

2013 ACCESSORIES & EQUIPMENT

Tire Pressure Monitoring - Malibu

SPECIFICATIONS

FASTENER TIGHTENING SPECIFICATIONS

Fastener Tightening Specifications

Application	Specification	
	Metric	English
Tire Pressure Indicator Receiver Fastener (Qty: 2)	4 N.m	35 lb in

DIAGNOSTIC INFORMATION AND PROCEDURES

DIAGNOSTIC CODE INDEX

DIAGNOSTIC CODE INDEX

DTC	Description
<u>DTC C0569</u>	DTC C0569 00 System Configuration Malfunction
<u>DTC C0750, C0755, C0760, or C0765</u>	DTC C0750 03 Left Front Tire Pressure Sensor Low Voltage
	DTC C0750 29 Left Front Tire Pressure Sensor Too Few Pulses
	DTC C0750 39 Left Front Tire Pressure Sensor Internal Malfunction
	DTC C0755 03 Right Front Tire Pressure Sensor Low Voltage
	DTC C0755 29 Right Front Tire Pressure Sensor Too Few Pulses
	DTC C0755 39 Right Front Tire Pressure Sensor Internal Malfunction
	DTC C0760 03 Left Rear Tire Pressure Sensor Low Voltage
	DTC C0760 29 Left Rear Tire Pressure Sensor Too Few Pulses
	DTC C0760 39 Left Rear Tire Pressure Sensor Internal Malfunction
	DTC C0765 03 Right Rear Tire Pressure Sensor Low Voltage
	DTC C0765 29 Right Rear Tire Pressure Sensor Too Few Pulses
	DTC C0765 39 Right Rear Tire Pressure Sensor Internal Malfunction
	DTC C0775 00 Tire Pressure Monitoring System Sensors Malfunction
<u>DTC C0775</u>	

DTC C0569

Diagnostic Instructions

- Perform the **Diagnostic System Check - Vehicle** prior to using this diagnostic procedure.
- Review **Strategy Based Diagnosis** for an overview of the diagnostic approach.
- **Diagnostic Procedure Instructions** provides an overview of each diagnostic category.

DTC Descriptor

DTC C0569 00

System Configuration Malfunction

Circuit/System Description

If the tire type and pressure information is not entered during the body control module (BCM) setup, the tire pressure monitor system indicator icon on the instrument cluster will flash for 1 min and then remain illuminated after the ignition is cycled ON and the instrument cluster bulb check is complete. If equipped, the driver information center will also display a service tire monitor type message. Under these circumstances, DTC C0569 will be set and the tire type and pressure information will need to be entered for the system to function correctly.

Conditions for Running the DTC

Ignition ON.

Conditions for Setting the DTC

The tire type and pressure information is not entered into the BCM during programming and setup.

Action Taken When the DTC Sets

- The tire pressure monitor system indicator icon on the instrument cluster flashes for 1 min and then remains illuminated after the ignition switch is cycled ON and the instrument cluster bulb check is complete.
- If equipped, the driver information center displays a service tire monitor type message.

Conditions for Clearing the DTC

A current DTC will clear when the BCM has undergone the tire type and pressure selection setup procedure and one ignition cycle has occurred.

Diagnostic Aids

A newly replaced BCM will set DTC C0569 after programming on it's initial ignition ON cycle if the module setup information has not been entered.

Reference Information

Description and Operation

Tire Pressure Monitor Description and Operation

Scan Tool Reference

Control Module References for scan tool information

Circuit/System Verification

1. Ignition ON.
2. Enter the tire type and pressure information into the K9 Body Control Module with a scan tool. Refer to **Vehicle Certification, Tire Placard, Anti-Theft, and Service Parts ID Label**.
3. Ignition OFF, then Ignition ON.
4. Verify DTC C0569 is not set.
 - **If the DTC is set**

Replace the K9 Body Control Module.
 - **If the DTC is not set.**
5. All OK.

Repair Instructions

Perform the **Diagnostic Repair Verification** after completing the repair.

Control Module References for BCM replacement, programming, and setup.

DTC C0750, C0755, C0760, OR C0765

Diagnostic Instructions

- Perform the **Diagnostic System Check - Vehicle** prior to using this diagnostic procedure.
- Review **Strategy Based Diagnosis** for an overview of the diagnostic approach.
- **Diagnostic Procedure Instructions** provides an overview of each diagnostic category.

DTC Descriptor

DTC C0750 03

Left Front Tire Pressure Sensor Low Voltage

DTC C0750 29

Left Front Tire Pressure Sensor Too Few Pulses

DTC C0750 39

Left Front Tire Pressure Sensor Internal Malfunction

DTC C0755 03

Right Front Tire Pressure Sensor Low Voltage

DTC C0755 29

Right Front Tire Pressure Sensor Too Few Pulses

DTC C0755 39

Right Front Tire Pressure Sensor Internal Malfunction

DTC C0760 03

Left Rear Tire Pressure Sensor Low Voltage

DTC C0760 29

Left Rear Tire Pressure Sensor Too Few Pulses

DTC C0760 39

Left Rear Tire Pressure Sensor Internal Malfunction

DTC C0765 03

Right Rear Tire Pressure Sensor Low Voltage

DTC C0765 29

Right Rear Tire Pressure Sensor Too Few Pulses

DTC C0765 39

Right Rear Tire Pressure Sensor Internal Malfunction

Circuit/System Description

The tire pressure monitor system has a radio frequency (RF) transmitting pressure sensor in each wheel/tire assembly. As vehicle speed increases, centrifugal force closes the sensors internal roll switch, which puts the sensor into Drive mode. The body control module (BCM) receives and translates the data contained in the tire

pressure sensor RF transmissions into sensor presence, sensor mode, and tire pressure. Once vehicle speed is greater than 40 km/h (25 MPH), the BCM waits for the first sensor to go into Drive mode, then checks if all sensors have gone into Drive mode. If one or more sensors does not go into these modes, or does not transmit at all, the BCM will set DTC C0750, C0755, C0760, or C0765 respectively.

Conditions for Running the DTC

Vehicle speed is greater than 40 km/h (25 MPH).

Conditions for Setting the DTC

- A sensor does not transmit or transmits invalid data to the BCM.
- A sensor low battery condition.

Action Taken When the DTC Sets

- The tire pressure monitor system indicator icon on the instrument cluster flashes for 1 min and then remains illuminated after the ignition switch is cycled ON and the instrument cluster bulb check is complete.
- If equipped, the driver information center displays a service tire monitor type message.

Conditions for Clearing the DTC

A current DTC will clear when the malfunction is no longer present and one ignition cycle occurs.

Diagnostic Aids

- Some aftermarket wheel valve stem holes are located further from the wheel rim than original equipment wheels. When using the tire pressure monitor special tool to activate a sensor, ensure the tool is placed along the tire sidewall and no further than 15 cm (6 in) from the sensor and the antenna is aiming upward.
- Aftermarket wheel valve system locations can cause a sensor to not function correctly.
- A sensor may have been damaged due to a previous wheel/tire service or flat tire event.
- The use of other than GM approved tire sealants can obstruct the sensor pressure sensing port and cause inaccurate tire pressure readings. If this condition is verified, remove the sealer from the tire and replace the sensor. Refer to **Tire Pressure Indicator Sensor Replacement**.
- Occasionally sensor transmissions are not received by the BCM due to vehicle level radio frequency interference from items such as but not limited to aftermarket ignition systems, DVD players, CB radios, or metallic type window tinting.
- The sensor activation procedure may have to be repeated up to 3 times before determining a sensor is malfunctioning. In the event a particular sensor information is displayed on the special tool upon activation but the horn does not chirp, it may be necessary to rotate the wheel valve stem to a different position due to the RF signal being blocked by another component.
- Occasionally sensors can become mislocated due to previous tire rotations where the sensor learn procedure was not performed. Always learn the sensors to ensure the DTC set is for that actual physical corner of the vehicle. Refer to **Tire Pressure Indicator Sensor Learn**.
- A sensor low battery condition will set a sensor DTC but will not illuminate the low tire pressure

indicator or display a message on the driver information center, if equipped. The sensor battery condition can be verified in the scan tool BCM data list. If a sensor low battery condition is indicated on the scan tool, the sensor will need to be replaced. Refer to **Tire Pressure Indicator Sensor Replacement**.

Reference Information

Description and Operation

Tire Pressure Monitor Description and Operation

Scan Tool Reference

Control Module References for scan tool information

Circuit/System Verification

1. Verify there are no communication DTCs set along with DTC C0750, C0755, C0760, and C0765.

- If a communication DTC is set

Refer to **Diagnostic Trouble Code (DTC) List - Vehicle** .

- If a communication DTC is not set

2. Perform the **Tire Pressure Indicator Sensor Learn**.
3. Verify the scan tool Tire Pressure Sensor Mode parameters change to Drive while driving the vehicle above 40 km/h (25 mph) for greater than 2 min.
 - If a Tire Pressure Sensor Mode parameter does not change to Drive
 1. Replace the appropriate B2 Tire Pressure Sensor.
 2. Perform the **Tire Pressure Indicator Sensor Learn**.
 - If the Tire Pressure Sensor Mode parameter changes to Drive
4. All OK.

Repair Instructions

Perform the **Diagnostic Repair Verification** after completing the repair.

- **Tire Pressure Indicator Sensor Replacement**
- **Tire Pressure Indicator Sensor Learn**

DTC C0775

Diagnostic Instructions

- Perform the **Diagnostic System Check - Vehicle** prior to using this diagnostic procedure.
- Review **Strategy Based Diagnosis** for an overview of the diagnostic approach.
- **Diagnostic Procedure Instructions** provides an overview of each diagnostic category.

DTC Descriptor

DTC C0775 00

Tire Pressure Monitoring System Sensors Malfunction

Circuit/System Description

If the body control module (BCM) has been reprogrammed or replaced and the tire pressure sensor learn procedure has not been performed, the tire pressure monitor system indicator icon on the instrument cluster will flash for 1 min and then remain illuminated after the power switch is cycled ON and the instrument cluster bulb check is complete. If equipped, the driver information center will also display a service tire monitor type message. Under these circumstances, DTC C0775 will be set in the BCM and the tire pressure sensor learn procedure will need to be performed for the system to function correctly.

Conditions for Running the DTC

Vehicle ON or Vehicle in Service Mode.

Conditions for Setting the DTC

The body control module (BCM) has not learned tire pressure sensor ID and location information from the tire pressure sensors.

Action Taken When the DTC Sets

- The tire pressure monitor system indicator icon on the instrument cluster will flash for 1 min and then remain illuminated after the power switch is cycled ON and the instrument cluster bulb check is complete.
- If equipped, the driver information center displays a service tire monitor type warning message.

Conditions for Clearing the DTC

A current DTC will clear when the BCM has received tire pressure sensor ID and location information from the tire pressure indicator module and at least 1 power switch cycle has occurred.

Reference Information

Description and Operation

Tire Pressure Monitor Description and Operation

Scan Tool Reference

Control Module References for scan tool information

Circuit/System Verification

1. Perform the **Tire Pressure Indicator Sensor Learn**.
2. Verify DTC C0775 is not set.
 - **If the DTC is set**

Replace the K9 Body Control Module.
 - **If the DTC is not set**
3. All OK.

Repair Instructions

Perform the **Diagnostic Repair Verification** after completing the repair.

Control Module References for BCM replacement, programming, and setup.

SYMPTOMS - TIRE PRESSURE MONITORING

1. Perform the **Diagnostic System Check - Vehicle** , before using the Symptom Tables in order to verify that all of the following are true:
 - There are no DTCs set.
 - The control modules can communicate via the serial data link.
2. Review the system operation in order to familiarize yourself with the system functions. Refer to **Tire Pressure Monitor Description and Operation**.

Visual/Physical Inspection

- Inspect for aftermarket devices which could affect the operation of the Tire Pressure Monitoring (TPM) System. Refer to **Checking Aftermarket Accessories** .
- Inspect the easily accessible or visible system components for obvious damage or conditions which could cause the symptom.

Intermittent

Faulty electrical connections or wiring may be the cause of intermittent conditions. Refer to **Testing for Intermittent Conditions and Poor Connections** .

Symptom List

Refer to **Low Tire Pressure Indicator Malfunction** in order to diagnose the symptom.

LOW TIRE PRESSURE INDICATOR MALFUNCTION

Diagnostic Instructions

- Perform the **Diagnostic System Check - Vehicle** prior to using this diagnostic procedure.

- Review **Strategy Based Diagnosis** for an overview of the diagnostic approach.
- **Diagnostic Procedure Instructions** provides an overview of each diagnostic category.

Circuit/System Description

The tire pressure monitor system has a radio frequency transmitting pressure sensor in each wheel/tire assembly. As vehicle speed increases, centrifugal force closes the sensors internal roll switch, which puts the sensor into Drive mode. The sensors send the tire pressure data to the body control module (BCM). The BCM translates the data contained in the tire pressure sensor radio frequency transmissions into sensor presence, sensor mode, and tire pressure. Once vehicle speed is greater than 40 km/h (25 MPH), the BCM waits for the sensors to go into Drive mode.

Each sensor has its own unique identification (ID) code, which it transmits as part of each RF message, that must be learned into the BCM memory. Once all 4 IDs have been learned and vehicle speed is greater than 40 km/h (25 mph), the BCM continuously compares IDs and pressure data in the received transmissions to the learned IDs and pressures to determine if all 4 sensors are present and if one or more tires are low. If the BCM detects a low tire pressure condition or a malfunction in the system, it will send a serial data message to the instrument cluster requesting the appropriate tire pressure monitor indicator illumination and also to display the appropriate data message on the driver information center, if equipped.

Diagnostic Aids

- If unsure about the condition, cycle the ignition and observe the tire pressure monitor indicator icon. If the tire pressure monitor indicator icon is continuously illuminated after the instrument cluster bulb check is completed, a low tire pressure condition is present. Check the tires for damage or leaks and inflate to the tire placard specifications. Refer to **Vehicle Certification, Tire Placard, Anti-Theft, and Service Parts ID Label**. If the tire pressure monitor indicator icon flashes for 1 min after the instrument cluster bulb check is completed and then remains illuminated, a tire pressure monitor system DTC is set. Perform the **Diagnostic System Check - Vehicle** to proceed with the proper diagnosis.
- Temperature can greatly effect tire pressures. Low tire pressure on a cold morning may cause the tire pressure monitor indicator icon to turn ON. The air pressure in the tire increases as the ambient temperature rises or as the tire warms up while the vehicle is driven. The pressure may increase enough to exceed the predetermined low pressure threshold which will turn OFF the tire pressure monitor indicator icon.
- Some aftermarket wheel valve stem holes are located further from the wheel rim than original equipment wheels. When using the tire pressure monitor special tool to activate a sensor, ensure the tool antenna is no further than 15 cm (6 in) from the sensor and is aiming upward.
- Aftermarket wheel valve stem locations can cause a sensor to not function correctly.
- A sensor may have been damaged due to a previous wheel/tire service or flat tire event.
- The use of other than GM approved tire sealants can obstruct the sensor pressure sensing port and cause inaccurate tire pressure readings. If this condition is verified, remove the sealer from the tire and replace the sensor. Refer to **Tire Pressure Indicator Sensor Replacement**.
- The sensor activation procedure may have to be repeated up to 3 times before determining a sensor is malfunctioning. In the event a particular sensor's information is displayed on the special tool upon activation but the horn does not chirp, it may be necessary to rotate the wheel valve stem to a different position due to the RF signal is being blocked by another component.

- Occasionally sensor transmissions are not received by the BCM due to vehicle level RF interference from items such as but not limited to aftermarket ignition systems, DVD players, CB radios, or metallic type window tinting.

Reference Information

Description and Operation

Tire Pressure Monitor Description and Operation

Scan Tool Reference

Control Module References for scan tool information

Circuit/System Verification

NOTE: Low tire pressure in one or more tires is indicated by a continuously illuminated tire pressure monitor indicator icon after the instrument cluster bulb check is completed. If equipped with a driver information center, a check tire pressure type message will also be displayed.

When a tire pressure monitor DTC is set, the tire pressure monitor indicator icon will flash for 1 min after the instrument cluster bulb check is completed and then remains illuminated. If equipped with a driver information center, a service tire monitor type message will also be displayed.

- Adjust all tire pressures to the correct pressure. Refer to Vehicle Certification, Tire Placard, Anti-Theft, and Service Parts ID Label.
- Drive the vehicle over 40 km/h (25 mph) for greater than 2 min.
- Verify the low tire pressure indicator is OFF.
 - If the low tire pressure indicator is ON
 - Perform the Tire Pressure Indicator Sensor Learn.
 - Record all 4 Tire Pressure Parameters values from the scan tool.
 - Check and record the tire pressures with a known accurate hand held tire pressure gauge.
 - Verify that the scan tool Tire Pressure parameters do not differ more than 27.6 kPa (4 psi) from the actual tire pressure readings.
 - If the scan tool Tire Pressure parameters differ more than 27.6 kPa (4 psi), replace the appropriate B2 Tire Pressure Sensor then perform the Tire Pressure Indicator Sensor Learn.
 - If the scan tool Tire Pressure parameters do not differ more than 27.6 kPa (4 psi)
- Verify the BCM Tire Type and Pressure selections are setup correctly with a scan tool. Refer to the Vehicle Certification, Tire Placard, Anti-Theft, and Service Parts ID Label.
 - If the BCM Tire Type and Pressure selections are incorrect, input the proper placard values for the vehicle with the scan tool then drive the vehicle over 40 km/h (25 mph) for greater

than 2 min.

- If the BCM Tire Type and Pressure selections are correct

6. Ignition ON.

7. Verify the low tire pressure monitor indicator icon turns ON and OFF when commanding All Indicators ON and OFF with a scan tool.

- If the low tire pressure monitor icon does not turn ON and OFF, replace the P16 Instrument Cluster.
- If the low tire pressure monitor icon turns ON and OFF

8. All OK

- **If the tire pressure indicator is OFF**

4. All OK

Repair Instructions

Perform the **Diagnostic Repair Verification** after completing the repair.

- **Tire Pressure Indicator Sensor Replacement**
- **Tire Pressure Indicator Sensor Learn**
- **Control Module References** for instrument cluster or BCM replacement, programming, and setup.

REPAIR INSTRUCTIONS

TIRE PRESSURE INDICATOR SENSOR REPLACEMENT

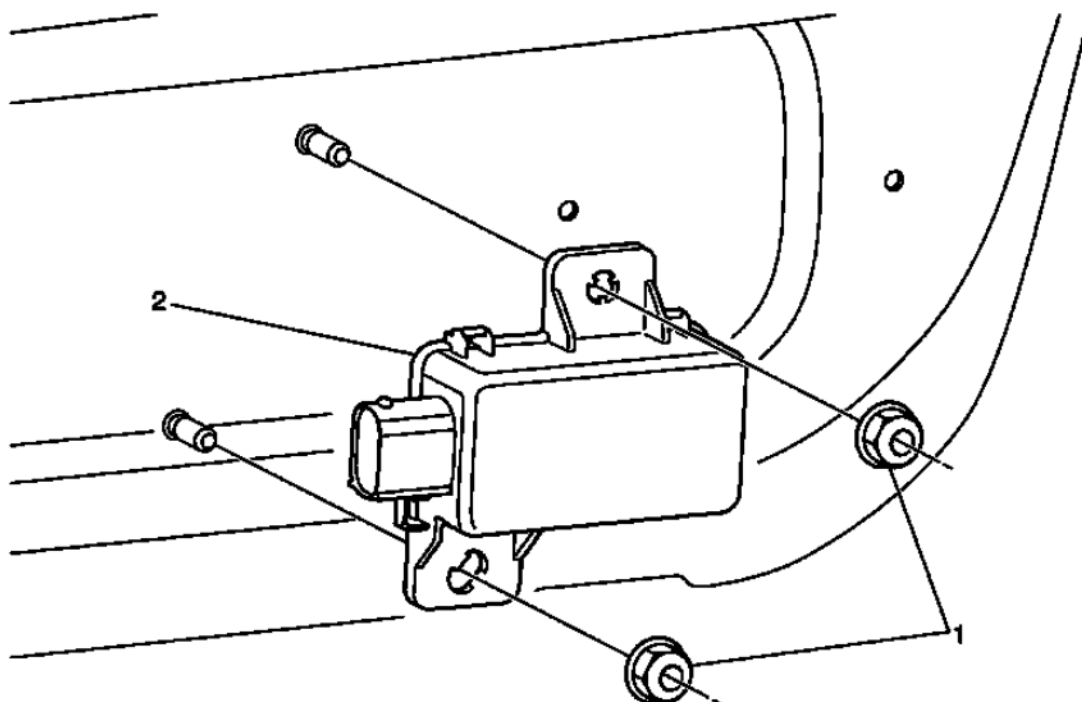


Fig. 1: Tire Pressure Indicator Receiver & Fasteners
Courtesy of GENERAL MOTORS COMPANY

Tire Pressure Indicator Sensor Replacement

Callout	Component Name
Preliminary Procedure Remove the 2 center clips on the lower part of the rear bumper. Refer to <u>Rear Bumper Fascia Replacement</u> .	
1	Tire Pressure Indicator Receiver Fastener (Qty: 2) CAUTION: Refer to <u>Fastener Caution</u> . Tighten 4 N.m (35 lb in)
2	Tire Pressure Indicator Receiver Procedure 1. Disconnect any electrical connectors as needed. 2. After repairs, program the tire pressure monitoring system. Refer to <u>Control Module References</u> .

TIRE PRESSURE INDICATOR SENSOR LEARN

Special Tools

- **EL-46079** Tire Pressure Monitor Diagnostic Tool
- **EL-50448** Tire Pressure Monitor Sensor Activation Tool

For equivalent regional tools, refer to **Special Tools**.

Learn Mode Description

The tire pressure monitor system uses the instrument cluster, body control module (BCM), 4 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, BCM replacement, or sensor replacement. Once the Learn mode has been enabled, each of the sensors unique identification codes can be learned into the BCM memory. When a sensor ID has been learned, the BCM sounds a horn chirp indicating the sensor has transmitted its ID and the BCM has received and learned it. The BCM must learn the sensor IDs in the proper sequence to determine correct sensor location. The first learned ID is assigned to the left front location, the second to right front, the third to right rear and the fourth to left rear. The turn signals will individually illuminate indicating which location is to be learned in the proper sequence.

Sensor Functions Using EL-46079, EL-50448, or Equivalent

Each sensor has an internal low frequency coil. When the tire pressure monitor special tool is used in activate mode, it produces a low frequency transmission that activates the sensor. The sensor responds to a low frequency activation by transmitting in Learn Mode-Remotely Triggered. When the BCM receives a learn mode transmission while in Learn mode, it will assign that sensors ID to the location on the vehicle relative to the order in which it was learned.

Learn Mode Cancellation

The Learn mode will cancel if the ignition is cycled to OFF or if more than 2 minutes has elapsed for any sensor that has not been learned. If the relearn mode is cancelled before the first sensor is learned, the original sensor IDs will be maintained. If the relearn mode is canceled after the first sensor is learned, the following will occur:

- All stored sensor IDs will be invalidated in the BCM memory.
- If equipped, the driver information center will display dashes instead of tire pressures.
- DTC C0775 will be set.

These conditions will now require the Learn procedure to be repeated for the system to function properly.

Tire Pressure Monitor Learn Procedure

NOTE: In the event when a particular sensor is activated and the horn does not chirp, it may be necessary to rotate the wheel valve stem to a different position due to the sensor signal is being blocked by another component.

1. Apply park brake (manual transmission only).

2. Ignition ON, using a scan tool or driver information center buttons (refer to owners manual), initiate the Tire Pressure Sensors Learn mode. A double horn chirp will sound indicating the Learn mode has been enabled. The left front turn signal will also be illuminated.
3. Starting with the left front tire, active the sensor by holding the antenna of the tire pressure monitor special tool aimed upward against the tire sidewall close to the wheel rim at the valve stem location. Press and release the activate button. Ensure that the transmit indicator on the special tool indicates that the sensor activation signal is being transmitted. Wait for a horn chirp. If the horn does not chirp, repeat the sensor activation sequence with the tool. Once the horn chirp has sounded, the sensor information is learned and the turn signal in the next location to be learned will illuminate.
4. After the horn chirp has sounded and the right front turn signal is illuminated, repeat step 3 for the remaining 3 sensors in the following order:
 1. Right front
 2. Right rear
 3. Left rear
5. When the left rear sensor has been learned and a double horn chirp has sounded, the learn process is complete and the BCM exits the Learn mode.

DESCRIPTION AND OPERATION

TIRE PRESSURE MONITOR DESCRIPTION AND OPERATION

Tire Pressure Monitoring

Special Tools

- **EL-46079/J-46079** Tire Pressure Monitor Diagnostic Tool
- **EL-50448** Tire Pressure Monitor Sensor Activation Tool

For equivalent regional tools, refer to **Special Tools**.

The tire pressure monitor system warns the driver when a significant loss, or gain of tire pressure occurs in any of the 4 tires and allows the driver to display the individual tire pressures and their locations on the driver information center.

The system uses the body control module (BCM), driver information center, instrument cluster, a radio frequency (RF) transmitting pressure sensor in each wheel/tire assembly, and the serial data circuit to perform the system functions. Each sensor has an internal power supply with an approximate 10 year service life.

When the vehicle is stationary, the sensor's internal accelerometer is inactive, which puts the sensors into a Stationary state. In this state the sensors sample tire pressure once every 30 seconds and do not transmit at all if the tire pressure does not change. As vehicle speed increases, centrifugal force activates the sensors internal accelerometer causing the sensors to go into Wake and then Drive mode. In Drive mode, the sensors sample tire pressure once every 30 seconds and transmit in Drive mode once every 60 seconds. The BCM receives and translates the data contained in each sensors RF transmission into sensor presence, sensor mode, and tire pressure. The BCM sends the tire pressure and tire location data to the driver information center via the serial

data circuit where they are displayed.

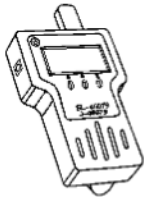
The sensors continuously compare their last pressure sample to their current pressure sample and will transmit in Learn Mode-Pressure Triggered if a 8.3 kPa (1.2 psi) change in tire pressure has been detected in either a Stationary or Drive state. When the tire pressure monitor system detects a significant loss, or gain of tire pressure, the tire pressure monitor indicator icon is illuminated on the instrument cluster and if equipped, a check tire pressure type message is displayed on the driver information center. Both the indicator icon and driver information center message can be cleared by adjusting the tire pressures to the recommended pressures and driving the vehicle above 40 km/h (25 mph) for at least 2 minutes.

If power is disconnected from the BCM or if the vehicle battery is disconnected, each tire pressure monitor sensor ID is retained but all of the tire pressure information is lost. Under these circumstances the BCM cannot assume that the tire pressures were maintained over an unknown period of time. If equipped, the driver information center will display all dashes and the scan tool will indicate a default tire pressure value of 1020 kPa (148 psi) for each tire. Driving the vehicle above 40 km/h (25 mph) for at least 2 minutes will activate the sensors causing the driver information center to display the current tire pressures. The **EL-46079/J-46079** tire pressure monitor diagnostic tool, **EL-50448** tire pressure monitor sensor activation tool, or equivalent may also be used to activate the sensors as well.

The BCM has the ability to detect malfunctions within the tire pressure monitor system. In the event a DTC is set, the tire pressure monitor indicator icon on the instrument cluster will flash for 1 minute and then remain illuminated after the ignition is turned ON and the instrument cluster bulb check has been completed. Any malfunction detected will cause the driver information center to display a service tire monitor system type message. For more information on other functions of the BCM, refer to **Keyless Entry System Description and Operation (without BTM)** , **Keyless Entry System Description and Operation (with BTM)** .

SPECIAL TOOLS AND EQUIPMENT

SPECIAL TOOLS

Illustration	Tool Number/Description
	EL 46079 Tire Pressure Monitor Diagnostic Tool
	EL 50448 Tire Pressure Monitor Sensor Activation Tool