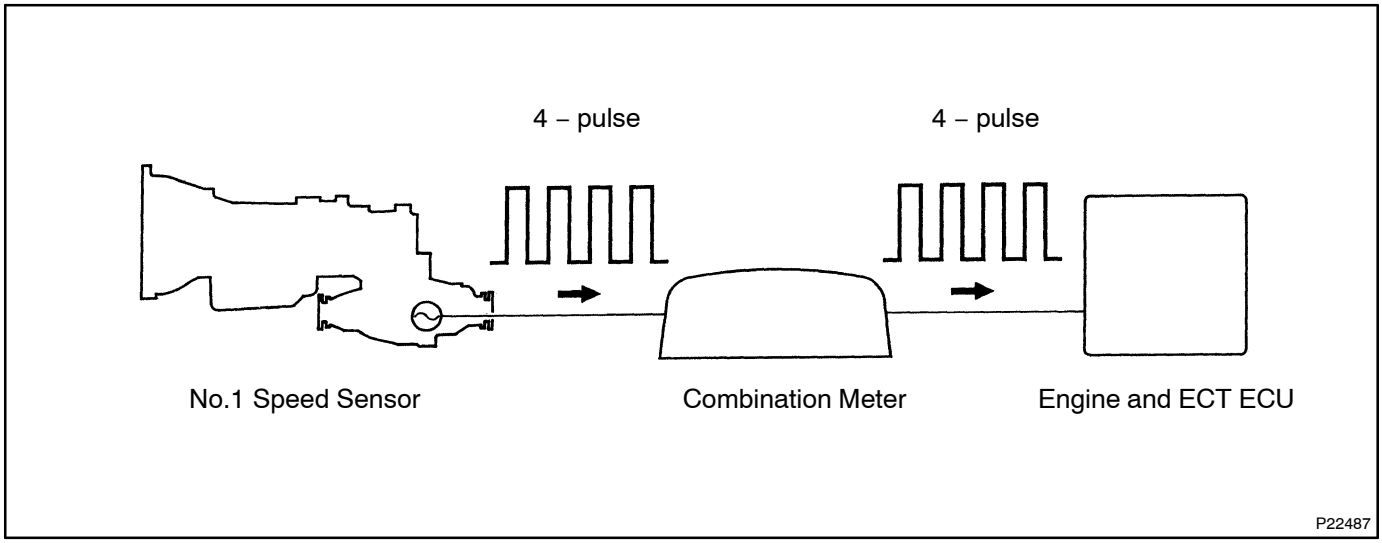
DI3R3–01

DTC	P0500/42	Vehicle Speed Sensor Malfunction (No.1 Speed Sensor)

CIRCUIT DESCRIPTION

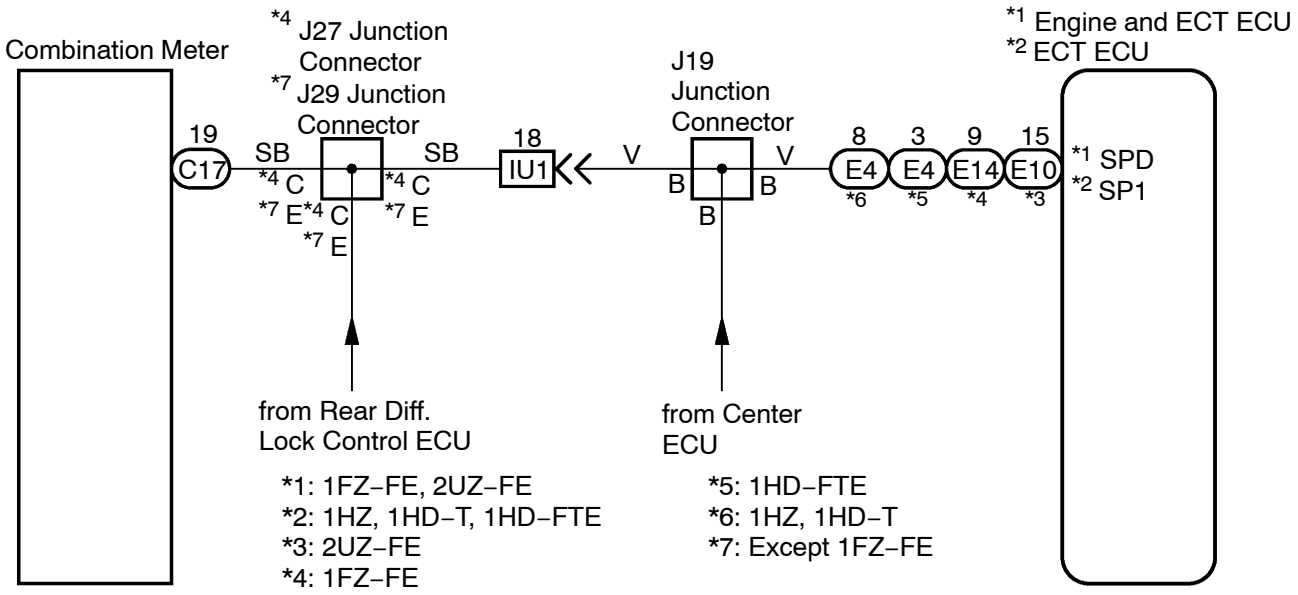
The speed sensor detects the rotation speed of the transmission output shaft and sends signals to the Engine and ECT ECU (2UZ–FE, 1FZ–FE) or ECT ECU (1HZ, 1HD–T, 1HD–FTE). The Engine and ECT ECU (2UZ–FE, 1FZ–FE) or ECT ECU (1HZ, 1HD–T, 1HD–FTE) determines the vehicle speed based on these signals. An AC voltage is generated in the vehicle speed sensor coil as the rotor mounted on the output shaft rotates, and this voltage is sent to the Engine and ECT ECU (2UZ–FE, 1FZ–FE) or ECT ECU (1HZ, 1HD–T, 1HD–FTE).



DTC No.	DTC Detecting Condition	Trouble Area
P0500/42	All conditions below are detected 500 times or more continuously. (2 trip detection logic) (a) No signal from No.1 speed sensor is input to Engine and ECT ECU or ECT ECU while 72 pulueses of No.2 speed sensor signal is sent (Transfer shift lever other than L position). (b) No signal from No.1 speed sensor is input to Engine and ECT ECU or ECT ECU while 180 puleses of No.2 speed sensor signal is sent (Transfer shift lever L position). (c) Vehicle speed: 5 km/h (3 mph) or more for at least 4 seconds. (d) Neutral start switch: OFF (Other than P or N range) (e) T/R: Other than N position	• Open or short in No.1 speed sensor circuit • No.1 speed sensor • Engine and ECT ECU (2UZ–FE, 1FZ–FE) • ECT ECU (1HZ, 1HD–T, 1HD–FTE) • Automatic transmission assembly
	Clutch or brake slips or gear broken	

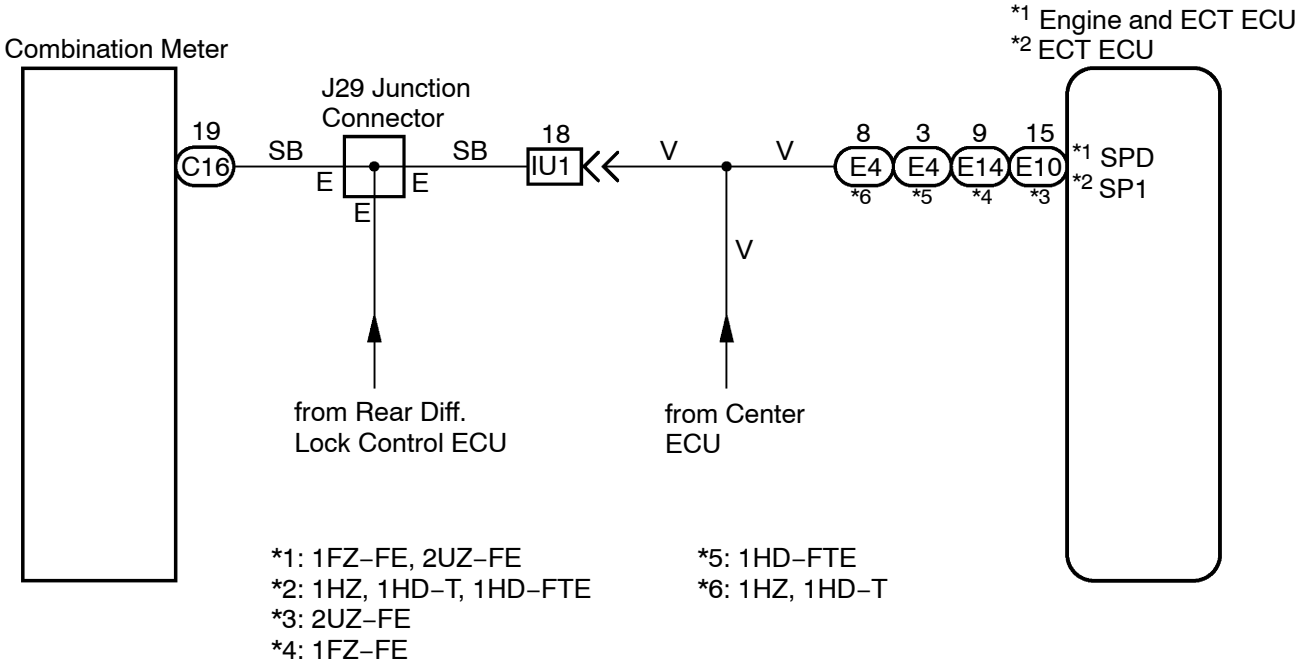
WIRING DIAGRAM

LHD



*1: 1FZ–FE, 2UZ–FE
*2: 1HZ, 1HD–T, 1HD–FTE
*3: 2UZ–FE
*4: 1FZ–FE
*5: 1HD–FTE
*6: 1HZ, 1HD–T
*7: Except 1FZ–FE

RHD



*1: 1FZ–FE, 2UZ–FE
*2: 1HZ, 1HD–T, 1HD–FTE
*3: 2UZ–FE
*4: 1FZ–FE
*5: 1HD–FTE
*6: 1HZ, 1HD–T

D03413
D03414
D03976

INSPECTION PROCEDURE

HINT:

Read freeze frame data using hand–held tester. Because freeze frame records the engine conditions when the malfunction is detected, when troubleshooting it is useful for determining whether the vehicle was running or stopped, the engine warmed up or not, the air–fuel ratio lean or rich, etc. at the time of the malfunction.

1	**Connect hand–held tester and read value of vehicle speed value.**

PREPARATION:

(a) Connect the hand–held tester to the DLC3.

(b) Start the engine and the hand–held tester main switch ON.

CHECK:

Drive the vehicle and read vehicle speed value.

OK:

Vehicle speed matches tester speed value

NG → **Check and replace Engine and ECT ECU or ECT ECU (See page IN–35).**

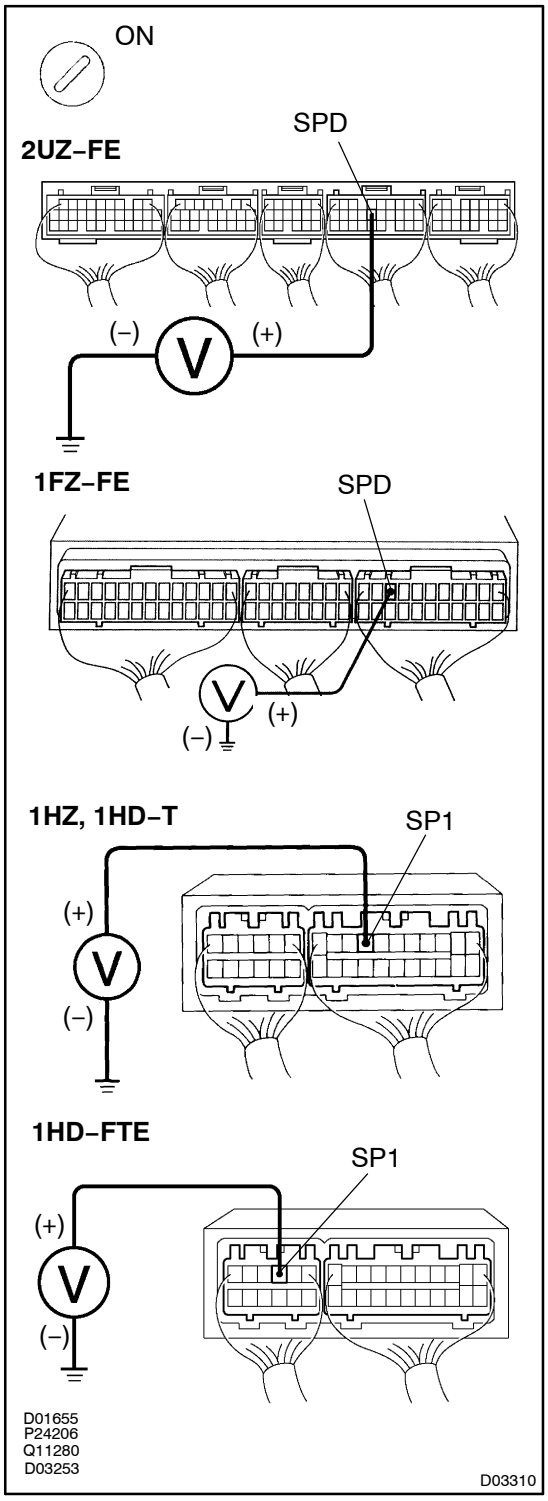
OK

2	**Check speedometer circuit (See page BE–2).**

NG → **Repair or replace speedometer circuit.**

OK

3	**Check resistance between terminal SPD of Engine and ECT ECU or terminal SP1 of ECT ECU connector and body ground.**



PREPARATION:

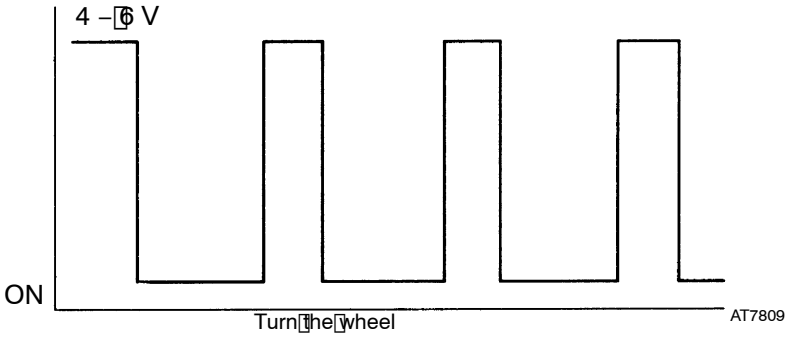
(a) Remove the glove compartment door (See page BO–127).
(b) Disconnect the cruise control ECU connector.
(c) Disconnect the connector of the Engine and ECT ECU or ECT ECU.
(d) Shift the shift lever to neutral.
(e) Jack up the rear wheel on one side.
(f) Turn ignition switch ON.

CHECK:

Check voltage between terminals SPD of the Engine and ECT ECU or terminal SP1 of the ECT ECU connector and body groune when the wheel is turned slowly.

OK:

Voltage is generated intermittently



NG → Check and repair harness and connector between combination meter and Engine and ECT ECU or ECT ECU (See page IN–35).

OK

Check and replace Engine and ECT ECU or ECT ECU (See page IN–35).