

DTC	P2772	T/F L4 Range Position Switch Performance
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CIRCUIT DESCRIPTION

The ECM detects the signal from the transfer L4 position switch.

This DTC indicates that the transfer L4 position switch remains ON.

DTC No.	DTC Detecting Condition	Trouble Area
P2772	Transfer L4 position switch remains ON while vehicle running under conditions for 18 seconds or more (1-trip detection logic) (a) Output shaft speed 3000 rpm or less (b) Transfer shift position is 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 when the transfer-case L4 gear is engaged. If the transfer-case L4 gears remain engaged under the following conditions, the ECM will conclude that there is a malfunction of the L4 position switch:

- L4 switch indicated that the L4 transfer-case gears are engaged.
- Transfer-case shifter is in the "H" position.
- Transfer-case output shaft rpm is between 750 and 3,000 rpm.
- The specified time period has elapsed.

If all of the above conditions are detected, the ECM will conclude that there is a malfunction of the L4 switch, illuminate the MIL and store 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 sec.
	ON malfunction (B)	0.5 sec.
MIL operation	1 driving cycle	
Sequence of operation	None	

TYPICAL ENABLING CONDITIONS

Item	Specification	
	Minimum	Maximum
The following items are common to all conditions below: ON malfunction (A) and (B)		
The monitor will run whenever the following DTCs are not present.	See page DI-369	
Output speed sensor circuit	There is no malfunction in the circuits shown on the left.	
Vehicle speed sensor "A" circuit		
Transfer neutral position switch	OFF	
ON malfunction (A)		
Output speed (Transfer output speed)	1,000 rpm or more	Less than 3,000 rpm
ON malfunction (B)		
Output speed (Transfer output speed)	143 rpm or more	—

TYPICAL MALFUNCTION THRESHOLDS

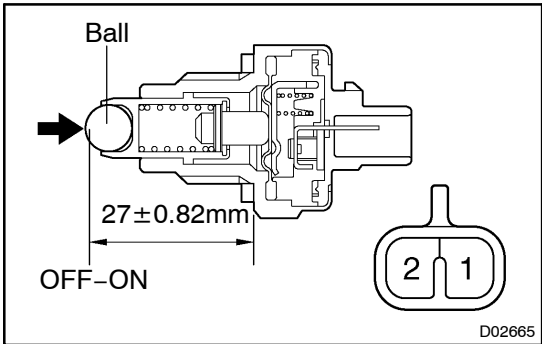
Detection criteria	Threshold
Both of the following conditions is met: ON malfunction (A) and (B)	
ON malfunction (A)	
L4 switch	ON
ON malfunction (B)	
Actual Transfer gear ratio Transfer input speed/Transfer output speed (NO/NOTf)	0.9 or more and Less than 1.1

The diagram illustrates the electrical system for the ECM (Engine Control Module). Key components and their connections include:

- Battery:** Connected to the system via a ground connection.
- Ignition SW (I18):** Controls the ignition system, with terminals IG1 and AM1.
- Relays and Switches:**
 - J/B No. 2:** A relay with terminals 1, 2, and 3.
 - J/B No. 3:** A relay with terminals 1, 2, and 3.
 - ALT:** An alternator component.
 - IG1 No. 3 Relay:** A relay with terminals 1, 2, 3, 4, and 5.
 - GAUGE2:** A gauge component.
- Wiring Connections:**
 - B-G (Battery Ground):** Connects to terminals 1 and 2 of J/B No. 2, and terminals 1 and 2 of J/B No. 3.
 - L-B (Left Battery):** Connects to terminal 3 of J/B No. 2.
 - B-R (Battery Right):** Connects to terminal 3 of J/B No. 3.
 - ECM (Engine Control Module):** The central component being connected to.

INSPECTION PROCEDURE

1	Check transfer L4 position switch.
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PREPARATION:

Remove the transfer L4 position switch.

CHECK:

Check the continuity between the switch terminals when pushing the ball at the tip of the switch.

OK:

Switch	Specified condition
Push	Continuity
Free	No continuity

NG	Replace transfer L4 position switch.
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OK

2	Check harness and connector between battery and transfer L4 position switch, transfer L4 position switch and ECM (See page IN-36).
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NG	Repair or replace the harness or connector.
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OK

Check and replace the ECM (See page [IN-36](#)).