

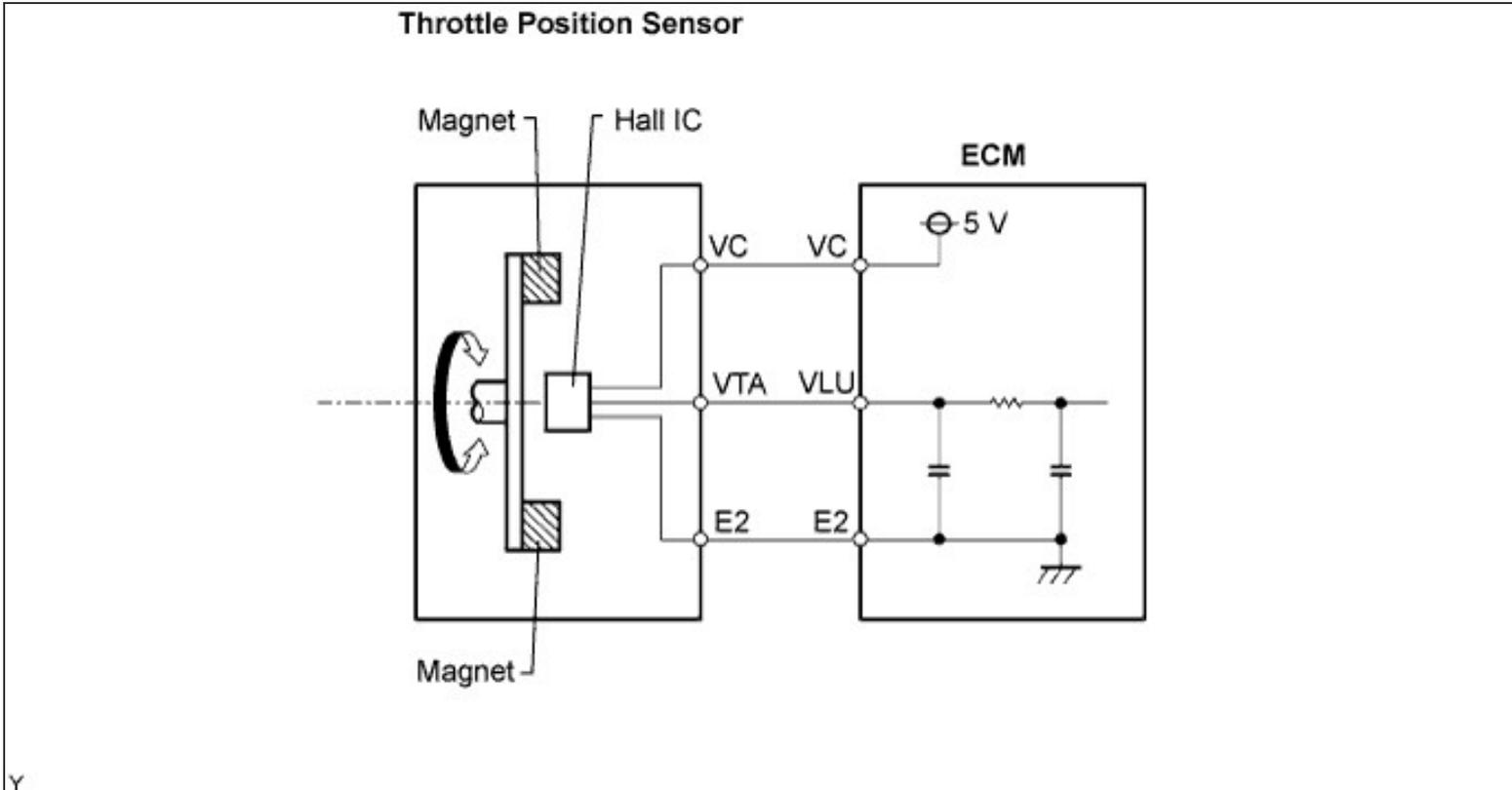
DTC P0122 Throttle / Pedal Position Sensor / Switch "A" Circuit Low Input
DTC P0123 Throttle / Pedal Position Sensor / Switch "A" Circuit High Input

for Preparation [Click here](#)

DESCRIPTION

The throttle position sensor is mounted on the diesel throttle body and detects the opening angle of the throttle valve. This sensor is an electronic sensor and uses Hall-effect elements.

The ECM determines the vehicle's driving conditions from the signals input to its VLU terminal. The data is one of the inputs used for EGR control, etc.

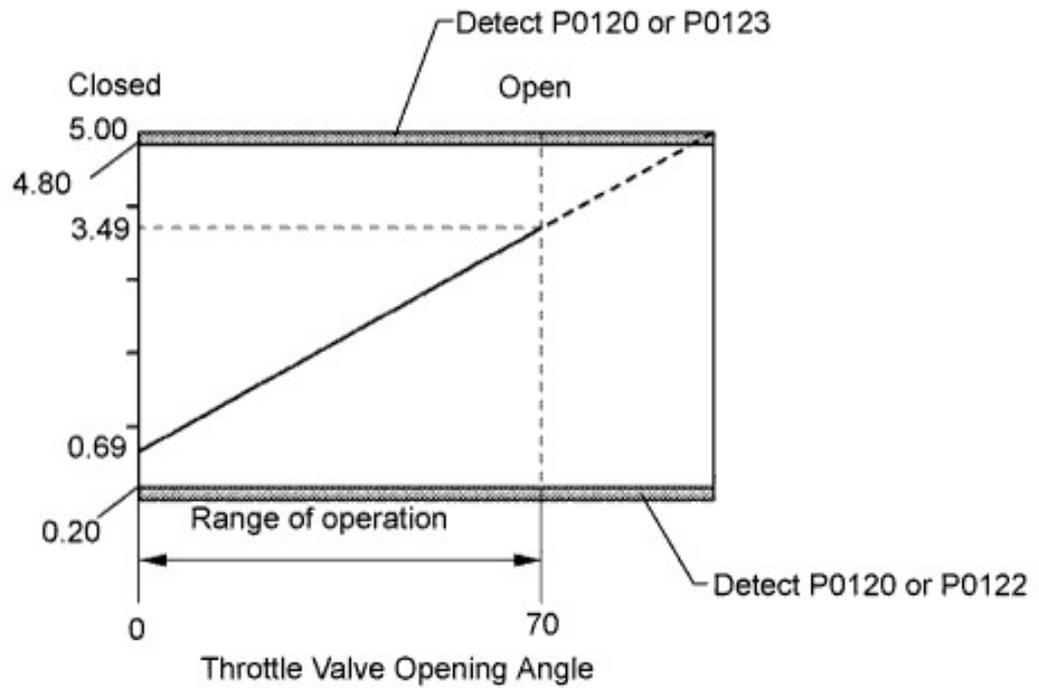


DTC No.	DTC Detection Condition	Trouble Area
-	Condition of DTC P0120, P0122, or P0123 continues for 0.5 seconds (open or short in throttle position sensor circuit)	-
P0120	Throttle position sensor output (VLU) flutters up and down beyond normal operating range (less than 0.2 V or more than 4.8 V) (1 trip detection logic)	<ul style="list-style-type: none"> • Open or short in throttle valve position sensor circuit • Throttle position sensor • ECM
P0122	Throttle position sensor output (VLU) is less than 0.2 V (1 trip detection logic)	<ul style="list-style-type: none"> • Throttle position sensor • Open or short in VLU circuit • Open in VC circuit • ECM
P0123	Throttle position sensor output (VLU) is more than 4.8 V (1 trip detection logic)	<ul style="list-style-type: none"> • Throttle position sensor • Open in E2 circuit • VC and VLU circuits are short-circuited • ECM

MONITOR DESCRIPTION

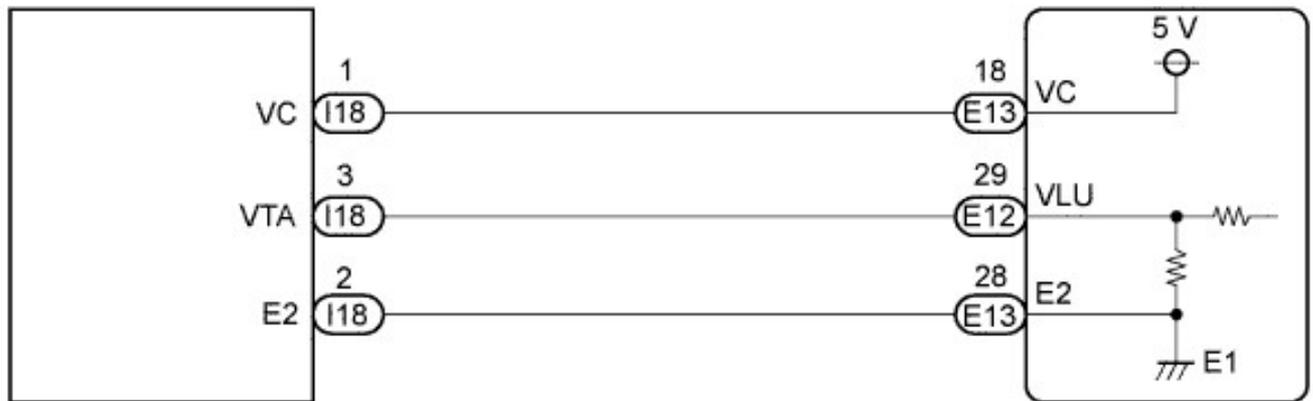
When the output voltage of the throttle position sensor deviates from the normal operating range (between 0.2 V and 4.8 V) for more than 3 seconds, the ECM interprets this as a malfunction of the sensor circuit and illuminates the MIL.

Throttle Position Sensor Output Voltage (V)



WIRING DIAGRAM

Throttle Position Sensor



INSPECTION PROCEDURE

NOTICE:

After replacing the ECM, the new ECM needs registration ([Click here](#)) and initialization ([Click here](#)).

HINT:

If DTCs relating to different systems are output, and they share terminal E2 as their ground, check this ground circuit first.

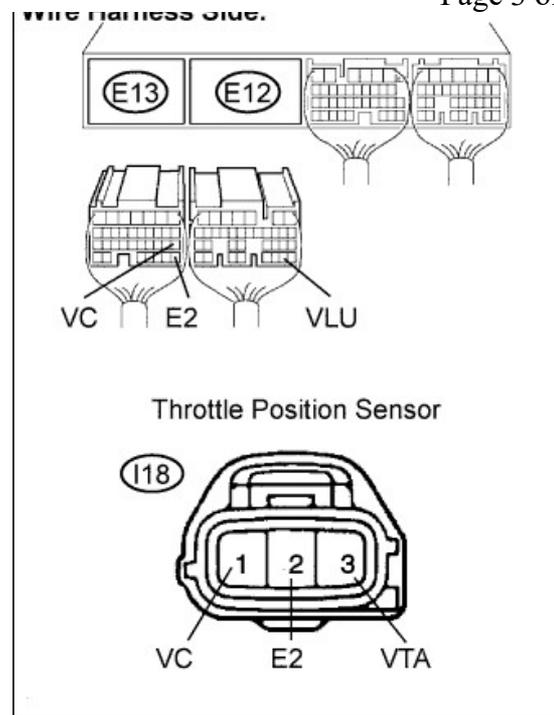
1.CHECK HARNESS AND CONNECTOR (THROTTLE POSITION SENSOR - ECM)

- a. Disconnect the E12 and E13 ECM connectors.

- b. Disconnect the I18 throttle position sensor connector.
- c. Measure the resistance of the wire harness side connectors.

Standard resistance:

Tester Connection	Specified Condition
VC (E13-18) - VC (I18-1)	Below 1 Ω
VLU (E12-29) - VTA (I18-3)	Below 1 Ω
E2 (E13-28) - E2 (I18-2)	Below 1 Ω
VC (E13-18) or VC (I18-1) - Body ground	10 kΩ or higher
VLU (E12-29) or VTA (I18-3) - Body ground	10 kΩ or higher
E2 (E13-28) or E2 (I18-2) - Body ground	10 kΩ or higher



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

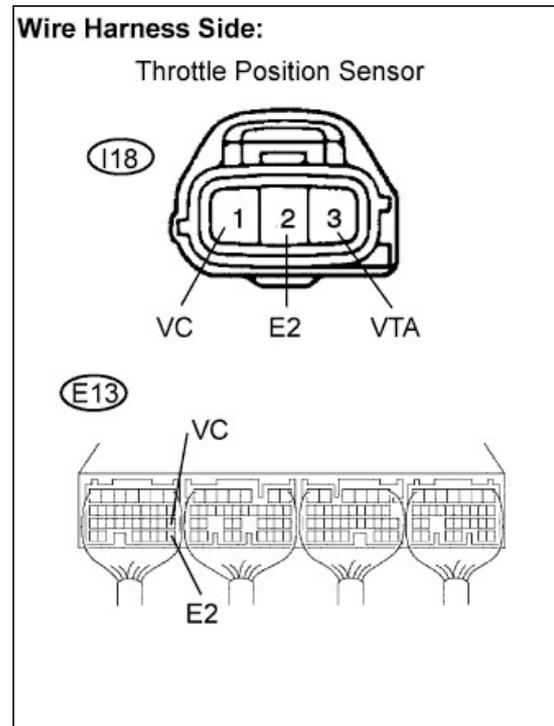
OK

2.CHECK ECM TERMINAL VOLTAGE (VC TERMINAL)

- a. Disconnect the I18 sensor connector.
- b. Turn the ignition switch ON.
- c. Measure the voltage of the ECM connector.

Standard voltage:

Tester Connection	Specified Condition
VC (E13-18) - E2 (E13-28)	4.5 to 5.5 V



NG → **REPLACE ECM**

OK

3.REPLACE DIESEL THROTTLE BODY ASSEMBLY

NEXT

- a. Clear the DTC(s) ([Click here](#)).
- b. Start the engine.
- c. Let the engine idle for 60 seconds.
- d. Repeat quick engine revving to 2,500 rpm for 30 seconds.
- e. Check for DTC(s) ([Click here](#)).

Result:

Display (DTC Output)	Proceed to
P0120, P0122 and/or P0123	A
No output	B

