

DTC	P0451	EVAPORATIVE EMISSION CONTROL SYSTEM PRESSURE SENSOR RANGE/PERFORMANCE
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DTC	P0452	EVAPORATIVE EMISSION CONRTOL SYSTEM PRESSURE SENSOR/SWITCH LOW INPUT
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DTC	P0453	EVAPORATIVE EMISSION CONTROL SYSTEM PRESSURE SENSOR/SWITCH HIGH INPUT
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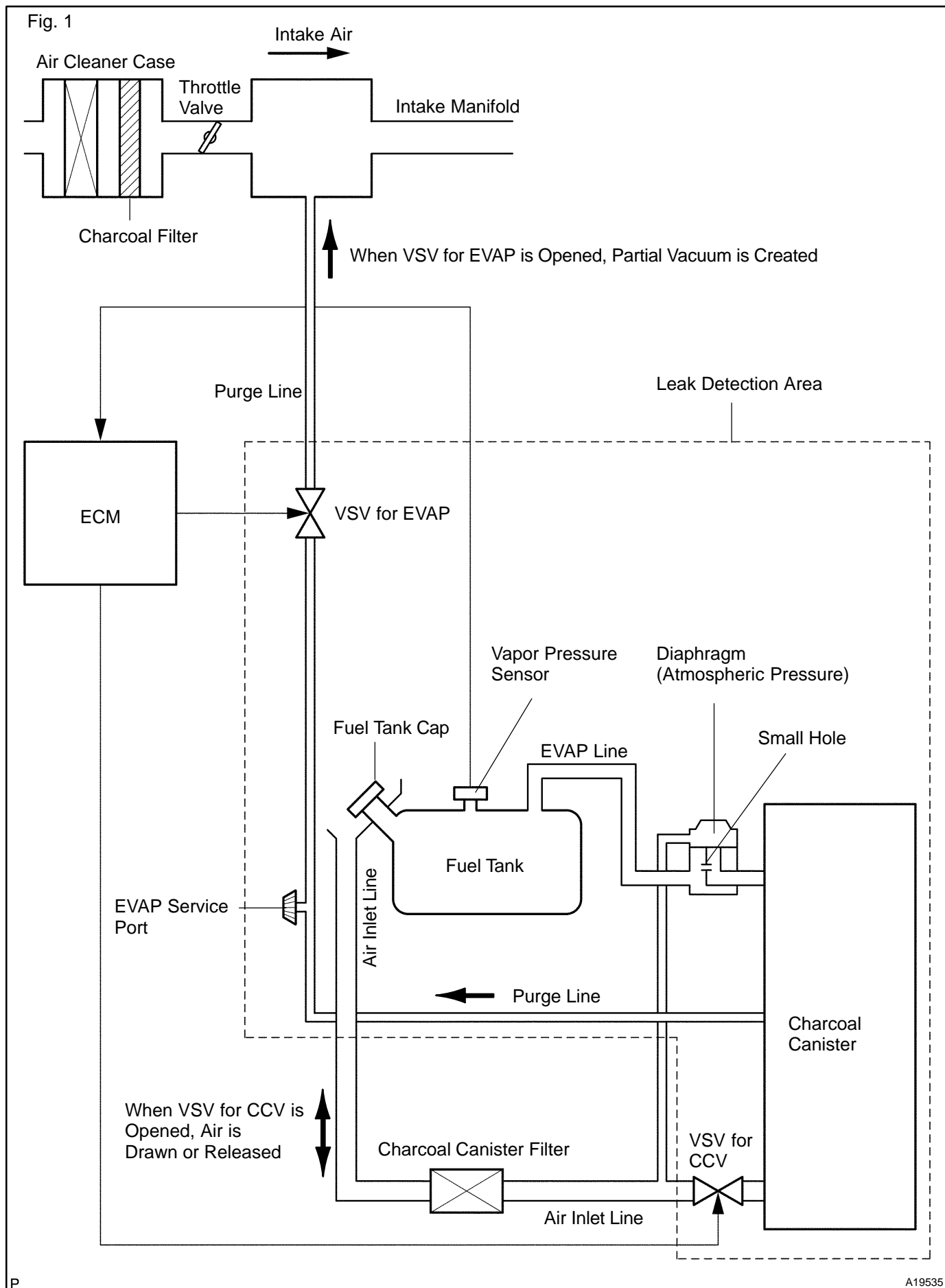
CIRCUIT DESCRIPTION

The vapor pressure sensor and the VSV for the canister closed valve (CCV) are used to detect abnormalities in the evaporative emission control system.

The ECM decides whether there is an abnormality in the evaporative emission control system, based on the vapor pressure sensor signal.

DTC "P0451, P0452 or P0453" is recorded by the ECM when the vapor pressure sensor malfunctions.

Fig. 1



DTC No.	DTC Detection Condition	Trouble Area
P0451	Vapor pressure sensor output extremely changes under conditions of (a) and (b): (2 trip detection logic) (a) Vehicle speed: 0 km/h (0mph) and Engine speed: Idling (b) Vapor pressure sensor value \geq opening pressure value of charcoal canister	<ul style="list-style-type: none"> • Open or short in vapor pressure sensor circuit • Vapor pressure sensor • ECM
P0452	10 seconds or more after engine starting condition (Vapor pressure sensor fixed value continues for fixed value or less: (2 trip detection logic)	
P0453	10 seconds or less after engine starting condition (Vapor pressure sensor fixed value continues for fixed value or more: (2 trip detection logic)	

WIRING DIAGRAM

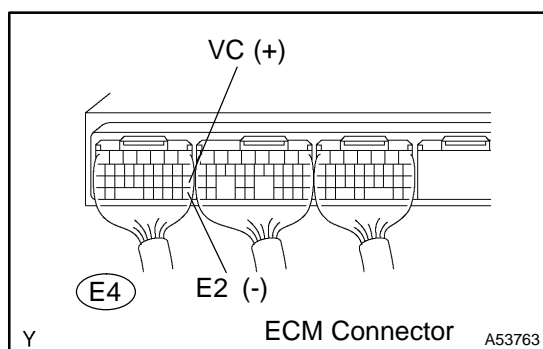
Refer to DTC No. P0441 on page 05-133 .

INSPECTION PROCEDURE

HINT:

- If different DTCs are output simultaneously, terminal E2 (sensor ground) may be open.
- If DTC P0441 (Purge Flow), P0446 (VSV for CCV), P0451, P0452 or P0453 (Evaporative Pressure Sensor) is output with DTC P0442 or P0456, first troubleshoot DTC P0441, P0446, P0451, P0452 or P0453. If no malfunction is detected, troubleshoot DTC P0442 or P0456 next.
- Read freeze frame data using the hand-held tester or the OBD II scan tool, as freeze frame data records the engine conditions when a malfunction is detected. When troubleshooting, it is useful for determining whether the vehicle was running or stopped, the engine was warmed up or not, the air-fuel ratio was lean or rich, etc. at the time of the malfunction.
- When the ENGINE RUN TIME in the freeze frame data is less than 200 seconds, carefully check the vapor pressure sensor.

1 INSPECT ECM(VC VOLTAGE)



- Turn the ignition switch ON.
- Measure the voltage between the terminals of the E4 ECM connector.

Standard:

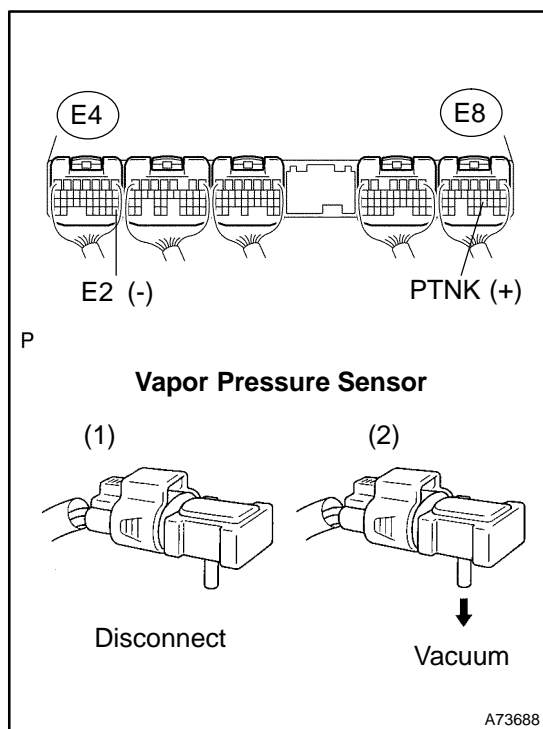
Symbols (Terminal No.)	Specified condition
VC (E4-18) \leftrightarrow E2 (E4-28)	4.5 - 5.5 V

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CHECK AND REPLACE ECM
(See page 01-35)

OK

2 INSPECT ECM(PTNK VOLTAGE)



- (a) Turn the ignition switch ON.
- (b) Measure the voltage between the terminals of the E4 and E8 ECM connectors.
 - (1) Disconnect the vacuum hose from the vapor pressure sensor.

Standard (1):

Symbols (Terminal No.)	Specified condition
PTNK (E8-21) ↔ E2 (E4-28)	2.9 - 3.7 V

- (2) Using the MITYVAC (Hand-Held Vacuum Pump), apply a vacuum of 4.0 kPa (30 mmHg, 1.18 in.Hg) to the vapor pressure sensor.

NOTICE:

The vacuum applied to the vapor pressure sensor must be less than 66.7 kPa (500 mmHg, 19.7 in.Hg).

Standard (2):

Symbols (Terminal No.)	Specified condition
PTNK (E8-21) ↔ E2 (E4-28)	0.5 V or less

OK

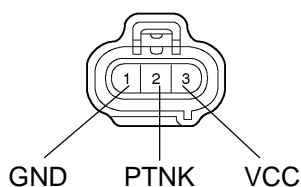
CHECK AND REPLACE ECM
(See page 01-35)

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3 CHECK HARNESS AND CONNECTOR(VAPOR PRESSURE SENSOR - ECM)

Wire Harness Side

Vapor Pressure Sensor Connector



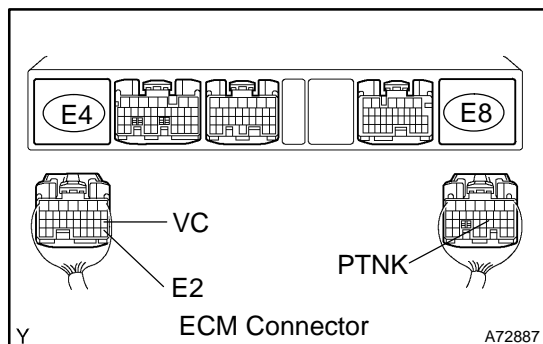
- (a) Disconnect the vapor pressure sensor connector.
- (b) Disconnect the E4 and E8 ECM connectors.
- (c) Check the continuity between the wire harness side connectors.

Standard (Check for open):

Symbols (Terminal No.)	Specified condition
PTNK (2) ↔ PTNK (E8-21)	Continuity
GND (1) ↔ E2 (E4-28)	
VCC (3) ↔ VC (E4-18)	

Standard (Check for short):

Symbols (Terminal No.)	Specified condition
PTNK (2) or PTNK (E8-21) ↔ Body ground	No continuity
VCC (3) or VC (E4-18) ↔ Body ground	



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REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE VAPOR PRESSURE SENSOR ASSY