

DTC C0712

Circuit Description

The Automatic Level Control (ALC) System uses a relay to control compressor activity. The ignition 3 circuit provides battery voltage to the coil side of the ALC compressor relay. The electronic suspension control (ESC) module circuitry provides a switched path to ground controlling the compressor relay. This circuit is also monitored to determine if the voltage level agrees with the commanded state.

DTC Descriptor

This diagnostic procedure supports the following DTC:

DTC C0712 Level Control Compressor Relay Circuit

DTC Symptom	DTC Symptom Descriptor
01	Short to Battery
06	Short to Ground or Open Circuit

Conditions for Running the DTC

The ignition is ON.

Conditions for Setting the DTC

The following conditions must be present to set the DTC:

- The ESC module detects voltage less than a preset value in the compressor motor control circuit during a compressor OFF state test.
- The ESC module detects voltage greater than a preset value in the compressor motor control circuit during a compressor ON state test.
- The fault is detected during three 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 disables the ALC relay for the remainder of the ignition cycle.
- The SERVICE SUSPENSION SYSTEM 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 no longer sees an out of range voltage condition in the compressor motor control circuit. The DTC will clear if the fault does not

© 2017 General Motors Corporation. All rights reserved.

return after 50 consecutive ignition cycles.

Diagnostic Aids

These DTCs are set only by electrical problems with the ALC compressor relay coil circuit. Compressor motor problems and pneumatic leakage problems do not set these DTCs.

Test Description

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

2. Tests for voltage in the Automatic Level Control relay coil supply voltage circuit.
3. Tests for a short to voltage in the Automatic Level Control relay coil supply voltage circuit.

Step	Action	Yes	No
<i>Schematic Reference:</i> Automatic Level Control Schematics			
1	Did you perform the Diagnostic System Check - Vehicle?	Go to Step 2	Go to Diagnostic System Check - Vehicle
2	1. Disconnect the electronic suspension control (ESC) module connector. 2. Turn ON the ignition, with the engine OFF. 3. Connect a test lamp between the automatic level control (ALC) relay coil supply voltage circuit and a good ground. Does the test lamp illuminate?	Go to Step 3	Go to Step 4
3	1. Turn OFF the ignition. 2. Disconnect the ALC relay. 3. Turn ON the ignition, with the engine OFF. 4. Connect a test lamp between the ALC relay coil supply voltage circuit and a good ground. Does the test lamp illuminate?	Go to Step 7	Go to Step 6
4	Test the ALC relay coil supply voltage circuit for a short to ground or an open. Refer to Circuit Testing and Wiring Repairs . Did you find and correct the condition?	Go to Step 10	Go to Step 5
5	Inspect for poor connections at the ALC relay. Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs . Did you find and correct the condition?	Go to Step 10	Go to Step 8
6	Inspect for poor connections at the harness connector of the ESC module. Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs .	Go to	

	Did you find and correct the condition?	Step 10	Go to Step 9
7	Repair the short to voltage in the ALC relay coil supply voltage circuit. Refer to Wiring Repairs . Did you complete the repair?	Go to Step 10	--
8	Replace the ALC relay. Did you complete the replacement?	Go to Step 10	--
9	Replace the ESC module. Refer to Control Module References for replacement, setup, and programming. 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