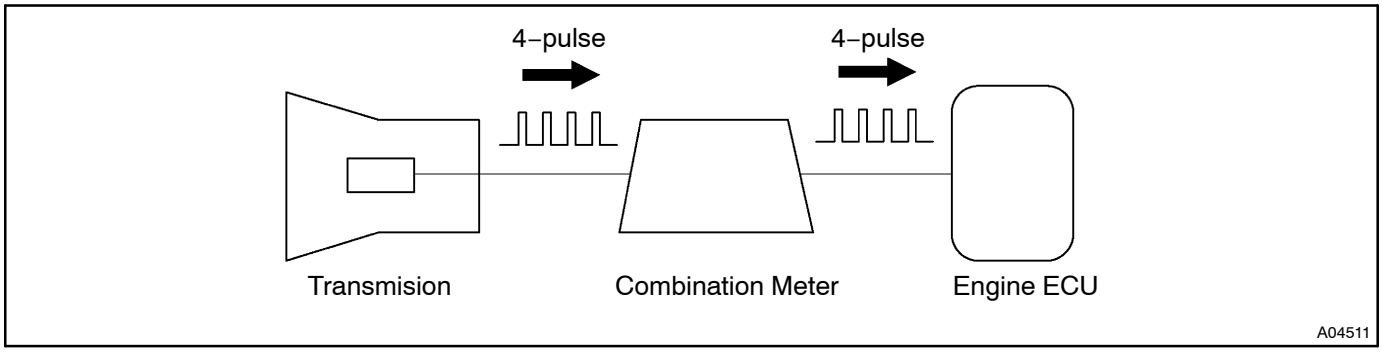
DI1IM–09

DTC	P0500/42	Vehicle Speed Sensor Malfunction

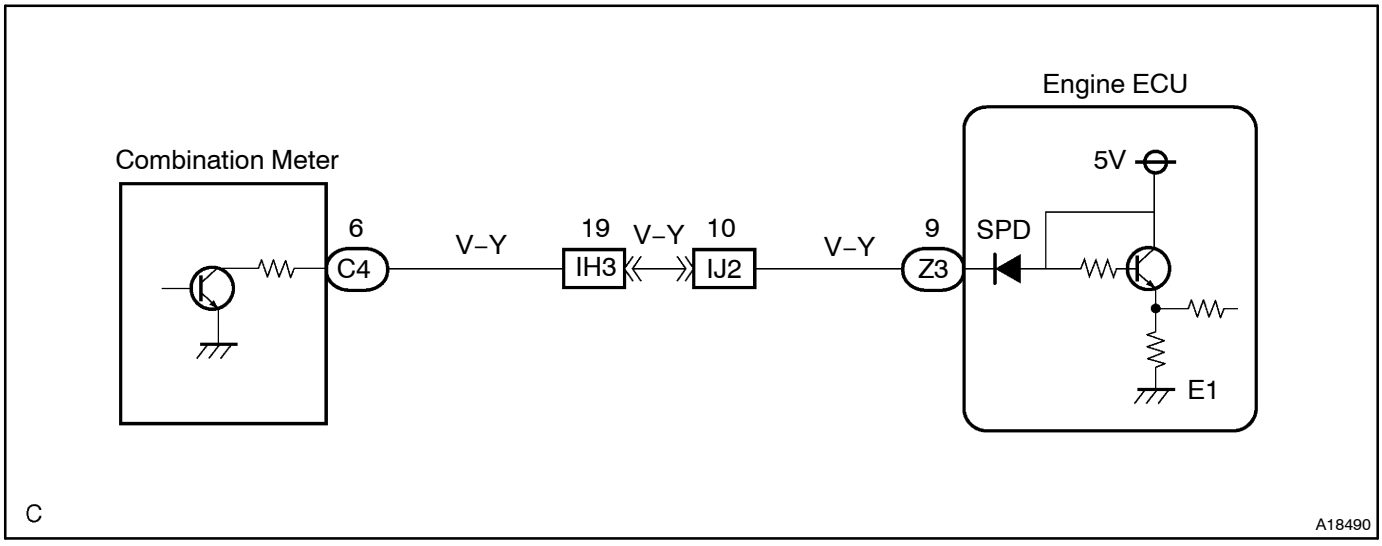
CIRCUIT DESCRIPTION

The vehicle speed sensor outputs a 4–pulse signal for every revolution of the rotor shaft, which is rotated by the transmission output shaft via the driven gear. After this signal is converted into a more precise rectangular waveform by the waveform shaping circuit inside the combination meter, it is then transmitted to the engine ECU. The engine ECU determines the vehicle speed based on the frequency of these pulse signals.



DTC No.	DTC Detecting Condition	Trouble Area
P0500/42	No vehicle speed sensor signal to engine ECU during vehicle driving.	• Combination meter • Open or short in vehicle speed sensor circuit • Engine ECU • Vehicle speed sensor

WIRING DIAGRAM



INSPECTION PROCEDURE

HINT:
Read freed 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.

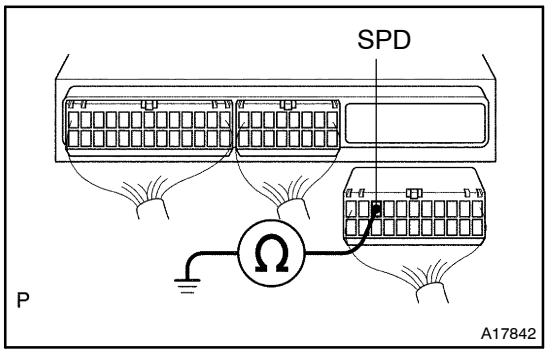
1	**Check operation of speedometer.**

CHECK:
Drive the vehicle and check if the operation of the speedometer in the combination meter is normal.
HINT:
The vehicle speed sensor is operating normally if the speedometer display is normal.

NG → **Check speedometer.**

OK

2	**Check for short in harness and connector between terminal SPD of engine ECU and body ground.**



PREPARATION:
(a) Remove the side trim bracket (See page FU–48).
(b) Disconnect the E24 engine ECU connector.

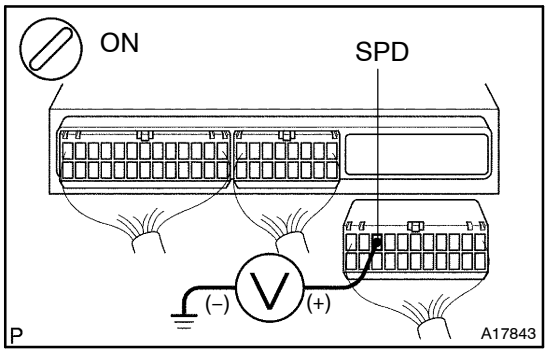
CHECK:
Check continuity between terminal SPD of engine ECU and body ground.

OK:
No continuity (1MΩ or higher)

NG → **Check and repair harness or connector.**

OK

3	Check voltage between terminal SPD of engine ECU and body ground.



PREPARATION:

(a) Remove the side trim bracket (See page FU–48).
(b) Disconnect the E24 engine ECU connector.
(c) Turn the ignition switch ON.

CHECK:

Measure voltage between terminal SPD of engine ECU and body ground.

OK:

Voltage: 9 – 14 V

NG → **Check for open in harness and connector between J/B and engine ECU (See page IN–20).**

OK

4	Check for open in harness and connector between J/B and combination meter (See page IN–20).

NG → **Repair or replace harness or connector.**

OK

Check and replace engine ECU (See page IN–20).