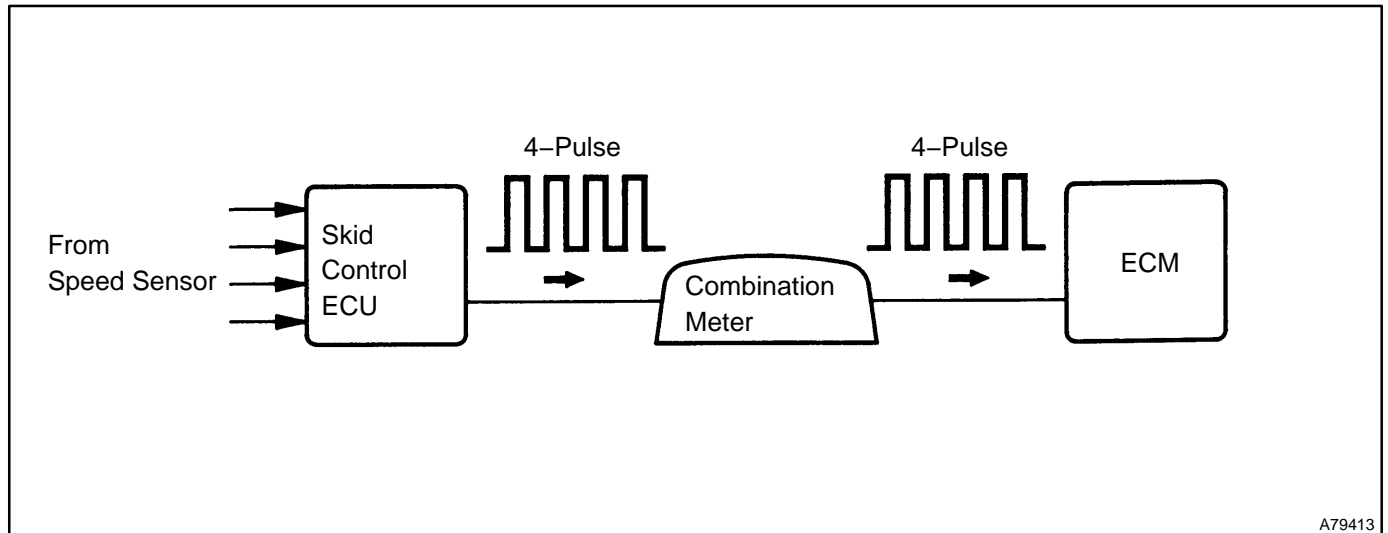


DTC	P0500	VEHICLE SPEED SENSOR "A"
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CIRCUIT DESCRIPTION

The speed sensor detects the wheel speed and sends the appropriate signals to the skid control ECU. The skid control ECU converts these wheel speed signals into a 4-pulse signal and outputs it to the ECM via the combination meter. The ECM determines the vehicle speed based on the frequency of these pulse signals.



A79413

DTC No.	DTC Detection Condition	Trouble Area
P0500	<p>The ECM detects following conditions simultaneously for 1 second (1 trip detection logic):</p> <ul style="list-style-type: none"> • No SPD (speed sensor) signal while ECM detects NC (transmission counter gear) signal is more than 300 RPM • Park/Neutral position switch is OFF (When shift lever is in other than P and N positions) 	<ul style="list-style-type: none"> • Combination meter • Open or short in speed sensor circuit • Vehicle speed sensor • ECM • Skid control ECU

MONITOR DESCRIPTION

The ECM assumes that the vehicle is being driven when the transmission counter gear indicates more than 300 rpm and over 30 seconds have passed since the park/neutral position switch was turned OFF. If there is no signal from the vehicle speed sensor with these conditions satisfied, the ECM concludes that the vehicle speed sensor is malfunctioning. The ECM will turn on the MIL and a DTC is set.

MONITOR STRATEGY

Related DTCs	P0500: Vehicle Speed Sensor Circuit
Required sensors/ components (Main)	Vehicle speed sensor, Combination meter, ABS ECU
Required sensors / components (Related)	Countergear Speed (CS) sensor, PNP switch, ECT sensor
Frequency of operation	Continuous
Duration	2 seconds: Automatic Transmission 8 seconds: Manual Transmission
MIL operation	Immediate: Automatic Transmission 2 driving cycles: Manual Transmission
Sequence operation	None

TYPICAL ENABLING CONDITIONS

All:

The monitor will run whenever these DTCs are not present	See page 05-16
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Automatic transmission:

Transmission countergear speed	300 rpm or more
Engine condition	Running
Battery voltage	8 V or more
Starter	OFF
Ignition switch	ON
Either of the following conditions is met:	Conditions 1 or 2
Conditions 1:	–
Time after PNP switch ON to OFF	2 seconds or more
ECT and ECT sensor	ECT is 20°C (68°F) or more and ECT sensor does not malfunction (P0115 or P0116)
Conditions 2:	–
Time after PNP switch ON to OFF	30 seconds or more
ECT and ECT sensor	ECT is less than 20°C (68 °F) or ECT sensor malfunctions (P0115 or P0116)

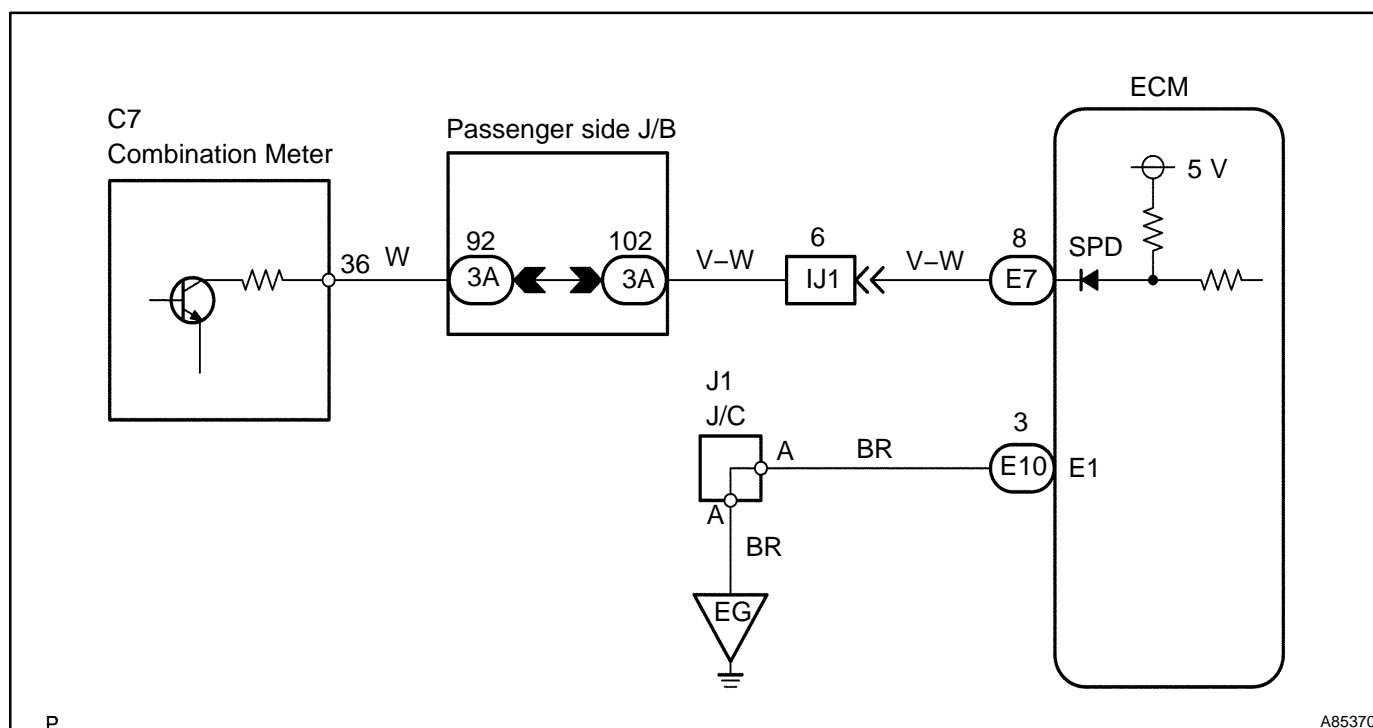
Manual transmission:

Fuel cut due to high engine RPM	Not executing
ECT	70°C (158°F) or more
Engine PRM	2,000 rpm or more, and less than 6,400 rpm
Engine Load	30 % at 2,000 rpm 30 % at 3,600 rpm 35 % at 5,200 rpm 45 % at 6,800 rpm
Battery voltage	8 V or more
Starter	OFF

TYPICAL MALFUNCTION THRESHOLDS

VSS signal	No pulse input
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WIRING DIAGRAM



INSPECTION PROCEDURE

HINT:

Read freeze frame data using the hand-held tester or the OBD II scan tool. 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, and other data from the time the malfunction occurred.

1 CHECK OPERATION OF SPEEDOMETER

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

HINT:

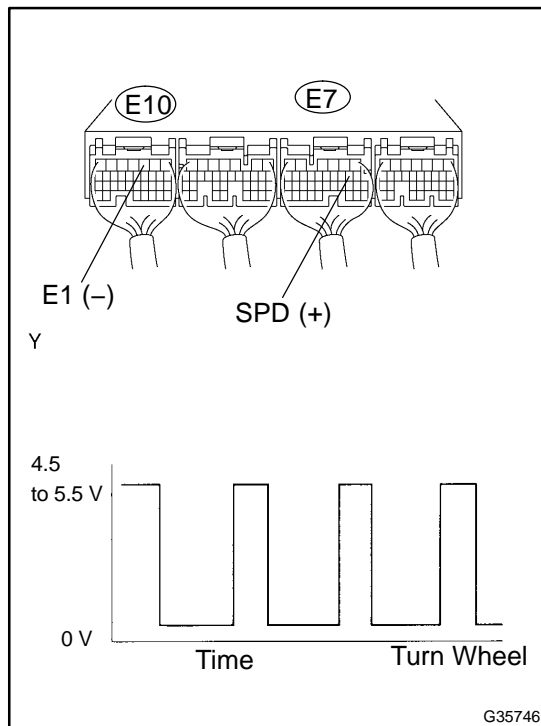
The vehicle speed sensor is operating normally if the speedometer display is normal.

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CHECK SPEEDOMETER CIRCUIT
(See page 05-1992)

OK

2 INSPECT ECM (SPD VOLTAGE)



- Shift the lever to the neutral position.
- Jack up the vehicle.
- Turn the ignition switch ON.
- Check the voltage of the E10 and E7 ECM connectors as the wheel is turned slowly.

Standard:

Tester Connection	Specified Condition
E7-8 (SPD) - E10-1 (E1)	Generated intermittently

HINT:

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

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REPAIR OR REPLACE HARNESS AND CONNECTOR

OK

REPLACE ECM (See page 10-9)