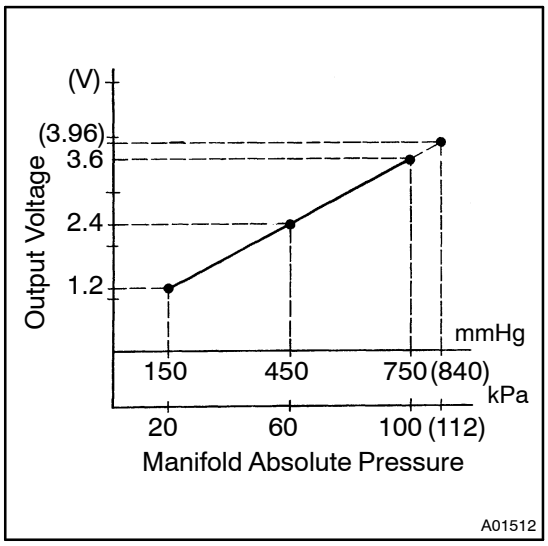
DTC	31	Vacuum Sensor Circuit

CIRCUIT DESCRIPTION



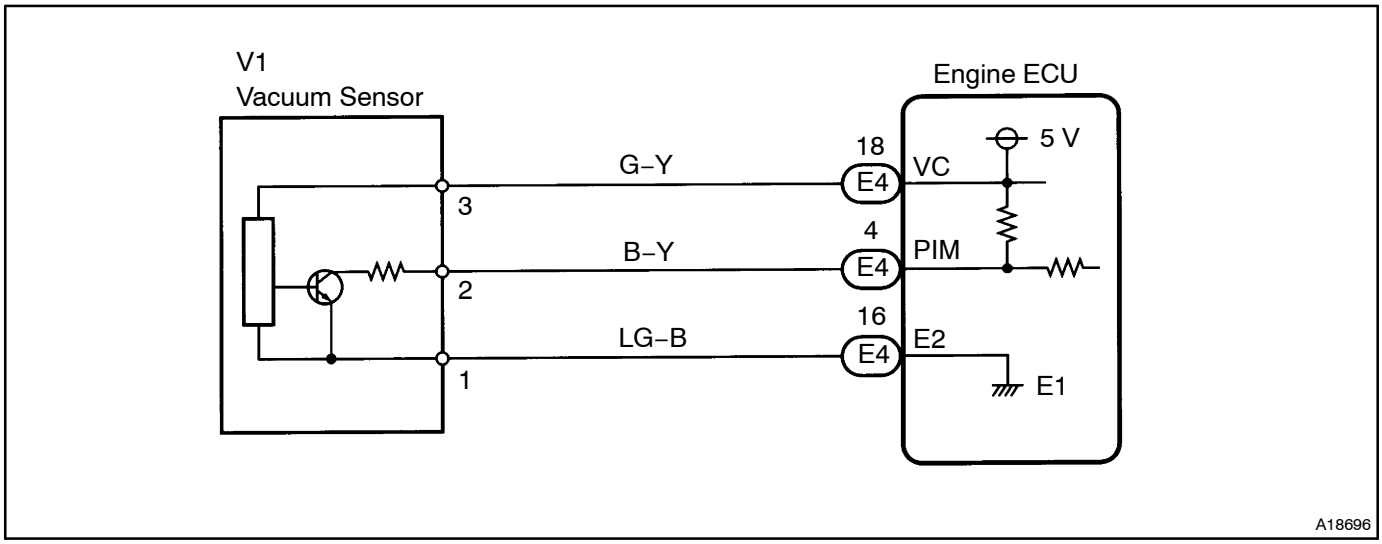
By a built–in sensor unit, the vacuum sensor detects the intake manifold pressure as a voltage. The engine ECU then determines the basic injection duration and basic ignition advance angle based on this voltage.
Since the vacuum sensor does not use the atmospheric pressure as a criterion, but senses the absolute pressure inside the intake manifold (the pressure in proportion to the preset absolute vacuum 0), it is not influenced by fluctuations in the atmospheric pressure due to high altitude and other factors. This permits it to control the air fuel ratio at the proper level under all conditions.

DTC No.	DTC Detection condition	Trouble Area
31	Open or short in vacuum sensor circuit for 0.5 sec. or more	• Open or short in vacuum sensor circuit • Vacuum sensor • Engine ECU

If the engine ECU detects DTC 31, it operates the fail safe function, keeping the ignition timing and fuel injection volume constant and making it possible to drive the vehicle.

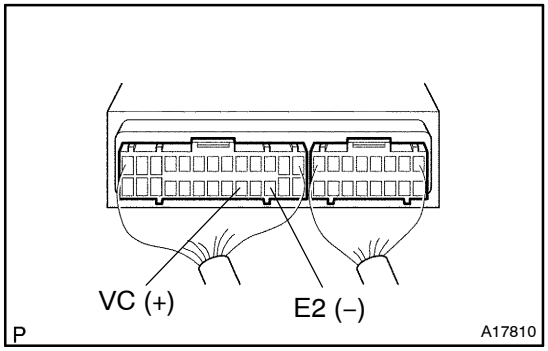
Manifold Absolute Pressure (kPa)	Malfunction
Approx. 0	• PIM circuit short
130 or more	• VC circuit open or short • PIM circuit open • E2 circuit open

WIRING DIAGRAM



INSPECTION PROCEDURE

1	**Check voltage between terminals VC and E2 of engine ECU connector.**



PREPARATION:
(a) Remove the glove compartment.
(b) Turn the ignition switch ON.

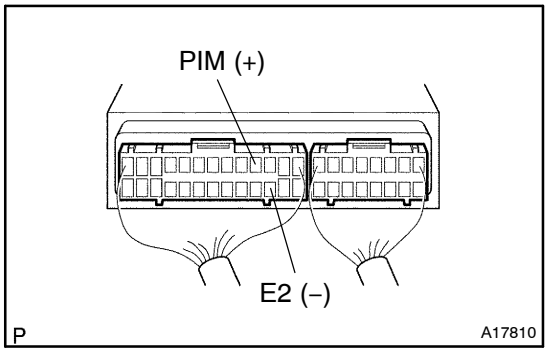
CHECK:
Measure the voltage between terminals VC and E2 of the engine ECU connector.

OK:
Voltage: 4.5 – 5.5 V

NG	**Check and replace engine ECU (See page IN–19).**

OK

2	**Check voltage between terminals PIM and E2 of engine ECU connector.**



PREPARATION:
(a) Remove the glove compartment.
(b) Turn the ignition switch ON.

CHECK:
Measure the voltage between terminals PIM and E2 of the engine ECU connector.

OK:
Voltage: 3.3 – 3.9 V

OK	**Check and replace engine ECU (See page IN–19).**

NG

3	**Check for open and short in harness and connector between vacuum sensor and engine ECU (See page IN–19).**

NG	**Repair or replace harness or connector.**

OK

Replace vacuum sensor.