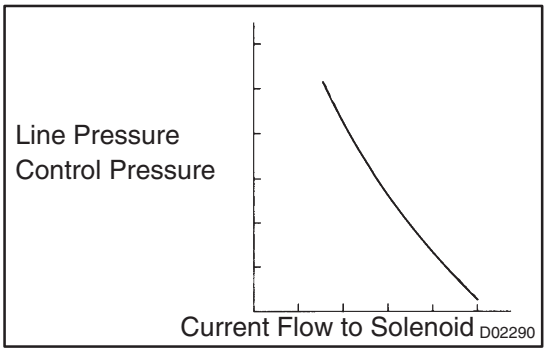
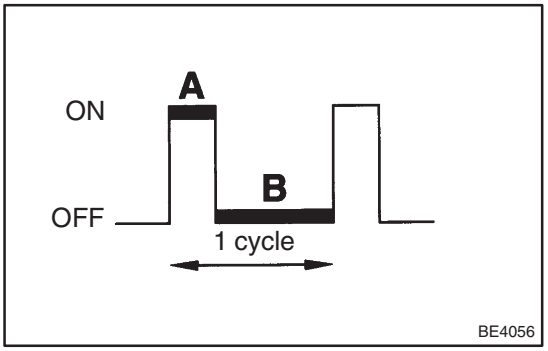
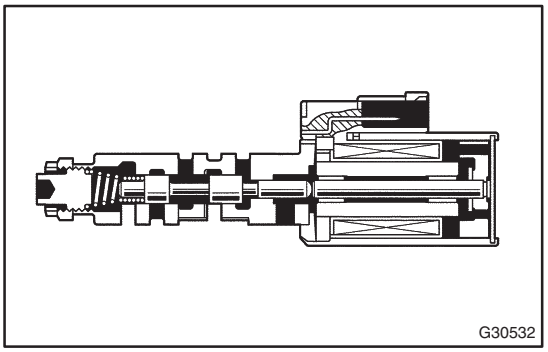
DTC	P2714/77	PRESSURE CONTROL SOLENOID ”D” PERFORMANCE (SHIFT SOLENOID VALVE SLT)







SYSTEM DESCRIPTION

The linear solenoid valve (SLT) controls the transmission line pressure for smooth transmission operation based on signals from the throttle position sensor and the vehicle speed sensor. The TCM adjusts the duty cycle of the SLT solenoid valve to control hydraulic line pressure coming from the primary regulator valve. Appropriate line pressure assures smooth shifting with varying engine outputs.

(*): Duty Ratio

The duty ratio is the ratio of the period of continuity in one cycle. For example, if A is the period of continuity in one cycle, and B is the period of non–continuity, then

Duty Ratio = A/(A + B) x 100 (%)

DTC No.	DTC Detection Condition	Trouble Area
P2714/77	TCM detects a malfunction on SLT (ON side) according to the revolution difference of the turbine and the output shaft, and also by the oil pressure. (1–trip detection logic)	• Shift solenoid valve SLT remains open or closed • Valve body is blocked • Automatic transmission (clutch, brake or gear, etc.)

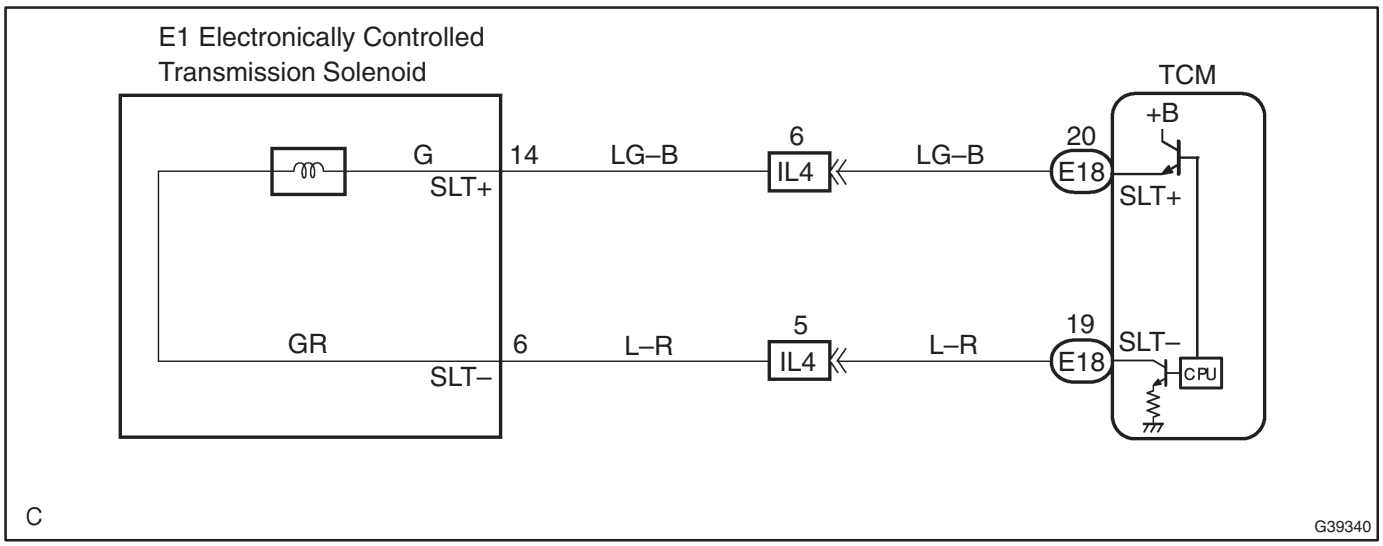
MONITOR DESCRIPTION

The TCM calculates the amount of heat absorbed by the friction material based on the difference in revolution (clutch slippage) between the turbine and output shaft. The TCM turns on the MIL and outputs this DTC when the amount of heat absorption exceeds the specified value.

When the shift solenoid valve SLT remains on, oil pressure goes down and clutch engagement force decreases.

NOTE: If you continue driving under these conditions, the clutch will burn out and the vehicle will no longer be drivable.

WIRING DIAGRAM



INSPECTION PROCEDURE

HINT:

Performing the Intelligent Tester II Active Test allows relay, Vacuum Switching Valve (VSV), actuator and other items to be operated without removing any parts. Performing the Active Test early in troubleshooting is one way to shorten labor time. The Data List can be displayed during the Active Test.

(a) Warm up the engine.
(b) Turn the ignition switch off.
(c) Connect the Intelligent Tester II to the DLC3.
(d) Turn the ignition switch to the ON position.
(e) Turn on the tester.
(f) Select the item ”Enter / Power train / ECT / Active Test”.
(g) Follow the instructions on the tester and read the Active Test.

Item	Test Details	Diagnostic Note
Control the Line Pressure Up *	[Test Details] Operate the shift solenoid SLT and raise the line pressure. [Vehicle Condition] • Vehicle Stopped. • IDL: ON [HINT] OFF: Line pressure up (When the active test of ”Control the Line Pressure Up” is performed, the TCM commands the SLT solenoid to turn off). ON: No action (normal operation)	–

*: ”Control the Line Pressure Up” in the ACTIVE TEST is performed to check the line pressure changes by connecting the SST to the automatic transmission, which is used in the HYDRAULIC TEST (see page 05–1164) as well.

HINT:

- The pressure values in ACTIVE TEST and HYDRAULIC TEST are different from each other.
- Normally, the line pressure detected in the ACTIVE TEST is approximately half of the value detected in the HYDRAULIC TEST’s stall test.

1	CHECK OTHER DTCS OUTPUT(IN ADDITION TO DTC P2714)

(a) Connect the Intelligent Tester II to the DLC3.
(b) Turn the ignition switch to the ON position.
(c) Turn on the tester.
(d) Select the item ”Power train / ECT / DTC / Current or Pending”.
(e) Read the DTCs using the Intelligent Tester II.

Result:

Display (DTC output)	Proceed to
Only ”P2714” is output	A
”P2714” and other DTCs	B

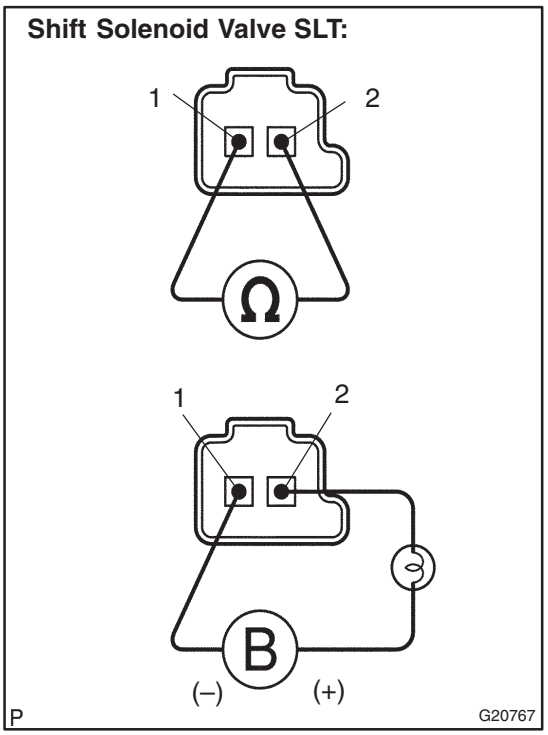
HINT:
If any other codes besides ”P2714” are output, perform troubleshooting for those DTCs first.

B → **GO TO DTC CHART (SEE PAGE 05–1195)**

A

2	INSPECT SHIFT SOLENOID VALVE(SLT)

Shift Solenoid Valve SLT:



(a) Remove the shift solenoid valve SLT.
(b) Measure the resistance according to the value(s) in the table below.

Standard:

Tester Connection	Specified Condition 20°C (68°F)
1 – 2	5.0 to 5.6 Ω

(c) Connect the positive (+) lead with a 21 W bulb to terminal 2 and the negative (–) lead to terminal 1 of the solenoid valve connector, then check the movement of the valve.

OK:

The solenoid makes an operating sound.

NG → **REPLACE SHIFT SOLENOID VALVE(SLT) (SEE PAGE 40–71)**

OK

3	INSPECT TRANSMISSION VALVE BODY ASSY (SEE PAGE 40–71)

OK:

There are no foreign objects on each valve.

NG → REPAIR OR REPLACE TRANSMISSION VALVE BODY ASSY

OK

4	INSPECT TORQUE CONVERTER CLUTCH ASSY (SEE PAGE 40–64)

OK:

The torque converter clutch operates normally.

NG → REPLACE TORQUE CONVERTER CLUTCH ASSY

OK

REPAIR OR REPLACE AUTOMATIC TRANSMISSION ASSY (SEE PAGE 40–38)