

C0820 the EBCM turns OFF the system relay which removes battery voltage

Circuit Description

The electronic brake control module (EBCM) monitors the voltage level of the EBCM's case. If the voltage level is too high, damage may result in the system. When the EBCM detects a high voltage condition, the EBCM turns OFF the system relay which removes battery voltage from the solenoid valves and pump motor.

Conditions for Running the DTC

The ignition is ON.

Conditions for Setting the DTC

The case voltage is greater than 2 volts for 0.1 seconds.

Action Taken When the DTC Sets

If equipped, the following actions occur:

- The EBCM disables the ABS/ACC/VSES for the duration of the ignition cycle.
- The DRP and TCS are degraded.
- The ABS indicator turns ON.
- The Traction Control indicator turns ON.
- The DIC displays the Service Stability System message.
- The red Brake warning indicator turns ON.

Conditions for Clearing the DTC

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

Diagnostic Aids

Possible causes of this DTC are the following conditions:

- Internal short in the pump motor.
- External battery supply shorted to case.
- Internal EBCM battery supply shorted to case.

The pump motor is integral to the BPMV. The pumpmotor is not serviceable.

Test Description

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

3. Tests the ability of the EBCM to control the pump motor. If the test lamp illuminates, the pump motor circuit within the EBCM is good.

LAUNCH

Step	Action	Yes	No
Schematic Reference: ABS Schematics Connector End View Reference: ABS Connector End Views			
1	Did you perform the Diagnostic System Check – ABS?	Go to Step 2	Go to Diagnostic System Check -ABS
2	1. Install a scan tool. 2. Turn ON the ignition, with the engine OFF. 3. Use the scan tool in order to clear the DTCs. 4. With the scan tool, perform the Automated Test. Does the DTC reset?	Go to Step 3	Go to Testing for Intermittent and Poor Connections in Wiring Systems
3	1. Turn OFF the ignition. 2. Disconnect the pump motor harness pigtail connector of the BPMV. 3. Connect a test lamp between the pump motor circuits at the pump motor connector of the EBCM using the J 35616-C Connector Test Adapter Kit. 4. Use the scan tool in order to clear the DTCs. 5. With the scan tool, perform the Pump Motor Test. Does the test lamp illuminate?	Go to Step 5	Go to Step 4
4	1. Turn OFF the ignition. 2. Disconnect the EBCM harness connector. 3. Connect the J 39700 Universal Pinout Box using the J 39700-300 Cable Adapter to the EBCM harness connector only. 4. Test both ground circuits of the EBCM including the EBCM ground for a high resistance or an open. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 9	Go to Step 6

Step	Action	Yes	No
5	Inspect for poor connections at the pump motor harness pigtail connector of the BPMV. Refer to Testing for Intermittent and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 9	Go to Step 7
6	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 9	Go to Step 8
7	Replace the BPMV. Refer to Brake Pressure Modulator Valve (BPMV) Replacement Did you complete the repair?	Go to Step 9	—
8	Important: Perform the setup procedure for the EBCM. An unprogrammed EBCM will result in the following conditions: <ul style="list-style-type: none"> • Inoperative or poorly functioning system operations • The EBCM sets DTC C0281 and DTC C0550 Replace the EBCM. Refer to Electronic Brake Control Module (EBCM) Replacement. Did you complete the repair?	Go to Step 9	—
9	1. Use the scan tool in order to clear the DTCs. 2. With the scan tool, perform the Automated Test. Does the DTC reset?	Go to Step 2	System OK