

C0179 the EBCM calculates that the brake rotors cooled sufficiently

Circuit Description

The EBCM monitors vehicle speed deceleration, system activation, and brake pedal position sensor active times in order to calculate an estimate of the brake rotor temperatures. If the EBCM calculates that the brake rotor temperatures have exceeded the thermal cutoff point, the EBCM will temporarily suspend the TCS function until the brake rotors cool. This feature is used to maintain braking effectiveness if normal base braking is required. An overly heated brake system could result in brake fade. The EBCM continues calculating the brake rotor temperatures after the ignition is turned OFF. The EBCM remains awake until the EBCM calculates that the brake rotors cooled sufficiently. The cooling period may take up to 30 minutes.

Conditions for Running the DTC

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

Conditions for Setting the DTC

This DTC sets when the estimated brake rotor temperature exceeds 375°C (700°F). When the estimated brake rotor temperature exceeds 375°C (700°F) during normal braking or ABS operations, the DTC does not set until the next TCS activation. The EBCM does not disable TCS until the end of the TCS event.

Action Taken When the DTC Sets

- The EBCM disables the TCS until the DTC becomes a history DTC.
- The ABS remains functional.
- The Traction Control indicator turns ON.

Conditions for Clearing the DTC

- The current DTC becomes history when the estimated brake rotor temperatures of both drive wheels decreases below 275°C (530°F). The following actions also occur:
The EBCM enables TCS.
The DIC displays the Traction Ready message.
- The condition for the DTC is no longer present (the DTC is not current) and you used the scan tool Clear DTC function.
- The condition for the DTC is no longer present (the DTC is not current) and you used the On-Board Diagnostics Clear DTC function.
- The EBCM automatically clears the history DTC when a current DTC is not detected in 100 consecutive drive cycles.

Diagnostic Aids

- With TCS temporarily disabled, the EBCM continues calculating the brake rotor temperatures after the ignition is turned OFF. Turning ON the ignition again while TCS is temporarily disabled will not re-enable TCS.
- The temperature is an estimate calculated by the EBCM.
- Possible causes of this DTC are the following conditions:
The brake usage is excessive.
The TCS usage is excessive.
The brake pedal position sensor is damaged or not calibrated.
The brake pressure sensor is damaged.

Test Description

The number below refers to the step number on the diagnostic table.
4. Use the scan tool in order to verify that the Brake Thermal Model is exceeded.

Step	Action	Yes	No
Schematic Reference: ABS Schematics on page 5-155			
1	Did you perform the Diagnostic System Check – ABS?	Go to Step 2	Go to Diagnostic System Check -ABS

Step	Action	Yes	No
2	<p>1. Install a scan tool.</p> <p>2. Turn ON the ignition, with the engine OFF.</p> <p>3. Select the display DTCs function on the scan tool for the EBCM.</p> <p>Does the scan tool display that this DTC is set current?</p>	Go to Step 4	Go to Step 3
3	<p>Since most occurrences of this DTC are caused by excessive braking, review with the customer to verify the conditions under which the DTC set.</p> <p>Did vehicle operation cause this DTC to set?</p>	Go to Diagnostic Aids	Go to Step 4
4	<p>1. Allow 30 minutes from the last time you drove the vehicle for the cooling of the brake rotors.</p> <p>2. With a scan tool, observe the Brake Temp Status parameter in the ABS data list.</p> <p>Does the scan tool display Normal?</p>	Go to Step 6	Go to Step 5
5	<p>Calibrate the brake pedal position sensor. Refer to Brake Pedal Position Sensor Calibration Description and Operation in Lighting Systems.</p> <p>Did you find and correct the condition?</p>	Go to Step 8	Go to Step 6
6	<p>1. Use the scan tool in order to clear the DTCs.</p> <p>2. Operate the vehicle within the Conditions for Running the DTC as specified in the supporting text. Does the DTC reset as a current DTC?</p>	Go to Step 7	System OK
7	<p>Replace the EBCM. Refer to Electronic Brake Control Module (EBCM) Replacement on page 5-254. Did you complete the repair?</p>	Go to Step 8	—

Step	Action	Yes	No
8	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