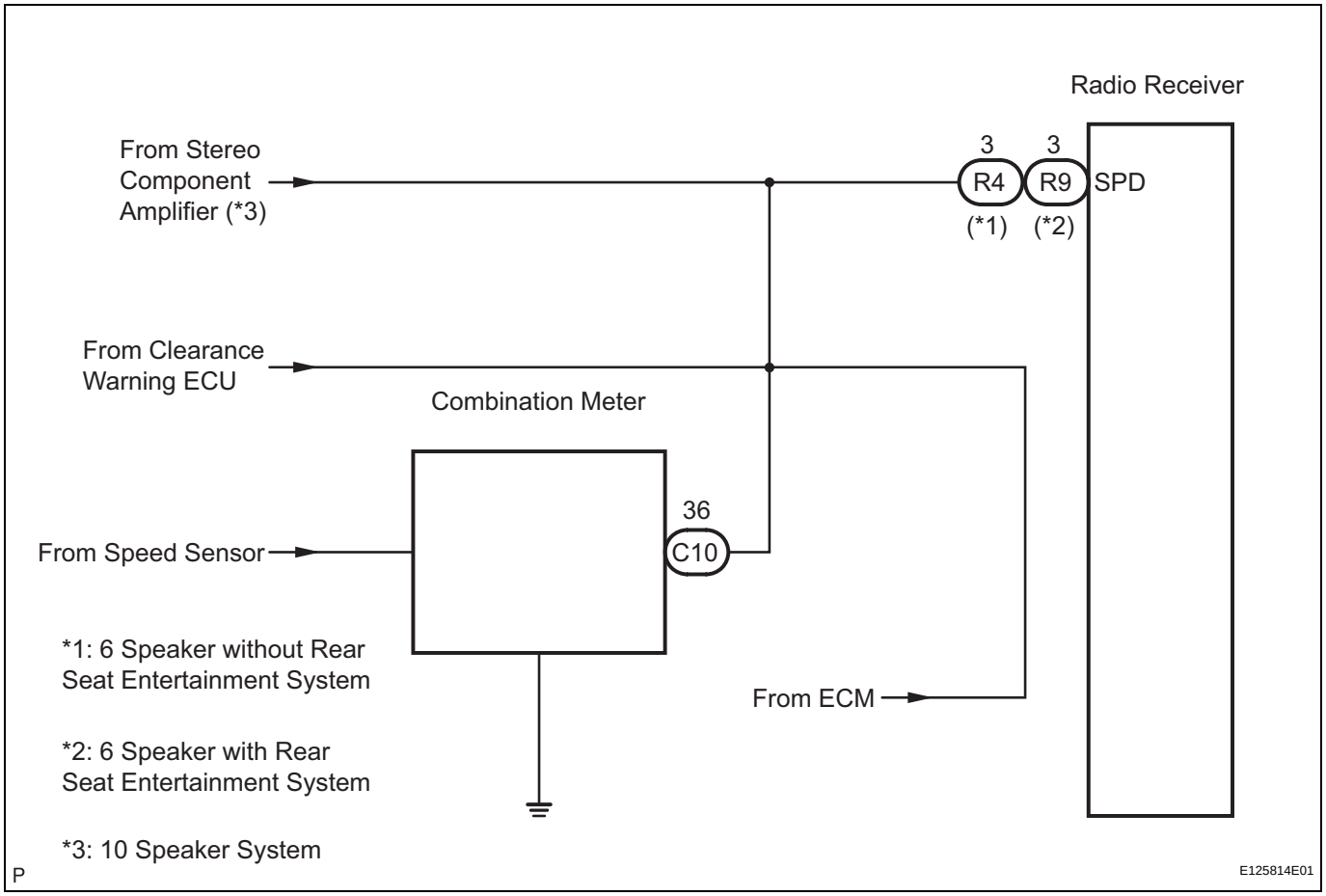
Vehicle Speed Signal Circuit between Multi-display and Combination Meter

DESCRIPTION

This circuit is necessary for the ASL (Auto Sound Leveliser) built into the radio receiver.
Speed signals are received from the combination meter and used for the ASL.
The ASL function automatically adjusts the sound data in order to enable hearing the clear audio sound even when vehicle noise increases (as vehicle noise increases, the volume is turned up etc.).
HINT:

- A voltage of 12 V or 5 V is output from each ECU and then input to the combination meter. The signal is changed to a pulse signal at the transistor in the combination meter. Each ECU controls the respective system based on the pulse signal.
- If a short occurs in an ECU, all systems in the diagram below will not operate normally.

WIRING DIAGRAM



AV

INSPECTION PROCEDURE

1	CHECK OPERATION OF SPEEDOMETER

(a) Drive the vehicle and check if the function of the speedometer on the combination meter is normal.

OK:

Actual vehicle speed and the speed indicated on the speedometer are the same.

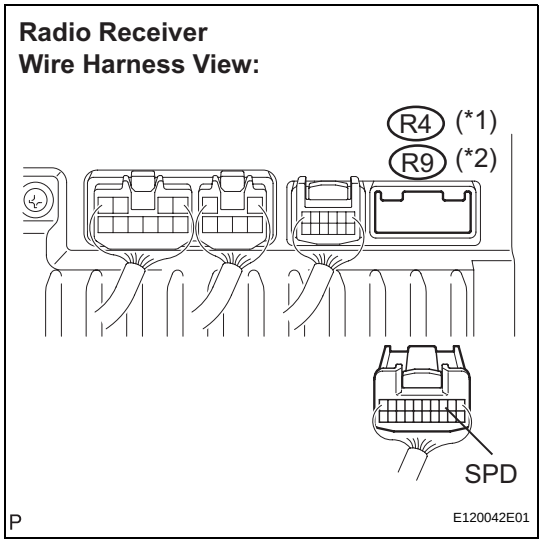
HINT:

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

NG → **CHECK COMBINATION METER ASSEMBLY**

OK

2	INSPECT RADIO RECEIVER



(a) Disconnect the radio receiver connector.

(b) Measure the voltage.

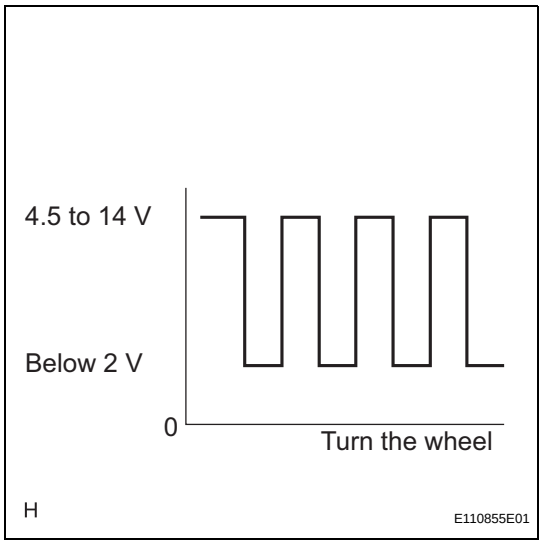
(1) Jack up either one of the drive wheels.

(2) Move the shift lever to the neutral position.

(3) Turn the ignition switch to the ON position.

*1: 6 Speaker without Rear Seat Entertainment System.

*2: 6 Speaker with Rear Seat Entertainment System.



(4) Measure the voltage between terminal SPD of the radio receiver and body ground when the drive wheels are turned slowly.

OK:

Voltage pulses as shown in the illustration.

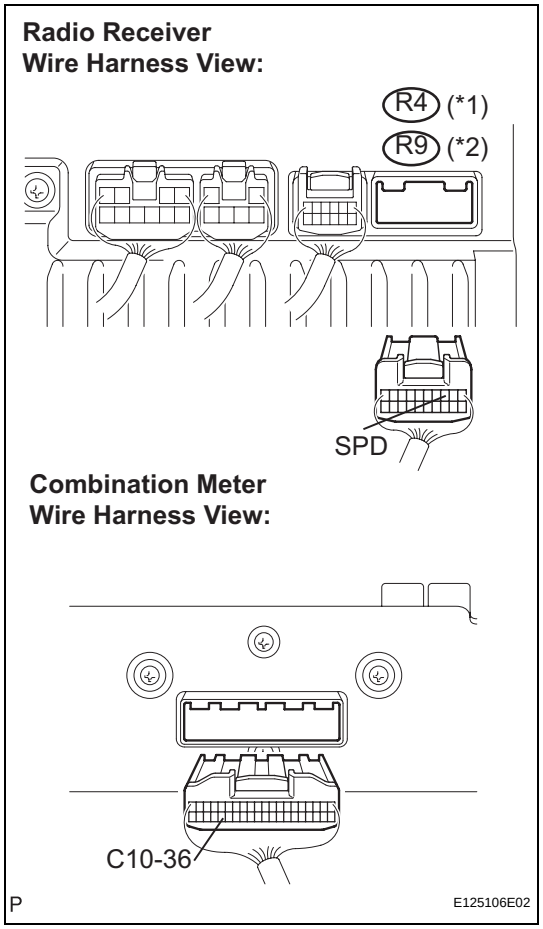
NG → **Go to step 3**

OK

REPLACE RADIO RECEIVER

AV

3	CHECK HARNESS AND CONNECTOR (COMBINATION METER - RADIO RECEIVER)



(a) Disconnect the radio receiver connector and combination meter connector.

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

Standard resistance

Tester Connection	Condition	Specified Condition
SPD - C10-36	Ignition switch OFF	Below 1 Ω

*1: 6 Speaker without Rear Seat Entertainment System.

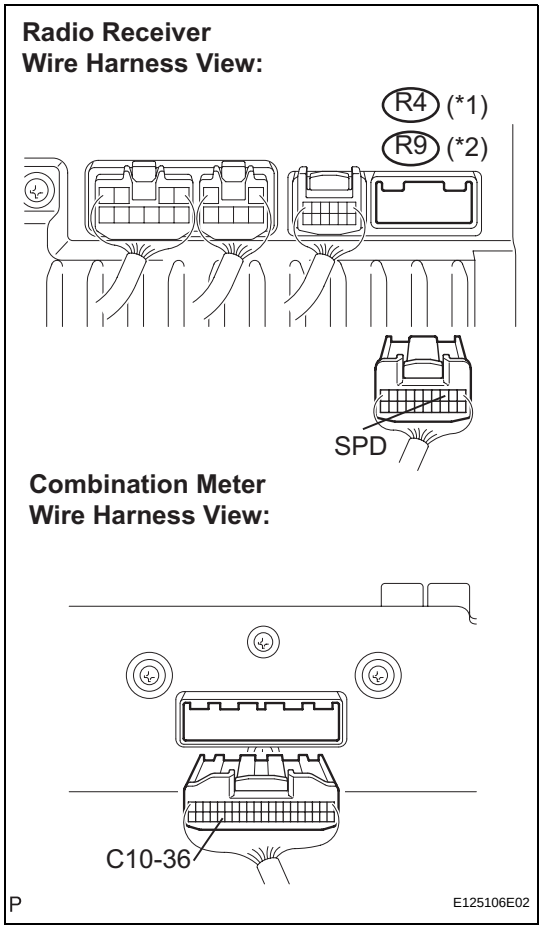
*2: 6 Speaker with Rear Seat Entertainment System.

NG → **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK

AV

4	CHECK HARNESS AND CONNECTOR (COMBINATION METER - RADIO RECEIVER)



(a) Disconnect the radio receiver connector and combination meter connector.

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

Standard resistance

Tester Connection	Condition	Specified Condition
SPD - Body ground	Ignition switch OFF	10 kΩ or higher

HINT:

If the resistance between terminal SPD and body ground is less than 10 kΩ, there may be a short in a wire harness, connector, or an ECU that is connected to the SPD signal wire.

*1: 6 Speaker without Rear Seat Entertainment System.

*2: 6 Speaker with Rear Seat Entertainment System.

NG → **REPAIR OR REPLACE HARNESS OR CONNECTOR OR CHECK EACH ECU**

OK

REPLACE COMBINATION METER

AV