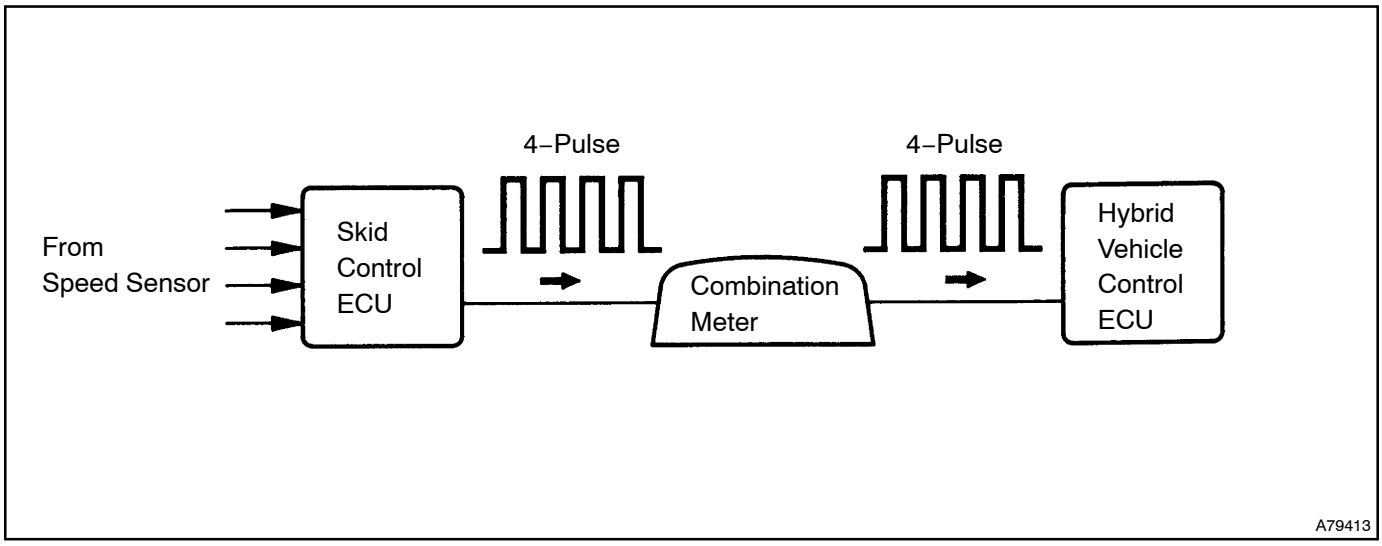
DTC	P0500	VEHICLE SPEED SENSOR ”A”

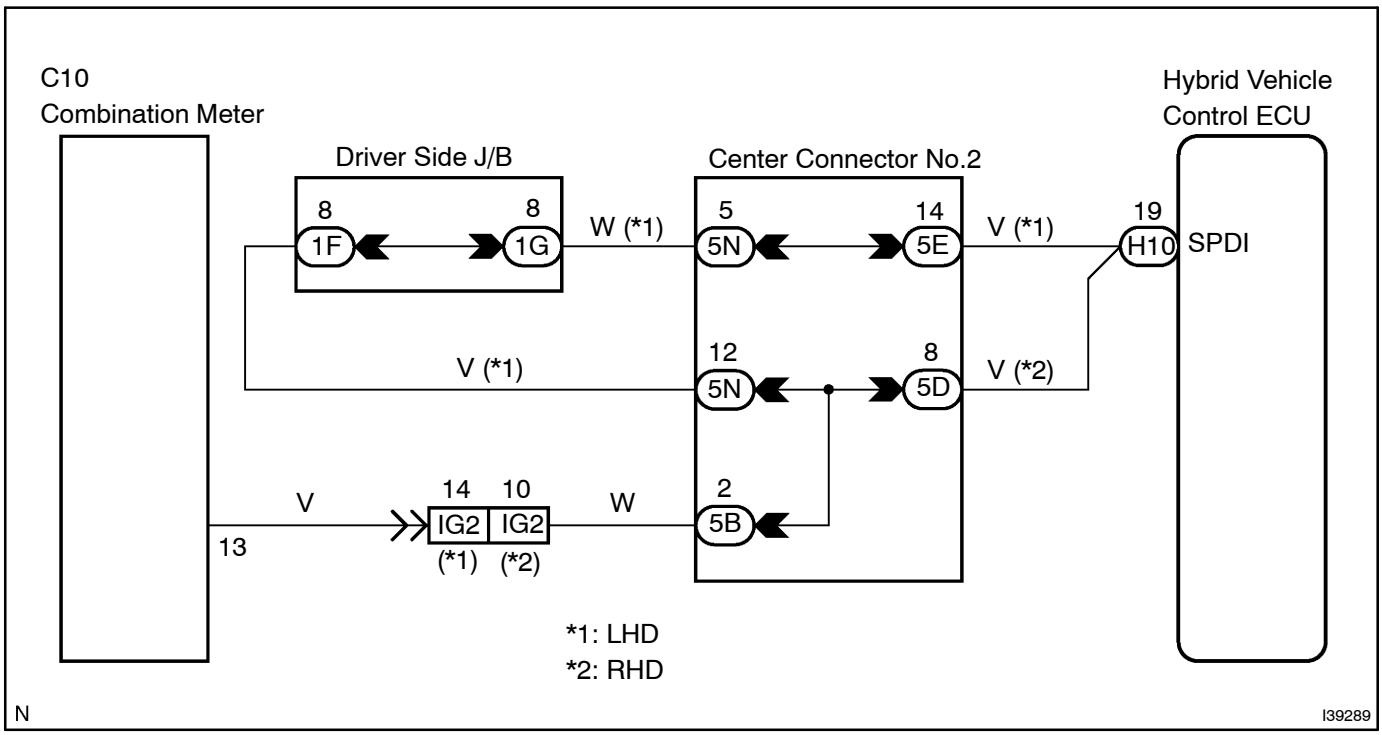
CIRCUIT DESCRIPTION

The speed sensor for the skid control ECU detects wheel speed and sends appropriate signals to the skid control ECU.
The skid control ECU converts these wheel speed signals into 4–pulse signals and outputs them to the hybrid vehicle control ECU via the combination meter.
The hybrid vehicle control ECU determines vehicle speed based on the frequency of these pulse signals.



DTC No.	DTC Detecting Condition	Trouble Area
P0500	This trouble code is output when a signal from the vehicle speed sensor is cut for 0.14 sec. or more while the cruise control is in operation.	• Vehicle speed sensor • Vehicle speed sensor circuit • Combination meter • Hybrid vehicle control ECU

WIRING DIAGRAM



INSPECTION PROCEDURE

1	CHECK OPERATION OF SPEEDOMETER

(a) Drive the vehicle and check if the function of the speedometer in the combination meter is normal.
OK:
Actual vehicle speed and the speed indicated on the speedometer are the same.

HINT:
The vehicle speed sensor is functioning normally when the indication on the speedometer is normal.

NG → **CHECK SPEEDOMETER CIRCUIT (SEE PAGE 05–1599)**

OK

2	READ VALUE OF INTELLIGENT TESTER II

(a) Connect the intelligent tester II to the DLC3.
(b) Turn the power switch on (IG).
(c) Select the item "CCS Vehicle Spd" in the DATA LIST and check that the speed displayed on the tester screen is the same as the one indicated on the combination meter.

HYBRID VEHICLE CONTROL ECU:

Item	Measurement Item/ Display (Range)	Normal Condition	Diagnostic Note
CCS Vehicle Spd	Cruise control vehicle speed/ min.: 0 km/h (0 mph) max.: 255 km/h (158 mph)	Actual vehicle speed is displayed	–

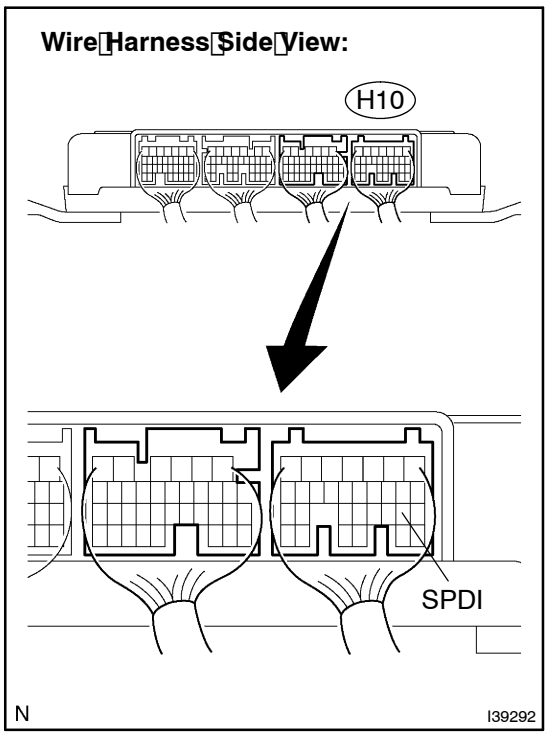
OK:
The speed displayed on the tester screen is almost the same as the speed the one indicated on the combination meter.

NG → **Go to step 3**

OK

PROCEED TO NEXT CIRCUIT INSPECTION SHOWN ON PROBLEM SYMPTOMS TABLE (SEE PAGE 05–2451)

3	INSPECT HYBRID VEHICLE CONTROL ECU (SPD VOLTAGE)

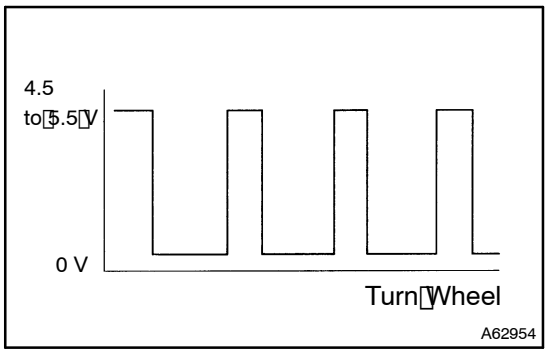


(a) Turn the power switch on (IG).
(b) Move the shift lever to neutral.
(c) Jack up the vehicle.
(d) Measure the voltage between terminal SPDI of the hybrid vehicle control ECU and body ground.

Standard:

Symbol (Tester Connection)	Specified Condition
SPDI (H10–19) – Body ground	Waveform appears

HINT:
The output voltage fluctuates up and down, similarly to the diagram on the left, when the wheel is turned slowly.

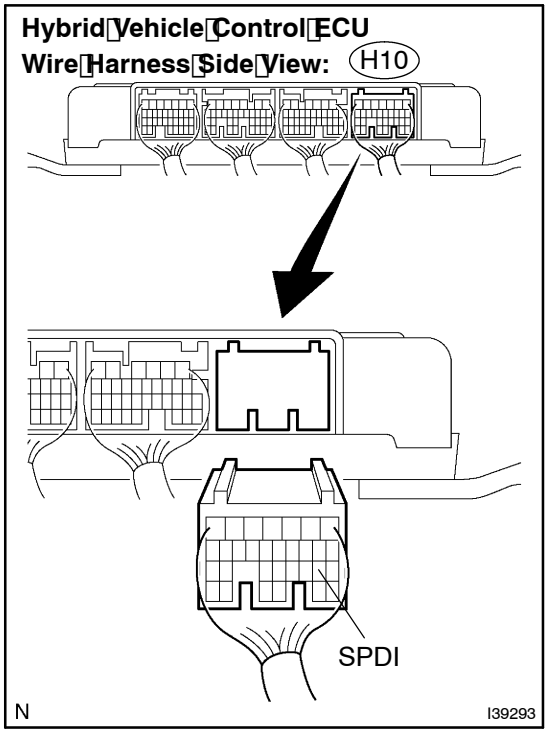


NG → **Go to step 4**

OK

REPLACE HYBRID VEHICLE CONTROL ECU (SEE PAGE 21–128)

4	CHECK HARNESS AND CONNECTOR (HYBRID VEHICLE CONTROL ECU – COMBINATION METER)

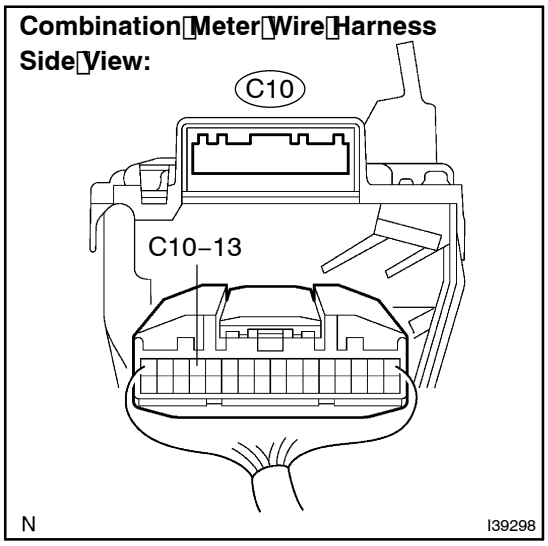


(a) Disconnect the H10 connector of the hybrid vehicle control ECU and the combination meter connector.

(b) Measure the resistance according to the value(s) in the table below.

Standard:

Symbol (Terminal Connection)	Condition	Specified Value
SPDI (H10–19) – C10–13	Always	Below 1 Ω
SPDI (H10–19) – Body ground	Always	10 kΩ or higher



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE COMBINATION METER ECU (SEE PAGE 71–19)