

# **C0665 the ESC module commands all four ESC dampers to a FIRM condition**

## **Circuit Description**

The electronic suspension control (ESC) module monitors a lift/dive signal at the powertrain control module (PCM). Under normal conditions, the ESC module supplies a 12-volt reference voltage to the PCM. The PCM grounds this lift/dive circuit when the vehicle is accelerating rapidly or braking hard. When the lift/dive signal goes low to approximately 0 volts, the ESC module commands all four ESC dampers to a FIRM condition.

## **Conditions for Running the DTC**

The ignition is ON.

## **Conditions for Setting the DTC**

- The DTC is set if the ESC module does not detect the low-to-high transition on the lift/dive circuit within 31 seconds after the ignition is turned ON.
- The fault is detected during 3 consecutive ignition cycles, or during the same ignition cycle after clearing the DTC with a scan tool.

## **Action Taken When the DTC Sets**

- The ESC lift/dive function will be disabled.
- The vehicle will pitch more during a braking or wide open throttle condition.
- The SERVICE SUSPENSION SYS message will be displayed.

## **Conditions for Clearing the MIL/DTC**

- The scan tool can be used to clear the DTC.
- The DTC is saved as history when the ESC module sees the low-to-high transition on the lift/dive signal from the PCM during a valid test period. The DTC will clear if the fault does not return after 50 consecutive ignition cycles.

## **Diagnostic Aids**

As part of the vehicle diagnostic system, the PCM toggles the lift/dive line

within 31 seconds after the ignition is turned ON. This allows the ESC module to determine if the line is faulted or not. A retry is attempted every four minutes until successful. An intermittent short to ground or an open in the Lift/Dive Signal circuit may cause a random firm/soft ride condition.

## Test Description

The numbers below refer to the step numbers on the diagnostic table.

2. This step tests for normal function of the PCM, which is inactive.
3. This step tests for normal function of the PCM, which is active.
4. This step tests for an intermittent or poor connection at the PCM.
5. This step tests for a short to ground in the Lift/Dive Signal circuit.

### DTC C0665

Step	Action	Yes	No
<b>Schematic Reference: Suspension Controls Schematics on page 3-133</b>			
1	Did you perform the Electronic Suspension Control (ESC) Diagnostic System Check?	Go to Step 2	Go to Diagnostic System Check -Electronic Suspension Control on page 3-143
2	1. Install a scan tool. 2. Turn ON the ignition, with the engine OFF. 3. With a scan tool, observe the lift/dive parameter in the ESC module data list. Does the scan tool display inactive?	Go to Step 3	Go to Step 4
3	1. Activate the lift/dive input. 2. With the scan tool, observe the lift/dive data parameter. Does the lift/dive data parameter change state?	Go to Diagnostic Aids	Go to Step 4
4	1. Turn OFF the ignition. 2. Disconnect the powertrain control module (PCM). 3. Turn ON the ignition, with the engine OFF. 4. With a scan tool, observe the lift/dive data parameter. Does the scan tool display inactive?	Go to Step 7	Go to Step 5

Step	Action	Yes	No
5	Test the signal circuit of the PCM for a short to ground. 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 10	Go to Step 6
6	Inspect for poor connections at the harness connector of the ESC module. Refer to Testing for Intermittent and Poor Connections on page 8-1187 and Connector Repairs on page 8-1198 in Wiring Systems. Did you find and correct the condition?	Go to Step 10	Go to Step 8
7	Inspect for poor connections at the harness connector of the PCM. Refer to Testing for Intermittent and Poor Connections on page 8-1187 and Connector Repairs on page 8-1198 in Wiring Systems. Did you find and correct the condition?	Go to Step 10	Go to Step 9
8	Replace the ESC module. Refer to Electronic Suspension Control Module Replacement on page 3-167. Did you complete the replacement?	Go to Step 10	—
9	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. Did you complete the replacement?	Go to Step 10	—
10	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