

C0138 or C0139 The EBCM uses the input from the brake fluid pressure sensor

Circuit Description

The EBCM uses the input from the brake fluid pressure sensor for more accurate braking control during VSES.

Conditions for Running the DTC

DTC C0138

- The ignition is ON.
- Ignition voltage is greater than 8 volts.

DTC C0139

- The ignition is ON.
- Ignition voltage is greater than 8 volts.
- The vehicle speed is greater than 16 km/h (10 mph).

Conditions for Setting the DTC

DTC C0138

The vehicle speed exceeds 25 km/h (15 mph) then decelerates by 11.5 km/h (7 mph) per second and the brake pressure never increases.

DTC C0139

One of the following conditions occur:

- Brake pressure does not change after brake pedal has been applied twice.
- While brake pressure is greater than 50 psi, the vehicle speed exceeds 40 km/h (24 mph) and vehicle acceleration exceeds 8 km/h (5 mph) per second twice.

Action Taken When the DTC Sets

- The EBCM disables the PBA/TCS/VSES for the duration of the ignition cycle.

- The Traction Control and Active Handling indicator turns ON.
- The DIC displays the Service Stability System message.
- The ABS remains functional.

Conditions for Clearing the DTC

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

Diagnostic Aids

- Find out from the driver under what conditions the DTC was set (when the DIC displayed the Service Active Handling message). This information will help to duplicate the failure.
- The Snapshot function on the scan tool can help find an intermittent DTC.
- Brake pressure sensor internal malfunction.

Test Description

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

3. Tests for the proper operation of the circuit in the low voltage range.
4. Tests for the proper operation of the circuit in the high voltage range. If the fuse in the jumper opens when you perform this test, the signal circuit is shorted to ground.
5. Tests for a short to voltage in the 5 volt reference circuit.
6. Tests for a high resistance or an open in the low reference circuit.

Step	Action	Values	Yes	No
Schematic Reference: ABS Schematics on page 5-155 Connector End View Reference: ABS Connector End Views on page 5-167				
1	Did you perform the Diagnostic System Check – ABS?	—	Go to Step 2	Go to Diagnostic System Check -ABS

Step	Action	Values	Yes	No
2	<ol style="list-style-type: none"> 1. Install a scan tool. 2. Turn ON the ignition, with the engine OFF. 3. With a scan tool, observe the Brake Fluid Pressure Sensor Input parameter in the VSES data list. <p>Does the scan tool display that the Brake Fluid Pressure Sensor Input parameter is within the specified range?</p>	0.14–4.9 V	Go to Diagnostic Aids	Go to Step 3
3	<ol style="list-style-type: none"> 1. Turn OFF the ignition. 2. Disconnect the brake fluid pressure sensor connector. 3. Turn ON the ignition, with the engine OFF. 4. With the scan tool, observe the Brake Fluid Pressure Sensor Input parameter. <p>Does the scan tool indicate that the Brake Fluid Pressure Sensor Input parameter is less than the specified value?</p>	0.14 V	Go to Step 4	Go to Step 10
4	<ol style="list-style-type: none"> 1. Turn OFF the ignition. 2. Connect a 3 amp fused jumper wire between the 5 volt reference circuit of the brake fluid pressure sensor and the signal circuit of the brake fluid pressure sensor. 3. Turn ON the ignition, with the engine OFF. 4. With the scan tool, observe the Brake Fluid Pressure Sensor Input parameter. <p>Does the scan tool indicate that the Brake Fluid Pressure Sensor Input parameter is greater than the specified value?</p>	4.9 V	Go to Step 5	Go to Step 8

Step	Action	Values	Yes	No
5	<p>1. Disconnect the fused jumper wire. 2. Measure the voltage between the 5 volt reference circuit of the brake fluid pressure sensor and the low reference circuit of the brake fluid pressure sensor. Does the voltage measure less the specified value?</p>	5V	Go to Step 6	Go to Step 7
6	<p>1. Turn OFF the ignition. 2. Disconnect the negative battery cable. Refer to Battery Negative Cable Disconnect/Connect Procedure in Engine Electrical. 3. Measure the resistance from the low reference circuit of the brake fluid pressure sensor to a good ground. Does the resistance measure less than the specified value?</p>	5 W	Go to Step 12	Go to Step 11
7	<p>Test the 5 volt reference circuit of the brake fluid pressure sensor for a short to voltage. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and correct the condition?</p>	—	Go to Step 16	Go to Step 13
8	<p>Test the 5 volt reference circuit of the brake fluid pressure sensor for the following conditions:</p> <ul style="list-style-type: none"> • An open • A short to ground • A high resistance Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and correct the condition? 	—	Go to Step 16	Go to Step 9

Step	Action	Values	Yes	No
9	<p>Test the signal circuit of the brake fluid pressure sensor for the following conditions:</p> <ul style="list-style-type: none"> • An open • A short to ground • A high resistance Refer to Circuit Testing and Wiring Repairs in Wiring Systems. <p>Did you find and correct the condition?</p>	—	Go to Step 16	Go to Step 13
10	<p>Test the signal circuit of the brake fluid pressure sensor for a short to voltage. Refer to Circuit Testing and Wiring Repairs in Wiring Systems.</p> <p>Did you find and correct the condition?</p>	—	Go to Step 16	Go to Step 13
11	<ol style="list-style-type: none"> 1. Disconnect the EBCM harness connector. 2. Install the J 39700 universal pinout box using the J 39700-300 cable adapter to the EBCM harness connector only. 3. Test the low reference circuit of the brake fluid pressure sensor for a high resistance or an open. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. <p>Did you find and correct the condition?</p>	—	Go to Step 16	Go to Step 13
12	<p>Inspect for poor connections at the harness connector of the brake fluid pressure sensor. Refer to Testing for Intermittent and Poor Connections and Connector Repairs in Wiring Systems.</p> <p>Did you find and correct the condition?</p>	—	Go to Step 16	Go to Step 14

Step	Action	Values	Yes	No
13	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 16	Go to Step 15
14	Replace the brake fluid pressure sensor. Refer to Brake Fluid Pressure Sensor Replacement. Did you complete the repair?	—	Go to Step 16	—
15	Replace the EBCM. Refer to Electronic Brake Control Module (EBCM) Replacement. Did you complete the repair?	—	Go to Step 16	—
16	1. Clear the DTCs using the scan tool. 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