

Electronically Controlled Viscous Cooling Fan

Cooling fan clutches have been used on GM vehicles for many years, because they improve fuel economy and emissions, and contribute to lower engine noise levels. Historically, most rear-drive vehicles have been equipped with a thermostatic fan clutch, or in some cases, an electric fan.

The 4.2L engine (RPO LL8) in the 2002 Chevrolet TrailBlazer, GMC Envoy, and Oldsmobile Bravada uses an all-new PCM-controlled Electro-Viscous (EV) cooling fan. In 2003, this same device will appear on the 5.3L (LM4) mid-size truck engine.

When compared with the conventional fan clutch, the EV fan offers several benefits:

- Improved A/C idle and city traffic performance
- Reduced noise
- Reduced A/C compressor warranty, because the A/C system operates at a lower head pressure

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Techline News

Preliminary Information (PI) Documents Coming to SI

In the past, if you were working on a vehicle condition that was not addressed in SI, you could check the list of Product Information (PI) documents to see if one of the titles sounded like it would be helpful. Then you had to call Technical Assistance for specific repair suggestions contained in the PI.

Changes were put in place on the SI website the week of June 17 allowing you to find both the title and the text of Product Information documents yourself.

And, the CD version will be updated to reflect the PI enhancement in July when a new set of SI CDs are shipped to your dealership.

Here are the highlights of this new service:

- Technical Assistance is reviewing current PI information and if appropriate, will republish the information in the new format that will be viewable in SI.
- The amount of PI information in SI may

be minimal to start, and will increase over time.

- The Vehicle Identification Number (VIN) is required to access the PI text. The PI is tied to a specific vehicle and concern.
- It is important to understand that a PI may apply to one vehicle and not necessarily another, because of the symptom/concerns. It is also important to access SI each time you work on a vehicle, to get any PIs that may apply directly to that vehicle.
- Due to the SI publication timetable, PI information will be available through TAC 1 – 10 days before the information is available in SI.
- PIs that do not indicate specific fixes will not be available through SI.
- Preliminary Information is often the basis for bulletins and changes in SI Service Manuals. When this occurs, the PI will be removed from SI.

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Although the goal of this new activity is to put more information in your hands at the dealership, do not hesitate to call TAC if you need further assistance. The team at TAC is always available to help you with your diagnostic questions.

Having access to PI text is the number one request that TAC hears from technicians. However, as with any change, it will take time to build the system to where it needs to be. Your cooperation and

patience during this transition is appreciated.

Remember, the Service and Parts Operations website can be accessed at <http://service.gm.com>. If you have questions regarding the content of this message, please contact the Technical Assistance Center at 1.877.446.8227.

– Thanks to Beth Grotz
Director, GM Technical
Assistance Center

Steering Column Rattle

Owners of some 1999-2002 Sierra or Silverado 2500HD and 1500HD pickups may comment about a rattle noise from the steering column, particularly during low speed parking lot maneuvers.

A new stub shaft bearing kit 26099860 has been released to address this issue. The kit contains a bearing, a packet of lubricant and instructions.

TIP: The new bearing is a tight hand fit.

TIP: For installation, you must use essential tool J-45798 to avoid damage to

Bearing Installer J-45798



the bearing seal. This tool has been sent separately.

TIP: It is not necessary to replace the I-shaft for this condition. Although the symptoms are similar, this is not the same condition mentioned in bulletin 00-02-35-003A.

– Thanks to Steve Love

Bed Rail Installation

When installing accessory bed rails on a 1996-2002 Chevrolet S-10 or GMC Sonoma pickup, observe these tips.

Carefully follow the instructions that come with the bed rails. The pickup bed may be damaged if the rails are reversed or the fasteners are overtorqued.



Be careful when center punching the bed rail for drilling.

Do not use a click-type torque wrench or exceed 60 lb in (6.8 Nm).

– Thanks to Dan Oden



On vehicles with a Star configuration, a splice pack (Star Connector) houses the Class 2 wires coming from each of the controllers. The location of these splice packs varies from vehicle to vehicle.

TIP: See the June 2002 issue for a description of Star configuration.

Because the location can vary, it may be necessary to use SI to locate the splice pack. Once the proper vehicle has been selected, type DLC into the search box. This will bring up the Data Link Connector Schematic. This will show the controllers and how the Class 2 bus is wired and also if there is a splice pack used.

In the upper right corner of the zoomed schematic will be a hyperlink labeled LOC, which stands for location. Clicking this will bring up the Master Electrical Component List. Look down the list for Star Connector and click on the Component Views hyperlink for a picture of the location or Connector End View for a pinout of the splice pack.

TIP: Not all vehicles use splice packs. For instance on the GMT400 family of pickups and utilities, the Class 2 wires were crimped and soldered in traditional harness building style.

– Thanks to Mark Harris

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. This magazine is a companion to the GM Edge publication.

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General Motors service tips are intended for use by professional technicians, not a "do-it-yourselfer." They are written to inform those technicians of conditions that may occur on some vehicles, or to provide information that could assist in the proper service of a vehicle. Properly trained technicians have the equipment, tools, safety instructions and know-how to do a job properly and safely. If a condition is described, do not assume that the bulletin applies to your vehicle or that your vehicle will have that condition. See a General Motors dealer servicing your brand of General Motors vehicle for information on whether your vehicle may benefit from the information.

Inclusion in this publication is not necessarily an endorsement of the individual or the company.

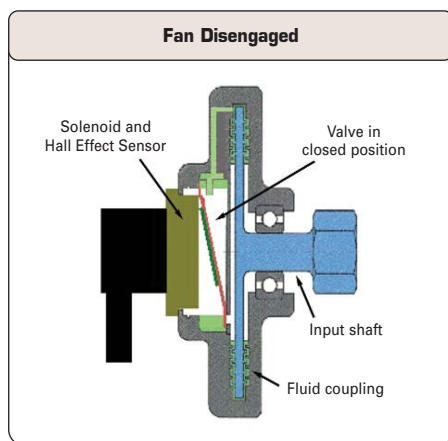
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- Reduced parasitic losses, for improved fuel economy
- Reduced false engagements at stop light idles

Review of Conventional Thermostatic Fan Clutch

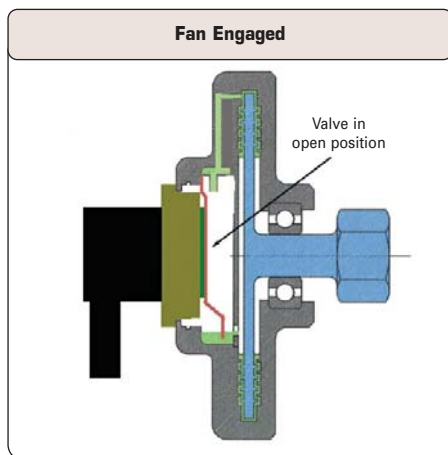
The conventional thermostatic clutch is a fluid coupling, belt-driven by the engine. The amount of fluid in the coupling is controlled by a bimetallic coil spring attached to a valve. More fluid is admitted into the coupling at higher temperatures, causing the fan rotation to increase. At lower temperatures, the spring closes the valve, decreasing fluid in the coupling, and the fan rotation decreases.



Fluid is pumped from a reservoir in the fan clutch into the coupling by the action of the fan shaft.

EV Fan Operation

The EV fan clutch also operates by controlling the amount of fluid admitted into the coupling. But instead of a bimetallic spring, the valve is operated by an electrical solenoid.



The solenoid is controlled by a solid-state device, operated by a pulse-width-modulated (PWM) signal from the PCM. As the commanded state of the fan clutch increases, so does the ON time of the relay.

And the relay ON time directly affects the amount of time the solenoid in the fan clutch is energized.

TIP: The fan is disengaged at 0% duty cycle and fully engaged at 100% duty cycle.

The fan is commanded to 100% if:

- engine coolant temperature exceeds 264°F (129°C)
- transmission oil temperature exceeds approximately 304°F (151°C)
- A/C refrigerant pressure exceeds 240 psi (1655 kPa)
- certain DTCs are set.

The fan is commanded to less than 100% under all other conditions.

The PCM uses information from the following sensors to determine the appropriate duty cycle:

- Engine coolant temperature
- Transmission oil temperature
- Ambient air temperature
- A/C reference pressure
- Vehicle speed
- EV fan Hall effect sensor

The PCM monitors the performance of the cooling fan using a Hall effect sensor, which reads a reluctor track inside the fan clutch. The PCM supplies a 5-volt reference and a low reference to the Hall effect sensor. The sensor returns a signal pulse through the cooling fan speed signal circuit. 1 hz on the cooling fan speed signal circuit equals about 1 rpm of actual fan speed. By comparing the actual and desired fan speeds, the PCM is able to determine if the fan is working as designed. If not, it will set related DTCs if necessary.

Quick Function Check

The EV cooling fan can be controlled in 10% increments using the Tech 2.

TIP: Follow this path on your Tech 2:

- F0: Powertrain
- F2: Special Functions
- F0: Engine Output Controls
- F0: Electro-Viscous Fan

TIP: Because fluid has to bleed in and out of the coupling, it may not respond to commands at idle due to the lower pumping effect inside the coupling at low speed. When controlling the EV cooling fan, it is best to have the engine at 2,000 rpm to ensure that there is enough fluid movement to fully engage and disengage the coupling. Depending on engine temperature and rpm, there may be a delay of up to 2 minutes before hearing the fan respond to your Tech 2 command. The lower the engine speed, the longer it will take. In lower ambient temperatures, the cooling fan will engage in less time, but will take longer to disengage due to properties of the fluid.

Other Diagnostic Tips

If there are related fan DTCs (typically a P0495) and the EV cooling fan cannot be commanded off using the above method, a stuck EV cooling fan may be isolated by unplugging the EV fan connector on the radiator shroud and running the engine at 2,500 for two minutes.

EV cooling fan should return to an unlocked state under these conditions. If you cannot hear the fan disengage, the coupling is stuck on.

A design characteristic of the fan coupling may cause the fan to be temporarily engaged after a cold start. If the coupling was locked up during a previous drive cycle due to A/C pressure, transmission temperature, or engine temperature, some cold start fan noise may be normal. The fluid coupling does not disengage overnight and the silicone fluid in the coupling will be thicker when cold.

Also, if the vehicle is parked for an extended period, the fluid may migrate from the reservoir into the coupling, resulting in fan operation even though the engine is cold.

Although the fan is commanded OFF during a cold start, the fan may be engaged for these reasons. This is the most likely time a customer will notice and comment on excessive fan noise.

Excessive Fan Noise

A fully-engaged fan can generate a lot of noise. Comparing a noise complaint to a like vehicle can be difficult, and the conditions from vehicle to vehicle may be different.

When questioning the customer about a fan concern, get specific information:

- Were you using the A/C or defroster on the previous trip?
- Was the ambient temperature high the last time the vehicle was driven?
- Was the vehicle driven an extended period of time the last time?
- Was the vehicle parked for an extended period before the noise concern?

These conditions can all cause a high noise concern, because the EV clutch can take up to 2 minutes to disengage.

Fan noise may be mistaken for a high idle, loss of power, transmission slip, or delayed transmission shift. If you receive a concern like this that cannot be verified and there are no related DTCs, it may help to take a test drive with the customer. Command the fan on to determine if they may be mistaking normal fan noise for a malfunction.

If the EV cooling fan is not working as designed, there should be a related DTC. If there is a cooling fan noise concern but no DTCs, if no problem was found using above function check, and if the latest calibration is in the PCM, it is most likely a characteristic of the design.

- Thanks to Jamie Parkhurst, Jim Mauney, and Marty Case

Restricted EVAP Vent Path

Some 1999-2002 Chevrolet and GMC C/K Pickup models may display a DTC P0446. A restricted or blocked EVAP vent path may occur when a vehicle is operated in a dusty environment, such as farming or mining.

EVAP Vent Hose Assembly with filter



A service procedure and replacement part has been developed to address this condition. A bulletin is pending. In the meantime, here are the highlights.

First, perform the diagnostics for P0446 to confirm the cause of the condition. Then replace the EVAP canister vent hose with p/n 15086426. This assembly has enhanced filtering and a removable, cleanable filter element.

Installation Procedure

1. Raise the vehicle and support suitably.
2. Disconnect EVAP canister vent valve electrical connector.
3. Disconnect vent valve pipe at EVAP canister.
4. Remove and retain vent valve retaining bolt.
5. Disengage two vent valve pipe clips securing pipe to underbody.
6. Remove and discard EVAP canister vent hose assembly.

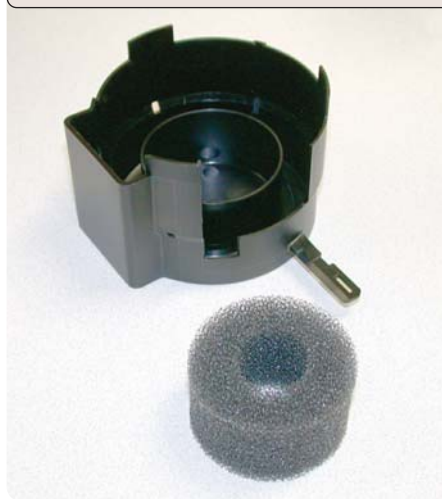
7. Position and secure new assembly using existing hole and mounting bolt, and tighten bolt to 106 lb in (12 Nm).
8. Install vent valve pipe clips to existing holes.
9. Connect pipe to EVAP canister.
10. Connect electrical connector.
11. Lower vehicle.

Servicing the Filter Element

Disengage filter cover locking finger by gently lifting filter while rotating filter body clockwise. After 45° of rotation, disengage filter from valve by pulling outward. Remove the filter cover. Remove the element and wash with soap and water. Be sure body and filter element are dry before reinstalling.

– Thanks to Steve Love

Removable filter element



Tracker Window Binds, Glass Tips Forward

Owners of some 1999-2002 Chevrolet Trackers may comment that when the front windows are raised, they become slow, or bind, or tip forward in the track.

The cause is increased friction in the front window run channel due to a pinch point in the rubber. GM Service Bulletin 02-08-64-004 has just been released to communicate a field fix to relieve the pinch point by cutting a relief notch in the rubber run channel.

Cutting a relief notch



In cases where the forward area of rubber run channel is worn, replace the rubber channel with a new part. A new notched rubber run channel was released into Tracker production in March, 2002, and will soon be released as a GM service part. Until the notched service part becomes available, it is a simple procedure to cut a relief notch in the new part according to the instructions in the service bulletin.

– Thanks to Donald B. Sherman

SI Updates for NVG 246 Transfer Case

This is a summary of recent revisions in SI for the NVG 246 transfer case used in K-trucks/utilities.

Diagnostic System Check – Steps were modified and added to include a fuse blowing condition, which causes a no communication condition with the scan tool

DTC B2725 Mode Switch Code – Wording was modified in this diagnostic to match what was indicated on the scan tool. The resistance reading given for the switch were modified to include a range which shows the + or – 1% parameter.

DTC C0300 Rear Speed Sensor Code – Changed step 4 to advise the technician to place the vehicle on a hoist and put the vehicle into drive and accelerate slowly to 5 MPH in order to do the A/C voltage check on the rear speed sensor.

DTC C0308 Motor Control A/B Low Code – Made minor improvements to three steps to increase diagnostic charts accuracy.

Added a motor resistance check to step 7 to improve diagnostics.

DTC C0323 Transfer Case Lock Circuit Malfunction – Added a step to check the lock solenoid for an open or short to ground within the solenoid.

DTC C0327 Encoder Channel Circuit Fault – This DTC chart was completely rewritten to accurately lead to the failed part.

DTC C0387 Encoder Unable to Complete a Commanded Shift Fault – Step 8 was deleted from the diagnostic chart for being redundant. Step 9 was altered to check the voltage on the Motor A/B circuits instead of listening for the motor to make a buzzing noise.

Transfer Case Shift Control Switch Indicator Flashes 10 Seconds, then Returns to Previous Mode – This symptom is new and was not previously addressed. This chart has the technician check the motor A/B circuits as well as the channel circuits for

proper resistances and voltages. This symptom diagnostic is available on SI 2000.

Transfer Case Will Not Make a Mode or Range Shift – This symptom is new and not previously addressed. Much of the diagnostics for this symptom was taken from the transfer case shift control switch inoperative diagnostic. This new symptom is available on SI 2000.

Transfer Case Shift Control Switch Inoperative – Minor changes to improve accuracy and the switch resistances were given the + or – 1% range.

Transfer Case Shift Control Switch Indicators Flash Continuously – Minor changes made to match what was indicated on the scan tool.

Transfer Case Shift Control Switch Indicator Inoperative – Minor grammatical changes made to make the chart easier to read.

– Thanks to BJ Lackey

Quadrasteer™ Learn Wheel Alignment Procedure

On 2002 Chevrolet Silverado and GMC Sierra trucks equipped with Quadrasteer Rear Wheel Steering, you must use your Tech 2 to perform a Learn Wheel Alignment procedure under the following conditions:

- Wheel alignment has been done
- RWS control module has been replaced
- Handwheel (steering wheel) position sensor has been replaced
- Rear wheel position sensor has been replaced
- Vehicle has been in an accident and steering components were replaced or adjusted

When any of these has occurred, the

RWS control module has to relearn the position of the wheels. Failure to run the Learn Alignment procedure could possibly cause the vehicle to track incorrectly when in 4-wheel steering mode.

TIP: You can find the Learn Wheel Alignment in SI by specifying document ID number 757694.

On the Tech 2, locate the Learn Alignment menu, then follow the prompts on the tool. Here are some important highlights.

When the procedure is underway, all mode lamps will be illuminated on the RWS control switch.

TIP: The procedure requires you to turn the steering wheel 90° to the left and to the

right, then to the center. Failure to turn the steering wheel as indicated may cause the Learn Alignment procedure to fail. You will be given three opportunities to re-try during the procedure, and if it does not complete successfully, there will be a code C0253, Centering Error.

When the procedure has been completed successfully, the system will default to 2-wheel steer. You will then have to select 4-wheel steer and drive the vehicle to verify proper 4-wheel steer operation.

If the procedure is not completed successfully, the Tech 2 will indicate the likely cause and will refer you to SI for further information.

– Thanks to Don McCurry.

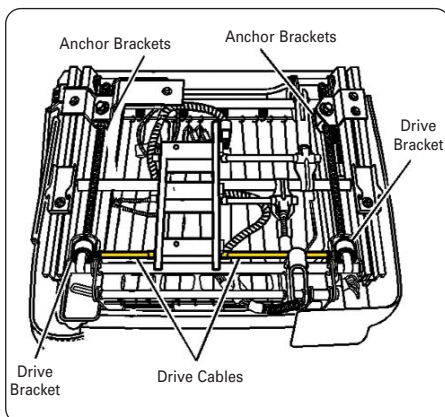
Seat Adjuster Repairs

A new seat adjuster used on late production 2001 and all 2002 Chevrolet Impala and Monte Carlo and Buick Century and Regal may experience two conditions which will make seat removal difficult.

When either fault occurs, the adjuster may be in a position that covers the adjuster-to-floorpan bolts. These bolts must be removed to repair/replace the seat adjuster. The following procedures permits moving the adjuster to access these bolts.

Backward and Forward Travel (Horizontal Movement) Stops Functioning on One Side

This is an indication that one of the drive cables has disengaged. The horizontal drive has two cables that lie between the motor and a drive screw on each side of the adjuster. If either cable is bent, an end will disengage from the motor or the drive screw.



If the seat is equipped with an air bag, disable the SIR.

Reach under the seat front, locate the

bent cable, and try to straighten it. Engage the cable end. If necessary, toggle the power seat switch back and forth.

Once engaged, position the seat forward to access the adjuster-to-floorpan bolts. Remove the bolts and tip the seat rearward.

Remove the cable that was bent and examine it for any damage. Replace a damaged cable when parts become available. Examine all the drive cables to ensure that they are straight.

Examine the motor bracket for damage where it attaches to the front rod. Replace the seat adjuster if damaged.

Adjuster out of Sync

With the cable problem fixed, you will need to re-synch the adjuster, right side to left side. The out-of-synch condition may create a noise or cause the drive motor to overheat and fail.

With the seat tipped rearward, run the seat adjuster rearward until the drive bracket and anchor bracket are together on one side of the adjuster. Remove the drive cable from that side.

Again, run the other side rearward until the brackets on that side touch. Install the removed cable.

Check the adjuster for proper operation. Install the adjuster-to-floorpan bolts.

Enable the SIR.

Horizontal Drive Motor Fails and Adjuster Stops Moving

If the seat is equipped with an air bag, disable the SIR.

From the front of the seat, disconnect both drive cables at the horizontal drive

motor. Do not remove the cables from the drive brackets.

Attach a drill motor to a drive cable. Alternately run both sides of the adjuster forward until the seat adjuster-to-floorpan bolts are accessible.

Remove the seat and replace the adjuster.

Enable the SIR.

Vertical Adjustment Stops

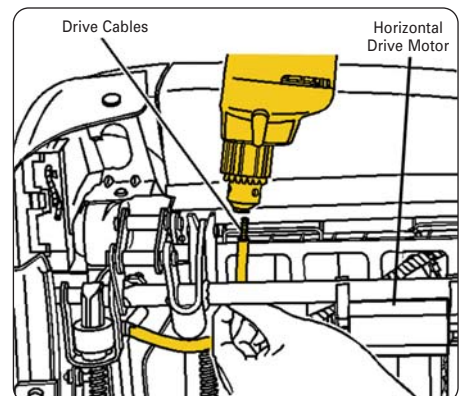
A bent cable may also cause vertical seat adjustment to stop. Remove the adjuster-to-floor pan bolts. Tip the seat rearward.

Check the two rear drive motors for bent cables. Remove any bent cable and examine it for damage. Replace a damaged cable when parts become available.

Install the removed cable, making sure the cable is straight. If necessary, toggle the power seat switch back and forth to get the cable ends to engage.

Check the adjuster for proper operation. Install the adjuster-to-floorpan bolts.

– Thanks to Melvyn Spresney



New Style Inner Door Water Deflector

A new style water deflector has been released for the 2002 Pontiac Grand Am and Oldsmobile Alero. This updated part replaces the plastic type water deflector, that is attached with butyl. In production, the new molded foam water deflector is installed along with the door trim panel to the aligning holes in the door metal using pin and grommet type retainers.

An adhesive strip built into the deflector adheres the water deflector to the door metal. This type of attachment assures that the deflector is consistently positioned and sealed to the door. The benefits of this type of deflector include better water control, better sound insulation, improved installation and fit.

If you remove the door trim panel for service of the components inside the door, the deflector remains adhered to the door. To access the door glass, window regulator, latch assembly, lock rods or other inner door components, you must partially detach the water deflector. Carefully peel the top half of the water deflector from the door, down to the crease line in the water deflector. In some cases, it may be necessary to use a

plastic trim stick to disengage the adhesive on the back side of the water deflector to the door.

TIP: Do not disconnect the bottom portion of the water deflector. The bottom portion of the water deflector is a critical part of water management. If the bottom portion of the water deflector is not sealed to the door, water will be allowed to enter the vehicle at the bottom of the door instead of being diverted back inside the door.

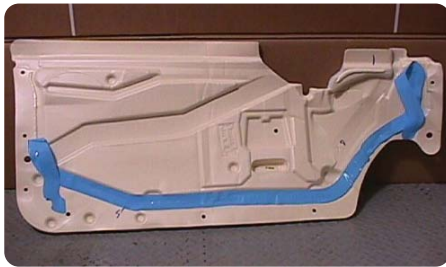
Then, simply fold the top portion down and allow it to hang. If the upper portion of the water deflector is damaged, you may repair it by installing duct tape to the deflector, under the acoustic mat. However, if the lower portion of the water deflector becomes damaged, a new one must be installed.

Installing a Replacement Deflector

Locate the pre-punched holes in the replacement deflector onto the door trim Trim Panel Retainers. Pull the protective backing from the adhesive, and install the trim panel to the door. Be sure the Trim Panel Retainers are fully seated to ensure that the trim panel is properly snug, and that the water deflector adhesive makes good contact with the door.

If the acoustic mat becomes detached from the deflector, it is not necessary to re-adhere it. Simply install it over the Trim Panel Retainers to align it.

– Thanks to Ray Romeo



Sunshade Wires Pinched

Owners of some 2000-02 Oldsmobile Intrigues may experience a number of inoperative components: interior lights stay on or inoperative, or Inadvertent Power Fuse blown causing inoperative cruise control, entertainment system, power windows, power sunroof and others. Codes B1477, B1482 and B2617 may also be set. Refer to bulletin 01-08-42-007 for details.

These conditions may be caused by a short to ground or open in the wires to the sunshade vanity mirror lamps, circuit 1732. These wires may become chafed underneath the headliner. If the Inadvertent Power Fuse has blown, incorrect diagnosis may lead to the unnecessary replacement of the BCM. When removing the sunshade, be very careful not to damage the bezel on the shaft, which is not serviceable separately.

When installing the sunshades, route the sunshade vanity mirror wiring harness back into the notch (cutout) in the roof

sheet metal to prevent the harness from being pinched during installation.

TIP: See the sunshade removal article in the August 2001 issue of TechLink for details on removing the sunshade. There was also an IDL broadcast of this procedure.

TIP: In SI 2000, refer to document ID number 694701 for wiring information and 600010 for sunshade removal.

– Thanks to John Woodrich

Headliner Removed to Show Wire Location



TAC Tips

Allison LCT1000 M74 Automatic Transmission 5/4/5 Shift “Busyness”

CONDITION/CONCERN

Allison LCT1000 (M74) may experience a condition of shift “busyness” or frequent shifting from 5th to 4th to 5th while towing or under heavy loads.

RECOMMENDATION/ INSTRUCTIONS

A new TCM calibration has been released to improve the shift busyness. The TCM calibration is available on TIS 2000 version 3.50 or later (released 3/24/02).

The calibration also contains a feature which allows 5th gear to be disabled/inhibited if desired. To make this feature operable, the following items must be obtained and steps performed:

FOR VEHICLES WITHOUT AIRBAG DISABLE SWITCH

Parts needed

Momentary push button switch (normally open), qty 1 – obtain locally

LED and 10k resistor wired in series, (if an indicator is desired), qty 1 – obtain locally

Accessory switch opening cover, P/N 15734687, qty 2

Accessory switch housing, P/N 15040483, qty 1

18 gauge wire (bulk) – obtain locally

3 Micro-Pack 100 W Terminals, P/N 12084912

Installation Instructions

Install the switch (and LED / resistor in series if desired) in the accessory switch opening cover.

Using the bulk wire, route the wires

continued on page 7

continued from page 6

from the switch through the cowl to the TCM, using approved methods.

Connect one lead of the switch to TCM connector C1 pin 12 and the other to TCM connector C1 pin 28, using the Micro-Pack 100 W Terminals.

If an LED / resistor is used, connect one lead to TCM connector C1 pin 20, using the Micro-Pack 100 W Terminal and the other lead to a 12-volt switched power source.

Install the accessory switch cover and accessory switch housing into the dash.

FOR VEHICLES WITH AIRBAG DISABLE SWITCH

Parts needed

Momentary push button switch (normally open), qty 1 – obtain locally

LED and 10k resistor wired in series, (if an indicator is desired), qty 1 – obtain locally

18 gauge wire (bulk) – obtain locally

3 Micro-Pack 100 W Terminals, P/N 12084912

Installation Instructions

Install the switch (and LED / resistor in series if desired) in the small, blank panel to the left of the passenger airbag shutoff switch. Using the bulk wire, route the wires from the switch through the cowl to the TCM, using approved methods.

Connect one lead of the switch to TCM connector C1 pin 12 and the other to TCM connector C1 pin 28, using the Micro-Pack 100 W Terminals.

If an LED / resistor is used, connect one lead to TCM connector C1 pin 20, using the Micro-Pack 100 W Terminal and the other lead to a 12 volt switched power source.

OPERATION, ALL VEHICLES

Depress the momentary switch once to inhibit 5th gear operation.

Depress the momentary switch again to allow 5th gear operation.

The system defaults to allow 5th gear operation with a key cycle.

– Thanks to GM Technical Assistance

Door Trim Panel Hooks Broken

On 1998-02 Cadillac Eldorado, improper removal or installation of the interior door trim panel can cause the retainer hooks to break.

Please reference the proper service manual procedure to avoid hook breakage. In SI2000, search Body & Accessories/Doors/Repair Instructions/Trim Panel Replacement.

It is important to lift the panel up to disengage the hooks after the fasteners have been removed. If the hooks are broken, the panel can be repaired with Kent-Moore kit J-42983. This kit contains hooks, epoxy, gauge blocks, grinding tool, and instructions.

– Thanks to GM Technical Assistance.

Radio Assistance for 2003 Cadillac CTS

Radios used in the Cadillac CTS are obtained from two different sources. You must call the appropriate telephone number for diagnostic and technical assistance.

Delphi Electronics (800.428.0501*) *Call GM TAC in Canada

RPO U2V – Bose AM/FM Stereo, Cassette, 6 Disc In-Head Changer, RDS, with CD ROM Navigation

Seimens-VDO (call GM TAC)

RPO U2S – AM/FM Stereo, Cassette,

6 Disc In-dash CD, RDS

RPO U2R – AM/FM Stereo, Cassette, Single Disc CD, RDS

If you need help in diagnosing a Seimens-VDO radio, phone GM TAC, who can arrange a conference call.

Before calling, you must have:

- dealer name, address, phone number, and contact name
- radio serial number and part number
- description of the concern
- details surrounding that concern

– Thanks to GM Technical Assistance

Allison LCT1000 Transmission

General Motors recently released for sale the 2003 C4500 to the public through both light-duty and medium-duty dealerships. (medium-duty only, in Canada) Many of these trucks will be equipped with the Allison LCT1000 transmission. All internal repairs to the Allison LCT1000 transmission installed in the C4500 are to be completed by an authorized Allison distributor/dealer only.

The Chevrolet and GMC light-duty dealers currently selling and servicing the C/K2500HD and C/K3500 pickups equipped with the Allison LCT1000 are not Allison distributors and therefore are not authorized to make internal repairs to the Allison LCT1000 in the C4500 trucks.

Light-duty Chevrolet and GMC dealers selling the C4500 can service only external wiring harness, shift linkage, cooler lines and fittings, flywheel/flexplate and transmission mount. The speed sensors and NSBU are not serviceable items for light-duty dealers.

– Thanks to GM Technical Assistance

Perceived Overspeed During Decel

On 2001-02 Chevrolet Silverado and GMC Sierra C/K trucks equipped with Allison LCT1000 (M74) transmission and Duramax 6.6 (LB7) engine, there may be a perception that the engine overspeeds when the transmission TCM activates the grade braking function.

Grade braking is a feature incorporated into the Allison LCT1000 (M74) transmission that utilizes engine braking to slow a heavy vehicle on steep grades. Bulletin 02-07-30-004 provides additional detail on how grade braking functions.

The TCM calibration allows a transmission downshift to occur as long as the engine does not exceed 4,000 RPM.

After a downshift, if vehicle speed continues to increase, an upshift will occur at 4,800 RPM engine speed. This is normal operation and no attempts should be made to correct or change this operation.

– Thanks to GM Technical Assistance

Bulletins – June 2002

This review of service bulletins released through mid-June lists the bulletin number, superseded bulletin number (if applicable), subject and models.

GENERAL INFORMATION:

02-00-89-004A; replaces 02-00-89-004; Revisions to Courtesy Transportation Program; 2002 and Prior Passenger Cars and Trucks

02-00-89-006; New Add Time for Labor Operation L2300 – Converter, Oxidation Catalytic, Replace; 2003 and Prior Passenger Cars and Trucks

HVAC:

02-01-39-003; Inoperative Rear HVAC Controls and/or DTC B0150 (Replace Rear HVAC Control); 2002 Chevrolet TrailBlazer, GMC Envoy with Automatic or Manual HVAC Auxiliary Temperature Control (RPOs CJ2 or CJ3)

STEERING:

02-02-34-001; Tie Rod Replacement – Inner Procedure; 1999-2001 Chevrolet and GMC C/K Pickup and Utility Models (except 2WD Pickups), 1999-2000 Cadillac Escalade

ENGINE/PROPULSION SYSTEM:

00-06-01-013A; replaces 00-06-01-013; Release of Exhaust Manifold/Turbocharger Heat Shield; 1998-2002 Chevrolet and GMC C6-7 Series Conventional MD Models with 3126 CAT 275 and 3000 hp Diesel Engine

01-06-01-008A; replaces 01-06-01-008; Engine Oil Pan Leak (Seal with RTV Sealant); specified 1995-2001 Passenger Cars with 3.8L V6 Engine (VINs K, 1 – RPOs L36, L67) with stamped steel oil pan

01-06-01-030A; replaces 01-06-01-030; Higher than Expected Engine Oil Consumption (Replace Rocker Arm Cover); 1998-2001 Chevrolet Cavalier, Pontiac Sunfire, Chevrolet and GMC S Truck Models with 4 Cylinder 2.2L Engine (VINs 4, 5 – RPOs LN2, L43)

02-06-01-020; Change to Flywheel to Crankshaft Attaching Bolts; 2002 Chevrolet and GMC S/T Utility Model and 2002 Oldsmobile Bravada with 4.2L Inline Engine (VIN S – RPO L8)

02-06-04-020; VCM/PCM Replacement Due to Corrosion and/or Water Intrusion; 1996-2002 Chevrolet and GMC G Van Models with Gas Engine Built Prior to December 2001

02-06-04-022; PCM Reprogramming and Data Line Diagnosis Using J-42236-A; 1997-2003 Chevrolet Corvette

02-06-04-023; Audible Spark Knock (Detonation), MIL Illuminated, DTC P0332 Set (Replace Rear Bank Knock Sensor and RTV Area Around Sensor); 1998-2002 Chevrolet Camaro, Corvette, Pontiac Firebird with 5.7L Engine (VIN G – RPO LS1), 1999-2002 Chevrolet and GMC C/K Pickup and Utility Models with 4.8L, 5.3L or 6.0L Engine (VINs V, T, Z, N, U – RPOs LR4, LM7, L59, LQ9, LQ4)

02-06-05-002; Exhaust Boom/Groan Noise in Passenger Compartment (Install Exhaust Bracket and Dampers to Exhaust System); 1997-2002 Chevrolet and GMC T Pickup and Utility Models, 1997-2001 Oldsmobile Bravada with 4.3L Engine (VIN W – RPO L35) and 4L60-E Automatic Transmission (RPO M30) or Active Transfer Case (RPO NP4) or Automatic 4WD (RPO NP8)

02-06-07-024; Diagnosis of Cracked or Broken Transmission Case; specified 1990-2003 Passenger Cars and Light Duty Trucks with 4L60/4L60E/4L65E or 4L80E/4L85E or Allison Series 1000 Auto Transmission

TRANSMISSION/TRANSAXLE:

02-07-30-017; No Shift, Harsh Shift, No Engagement, Transmission in Default, Check Transmission Warning Indicator Illuminated, Range Inhibited Indicator Illuminated, Transmission DTCs Set (Inspect/Repair TCM Harness and Install Wheel Splash Shield Extensions); 1997-2002 Chevrolet and GMC F-Model (T-Series) MD Tilt Cab Models with Allison MD3060, MD3560 or LCT 2000/2400 Auto Trans (RPOs MNK, MNZ, MP8, MTP, MX4, MTW)

02-07-30-020; Harsh or Delayed 2-1 Downshift, Neutral Feel at Stop, Shift Busyness, DTCs P0708, P0847, P0875, P1711, P1713 (Reprogram TCM and if necessary Reprogram PCM); 2001-02 Chevrolet and GMC C/K 2500/3500 Pickup Models with Allison Series 1000 Auto Transmission (RPO M74)

02-07-30-021; SES Lamp Illuminated, DTC P0741 – TCC Stuck Off (Reprogram the PCM); 2002 Chevrolet Malibu with 3.1L Engine (VIN J – RPO LG8) and 4T40-E Transaxle built between specified breakpoints

02-07-30-022; replaces 00-06-04-037A; Service Engine Soon (SES) Light On With DTCs P0716 and/or P0717, P0730, P0753, P0758, P1860, P1887, or other Miscellaneous Transmission Trouble Codes Set (Repair Wiring at Transaxle Wiring Pass-thru Connector); specified 2000-02 vehicles with 4T65-E, 4T40-E or 4T45-E Transaxle (RPOs MN3, MN7, M15, M76, MN4, MN5)

02-07-31-003; Clutch Pedal Buzz or Vibration (Replace Clutch Actuator Pipe); 2000-03 Chevrolet Cavalier, Pontiac Sunfire with Manual Transmission (RPOs M86 or M94)

BODY AND ACCESSORIES:

02-08-43-001; Rear Wiper Jumps when Fog Lamps Turned On (Connect Auxiliary Ground to Rear Washer Pump); 2000-02 Chevrolet and GMC C/K Utility Models, 2002 Cadillac Escalade

02-08-44-005; Changes to DVD Player Software; 2002 Chevrolet Venture, Oldsmobile Silhouette, Pontiac Montana

02-08-44-006; DVD Stuck in DVD Player; 2002 Chevrolet Venture, Oldsmobile Silhouette, Pontiac Montana

02-08-46-005; Addition of DTC U1500 for Generation 4 (F1) OnStar®; specified 2002 Passenger Cars and Light Duty Trucks

02-08-46-006; Incorrect OnStar® GPS Location Reported During OnStar Call; 2000-2002 Passenger Cars and Light Duty Trucks

02-08-46-007; OnStar® Call Center Unable to Replenish Customer's Personal Calling Minutes and other GPS Concerns; 2002-02 Passenger Cars and Light Duty Trucks

02-08-49-002; Dash Rattle/Itching Noise from Instrument Panel/Glove Box Area While Driving (Reposition Body Control Module BCM Bracket and Insulate Blower Motor Bolt Washer); 2002 Chevrolet Malibu, Oldsmobile Alero, Pontiac Grand Am

02-08-50-004; Improved Front Passenger Seat to Correct Sagging; 2003 Chevrolet and GMC C4500-C8500 Conventional Cab Models with Two Passenger Auxiliary Seat (RPO A58)

02-08-57-003; General Waterleak Guide; 1997-2002 Chevrolet Corvette

02-08-64-011; Power Sliding Door Reverses on Closing (Replace Plunger and Contact Plate Using Kit; Replace Door Module and Latch if Applicable); 1997-2000 Chevrolet Venture, Oldsmobile Silhouette, Pontiac Trans Sport, Montana

02-08-64-012; Side Cargo Door Bineds (Replace Hinge Pins and Bushings); 1996-2002 Chevrolet and GMC G Van Models built prior to April 16, 2002

02-08-66-005; Loose or Broken Rear Compartment Opening Molding (Install New Molding Assembly); 1997-2002 Chevrolet Malibu, Oldsmobile Cutlass, Alero

02-08-66-006; Gas Cap Tether Rivet Breaking (Install New Rivet); 1998-2002 Chevrolet Camaro, Pontiac Firebird

02-08-67-003; Diagnostic Information for Cab or Body Vibration/Noise at Speeds Above 72 km/h (45 mph); 2002 and Prior Chevrolet and GMC W-Series Tilt Cab Models

02-08-98-001; Metal Panel Bonding; 2003 and Prior Passenger Cars and Trucks

02-08-98-002; Hem Flange Repair; 2002 and Prior Cars and Trucks