DIDY7–01

DTC	P1250/34*	Turbocharger system malfunction

DTC	P1255/34*	Turbocharger stick detected (Close)

DTC	P1256/34*	Turbocharger stick detected (Open)

HINT:
*: Only for Europe

CIRCUIT DESCRIPTION

DTC No.	DTC Detection Condition	Trouble Area
P1250/34	When the condition that the turbocharger pressure exceeds the standard value for 5 sec. or more is detected.	• VNT valve • Turbocharger • EGR valve • Vacuum hose • E–VRV for intake pressure charge • VSV for turbo pressure sensor • Air flow meter • Engine ECU
P1255/34	Condition that turbocharger pressure is high for 20 sec. is detected twice.	
P1256/34	Turbocharger pressure is low for 40 sec. is detected twice.	

WIRING DIAGRAM

Refer to DTC P0105/35 on page DI–32.

INSPECTION PROCEDURE

HINT:
If DTC P0105/35 is output simultaneously, first troubleshoot DTC P0105/35.

When using intelligent tester II:

1	Check connection of vacuum hose.

NG → Repair or replace.

OK

2	Check vacuum between turbocharger and E–VRV for intake pressure change at 900 rpm.

PREPARATION:

(a) Using a 3–way connector, connect a vacuum gauge to the hose between the E–VRV and turbocharger.

(b) Warm up the engine to above 80°C (176°F).

CHECK:

Check the vacuum at 900 rpm.

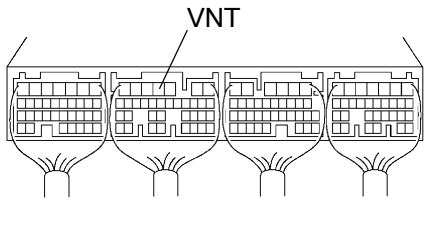
RESULT:

Type	Vacuum
I	0 kPa (0 mmHg, 0 in.Hg) to 50 kPa (375 mmHg, 14.8 in.Hg)
II	Above 50 kPa (375 mmHg, 14.8 in.Hg)

Type II → **Go to step 7.**

Type I

3	Check voltage between terminal VNT of engine ECU connector and body ground.



PREPARATION:

(a) Remove the glove compartment door.

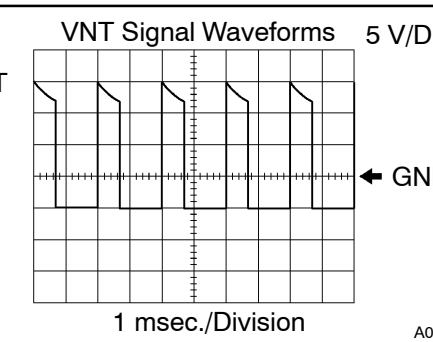
(b) Turn the ignition switch ON.

CHECK:

Measure the voltage between terminal VNT of the engine ECU connector and body ground.

OK:

Voltage: 9 to 14 V



Reference: INSPECTION USING OSCILLOSCOPE

During EGR system is ON (engine speed 900 rpm), check the waveform between terminals VNT and E1 of the engine ECU connector.

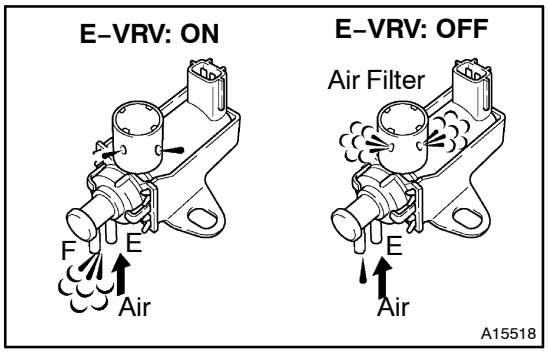
HINT:

The correct waveform is as shown.

NG → **Go to step 5.**

OK

4	Check operation of E–VRV for intake pressure change.



PREPARATION:

(a) Disconnect the vacuum hoses from the E–VRV.
(b) Connect the intelligent tester II to the DLC3.
(c) Turn the ignition switch ON and push the intelligent tester II main switch ON.
(d) Select the Active Test mode on the intelligent tester II.

CHECK:

Check the operation of the E–VRV when it is operated by the intelligent tester II.

OK:

E–VRV ON:
Air from port E flows out through port F.
E–VRV OFF:
Air from port E flows out through air filter.

OK	Go to step 7.

NG

5	Check E–VRV for intake pressure change (See Pub No. RM 896E, page TC–15).

NG	Replace E–VRV.

OK

6	Check for open and short in harness and connector between E–VRV and engine ECU, and E–VRV and EFI OR ECD relay (See page IN–19).

NG	Repair or replace harness or connector.

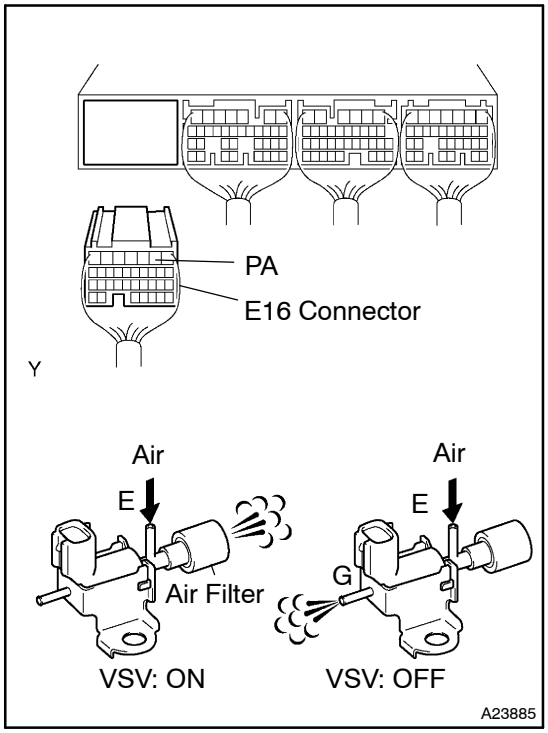
OK

7	**Check resistance of VSV for turbo pressure sensor (See Pub No. RM617E, page TC–19).**

NG → **Replace VSV for turbo pressure sensor.**

OK

8	**Check VSV for turbo pressure sensor.**



PREPARATION:

(a) Remove the glove compartment door.
(b) Disconnect the E16 connector of the engine ECU.
(c) Turn the ignition switch ON.

CHECK:

Check VSV function.

(a) Connect between terminal PA of the engine ECU and body ground (VSV is ON).
(b) Disconnect between terminal PA of the engine ECU and body ground (VSV is OFF).

OK:

VSV is ON:
Air from pipe E flows out through air filter.
VSV is OFF:
Air from pipe E flows out through pipe G.

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

NG

9	**Check for open and short in harness and connector between engine ECU and VSV for turbo pressure sensor, VSV for turbo pressure sensor and EFI OR ECD relay (See page IN–19).**

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

OK

10	Check turbocharger assembly (See Pub No. RM896E, page TC–1).

NG → Replace turbocharger.

OK

11	Check EGR valve (See Pub No. RM896E, page EC–2).

NG → Replace EGR valve.

OK

12	Check air flow meter (See page DI–64).

NG → Replace air flow meter.

OK

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

When not using intelligent tester II:

1	Check connection of vacuum hose.

NG → Repair or replace.

OK

2	Check vacuum between turbocharger and E–VRV for intake pressure change at 900 rpm.

PREPARATION:

(a) Using a 3–way connector, connect a vacuum gauge to the hose between the E–VRV and trubocharger.

(b) Warm up the engine to above 80°C (176°F).

CHECK:

Check the vacuum at 900 rpm.

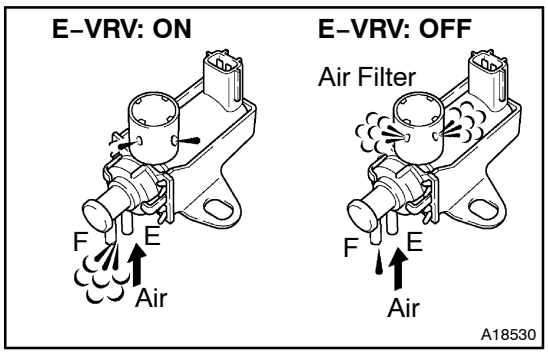
RESULT:

Type	Vacuum
I	0 kPa (0 mmHg, 0 in.Hg) to 50 kPa (375 mmHg, 14.8 in.Hg)
II	Above 50 kPa (375 mmHg, 14.8 in.Hg)

Type II → **Go to step 6.**

Type I

3	Check operation of E–VRV.



PREPARATION:

(a) Remove the glove compartment door.

(b) Disconnect the V14 connector from the engine ECU.

(c) Turn the ignition switch ON.

CHECK:

Check the E–VRV operation.

(1) Connect between terminal VNT of the engine ECU connector and body ground (ON).

(2) Disconnect between terminal VNT of the engine ECU connector and body ground (OFF).

OK:

E–VRV ON:
Air from port E flows out through port F.
E–VRV OFF:
Air from port E flows out through air filter.

OK → **Go to step 6.**

NG

4	Check E–VRV for intake pressure change (See Pub No. RM896E, page TC–15).

NG → Replace E–VRV.

OK

5	Check for open and short in harness and connector between E–VRV and engine ECU, and E–VRV and EFI OR ECD relay (See page IN–19).

NG → Repair or replace harness or connector.

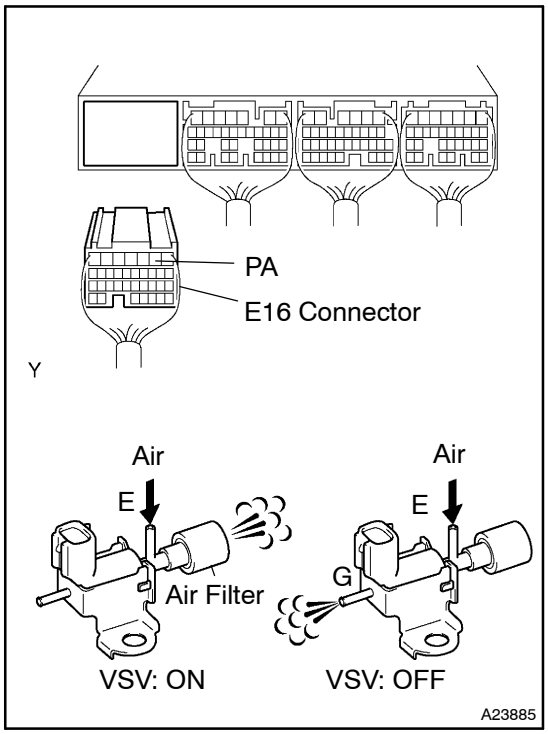
OK

6	Check resistance of VSV for turbo pressure sensor (See Pub No. RM617E, page TC–19).

NG → Replace VSV for turbo pressure sensor.

OK

7	Check VSV for turbo pressure sensor.



PREPARATION:

(a) Remove the glove compartment door.
(b) Disconnect the E16 connector of the engine ECU.
(c) Turn the ignition switch ON.

CHECK:

Check VSV function.

(a) Connect between terminal PA of the engine ECU and body ground (VSV is ON).
(b) Disconnect between terminal PA of the engine ECU and body ground (VSV is OFF).

OK:

VSV is ON:
Air from pipe E flows out through air filter.
VSV is OFF:
Air from pipe E flows out through pipe G.

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

NG

8	Check for open and short in harness and connector between engine ECU and VSV for turbo pressure sensor, VSV for turbo pressure sensor and EFI OR ECD relay (See page IN–19).

NG	Repair or replace harness or connector.

OK

9	Check turbocharger assembly (See Pub No. RM896E, page TC–1).

NG	Replace turbocharger.

OK

10	Check EGR valve (See Pub No. RM896E, page EC–2).

NG → Replace EGR valve.

OK

11	Check air flow meter (See page DI–64).

NG → Replace air flow meter.

OK

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