# Generation 6 OnStar

OnStar launched new and improved Generation 6 hardware in March, as a mid-year change on the vehicles listed in the accompanying table. New OnStar hardware is labeled *System Type: Analog/Digital* on the window sticker. Other vehicles will roll out throughout the 2004 calendar year.

Here are some of the significant changes.

## Dual Mode

The OnStar Gen 6 system functions on both digital and analog cellular networks. This takes advantage of the growing digital cellular markets around the country and further maximizes the coverage area.

In a digital market, the OnStar Vehicle Communication Interface Module (VCIM) uses a different retry strategy to make a connection to the OnStar call center. The Module makes multiple attempts to contact the OnStar call center, using multiple digital and analog cellular providers. This may take some additional time to make a connection.

*TIP:* When diagnosing a customer's OnStar "no connect" concern, be sure to wait until the system plays either of the embedded wav files: "OnStar request ended" or "Unable to contact OnStar."

## Digital Standby Mode

This is an enhancement to the traditional OnStar wake-up cycle. It allows OnStar to provide Outbound services much more quickly.

On all previous generations, when the vehicle is off, the OnStar module transitions out of sleep mode to low power mode for one minute out of every ten minutes. During these one-minute periods, OnStar can contact the car and unlock the doors.

With digital stand-by mode, if the vehicle is parked in a digital cellular market, the OnStar system transitions to digital stand-by for 8 hours. This power mode allows the car to be contacted by OnStar without having to wait up to 9 minutes for the next wake-up cycle. Once the 8 hours have elapsed, the vehicle switches to the traditional wake-up cycle for the balance of the 48 hour period.

## New Voice Recognition Engine

OnStar Gen 6 features an improved voice recognition engine. For those service customers who have experienced difficulty using OnStar Voice recognition, this system promises noticeable improvement.

A significant feature of this new voice recognition system is continuous voice dialing. Simply say the entire phone number including the area code at a natural talking speed, continuously, without pauses (for example: 2225551212).

When you are finished saying the number, the OnStar system repeats the entire phone number and asks if the number is correct.

Refer to the new OnStar Owner's Guide or the new OnStar Quick Reference Card in the glove box of any OnStar Gen 6 equipped vehicle for details.

## Contents

**GM** **Service and Parts Operations**

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## Techline News

## TIS 2 Web

GM Service and Parts Operations is launching a new version of the TIS diagnostic/programming application, called TIS 2 Web.

This follows the concept established by SI on the web. The future direction for all service software applications is to make them available from central internet sites rather than locally at each dealer's server or loaded on the Techline PC.

The advantages are:

– increased speed of updates
– consistent software versions for all users
– improved maintenance and enhancements
– improved support
– ability to gather user feedback easily.

## What's Required for Access?

– Techline PC meeting minimum hardware requirements (See http://service.gm.com/techlineinfo/techlinepc.html for hardware requirement details).
– High speed internet connectivity at the Techline PC.

– Individual DealerWorld ID and password for each technician.

*TIP:* DealerWorld IDs are managed by the dealership's Partner Security Coordinator (PSC). Security parameters in place will not allow ID/PW credentials to be shared.

– Download and installation of Java 1.4.2 and Webstart to the Techline PC. A link to the download can be found under the Help icon in the upper right corner of the web site.

### First Phase of TIS 2 Web

The first phase of the release is Software Download. Just as with the current version of TIS, Software Download allows a technician to download Tech 2 updates to their Techline PC and then update their Tech 2 diagnostic tools. The big difference is that the download is from an internet site.

### Future Phases

The next phase of the release will be Service Programming System (SPS). This release should be expected in mid-2005, with Tech 2 View and Snapshot Upload/Display to follow.

TIS 2 Web will be maintained in parallel with the TIS GM ACCESS version until the GM ACCESS servers are decommissioned sometime in 2006.

TIS 2 Web will be updated on the same release schedule as TIS.

Getting familiar with using TIS 2 Web as an internet based service resource will help technicians become familiar with using GMSPO internet resources, improving their efficiency, and being able to "Fix It Right the First Time."

### Calling for Assistance

If at any time you need assistance with the TIS 2 Web Software Download, please contact the Techline Customer Support Center (TCSC) at 1.888.337.1010, prompt 3. Saturn Retailers may use 1.888.7SATURN for assistance.

*- Thanks to Mike Waszczenko*

# Equinox Clarification

This information is intended to clear up some misunderstanding about the All Wheel Drive system, mentioned in the April issue of TechLink. The misunderstanding stems from the fact that both systems use the Versatrak™ transfer case (also called Power Take-off Unit or PTU), attached to the transaxle.

While there are similarities between the Equinox system and the Versatrak system used on other vehicles, the term Versatrak does not apply to Equinox.

The Equinox All Wheel Drive system uses one viscous coupling to share power between front and rear wheels, while the Versatrak adds a second coupling to share power from side-to-side on the rear wheels.

*- Thanks to Ange Girolamo*

# GM LAN or Class 2?

There is quick method to identify module protocol and it can be found in SI.

"Build" the vehicle, then select Service Manuals/Bulletins.

In the keyword field, type "data link" and click on Enter.

Select Data Link Communication Description and Operation.

Scroll to the bottom of the document. GM LAN and Class 2 components are listed.

*TIP:* For a complete Model Year 2005 Communication Protocol Table, go to the TechLink website. Click on the Reference Guides tab, then scroll down to the protocol table and click on the link.

For each 2005 vehicle, the table lists engine RPO, name, and family, transmission name, transfer case name, Tech 2 data release number, production date, diagnostic strategy, PCM/ECM name and communication protocol, and body/chassis communication protocol.

*- Thanks to Mark Stesney*

# Obtaining Radio Part Number

You can use your Tech 2 to obtain the part number of the radio in a vehicle.

For class 2 vehicles, follow this path (typical):

– Diagnostics
– Build vehicle
– Body
– Radio
– I D Information
– Module Information
– 8 Digit GM Part Number

*TIP:* The module list is arranged alphabetically. So, when scrolling the list, you will see Digital Radio Receiver early in the list and Radio later in the list.

If you select Digital Radio Receiver, you will obtain the part number for the remote-mounted XM satellite receiver.

*- Thanks to Jim Hughes*

## OnStar Operation in Unconfigured Vehicle

With the introduction of Gen 6, OnStar has turned all the voice prompts on. This means that on an unconfigured vehicle, you can hear and use all of the voice recognition features, up to but not including actually making a call.

*TIP:* This is normal and should not be considered a fault.

On an unconfigured vehicle, here's what happens when the blue button is pressed twice. You will hear, "Hello. What would you like to do?" If you say "talk to an advisor," OnStar will conntect to an enrollment advisor. If you say "listen to the demonstration," OnStar will begin the new Automated Customer Demo. This will identify the vehicle being driven, state where the vehicle is located (GPS location), and perform a real-time door unlock demonstration.

When the vehicle is enrolled and configured upon delivery, the customer will get 30 complimentary Personal Calling minutes to make and receive calls.

*TIP:* Service personnel may want to store a "call Service" nametag in the system for customer convenience. Refer to the OnStar glove box material for complete instructions for storing nametags.

*TIP:* To determine whether a customer's OnStar system is active, type the VIN into VIS.

## Additional Customer Education Required

This new generation of OnStar hardware is a significant enhancement and will be extremely well-received by both current and new customers.

*TIP:* While the new voice recognition system greatly improves the usabilty of the system, current OnStar users who have gronw accustomed to speaking one digit at a time to dial a phone number may not understand the need to speak the entire phone number continuously without pauses.

Should your service personnel receive a complaint that Voice Dialing won't work correctly, make sure the customer is familiar with the continuous dialing feature, before diagnosing potential concerns with the OnStar system.

## Placing a Phone Call Using OnStar Personal Calling (OPC)

The following table explains how the new OnStar Personal Calling system compares with the previous system that is still available on earlier build vehicles.

*- Thanks to Dale Tripp*

### Production Timing of First Quarter, 2004 Calendar Year

<u>2004 Model Year Vehicles</u>

- Buick
  - Rainier
  - Rendezvous
- Cadillac
  - Escalade ESV, EXT
- Chevrolet
  - Avalanche
  - Trailblazer
  - Trailblazer EXT (XLT)
  - Silverado
  - Tahoe
  - Suburban
- GMC
  - Envoy, Envoy XL, XUV (XUT)
  - Sierra
  - Yukon, Yukon Denali, Yukon XL, Yukon Denali XL
  - Hummer
  - H2
  - Pontiac
  - Aztek

| Current OnStar Hardware | | New OnStar Hardware | |
|---|---|---|---|
| **What You Do** | **What You Hear** | **What You Do** | **What You Hear** |
| 1. Press ▬ | "OnStar Ready" | 1. Press ▬ | "OnStar Ready" |
| 2. Say "Dial" | "Number please" | 2. Say "Dial" | "Phone number to dial please" |
| 3. Say the phone number to be dialed, one digit at a time | OnStar will confirm each digit by repeating it back to you | 3. Say the entire phone number you wish to dial, all at once, with no pauses | OnStar will repeat the number, then ask "Yes" or "No" |
| 4. When finished, say "Dial," again | "Dialing;" your call will be connected | 4. Say "Yes" (say "No" to try again) | "Dialing;" your call will be connected |

# Oldsmobile Production Has Ended



*Then*

General Motors announced in December 2000 that the Oldsmobile line of vehicles would be discontinued sometime during the 2004 model year.

The dates of the end-of-production of the 2004 models was Bravada on January 16 and the Silhouette on March 26. GM, on purpose, decided that Oldsmobile production would end in the city it began, Lansing, Michigan. A total of 35,229,218 Oldsmobiles were built since 1897 and of those 14,458,756 were built in Lansing.

On April 29, 2004, at 10:00 AM, the last Oldsmobile built drove off the assembly line of the South Assembly Plant of the Lansing Car Assembly complex. The driver was plant employee Rick Parr, front passenger was George Nahas, President of the Oldsmobile Dealer Council, backseat passengers were plant employees Al Cooper and Bill Schleicher. All plant employees who worked on the last Alero had already signed their names to the under side of the hood and the rear compartment lid. GM will retain ownership of the last Oldsmobile.

Presenters at the end-of-line ceremony were Amy Farmer, Plant Mgr, Officials of UAW Locals 602 and 652, and former Oldsmobile Gen. Mgr. Darwin Clark. The final Final 500 Alero was then driven by Doug Stott, Oldsmobile Product Mgr, to
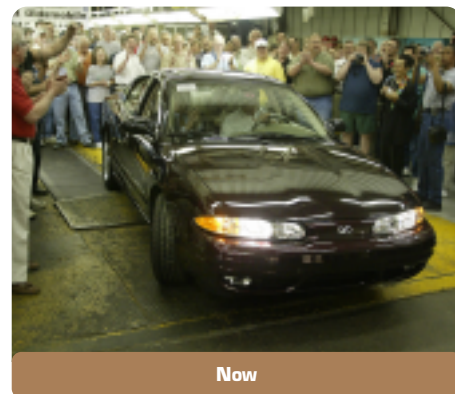


*Now*

the R.E.Olds Transportation Museum where it will be on display with all the other Final 500 models and significant older Oldsmobile models until August 31, 2004. About 20 Oldsmobiles belonging to OCA and Museum members were also on display outside the Museum.

*- Thanks to a sad Jerry Garfield*

# Automatic Air Bag Suppression Systems

## ROLL OUT

With a few exceptions, FMVSS (Federal Motor Vehicle Safety Standards) requires all vehicles sold in the U.S. to be equipped with automatic passenger airbag suppression by model year 2006.

GM will use three different systems, and each has a different sensing method. Here is how the various vehicle lines will roll out for 2005..

| Model Year | Vehicle | Type |
|---|---|---|
| 2003 | C/K trucks | Gel-filled |
| 2005 | Cadillac CTS | Force Sensing |
| | Buick LaCrosse | Capacitive |
| | Buick Rendezvous | Gel-filled |
| | Buick Terraza | Gel-filled |
| | Buick Rainier | Gel-filled |
| | Chevy Uplander | Gel-filled |
| | Chevy Trailblazer | Gel-filled |
| | Saturn Relay | Gel-filled |
| | GMC Envoy | Gel-filled |
| | Pontiac Montana | Gel-filled |
| | Isuzu Ascender | Gel-filled |
| | Saab 9-7 | Gel-filled |

## DESCRIPTION AND OPERATION

### Classifications

The front passenger air bag is enabled or suppressed according to the classification of the occupant of the front seat.

| Child seat | suppress |
|---|---|
| Empty seat | suppress |
| 6 year old or smaller | suppress |
| 5th percentile female and larger occupant | enable |

### Common Features

The three passenger presence systems (PPS) use different sensing methods, but the overall purpose and function are the same for all three.

*TIP:* Refer to the following sections for a detailed description of each sensing method.

The PPS monitors the occupant on the front outboard passenger seat and communicates the status to the sensing and diagnostic module (SDM) whether to enable or suppress the deployment of the I/P module.

If the PPS determines there is an empty seat, child seat, an occupant below a specified threshold, or a current fault in the system, the PPS module will send a suppress signal to the SDM to disable the I/P module. If the PPS determines there is an occupant above the specified threshold, the PPS module will send an enable signal to the SDM to enable the I/P module.

The PPS module will notify the occupants of the enable/disable status by turning on one of the passenger airbag status indicators located on the rear view mirror or instrument panel.

The PPS monitors itself for faults and will set a diagnostic trouble code (DTC) if a fault is detected. The PPS will also notify the SDM of the fault and the SDM will request the instrument panel cluster (IPC) to turn ON the AIR BAG malfunction indicator located on the IPC.



The Tech 2 is used to determine what DTCs have been set by the PPS. In the case of the gel-filled type and capacitive type systems, DTCs are flashed on the rear view mirror or IP indicators. With the force-sensing system, DTCs can be read on the scan tool display.

### Sensing Method: Gel Filled Bladder

This is the system introduced on 2003 C/K trucks.

*TIP:* For 2005, the instrument panel disable switch is removed on any vehicle equipped with an automatic airbag suppression system. It is still required on vehicles above 8500 GVW without PPS.

The PPS consists of an electronic control module, silicone filled sensor pad, pressure sensor, seat belt tension sensor (BTS), wiring harness, and passenger air bag status indicators.



The silicone filled sensor pad is located under the passenger seat foam cushion and is connected by a hose clamped to the pressure sensor. The weight of the occupant sitting in the front passenger seat is measured as a pressure change within the bladder by the pressure sensor. The pressure sensor sends a voltage signal to the PPS module. The BTS monitors the seat belt, mainly to detect if a tightly cinched child seat is present. The ECU algorithm uses these inputs to determine the classification of the occupant.

### Sensing Method: Capacitive

*TIP:* This is the system being installed in the 2005 Buick LaCrosse.

The PPS consists of an electronic control module, sensor mat, wiring harness and passenger air bag status indicators.

The sensor mat is made up of several flexible conductive metal

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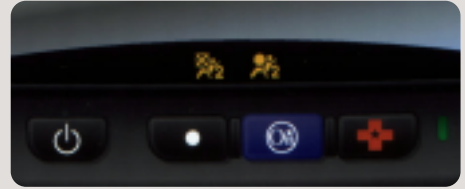
# Pictorial Format in SI – Followup

As you start to use SI for 2005 vehicles, you will find that a few of them will contain the new Pictorial format for mechanical procedures (see TechLink, April and May 2004 for details).

If you'd like to provide your comments directly to the development team for this new format, please send us an e-mail at pictorial.feedback@GM.com. Our goal is to make improvements based upon your needs, so if you have a suggestion or comment about this format, please drop us a line. Note that this special e-mail is intended for Pictorial feedback only, so please continue to use your normal process for letting us know about incorrect or missing information.

*- Thanks to Bob Scherer*

# Gold Bow Tie Emblem

Certain cleaning substances used by some pre-delivery departments can cause a discoloration of the gold bow tie appliqué on the 2004 Chevrolet Cavalier and the SSR.

A chemical intended to remove bug debris has been found to dis-color the bow tie. Avoid chemicals listing oxalic acid, dihydrate techorganic acid or hydroflorides as an ingredient.



*TIP:* It is not necessary to avoid using these chemicals to clean vehicles, but BE SURE to avoid contact with the gold bow tie.

GM Brand Quality is working with the supplier to increase the durability of the parts so they are more robust to cleaning agents. Closely inspect your inventory of vehicles to determine if a potential issue exists. If you notice discoloration, stop use of the chemical agent immediately, and file a field product report.

*- Thanks to Steve Oakley*
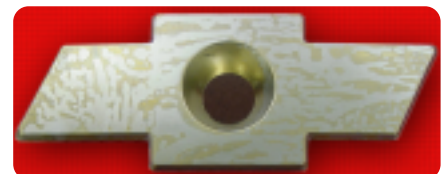
strips placed underneath the seat cushion trim and attached to the top surface of the bottom seat cushion foam. These sensor strips transmit and receive a low-level electric field. The weight of the occupant sitting in the front passenger seat is measured as a change in current flow within the sensor mat. The ECU algorithm uses this change in current flow to determine the classification of the occupant.

### Sensing Method: Force Sensing Resistors

*TIP:* This is the system being installed in the 2005 Cadillac CTS.

The PPS consists of an electronic control module, sensor mat, wiring harness, and passenger air bag status indicators.

The sensor mat is attached to the top surface of the bottom seat cushion foam and is made up of many very thin force-sensing resistors, strategically located across the surface. From these positions, this system can detect the size and shape of the object in the seat. As the seat is loaded, the resistance through cells lowers and the voltage through the mat changes. From this, the ECU monitors the pressure profile of the occupant to determine the proper classification.

### AFTER-REPAIR TIPS

The following steps must be taken after a seat repair or system replacement.

### Gel-filled Bladder Type

– Re-zero – Seat must be empty
– Use scan tool to command Re-zero
– Learns empty seat values

### Capacitive Type

– Re-zero - Seat must be empty
– Use scan tool to command Re-zero
– Learns empty seat values

### Force-sensing Resistor Type

– Preload Test - Seat must be empty
– Use scan tool to request preload test
– If preload is present, a DTC will set, specifying a particular zone has a preload condition present. Preload may be caused by excessive trim tension or seat heater mat has bunched in a particular zone. Straighten out heater mat or stretch/massage trim to relieve tension. The preload test must be re-performed until all preload is removed from the sensor mat.

### SERVICE TIPS

If the system fails, a service kit will have to be used. **The service kits are calibrated as an assembly. All components in the kit must be used and not mixed with any of the old parts.** There may be multiple kits available for the particular vehicle. Make sure to order the correct kit for the vehicle and seat options.

**If any repair is performed to the seat bottom that requires the seat bottom trim to be loosened, removed or replaced, a preload test or re-zero procedure must be performed.**

If a repair is done on the seat back, a preload test or re-zero procedure may not be necessary as long as the seat bottom was not disturbed. The service information for the particular vehicle will let you know when a procedure will be necessary.

**Accessories, such as aftermarket seat heaters, adding extra foam under trim for comfort, or other seat modifications may cause the system not to perform properly.** These systems are designed to detect various classifications of occupants. With added material between the seat and the occupant, the system's sensing capabilities are reduced.

**If passenger seat work is sublet to a trim shop, it is important that you know what repairs are being done.** It is the dealership's responsibility, when the repair is finished, to have the seat re-zeroed or have a preload test performed, which a sublet shop will not be able to perform.

### HEATED SEAT TIPS

**If the vehicle did not come with an OEM heated passenger seat, an aftermarket heater cannot be added.**

If the system has a heater assembly, the repair procedure may vary. Read service information for the particular vehicle, to understand the replacement procedure.

The capacitive system is calibrated with the heater mat. If the heated mat fails, the entire PPS must be replaced. The other systems may or may not require the heater mat to be replaced with the system, based on the heater mat design. With suppression added, previous heater mat replacement procedures may no longer be valid.

*- Thanks to Chad O'Brien*

# Active Wheel Speed Sensor Diagnosis

*TIP:* Refer to the October 2003 TechLink article regarding the operation of active wheel speed sensors.

2004-05 Chevrolet Colorados and GMC Canyons with 4WAL ABS are equipped with active wheel speed sensors. A DTC C0035 may be set for any of the faults that will trigger a DTC C0035 on ABS systems that use conventional wheel speed sensors. For instance, an open or shorted left front wheel speed sensor, a missing left front wheel speed sensor signal, or an erratic left front wheel speed sensor signal.

In addition, DTC C0035 will set when a short to voltage or short to ground on the wheel speed sensor voltage supply circuit occurs **on either the left or right side front wheel** speed harness. This is because the EBCM internally supplies voltage to the left and right wheel speed sensors from a single point. A C0040 will not set for any wheel speed sensor supply voltage fault. Both C0035 and C0040 wheel speed faults will continue to detect all other wheel speed sensor faults in the usual way.

The service manual in being updated to reflect this issue. A Tech 2 software change was included in CD 3 on March 12. The software change includes the following expanded DTC descriptor: C0035 Left Front Wheel Speed Sensor Circuit or Front Sensor Supply Voltage Circuits.

*- Thanks to John Spidle*

# Trailer Wire Harness

The location of trailer wire harness in the 2003-04 Chevrolet SSR owner's manual is not specific. The trailer wire harness is located on the inside of the left frame rail, between the tubular frame crossmember (just behind the rear axle) and the crossmember (just in front of the trailer hitch).

The wire harness is held in place by two gray wire harness retainers and is taped to the convoluted tubing just rearward of the second wire retainer. The black electrical tape must be removed to expose the wires. The wires are blunt cut and have heat shrink insulation over the ends.

*- Thanks to Dan Oden*

# Crimp and Seal Connectors

Take a look in Tray 1 of your J-38125 Terminal Repair Kit. Three of the bins contain pink, blue and yellow DuraSeal Crimp and Seal splice connectors. Each is identified by its own part number and is suitable for splicing wires of a specific gauge. See the table below for details.

These connectors look simple, but they contain some significant technology you need to know about.

Crimp and Seal splices are intended to join wires located in areas that are subject to harsh environmental conditions such as temperature extremes, immersion in fluids such as coolants, oil, and water, and exposure to ultraviolet radiation.

There is a metal tube inside the Crimp and Seal splice. The tube is knurled inside, to provide a low-resistance junction with the wires, when the connector is properly crimped.

The outside of the DuraSeal splice is composed of a special material called heat-shrinkable nylon 12. And the inside is coated with a hot-melt adhesive. When heat is applied, the nylon shrinks and the adhesive melts, providing a tight environmental seal against the wire insulator, and also provides strain relief.

*TIP:* Use the appropriate crimper in your Terminal Repair Kit to crimp the DuraSeal Crimp and Seal splice to the wires. The jaws are color-coded. And use the Ultratorch with heat deflector to heat the splice until it shrinks and adhesive bubbles out the end.

*TIP:* Avoid imitations. Typical aftermarket wire splices (sometimes called "butt" splices) may be made of high-density polyethylene (HDPE). These materials do not provide the environmental protection, strength or abrasion resistance of nylon 12. These inferior splices must be avoided, despite their more attractive lower price.

Replacement Crimp and Seal splices are available in three sizes.

| Pink | 12089189 | 18-20 gauge |
|---|---|---|
| Blue | 12089190 | 14-16 gauge |
| Yellow | 12089191 | 10-12 gauge |

*TIP:* Order replacement electrical terminals for your J-38125 kit from SPX Kent-Moore.

*- Thanks to Leslie Kao, Tyco Electronics*
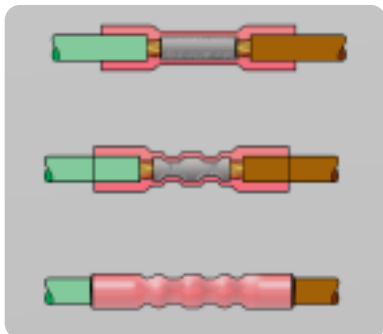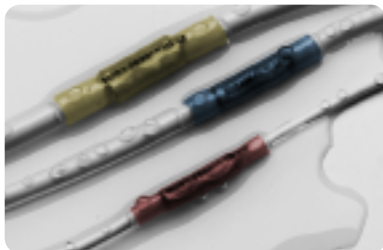
## Electrical Wires Conduct Water!!

This sounds like an urban legend, but it is true. It's possible for water to be conducted inside the insulator of an electrical wire. If water gets into electronic components, such as sensors or modules, corrosion and damage can occur.

The oxygen sensor wiring is a perfect example. When the O2 sensor is heated, air pressure builds up inside the sensor body and is forced out through the tube provided by the wire insulation. When the sensor cools down, a partial vacuum forms, drawing air back in. Ordinarily, the only opening in the wire is inside the PCM connector, where it's dry and the circuit can breathe.

IMPORTANT: Use of the DuraSeal Crimp and Seal splice maintains the continuity of this air passage, even though a wire has been repaired. Soldering a splice prevents the wire insulator from being used as an "air tube."

But if there's a break in the wire insulation (nick, cut) or a damaged environmental seal in a connector, water may be drawn in along with the air. Repeated thermal cycles can actually "pump" the water along. In this way, water can travel a number of feet inside a wire.

A non-sealed wire splice repair could also allow water in. This is why the Crimp and Seal connector must be used when splicing any wire that's subject to a harsh environment.

*- Thanks to John Roberts*

# Tray Added to Terminal Repair Kit J-38125

A new J-38125-SIR/SDM Terminal Repair Kit Supplement Tray is being sent to you. Place it on a shelf in one of the five storage cabinets of the J-38125 Terminal Repair Kit.

The larger tray replaces the smaller J-38540 SIR Terminal Repair Kit Supplement plastic box that was sent with the original J-38125-A Terminal Repair Kit in 1987. It allows more room for future terminated leads.

## Parts from Old Plastic Box

Transfer the contents of the old box into the new tray.

– A roll of yellow tape
– A selection of green CPAs
– A small supply of salmon colored Crimp and Seal splice sleeves
– A two-wire base of column pigtail

– Three terminated leads for the repair of past model Delphi SDM connectors (12085510, 12102725 and 12102726) which have been sent to you over the intervening years.

## Included with New Tray

The new J-38125-SIR/SDM tray contains two bags of terminated leads (four each) used to repair current DERM/SDM connectors.

– A 15435886 for the newer Delphi connection systems (gray connector body), using the round 100W terminal with or without a shorting bar.
– A new Tyco terminated lead 1393365-2 used in the new Siemens SDM connection systems using square .64 terminals.

*TIP:* Once these terminated leads have been shipped, GMSPO will cancel the SDM pigtails now in stock and will sell only the connector itself at a very much-reduced price.

*TIP:* The repair will be simpler. You have to replace only the defective terminal with a terminated lead.

The tray also contains a package of five heat shrink tubes cut to 70mm length (J-38125-Tube).

Use the shrink tube in high temperature wire repair situations requiring a DuraSeal Crimp and Seal splice. A Crimp and Seal splice will not survive high ambient temperatures above 135° C, which may be encountered in some vehicles now in production. Refer to Wiring Systems in SI for further details.

## Ordering Replacement Parts

All the terminated leads mentioned above can be ordered from SPX (Kent-Moore) in bags of five each using the part numbers above and adding SIR as a suffix e.g. 15435886-SIR. The shrink tubing can be ordered from SPX (Kent-Moore) in bags of five each using the part number J-38125-Tube.

*- Thanks to John Roberts and Jim Willockx*

## DealerWorld IDs and Passwords for Technicians to access Service Information

As stated in the December 2003 TechLink, General Motors is now using your GM DealerWorld ID and password to access Service Information (SI) in both GM DealerWorld and service.gm.com websites. Since the transition in the first quarter of 2004, there have been several questions regarding DealerWorld access and passwords. Here are some of the reasons for the changes, how to obtain access to DealerWorld, and how to deal with any password concerns that may be encountered.

**Why is GM requiring a unique DealerWorld ID and password for Technicians?** Using a GM DealerWorld ID and password helps GM maintain appropriate security. This also enables technicians to access all authorized DealerWorld applications without having to rely on other individuals. Dealers pay a monthly Techline subscription, and sharing an ID with someone who is not a technician violates security.

**How does a technician get a DealerWorld user ID and password?** Each dealership should have a Partner Security Coordinator (PSC). The PSC or their assigned surrogate are the only individuals that can create DealerWorld user IDs and passwords. This same individual may also create a customized ID at any time.

**IMPORTANT:** The DealerWorld Support Desk will not issue user IDs or passwords. If you do not know who your PSC is at the dealership, you may ask your service manager or call the DealerWorld Support Desk at 1.888.337.1010 and follow the prompts.

Whenever contacting the DealerWorld Support desk, be sure to have your dealership's Business Associate Code (BAC). If a dealer does not have a PSC, the support desk will need to contact the Dealer Principal and have them fill out the Partner Security Coordinator Change Form.

### Tips for using DealerWorld

GM recommends the PSC assign individual user IDs, to prevent sharing of IDs and passwords. Shared IDs and passwords can cause frequent lockouts. If an incorrect password is entered three times, your ID will be locked out.

Every 60 days, the user will be automatically prompted to change their password. If an ID has not been used after 90 days, the user ID will be automatically deleted, rendering it useless. Users should go into DealerWorld at least once per month to keep an ID and password active.

*TIP:* It is not recommended to use the "save this password" option. The ID and password should be entered each time the application is accessed.

When a new ID is issued, the user MUST access DealerWorld and change his or her temporary password within 24 hours of being issued or it will be deleted!

Any further questions should be directed to your local PSC, and if they are unable to assist, they may contact the DealerWorld Help Desk at 1.888.337.1010.

*- Thanks to GM Technical Assistance*

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## Case Closing Phone Numbers

Do not use the phone numbers published in the April 2003 TechLink when closing TAC cases.

Call the VME phone-in system at 1.877.446.8227, prompt 1.

Use the fax-in system by sending a fax to 1.800.544.1761.

*- Thanks to GM Technical Assistance*

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## 4L80E/4L85E Automatic Transmission Fluid Pump Cover Usage

This information applies to 1997-2004 General Motors Light Duty Trucks, Utilities and Vans.

Due to a internal design change to the 2004 interim 4L80E/4L85E transmission case, the Transmission Fluid Pump Cover usage has changed. The Service Parts Information will be changed in May 2004 to reflect the parts application changes

The following shows the proper transmission fluid pump cover usage.

| 1997-2003 | 24204303 |
|-----------|----------|
| 2004-05   | 24232405 |

*- Thanks to Mark Gordon*

## Coolant Leak at Cup Plugs

This information applies to 2003-04 Chevrolet and GMC C/K trucks, Cadillac Escalade, and Corvette, and 2004 Cadillac CTSV and Pontiac GTO with GEN III V8 engines.

If coolant appears to be leaking at the head cup plugs, clean the area and inspect for an actual leak, not a stain.

*TIP:* New engines may contain seal tabs, and it is possible for the plug to leak during the first 15 minutes of operation.

If the stain is cleaned and a leak is indicated, drain the coolant and install new coolant with 4 sealer tabs. Operate the vehicle for a minimum of 15 minutes to allow sealing, then re-evaluate.

If the cup plugs continue to leak after installing sealer tabs, install new cup plugs. Lower the coolant level so there is no coolant in the cylinder heads. Remove the cup plugs and clean the bores. When installing new cup plugs, apply Primer N (Loctite product number 7649) to the cup plug and Loctite 620 adhesive to the bore.

*TIP:* Applying to the separate substrates avoids any cross-contamination of adhesive and accelerator. This also prevents any potential pre-curing of adhesive that is applied to an activated surface.

Allow the vehicle to sit for a minimum of one hour before refilling and testing.

*- Thanks to Sean Garrison*

## Radio Concerns

This information pertains to the following 2004 vehicles:
- Chevrolet Colorado and GMC Canyon
- Chevrolet Express Van and GMC Savana Van
- Chevrolet SSR
- Chevrolet Blazer and GMC Jimmy (old body)
- Chevrolet, GMC and Cadillac full size Trucks and Utilities
- Chevrolet Trailblazer, GMC Envoy and Buick Rainier
- Hummer H2

Vehicles listed above built in March and April with radio RPO UC6, UB1, or UB0 may have a concern with no audio and no radio display, or the radio clock is resetting.

To resolve the concern, perform a radio set-up procedure with the Tech 2.

*TIP:* Use software 24.003, released May 3, 2004, or newer.

Perform the following steps:
Select 2004 model year
Select Light Duty Truck
Select the vehicle make
Select Body
Select Body Series
Select Uplevel Radio
Select Special Functions
Select Radio Setup

*- Thanks to Jim Will*

## Car Issues -- Fix It Right the First Time

| Model Year(s) | Vehicle Line(s) / Condition | Do This | Don't Do This | Reference Information / Bulletin |
|---|---|---|---|---|
| 2001-2004 | Aztek (01-04), Rendezvous (FWD, 02-04), Venture/Montana/Silhouette (01-04) – Pop and/or Rattle in Exhaust Down Pipe | Follow procedure in bulletin 03-06-05-003 using clamp P/N on down pipe to correct rattle/buzz noise. | Don't replace converter assembly for rattle/buzz noise without completing instructions in 03-06-05-003. | 03-06-05-003 |
| 2000-2004 | All Cars with 4T40/4T45E and 4T65E – Light On/Various Transmission Codes Stores | Check transmission 20-way connector for secure connection (disconnect and reconnect). | Don't replace transmission, TCC PWM, VSS, PCS or valve body. | 02-07-30-022B |
| 1998-2004 | Seville – Heated Seat Inoperative | Replace only needed heating element. | Don't replace entire seat cover if heated seat element is inoperative. | 01-08-50-002C |
| 2001-2004 | Century/Regal – Intermittent SES, ABS or TCS Lamp Illuminated, Engine No Crank/No Start, Various I/P Cluster Intermittents, DTCs U1000, B1422, B2957, B2958 Set, Shifter Locked in Park (BTSI Inoperative) | Check UBEC harness connectors for damage and replace damaged terminals. | Don't replace UBEC, ignition switch, sensing diagnostic module (SDM), body control module (BCM), shifter assembly (Regal) or intermittently inoperative clusters. | 03-08-45-004 |
| 2000-2004 | Cavalier/Sunfire/Alero/Grand Am – Inoperative Sunroof Module | Retime module or replace only motor for inoperative complaints. | Don't replace entire sunroof module assembly. | 03-08-67-009A |
| 2003-2004 | Cavalier/Sunfire – Air Conditioning Compressor Noisy | Inspect for ground out conditions that can cause A/C compressor noise complaints. | Don't replace A/C compressor for excessive noise complaint without inspecting for ground outs. | 03-01-38-012 |
| 1999-2004 | All Cars and Trucks – Brake Warranty, Service and Procedures | Issue One: Refinish brake rotor. Issue Two: Measure for LRO | Issue One: Don't replace brake rotors. Issue Two: Don't measure for LRO | 00-05-22-002C |
| 2003-2004 | CTS – Variable Effort Steering (VES) "Service Steering Message," DTC C1241 or C0450 | Replace only VES solenoid. | 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, torque converter or valve body assembly. | 02-07-30-039C |
| 2000-2003 | LeSabre, Park Avenue, Regal, Impala, Monte Carlo, Bonneville, Grand Prix With 3.8L V6 Engine (RPO L36) – Loss of Coolant, Milky Colored Oil | Replace upper intake manifold gasket only. | Don't replace upper intake manifold assembly for coolant leak condition. | 03-06-01-016 |

## Truck Issues -- Fix It Right the First Time

| Model Year(s) | Vehicle Line(s) / Condition | Do This | Don't Do This | Reference Information / Bulletin |
|---|---|---|---|---|
| 2002-2004 | Fullsize and Midsize Pickups and Utilities – Sleepy New Venture Gear Transfer Case Control Module | Verify sleepy module as primary cause, per bulletin. Reprogram TCCM with latest software | Don't replace encoder motor or transfer case. Replace module only if a C0550 DTC shows as current or in history. | 02-04-21-006D |
| 2004 | Fullsize Pickups – 6.6L LLY Diesel Engine Injectors | 04 LLY Duramax® fuel injector on restriction. TAC must be contacted. | Do not replace an LLY Duramax® injector prior to contacting TAC. | GM Messenger VSS20040067 |
| 2002-2003 | Chevrolet Avalanche and Cadillac Escalade EXT – Cargo Covers and Cladding Faded or Stained | Thoroughly clean, dry and treat components with "Armor-dillo." To order call 888.393.4722 or online at www.armor-dillo.net. | Don't replace cargo covers for this condition. | 04-08-111-001 |
| 2002-2004 | 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 Labor Operation K9992, which is for manual transmission concerns or Labor Operation K9995, which is for automatic transmission concerns. | Service VME VSSM20030117 |
| 2002-2004 | Fullsize Pickups – Rear Leaf Spring Slap Noise | Replace inserts and rubber washers. | Don't replace leaf spring. | 03-03-09-002 |
| 2002-2004 | 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 | 01-01-38-013A 03-01-38-019 |
| 2002-2004 (models with HomeLink option) | 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 their Owner's Manual. | Don't replace HomeLink Transceiver without validating internal fault recognized by J 41540. | 01-08-97-001B |
| 2002-2004 | 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 |
| 2001-2004 | 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 |
| 2002-2004 | All TrailBlazers, All Envoys, Bravada, Rainier – Mirror Erratic Return | Replace mirror actuator and reprogram module | Don't replace outside mirror assembly | 02-08-64-021, 03-08-64-032 03-08-64-033 |

**Know-How Broadcasts for July**

| July 15, 2004 | | July 29, 2004 | |
|---|---|---|---|
| 10280.07D Emerging Issues | All Eastern Time | 10280.19D | Eastern Time |
| - Pontiac, Buick, GMC | 12:30 PM | New Model Features – 2005 Chevrolet and GMC Trucks | 9:90 AM |
| - Chev Cars & Trucks | 1:00 PM | | 12:30 PM |
| - Cadillac, Hummer | 1:30 PM | | 3:00 PM |

IDL

*– Thanks to Tracy Timmerman*