

C0163 or C0164 The BCM supplies the 5-volt reference to the BPP

Circuit Description

The brake pedal position sensor (BPP) is an input to the body control module (BCM). The BCM then sends a serial data message to the EBCM and other electronic control modules. The brake pedal position sensor is a potentiometer type sensor with a 5-volt reference circuit and a low reference circuit. The BCM supplies the 5-volt reference to the BPP.

Conditions for Running the DTC

DTC C0163

The ignition is ON.

DTC C0164

The vehicle speed is greater than 40 km/h (25 mph).

Conditions for Setting the DTC

DTC C0163

The brake pedal position sensor input voltage is between 1.87 volts and 5.03 volts for 2 seconds.

DTC C0164

The brake pedal position sensor input was active for 2 consecutive ignition cycles.

Action Taken When the DTC Sets

If equipped, the following actions occur:

- The EBCM disables the TCS/VSES for the duration of the ignition cycle.
- The Traction Control and Active Handling indicator turns ON.
- The DIC displays the following messages:
 - Service Traction System
 - Service Active Handling

- The ABS remains functional.

Conditions for Clearing the DTC

- The condition for the DTC is no longer present and the DTC is cleared with a scan tool.
- The EBCM automatically clears the history DTC when a current DTC is not detected in 100 consecutive drive cycles.

Diagnostic Aids

DTC C0163

Possible causes of this DTC are the following conditions:

- A signal circuit of the brake pedal position sensor is open.
- The BPP sensor needs calibration.
- All brake lamps are open.
- All brake lamp grounds are open.
- An internal EBCM problem.

DTC C0164

Possible causes of this DTC are the following conditions:

- The brake pedal position sensor circuit is shorted to voltage.
- The brake pedal position sensor is misadjusted.
- The brake pedal position sensor is stuck closed.
- A brake pedal that is binding.

Test Description

The number below refers to the step number on the diagnostic table.

2. Test for the current state of the BPP sensor.

Step	Action	Yes	No
Schematic Reference: ABS Schematics			
1	Did you perform the ABS Diagnostic System Check?	Go to Step 2	Go to Diagnostic System Check -ABS

Step	Action	Yes	No
2	<ol style="list-style-type: none"> 1. Install a scan tool. 2. Turn ON the ignition, with the engine OFF. 3. With a scan tool, observe the BPP Sensor parameter in the TCS data list. Does the scan tool display Released?	Go to Step 3	Go to Step 4
3	<ol style="list-style-type: none"> 1. Press the brake pedal. 2. With a scan tool, observe the BPP Sensor parameter. Does the BPP Sensor parameter change state? 	Go to Diagnostic Aids	Go to Step 4
4	<ol style="list-style-type: none"> 1. Turn OFF the ignition. 2. Inspect the brake pedal position sensor and adjust and/or calibrate if needed. Refer to Brake Pedal Position Sensor Replacement in Lighting Systems. Did you find and correct the condition?	Go to Step 11	Go to Step 5
5	<ol style="list-style-type: none"> 1. Turn OFF the ignition. 2. Disconnect the brake pedal position sensor connector. 3. Turn ON the ignition, with the engine OFF. 4. With a scan tool, observe the BPP Sensor parameter. Does the scan tool display Released?	Go to Step 8	Go to Step 6
6	Test the brake pedal position sensor signal circuit for a short to voltage. Refer to Circuit Testing on page 8-1184 and Wiring Repairs on page 8-1189 in Wiring Systems. Did you find and correct the condition?	Go to Step 11	Go to Step 7
7	Inspect for poor connections at the harness connector of the EBCM. Refer to Testing for Intermittent and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 11	Go to Step 9

Step	Action	Yes	No
8	Inspect for poor connections at the harness connector of the brake pedal position sensor. Refer to Testing for Intermittent and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 11	Go to Step 10
9	Replace the EBCM. Refer to Electronic Brake Control Module (EBCM) Replacement. Did you complete the repair?	Go to Step 11	—
10	Replace the brake pedal position sensor. Refer to Brake Pedal Position Sensor Replacement on page 8-686 in Lighting Systems. Did you complete the repair?	Go to Step 11	—
11	1. Use the scan tool in order to clear the DTCs. 2. Operate the vehicle within the Conditions for Running the DTC as specified in the supporting text. Does the DTC reset?	Go to Step 2	System OK