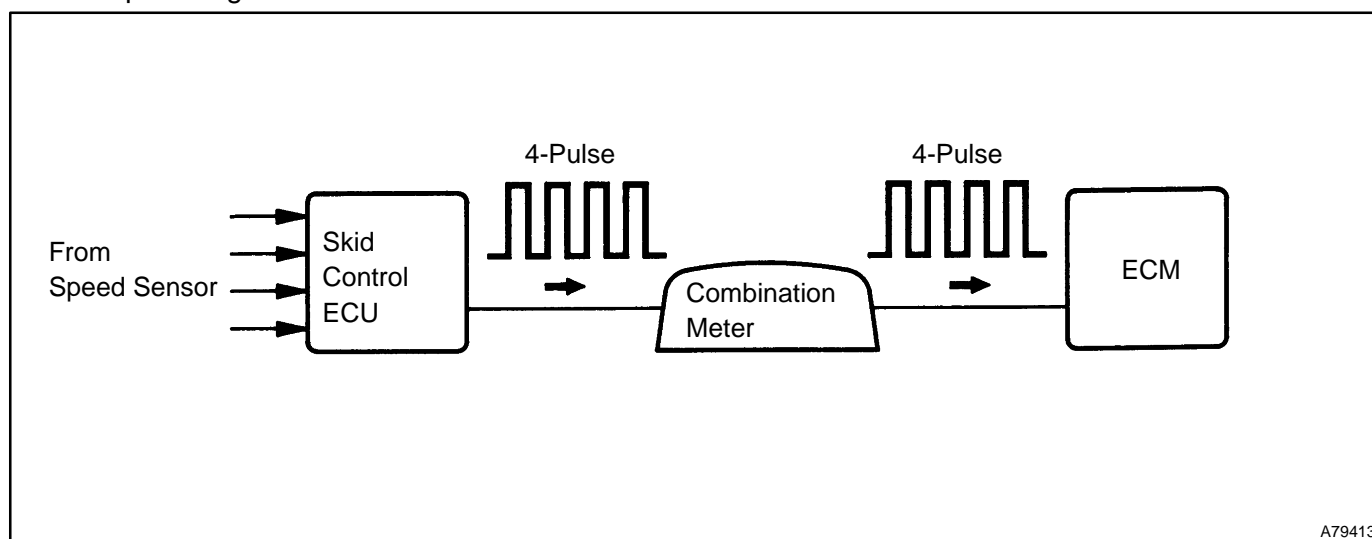


DTC	P0500	VEHICLE SPEED SENSOR "A"
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DTC	P0503	VEHICLE SPEED SENSOR "A" INTERMITTENT/ERRATIC/HIGH
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CIRCUIT DESCRIPTION

The Vehicle Speed Sensor (VSS) 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 P0503	<p>The ECM detects the following conditions simultaneously for 1 second (1 trip detection logic):</p> <ul style="list-style-type: none"> • No SPD (VSS) signal is output when ECM detects NC (transmission counter gear) signal is more than 300 RPM. • PNP switch is OFF (When shift lever is in other than P and N positions) 	<ul style="list-style-type: none"> • Open or short in VSS circuit • VSS • Combination meter • 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 PNP 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 will set a DTC.

MONITOR STRATEGY

Related DTCs	P0500: VSS Circuit
Required sensors / components (Main)	VSS, Combination meter, ABS ECU
Required sensors / components (Related)	Transmission counter gear Speed (CS) sensor, PNP switch, ECT sensor
Frequency of operation	Continuous
Duration	2 seconds
MIL operation	Immediate
Sequence operation	None

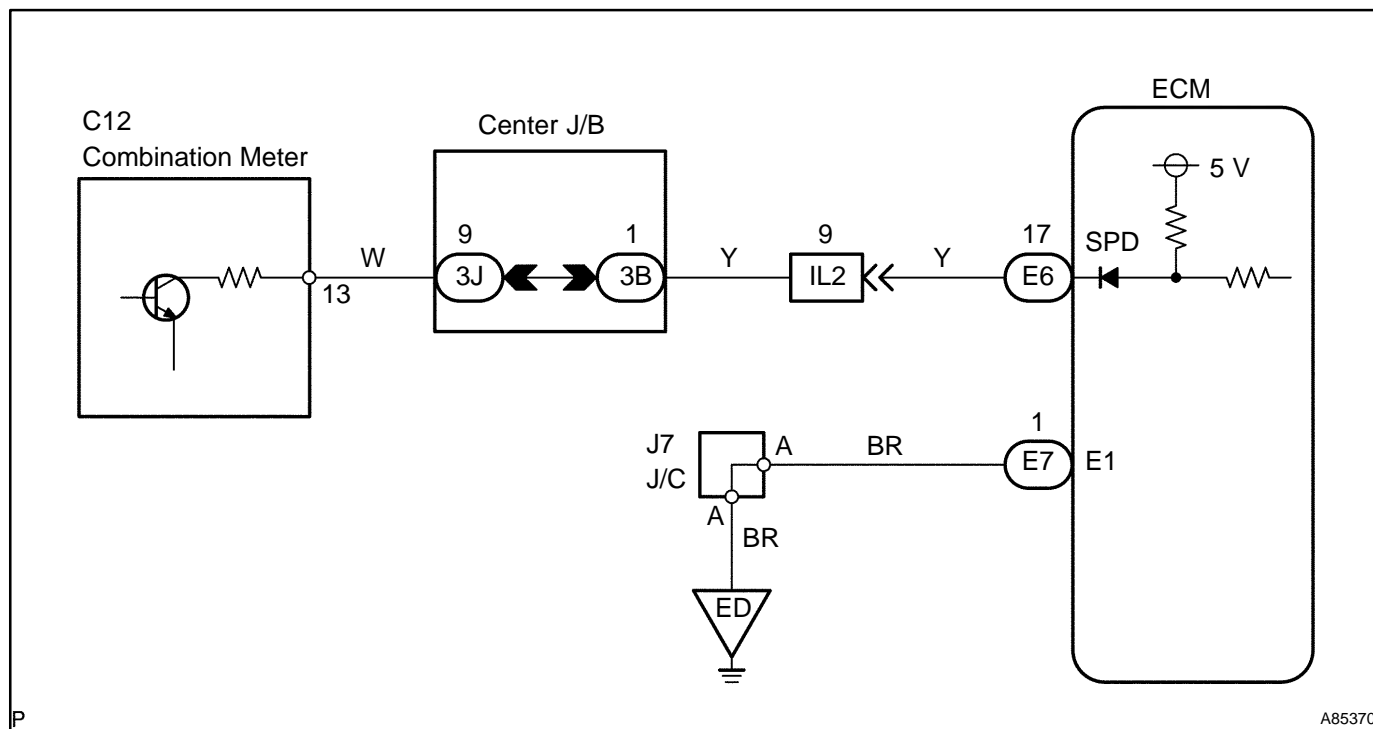
TYPICAL ENABLING CONDITIONS

The monitor will run whenever these DTCs are not present	See page 05-377
Battery voltage	8 V or more
Ignition switch	ON
Starter	OFF
Engine condition	Running
Transmission counter gear speed	300 rpm or more
Either of the following condition is met:	Condition 1 or 2
Condition 1	-
Engine coolant temperature	20°C (68°F) or more
ECT sensor	Not malfunction (P0115 or P0116)
Time after PNP switch turns from ON to OFF	2 seconds or more
Condition 2	-
Engine coolant temperature	ECT is less than 20°C (68°F)
ECT sensor	Malfunction (P0115 or P0116)
Time after PNP switch turns from ON to OFF	30 seconds or more

TYPICAL MALFUNCTION THRESHOLDS

VSS signal	No pulse input
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WIRING DIAGRAM



INSPECTION PROCEDURE

HINT:

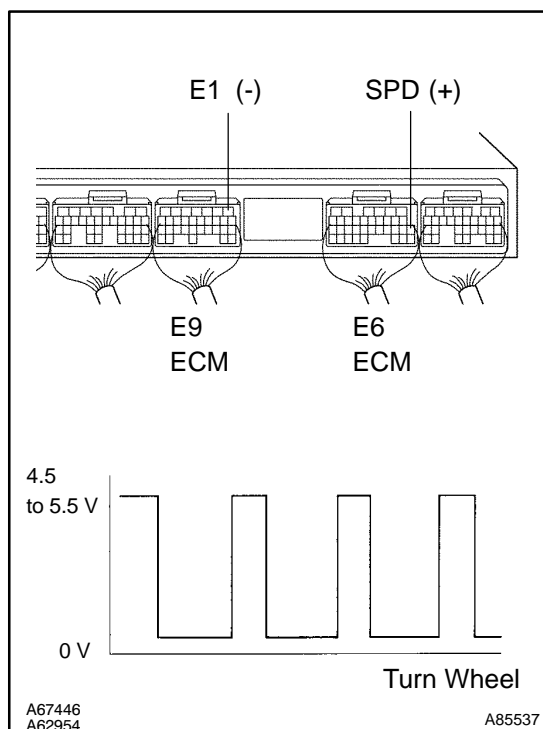
Read freeze frame data using the hand-held tester or the OBD II scan tool. Freeze frame data records the engine conditions when a malfunction is detected. When troubleshooting, freeze frame data can help determine if the vehicle was running or stopped, if the engine was warmed up or not, if the air-fuel 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.

NG**CHECK SPEEDOMETER CIRCUIT**
(See page 71-3)**OK****2 INSPECT ECM (SPD VOLTAGE)**

- (a) Shift the lever to the neutral position.
- (b) Jack up the vehicle.
- (c) Turn the ignition switch ON.
- (d) Check the voltage of the ECM connectors as the wheel is turned slowly.

Standard:

Tester Connection	Specified Condition
E6-17 (SPD) - E9-1 (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.

NG**REPAIR OR REPLACE HARNESS AND CONNECTOR****OK****REPLACE ECM (See page 10-24)**