

DTC P0218 TCM detects high transmission oil temperature for an extended period of time

Circuit Description

The primary source of heat in the transmission is the torque converter. Hot oil exits the torque converter through the torque converter clutch (TCC) control valve and flows to the transmission cooler supply line. The supply line connects to the cooler, which is located in the radiator. From the cooler, the oil returns through the oil cooler return line and enters the lubrication circuits. After lubricating the internal components, the oil then returns to the oil pan. The oil pump draws oil through the filter from the oil pan, where the transmission fluid temperature (TFT) sensor is located. The oil pump pressurizes the oil and directs it to the pressure regulator valve. The pressure regulator valve is the starting point for the main supply of oil to the torque converter and the transmission hydraulic components. When the transmission control module (TCM) detects high transmission oil temperature for an extended period of time, DTC P0218 sets. DTC P0218 is a type C DTC.

Conditions for Running the DTC

The transmission fluid temperature is -39 to $+149^{\circ}\text{C}$ (-38 to $+300^{\circ}\text{F}$) for greater than 5 seconds.

Conditions for Setting the DTC

The transmission fluid temperature is greater than 132°C (270°F) for 600 seconds (10 minutes).

Action Taken When the DTC Sets

- The TCM does not request the engine control module (ECM) to illuminate the malfunction indicator lamp (MIL).
- TRANSMISSION HOT - IDLE ENGINE displays on the driver information center (DIC).
- The TCM freezes transmission adaptive functions.
- The TCM records the operating conditions when the Conditions for Setting the DTC are met. The TCM records this information as a Failure Record.
- The TCM stores DTC P0218 in TCM history.

Conditions for Clearing the DIC/DTC

- The TCM clears the DIC message when the condition no longer exists.
- The TCM cancels the DTC default actions when the condition no longer exists.
- The TCM clears the DTC from TCM history if the vehicle completes 40 warm-up cycles without a non emission related diagnostic fault occurring.
- A scan tool can clear the DTC.

Diagnostic Aids

- The DIC, if equipped, will display TRANSMISSION HOT - IDLE ENGINE when the transmission fluid temperature reaches 132°C (270°F).
- Observe DIC messaging that would indicate the engine cooling system is hot.
- The TFT displayed on the scan tool should rise steadily to a normal operating temperature, then stabilize.
- Ask about the customer's driving habits, trailer towing, etc. Trailer towing should occur in D4.

DTC P0218

Step	Action	Value(s)	Yes	No
1	Did you perform the Diagnostic System Check – Vehicle?	—	Go to Step 2	Go to Diagnostic System Check -Vehicle in Vehicle DTC Information
2	1. Install a scan tool. 2. Turn ON the ignition, with the engine OFF. Important: Record the Failure Records before clearing the DTC. Using the Clear Info function erases the Failure Records from the ECM and the TCM. 3. Record the DTC Failure Records. Is the engine coolant temperature above the specified value when the DTC set?	125°C (257°F)	Go to Engine Overheating in Engine Cooling	Go to Step 3

Step	Action	Value(s)	Yes	No
3	<ol style="list-style-type: none"> 1. Clear the DTC. 2. Perform the Transmission Fluid Checking Procedure. Refer to Transmission Fluid Checking Procedure Is the action complete?	—	Go to Step 4	—
4	<ol style="list-style-type: none"> 1. Inspect the transmission cooling system for restrictions or damage. Refer to Automatic Transmission Oil Cooler Flushing and Flow Test (J45096) or Automatic Transmission Oil Cooler Flushing and Flow Test (J35944 A). 2. Repair or replace the cooling system components as necessary. Did you find and correct a condition? 	—	Go to Step 7	Go to Step 5
5	<ol style="list-style-type: none"> 1. Perform the Line Pressure Check Procedure. Refer to Line Pressure Check Procedure. 2. Repair the transmission as necessary. Did you find and correct a condition? 	—	Go to Step 7	Go to Step 6
6	<ol style="list-style-type: none"> 1. Test the torque converter for a seized stator. Refer to Torque Converter Diagnosis Procedure. 2. Replace the torque converter as necessary. Did you find and correct a condition?	—	Go to Step 7	—

Step	Action	Value(s)	Yes	No
7	Perform the following procedure in order to verify the repair: 1. Select DTC. 2. Select Clear Info. 3. Operate the vehicle long enough to ensure the transmission temperature remains below 129°C (262°F). 4. Select Specific DTC. 5. Enter DTC P0218. Has the test run and passed?	—	Go to Step 8	Go to Step 2
8	With the scan tool, observe the stored information, capture info and DTC info. Does the scan tool display any DTCs that you have not diagnosed?	—	Go to Diagnostic Trouble Code (DTC) List -Vehicle in Vehicle DTC Information	System OK