| | | |
|---|---|---|
| **Last Modified:** 03-12-2013 | 6.4 F | **Doc ID:** NM1000000005PUA |
| **Model Year:** 2013 | **Model:** RAV4 | **Prod Date Range:** [12/2012 - ] |
| **Title:** TIRE PRESSURE MONITORING: TIRE PRESSURE WARNING SYSTEM: TIRE PRESSURE WARNING CONTROL; 2013 MY RAV4 [12/2012 - ] | | |

# TIRE PRESSURE WARNING CONTROL

## 1. FUNCTION OF MAIN COMPONENTS

| COMPONENT | | FUNCTION |
|---|---|---|
| Tire Pressure Warning Valve and Transmitter | | Detects the pressure, internal temperature and rotational acceleration of the tire, and transmits the measured values and the ID code to the tire pressure warning ECU and receiver. |
| Tire Pressure Warning Reset Switch | | The warning threshold is calculated from the tire inflation pressure value at the time of initialization and memorized in the tire pressure warning ECU and receiver by operating the tire pressure warning reset switch. |
| Tire Pressure Warning ECU and Receiver | | • Receives the data from the tire pressure warning valve and transmitter and monitors the tire inflation pressure.<br>• Outputs the respective signal to the combination meter assembly when a drop in the tire inflation pressure, a system malfunction or the beginning of initialization is detected. |
| Combination Meter Assembly | Tire Pressure Warning Light | • Illuminates or stays on after blinking for 1 minute to warn the driver in accordance with the signal from the tire pressure warning system.<br>• Flashes 3 times after initialization.<br>• Displays the 2-digit Diagnostic Trouble Code (DTC). |
| | Speedometer | Sends a vehicle speed signal to the tire pressure warning ECU and receiver. |

## 2. FUNCTION

(a) Warning Function

(1) The tire pressure warning ECU and receiver has 2 warning methods depending on the condition detected.

(2) The table below shows the warning methods for the tire pressure warning light in the combination meter assembly:

| DETECTION CONDITION | TIRE PRESSURE WARNING LIGHT |
|---|---|
| The tire pressure warning system has detected that the tire tire pressure has become lower than the warning threshold. | Illuminates*1 |
| The tire pressure warning system has detected a malfunction in the system. | Illuminates after blinking for 1 minute*2 |

**HINT:**

*1: If the tire pressure warning light illuminates, adjust the tire pressure.

*2: If the tire pressure warning light stays on after blinking for 1 minute, the system is malfunctioning and must be repaired in order to turn off the light. For details, refer to the Repair Manual.

(b) Initial Check Function

(1) After the ignition switch is ON, the tire pressure warning ECU and receiver illuminates the tire pressure warning light for 3 seconds to check the warning light circuits.

(c) Initialization Function

(1) The warning threshold is calculated from the tire inflation pressure value and memorized in the tire pressure warning ECU and receiver. Therefore, the tire pressure warning ECU and receiver should be initialized after:

- The recommended tire inflation pressure changes due to changes in vehicle weight, speed conditions or tire size.
- The tire pressure warning ECU and receiver or the tire pressure warning valve and transmitter are replaced.
- The tires are rotated on a vehicle with different recommended tire inflation pressures for the front and rear tires.

(2) Initialization starts after the tire pressure warning reset switch is pressed and held (with the ignition switch ON and with the vehicle stopped) and the tire pressure warning light illuminates slowly 3 times.

(3) Before performing initialization, adjust the tire inflation pressure to the recommended pressure when the tires are cold. For details, refer to the Repair Manual.

(4) The tire pressure warning reset switch is not used to cancel the warning. Do not press the tire pressure warning reset switch to turn off the tire pressure warning light.

## 3. DIAGNOSIS

(a) To inform the driver when the tire pressure warning ECU and receiver detects a malfunction in the system, the tire pressure warning ECU and receiver blinks the tire pressure warning light for 1 minute, after which the light stays on. The tire pressure warning ECU and receiver also stores the Diagnostic Trouble Codes (DTCs) in memory.

(b) 5-digit DTCs can be read by connecting a Techstream to the DLC3. For details, refer to the Repair Manual.