

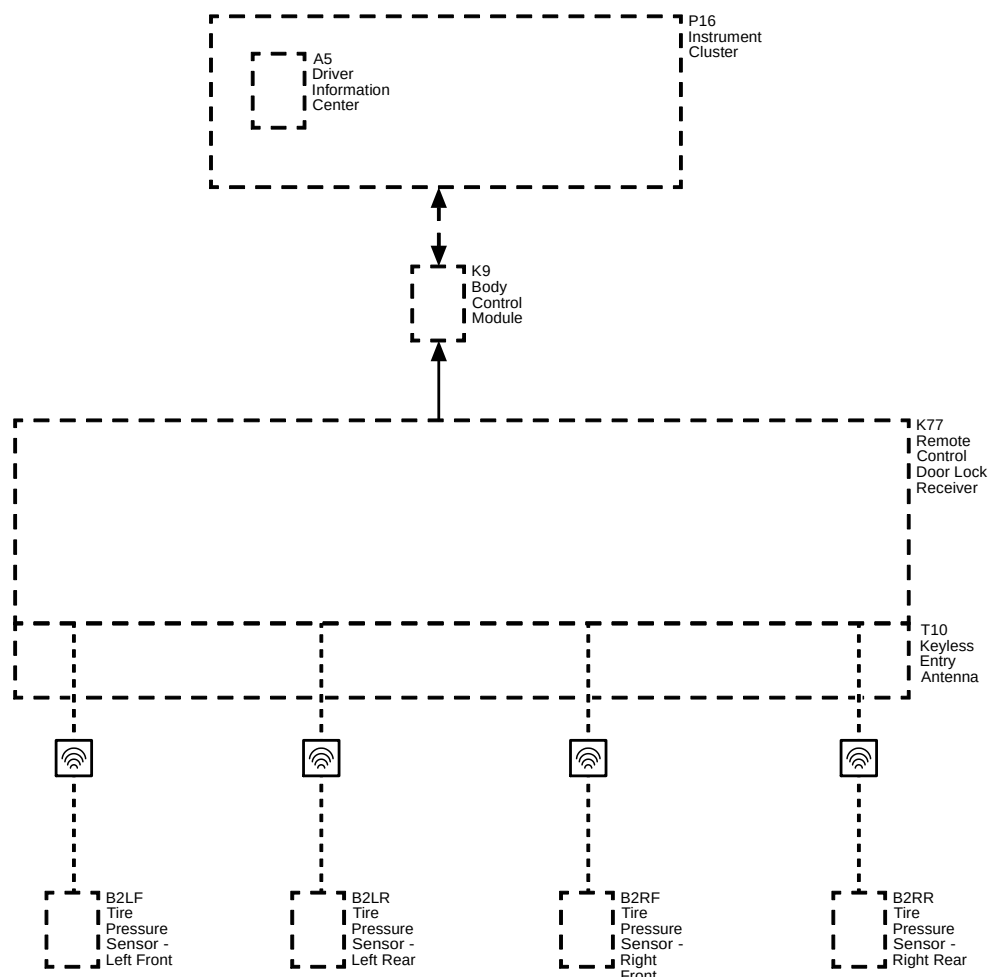
Suspension

Tire Pressure Monitoring

Description and Operation

Tire Pressure Monitor Description and Operation

Tire Pressure Monitoring Block Diagram



Special Tools

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

For equivalent regional tools, refer to [CELL Link Error - Link target cell \(cell ID 59410\) is invalid for this publication..](#)

The tire pressure monitor system warns the driver when a significant loss 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, remote control door lock receiver (RCDLR), and 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 RCDLR receives and translates the data contained in each sensors RF transmission into sensor presence, sensor mode, and tire pressure and passes it to the BCM. In turn, 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 of tire pressure, the tire pressure monitor indicator icon is illuminated on the instrument cluster and if equipped, a tire pressure low, add air to tire 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, if equipped 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](#).