

C0690, C0691, or C0693 each one represents a failure of the damper control relay within the ESC module which requires replacement of the ESC module

Circuit Description

The damper control relay is located within the electronic suspension control (ESC) module. Although the module will set DTC C0690, C0691 or C0693, each one represents a failure of the damper control relay within the ESC module which requires replacement of the ESC module.

Conditions for Running the DTC

The ignition is ON.

Conditions for Setting the DTC

- The DTC is set when the ESC module detects an internal hardware fault.
- The fault is detected during three consecutive ignition cycles, or during the same ignition cycle after clearing the DTC with the scan tool.

Action Taken When the DTC Sets

Depending upon which internal functions are affected by the fault condition, the ESC module will take one of two sets of actions:

- If the fault condition allows continued output operation, the system will enter a Speed Dependent Damping mode, in which all four corners of the vehicle are concurrently driven by a fixed PWM duty cycle, which increases as a function of vehicle speed. The SERVICE SUSPENSION SYS message will be displayed.
- If the fault is more severe, the control module will disable ALL dampers by commanding 0 percent PWM duty cycle, disabling the damper switched battery circuit, and sending a message to the powertrain control module (PCM) to limit vehicle speed. The VEHICLE SPEED LIMITED TO XXX MPH and

SERVICE SUSPENSION SYS messages 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 senses the hardware fault and the ignition is cycled OFF and ON. The DTC will clear if the fault does not return after 50 consecutive ignition cycles.

Test Description

The number(s) below refer to the step number(s) on the diagnostic table.

2. This step checks to see if the fault condition is active or intermittent.
3. This step checks to see if a history DTC C0690, C0691 or C0693 will return.
4. This step checks to see if the vehicle has a known intermittent condition.

DTC C0690, C0691, or C0693

Step	Action	Yes	No
Schematic Reference: Suspension Controls Schematics on page 3-133			
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	Inspect for DTC C0690, C0691 or C0693. Is DTC C0690, C0691 or C0693 displayed as a CURRENT fault (not a HISTORY fault)?	Go to Step 5	Go to Step 3
3	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 5	Go to Step 4
4	Has this vehicle been serviced for DTC C0690, C0691 or C0693 previously?	Go to Step 5	Go to Step 6
5	Replace the ESC module. Refer to Electronic Suspension Control Module Replacement on page 3-167. Did you complete the replacement?	Go to Step 6	—

Step	Action	Yes	No
6	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

LAUNCH