

P0741 TCM detects high torque converter slip when the TCC is commanded ON

Circuit Description

The transmission control module (TCM) controls the torque converter clutch (TCC) solenoid valve pulse width modulation (PWM). The solenoid directs the hydraulic fluid for TCC apply and release. When the TCC is applied, the engine is coupled directly to the transmission through the TCC. The TCC slip speed should be near 0. If the TCM detects high torque converter slip when the TCC is commanded ON, then DTC P0741 sets. DTC P0741 is a type B DTC.

Conditions for Running the DTC

- No TP sensor DTC P0120.
- No ISS DTCs P0716 or P0717.
- No OSS DTCs P0722 or P0723.
- No TCC performance DTC P0742.
- No IMS DTCs P1815, P1820, P1822, P1823, P1825 or P1826.
- No engine torque signal circuit DTC P2637.
- No TCC solenoid electrical DTCs P2763 or P2764.
- The engine run time is greater than 5 seconds.
- The IMS range is D2, D3, D4, or D5.
- The elapsed time since the most recent range change is greater than 6 seconds.
- The transmission fluid temperature is 20–130°C (68–266°F).
- The engine torque is greater than 55 N·m (41 lb ft).
- The throttle position is 12–90 percent.
- The gear ratio is within the following ranges:
 - a). 1.56:1 to 1.64:1 – 3rd gear
 - b). 0.98:1 to 1.03:1 – 4th gear
 - c). 0.73:1 to 0.77:1 – 5th gear
- The TCC apply pressure is greater than 150 kPa (22 psi) for more than 5 seconds.
- The TCC duty cycle is greater than 80 percent for more than 5 seconds.

Conditions for Setting the DTC

The TCM commands the TCC ON, and the TCC slip is between 150–250 RPM for greater than 8 seconds twice during the same ignition cycle.

Action Taken When the DTC Sets

- The TCM requests the ECM to illuminate the malfunction indicator lamp (MIL) during the second consecutive drive trip in which the Conditions for Setting the DTC are met.
- The TCM inhibits TCC.
- The TCM inhibits 5th gear if the transmission is in Hot Mode.
- The TCM freezes transmission adaptive functions.
- At the time of the first failure, the TCM records the operating conditions when the Conditions for Setting the DTC are met. The TCM stores this information as a Failure Record.
- At the time of the second failure, the ECM records the operating conditions when the Conditions for Setting the DTC are met. The ECM stores this information as a Freeze Frame.
- The TCM stores DTC P0741 in TCM history.

Conditions for Clearing the DTC

- The ECM turns OFF the MIL after the sixth consecutive drive trip in which the TCM does not send a MIL illumination request.
- A scan tool can clear the DTC.
- The TCM clears the DTC from TCM history if the vehicle completes 40 warm-up cycles without a non emission related diagnostic fault occurring.
- The TCM cancels the DTC default actions when the ignition is OFF long enough in order to power down the TCM.

Diagnostic Aids

Inspect the transmission fluid lines to the radiator. The lines may be pinched, plugged or twisted.

Test Description

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

2. This step inspects the transmission fluid to ensure that it is at the proper

level.

3. This step verifies that the TCC engages when commanded ON by the scan tool.

DTC P0741

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	Perform the Transmission Fluid Checking Procedure. Did you perform the Transmission Fluid Checking Procedure?	—	Go to Step 3	Go to Transmission Fluid Checking Procedure

Step	Action	Value(s)	Yes	No
3	1).Install a scan tool. 2).Turn ON the ignition, with the engine OFF. Important: <ul style="list-style-type: none"> ● Before clearing the DTC, use the scan tool in order to record the ECM Freeze Frame and the TCM Failure Records. Using the Clear Info function erases the Freeze Frame and Failure Records from the ECM and the TCM. ● Using the Clear Info function erases stored DTCs in both the ECM and TCM. 3).Record the DTC Freeze Frame and Failure Records. 4).Clear the DTC. 5).Operate the vehicle in D5 at 72 km/h (45 mph). 6).Using the scan tool, command the TCC PWM solenoid valve ON. 7).Monitor the TCC slip speed on the scan tool. Is the slip speed within the specified range?	-20 to +75 RPM	Go to Intermittent Conditions in Engine Controls – 4.6L	Go to Step 4

Step	Action	Value(s)	Yes	No
4	<ul style="list-style-type: none"> ● Inspect the front control valve body assembly (311) for the following conditions: <ul style="list-style-type: none"> a). – TCC PWM solenoid valve (352) mechanically stuck off or leaking b). – TCC regulator apply valve (348) stuck. Refer to Torque Converter Clutch (TCC) Solenoid Replacement. ● Inspect the rear control valve body assembly (310) for the control valve body ball check valve #2 stuck or missing. Refer to Control Valve Body Accumulator Assembly Replacement. ● Inspect the fluid pump assembly (202) for the following conditions: <ul style="list-style-type: none"> a). TCC control valve (235) stuck in the off position b). TCC enable valve (237) stuck in the off position. Refer to Fluid Pump Disassemble and Fluid Pump Assemble in Transmission Unit Repair Manual. ● Inspect the forward clutch input housing assembly (433) for the input shaft fluid seal ring (432) leaking or worn. Refer to Forward and Coast Clutch Disassemble in Transmission Unit Repair Manual. <p>Did you find and correct any of the above conditions?</p>	—	Go to Step 5	—

Step	Action	Value(s)	Yes	No
5	Perform the following procedure in order to verify the repair: 1).Select DTC. 2).Select Clear Info. 3).Operate the vehicle under the following conditions: <ul style="list-style-type: none"> ● The TFT is 20–130°C (68–266°F). ● The engine torque is greater than 55 N·m (41 lb ft). ● Drive the vehicle in D5 with the throttle position at 12–90 percent. ● Ensure that the TCC applies and the slip speed is -20 to +75 RPM for 4 seconds. 4).Select Specific DTC. 5).Enter DTC P0741. Has the test run and passed?	—	Go to Step 6	Go to Step 2

Step	Action	Value(s)	Yes	No
6	<p>With the scan tool, observe the stored information, capture info and DTC info.</p> <p>Does the scan tool display any DTCs that you have not diagnosed?</p>	—	<p>Go to Diagnostic Trouble Code (DTC) List -Vehicle in Vehicle DTC Information</p>	System OK