

## Chevrolet Equinox Pre-Delivery and Unique Service Features



To help understand the unique service features of the new 2005 Chevrolet Equinox, refer to bulletin 04-00-89-006. It provides the complete pre-delivery procedure and important service tips. Here are some highlights.

### Quality Pre-Delivery Inspection

**TIP:** A quality pre-delivery inspection is your dealership's first contact with a new vehicle. And, it's your first opportunity to influence the customer's perception of your dealership and increase their satisfaction with the new vehicle.

Be sure two **keys and fobs** are included with the vehicle.

Ensure that the following **loose items** are fitted to the vehicle:

- Floor mats
- Antenna
- Front license plate bracket

As soon as the vehicle reaches the dealership, remove the **protective film** from:

- Front and rear fascias
- Mirrors
- Rocker panels

The vehicle is shipped with extra air in the tires. Adjust **tire pressure** to 30 psi (207 kPa). The tire pressure label is located at the bottom of the driver side B-pillar.

Where required, install the **front license plate hardware**. The front fascia has two locating dimples for this purpose.

### Unique Vehicle Characteristics

There is **airflow from the outer HVAC vents** in all modes, to improve side window defogging.



Equinox instrument panel layout

The Equinox is available with both FWD and AWD drivetrains. Some Equinox models have a **traction control**

continued on page 4

### Techline News

#### Business Grade PC Specifications

A TechLink article in Dec. 2003 mentioned that GM Service Operations is ending support for Windows 98, Millennium and NT operating systems, effective January 15, 2004. For this reason, many dealers are upgrading and adding PC equipment.

The right PC is as important to a technician's efficiency and productivity as having the right tools in the toolbox. Because it's important that dealers purchase the correct type of PC, here are some reminders.

**TIP:** Refer to Hardware Specs at <http://service.gm.com> for additional information on minimum and recommended PCs.

Unlike a consumer grade PC, a **business grade or commercial PC** is specifically configured for use in a business network environment. PCs in this class have components designed and supported for use in a network environment. Additionally, they have greater life cycle stability due to designed-in serviceability. Techline applications will not function properly on typical non-business grade hardware designed for home use.

Although consumer grade PCs may have a more attractive price, their limitations far exceed their initial cost savings, making them not much of a bargain in the end.

continued on page 2

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### Characteristics of Business Grade PCs

- Extended product availability cycles
- Built using same components for generally 3 to 6 months
- Ease of serviceability of internal components
- Preloaded with business software
- Network manageability, utilizing industry standards to manage setup and maintenance

### Characteristics of Consumer Grade PCs

- Designed with multi-media hardware features used for gaming, video, music
- Preloaded with multi-media software designed for entertainment
- Multi-media software can cause conflicts with Techline application software
- Not assembled with same internal components through product build lifecycle
- Validation for Techline applications impossible, due to inconsistent internal component build
- Designed for home networking configurations
- Preloaded with internet-ready configurations designed for the home user

### TCSC PC Support

Validated PC platforms (i.e., HP d530,

IBM NetVista, Dell Optiplex, and Gateway E Series) receive full hardware and software support.

Any PC that meets the minimum hardware spec (P III 600 MHz, 128 MB RAM, WIN 2000 or XP Pro, serial port, IE 6.0, HD 20 GB) but is a non-validated hardware platform will receive support for the Techline applications only. Support ends if the problem is determined to be hardware related.

**TIP:** AMD and Intel Celeron processors are non-supported hardware. Service Programming Systems (SPS) does not function reliably with typical Celeron and AMD processors. When a Techline PC is interfacing with the Tech 2, the bilateral communication rate and data transfer speed is critical for SPS to function successfully. These processors have proven unreliable in this process.

Dealers with PCs that do not meet minimum spec requirements are asked to replace the PC or upgrade the operating system.

Before making a PC purchase, please contact your Regional Techline Field Consultant (TC) to ensure your PC meets or exceeds the recommended specifications. TC contact information can be found at <http://service.gm.com> under the Techline tab, or call the Techline Customer Support Center at 1.800.828.6860 for additional assistance.

- Thanks to Mike Waszczenko and Shawn Sullivan

## XLR Electrical Switches

Several electrical switches have been replaced unnecessarily on 2004 Cadillac XLRs.

### Traction Control Switch

The traction control switch on the center console is a typical rocker switch, intended to rock in only one direction. To turn traction control off, press the switch. To turn traction control on again, press the switch again.

**TIP:** Do not replace the switch if the customer is concerned that it rocks in only one direction. This is as designed.

Be sure you also understand the following traction control operating conditions, to avoid unnecessary service.

**TIP:** When traction control is turned OFF, a traction control warning light is illuminated. The light is NOT illuminated when traction control is enabled.

**TIP:** Traction control is re-enabled automatically each time the ignition is turned on, even if it was manually turned off during the last ignition cycle.



### Power Window Switch and Module

The following is normal operation, and is not reason to replace the switch or module.

If the window module sees voltage below 8v, it will set a DTC B1327 and the window will not operate.

**TIP:** The DTC will not clear unless voltage is increased above 9v.

Once the battery is charged, or the engine is started, the DTC will clear and the window will operate.

**TIP:** When voltage raises above 9v, the DTC will move from current code to history code.

If you replace the module (which is not at fault) and then the voltage is raised above 9v, it will look like replacing the module fixed the "problem," when actually there was no problem, other than low voltage.

When the warranty claim is reviewed, if no trouble is found with the replaced part, it will be charged back to the dealer.

- Thanks to Brad Thacher



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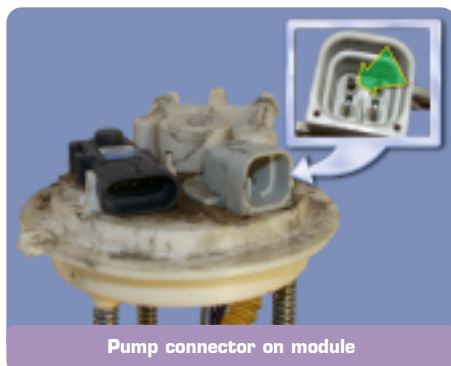
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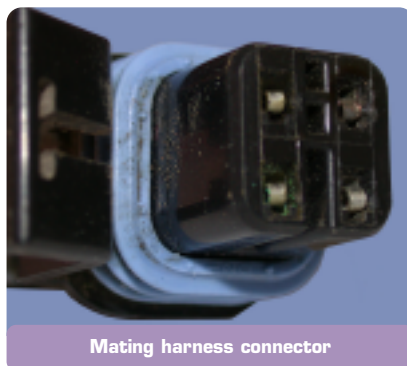
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## Modular Fuel Pump Terminals



Pump connector on module



Mating harness connector

This diagnostic tip applies to modular fuel pumps on C/K pickup, S-truck, Cavalier, Sunfire and Malibu.

Before condemning a fuel pump, check the terminals in the wiring harness connector and in the connector on the pump module. If a harness terminal is spread apart, it will cause excessive resistance, which leads to overheating of the terminal.

If you discover this condition, replace the harness connector and terminals with the appropriate service pigtail, available from GMSPO.

- Thanks to Dennis Kissack

## Using Anti-Rotation Pin

Most GM vehicles are equipped with a steering column that can be locked using special tool J-42640 (anti-rotation pin). The pin fits into the bottom of the steering column lower shroud.

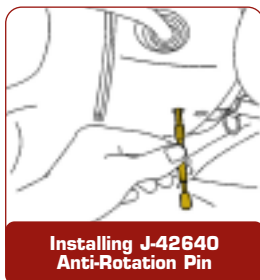
The J-42640 must be installed whenever:

- the steering column is removed from the vehicle
- the intermediate shafts are disconnected
- wheel position sensor, steering wheel or SIR coil is removed.

Failure to lock the steering column could result in damage to the SIR coil.

**IMPORTANT:** Do not tilt the steering column with the J-42640 pin installed. Tilting the steering column with J 42640 installed may cause damage to the steering column or instrument panel lower trim panel.

**IMPORTANT:** You **MUST** perform all of these steps to ensure that the intermediate shaft does not become misaligned or the SIR coil become uncen-



tered. Failure to do so may cause damage to the SIR coil.

1. Position the wheels of the vehicle straight ahead.
2. Turn the ignition switch to the Lock position.
3. Install J 42640 (anti-rotation pin) to the steering column, if it has an access hole in the lower shroud, to lock the steering column shaft.

4. Make an alignment mark on the intermediate shaft to the steering column, gear, or connecting shaft (upper to lower), to aid in re-installation.

**TIP:** Some steering columns do not offer any external locking features. On these vehicles, be careful to prevent the steering column shaft from rotating during service of the steering column, intermediate shafts, steering wheel, wheel position sensor, or SIR coil.

If it is determined that the steering column shaft has rotated, it will be necessary to re-center the SIR coil. Refer to the SIR coil centering procedure in SI.

- Thanks to Steve Hathaway

## Ignition Key Replacement

This information applies to 1997-2003 Buick Park Avenue.

A change was made to the ignition key for the model year 2004 Buick Park Avenue, due to a change in supplier tooling. The head of the new key P/N 89023231 is wider than the tabs of the ignition switch of 1997-2003 Park Avenues.

If 89023231 were used as a service

replacement key on past model year Park Avenues, the ignition cylinder would have to be replaced as well. To avoid this, key P/N 88891799 is being released by SPO. This key will fit the existing ignition cylinders on past model Park Avenues, eliminating the need to replace the ignition cylinder.

- Thanks to Kobie Glenn

## Mis-Coded Warranty Claims

According to a recent survey, over 75% of the warranty claims for engine oil dipsticks are mis-coded. Here are the correct numbers.

J0920	Dipstick (oil level indicator)
J0930	Dipstick Tube
N4580	Oil Level Switch (sensor)

The **dipstick (or oil level indicator)** is the graduated metal rod or wand that is used to indicate the depth of the oil in the engine's oil pan. The dipstick is inserted into the **dipstick tube** in the engine block. And the **oil level switch** is an electrical sensor installed into the engine oil pan that is used to detect when the oil has dropped below a safe level.

- Thanks to Tom Spix

## Air Bag Module Checkout



Extra attention is needed if a vehicle comes in for service with the air bag tell-tale illuminated. After reading diagnostic trouble codes and finding that air bag loop faults and/or sensor faults are current, take the time necessary to troubleshoot the wiring fully. Replacing the SDM will not correct the fault in many situations. A detailed check of continuity for the faulted lines is necessary.

**TIP:** Check all wiring connections before removing and replacing the SDM.

- Thanks to Tom Nguyen

## Inadvertent Switch Activation

This information applies to 2003-04 Topkick and Kodiak C4500-C8500 series.

Bulletin 03-07-30-047 explains that inadvertent operation of several instrument panel switches can cause unusual transmission performance.

If the Power Takeoff (PTO) switch is accidentally turned on, it will limit engine operation to 2000 rpm, which results in long, delayed upshifts.

Also, changes in transmission operation or feel can result if the Overdrive Defeat switch is left in the on position.

Before attempting shifting related repairs, check the position of these two switches, and be sure the customer understands their operation.

**TIP:** A center passenger's knee can contact the PTO switch, resulting in it being switched on unexpectedly.

- Thanks to Dan Oden



**button** next to the Equinox name in the center of the IP and some don't.

Button – FWD vehicles with ABS

No button – FWD vehicles without ABS, AWD vehicles

**TIP:** AWD vehicles can easily be identified by the emblem on the rear hatch.

The **cigarette lighter and accessory power outlets** operate only with the ignition in ACC or ON position.

Only the radio is functional in the **RAP (Retained Accessory Power)** mode. The power windows will not function in RAP. This is normal.

The control for the **outside rearview mirrors** is located to the left of the steering wheel on the IP.

The **roof rack** is located by the assembly plant in the optimal location for minimizing wind noise.

## Engine

The 3.4L (RPO LNJ – VIN F) engine is



**RPO LNJ 3.4L Engine**

similar to other 3.4L engines, but is not interchangeable.

**TIP:** An engine exchange program is in effect for the first six months.

The **crankshaft sensor** is located on the right side of the block, next to the bulkhead. The **reluctor wheel** is located on the crankshaft.

It is important to follow the bulletin procedure to ensure air is removed from the **cooling system**, to avoid coolant noise concerns. If coolant must be drained, at least 5 liters (5.28 quarts) must be removed, and this is the minimum amount to be added when the system is refilled.

**TIP:** It may be necessary to raise the RH front corner of the vehicle 3 inches (76 mm) to force trapped air toward the air bleed.

## Transaxle

The Aisin Warner AF33-5 transaxle has 5 speeds, is electronically controlled, and features an **adapt function**.

Shift pressures are automatically adjusted for temperature, altitude, and transaxle component wear, using a process called adaptive self-learning. The adaptive procedure is based on counting the number of upshifts, not driving time or distance.

**TIP:** It may be necessary to drive far enough to consume a full tank of gas to allow the transaxle to adapt to a particu-

lar driver's habits.

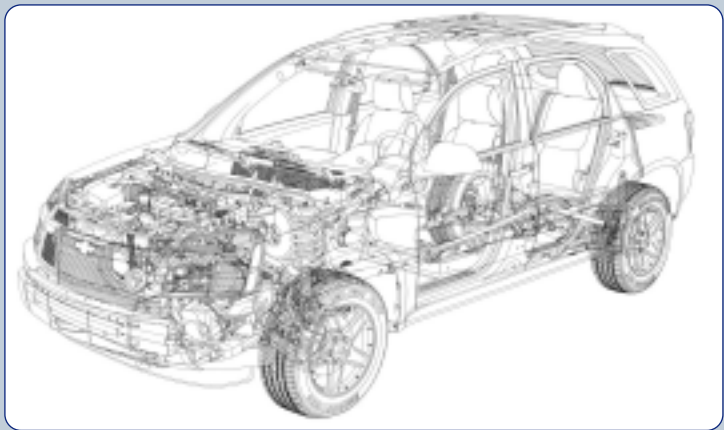
**TIP:** If the transaxle is replaced, the adaptive function must be reset to default settings, using the Tech 2. Follow this path:

Enter F0: Diagnostics  
Select 2005 Model Year  
Select LD Truck  
Select Chevrolet Truck  
Select L Product Line  
Confirm Engine (3.4L LNJ)  
Confirm Trans 5 Spd - Auto

F0: Powertrain  
F2: Special Functions  
F1: Transmission Output Controls  
F5: Reset Transmission Adapts

The Aisin AF33-5 provides uphill and downhill modes. When driving **uphill**, the driver may notice that it is not necessary to increase throttle position. This is because the transaxle up- or downshifts as necessary to maintain speed. This is normal operation.

When driving **downhill**, the transaxle will assist in maintaining speed by apply-



## Temperature Gauge Readings

Starting in January 2004, the Buick Rendezvous is available with a new 3.6L LY7 engine. Customers may notice the engine temperature gauge reading slightly past the mid point under heavy loads, in high ambient temperatures, in stop and go traffic, and mountain driving. This condition is a normal operating characteristic of this powertrain.

A customer may also notice more movement in the engine temperature gauge than is traditionally seen with other powertrains. Customers should be reassured the gauge reading as described is normal for this vehicle.

**TIP:** A gauge reading in the red zone indicates a true overheat condition.

In the LY7 engine, the coolant tem-

perature sensor is located in an area subjected to higher engine temperatures and more temperature fluctuations during normal operation of the cooling system.

- Thanks to Russ Gilbert



**Normal reading with LY7 engine**

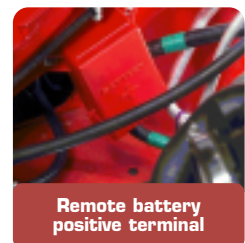
## SSR Remote Battery Terminal

The battery on the SSR is located beneath the rear of the vehicle.

Reviews of returned SSR electrical components (BCMs, RDMs, cooling fan components and circuitry) indicate components are being damaged due to improper jump starting and battery charging procedures.

Follow instructions in SI or the owner's manual. There is a remote battery positive terminal located on the right front inner fender and a nearby engine ground.

- Thanks to Dan Oden



**Remote battery positive terminal**

ing clutches to achieve automatic grade braking. This feels similar to brake application, and is normal operation.

The transaxle is equipped with an **ATF oil life monitor**, which illuminates the SES light when oil life reaches 10%. A DTC P1868 indicates the need to change fluid.

**TIP:** Only T-IV fluid may be used (US 88900925, Canada 22689186). DO NOT use Dexron III.

Reset the oil life monitor accordingly.

Refer to the bulletin for additional mechanical service procedures, including checking and adding fluid.

## All-Wheel Drive (AWD) System

The all-wheel drive system uses the



familiar Versatrak components to provide power to the rear wheels if slip is detected at the front wheels.

Refer to the bulletin and SI for service procedures.

## Electrical Architecture

The Equinox relies on both Class II and GMLAN for communication. The following modules rely on **GMLAN**:

- Transmission control module
- Brake module
- ECM
- OnStar module (also uses Class II)
- BCM (gateway between Class II and GMLAN)

**TIP:** It is necessary to use a CANdi module to communicate with the Tech 2. This has been covered in numerous TechLink articles: Mar. 2003, Aug. 2003, Dec. 2003, Jan. 2004.

## Chassis/Suspension

The suspension is independent at both front and rear, with MacPherson struts in the front and four-link with coil springs in the rear.

Camber and toe can be adjusted in front and rear, but caster cannot be adjusted at either end.

**TIP:** Alignment cams are not installed in the rear suspension during production. Service cams are available.

## Electronic Power Steering (EPS)

EPS eliminates hydraulic lines and the belt-driven pump, reduces engine load (potential mileage improvement), and

reduces operating noise. There are fewer components to service and diagnostics are more accurate.

Major components of the EPS system are the Power Steering Control Module (PSCM), a torque sensor and the Electronic Power Steering motor. The PSCM, torque sensor and motor are serviced **ONLY** as an assembly.

**TIP:** Whenever a PSCM is replaced, it must be set up with the proper tuning profile

## Audio System

The MP3 player accepts MP3 files that are recorded on an up-to-700 MB CD-R. The player is able to read and play a maximum of 50 folders, 50 playlists, 10 sessions, and 255 files.

**TIP:** These capacities may be reduced if long names are used, or a large number of elements are stored.

## Training Courses

Two training courses are available for learning more about the Equinox:

- 10280.14D New Model Features (EPS and AWD)
- 17341.10V Aision AF33-5 Automatic Transaxle

**TIP:** In Canada, watch for the 2005 Equinox Features Know-How release.

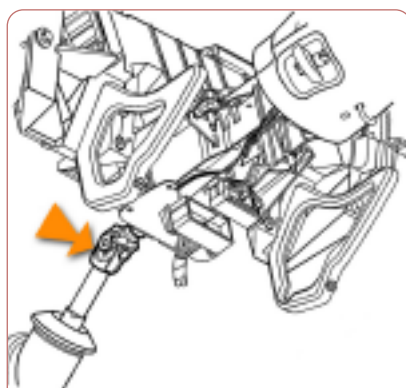
- Thanks to Ange Girolamo and Ann Briedis

## Steering Column Noise

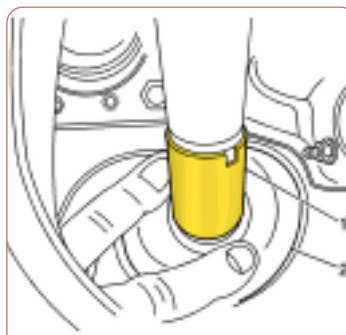
Owners of some 2002-03 Chevrolet TrailBlazers, GMC Envoys and Oldsmobile Bravadas may comment on a squeak noise coming from the steering column while turning the steering wheel. Some customers may also comment on a rubbing or scrubbing type noise or feel in the steering wheel during low speed turns or parking maneuvers. The condition may be more pronounced in cold temperatures.

Bulletin 02-02-35-

006A provides details for lubricating the serration (slip) joint of the upper intermediate shaft to address the squeak noise.



Spray lubricant through top of hollow end of intermediate shaft



Pressing shaft boot seal down to expose shaft bushing

The rubbing or scrubbing type noise may be addressed by removing material from the upper intermediate shaft bushing to alleviate an interference fit between the upper intermediate shaft boot seal and the intermediate shaft bushing.

**TIP:** Do not replace the upper or lower shaft to repair these conditions.

Part Number	Description
12346293 (Canadian 992723)	Lubriplate Lubricant Spray Grease

- Thanks to Don Sherman

# Pictorial Service Information

GMSP0 (GM Service and Parts Operations) is working to develop a new way to show mechanical service information in the service manual. At present, a step-by-step approach provides a small illustration and some words to tell you what steps to perform to remove and replace the part.

With this format, it can be hard to find some things, and the extensive use of links can be confusing. Printing a procedure can take quite a few pages, as well.

The new format is called "pictorial." As the name implies, it's based on a much larger illustration that shows the parts according to disassembly sequence. A new, easy-to-follow numbered table corresponds to the parts shown in the illustration.

The table uses the same part name that the GM Parts catalog uses, along with special tool references, torque values, cautions and notices, and what we call a "tip."

The Service Tips are shorthand for the procedure steps that need to be performed. If the illustration needs clarification, or if there is something we'd like to tell you about the step, we'll include it as a tip.

What we won't do is to tell you the obvious. For example, if a part is attached with four screws, and this is made obvious in the illustration, then we'll just give you the part name. It's not necessary to tell you to remove the screws.

The illustration itself will be as large as three quarters of a printed page. The table will follow under the illustration. In most cases, if you print the material on your printer, it will be no more than two to four pages. Because torque values are included within the table, you won't need to print the torque specification page as a separate item.

The new illustrations are designed to provide you with enough information so you know where things are on the vehicle – what we call "vehicle context." We will also show parts that help in understanding the overall assembly, even though the detail for servicing them may be in another section of the manual.

The Table of Contents will remain as it is today. The older format will work just fine next to the new format, so there was no need to change how you navigate around the system.

Another new feature – "assembly illustrations" – will be included when there is sufficient complexity to warrant their use. For example, the front brake system is fairly easy to show in one or two illustrations, while the instrument panel is hard to show that way. Wherever possible, the assembly illustration will be the same one used by the parts catalog. So if you need a part, you can identify it on the service manual illustration to show to the parts department.

We can also "sequence" you through a complex repair. You could start out by

looking at the assembly illustration. Depending on your level of experience with a particular model, this might be all you need to complete the job. If you need more information, a link will take you to the next step. If you know exactly where you want to go, you can still use keywords, or navigate with the mouse. Either way, you will be presented with a listing of selections just as you are today. If you want to see the procedure just for the radio, for instance, it will still be there in the list. Click on it and you will be directed to it.

We're pretty excited about this and think it will make your job a little easier. You'll print fewer pages. You'll have the correct part name, the torque value and appropriate service tips, and in many cases, the same illustration used by the parts department.

You'll start to see this new format roll into Service Information as vehicle content changes over time. To change everything at one time is more than we can do. Next month, we'll talk in more detail about these new features, and will show you what the new format will look like. Then we'll talk about what models and sections you'll start to see converted first.

As always, your feedback is really important to us. As you start to see the new format and want to comment, we'll be here and ready to listen.

- Thanks to Bob Scherer

## HVAC Cables

Bulletin 03-01-38-005A covers various HVAC concerns on 2003-04 Chevrolet Cavalier and Pontiac Sunfire related to mode and temperature control cables.

Be sure to refer to the bulletin for details. Here are some highlights.

Because symptoms show up as a control knob that is difficult to move, blame is often placed wrongly on the control head. The control head has not been identified as a cause of effort concerns, although the head may become damaged by forcing a knob to overcome an operating condition elsewhere.

**TIP:** Be sure the cable mounting tabs on the control head are intact.

### Cable Conditions

The bulletin points out that a cable may bind, or may become kinked, due to:

- **Improper cable routing** – Be sure routing does not cause cable

housing or cam interference when the control head knob is operated.

- **Improper cable clip positioning** – May have been improperly installed at assembly, or may have pulled off by forcing the control head.
- **Cable interference with wiring** – Tie back wiring as necessary.
- **Stuck or binding valve** – The defrost valve arm may drop off the edge of the surface and become stuck. The bulletin details how to grind the area. Foam or adhesive may interfere with operation of defrost and mode valves. The bulletin explains how to trim the material to allow free operation.



Trim foam that overlaps shape of valve (defrost valve shown)



Potential mode cable interference as cam rotates

## Repair Tips

Here are some general tips.

- For difficult mode valve operation, where the valve is not stuck, check the mode cable housing for interference with the cam. The cable can interfere with the cam during rotation, causing a condition of low effort, high effort then low effort again.
- If a cable is kinked or stretched, replace it.
- Cables don't have to be replaced in pairs.
- If routing or clip position was incorrect, be sure to fully function test after making repairs.
- If a cable and clips are not damaged, the cable may be re-used.

Part Number	Description
89018243	Cable, Mode Control
89018243	Cable, Temp Control

**TIP:** Part number 89018237 (seal kit) is NOT required when replacing a cable. The parts book will be updated on April 1.

- Thanks to Steve Oakley



### The Value of Closing TAC Cases

Why spend the time to close a TAC case?

Case closings are one of the most important parts of using TAC. Case closing information is specific repair knowledge that TAC learns from you and other technicians. Your case closing helps provide how-to-fix information to another technician with a similar condition.

The importance of case closing is also demonstrated by the use of your closing information in PI (preliminary information) and/or service bulletin development. These PIs and bulletins are then available to all dealers, which in turn helps all of us provide outstanding repair service to our customers.

Imagine a technician at a dealership in Oregon who finds the root cause of a noise that has taken three days to diagnose. A detailed closing is sent in to TAC, and a TAC consultant uses it to help a technician in Florida repair another vehicle the next day, with all that time saved.

#### How to Close a Case

**TIP:** Specific case closing details and guidelines are located in the Dealer P & P Manual - Section 5.3.

Cases should be closed in a timely manner; ideally, on the same day the vehicle is repaired or the repair order is closed. With timely closings, you will be able to remember all the specific details of the repair.

#### US Dealers

The TAIF (Technical Assistance Information Form) asks for the following basic information to close a TAC case.

- TAC Case Number
- Labor Op Number
- Detailed information on what actually fixed the vehicle.

There are two ways to close a TAC case:

1. Call the VME phone-in system at 1.888.446.8227, prompt 1
2. Use the fax-in system by sending a fax to 1.800.541.1761.

#### Canadian Dealers

Active TAC cases for your dealer code can be found on the GM InfoNET. When the repair order is closed, locate the case on the GM InfoNET website and submit explicit details of your resolution, a labor operation, applicable part numbers and supporting attachments (such as pictures and Tech 2 snapshots).

So, why spend the time to close a TAC case? The answer is pretty simple. Your closing helps other technicians, and other technicians' case closings help you. The more detailed and accurate closings we get, the more we help each other. Thanks to all of you that send in detailed and accurate case closings.

- Thanks to Dave Slaughter and Bill Szelag

### Intentional Lack of Sealant

Some owners of regular and extended cab 2004 Colorado and Canyon pickup trucks are commenting on the lack of seam sealer at the headboard of the pickup box. These vehicles are built as designed and have successfully undergone extensive corrosion testing. No repairs are necessary.

Engineering is making changes to provide a more finished appearance for the unfinished edges. There is no plan to install sealer at this time.

- Thanks to Bill Detrick

### DVD Player Concern

On the 2004 Chevrolet Malibu Maxx, do not swap the DVD player from a known-good vehicle for diagnostic test purposes. The DVD player will operate ONLY in the vehicle in which it was originally installed. It learns the vehicle's VIN from the BCM on the first ignition cycle after it is installed. A new VIN cannot be learned.

**TIP:** It is OK to swap the LCD screen from a known-good vehicle for diagnostic test purposes only.

- Thanks to Bruce Moss

### Delayed Door Lock Feature

The 2004 Cadillac SRX has a delayed door lock feature. If the customer does not understand its operation, the normal function may appear as a problem.

**TIP:** Refer to Owner's Manual page 2-9 (SI document 1206797) for an explanation of how the Delayed Locking feature operates, and page 3-89 (SI document 894492) for the procedure to turn the feature ON and OFF using the DIC.

If the feature is turned ON and the customer presses the door lock switch to the Lock position, a chime is heard, and the doors will lock about 5 seconds after the last door is closed. Pressing the Lock button a second time or holding the switch down for 3-5 seconds will override the Delayed Locking feature and will lock the doors immediately.

- Thanks to Roger Jantz

### Headliner with Sunroof

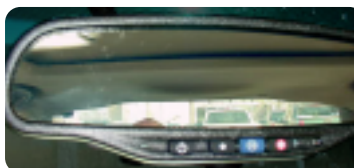
Owners of some 2003-04 Buick Regals with sliding sunroof may comment about a sagging headliner ahead of the rear window. This may be most noticeable in the rearview mirror.

The sunroof drive

motor was relocated to the rear of the sunroof and the headliner is reshaped to provide clearance.

**TIP:** This is a normal condition and no repair should be performed. See bulletin 03-08-110-007 for details.

- Thanks to Wayne Zigler



### SSR Roof Operation when Cold

Be sure owners of the 2004 SSR understand this feature of top operation.

If the convertible top has not completed its movement from one position to another within the programmed time limit, a Roof Cycle Timeout message will be displayed on the DIC. When this message appears, the convertible top will stop moving. Release the convertible top switch and make sure there is nothing blocking the path of the top. If the path is clear, turn the ignition off and on again. Then press the convertible top switch again.

When operating the top in low temperatures - below 32°F (0°C) - the time needed to cycle the top will increase. This may cause the top movement to

stop and the Roof Cycle Timeout message to appear on the DIC. If this occurs, release the convertible top switch and depress it again to continue the cycle. Make sure nothing is blocking the path of the top before depressing the switch again. It may be necessary to do this several times to complete the cycle, depending on the outside temperature.

**TIP:** If the convertible top switch is operated continuously while the ignition is in ACCESSORY, the battery will drain and it may be difficult to start the vehicle. Do not use the convertible top switch for extended periods of time when the ignition is in ACCESSORY.

- Thanks to Dan Oden



## 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
1999-2004	<b>All Cars and Trucks – Brake Warranty, Service and Procedures</b>	<b>1. Refinish brake rotor 2. Measure for LRO</b>	<b>1. Don't replace the brake rotors. 2. Don't measure for LRO</b>	<b>00-05-22-002C</b>
2003-04	<b>CTS – Variable Effort Steering (VES) "Service Steering Message," DTC C1241 or C0450</b>	<b>Replace only VES solenoid</b>	<b>Don't replace the entire steering gear.</b>	<b>03-02-36-001</b>
2003	<b>All cars with 4T40/45E, 4T65E and 4T80E – Code P0742</b>	<b>Replace TCC PWM Solenoid</b>	<b>Don't replace transmission, torque converter or valve body assembly.</b>	<b>02-07-30-039C</b>
2003-04	Cavalier/Sunfire – Air Conditioning Compressor Noisy	Inspect for ground outs that can cause A/C compressor noise	Don't replace A/C compressor for noise without inspecting for ground outs.	03-01-38-012
2000-04	Cavalier/Sunfire/Alero/Grand Am – Inoperative Sunroof Module	Retime module or replace only motor	Don't replace entire sunroof module assembly.	03-08-67-009
2001-04	Century/Regal – Intermittent SES, ABS or TCS Lamp Illuminated, Engine No Crank/ No Start, Various I/P Cluster Intermittents, DTCs Set, Shifter Locked in Park	Check UBEC harness connectors for damage and replace damaged terminals.	Don't replace UBEC, ignition switch, SDM, BCM, shifter assembly or intermittent clusters.	03-08-45-004
1998-2004	Seville – Heated Seat Inoperative	Replace only needed heating element.	Don't replace entire seat cover	01-08-50-002C
2000-2004	All Cars with 4T40/4T45E and 4T65E – Light On, Various Transmission Codes Stored	Check trans 20-way connector for secure connection (disconnect, reconnect).	Don't replace transmission, TCC PWM, VSS, PCS or valve body.	02-07-30-022B
2002-03	Impala – Snap/Clunk when Window is Rolled to Full Up Position	Replace glass run channel with revised part.	Don't replace front window regulator, door glass or align door glass	03-08-64-034
1999-2004	1999-2003 Park Avenue, 2000-2004 LeSabre – Ash Tray Will Not Remain Closed	Use I/P ash tray latch as service repair.	Don't replace complete ash tray assembly.	03-08-49-005



## 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
2002-04	<b>Chevrolet Avalanche and Cadillac Escalade EXT – Cargo Covers and Cladding Faded or Stained</b>	<b>Thoroughly clean, dry and treat components with Armor-dillo. To order (888)393-4722 or www.armor-dillo.net.</b>	<b>Don't replace cargo covers for this condition.</b>	<b>04-08-111-001</b>
2002-04	Fullsize and Midsize Pickups and Utilities – Transfer Case CNND Labor Operation	Use Labor Operation K9993 whenever a transfer case issue on a 4WD or AWD vehicle cannot be duplicated or resolved after diagnostic efforts.	Don't use K9992, which is for manual concerns or K9995, which is for automatic concerns.	Service VME VSSM20030117
1999-2003	Fullsize Pickups – Rear Leaf Spring Slap Noise	Replace inserts and rubber washers.	Don't replace the leaf spring.	03-03-09-002
1993-2004	All Passenger Cars and Trucks – Air Conditioner Compressor Diagnosis	Follow SI and bulletin for diagnostic information before compressor replacement.	Don't replace air conditioning compressor	Service VME, 10/31/03 01-01-38-013A
2002-04	All TrailBlazers, All Envoys, Bravada, Rainier with HomeLink Universal Transmitter – Programming Diagnosis	Use J 41540 – GM Integrated HomeLink Tester. Follow SI and refer customers to Owner's Manual.	Don't replace HomeLink Transceiver without validating internal fault recognized by J 41540	01-08-97-001B
2002-2003	All TrailBlazers, Envoy, Envoy XL, 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
2003-04	Fullsize Pickups and Utilities – Servicing Wide Load Mirrors (RPO DPF)	Replace individual parts as needed.	Don't replace the complete mirror assembly.	03-08-64-028
2003	Fullsize Pickups and Utilities – Transfer Case Service Light/New Venture Gear Transfer Case	Verify that the encoder motor is the primary cause. Replace encoder motor sensor and reprogram TCCM.	Don't replace the 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 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
2002-04	All TrailBlazers, All Envoys, Bravada, Rainier – Mirror Erratic Return	Replace mirror actuator and reprogram module	Don't replace outside mirror assembly	02-08-64-008, 02-08-64-021 03-08-64-033

### Know-How Broadcasts for May

10280.05D  
Emerging Issues

May 13,  
2004

9:00 AM, 12:30 PM,  
3:00 PM Eastern Time

10280.17D New Model Features –  
2005 Cadillac

May 27,  
2004

9:00 AM, 12:30 PM,  
3:00 PM Eastern Time



– Thanks to Tracy Timmerman