

P1652 PCM detects an improper circuit condition in the ODM that controls suspension Lift/Dive

Circuit Description

The powertrain control module (PCM) uses output driver modules (ODMs) to control many functions of the engine, and the transaxle. The ODMs supply the ground path for the PCM controlled device when the PCM commands the device ON. Each ODM is able to control several outputs. Unlike the quad driver modules (QDMs) used in earlier model years, the ODMs are able to diagnose each output circuit. The PCM monitors the ODMs for circuit conditions that are incorrect for the commanded state of the ODM. If the PCM detects an improper circuit condition in the ODM that controls suspension Lift/Dive, DTC P1652 will set.

Conditions for Running the DTC

- The engine is running.
- The system voltage is between 8–16 volts.

Conditions for Setting the DTC

- The PCM detects a circuit condition that is incorrect for the commanded state of the ODM that controls suspension Lift/Dive.
- The condition is present for at least 10 seconds.

Action Taken When the DTC Sets

- The PCM will not illuminate the malfunction indicator lamp (MIL).
- The PCM will store the conditions present when the DTC set as Failure Records only.

Conditions for Clearing the MIL/DTC

- The history DTC will clear after 40 consecutive warm-up cycles have occurred without a malfunction.
- The DTC can be cleared by using the scan tool Clear DTC Information

function.

Diagnostic Aids

If the condition is intermittent, refer to Intermittent Conditions on page 6-1587 in Engine Controls-3.6L or Intermittent Conditions on page 6-2115 in Engine Controls-4.6L.

DTC P1652

Step	Action	Values	Yes	No
Schematic Reference: Suspension Controls Schematics on page 3-133				
1	Did you perform the Engine Controls Diagnostic System Check?	—	Go to Step 2	Go to Diagnostic System Check - Engine Controls on page 6-1234 in Engine Controls-3.6L Diagnostic System Check - Engine Controls on page 6-1791 in Engine Controls-4.6L.
2	<ol style="list-style-type: none"> 1. Turn OFF the ignition. 2. Disconnect the Lift/Dive connector. 3. Connect test lamp between the Lift/Dive Signal Output circuit and ground. 4. Turn ON the ignition, with the engine OFF. Is the test lamp ON?	—	Go to Step 3	Go to Step 4

Step	Action	Values	Yes	No
3	<p>1. Turn OFF the ignition.</p> <p>2. Leave the Lift/Dive disconnected.</p> <p>3. Disconnect the powertrain control module (PCM) connector.</p> <p>4. Turn ON the ignition, with the engine OFF.</p> <p>5. Test the Lift/Dive Signal Output circuit for a short to voltage.</p> <p>6. If the condition is found, repair as necessary. Refer to Wiring Repairs on page 8-1189 in Wiring Systems.</p> <p>Did you find and correct the condition?</p>	—	Go to Step 11	Go to Step 10
4	<p>1. Leave the Lift/Dive disconnected. 2. Connect test lamp between B+ and the Lift/Dive Signal Output circuit. Is the test lamp ON?</p>	—	Go to Step 5	Go to Step 6
	<p>1. Turn OFF the ignition. 2. Disconnect the PCM connector.</p>			
5	<p>3. Test the Lift/Dive Signal Output circuit for a short to ground. 4. If the condition is found, repair as necessary. Refer to Wiring Repairs on page 8-1189 in Wiring Systems. Did you find and correct the condition?</p>	—	Go to Step 11	Go to Step 10
	<p>1. Turn OFF the ignition. 2. Reconnect the Lift/Dive connector. 3. Disconnect the PCM connector.</p>			
6	<p>4. Turn ON the ignition, with the engine OFF. 5. Using DMM, measure the voltage between the Lift/Dive Signal Output circuit and ground. Does the DMM indicate a voltage near the specified value?</p>	B+	Go to Step 7	Go to Step 8

Step	Action	Values	Yes	No
7	1. Test for poor connections at the PCM. 2. If the condition is found, repair as necessary. Refer to Wiring Repairs on page 8-1189 in Wiring Systems. Did you find and correct the condition?	—	Go to Step 11	Go to Step 10
8	1. Test the Lift/Dive Signal Output circuit for an open or poor connections at the electronic suspension control (ESC) module. 2. If the condition is found, repair as necessary. Refer to Wiring Repairs on page 8-1189 in Wiring Systems. Did you find and correct the condition?	—	Go to Step 11	Go to Step 9
9	Replace the electronic suspension control (ESC) module. Refer to Electronic Suspension Control Module Replacement on page 3-167. Is the action complete?	—	Go to Step 11	—
10	Important: The replacement PCM must be programmed. Replace the PCM. Refer to Engine Control Module (ECM) Replacement on page 6-1648 in Engine Controls-3.6L or Engine Control Module (ECM) Replacement on page 6-2185 in Engine Controls-4.6L. Is the action complete?	—	Go to Step 11	—
11	1. Review and record scan tool Fail Records data. 2. Clear DTCs. 3. Operate the vehicle within Fail Records conditions. 4. Using a scan tool, monitor Specific DTC information for DTC P1652 until the test runs. Does the scan tool indicate DTC P1652 passed?	—	System OK	Go to Step 2