2007 Dodge Caliber SRT-4 L4-2.4L Turbo VIN F

Vehicle > ALL Diagnostic Trouble Codes (DTC) > Testing and Inspection > P Code Charts > P1729

P1729-TRANSMISSION RATIO CONTROL CIRCUIT

For a complete wiring diagram **Refer to Diagrams/Electrical**. See: Vehicle > Electrical

Theory of Operation

The Transmission Control Module monitors and controls the gear ratio by the use of a Step motor that transfers electrical power to mechanical movement. The rationality is a continuous test that monitors the Step motor movement. If the Step motor ON/OFF status does not match the TCM requested ON/OFF status a DTC will set.

- **When Monitored:**

  Ignition on with a system voltage between **9.0 and 16.0 volts.**

- **Set Condition:**

  If the Step motor ON/OFF status does not match the TCM requested ON/OFF status for the period of 200 msec the DTC will set. It takes two consecutive problem identification trips to illuminate the MIL.

Possible Causes
(T314) A, (T315) B, (T316) C, AND/OR (T317) D STEP MOTOR CONTROL CIRCUIT(S) SHORT TO VOLTAGE
(T314) A, (T315) B, (T316) C, AND/OR (T317) D STEP MOTOR CONTROL CIRCUIT(S) OPEN
(T314) A, (T315) B, (T316) C, AND/OR (T317) D STEP MOTOR CONTROL CIRCUIT(S) SHORT TO GROUND
STEP MOTOR
TRANSMISSION CONTROL MODULE

Always perform the CVT Pre-Diagnostic Troubleshooting procedure before proceeding.

Diagnostic Test

1. CHECK TO SEE IF THE DTC IS ACTIVE

With the scan tool, read Transmission DTCs.

Is the status Active for this DTC or is the STARTS SINCE SET counter 2 or less?

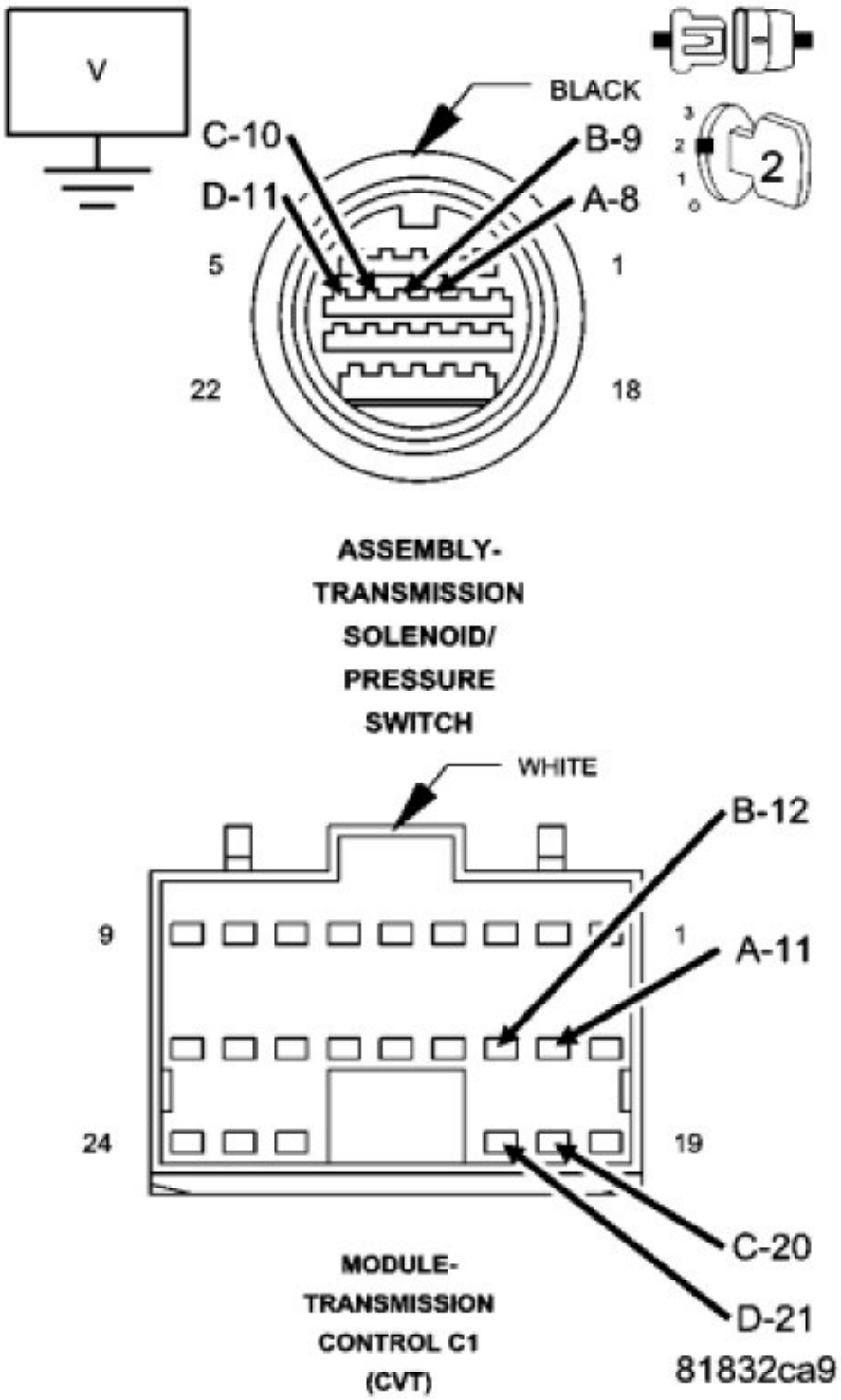
Yes

- Go To 2

No

- Go To 6

2. CHECK THE (T314) A, (T315) B, (T316) C, AND (T317) D STEP MOTOR CONTROL CIRCUIT(S) FOR A SHORT TO VOLTAGE



Turn the ignition off to the lock position.

Disconnect the TCM C1 and C2 harness connectors.

Disconnect the Transmission Solenoid/Pressure Switch Assembly harness connector.

Ignition on, engine not running.

Measure separately the voltage of the (T314) A, (T315) B, (T316) C, and (T317) D Step Motor Control circuits.

Is the voltage above .05 volts for any of the Step Motor Control circuits?

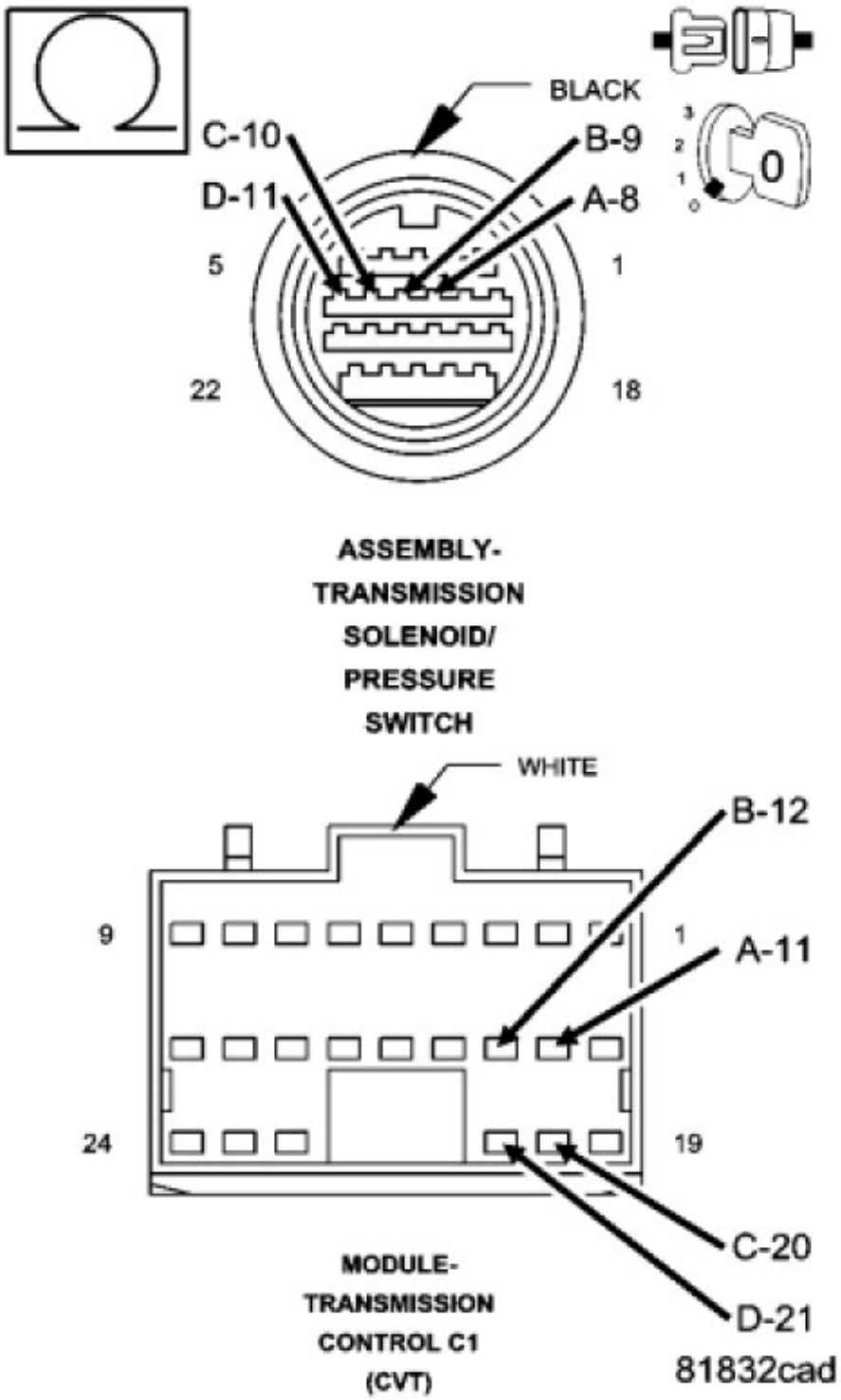
Yes

- Repair the (T314) A, (T315) B, (T316) C, and/or (T317) D Step Motor Control circuit(s) for a short to voltage.
- Perform CVT VERIFICATION TEST. See: A L L Diagnostic Trouble Codes (DTC) > Verification Tests

No

- Go To 3

3. CHECK THE (T314) A, (T315) B, (T316) C, AND (T317) D STEP MOTOR CONTROL CIRCUIT(S) FOR AN OPEN



Turn the ignition off to the lock position.

Measure separately the resistance of the (T314) A, (T315) B, (T316) C, and (T317) D Step Motor Control circuits between the TCM C1 harness connector and the Transmission Solenoid/Pressure Switch harness connector.

Is the resistance above 5.0 ohms for any of the Step Motor Control circuits?

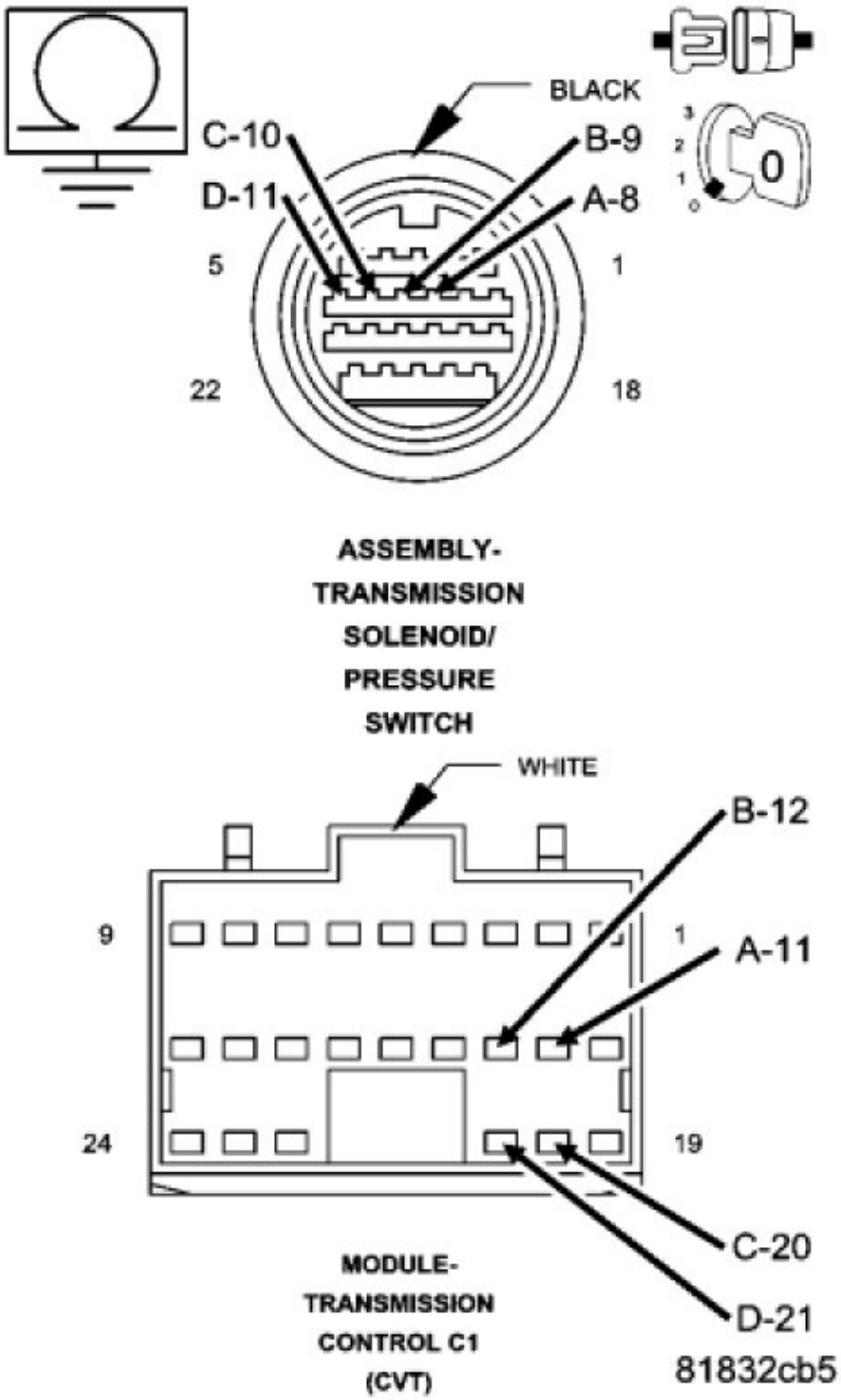
Yes

- Repair the (T314) A, (T315) B, (T316) C, and/or (T317) D Step Motor Control circuit(s) for an open.
- Perform CVT VERIFICATION TEST. See: A L L Diagnostic Trouble Codes (DTC) > Verification Tests

No

- Go To 4

4. CHECK THE (T314) A, (T315) B, (T316) C, AND (T317) D STEP MOTOR CONTROL CIRCUIT(S) FOR A SHORT TO GROUND



Measure separately the resistance between ground and the (T314) A, (T315) B, (T316) C, and (T317) D Step Motor Control circuits.

Is the resistance below 5.0 ohms for any of the Step Motor Control circuits?

Yes

- Repair the (T314) A, (T315) B, (T316) C, and/or (T317) D Step Motor Control circuit(s) for a short to ground.

- Perform CVT VERIFICATION TEST. See: A L L Diagnostic Trouble Codes (DTC) > Verification Tests

No

- Go To 5

5. TRANSMISSION CONTROL MODULE

Replace the Transmission Control Module. Perform CVT VERIFICATION TEST. See: A L L Diagnostic Trouble Codes (DTC) > Verification Tests

During the verification test did the DTC reset?

Yes

- Replace or repair the CV Transmission (Step Motor).
- Perform CVT VERIFICATION TEST. See: A L L Diagnostic Trouble Codes (DTC) > Verification Tests

No

- Test Complete.

6. INTERMITTENT WIRING AND CONNECTORS

The conditions necessary to set this DTC are not present at this time.

Using the schematics as a guide, inspect the wiring and connectors specific to this circuit.

Wiggle the wires while checking for shorted and open circuits.

Were there any problems found?

Yes

- Repair as necessary.
- Perform CVT VERIFICATION TEST. See: A L L Diagnostic Trouble Codes (DTC) > Verification Tests

No

- Test Complete.