DTC P2772 Transfer "L4" Switch Circuit

DESCRIPTION

The ECM detects the signal from the transfer L4 position switch.
This DTC indicates that the transfer L4 position switch remains ON.

AT

DTC No.	DTC Detection Conditions	Trouble Areas
P2772	Transfer L4 position switch remains ON while vehicle running under following conditions for 1.8 seconds or more (1-trip detection logic) (a) Output shaft speed: between 1,000 rpm and 3,000 rpm (b) Transfer shift position: H	• Short in transfer L4 position switch circuit • Transfer L4 position switch • ECM

MONITOR DESCRIPTION

The ECM monitors the transfer-case L4 position switch to determine whether the transfer-case L4 gear is engaged. If the transfer-case L4 gears remain engaged under the following conditions, the ECM determines that there is a malfunction of the L4 position switch:

- L4 switch indicates that the L4 transfer-case gears are engaged.
- Transfer-case shifter is in the "H" position.
- Transfer-case output shaft rpm is between 1,000 and 3,000 rpm.
- The specified time period has elapsed.

If all of the above conditions are met, the ECM determines that there is a malfunction of the L4 switch, illuminates the MIL and stores the DTC.

MONITOR STRATEGY

Related DTCs	P2772 : Transfer L4 position switch/ON malfunction
Required sensors/Components	Transfer L4 position switch
Frequency of operation	Continuous
Duration	ON malfunction (A) 1.8 seconds ON malfunction (B) 0.5 seconds
MIL operation	1 driving cycle
Sequence of operation	None

TYPICAL ENABLING CONDITIONS

The following conditions are common to all ON malfunctions (A) and (B).

The monitor will run whenever the following DTCs are not present.	None
Output speed sensor (SP2) circuit	Functioning normally
Vehicle speed sensor "A" circuit	Functioning normally
Transmission neutral position switch	OFF

ON malfunction (A)

Output speed (Transfer output speed)	1,000 to 3,000 rpm

ON malfunction (B)

Output speed (Transfer output speed)	143 rpm or more

TYPICAL MALFUNCTION THRESHOLDS

Both of the following conditions are met: ON malfunctions (A) and (B)

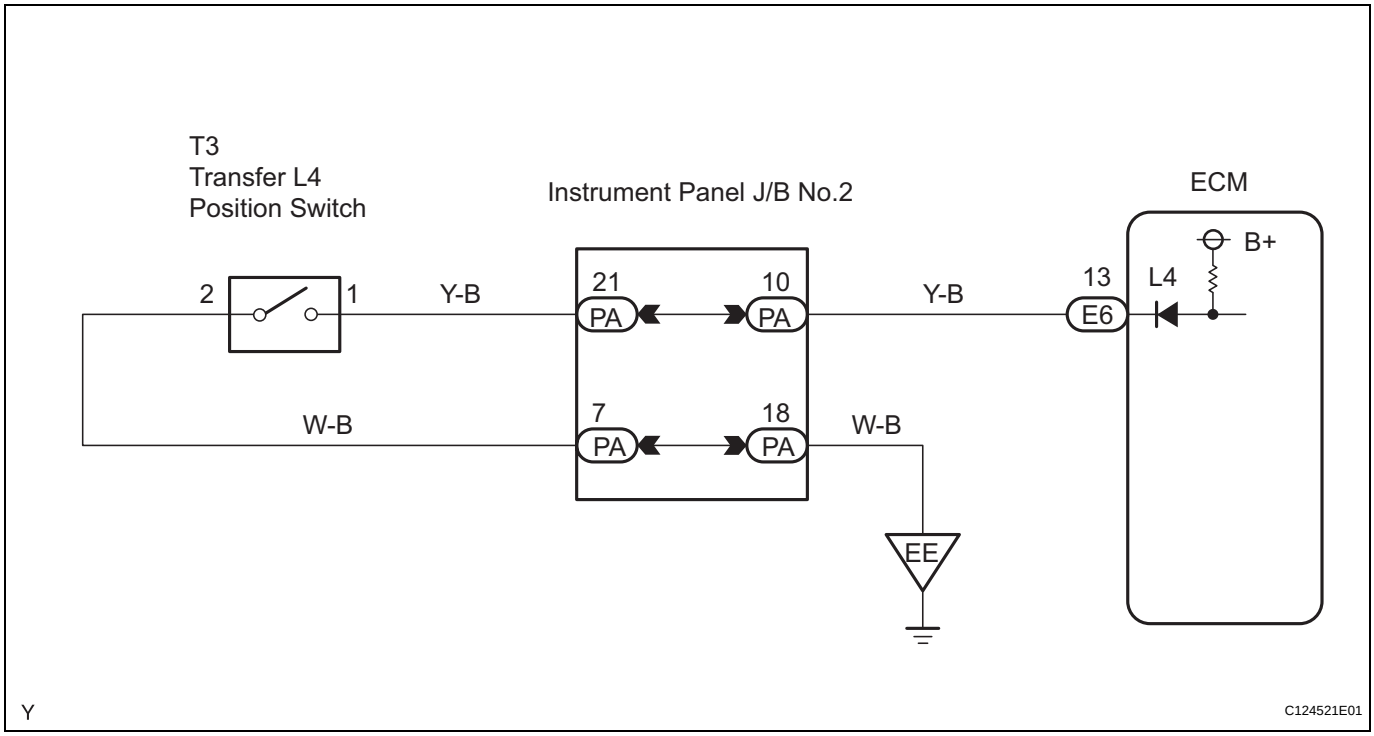
ON malfunction (A)

L4 switch	ON

ON malfunction (B)

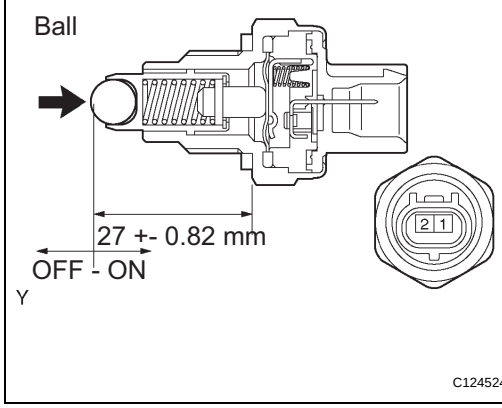
Actual transfer gear ratio Transfer input speed/Transfer output speed	0.9 to 1.1

WIRING DIAGRAM



1	INSPECT NO. 2 TRANSFER INDICATOR SWITCH (TRANSFER L4 POSITION SWITCH)

Transfer L4 Position Switch:



(a) Remove the transfer L4 position switch.
(b) Measure the resistance when pushing the ball at the tip of the switch.

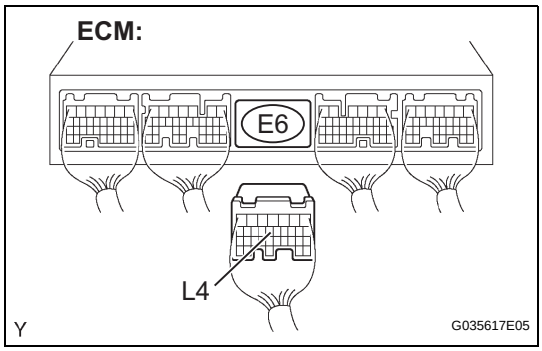
Standard resistance

Switch Ball	Tester Connection	Specified Condition
Push	1 - 2	Below 1 Ω
Free	1 - 2	10 kΩ or higher

NG → **REPLACE NO. 2 TRANSFER INDICATOR SWITCH (TRANSFER L4 POSITION SWITCH)**

OK

2	CHECK HARNESS AND CONNECTOR (ECM - L4 POSITION SWITCH, L4 POSITION SWITCH - BODY GROUND)



(a) Install the transfer L4 position switch.
(b) Disconnect the ECM connector.
(c) Measure the resistance when the transfer shift lever is in any position other than the L position.

Standard resistance

Condition	Tester Connection	Specified Condition
Transfer shift lever other than L position	E6-13 (L4) - Body ground	10 kΩ or higher

NG → **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK

REPLACE ECM