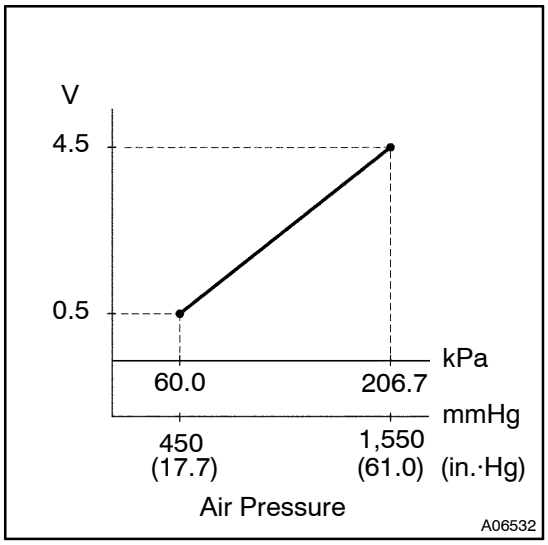
DTC	35	MANIFOLD ABSOLUTE PRESSURE/BAROMETRIC PRESSURE CIRCUIT MALFUNCTION

CIRCUIT DESCRIPTION



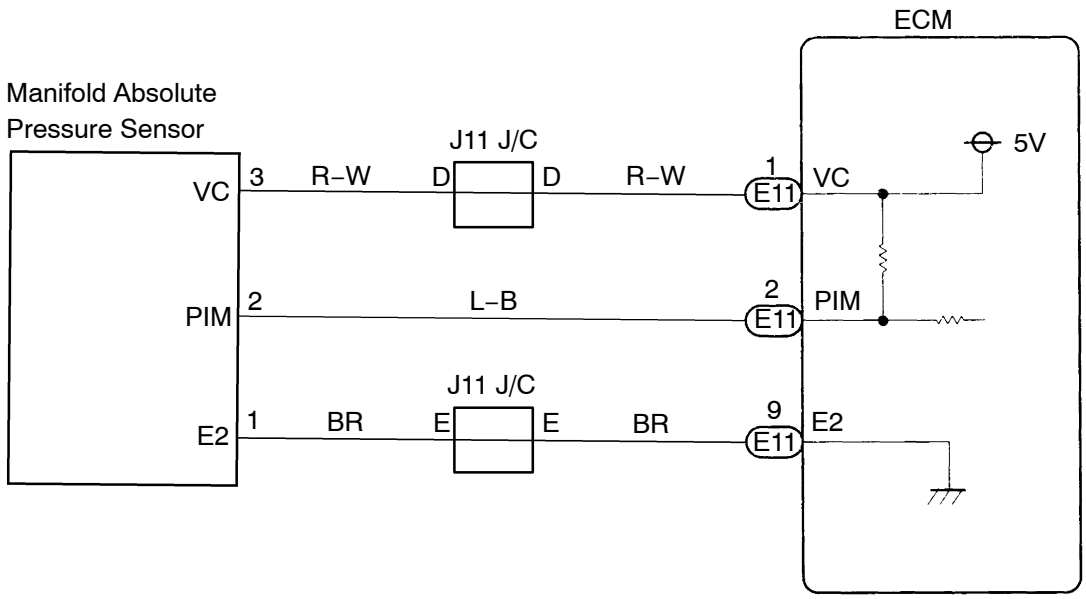
The manifold absolute pressure sensor generates voltage by the vacuum value as shown in the illustration. This voltage of the manifold absolute pressure sensor is one of the factors to decide the injection volume and injection timing.

DTC No.	DTC Detection Condition	Trouble Area
35	Open or short in manifold absolute pressure sensor circuit for 2 sec. or more	• Open or short in manifold absolute pressure sensor circuit • Manifold absolute pressure sensor • ECM

HINT:
After confirming DTC 35, use the hand–held tester to confirm the air cleaner pressure from the CURRENT DATA.

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

WIRING DIAGRAM



INSPECTION PROCEDURE

HINT:

- If different DTCs that are related to different systems are output simultaneously while terminal E2 is used as a ground terminal, terminal E2 may be open.
- Read freeze frame data using the hand–held tester, 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, etc. at the time of the malfunction.

When using Hand–held Tester:

1	READ VALUE OF HAND–HELD TESTER(INTAKE MANIFOLD PRESSURE)

(a) Connect the hand–held tester to the DLC3.
(b) Read the value of intake manifold pressure on the hand–held tester.
Pressure: The same as atmospheric pressure.

OK → **REPAIR OR REPLACE VACUUM HOSE**

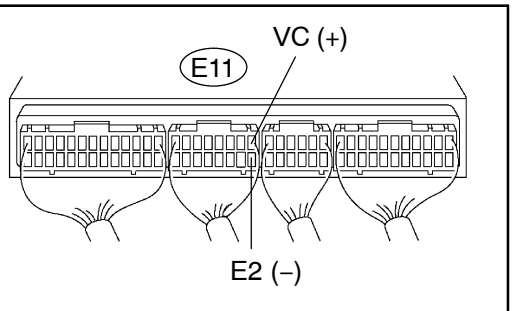
NG

2	INSPECT MANIFOLD ABSOLUTE PRESSURE SENSOR (See page 10–16)

NG → **REPLACE MANIFOLD ABSOLUTE PRESSURE SENSOR**

OK

3 INSPECT ECM(CHECK VOLTAGE)



(a) Turn the ignition switch ON.
(b) Measure the voltage between the terminals of the ECM connector.

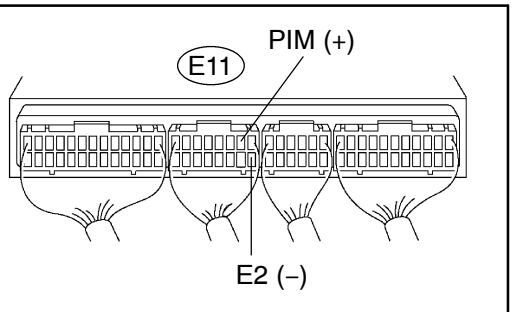
Voltage:

Symbols (Terminal No.)	Specified condition
VC (E11 – 1) ⇔ E2 (E11 – 9)	4.5 – 5.5 V

NG → **CHECK AND REPLACE ECM**

OK

4 INSPECT ECM(CHECK VOLTAGE)



(a) Turn the ignition switch ON.
(b) Measure the voltage between the terminals of the ECM connector.

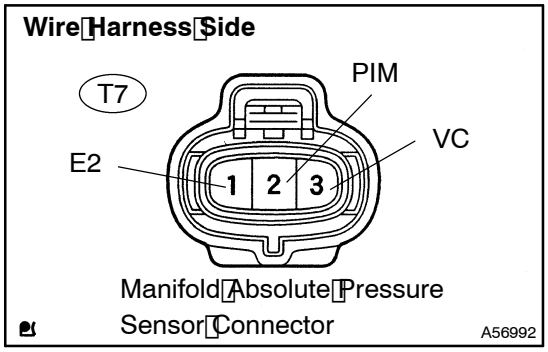
Voltage:

Symbols (Terminal No.)	Specified condition
PIM (E11 – 2) ⇔ E2 (E11 – 9)	1.0 – 2.2 V

OK → **CHECK AND REPLACE ECM**

NG

5	CHECK HARNESS AND CONNECTOR(ECM – MANIFOLD ABSOLUTE PRESSURE SENSOR)



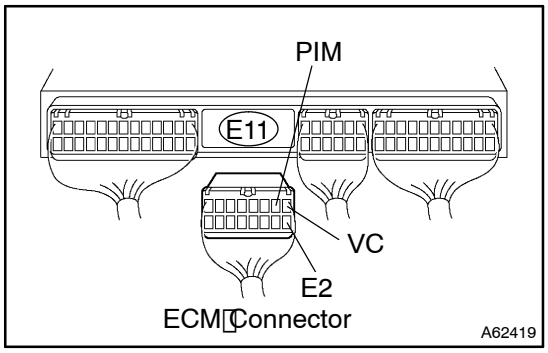
(a) Disconnect the manifold absolute pressure sensor connector.
(b) Disconnect the ECM E11 connector.
(c) Check the continuity between the wire harness side connector.

Standard (Check for open):

Symbols (Terminal No.)	Specified condition
VC (T7 – 3) ⇔ VC (E11 – 1)	Continuity
PIM (T7 – 2) ⇔ PIM (E11 – 2)	
E2 (T7 – 1) ⇔ E2 (E11 – 9)	

Standard (Check for short):

Symbols (Terminal No.)	Specified condition
VC (E11 – 1) ⇔ PIM (E11 – 2)	No continuity
VC (E11 – 1) ⇔ E2 (E11 – 9)	
PIM (E11 – 2) ⇔ E2 (E11 – 9)	



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE MANIFOLD ABSOLUTE PRESSURE SENSOR

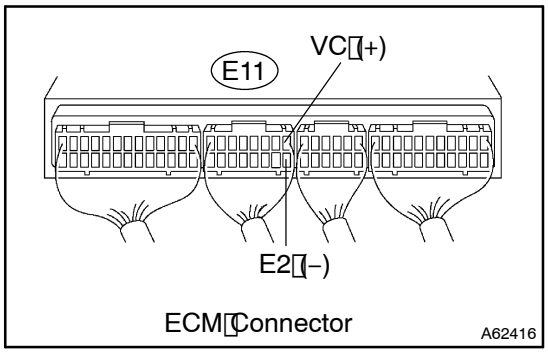
When not using Hand–held Tester:

1	INSPECT MANIFOLD ABSOLUTE PRESSURE SENSOR (See page 10–16)

NG → REPLACE MANIFOLD ABSOLUTE PRESSURE SENSOR

OK

2	INSPECT ECM(CHECK VOLTAGE)



(a) Turn the ignition switch ON.
(b) Measure the voltage between the terminals of the ECM connector.

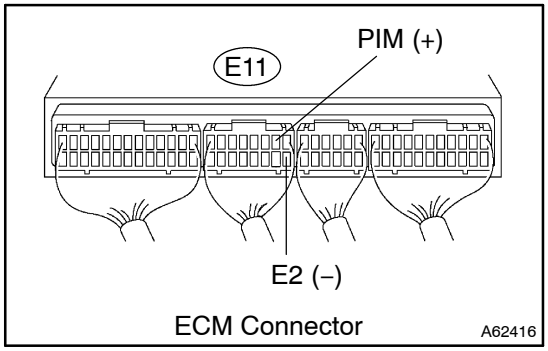
Voltage:

Symbols (Terminal No.)	Specified condition
VC (E11 – 1) ⇔ E2 (E11 – 9)	4.5 – 5.5 V

NG → CHECK AND REPLACE ECM

OK

3 INSPECT ECM(CHECK VOLTAGE)



(a) Turn the ignition switch ON.
(b) Measure the voltage between the terminals of the ECM connector.

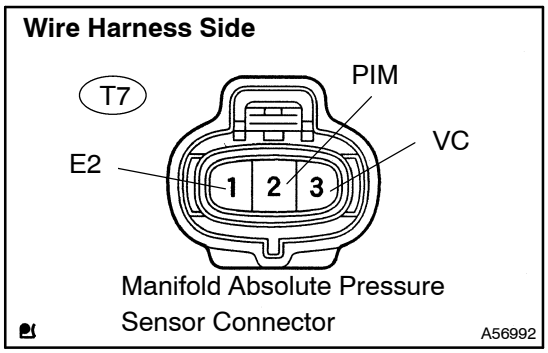
Voltage:

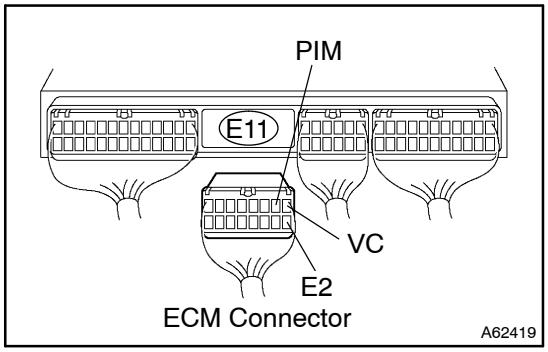
Symbols (Terminal No.)	Specified condition
PIM (E11 – 2) ⇔ E2 (E11 – 9)	1.0 – 2.2 V

OK → CHECK AND REPLACE ECM

NG

4 CHECK HARNESS AND CONNECTOR(ECM – MANIFOLD ABSOLUTE PRESSURE SENSOR)





(a) Disconnect the manifold absolute pressure sensor connector.
(b) Disconnect the ECM E11 connector.
(c) Check the continuity between the wire harness side connector.

Standard (Check for open):

Symbols (Terminal No.)	Specified condition
VC (T7 – 3) ⇔ VC (E11 – 1)	Continuity
PIM (T7 – 2) ⇔ PIM (E11 – 2)	
E2 (T7 – 1) ⇔ E2 (E11 – 9)	

Standard (Check for short):

Symbols (Terminal No.)	Specified condition
VC (E11 – 1) ⇔ PIM (E11 – 2)	No continuity
VC (E11 – 1) ⇔ E2 (E11 – 9)	
PIM (E11 – 2) ⇔ E2 (E11 – 9)	

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE MANIFOLD ABSOLUTE PRESSURE SENSOR