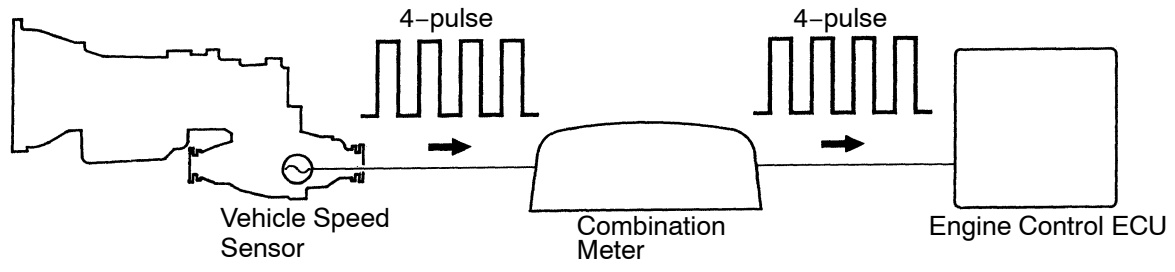
DI3CQ–16

DTC	P0500/42	Vehicle Speed Sensor ”A”

DTC	P0503	Vehicle Speed Sensor ”A” Intermittent/ Erratic/High

CIRCUIT DESCRIPTION

The No.1 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 control ECU. The engine control ECU determines the vehicle speed based on the frequency of these pulse signals.



P22487

DTC No.	Proceed to	DTC Detection Condition	Trouble Area
P0500/42	Step 1	No vehicle speed sensor signal to engine control ECU under following conditions (a) and (b): (1 trip detection logic) (a) Park/neutral position switch is OFF (b) Vehicle is being driven	• Combination meter • Open or short in vehicle speed sensor circuit • Vehicle speed sensor • Engine control ECU
P0503	DI–3	Intermittent problem in the vehicle speed sensor circuit	

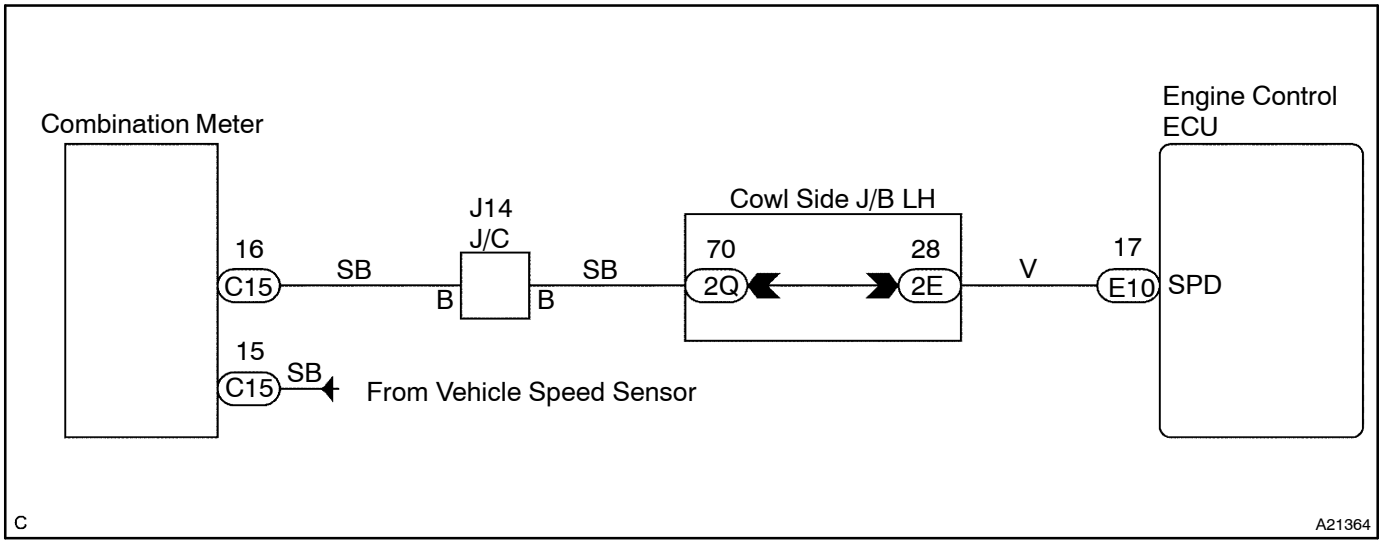
MONITOR DESCRIPTION

The engine control ECU assumes that the vehicle is being driven when the engine RPM is more than 2,000 rpm and the Park/Neutral Position (PNP) switch was turned OFF (for 10 seconds). If there is no signal from the VSS when the vehicle is being driven, the engine control ECU interprets this as a malfunction in the VSS. The engine control ECU illuminates the MIL and sets a DTC.

This monitor runs when all of following conditions are met for 10 seconds or more.

- Engine is warmed–up (Engine coolant temperature is 20 °C (68 °F) or more)
- Engine RPM is 2,000 rpm or more
- D shift position

WIRING DIAGRAM



INSPECTION PROCEDURE

HINT:
Read freeze frame data using the hand–held tester. Freeze frame data records the engine conditions when a malfunction is detected. When troubleshooting, freeze frame data can help determine if the vehicle was running or stopped, if the engine was warmed up or not, if the air–fuel ratio was lean or rich, as well as other data from the time when a malfunction occurred.

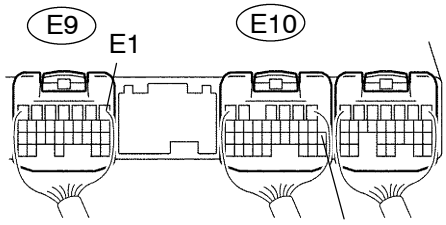
1	**Check operation of speedometer.**

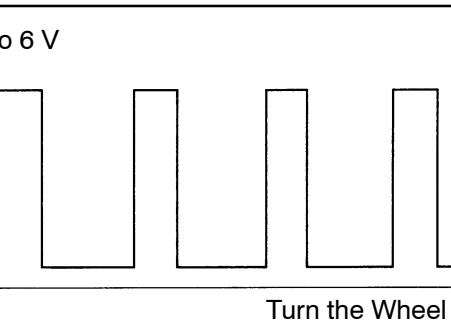
CHECK:
Drive the vehicle and check if the operation of the speedometer in the combination meter is normal.
HINT:
The vehicle speed is operating normally if the speedometer display is normal.

NG → **Check speedometer circuit. See combination meter troubleshooting.**

OK

2	Check voltage between terminal SPD and E1 of engine control ECU connector.





PREPARATION:

(a) Shift the shift lever to neutral.
(b) Jack up the rear wheel on one side.
(c) Turn the ignition switch ON.

CHECK:

Measure the voltage between the specified terminal of the E9 and E10 engine control ECU connector when the wheel is turned slowly.

OK:

Tester Connection	Specified Condition
SPD (E10–17) – E1 (E9–1)	Generated intermittently

HINT:

The output voltage should fluctuate up and down similarly to the diagram on the left when the wheel is turned slowly.

NG → **Check and repair harness and connector between combination meter and engine control ECU.**

OK

Replace engine control ECU (See Pub. No. RM630E, page FI–74).