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Engine Oil Myths

Separating Fact from Fiction

Over the years there has been an overabundance of engine oil myths. Here are some facts you may want to pass along to customers to help debunk the fiction behind these myths.

The Pennsylvania Crude Myth – This myth is based on a misapplication of truth. In 1859, the first commercially successful oil well was drilled in Titusville, Pennsylvania. A myth got started before World War II claiming that the only good oils were those made from pure Pennsylvania crude oil. At the time, only minimal refining was used to make engine oil from crude oil. Under these refining conditions, Pennsylvania crude oil made better engine oil than Texas crude or California crude. Today, with modern refining methods, almost any crude can be made into good engine oil.

Other engine oil myths are based on the notion that the new and the unfamiliar are somehow "bad."

The Detergent Oil Myth – The next myth to appear is that modern detergent engine oils are bad for older engines. This one got started after World War II, when the government no longer needed all of the available detergent oil for the war effort, and detergent oil hit the market as "heavy-duty" oil.

Many pre-war cars had been driven way past their normal life, their engines were full of sludge and deposits, and the piston rings were completely worn out. Massive piston deposits were the only thing standing between merely high oil consumption and horrendous oil consumption. After a thorough purge by the new detergent oil, increased oil consumption was a possible consequence.

If detergent oils had been available to the public during the war, preventing the massive deposit buildup from occurring in the first place, this myth never would have started. Amazingly, there are still a few people today, 60 years later, who believe that they need to use non-detergent oil in their older cars.

Apparently, it takes many years for an oil myth to die.

The Synthetic Oil Myth – Then there is the myth that new engine break-in will not occur with synthetic oils. This one was apparently started by an aircraft engine manufacturer who put out a bulletin that said so. The fact is that Mobil 1 synthetic oil has been the factory-fill for many thousands of engines. Clearly, they have broken in quite well, and that should put this one to rest.

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Techline News

Engine and Transmission Module Programming

When programming a 2007-08 Enclave, Acadia or OUTLOOK with the calibration update in bulletin 07217 Document ID 2006117, it is important that the engine and transmission modules both be updated.

When performing Programming Sequence ECM/TCM, you must first select one the following Pass-Thru methods in TIS2WEB.

- J2534 MDI
- J2534 Tech 2
- Tech 2 Legacy Pass-Thru Programming

The Service Programming procedure must be performed using ONLY the Pass-Thru method.

Programming using the Remote method will result in failure.

To update both modules, select Programming Sequence ECM/TCM on the Supported Controller Screen.

TIP: This is the last selection in the scroll-down box.

– *Thanks to Ronald Mitchell and Mark Stesney*

TECHlink GM

Contents

GM Service and Parts Operations

OnStar® Analog Service

Reminder

Since it was launched in 1996, OnStar has relied on an analog wireless network to provide communication to and from OnStar-equipped vehicles. As part of an industry wide change in the North American wireless telecommunications industry, wireless carriers are transitioning to digital technology and will no longer support the analog wireless network beginning early 2008.

Effective January 1, 2008, OnStar service in the United States and Canada will be available only through vehicles that are capable of operating on the digital network.

TIP: Refer to Bulletin 05-08-46-006G for information about upgrading certain vehicles to digital service. Details were covered in the November 2006 *TechLink*, which is available in the Archives of the *TechLink* website.

– *Thanks to Frank Pompa*

Drive Axle Boot Pliers

New drive axle boot pliers CH-48894 have been released for these vehicles:

- 2005 XLR
- 2005-08 Corvette, Equinox, Impala, Monte Carlo, Grand Prix, Torrent
- 2006-08 HHR, Hummer H3
- 2007 Acadia, OUTLOOK, VUE, Rainier, Enclave
- 2008 VUE

This tool is required to properly service Oetiker low-profile drive axle boot clamps. The double-fulcrum design of CH-48894 accommodates one-handed operation and the working end is designed to properly interface the Oetiker low-profile clamps without damaging the clamps. Attempts to service the low-profile drive axle clamps without this tool may result in component damage and/or increased labor time.

Applicable SI procedures are being revised to refer to this tool.

– *Thanks to Kevin Willcock and Dave Libby*

CH-48894 Pliers

Crimping axle boot clamp

Saturn ASTRA Maintenance

The Saturn ASTRA has some specific maintenance items and frequencies that are not typical, such as the items below. The values shown are the maximum intervals when these should be performed. These maintenance items are tied to the Saturn ASTRA's Oil Life Monitor system and are listed in the ASTRA Limited Warranty, Maintenance and Owner Assistance Information booklet under Additional Required Services.

This section is typical of other GM products with Oil Life Monitor Systems and indicates that these services should be performed at the first maintenance service (I or II) after the indicated miles shown in the Additional Required Services section.

The Saturn ASTRA owner will be notified when this maintenance service should performed (after the indicated miles) by the InSP indicator which will display on the Saturn ASTRA Instrument Cluster. This indicator will come on at or before the maximum values shown for each of the maintenance items below.

ASTRA Maintenance Intervals

Timing Belt and Tensioner	Replacement at 100,000 miles/160,000 Kilometers or 10 years
Spark Plugs	Replacement at 35,000 miles/56,000 Kilometers
Solid Lifter Adjustment	Adjustment at 90,000 miles/145,000 Kilometers or 10 years
Accessory Drive Belt	Inspect every 36,000 miles/58,000 Kilometers or two years

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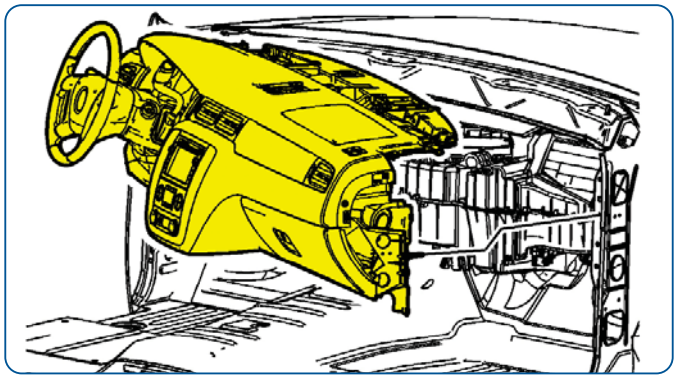
Instrument Panel Service Positioning

The instrument panel assembly must be moved for access when performing the procedures in the accompanying tables.

General Motors Service Engineering has developed new service procedures for moving the instrument panel within the vehicle as an assembly. Following the procedures as they are published will help eliminate customer comebacks due to squeak and rattle issues. The procedure will also cut service time, dramatically reducing the amount of time a customer is without their vehicle.

TIP: You can find the procedures in SI. Search for Instrument Panel Service Positioning.

– *Thanks to Mark Freigruber, Art Krygowski, Scott C. Sullivan, Roger Brock and Robert Tette*



2007-08 Full Size Pick-up Truck and Utility

– HVAC Module Replacement
– Heater Core Cover Replacement
– Heater Core Replacement
– Air Inlet Assembly Replacement
– Air Conditioning Evaporator Core Replacement
– Air Temperature Door Replacement – Right Side
– Air Temperature Door Replacement – Left Side
– Defroster Door Replacement
– Mode Door Replacement – Lower
– Mode Door Replacement – Upper
– Air Temperature Actuator Replacement
– Air Temperature Actuator Replacement – Right Side
– Air Temperature Sensor Replacement – Upper Right Side (Auto HVAC)
– Air Temperature Sensor Replacement – Upper Left Side (Auto HVAC)
– Air Distributor Duct Replacement
– Noise Diagnosis – HVAC Module
– Clutch Pedal Replacement (Pick-up if equipped)

2008 Hummer 2

– HVAC Module Replacement
– Heater Core Replacement
– Air Conditioning Evaporator Core Replacement
– Air Distributor Duct Replacement
– Noise Diagnosis – HVAC Module
– Air Temperature Door Replacement – Right Side
– Air Temperature Door Replacement – Left Side
– Mode Door Replacement – Lower
– Mode Door Replacement – Upper
– Air Temperature Sensor Replacement – Upper Right Side
– Air Temperature Sensor Replacement – Upper Left Side
– Air Temperature Actuator Replacement – Right Side
– Radio Front Floor Console Speaker Replacement

Navigation Radio Error

This information applies to Rainier, Rendezvous, Terraza, Escalade, Avalanche, Suburban, Tahoe, TrailBlazer, Uplander, Yukon, Envoy, HUMMER H2 and H3, and Saab 9-7X between 2005 and 2007 (2005-06 for Full Size Utility Trucks) with Navigation Radio (RPOs UM8, U3U or UA4).

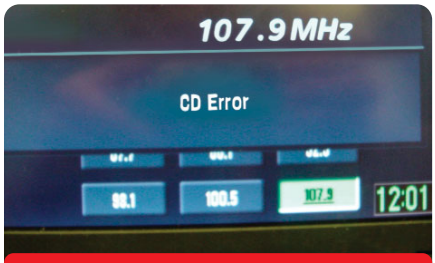
After a radio is returned from the Electronic Service Center, some owners may comment of no radio navigation operation and a CD ERROR message displayed on the radio.

Bulletin 07-08-44-014 provides a service procedure to resolve these conditions. Check a navigation radio that is returned from the Electronic Service Center before customer delivery.

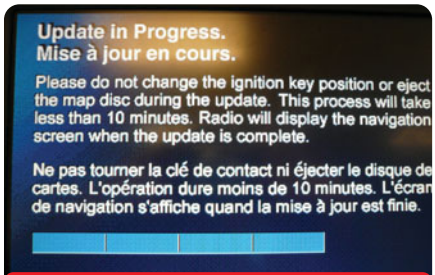
When following bulletin 07-08-44-014, the radio will display an Update in Progress screen which indicates that a successful update is being loaded into the radio. After the update is complete, the radio should operate as intended.

Following the instructions in the bulletin will address most customer concerns and prevent a service comeback.

– *Thanks to Doug Daugherty*



Error message



Update in Progress message

"Changer Parked" Message (CD)

The owner of a 2008 Chevrolet Corvette with the 6-disc radio RPO US9 may comment that the radio displays a "Changer Parked" message intermittently and there is no explanation in the owner's manual for this message. It will display after the CD mechanism has initialized or when the CD mechanism is manually parked. Initialization occurs normally upon a battery connect.

Press the CD load button. The mechanism will unpark itself.

TIP: After pressing the CD load button, a message will NOT appear that it's unparked.

– *Thanks to Dino Poulos*

Engine Oil Myths – *continued from page 1*

The Starburst Oil Myth – The latest myth promoted by the antique and collector car press says that new Starburst/API SM engine oils (called Starburst for the shape of the symbol on the container) are bad for older engines because the amount of anti-wear additive in them has been reduced. The anti-wear additive being discussed is zinc dithiophosphate (ZDP).

Before debunking this myth, we need to look at the history of ZDP usage. For over 60 years, ZDP has been used as an additive in engine oils to provide wear protection and oxidation stability.

ZDP was first added to engine oil to control copper/lead bearing corrosion. Oils with a phosphorus level in the 0.03% range passed a corrosion test introduced in 1942.

In the mid-1950s, when the use of high-lift camshafts increased the potential for scuffing and wear, the phosphorus level contributed by ZDP was increased to the 0.08% range.

In addition, the industry developed a battery of oil tests (called sequences), two of which were valve-train scuffing and wear tests.

A higher level of ZDP was good for flat-tappet valve-train scuffing and wear, but it turned out that more was not better. Although break-in scuffing was reduced by using more phosphorus, longer-term wear increased when phosphorus rose above 0.14%. And, at about 0.20% phosphorus, the ZDP started attacking the grain boundaries in the iron, resulting in camshaft spalling.

By the 1970s, increased antioxidancy was needed to protect the oil in high-load engines, which otherwise could thicken to a point where the engine could no longer pump it. Because ZDP was an inexpensive and effective antioxidant, it was used to place the phosphorus level in the 0.10% range.

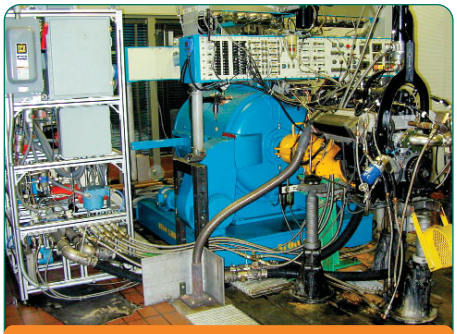
However, phosphorus is a poison for exhaust catalysts. So, ZDP levels have been reduced over the last 10-15 years. It's now down to a maximum of 0.08% for Starburst oils. This was supported by the introduction of modern ashless antioxidants that contain no phosphorus.

Enough history. Let's get back to the myth that Starburst oils are no good for older engines. The argument put forth is that while these oils work perfectly well in modern, gasoline engines equipped with roller camshafts, they will cause catastrophic wear in older engines equipped with flat-tappet camshafts.

The facts say otherwise.

Backward compatibility was of great importance when the Starburst oil standards were developed by a group of experts from the OEMs, oil companies, and oil additive companies. In addition, multiple oil and additive companies ran no-harm tests on older engines with the new oils; and no problems were uncovered.

The new Starburst specification contains two valve-train wear tests. All Starburst oil formulations must pass these two tests.



Sequence III test engine

- Sequence IVA tests for camshaft scuffing and wear using a single overhead camshaft engine with slider finger (not roller) followers.
- Sequence IIIG evaluates cam and lifter wear using a V6 engine with a flat-tappet system, similar to those used in the 1980s.

Those who hold onto the myth are ignoring the fact that the new Starburst oils contain about the same percentage of ZDP as the oils that solved the *camshaft scuffing and wear issues* back in the 1950s. (True, they do contain less ZDP than the oils that solved the oil thickening issues in the 1960s, but that's because they now contain high levels of ashless antioxidants not commercially available in the 1960s.)

Despite the pains taken in developing special flat-tappet camshaft wear tests that these new oils must pass and the fact that the ZDP level of these new oils is comparable to the level found necessary to protect flat-tappet camshafts in the past, there will still be those who want to believe the myth that new oils will wear out older engines.

Like other myths before it, history teaches us that it will probably take 60 or 70 years for this one to die also.

– *Thanks to Bob Olree – GM Powertrain Fuels and Lubricants Group*

Oil Life Does Not Reset

On a 2007 Saab 9-3, the Oil Life percentage may not to reset fully to 100%.

The service indication has been changed for 2007. The percentage value shown on the display is calculated based on:

- the remaining service life of the oil
- driving distance
- the number of days to the next main service.

It is normal for the value in SID to be lower (sometimes considerably lower) than 100% after servicing has been carried out and the service indication reset.

The 100% value will be displayed only when the main and intermediate service has been indicated in SID and reset.

For more information, see bulletin TSB100-2666 posted in IRIS on 04/20/2007.

– *Thanks to Jeff Gorenflo*

Oil Capacities for 2006-2008

An Oil Capacities table has been added to the *TechLink* website Reference Guide which lists the engine oil fill capacity for GM cars and light duty trucks from 2006 to 2008. Scroll down the list to locate the vehicle, then locate the appropriate engine. The oil capacity is listed in both liters and quarts.

TIP: Pay attention to footnotes and other supplemental information.

TIP: There are also tables available in the Reference Guide covering GM vehicles back to 1988.

– *Thanks to Jerry Garfield*

DIC Switch Buttons Inoperative

On an Acadia, OUTLOOK or Enclave, the driver information center (DIC) switch buttons may be inoperative after disconnecting or replacing the DIC switch or IPC. This occurs because the IPC needs to see the presence of the DIC switch at the time the battery power is connected to the IPC. If it does not detect the DIC switch at power up, the switch will be inoperative.

To prevent this condition, always remove battery power to the IPC after service is performed to either the DIC switch or the IPC. Simply remove the IPC fuse and replace it after a few seconds to return the function of the DIC switch to normal.

– *Thanks to Gary McAdam*

Running Out of Fuel

The owner of a Terraza, Uplander, Montana or Relay may comment of running out of gas or a crank no start while on an incline (typically nose down) with 1/4 tank of fuel or less.

This is a normal characteristic of this vehicle; with the sender/pump mounted in the rear of the tank, any time the vehicle is parked on an incline with the nose down and a 1/4 tank or less of fuel this situation may occur.

Refer to the owner manual under Remote Vehicle Start. It says, "If your vehicle is low on fuel, do not use the remote start feature. The vehicle may run out of fuel. *The vehicle may also run out of fuel if the vehicle is running for a long period of time when parked on an incline facing downward with a low fuel condition."*

Specifically refer to the sentence italicized above. Point out that the run time on an incline will vary widely, depending upon the amount of fuel in the tank and the grade of the slope the vehicle is upon. Advise the owner to keep the fuel tank filled above 1/4 if they must drive and/or park on steep inclines with the nose down.

TIP: Early 2005 owner manuals may not have this statement. If possible, locate a 2006 or later manual to better clarify this condition.

– *Thanks to Jeff Gorenflo*

Navigation Screen Dot Pattern

This information applies to 2007-08 full-size utilities and 2008 Hummer H2 with Navigation Radio (RPO U3U, U3R or UVB). Some owners may observe that the navigation screen displays a pattern of blue or white dots.

The blue dots (white dots on Escalade models) are a path that is used in the off-road mode. When the off-road mode is turned on, the navigation system shows the path being traveled by the vehicle when not on a marked road. The path is a simulation because it is not following a road in the map database coverage on the DVD. This path is stored in the navigation system's memory. The blue/white dots can be erased by turning off the Off Road mode.

– *Thanks to Paul Radzwilowicz*

Audible Messages

A 2006-07 Saab 9-5 may not have any audible messages (chime, tic-toc, etc.). These audible messages are controlled and delivered by Saab Information Display (SID).

Beginning with the 2006 Saab 9-5, a new design SID has replaced the previous in-dash unit. The Main Instrument Unit/Driver Information Center (MIU/DIC) now has the display portion integrated, while the controls have moved to the steering wheel switches. While most SID functions have been moved to the MIU, the audible warning message indicator (speaker) for chime and tic-toc is still located in the SID. Beginning with the 2006 model year, the SID has been moved to behind the MIU. To remove SID, the MIU must be removed first.

– *Thanks to Jeff Gorenflo*

Pump Shaft Disengagement

This information applies to 2008 Allure, LaCrosse, Lucerne, Terraza, Impala, Malibu, Uplander, G6, Grand Prix and Montana SV6 with MN7 and M15 4T65E transmissions, from start of production through October 2007.

The vehicle may not move forward or reverse. Diagnosis will indicate low or no line pressure due to pump shaft disengagement from the pump drive gear.

Follow SI documentation to access the pump driveshaft. If the pump shaft sleeve is loose on the pump shaft, replace the pump shaft.

– *Thanks to Ron Mitchell*

Coolant Loss

A customer may experience a coolant loss on a 2007 Express, Kodiak, Silverado, Savana, Sierra or Topkick equipped with a 6.6L diesel engine (RPO LMM). During diagnosis, coolant may be found in the combustion chamber.

Follow SI diagnostics for any diagnostic code or symptom found. If coolant loss is verified and a cooling system pressure test shows coolant leaking into a combustion chamber, inspect for a leaking EGR cooler. Inspect the inlet and outlet sides of the cooler for leaks.

If coolant is found in a combustion chamber, remove the glow plugs and rotate the engine by hand to purge remaining coolant out of the cylinders.

Replace the EGR cooler as needed. When the EGR cooler is replaced, be sure all air is purged from the cooling system. Use the SI procedure for Cooling System Draining and Filling (Vac-N-Fill) if possible.

TIP: Running the engine without coolant flowing to the EGR cooler may result in cooler damage. Do not run the engine with the coolant hoses disconnected.

– *Thanks to Don Langer*

Brake Grab

The owners of some 2006-07 Chevrolet Colorado and GMC Canyon pickups may comment that the brakes seem to grab on the first two or three brake applications. According to bulletin PIT 4254B, this concern is typically intermittent and could be perceived as a front brake grab

The concern is most likely with the rear brakes. This may be the result of high spots in the braking surface of the rear drums.

Remove the rear drums and inspect the rear axle seals and wheel cylinders for leaks. If no leaks are found, perform the following.

1. Resurface both rear drums to eliminate high spots.
   TIP: Replace the rear brake shoes only if a leak is found and the shoes have been contaminated with fluid from the rear axle or wheel cylinder.
2. Replace the left side drum brake star wheel adjuster with part number 19133371. This adjuster has 15 teeth. Adjust the drum brakes per SI.
3. For the right side, grind off every second tooth of the star wheel adjuster and reinstall.

TIP: Part number 19133371 is threaded for the left side only. DO NOT attempt to install adjuster part number 19133371 on the right side of the vehicle.

– *Thanks to Dan Oden*

Front Brake Rotor Scoring

This information applies to 2007-08 full-size pickups and utilities (1500 models), and 2005-07 Silverado and Sierra Classic with RPO JF3 or JF7.

Some owners may comment on a scored appearance of the front brake rotors. This scoring could be caused by the composition of the front brake lining. The brake lining formula has ingredients to clean rust off the rotor braking surface. Scoring may be a side effect.

The scored appearance is normal as long as no other symptoms are experienced, such as pulsation, roughness or noise, and the scoring does not exceed the specification in SI document 1476240.

SI specs include new thickness, minimum thickness after machining, discard thickness, maximum lateral runout and maximum score depth.

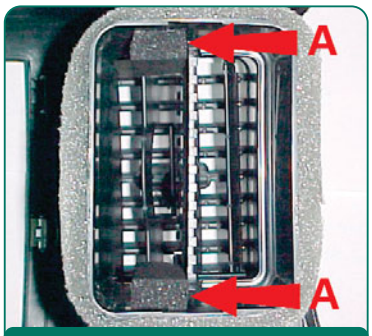
TIP: Scoring requires repair if the depth is in excess of 0.060-inch (1.5 mm) measured with with a brake micrometer/caliper.

TIP: When doing any brake repair, it's a good idea to print a copy of the specification sheet and attach it to the repair order.

– *Thanks to Jim Will and Ken Peacock*

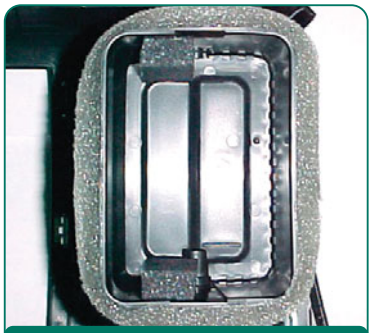
Air Flow Door Loose

Some owners of a 2007-08 full-size utility or pickup may comment about a rattle/popping/snapping type noise in the left center IP air deflector when the blower is on. This condition may be due to the air flow door being loose and vibrating. The noise will be eliminated or reduced if the thumb wheel is slightly rotated to close off the air flow.



A Foam tape

To correct this concern, remove the left center air outlet deflector. With the airflow door in the full open position, to allow air flow, install a piece of black foam tape (obtained locally) along the top and bottom of the deflector housing so it just touches the air flow door. The foam tape should be positioned on the side of the air flow door so it does not obstruct the door from closing. With the foam tape properly installed, the air flow door will slightly contact the foam tape when in the full open position, preventing the door from vibrating.


Closed air flow door not obstructed

– *Thanks to Jim Will*

Trip Odometer Operation

Some owners of a 2005-08 Chevrolet Corvette may comment that when attempting to use the trip odometer to track longer distances, it will reset and count from zero again after the trip odometer (A or B) exceeds 2000 miles (3218 km).

This is the normal operation characteristics of the trip odometer (A and B). The owner manual will be corrected in Service Information to reflect this operation. No repair attempts should be made for this concern.

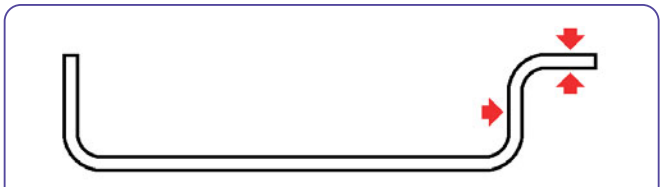
TIP: Owners should be encouraged to rely on the Oil Life Monitor System (not the trip odometer) to determine oil change and maintenance intervals.

– *Thanks to Dino Poulos*

Door Glass Squeak Noise

Some owners of a 2007-08 fullsize pickup or utility may comment that the front door glass makes a squeak noise when operated up or down. It may sound like the door glass squeaking on the run channels or belt molding. GM Engineering has found the noise is caused by a lack of lubrication on the door glass regulator rails.

To correct this concern, brush a light amount of Lubriplate (GM part number 1052196 (Canada 5264008) 14 oz. can) onto the entire length of both regulator rails.


Apply lube to surfaces shown

TIP: Remove the regulator from the door to properly apply the lube.

Perform this procedure to both front doors. Cycle the window up and down to distribute the lube and verify the noise is corrected.

– *Thanks to Jim Will*

Engine Cooling Fan

2008 Equinox and Torrent vehicles built through the month of November 2007 will use the same twist-lock style fan blade design as the 2006 and 2007 model years. During November, a new supplier will begin providing new fan shroud assemblies for these vehicles. The fan shroud assembly components are not interchangeable between the two designs.

As this article is being written, there is not an absolute breakpoint for this change. There is however a visual inspection that can be used to determine which fan shroud assembly is in a 2008 vehicle.

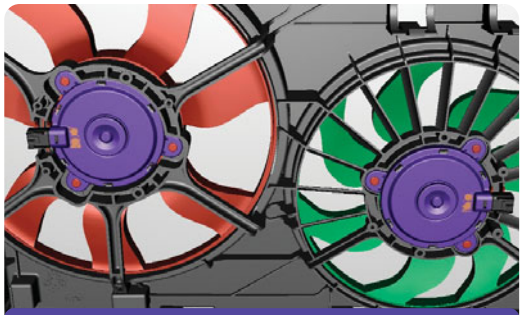
For the first design 2008 fan shroud assembly, the cooling fan motors are mounted from the back side of the fan shroud with rivets.

For the second design 2008 fan shroud assembly, the cooling fan motors are mounted to the front side of the fan shroud with bolts.

As with 2006 and 2007, the first design 2008 fan blades are not reusable.

The second design 2008 fan blades are reusable, but the fan blade retainers must be replaced. These are the same fan blade retainers used for the 2005 model year.

– *Thanks to Kevin Jakobiak*



First design, 2008

Second design, 2008

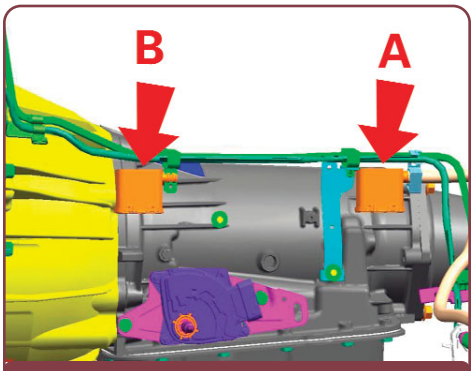
Vent Solenoid Prefilter

Some 1999-2008 full-size pickups may be operated in dusty or muddy environments, such as farming, mining or off-road type applications. An owner may comment about the illumination of the SES light, with a DTC P0446 (Restricted/Blocked EVAP Vent Path) being set.

If bulletin 02-06-04-037B (Classic only) was completed for the Silverado/Sierra Classic, and on the new style Silverado/Sierra pickups, the vent solenoid prefilter intake is located at the rear of the transmission. Even in this location, the prefilter may become plugged with dust or mud.

If the prefilter intake is plugged with dust or mud, relocate the prefilter forward an additional 8 5/8 inches (220 mm) from its present location.

– *Thanks to Jim Will*



A Present location
B New forward location

Chuggle, Surge or Shudder

Some owners of a 2007-08 Chevrolet Impala equipped with 3.9L (LZ8) Active Fuel Management Engine (VIN Code R) may comment about a slight chuggle, surge or shudder that occurs when the vehicle is in overdrive and traveling at a steady speed in the 38-45 mph (61-72 kmh) range. The condition is most obvious when a very light throttle is applied. The very lightly applied throttle is not enough to cause the torque converter clutch to release or the transmission to downshift.

Set the Driver Information Center (DIC) so it displays the Instant Fuel Economy and Active Fuel Management™ indicator. Drive the vehicle as described above while observing the Active Fuel Management indicator. When the condition occurs, you should observe that the vehicle is operating in the 3 cylinder mode and is not switching to the 6 cylinder mode when the very light throttle is applied.

The Manifold Absolute Pressure (MAP) sensor may not be interpreting the engine vacuum signal correctly. If this is found, replace the MAP sensor.

– *Thanks to Ron Mitchell*

Radio Presets

On some 2007-08 Saab 9-3 radios, the equalizer and tone presets are not highlighted and the only available selections are TALK and MANUAL. The owner manual indicates that all presets should be highlighted.

The owner manuals do not identify the differences between the available sound systems. Refer to a 2008 manual if necessary. The EQ differs between Pioneer and Bose sound systems. The software in the radio is the same in both Pioneer- and Bose-equipped cars. However, the EQ setting is decided by EOL (end of line) programming according to the RPO. To determine if the vehicle has the Bose system, look on the front speaker grilles for the Bose name.

The Pioneer system remains unchanged with the typical EQ/tone presets – Pop, Rock, Country, Talk, Jazz, and Classical.

The Bose system has only two available EQ presets, Talk or Manual. An additional preset called Centerpoint® is new for 2008.

Centerpoint Facts – With the Bose Centerpoint Surround Sound System, the signal processing circuitry creates a surround sound listening experience from stereo CDs, MP3 CDs, satellite radio and auxiliary audio sources.

TIP: FM/AM is not supported by the surround function.

Other tone and speaker settings, with the exception of the Fader function, can be adjusted even when the surround function is active. The surround function settings are saved for each individual audio source (CD, MP3 and AUX).

– *Thanks to Jeff Gorenflo*

Car Issues – Fix It Right the First Time

Model Year(s)	Vehicle Line(s) / Condition	Do This	Don't Do This	Reference Information / Bulletin
2006-07	Lucerne – Poor headliner fit in rear	Repair headliner	Don't replace headliner	PIC4189
2006-07	Lucerne – front or rear door trim panel/map pocket squeaks	Install new retainers	Don't replace door trim	06-08-64-034
2005-07	STS – Seat moves sideways while turning	Put tape on sides of hook on seat cushion frame	Don't replace seat adjuster	06-08-50-010
2005-07	XLR, Corvette – Dead battery, no crank	Reprogram RCDLR	Don't replace RCDLR	07-06-03-001B
2006-07	Lucerne – Noise when making turns at slow speed	Align I-shaft to steering column	Don't replace intermediate shaft or steering gear	06-02-35-009D
2006-07	HHR – Front and rear carpet wet, water/blower motor inoperative	Install new butyl patch	Don't reinstall old butyl patch using RTV	07-08-57-001
2004-07	SRX – Turn signals flash fast, or the front turn signal inoperative	Bulb and socket for turn signal circuit are available separately	Don't replace complete fog lamp assembly	Parts Catalogue
2006-07	G6 Coupe with Sunroof – Headliner, seat belt on front or rear floor is wet	Re-route both rear drain hoses correctly, re-connect and tie strap	Don't re-connect both rear drain hose only without proper re-route and tie strap	7015

Truck Issues – Fix It Right the First Time

Model Year(s)	Vehicle Line(s) / Condition	Do This	Don't Do This	Reference Information / Bulletin
2007	Escalade, Yukon, Tahoe/Suburban – Coolant leak at rear of vehicle	Replace clip, O-rings and spacer	Don't replace heater pipe bundle	07-01-37-002
2005-07	TrailBlazer, Envoy, Rainier, 9-7X – Headliner drops down and comes loose around sunroof opening.	Repair headliner	Don't replace headliner	06-08-110-003A
2005-07	TrailBlazer, Envoy and Rainier without CF5 sunroof option – Headliner sags at center dome light area.	Lower headliner and re-attach fasteners	Don't replace headliner	07-08-110-005
2007	Silverado, Sierra – Fuel gauge erratic, DTC P0463	Replace fuel level sensor	Don't replace PCM, fuel sender, instrument cluster, fuel tank, wiring, fuel system relay	PIT4294C
2007	Fullsize Utilities – Airbag door not flush with instrument panel	Reposition locking tabs	Don't replace passenger airbag	06-09-41-004B
2001-04	LB7 Duramax Diesel – Injector high pressure lines corroded.	Clean connection area of line and nut	Don't replace lines	03-06-04-036A
2007-08	Silverado, Sierra, Avalanche, Suburban, Tahoe, Yukon – Service 4WD message, DTC B2725	Replace IP switch	Don't replace transfer case control module	PIP 4101
2007-08	Hummer H3 – Transfer case noise	Replace planetary gear set	Don't replace transfer case assembly	PIP 4171
2003-07	Kodiak, TopKick, HTR, HVR and HXR – Arm rest being pulled off door panel	Replace arm rest and install improved fasteners	Don't replace door panel assembly	07-08-64-016
2007-08	Fullsize Utilities – Apparent steering rack leak may be excess fluid	Determine source of leak	Don't replace power steering rack	07-02-32-002B

Know-How Broadcasts for January

10208.01D Emerging Issues	January 10, 2008	9:30 AM and 12:30 PM Eastern Time
New Model Features	For Web NMF courses, log on to the GM Training Website (www.gmtraining.com). Select Service Know-How/TechAssists from the menu, then choose New Model Features for a selection of courses.	

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– Thanks to John Miller