

A Monthly Publication for GM Dealership Service Professionals

Techline News

When Pinging is a Good Thing

When you're talking about engine performance, pinging is generally not desirable. But if the subject is Class 2 data lines, pinging may be just what you need to locate the cause of a problem.

The Tech 2 revision you received in December has a new feature you should become familiar with. It's called "pinging," and here's what it's about.

There are times during a diagnosis, particularly of a U-code, when you may need to know which modules in the vehicle are responding and which ones aren't. The new pinging feature helps you find out.

The first, and possibly most important, thing to remember is to **leave the ignition turned off** for this procedure.

Connect the Tech 2, enter Diagnostics, and "build" the vehicle. Under Diagnostic Circuit Check, select Class 2 Message Monitor. This is a function that's been on the Tech 2 for some time. But now, you'll notice some differences.

There are two new soft keys, labeled Ping and Ping All.

Look at the list of modules displayed. Because the ignition is turned off, three significant modules will be absent: PCM, ABS, and SIR. All other modules on the vehicle should be listed. After each, the status is indicated as either Active or Inactive, followed by a number. This indicates the number of messages that have traveled between the Tech 2 and the module. Initially, the status should be Inactive, and the number should be 2.

Module shut-down time can take up to 20 minutes. If you see any module with an Active status after the normal shut-down time, with the ignition off, the module may be picking up an Ignition On signal from an outside source, such as a short between circuits.

continued on page 2

Aztek Versatrak[®] All-Wheel Drive System Debuts



Pontiac is announcing a revolutionary new on-demand all-wheel drive system for the 2001 Aztek. Versatrak® uses front wheel drive for normal road conditions, and automatically adds on-demand rear wheel drive when circumstances call for it. With absolutely no pulling of levers, punching of buttons, or other driver action, Versatrak directs torque to those wheels with the best traction, on demand when it's needed.

According to Charles Kingsley, Vehicle Chief Engineer, "Versatrak will



help make the best use of what traction already exists. Versatrak is a mechanical system that transfers torque directly when front-wheel slippage occurs and can direct as much as 44% of the engine's power to each rear wheel individually or simultaneously as needed." This system was developed jointly by GM engineers working with Steyr-Daimler-Puch Fahrzeugtechnik in Austria.

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M Service Operations



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.

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When Pinging is a Good Thing continued from page 1



STAR Connector

Assuming all modules are listed as Inactive, you can proceed. Use the up or down arrows to highlight the module you want to check and press the Ping soft key. The Tech 2 will send out a command on the Class 2 data line to wake up the selected module.

If the module is capable of responding, the status will change to Active and the number will increment. In a few seconds, the module will return to sleep, the status will read Inactive, and the number will increment again.

If the module does not respond, there are several potential causes. First, the battery feed and/or ground to the module may be faulty. Or the Class 2 data bus to the module may be faulty.

NOTE: You may occasionally command a module, and a different module will also go Active. This can happen if the module you commanded Active is programmed to communicate with another module when it awakens.

If the module you commanded does not respond, there may be a problem on

Creak or Pop at Rear of Vehicle

On some 1997-2001 Cutlass or Malibu models, customers may comment on a creak or pop noise from the rear of the vehicle. This may occur on turns, on acceleration or deceleration, or on maneuvers that twist the suspension, such as entering a driveway. This may be caused by the rear stabilizer bar moving relative to the rear suspension crossmember. Install isolator 22614408 between the stabilizer bar clamps and the suspension crossmember. Position the isolator on the crossmember with the open end upward along the top edge of the slot where the non-bolt end of the clamp mounts. The isolator is now being installed in production.

- Dave Dickey

Numerous EBCM Codes or Open EBCM Fuse

On some 2000-2001 Cavalier and Sunfire models with manual transmission, the ABS light may come on when the transmission is placed in 2nd or 4th gear. Visual inspection of the DBC7 wiring harness, with the transmission in 2nd or 4th gear, may reveal signs of contact with the shifter counterbalance. If chafing has occurred, repair the wiring, and twist the harness up and away from the shifter counterbalance.

- Jeff Strausser

the Class 2 data bus. You may be able to use Ping to locate it. Here's how.

The Class 2 data bus is generally wired in one of two ways: star or loop (see TechLink, June 2000). On vehicles with the star setup, all of the Class 2 lines come together at a star connector, with all lines joined by a removable comb. You can remove the comb from the connector and jump between the DLC terminal and the terminal for the

module being tested. Then the ping command will go directly from the Tech 2 to the module. If the module now responds, you will need to look for a fault in the Class 2 connector or related wiring.

The second soft key is labeled Ping All. Press this key to refresh the list. All modules will be commanded at the same time, and the counters will be reset. If a module does not respond this time, it will drop from the list. You can use this feature to diagnose an intermittent, by jiggling wires and terminals and repeating the Ping All command. If the module repeatedly appears and disappears as you jiggle wires, look for a bad connection.

After you become familiar with the Ping and Ping All features, you will probably invent your own uses for them. Just be sure to also follow published diagnostic procedures when locating the cause for a diagnostic code or customer concern.

– Thanks to Mark Stesney and Todd Traver Aztek Versatrak® All-Wheel Drive System Debut continued from page 1



Transfer Case Geartrain

The Versatrak system begins with a power take-off unit (PTU) mated to the frontmounted 4T65-E automatic transaxle.

Power is transferred to the rear axle by an aluminum propeller shaft which leads to a torque tube assembly, mated to the rear differential. Inside the rear module, twin Geromatic units react to any difference in the rotational speed of the front and rear wheels. As long as no speed difference exists, all power is directed to the front wheels. If one of the front wheels begins to slip, the rear-mount-ed Geromatic gerotor pumps pressurize fluid to engage multi-plate clutches that redirect torque to one or both rear wheels.

The differential clutch pump actuator check valve controls the oil flow to the gerotor pumps. Without fluid pressure, the pistons cannot apply the clutch packs for rear wheel engagement. The actuator check valve will open upon engine startup and remain open unless commanded closed by the powertrain control module.

The all-wheel drive system engagement is so smooth and progressive that it's nearly transparent to the driver and passengers. And, the Versatrak system is so compact that it fits under Aztek's flat rear load floor.

Built-in safeguards help prevent damage to the Versatrak system from overload or abuse. When the compact spare is used, the ABS wheel-speed sensors detect the presence of the compact spare wheel and tire due to the rotational speed difference, and automatically prevent Versatrak enagement.

The powertrain control module directs the clutch pump check valve to close, prevent-ing oil flow to the gerotor pumps. If differential oil temperature exceeds 230° F, the valve will also close. In both spare wheel usage and over-temperature conditions,

the PCM will illuminate the control panel AWD Disable light.

All-New Rear Suspension System

When the Aztek is equipped with Versatrak, it also includes a new independent rear suspension, which gives Aztek a significant handing edge over live-axle systems.

To minimize unsprung weight, Aztek's rear drive module features aluminum materials for the axle housing, crossmember, control arms



Aluminum Rear Suspension Components

and knuckles. The suspension system includes short and long control arms, a toe control link, coil springs, monotube gas-pressure shock absorbers and an anti-roll bar.

Automatic level control remains a separate option, and because traction control is not required, it is not available with Versatrak.

Service

For the first six months, the transfer case and rear differential must be exchanged if internal service is required. During the exchange period, service is limited to external components such as seal replacement, vent hose replacement and cleaning, and inspection and replacement of



Versatrak fits under the rear load floor

the clutch pump check valve. The check valve is available for replacement buth during and after exchange.

After the six month exchange, the transfer case will become fully serviceable (using required special tools), and the rear differential will be replacement only, with limited external service.

The hypoid section of the transfer case and rear drive unit require Synthetic Gear Oil 12378514. Be sure you have an adequate supply of this lubricant on hand if you have

to install an exchange unit. The use of the wrong gear oil will result in permanent damage to the friction discs within the rear differential and will cause driveline complaints within 3-5,000 miles (chatter on turns, moan, launch issues).

Before repair or replacement of the transfer case or transmission, make sure you obtain the correct shims (required for shimming the transfer case to the transaxle).

The Versatrak requires a unique system functional check, outlined in the Service

Information. In these checks, the vehicle must be raised to permit all four wheels to rotate during the test.

In one test, the transmission must be in Neutral while you manually rotate each rear wheel by hand.

In another test, the transmission must be in Park

while you rotate each rear wheel by hand.

And in a third test, you will operate the vehicle in Drive with the rear park brake slightly engaged.

Refer to your Service Information for details.

Training

A Versatrak training course is being prepared. It includes video 14340.10V and booklet 14340.10B.

– Thanks to Ron Minoletti and Bill McCune.



Performance Diagnosis – Fuel Injector Circuit and Driver Diagnosis

NOTE: Current diagnostic procedures will isolate all problems, and these procedures are recommended only if further root cause

Last month, we explored the testing strategies for fuel injectors, focusing on mechanical and electrical testing with the J-39021 injector tester. The two areas that are left to cover this month are circuit checks and computer driver testing. The strategies for doing these will differ based on the tools you have available. This article will focus on the different techniques for fuel injector circuit and driver testing.

Remember, over 75% of electrical problems are connector related. With this in mind, circuit checks become a very important part of diagnosis. Remembering that conditions such as fuel injector circuitry shorted to power or ground can lead to operating problems, we're going to focus on the best and most convenient way to test circuit integrity.

If you mention circuit testing to most people, they immediately think of testing the resistance of a circuit (ohms) with a DVOM. It is a common practice to disconnect a component connector, for example at a fuel injector, and its related PCM connector and check circuit resistance between them. While this is a good test, a DVOM will typically apply only 0.5 volts to a circuit to test its resistance, and most automotive circuits operate typically closer to 14 volts.

So, it's better to test a circuit at or close to its operating voltage. How can this be accomplished if you cannot measure the working resistance of the circuitry? The answer lies in Ohm's Law (E = $I \times R$). In an electrical circuit, if resistance is high and voltage remains constant, current is low. There's a way to use Ohm's Law and the J-39021 Fuel Injector Tester.

In quick review, the J-39021 Coil Test procedure (January 2001 TechLink) allows you to measure the working resistance of a fuel injector by applying a fixed current level directly to the injector and measuring the voltage drop across the injector with a J-39200 DVOM. This voltage drop is a direct indication of working resistance of the injector.

Assuming the Coil Test has already been done to the injectors and they have all tested good, a logical extension is to use the same technique to test the circuitry in the vehicle. To do this, you first must obtain the schematic of the injector circuits and their related connections to the fused power and the PCM. Typically, all injector pins at the PCM are in one connector and there are usually no more than two fuel injector fuses. You will also need a detail of the PCM ground circuits.

Begin testing by checking voltage drop on the fuel injector fuses to battery positive and PCM grounds to battery ground with the vehicle running. Go right to the battery terminals for these tests. A quick PCM ground check can be done at pin 5 of the Diagnostic Link



Current Trace of Saturated Switch Injector

Connector. Good readings are less than 200 millivolts (0.2 volts), ideally under 100 millivolts. If your voltage drop is too high, correct any circuit problems (loose connections or pin terminals, painted grounds, etc.) and retest.

Once power and ground are verified, set up the J-39021 to do a coil test on the injectors through the circuitry. Disconnect the negative battery cable, appropriate PCM connector(s), and fuse(s). To begin, select an injector circuit to test and use a DVOM and the appropriate terminals to test the circuit resistance. It should be close to the resistance of your injector. This not only shows any static resistance problems, it also confirms that you are testing the correct circuits.

Next, substitute the J-39021 into the circuit and perform the coil test on the injector circuit, measuring voltage drop with the DVOM. If you are not sure of

the appropriate tool setup, be sure to reference Injector Coil Testing in the appropriate Service Information. The setup is the same for testing the fuel injector directly but the connections are different. Repeat testing for every injector circuit. Circuit faults will show high voltage drop, indicating a high resistance.

The high tech way to test fuel injector circuitry integrity is with an oscilloscope and inductive current clamp. Simply check the current for each injector, one at a time, by installing the current clamp over a wire anywhere in the circuit. Look for high resistance to be indicated by low current when compared to the other injectors. This high tech method can not find where the fault is. Voltage drop testing is still necessary to do that. This will, however, quickly tell

you whether the circuit is good or bad, in need of further testing.

Now that the circuitry is tested, let's talk about the fuel injector driver in the computer itself. The only essential tool we have to test fuel injector drivers is the noid light. These useful little testers come in various configurations (J-34370-xxx) for different applications.

The use of a noid light confirms whether the computer is actually completing the necessary ground to the fuel injector. Never substitute an un-powered test light for a noid light, as it may require more current to function than the driver can handle and lead to false diagnosis.

The flashing noid light confirms several things during no-start diagno-

sis. It confirms that the PCM is in fact receiving an ignition reference, the PCM is powered, and the fuel injector drivers are attempting to function. It does not, however, indicate that the drivers can handle the current necessary to function the fuel injector.

Most noid lights load the circuit with less than 250 milliamps, while most fuel injectors require more than one amp to operate. So what is the solution? The best solution is the use of an oscilloscope.

Saturated Switch Injector Patterns

Oscilloscope patterns of fuel injectors are typically obtained on the negative or PCM side of the circuit. Usually the circuit is carefully back-probed at the injector connector. Your scope negative lead should always be on battery ground, to identify ground circuit problems.



Remembering this, let's explore the trace diagram in the accompanying illustration. Area A in the diagram indicates battery voltage. The injector is off, so the circuit is open. Any point in this circuit should be at or very near charging system voltage. If it is not, recheck your fuel injector power feed.



Area B is the point at which the PCM completes the circuit to ground, turning on the fuel injector. The line should be clean and straight. A line distortion indicates a weak driver in the PCM.

Area C in its entire length indicates the "on-time" of the fuel injector. This should be very close to ground reference. If it is high, recheck your ground circuits to the PCM. If it ramps, a bad PCM driver may be suspected.

Area D is known as the "inductive kick" of the fuel injector. This is generated by the magnetic field collapsing in the fuel injector as it is turned off. The voltage achieved in this kick is in direct proportion to the health of the winding in the fuel injector. A strong injector has a high inductive kick. Typically, saturated switch injectors exceed 35 volts.

Area E is the descent ramp of the inductive kick. It is not uncommon to see a distortion at this location caused by the injector pintle passing back through the

winding. Commonly called a "pintle hump", this phenomenon is normal for some injectors.

Peak and Hold Injector Patterns

Now for the peak and hold fuel injector drivers commonly found on TBI models. Remember, peak and hold injectors as discussed last month have a low resistance (1-2 ohms) in comparison with saturated switch injectors (12-16 ohms). So, they require more current to operate.

If you do a quick Ohm's Law calculation, you find that a 2 ohm injector in a 14 volt system will require 7 amps. We do not have any computer drivers that can do that for very long, however. The computer strategy is to turn on the injector, and hold it on at a lower current level by going into current limiting.

The first inductive kick at area B is a result of the PCM

entering current limiting. The second at area 6 is when the injector is shut off. The area between A and B is the "peak" time, which does not change with the on-time of the injector. Some ramping here on a peak-and-hold injector is considered normal.

Between B and C is the "hold" time

that changes with injector on-time. The entire pulse width, therefore, is between A and C. Inductive kicks on TBI injectors are typically lower due to less injector coil saturation.

There we have it. Between this and last month's articles, you have expanded your knowledge of fuel injector testing. We hope this information proves useful.

In our next installment, we plan to explore some performance-related engine mechanical problems and important mechanical checks, using creative strategies.

- Thanks to Craig Blake

Extra Clips in Valve Body

On 1997-2001 Century, LeSabre, Park Avenue, Regal, Impala, Lumina, Monte Carlo and Venture models using the 4T65E transmission, you may notice extra clips attached to the valve body which are not shown in the service manual or parts book. You may be inclined to conclude that these extra parts are the cause of whatever condition you're dealing with. This is not the case. These extra clips are used to assist in manufacturing and may be left on the valve body. They may also be safely removed if so desired. The clips in question are used on the 1-2 shift valve, torque signal regulator valve, and TCC valve.

– Chris Anderson

RKE System Doesn't Work

On some 2000 Cavalier and Sunfire models, the Remote Keyless Entry system doesn't work. As a first diagnostic step, check the RFA BATT fuse located in the fuse panel behind the LH end cap of the IP.

Electrical loads may be created in the RKE circuit which exceed the fuse's 10 amp rating:

- Decklid solenoid activated
- Ambient temperature cold

- Door unlock switch and decklid release button pressed at same time

If you locate no shorts in the circuit, replace the 10 amp fuse with a 15 amp fuse. Also update the fuse label by installing a 2001 fuse panel cover. The 2001 model year already has the fuse update.

– Jeff Strausser

GM Service Clubs, Part 3

GM service clubs around the country meet to talk about the service issues that dealership service departments face each day.

This interactive communication is one of the benefits for service managers who attend a local service club meeting. The clubs provide a way for service managers to access a wide array of information from other dealership service departments as well as a number of GM sources.

Here is a list of additional GM service clubs. GM supports local service clubs and many GM representatives attend the club meetings. For more information about GM service clubs, contact any of the clubs listed below.

NOTE: If you know of a service club we haven't listed, contact us. We'll run a wrap-up list in several months.

NORTHEAST REGION

Baltimore GM Service, Parts and Body Shop Managers Club

Contact: Dave Sparrow Win Kelly Chevrolet, Clarksville, MD 410.988.9522

Boston No. 1 Service Manager Club

Contact: Raymond Grimsley Chevrolet of Lowell, Lowell, MA 978.458.2526

Boston Service Club

Contact: Gene Mucci Tom Chevrolet, Norwood, MA 781.762.8300

Central Pennsylvania GM Ser vice Managers Club

Contact: Scott Stewart Shaull Oldsmobile-Cadillac, York, PA 717.845.6689

Chevrolet Service Managers Club of Connecticut Contact: Tim Cotter Jackson Chevrolet, Middletown, CT

GM Service and Parts Club of W estern New York

Contact: Eric Macchiaroli Jack Hayes Pontiac-Oldsmobile, Akron, NY 716.542.5471

Lake Champlain Parts and Service Club

Contact: Rodney Demag McMahon Chevrolet, Morrisville, VT 802.888.4942

Long Island Chevrolet Service Club

Contact: Nick Buglione Pastor Chevrolet, West Hampton, NY 631.288.4400

Long Island Metro New York Buick,

Pontiac, GMC Service Managers Club Contact: Tony Lobello King-O'Rourke Buick-Pontiac-GMC, Port Jefferson, NY 631.473.5700

Maine Service Club

Contact: Bob Herbeck Lee Oldsmobile-Cadillac-GMC, Auburn, ME 207.784.5441

Maryland/Nor them Virginia PBG Ser vice Managers' Club

Contact: Chris Boyle Boyle Buick, Bel Air, MD 410.515.6100 860.346.9655

New Jersey's Best Service Managers

Contact: John Barchuck All American Chevrolet, Middletown, NJ 732.671.6200 Nor theast Regional Service Managers

Council Contact: Bob Maggio Brogan Cadillac-Oldsmobile; Clifton, NJ 973.473.2500

Pittsburg Metro Service Managers Club

Contact: Bernie Faccenda Batey Chevrolet, Carnegie, PA 412.923.1230

SOUTHEAST REGION

Club '81 Contact: Bill Burke Baugher Chevrolet-Buick, Waynesboro, VA 540.941.2200

NORTH CENTRAL REGION

Ohio Valley Service Managers Club Contact: Bud Hanlin Whitesides Chevrolet-Oldsmobile-Pontiac-Buick-Cadillac, St. Clairsville, OH, 740.695.0211

SOUTH CENTRAL REGION

Alamo Area GM Service Managers Club Contact: Jose Gonzalez Domingo Vara Chevrolet, San Antonio, TX 210.924.2000

Bay Area Parts and Service Manager's Club

Contact: Eric Martin Allen Samules Bay Chevrolet, Corpus Christi, TX 361.854.9966

Beaumont Area General Motors Parts and Service Managers Club

Contact: Larry Netterville JK Chevrolet, Nederland, TX 409.722.0443

Cadilliac Service Managers' Club

Contact: Roy Queen Moore Cadillac,Ellisville, MO 636.394.0300

Chevrolet City Service Managers Club

Contact: Tom Pearson Landmark Chevrolet, Houston, TX 281.820.8209

East Central Missouri Service Managers Council

Contact: Danny Rousch Riley Chevrolet, Inc., Jefferson City, MO 573.634.2324

Gulf Coast Service Managers Club

Contact: O'Neil (Neil) Boudreaux Trapp Chevrolet-Oldsmobile-Cadillac, Houma, LA 504.876.6570

GM Arkansas Service Manager's Club Contact: Skip Cates

John Walters Chevrolet, Conway, AR 501.327.7785

GM Kansas City Service Managers Club

Contact: Gene White Ron Olson Chevrolet-Buick-Oldsmobile-Pontiac, Paola, KS 913.294.5375

GM South Central Region Ser vice Manager's Club

Contact: Bob Anderton Atwood Chevrolet-Oldsmobile, Vicksburg, MS 601.638.1252

Kansas City GM Parts Managers Club

Contact: Dave Hosley Superior Chevrolet Automobile, Merriam, KS 913.384.1550

Nor th Texas Pontiac-Buick-GMC

Service Club Contact: Gerald Watson Don Snell Buick, Dallas, TX 214.363.7251

Rio Grand Valley Service & Par ts Manager Club

Contact: Pascual Rodriguez Tip-O-Tex Chevrolet, Brownsville, TX 956.541.3131

Service Manager Club of Central Oklahoma

Contact: Gary Gage Bob Howard Chevrolet, Oklahoma City, OK 405.748.7700

South Central Illinois Ser vice

Managers' Club Contact: Bob Wille Steve Schmitt, Highland, IL 618.654.2181

Springfield Area Service Managers Club

Contact: Steve Lambert Reliable Chevrolet, Springfield, MO 417.887.5800.

St. Louis Service Managers' Club

Contact: Jim Farmer Weber Chevrolet, Creve Coeur, MO. 314.567.3300

WESTERN REGION

Cadillac Parts and Service Managers Club of Southern California Contact: Mark Sortino Marvin K. Brown Auto Center

New Style Water

Deflector Introduced

A new style door water deflector is being introduced in the 2001 Chevrolet Impala. The molded deflector, a GM first, incorporates an attached acoustic mat. The benefits include better water control, better sound insulation, and an improved installation procedure and fit.

In production, the deflector is installed to the door trim panel, using the Trim Panel Retainers as locators. Then, when the trim panel is installed to the door, the water deflector is adhered to the door by the adhesive strip built into the deflector. This assures that the deflector is consistently positioned to the door. If you remove the door trim panel for service of the components inside the door, the deflector remains adhered to the door.

A critical part of the design of the new water deflector is the adhesive at the bottom. It is positioned to run precisely at the edge of the opening in the door panel. This ensures that

Central Valley Service & Parts Club

Contact: Lance Wardwell Martin's Chevrolet - Oldsmobile 559.638.2240

Greater Portland Chevrolet Ser vice Managers Club

Contact: Larry Cole Bruce Chevrolet, Hillsboro, OR 503.648.2131

Inland Empire Fixed Operations Club

Contact: Dale Pool Chipman & Taylor 509.334.3555

Inland Empire Service Managers Club

Contact: John Arnold Long Beach Chevrolet 562.420.4200

Ka Maaina Club

Contact: Lewis Singelterry III Kuhio Motors, Lihue, HI 808.245.3949

Las Vegas Service & Parts Club

Contact: Tom Hodulik Las Vegas Cadillac West 702.222.1330

water is directed back inside the door instead of being allowed to puddle between the door and the deflector.

Service Precautions

To access the window glass, window regulator, latch mechanisms, and other internal components, you must temporarily disconnect the water deflector. Carefully peel the top half of the deflector from the door, down to the crease in the acoustic mat. Use a plastic trim stick as necessary to disengage the adhesive.



Water Deflector with Backing Pulled Away to Expose Adhesive

Phoenix Parts Managers Club

Contact: Denny Yates Coulter Motor Co., Tempe, AZ 480.940.6000

Salt Lake Service Managers Club

Contact: Mike Shroader Young Chevrolet, Layton, UT 801.544.1234

San Diego Parts Club

Contact: Mike Ponomarenko Classic Buick 760.745.8012

San Diego Service Managers Club

Contact: Jim Duda Marvin K. Brown Auto Center 619.725.2041

Southern Nevada Association of GM

Parts and Service Managers Contact: Tom Hodulik Cadillac of Las Vegas - West 702.222.1347

Do not disconnect the bottom portion of the deflector. 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. But, if the lower portion of the water deflector becomes damaged, a new one must be installed. 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.

An upcoming bulletin will provide information on installing the new deflector in earlier vehicles, such as wiring harness routing and use of Trim Panel Retainer 10285935.

Thanks to Gary McAdam

Bulletins - January 2001

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

GENERAL INFORMATION:

00-00-89-029; December, 2000 Labor Time Guide Updates; 1996 - 2001 Passenger Cars and Trucks

00-00-90-002; Proper Tire Pressure; 2001 Passenger Cars and Trucks

00-00-89-030; November, 2000 Bulletin Summary; 2001 and Prior Passenger Cars and Trucks

HVAC:

00-01-38-011; Poor Heat with Cold Outside Temperatures at Low Engine RPM (Install Auxiliary Coolant Pump; 1997 - 1999 Chevrolet Venture, Oldsmobile Silhouette, Pontiac Trans Sport, 1999 Pontiac Montana

00-01-38-012; Carpet Wet On Passenger Side of Vehicle (Clean Evaporator Case Drain, If Plugged); 1999 - 2000 Buick Century, Regal, Chevrolet Monte Carlo, Oldsmobile Intrigue, Pontiac Grand Prix, 2000 Chevrolet Impala

SUSPENSION:

00-03-10-006; Tire Radial Force Variation (RFV); 2001 and Prior Passenger Cars and Trucks

DRIVELINE AXLE:

00-04-21-002;High Transfer Case Shift Effort (Replace Synchronizer Hub/Sleeve Assembly, Synchronizer Blocking Ring and Shift Shaft); 1999 - 2000 Chevrolet Tracker with 4-Wheel Drive

BRAKES:

00-05-25-004; ABS Lamp Illuminates, ABS DTC 0281 May Be Present (Current or in History) (Adjust Stoplamp Switch); 1995 - 2000 Chevrolet and GMC C6-7 Medium Duty Conventional Models, 1995-2000 Chevrolet and GMC B7 Medium Duty School Buses with Hydraulic or Air Antilock Brake Systems (RPOs JE3 or JE4) 00-05-23-007; Front Disc Brake Squeal (Install New Front Disc Brake Pads); 1998 - 2001 Chevrolet and GMC L-Vans

ENGINE/PROPULSION SYSTEM:

00-06-04-053; Idle Air Control Valve (IACV) Hissing Noise (Replace the IACV); 1999 - 2000 Chevrolet Cavalier, Pontiac Sunfire, Chevrolet and GMC S/T Models (S10, Sonoma) with 2.2 L Engine (VINs 4, 5 -- RPOs LN2, L43)

00-06-02-009; Water Pump Weep (Normal Condition); 1996 - 1998 Buick Skylark, 1996 - 2001 Chevrolet Cavalier, 1997 - 1999 Chevrolet Malibu, 1996 -1998 Oldsmobile Achieva, 1999 -2001 Oldsmobile Alero, 1996 - 2001 Pontiac Grand Am, Sunfire with 2.4 L Engine (VIN T -- RPO LD9)

00-06-03-009; Lean Hesitation, Sag or Stumble When Coolant Temperature is Between -6 and +20° C -- Domestic vehicles only (Reprogram PCM); 2000 Chevrolet and GMC C/K Models (Silverado, Sierra, Suburban, Tahoe, Yukon, Yukon XL) with 4.8 L or 5.3 L V8 Engine (VINs T, V -- RPOs LR4, LM7) and 4L60-E Automatic Transmission (RPO M30)

TRANSMISSION/TRANSAXLE:

00-07-30-022; No Reverse, Second Gear, or Fourth Gear (Replace Reaction Sun Shell); 1996 - 1999 Models with Hydra-Matic 4L60-E (RPO M30) Automatic Transmission

00-07-29-002A; ZF 6-Speed Manual Transmission Exchange Program (RPO ML6); 2001 Chevrolet and GMC C/K 2500/3500 Pickup Models With ZF 6-Speed Manual Transmission (RPO ML6)

BODY AND ACCESSORIES:

99-08-59-002A; Creaking Type Sound from Right Rear Wheel Opening Area (Reposition Sheet Metal); 1999 - 2001 Chevrolet Tracker 4-Door Models Only 00-08-57-004; Water Runs Out Of Front Lower Corners of Rear Hatch When Opened (Install Sealer); 1998 -2001 Chevrolet Camaro, Pontiac Firebird

00-06-62-015; Rear Bumper Ends Loose at Wheel Openings (Install New Fasteners); 1999 - 2001 Chevrolet Tracker

00-08-64-015; Power Sliding Side Door Edge Guard Comes Loose (Install New Edge Guard): 1997 - 2000 Chevrolet Venture, Oldsmobile Silhouette, Pontiac Trans Sport, 1999 - 2000 Pontiac Montana

00-08-64-016; 3rd and 4th Door Hard to Close When Cold (Replace Latches); 1999 - 2000 Chevrolet and GMC C/K Pickup Models (Silverado and Sierra)

00-08-111-004; Debris Collects in Front Lower Portion of Rear Wheelhouse (Install New Wheelhouse Liner); 2000 Chevrolet Impala, Monte Carlo

00-08-63-008; Misalignment of Air Intake Duct When Closing Cab (Install New Air Intake Duct Guide and Seal); 1997 - 2000 Chevrolet and GMC F Model T-Series Medium Duty Tilt Cab Models

00-08-64-010A; High Opening/Closing Effort or Misalignment of Sliding Side Door (Replace Center Roller Bracket and Bumper); 1996 - 2000 Chevrolet and GMC G-Van (Plant Code 1)

00-08-64-018; Rear Door Window Inoperative (Replace Motor); 2001 Chevrolet and GMC C/K Utility Models

RESTRAINTS:

00-09-41-004; AIR BAG Indicator Illuminated, Side Impact Module DTCs B0028, B0029, B0040 and B0041 Set (Replace Inflator Restraint Passenger/Driver Seat Side Module Wiring Retainer CPA at Side Impact Module Connector in Seat); 2000 Chevrolet and GMC C/K Utility Models (Tahoe, Suburban, Yukon, Yukon XL)

TAC Tips

Title Dealer Inquiries on Problems With Voice Mail Express System

Dealers can contact the Voice Mail Express Customer Assistance Department for help in correcting problems with their mailboxes, password concerns, etc., by calling 1.877.593.3622 or faxing 1.877.593.3624.

– GM Technical Assistance

2001 Pontiac Aztek Requires Windshield Removal to Replace Evaporator - Follow Up

The article on this topic that appeared in the December 2000 issue of TechLink implied that all Azteks were affected and windshield removal was always required. Actually, a very small number of Azteks may have the bolt-to-windshield interference. A revised procedure that will not require windshield removal is being developed.

The revised procedure will be included in SI 2000, and a paper bulletin will be published.

- GM Technical Assistance