

## New Trailering App and Trailer Tire Pressure Monitor System



The all-new 2019 Silverado 1500 and Sierra 1500 offer available trailering systems that feature a trailering app, trailer tire pressure monitors, and HD cameras.

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# New Trailing App and Trailer Tire Pressure Monitor System

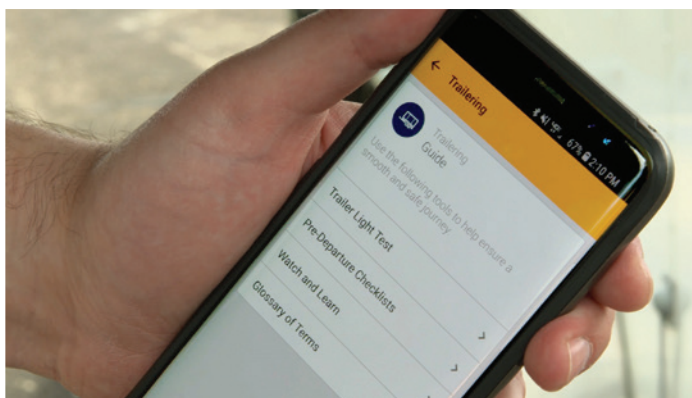
The trailing app that is part of Chevrolet's Advanced Trailing System and GMC's ProGrade Trailing System (RPO ZL6) includes a Pre-Departure Checklist, Maintenance Reminders, Trailer Light Test, Trailer Electrical Diagnostics, and Trailer Tire Pressure and Temperature Monitoring. As part of the Trailer Tire Pressure Monitor System (RPO PTT), four additional tire pressure monitor sensors are included in the Loose Ship Components package for installation on up to four trailer tires.



Trailer camera views

When on the road, additional assistance is provided by the available side-view cameras and trailer-mounted HD camera.

Many of these trailing features are accessed using the infotainment system or are available with the myChevrolet or myGMC mobile app.



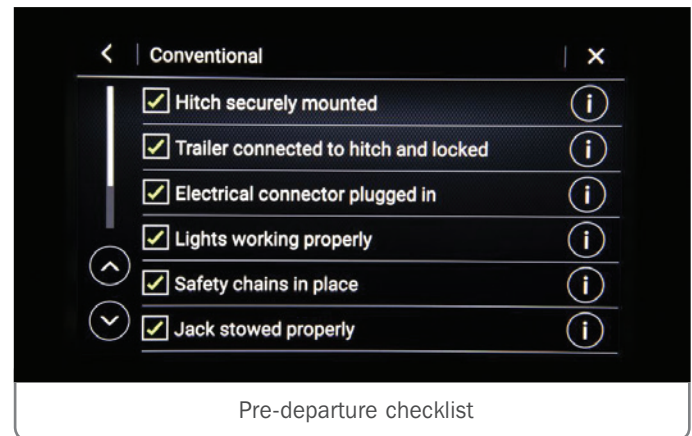
Mobile app trailing guide

## TRAILERING APP

The in-vehicle trailing app on the infotainment screen helps with a number of trailing features, including:

- Hitching and setup with pre-departure checklists
- Maintenance reminders

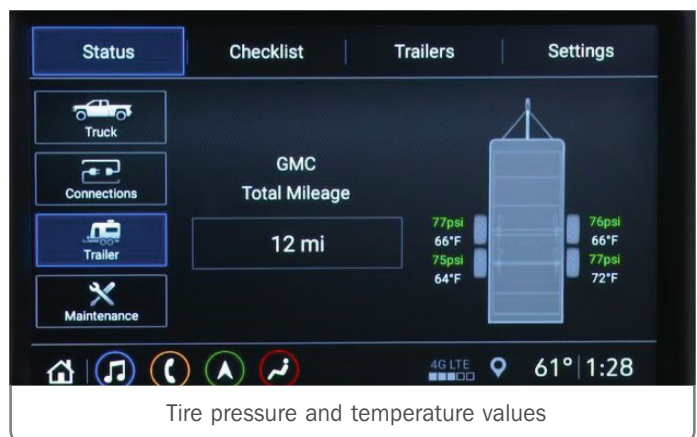
- Trailer tire pressure monitoring
- Trailer light testing
- Customizing and saving trailer profiles
- Trailer Gain settings saved for each trailer profile.
- Trailer theft detection (requires an active OnStar service plan)



## TRAILER TIRE PRESSURE MONITOR SYSTEM

The Trailer Tire Pressure Monitor System includes the trailer tire pressure indicator module and a set of four wireless tire pressure sensors that need to be installed on the trailer by the customer. The system can accommodate a trailer with up to six tires. Additional or replacement sensors are available as a GM Accessory. Sensor functionality requires that the trailer tire pressure monitor system be ordered with the vehicle and installed by the factory.

The sensors must be mounted onto each tire and wheel assembly, and the sensors must be learned by the vehicle. The sensors monitor the air pressure in the trailer tires and transmit the trailer



CONTINUED ON PAGE 3



tire pressure readings to a receiver located in the vehicle. The tire pressure and temperature values can be viewed in the trailering app on the infotainment screen.

## LEARN MODE

The Trailer Tire Pressure Monitor System uses the instrument cluster, center stack module, trailer tire pressure indicator module, up to six radio frequency transmitting pressure sensors, and the serial data circuit to perform the tire pressure monitor learn mode functions. The sensor learn procedure must be performed after every tire rotation, trailer tire pressure indicator module replacement, or sensor replacement.

## LEARN PROCEDURE

The Trailer Tire Pressure Monitor System can be paired with up to five individual trailers. The learn procedure applies only to the trailer tire pressure sensors for the selected trailer profile.

Follow the trailer tire pressure sensor learn procedure in the appropriate Service Information. During diagnostics, the TPM sensor learn activation procedure may have to be repeated up to three times before determining a sensor is malfunctioning.



The learn procedure for the trailer tires requires using the EL-46079 Tire Pressure Monitor Diagnostic Tool or EL-50448 Tire Pressure Monitor Sensor Activation Tool, just as when learning the tire pressure sensors on a vehicle. If the trailer is not available, the trailer tire pressure sensors can be learned using the new EL-52641 Trailer Presence Simulator Tester, which can simulate the presence of a trailer. The tool can be helpful when a customer would like the trailer tire pressure sensors learned without having the actual trailer at the dealership.

Use the trailering app or the special tool to initiate the trailer tire pressure sensor learn mode. A double horn chirp will sound to indicate the learn mode has been enabled.

Once the learn mode has been enabled, each of the sensors unique identification codes can be learned into the trailer tire pressure indicator module memory. When a sensor ID has been

learned, the trailer tire pressure indicator module sounds a horn chirp indicating the sensor has transmitted its ID and the trailer tire pressure indicator module has received and learned it. The trailer tire pressure indicator module must learn the sensor IDs in the proper sequence, depending on the number of axles a trailer has, to determine correct sensor location. The turn signals will individually illuminate indicating which location is to be learned in the proper sequence.

Start with the left front trailer tire, and then the remaining sensors in the following order:

- Right front if the trailer has one axle.
- Left rear, right rear, and right front if the trailer has two axles.
- Left middle, left rear, right rear, right middle, and right front if the trailer has three axles.

**TIP:** If a sensor is activated and the horn doesn't chirp, the sensor signal may be blocked by another component. Rotate the wheel so that the valve stem is in a different position.

When using the trailering app on the infotainment screen, the current tire is highlighted while the tire sensor is being learned. After a sensor is learned, a checkmark appears next to the tire.

When the last sensor has been learned, a double horn chirp will sound, indicating the learn process is complete. The trailer tire pressure indicator module will exit the learn mode. If a double horn chirp is not heard, confirm that all of the tire pressure sensor parameters display YES.

If the trailer tires are rotated or if the tire pressure sensors for the trailer are replaced, the trailer profile in the trailering app must be updated under the Trailer



EL-52641 Trailer Presence Simulator

Profile view. Select Tire Pressure Setup and follow the on-screen instructions to relearn the tire sensors, which will overwrite the current sensors for the selected trailer profile.

► Thanks to Dave MacGillis

# New Dealer Infrastructure Guidelines Announce End of Windows 7 Support

GM has recently released revised Dealer Infrastructure Guidelines (DIG) for 2019. The guidelines outline the dealership technology needed to ensure reliable data communications for all dealers.

## WIN 7 SUPPORT ENDING

The most notable change in the new guidelines is that the Windows 7 Professional Operating System (OS) will no longer be supported by GM starting on January 1, 2020. Microsoft will end support of Windows 7 Professional on January 14, 2020.

Any personal computer (PC) in the dealership that is running Windows 7 Professional must be replaced or updated to meet the minimum specifications listed in the DIG. Any PC that does not meet the minimum specifications will not receive support when contacting the Techline Customer Support Center (TCSC). Currently, Windows 10 Professional, 64 bit, is the recommended OS for all PCs.

## UPGRADING PCS

PCs used by technicians in the service bay should not be simply upgraded with a new operating system unless the PC hardware is considered to be in the "Better" specifications category in the DIG. The DIG provides "Good," "Better," and "Best" specifications for replacing PCs.

- Good – the minimum acceptable systems capability/components for conducting business with GM
- Better – the systems infrastructure capability/components that will deliver better performance and security while seeking to maximize the lifecycle of the investment.
- Best – the systems infrastructure capability/components that will deliver best performance and security while seeking to maximize the lifecycle of the investment.

## TECHLINE APPLICATION RECOMMENDATIONS

GM vehicle diagnostic applications, such as GDS2 and SPS require additional computing power to perform appropriately during vehicle diagnosis and repairs. A modern, DIG-compliant



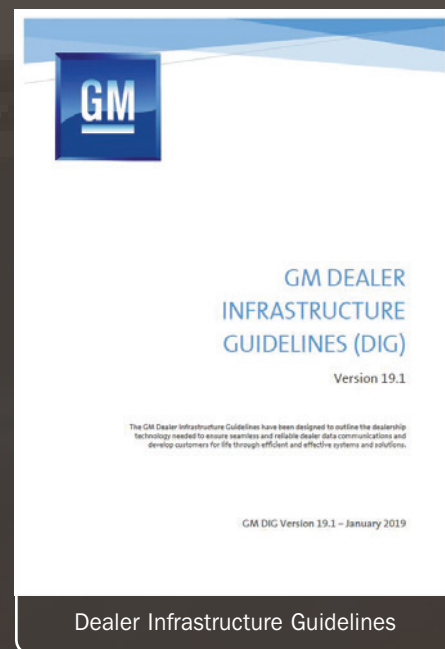
PC is needed in order to properly use all of the features of the diagnostic applications.

The following recommendations are for all service technician applications (TIS2Web, GDS2, MDI, MDI 2, Tech2Win, and Service Information):

- Local Windows Administrative access for software installation and updates to Windows registry
- One laptop for each technician performing vehicle diagnostics; otherwise, one for every two technicians
- One MDI / MDI 2 for every Techline PC
- One battery maintainer for every two MDI tools in use
- Use of Tripp-Lite Keyspan USB-to-Serial adapter (Model: USA - 19HS) for computers without serial ports

To view the latest DIG as well as PCs for purchase, go to [gmdesolutions.com](http://gmdesolutions.com) and select the Dealer Services tab. Once you've input your BAC and zip code, select Techline IT Solutions from the Dealer Services menu.

► Thanks to Lisa Scott



# New EL-52641 Trailer Presence Simulator Tester



EL-52641 Trailer Presence Simulator

The recently released EL-52641 Trailer Presence Simulator Tester is a trailer module tester and trailer simulator that can be used to simulate a trailer connected to the vehicle when performing trailer signal diagnostics and trailer tire pressure monitor sensor programming.

The EL-52641 Tester includes a simulator module equipped with indicator lights and a 25 ft. cable with a trailer 7-pin connector. The long cable makes it easy to conduct and review diagnostic tests from inside the vehicle.

## TESTING

The tester features indicator lights that provide feedback on the vehicle signals sent to the trailer for the reverse lights, battery power, right turn signal and brake light, left turn signal and brake light, and brake controller output. Several trailer diagnostic procedures have been updated in the Service Information using the tester, including trailer lamps malfunction conditions and trailer tire pressure sensor DTCs.

To use the tester for signal testing, simply plug the 7-way connector of the tester into the trailer connector port at the rear of the vehicle. With the vehicle running, verify the 12V circuit is powered or turn on the tail light circuit. Activate each circuit while monitoring the corresponding indicator light on the tester. For example, activate the left turn signal and the LT (left turn signal) indicator light on the tester should illuminate. Or apply the brakes and shift to Reverse and the RL (reverse lights) indicator light and the LT (left turn signal) and RT (right turn signal) indicator lights on the tester should illuminate, showing that the reverse lights and brake lights are working properly.

For vehicles equipped with an Integrated Trailer Brake Controller, a Trailer Connected message should display on the Driver Information Center.

## TPM PROGRAMMING

The EL-52641 Tester also can be used to simulate the presence of a trailer in order to learn the trailer tire pressure monitor sensors in a case where the actual trailer is not available.

After plugging the 7-way connector of the tester into the trailer connector port, follow the appropriate Service Information procedure to learn the trailer tire pressure monitor sensors.

For more information and to review special pricing for the EL-52641 Trailer Presence Simulator Tester, log in to GM Global-Connect, select Service from the Departments menu, and then select the Special Service Tools website link.

► Thanks to Chuck Berecz

**EL-52641 Trailer Presence Simulator Tester**  
Dealer Price \$139.10

**Overview:**  
This is the only GM approved trailer module tester and trailer simulator. The tester consists of the module equipped with indicator lights and the attached 25 feet cable with the trailer 7 pin connector. The tester is used to simulate the trailer presence in order to program the trailer tire pressure sensors. In addition the tester will be equipped with indicator lights that will provide visual feedback to the technician on the vehicle signals sent to the trailer for: reverse light, battery power, right turn and brake, left turn and brake, brake controller output as the technician activates appropriate controls. The tester will be equipped with replaceable 25 feet cable to allow the technician to conduct diagnostics while located inside of the vehicle.

**Tester Description and Test Methods:**  
**Trailer Tire Pressure Monitoring Sensors Programming:**  
1. Plug in the 7-way connector of the tester into the trailer connector port at the back of the vehicle.  
2. Bring the other end of the cable and tester into the driver compartment. Secure harness as necessary for safe operation.  
3. Set the Emergency Brake.  
4. Start the Vehicle Engine and let idle.  
5. Program Trailer Tire Pressure sensors in accordance to GM service instructions.

**Vehicle to Trailer Signal Testing:**  
1. Plug in the 7-way connector of the tester into the trailer connector port at the back of the vehicle.  
2. Bring the other end of the cable and tester into the driver compartment. Secure harness as necessary for safe operation.  
3. Set the Emergency Brake.  
4. Start the Vehicle Engine and let idle.  
5. Verify 12V circuit is powered or turn on Tail Light Circuit.  
6. For vehicles equipped with Integrated Trailer Brake Controls, look for the words "Trailer Connected" on the instrument panel.  
7. Activate each circuit while monitoring that the corresponding indicator light is illuminated indicating that circuit working properly.

Indicator Light	Evaluation
TL (Tail Lights)	Turn on Headlights/Park Lights
LT (Left Turn Signal)	Manually activate Left Turn Signal
EB (Electric Brakes)	For vehicles equipped with Integrated Trailer Brake Controls, look for the words "Trailer Connected" on the instrument panel
RT (Right Turn Signal)	Manually activate Right Turn Signal
+12V (+12 Volt)	Engine cranking should activate (+12) with accessory
RL (Reverse Lights)	With brakes applied, shift to reverse
L/RT (Depress Brake pedal)	Both should light indicating Brake Lights are working
L/RT (Manually activate Hazards)	Both should light indicating Hazards are working

**1-800-GM-TOOLS, Fax 800-283-8665**  
Bosch Automotive Service Solutions Inc., 28635 Mound Road, Warren, MI 48092



# Voice Recognition Prompts May Change as System is Used

The Infotainment 3 systems (RPOs IOS, IOT, IOU), available on a number of 2017-2019 GM models has a voice recognition feature that offers varying responses as the system is used by the driver, based on the settings selected.

Owners who are not familiar with how the system responds to voice recognition requests may mistake normal operation as a system error or malfunction. It's important to understand proper system operation while diagnosing the infotainment system.

## VOICE PROMPT MODES

There are three voice prompt length modes that are supported by the system.

**Informative Verbal Prompts:** Prompt will provide more information regarding the supported actions.

**Short Prompts:** Prompt will provide simple instructions about what can be stated.

**Auto Informative Prompts:** Prompt plays during the first few speech sessions, then automatically switches to the short prompt after some experience has been gained through using the system.

If a command is not spoken, the voice recognition system says a help prompt.

In some instances, as the driver gains more experience using voice recognition and the system moves toward the short prompts, a longer, informative prompt may be expected when only a short prompt is provided. As a result, some customers may think the system response is "rude" or is not operating properly because only the short prompts are being provided. The short prompts replacing the informative prompts as voice recognition is used is a normal operation of the infotainment system. No parts should be replaced for this condition. These settings can be changed in the System Settings menu on the infotainment display.

## VOICE SETTINGS

Once voice recognition is started, both the infotainment display and the instrument cluster show the selections and the visual dialog content. These settings can be changed in the Settings options on the infotainment system. Go to Settings > System > Voice.

The Voice options include:

- **Confirm More/Less** – This setting specifies how often the voice recognition system confirms commands. Select Confirm More to have the system check more often before acting on a command.

- **Prompt Length** – This setting specifies the amount of detail the voice recognition system provides when giving feedback. Choose from Informative, Short, or Auto. Select Auto to have the system automatically adjust to your speech habits.
- **Audio Feedback Speed** – Select Slow, Medium, or Fast to adjust how quickly the voice recognition system speaks.
- **Friendly Prompts** – This setting adjusts the formality of voice prompts. Select Off for shorter prompts or On to hear prompts with more personality. The Auto setting will have the prompt match your command style.
- **Tutorial Mode** – Select Off or On to provide tutorial feedback on the display.
- **Allow Prompt Interruptions** – This setting controls whether voice commands can be spoken before voice prompts finish. When turned on, speaking while the prompt is still playing will immediately stop playing the current prompt and recognize your command. Keep in mind that background noise may cause accidental interruptions.



## USING VOICE RECOGNITION

Voice recognition is available through the infotainment system once the system has been initialized after the ignition is turned on. Once initialization has been completed, pressing the Push to Talk button (person speaking icon) on the steering wheel will activate voice recognition. The audio system mutes and a prompt will be heard. At this point, the driver can speak one of many commands directing the infotainment system to perform a number of tasks. A voice recognition system prompt can be interrupted while it is playing by pressing the Push to Talk button again.

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Voice recognition controls

To cancel voice recognition, say Cancel or Exit, or press the End Call button (phone with slash icon) on the steering wheel.

## MANUAL INTERACTION

While a voice recognition session is active, there may be corresponding options showing on the infotainment and instrument cluster displays. A selection can be made by manually touching the option on the screen or by speaking to select the option.

Manual interaction in the voice recognition session is permitted. If a selection is made using a manual control, the voice recognition dialog will progress in the same way as if the selection were made using a voice command. Once the system completes the task, or the session is terminated, the voice recognition dialog stops.

► Thanks to Jeremy Richardson

## Wheel Studs with Yellow Coating

The new 2019 Silverado and Sierra use wheel studs that have a yellow coating on the lower portion of the stud threads to prevent corrosion of the threads. The yellow coating is not Loctite or any type of anti-seize coating for the wheel studs.

**TIP:** Never apply Loctite or any other product to any wheel stud threads. Never grease or lubricate the wheel nuts, studs or mounting surfaces. Wheel nuts, studs and mounting surfaces must be clean and dry.

The yellow coating is designed to prevent corrosion on the portion of the thread that is not covered by the wheel nut. The coating should not be removed or supplemented with any other product. If the coating comes off the wheel stud, it is not necessary to replace the stud.



Yellow coating on the wheel stud



Wheel nuts

Always clean the threads of the wheel studs before installing the tire and wheel assembly. If the threads of the wheel stud are damaged, replace the wheel stud.

The 2019 Silverado and Sierra are the first models/model year to receive the coating on the wheel studs. The coating will be applied on additional models in future model years.

► Thanks to Dave MacGillis

# Oil Pan Drain Plug Leak

An engine oil leak may be noticed after an oil and filter change on some 2017-2019 Cruze and 2018-2019 Equinox and Terrain models equipped with the 1.6L 4-cylinder diesel engine (RPO LH7).



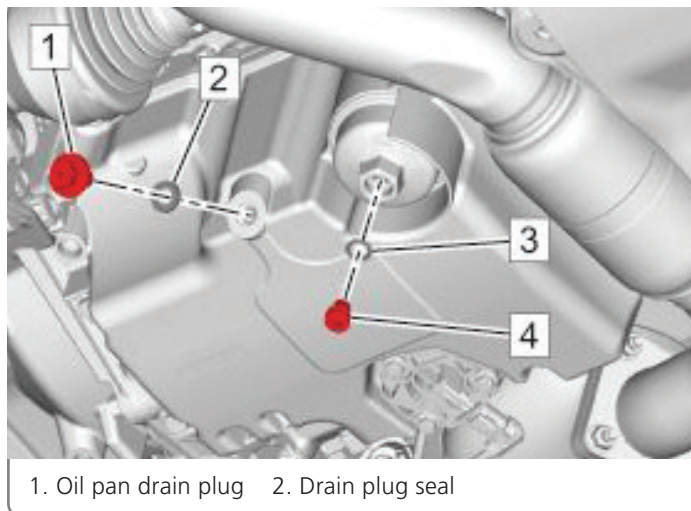
1.6L diesel engine

The oil leak may be the result of not replacing the oil pan drain plug seal after an oil change. The seal on the drain plug should be replaced each time the drain plug is removed from the oil pan.

When performing an oil change, after draining the oil and disposing of the oil filter insert, install a new oil filter insert and oil filter cap o-ring. Coat the o-ring with new, clean engine oil.

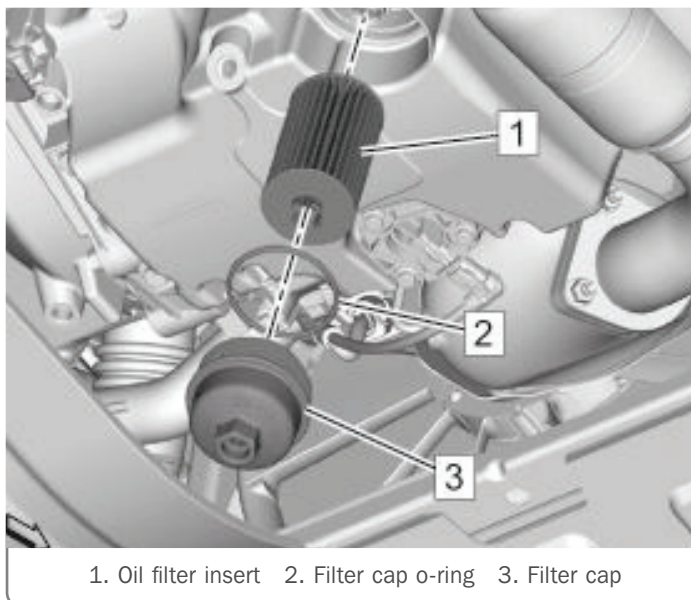
**TIP:** The 1.6L diesel engine uses a special high-performance oil filter. Use only the specified oil filter.

Install the filter cap. Be sure not to over-torque the filter cap or an oil leak could occur. Use a new o-ring when installing the oil filter cap plug.



1. Oil pan drain plug 2. Drain plug seal

Next, install a new oil pan drain plug seal and tighten the drain plug to specification.



1. Oil filter insert 2. Filter cap o-ring 3. Filter cap

► Thanks to Javier Hinojos



# Turbocharged Gas Engine Performance in Cold Temperatures



Turbocharged gasoline engines on some 2000-2019 GM models may experience poor performance in very cold ambient temperatures (32 °F, 0 °C or lower). DTCs P0299 (Engine Underboost) or P2227 (Barometric Pressure Sensor Performance) may set. In cold temperatures, ambient and PCV moisture can freeze in the charge air cooler, which would restrict flow and cause DTCs P0299 and/or P2227.

DTC P0299 may set when the ECM detects that the actual boost pressure is less than the desired boost pressure

by a calibrated amount for greater than three seconds. When DTC P0299 is set, the ECM will disable boost control and limit the system to mechanical boost only, resulting in a substantial decrease in engine power.

DTC P2227 may set if the actual value of the Barometric Pressure Sensor (BARO) is not within a predetermined range of the calculated BARO.

If these conditions are found, inspect the air induction system, including the charge air cooler, for signs of ice restricting the air flow or covering any related pressure

sensors. These inspections should be performed prior to following the diagnostic steps for any set DTCs or performing any service as recommended in other bulletins or PI's.

Allow any ice to melt so that the moisture can be drained from the induction system, including the charge air cooler, without component damage. Once any excessive moisture has been removed, retest the engine performance and follow the normal diagnostic steps for any symptoms found.

► Thanks to Rob Halas

## TECH LINK

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