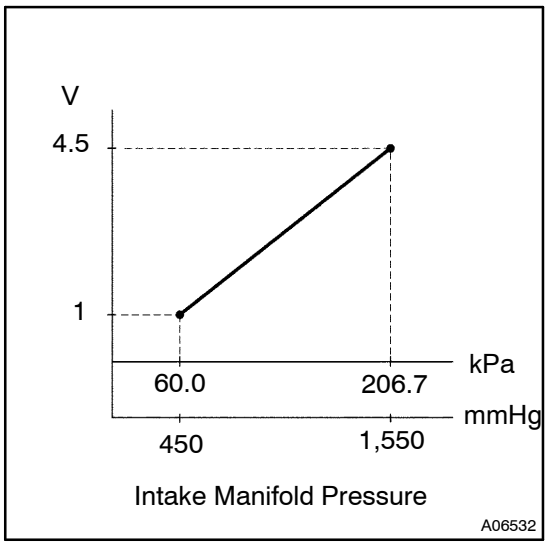
DI31Z–04

DTC	35	Turbo Pressure Sensor Circuit Malfunction

CIRCUIT DESCRIPTION



The turbo pressure sensor is connected to the intake manifold. The engine ECU detects the intake manifold pressure as a voltage by the sensor. The engine ECU uses the intake manifold pressure signal for a correction of the injection volume control and injection timing control.

The VSV for turbo pressure sensor switches the atmosphere applied to the turbo pressure sensor to the intake manifold pressure. The turbo pressure sensor monitors both of the atmospheric pressure and intake manifold pressure and transmits the output voltage to the engine ECU, and the engine ECU uses this atmospheric pressure value for correcting the injection volume.

DTC No.	DTC Detectiion Condition	Trouble Area
35	Open or short in turbo pressure sensor circuit for 2 sec. or more	• Open or short in turbo pressure sensor circuit • Turbo pressure sensor • Vacuum hose disconnected or blocked • Engine ECU

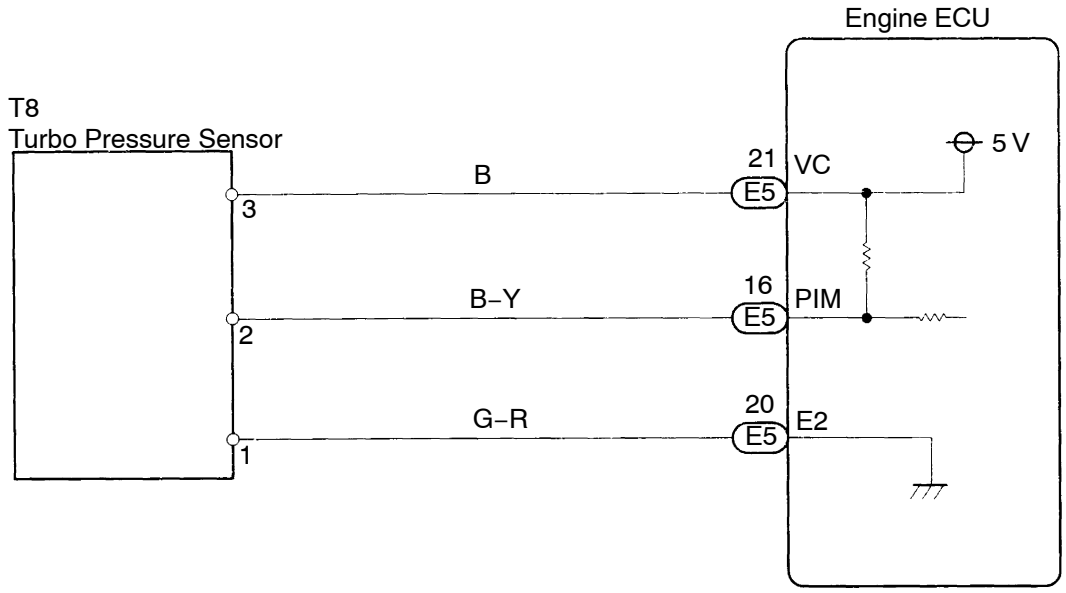
HINT:

After confirming DTC 35, use the hand–held tester to confirm the intake manifold pressure from the CURRENT DATA.

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

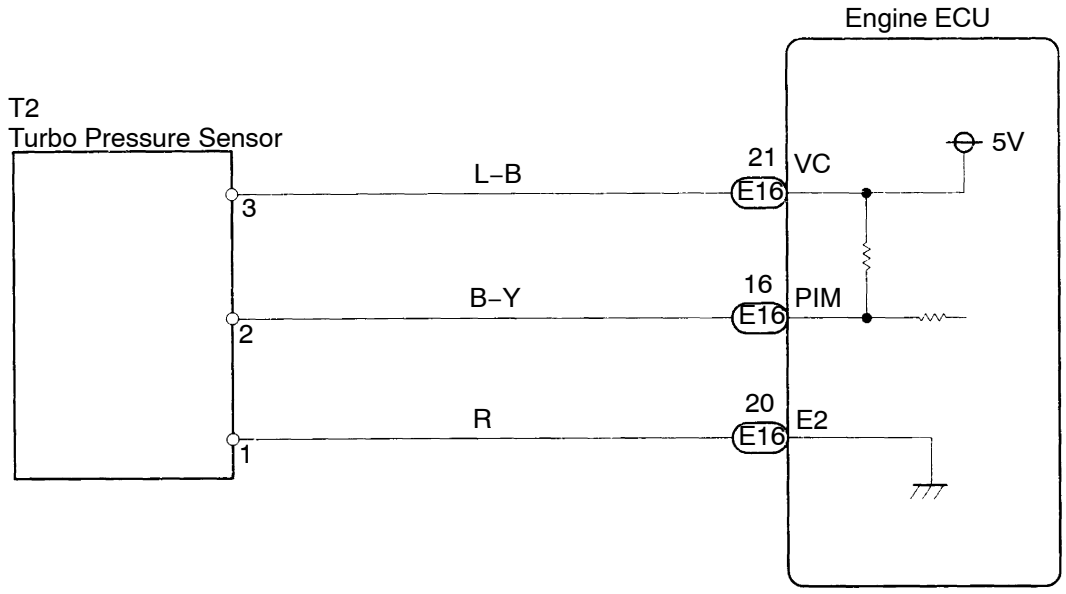
WIRING DIAGRAM

Hilux



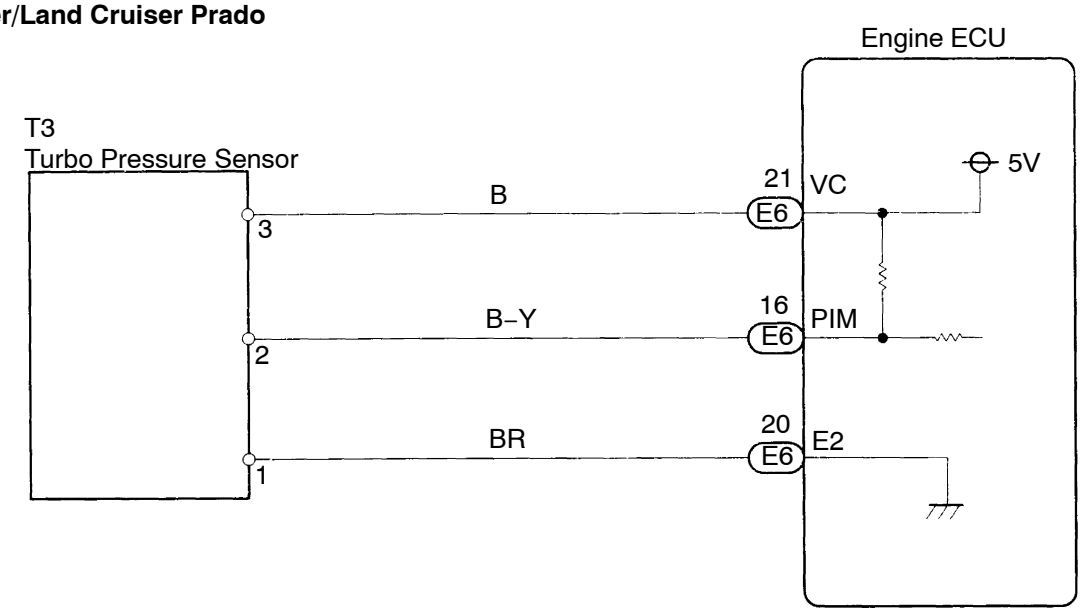
A05611

4Runner



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Land Cruiser/Land Cruiser Prado



INSPECTION PROCEDURE

HINT:

- If DTC22, 24, 35 and 39 are output simultaneously, E2 (sensor ground) may be open.
- Read freeze frame data using 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, the air–fuel ratio was lean or rich, etc. at the time of the malfunction.

When using hand–held tester:

1	**Connect hand–held tester, and read value of intake manifold pressure.**

PREPARATION:

(a) Connect the hand–held tester to the DLC3.

(b) Turn the ignition switch ON and push the hand–held tester main switch ON.

CHECK:

Read the value of the intake manifold pressure on the hand–held tester.

OK:

Same as atmospheric pressure.

OK	**Go to step 5.**

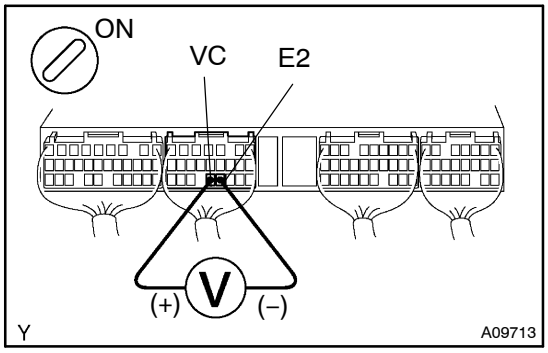
NG

2	**Check turbo pressure sensor (See page ED–14).**

NG → **Replace turbo pressure sensor.**

OK

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



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

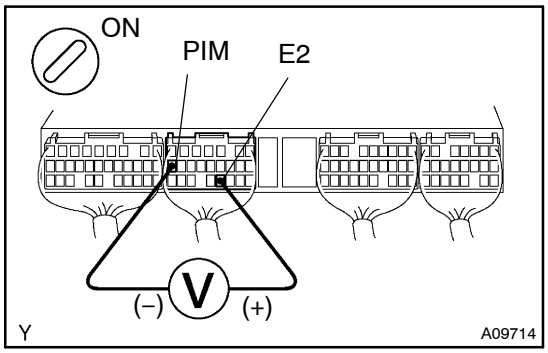
CHECK:
Measure the voltage between terminals VC and E2 of the engine ECU connector.

OK:
Voltage: 4.5 – 5.5 V

NG → **Check and replace engine ECU (See page IN–20).**

OK

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



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

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

OK:
Voltage: 1.0 – 2.2 V

OK → **Check and replace engine ECU (See page IN–20).**

NG

Check for open and short in harness and connector between engine ECU and turbo pressure sensor (See page IN–20).

5	**Check connection of vacuum hose between turbo pressure sensor and intake manifold.**

NG → **Repair or replace.**

OK

6	**Check for open and short in harness and connector between engine ECU and ECD main relay (Marking: ECD) (See page IN–20).**

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

OK

Check and replace engine ECU.

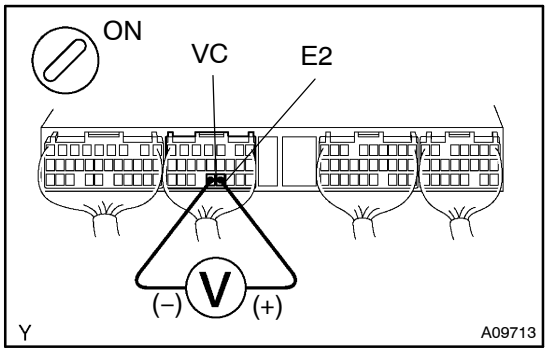
When not using hand–held tester:

1	**Check turbo pressure sensor (See page ED–14).**

NG → **Replace turbo pressure sensor.**

OK

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



PREPARATION:

(a) Remove the glove compartment door.

(b) Turn the ignition switch ON.

CHECK:

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

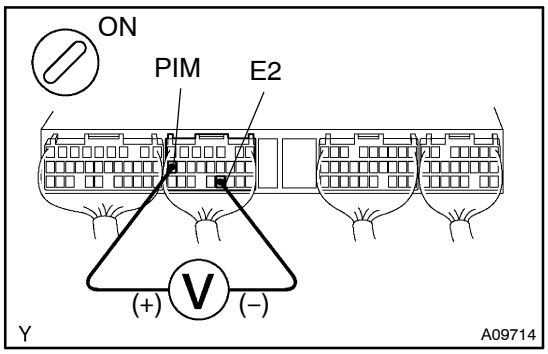
OK:

Voltage: 4.5 – 5.5 V

NG → **Check and replace engine ECU (See page IN–20).**

OK

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



PREPARATION:

(a) Remove the glove compartment door.

(b) Turn the ignition switch ON.

CHECK:

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

OK:

Voltage: 1.0 – 2.2 V

OK	Check and replace engine ECU (See page IN–20).

NG

4	Check for open and short in harness and connector between engine ECU and turbo pressure sensor (See page IN–20).

NG	Repair or replace harness or connector.

OK

5	Check connection of vacuum hose between turbo pressure sensor and intake manifold.

NG	Repair or replace.

OK

6	Check for open and short in harness and connector between engine ECU and ECD main relay (Marking: ECD) (See page IN–20).

NG	Repair or replace harness or connector.

OK

Check and replace engine ECU.