, P0500	03-04-21-001D
2003	Fullsize Pickups – 6.6L Diesel Engine ECM	Follow SI and bulletins for proper diagnostics for P0181. Refer to the Owner's Manual (block heater and front cover)	Don't replace ECM (DTCs P0540 and P0181) unless diagnostics confirm need to replace	02-06-04-048, 03-06-04-021, 02-06-04-058
2002-2004	TrailBlazer, TrailBlazer EXT – Wavy Front Fascia	Repair fascia with Dual Lock	Don't replace front fascia	02-08-62-004
2002-2004	TrailBlazer, Envoy, Bravada – Mirror Erratic Return	Replace mirror actuator and reprogram module	Don't replace outside mirror assembly	02-08-64-008 02-08-64-021

Know-How Broadcasts for March

10280.03D Emerging Issues	March 11, 2004	9:00 AM, 12:30 PM, **3:00 PM** Eastern Time
10280.15D Envoy XUV Water Management	March 25, 2004	9:00 AM, 12:30 PM, **3:00 PM** Eastern Time

Note Time Change

IDL

– Thanks to Tracy Timmerman