

GM Service Information Goes Global



This first list of categories is the main Table of Contents.

A team from all of GM's worldwide operations worked together to develop a new Table of Contents, the G-TOC — or Global Table of Contents. GM's North American format was used for most areas. Engine, Transmission, HVAC, Steering, Suspension, Brakes and General Information have not changed. Other areas have only minor changes. The big change is in the Body area.

The new SI G-TOC for 2007 and beyond includes:

- Bulletins by Category
- View All Bulletins
- Campaigns
- Preliminary Information
- Preface
- General Information
- Body Hardware and Trim
- Body Repair
- Body Systems
- Brakes
- Diagnostic Navigation
- Driveline/Axle
- Driver Information and Entertainment
- Engine
- HVAC
- Power and Signal Distribution
- Roof
- Safety and Security
- Seats
- Steering
- Suspension
- Transmission/Transaxle

When GM sold the most recent edition of the Pontiac GTO, which was designed in Australia, it was necessary to recreate the service manual content for North America.

GM Holden in Australia provided a service manual for the GTO, but its layout was very different from what's in GM Service Information (SI) in North America. It had to be converted to a familiar format that technicians knew how to use in order to make it easy to find information. Multiply this situation by all of the vehicles GM sells worldwide and things could get pretty confusing.

As part of GM's continuing evolution as a global company, changes have been made to SI recently so that it can be used by all of GM the world over. No longer are there different service manual styles and layouts for the various GM regions in North America, Asia-Pacific, Europe or Latin America.

G-TOC

When using SI, after selecting the year, make, and model, followed by "Select a Vehicle Publication to View," the "Select a Category" list appears.

Diagnostic Categories

The new diagnostic approach offers more information, fewer words, better formats, and fewer pages to print. The diagnostics are now written so you can use your knowledge and experience to decide the quickest method to repair a vehicle.

The new or updated diagnostic categories are:

Diagnostic Instructions – Links to the Diagnostic System Check – Vehicle (procedures to help prevent misdiagnosis where there are

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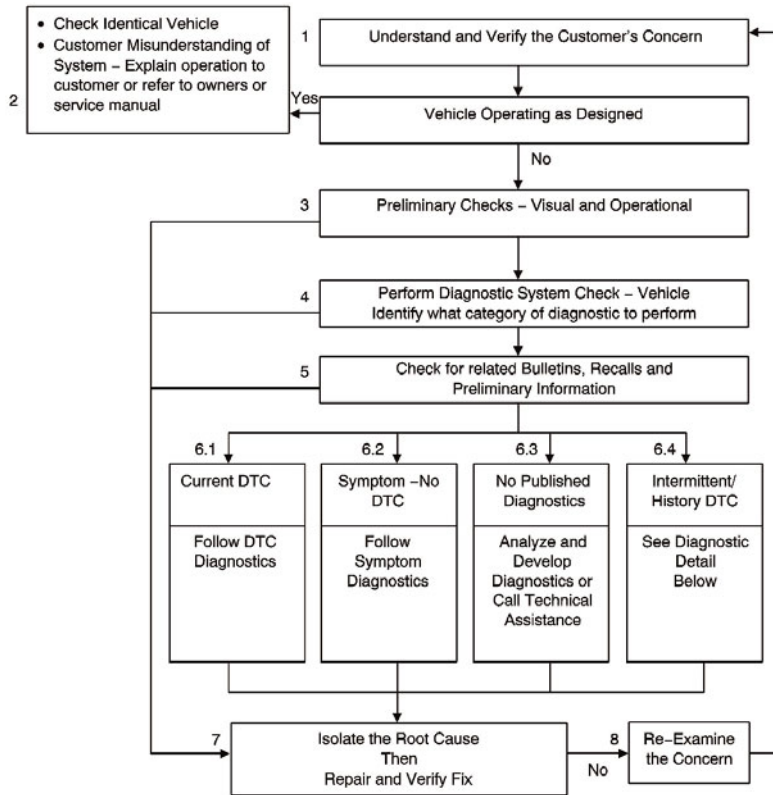
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Strategy Based Diagnosis Provides an Action Plan

The idea behind Strategy Based Diagnosis is to provide a common plan of action for each specific diagnostic situation. Following a similar plan for each repair provides an efficient way to diagnose and repair all types of conditions. The Strategy Based Diagnosis chart lists eight diagnostic steps.



1. Understand and verify the customer's concern by obtaining as much information as possible from the customer.
2. Compare with another like vehicle that is operating normally under the same conditions described by the customer to determine if the vehicle is operating normally.
3. Conduct a thorough visual inspection and gather Diagnostic Trouble Code (DTC) information.
4. Perform the Diagnostic System Check published in the Service Information. This will help verify the proper operation of the system in question.
5. Check for related bulletins and Service Information.
6. The four diagnostic categories offer repair guidelines based on if DTCs are set, if Service Information is available, and intermittent conditions. Intermittent conditions may require the help of other experienced technicians, evaluating vehicle conditions, testing for faulty electrical connections and wiring, and capturing data using a scan tool.
7. After isolating the root cause, make the repairs and validate correct operation by verifying that the DTC or symptom has been corrected. This may involve road testing the vehicle.
8. If the condition can not be isolated, re-verify the concern. It could be an intermittent or normal condition.

Refer to the Diagnostic Navigation section of GM Service Information for more tips on vehicle diagnosis.

- Thanks to Mike DeSander

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Publisher:

Dennis Kissack
ACDelco
E-mail dennis.c.kissack@gm.com

Editor:

Mike DeSander
ACDelco
E-mail mike.desander@gm.com

Technical Editors:

Mark Spencer
E-mail mspencer@gpworldwide.com

Jim Horner
E-mail jhorner@gpworldwide.com

Production Manager:

Marie Meredith
Desktop Publishing:
Supreme Graphics, Inc.
E-mail supremeinc@supremeg.com

Write to:
ACDelco TechConnect
P.O. Box 500
Troy, MI 48007-0500

On the Web:

To read and search recent issues of *TechConnect* online:

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ACDelco 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, it cannot be assumed that the information applies to all vehicles or that all vehicles will have that condition.

All materials and programs described in this magazine are subject to change. Submission of materials implies the right to edit and publish. Inclusion in the publication is not necessarily an endorsement of the individual or the company.

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GM Service Information Goes Global — continued from page 1

integrated system dependencies), Strategy Based Diagnosis, and Diagnostic Procedure Instructions.

Diagnostic Fault Information –

The Diagnostic Fault Information table identifies each circuit that makes up an electrical subsystem and the associated circuit failure modes. DTCs and symptoms are listed in the table for all circuit failure modes.

Typical Scan Tool Data – A table showing a scan tool data parameter value in reference to circuit failure modes.

Reference Information – Links providing additional information for the diagnostic procedure, such as Schematic Reference, Connector End View Reference, Description and Operation, and Scan Tool Reference.

Circuit/System Verification – A non-intrusive description outlining how to verify that a system or a portion of a system is functioning correctly. During the verification process, the vehicle is kept intact and tested as a complete system. This verification is used to help in locating a current or an intermittent condition.

Component Testing – This category will offer, when applicable, a static and/or dynamic component test. These tests can be used to verify if a component is not operating properly to avoid unnecessary replacement. If the component cannot be tested in a static or dynamic way, an output control using a scan tool can be specified.

Repair Instructions – A link to Diagnostic Repair Verification that describes how to verify the vehicle is repaired. All links to Repair or Replacement (R&R) procedures are located here.

Repair Verification – This category will be used only when the Diagnostic Repair Verification procedure (in Repair Instructions) does not adequately verify

the repair. A unique verification procedure will be provided to support the diagnostic repair.

Schematics

The new global service schematics format, significantly based on today's familiar schematics, is built to work in conjunction with the new diagnostic format.

Circuit function symbols are not new, but usage is more frequent. There are five core circuit types within diagnostics. The circuit function symbols align with those circuit types:

Diagnostic Circuit Type	Circuit Type Definition	Schematic Symbol
Voltage	Battery	B+
	Ignition	IGN
	AC	xV AC
Serial Data	Reference Voltage	xV
	Class 2	↕
	GM LAN	
UART		
Signal	Signal	
Control	Control	
Ground	Low Reference	
	Ground	

serial data circuits are depicted as a dashed wire from each of the components that are “talking” to each other. The dashed wires join at a serial data symbol. To see all of the circuit detail, click on the serial data symbol to go to the Data Communication Schematics.

Ground circuits show a wire coming out of the component as a solid wire transitioning to a dashed wire, connecting to a ground symbol. The dashed wire represents additional harness item detail. To see all of the circuit detail, click on the ground symbol to go to the Ground Distribution schematic.

Repair Definitions

The Engine and Transmission/Transaxle categories have been updated with new repair sections for the mechanical R&R procedures. The Engine category updates go back to the 2003 model year. Previous model years that have not been updated have a separate Unit Repair manual.

These categories have two repair sections:

- Repair Instructions – On Vehicle
- Repair Instructions – Off Vehicle

Repair Instructions – On Vehicle covers replacement procedures. A replacement procedure is the in-car repair procedure, including the steps required to remove all of the vehicle platform components before accessing the specific component.

Repair Instructions – Off Vehicle presents separate procedures for removal, disassembly, cleaning and inspection, assembly, and installation for a specific component. For the most part, these procedures can be followed top to bottom to perform a complete overhaul.

Technicians should use their judgment when deciding which procedure to follow. It may not be necessary to perform every procedure, based on the repair that needs to take place. If a crankshaft is being replaced, for example, you may not need to remove the cylinder head.

The changes made to the Service Information offer a number of efficiencies for technicians, enabling quick and effective diagnosis and repairs. Going global means better service information for all GM vehicles, no matter where they were designed.

– Thanks to Dave Nowak and Lou Winters

Scan Tool Data Example from an ECT procedure			
ECT Sensor Temperature – PCM Circuit	Short to Ground	Open	Short to Voltage
Operating Conditions: Engine Running Parameter Normal Range: -32 to +130°C (-26 to +275°F)			
ECT Signal	-40°C (-40°F)	140°C (284°F)	-40°C (-40°F)
Low Reference	–	-40°C (-40°F)	-40°C (-40°F)
Internal ECM damage may occur if shorted to B+			

Subsystem Circuit Details

Power supply circuits show all aspects of the circuit that may affect the subsystem's functionality. To see all of the circuit detail, click on the fuse symbol to go to the Power Distribution schematic.

Serial data circuits are shown functionally. The

Save with UCoat It® Epoxy Floor System Discount

UCoat It is a durable commercial-grade epoxy floor coating that can give automotive service centers a clean, professional look. The rugged good looks of the UCoat It floor system deliver on value too, when you consider that ACDelco offers TSS service centers a 10% discount on UCoat It products.



The UCoat It product line features floor coating systems, floor preparation and cleaning items. UCoat It floor systems have been installed at automotive dealerships, independent service centers, and in the shops of many professional race teams, including ACDelco Pro Stock driver Kurt Johnson's race shop in Sugar Hill, Ga.



The floor coating systems come with a limited lifetime warranty and feature commercial grade epoxy and urethane products with chemical resistance and abrasion resistance properties. In automotive service areas, and other high-traffic, high-abuse areas, the service life is typically 10 years before a recoat is required.

UCoat It floor coating systems are permanently bonded to the substrate and maintain flexural strength in extreme heat and severe cold. They are designed to move with the substrate without cracking. Road salt and other abrasive materials as well as oil,

gas, brake fluid and other automotive chemicals do not affect UCoat It finishes. All that is required keep the UCoat It floor looking



good is routine cleaning and general maintenance. Floors should be cleaned regularly and spills should not be left for extended periods of time.

Sales are based on the initial purchase of the UCoat It Kit (designed for a 2½-car garage) with material-only extender packs for larger areas. Optional high-gloss topcoat systems are also available in kits and material-only extender packs. Multiple colors and finish styles are available to fit virtually any décor. UCoat It also offers UPatch epoxy crack and floor patch and USolv, an industrial strength, nontoxic stain remover and degreaser.

All UCoat It product kits come complete with applicator tools, mixing pail, clean-up items, product instructions and a video DVD demonstrating preparation and application.

For more information, call 1-248-545-4055 or visit www.UCoatIt.com.

– Thanks to Staci Shelton

Circuit/System Testing

Here are some tips to help you understand how to read diagnostic steps when you are performing circuit or system tests found in GM Service Information.

Circuit/System Testing is arranged to allow you to perform each test step, in sequence, until a fault is detected. If the result of a test step is achieved, the normal flow is to proceed to the next step. If the result is not achieved, the repair arrow bullet (⇒) will identify what actions need to take place.

Intrusive diagnostics are performed to locate the system fault. For instance, system harness connections are disconnected from the module or component to test individual circuit functions. The module or component will be used to assist in verifying the circuit function. When a test does not pass, the repair steps (⇒) will indicate what circuit faults to test. For example, short to voltage, short to ground or open/high resistance.

When testing for individual circuit faults, you are expected to include terminal inspections such as connection surfaces and terminal tension at both the harness and component or module. Additionally, you can use the links in Electrical Information Reference: Testing for Intermittent Conditions and Poor Connections or Circuit Testing.

The control modules and components will also be diagnosed during these test steps. Always retest a control module or component before replacement. For example, re-connect all components and modules and retest the system to verify the condition still exists before replacing modules or components.

– Thanks to Dave Nowak

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Test Your Diagnostic Skills on the ACDelco LMS

Just like the real thing, the new ACDelco Diagnostic Challenge simulations available on the ACDelco LMS put technicians' ability to diagnose and repair a vehicle to the ultimate test.

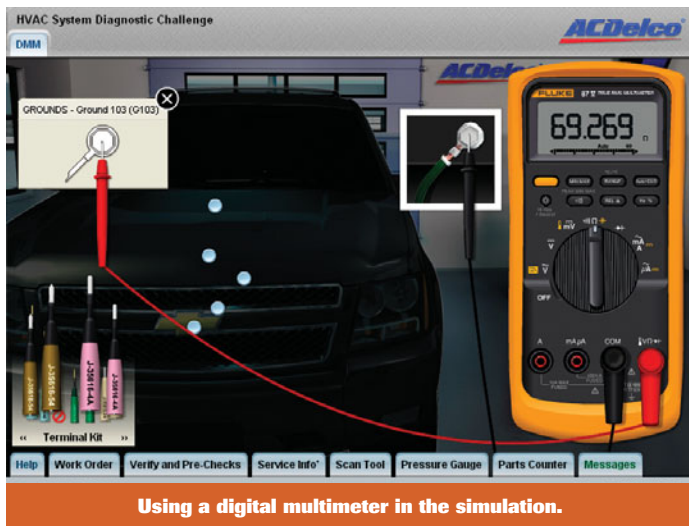
The new simulations are designed to replicate the diagnostic process used by technicians in the service center, and all the necessary Service Information, tools and parts are provided. The four simulations currently available cover the HVAC system, brake system, electrical system and engine performance.

As with real-life diagnosis, the simulated workstation is dependent on the technician's ability to diagnose the concern and complete the repair. The simulation allows the user to freely navigate anywhere on the screen during diagnosis. As you progress through the simulation, you need to think of what the next step is, just as you would do when working on a vehicle in the shop.

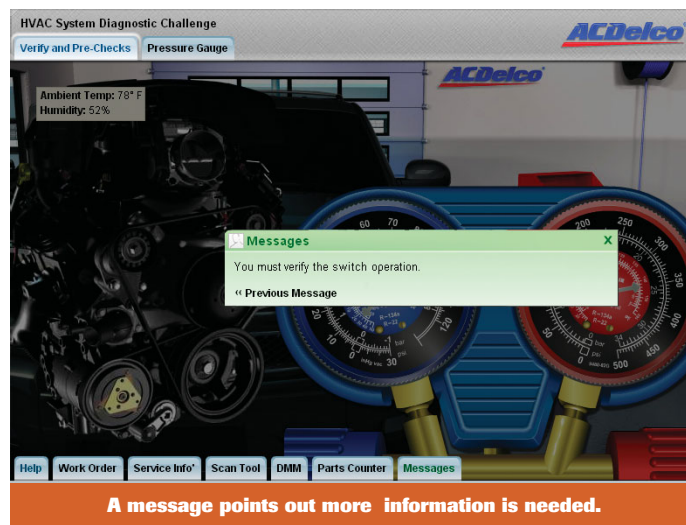
The Virtual Shop

Upon starting each simulation, a short narrated animation describes and identifies how to navigate within the simulation and use the various functions.

Virtual tools are available to help in the diagnostic and repair process just as in a shop environment. The simulation uses tabs on the screen that provide access to Service Information, the work order, tools (including a scan tool, digital multimeter, refrigerant pressure gauge set and others) and the parts counter where you can order parts that you think should be replaced.



Just as the appropriate tools and paths are provided within the simulation, other paths and tools are provided that are not part of the optimum path for the given scenario. Because the simulations are not training components, minimal or no feedback is given when an incorrect selection is made. However, if a technician strays too far from the Strategy Based Diagnosis path or attempts to install a replacement part without properly diagnosing the concern, a message offering suggestions may appear during the simulation.



High Score

The Diagnostic Challenge simulations are not training components and do not provide coaching points, but they do reinforce good diagnostic techniques and repair skills. These simulations bring the gaming aspect to life as technicians can retake the simulation as many times as they would like in order to improve their score.

A technician's overall score is based upon the amount of time it takes to complete the simulation while following the optimum path. The optimum path is the shortest path to efficiently and quickly diagnose and complete the repair, as dictated by properly following the Strategy Based Diagnosis process.

Each simulation begins with one hundred points. One point is deducted for each choice or selection that is not part of the optimum path. In addition, after a predetermined amount of time, one point is deducted for each minute that passes. At the end of the simulation, a series of questions are presented and one point is deducted for each incorrect selection. Points are not deducted for using the Help tab and obtaining information on how to navigate within the simulation or Strategy Based Diagnosis process. Upon completing the simulation the overall score will appear.

The technicians that receive the top five scores for each simulation will have their score, shop name and location posted to the Simulation Scoreboard on the LMS. To view the top score, click on the View the Simulation Scoreboard link located on the LMS training Home page.

Simulations

The diagnostic simulations are accessible via the catalog search function on the LMS. For example, using the "Course Name" and "Contains" parameters, and searching for "challenge" or selecting the course delivery type "Simulation" will locate the four simulations. The simulations are:

- S-AC07-01.01SIM HVAC System Diagnostic Challenge
- S-BK05-01.01SIM Brake System Diagnostic Challenge
- S-EL06-01.01SIM Electrical System Diagnostic Challenge
- S-EP08-01.01SIM Engine Performance Diagnostic Challenge

Are you ready for the challenge?

– Thanks to John Beggs

Auto Show Season

Auto shows are like automotive holidays. And with most holidays, they come and go before you know it. At Los Angeles, Detroit, Chicago and New York, along with many additional smaller shows around the country (and Tokyo, Geneva and others around the world), GM has introduced a number of exciting new models recently. Some of these vehicles will be in showrooms soon, which means they'll be in your service centers for maintenance, and others are concepts that won't be on the road for a few years.

Chevrolet Corvette ZR1

This one is no auto show concept. The Corvette ZR1 is slated for a limited production run of about 3,000 units. It features a



supercharged 6.2-liter V-8 producing approximately 620-horsepower and 595 pounds-feet of torque, making it the most powerful and fastest car ever produced by GM. To top it off, highway fuel economy is expected to be just above 25 mpg.

The front fenders and hood are made of carbon fiber. The hood features a raised, polycarbonate window with a view of the intercooler. Start saving now, however, the ZR1 will be priced around \$100,000.

Saturn VUE Green Line 2 Mode

The VUE 2 Mode is the first front-wheel-drive vehicle with GM's two-mode hybrid technology. It will deliver an estimated 50% fuel economy increase over the non-hybrid V-6 VUE and have a driving range of more than 500 miles, with no trade-offs in performance from the 3.6L VVT V-6 with direct injection. The two-mode system uses twin, active-cooled electric motors integrated into the automatic transmission that maximize city and highway fuel economy through two electric continuously variable modes and four fixed mechanical gear ratios.



It is also classified as a Partial Zero Emissions Vehicle (PZEV) in states that have adopted California's emissions rules. Production is expected to begin in late 2008.

Saturn also introduced a VUE plug-in hybrid concept that features a plug-in battery that recharges from 110-volt household electrical outlet in four to five hours.

Cadillac Provoq

The Cadillac Provoq concept is a hydrogen fuel-cell crossover that is based on GM's E-Flex architecture that debuted with the Chevy Volt. The Provoq combines the fuel-cell system with a lithium-ion battery that can drive 300 miles on a single fill of hydrogen — with 280 miles from hydrogen and 20 miles on battery electric power.



The Provoq features a solar panel integrated in the roof to help power onboard accessories. Fender-mounted charge ports allow overnight, plug-in charging to extend the vehicle's driving range.

Cadillac CTS Coupe

The CTS Coupe concept is an expressive sports coupe that features sculpted bodywork and signature design cues from the award-winning CTS sedan.



The coupe has the same wheelbase as the sedan, but is lower and shorter overall.

Two possible engine choices that the CTS Coupe could accommodate are the 3.6L direct injection V-6 and a new 2.9L turbo-diesel currently in development.

HUMMER HX

The HX concept may be the next competitor of the Jeep Wrangler. It has a removable roof, fenders and doors along with full-time 4WD, front and rear locking differentials, and 35-inch tires. The HX is powered by a FlexFuel 3.6L direct-injected V-6.



For more photos of the latest models making the rounds on the auto show circuit, go to our website, *TechConnect Magazine Online*, by clicking on the Resources link on the ACDelco LMS.

– Thanks to ???

The following technical tips provide repair information about specific conditions on a variety of vehicles. If you have a tough or unusual service repair, the **TSS Technical Assistance Hot Line** can help. Call **1-800-825-5886, prompt #2**, to speak with a technical expert with the latest OEM information.

Inoperative Horn

2000-2005 Saturn L-Series

The horn may be inoperative, weak or muffled, and may have been replaced previously with an updated unit.

These conditions may be due to water intrusion. A smaller, updated horn unit is available with a water deflector covering the opening. Install the updated horn in an alternate location, identified in the following procedure.

1. If the horn has not been updated to the latest part, it will need to be changed to ensure clearance in the new location.
2. Remove the horn and bracket from the inner fender.
3. Remove the grill.



4. Using the existing bracket, mount the horn to the underside of the top radiator core support on the driver's side.
5. Lengthen the wiring as needed to reach the new location. Use splice sleeves from a terminal repair kit.
6. Be sure the horn does not contact the condenser or grill, and properly secure all wiring.

Exterior Lamp Condensation

1993-2008 GM passenger cars and trucks, including Saturn; 2003-2008 HUMMER H2 and 2006-2008 HUMMER H3; 2005-2008 Saab 9-7X

Some exterior lamps, such as turn signal lamps, headlamps, or tail lamps, may have very small droplets of water, a fine mist or white fog (condensation) on the inside of the lamp lens. This may be more noticeable on lamps with multi-lens designs and may be normal during certain weather conditions. Before service, it must be determined if the lamp shows signs of normal condensation or a water leak.

Condensation occurs when the air inside the lamp assembly, through atmospheric changes, reaches the dew

point. When this takes place, the moisture in the air within the lamp assembly condenses, creating a fine mist or white fog on the inside surface of the lamp lens.

Most exterior lamps on GM vehicles use a vented design and feature a replaceable bulb assembly. They are designed to remove any accumulated moisture vapor by expelling it through a vent system. The vent system operates at all times; however, it is most effective when the lamps are on or when the vehicle is in motion. Depending on the size, shape and location of the lamp on the vehicle, and the atmospheric conditions occurring, the amount of time required to clear the lamp may vary from 2 to 6 hours.

Completely sealed headlamp assemblies (sealed beams) require the replacement of the complete lamp assembly if a bulb filament burns out.

Condensation

- May be located primarily in the lens corners (near the vents) and should not cover more than half the lens surface.
- Should clear of moisture when the vehicle is parked in a dry environment, or when the vehicle is driven with the lights on.
- A comparison of the equivalent lamp on the opposing side of the vehicle indicates a similar performance.

Water Leak

- Covers more than half the surface of the lamp lens.
- Accumulation of water in the bottom of the lamp assembly.
- Will not clear when the vehicle is parked in a dry environment, or when the vehicle is driven with the lights on.
- A comparison of the equivalent lamp on the opposing side of the vehicle indicates a different performance.

Reverse Lamp Inoperative

2003-2008 Saab 9-3

The left-side reverse lamp may not illuminate. There is no power to the circuit. There may be no change if the Rear Electrical Center (REC) is swapped.

The circuit for the left-side reverse lamp is also tied into the rearview mirror auto-dim circuit. In the REC, connectors H2 pin 11 and T-C pin 1 are the same circuit, as they are jumped together internally. (See the reverse lamp schematic.) This circuit supplies a signal to the rearview mirror to disable the auto-dim feature when backing up.

If the REC sees any circuit shorted to ground, it will disable the circuit by removing the voltage for protection. The REC will continue to disable the circuit until the concern has been rectified.

Verify the integrity of the circuit in question for shorting to ground. The rearview mirror may be improperly installed, trapping the wiring between the mirror and the body, pinching the wires and shorting the circuit to ground.

Front Suspension Noise

2003-2008 Saab 9-3, 2004-2008 Saab 9-3 Convertible, 2006-2008 Saab 9-3 SportCombi

A popping or clicking noise may be heard coming from the front suspension area. It may be described as a light metallic sound, typically heard while turning at slow speeds.

Follow normal diagnostic procedures. If the noise is resonating from the hub/lower strut area, remove the front backing plates/dust shields and enlarge the mounting holes to prevent any bind/slip-stick condition from occurring. Reassemble and then test drive to verify the repair.

Product Assistance

For assistance and information regarding specific ACDelco products, contact these free information hotlines:

Brakes – 1-888-701-6169 (prompt #1)

Chassis – 1-888-701-6169 (prompt #2)

Clutches – 1-888-725-8625

Lift Supports – 1-800-790-5438

Shocks – 1-877-466-7752

Starters and Alternators –
1-800-228-9672

Steering – 1-866-833-5567

Wiper Blades – 1-800-810-7096

Spark Plug Wires

The first high-tension spark plug wires were simple strips of copper running from the distributor to the spark plugs. As the lengths of copper increased, it became necessary to insulate the copper wires to reduce Radio Frequency Interference (RFI).

Radio Frequency Energy

The ignition system of an internal combustion engine radiates various amounts of Radio Frequency (RF) energy, which acts like a radio transmitter. If this energy is not suppressed, the radiated RF energy can cause interference and disruption of the radio, headlight dimmer, garage door opener or other sensitive electronic devices.

The best defense against RFI in the ignition system combines TVRS (Television Radio Suppression) cable or wire wound cable in the spark plug wires with ACDelco's resistor-type spark plugs.

TVRS Cable

RFI that is transmitted from the plug wires comes from the instantaneous discharge of the high voltage as it arcs across the spark plugs. The wires then act as antennas to transmit the resulting RF energy into the surrounding underhood area.

To suppress RFI and increase performance, early plug wires traded copper for carbon as a conductor. The carbon-impregnated fiber or wire core helps suppress RFI because the high resistance makes the wires ineffective antennas. High resistance in the spark

plug wires will slow down the energy build-up to ionize the spark plug gaps.

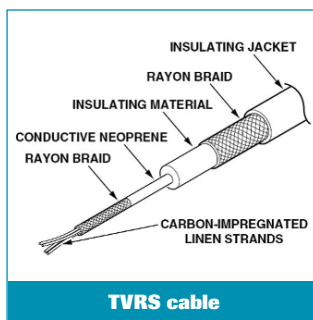
Wire Wound Cable

An alternative to TVRS cable is wire wound cable, which can be more effective at reducing RFI. The wire wound induction cable makes it possible to reduce series resistance while still maintaining RFI suppression. The reduction in series resistance allows more of the coil energy to be supplied to the spark gap. Essentially, the lower cable resistance provides a hotter spark, longer spark duration and cooler operation.

Suppression in a wire wound core is due to the magnetic field that is created around the core when the spark is jumping the gap. The energy in the magnetic field prevents any other electromagnetic energy from radiating until the magnetic field has collapsed.

Plug Wire Testing

Because of its construction, spark plug wire cable can be damaged by grabbing and pulling it away from the spark plugs. Rough handling can separate the conductive strands from the center terminal. An open circuit, poor conductivity, excessive resistance or a spark plug misfire is the usual result.



A visual inspection of the spark plug wires should include checking for:

- Breakdowns in the insulation, including the heat shields on the boots
- Oxidation on the terminal connections
- Poor terminal connection

A resistance test also can be performed to check the conductivity of the wire. Perform the test while flexing the wire. Look for high resistance or an open circuit. The resistance test is a static test. The resistance will change dynamically when the spark plug is operating. An oscilloscope may be able to pick up the change by monitoring the voltage.

In general, carbon or silicone spark plug wires will measure 5,000 ohms per foot or less when doing a static resistance check. Wire wound cables will measure lower resistance, fewer than 1,000 ohms per foot.

Spark plug wires should be replaced any time they show physical damage, such as cuts, chafing, scorch marks or signs of external arcing.

Ultimately, a single open spark plug wire can lead to a failed ignition coil or ignition control module.

For more information on spark plug wires and ignition systems, two available Web-Based Training courses on the ACDelco LMS are: S-EP08-01.01WBT – Powertrain Performance 1 and S-EP08-02.01WBT– Powertrain Performance 2.

– Thanks to Mike Militello

Training UPDATE

How to Take ACDelco Training

Go to acdelcotechconnect.com and click on the **Training tab** to log on to the ACDelco Learning Management System (LMS).

- To enroll in an **Instructor-Led Training (ILT)** course, click on the Enrollment link or the Instructor-Led Courses link.
- To launch a **Web-Based Training (WBT)** course, click on the Web-Based Courses link to view the catalog and select a specific course.
- To launch a **TechAssist (TAS)** course, click on the TechAssists link to view the catalog and select a specific course.

Current Instructor-Led Training

ACDelco's Instructor-Led Training (ILT) courses provide hands-on instruction with the latest automotive systems. The following ILT courses are currently being held at training center locations around the country.

S-AC07-02.01ILT	Automotive Air Conditioning: Advanced Refrigerant System Diagnostics
S-AC07-03.01ILT	HVAC Control System Operation and Diagnostics
S-BK05-01.01ILT	Braking Systems
S-EL06-04.01ILT	Body Control Systems Diagnostics
S-EL06-10.01ILT	Battery, Charging, & Starting
S-EL06-11.01ILT	Automotive Electrical Circuit Diagnosis and Repair
S-EP08-01.01ILT	Engine Performance
S-EP08-02.01ILT	Engine Performance: Computer Controls and Ignition System Diagnostics
S-EP08-03.01ILT	Engine Performance: Air Induction and Fuel System Diagnostics
S-EP08-04.01ILT	Engine Performance: Fault Monitoring and Emission System Diagnostics
S-EP08-12.01ILT	OBD II GM Diagnostics
S-EP08-81.01ILT	Duramax 6600: Diesel Engine Performance
S-SS04-01.01ILT	Vibration Correction Diagnostics
S-ST10-01.01ILT	Supplemental Restraint Systems