DTC	P0263/78	CYLINDER 1 CONTRIBUTION/BALANCE

DTC	P0266/78	CYLINDER 2 CONTRIBUTION/BALANCE

DTC	P0269/78	CYLINDER 3 CONTRIBUTION/BALANCE

DTC	P0272/78	CYLINDER 4 CONTRIBUTION/BALANCE

HINT:
These DTCs indicate a malfunction related to the primary circuit.

- If DTC P0263/78 is displayed, check injector No. 1 circuit.
- If DTC P0266/78 is displayed, check injector No. 2 circuit.
- If DTC P0269/78 is displayed, check injector No. 3 circuit.
- If DTC P0272/78 is displayed, check injector No. 4 circuit.

CIRCUIT DESCRIPTION

Refer to DTC P0200/97 on page 05–98.

DTC No.	DTC Detection Condition	Trouble Area
P0263/78 P0266/78 P0269/78 P0272/78	Conditions (a), (b) and (c) continue more than 200 times with engine speed 500 to 1,000 rpm: (a) Engine coolant temperature: 60°C (140°F) or more (b) Difference of compensation value between cylinders is 15 mm^3/sec or more (c) 0 mm^3/st ≦ injection volume ≦ 30 mm^3/st	• Open or short in EDU circuit • Injector • EDU

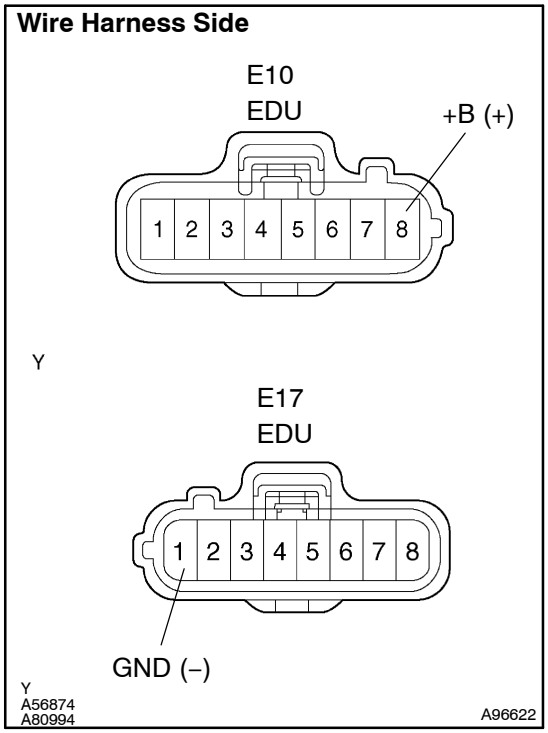
WIRING DIAGRAM

Refer to DTC No. P0200/97 on page 05–98.

INSPECTION PROCEDURE

HINT:
Read freeze frame data using the hand–held tester. Freeze frame data records the engine conditions when a malfunction is detected. When troubleshooting, freeze frame data can help determine if the vehicle was running or stopped, if the engine was warmed up or not, if the air–fuel ratio was lean or rich, and other data from the time the malfunction occurred.

1 CHECK EDU (+B VOLTAGE)



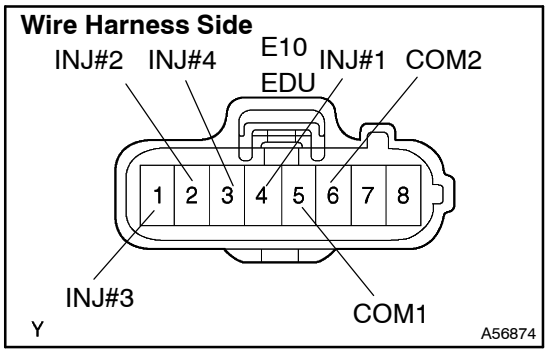
(a) Disconnect the E10 and E17 EDU connectors.
(b) Measure the voltage of the wire harness side connectors.
Standard:

Tester Connection	Condition	Specified Condition
E10–8 (+B) – E17–1 (GND)	Ignition switch ON	18 to 27 V

NG → **CHECK EDU POWER SOURCE CIRCUIT (BATTERY – EDU)**

OK

2 CHECK EDU (INJECTOR RESISTANCE)



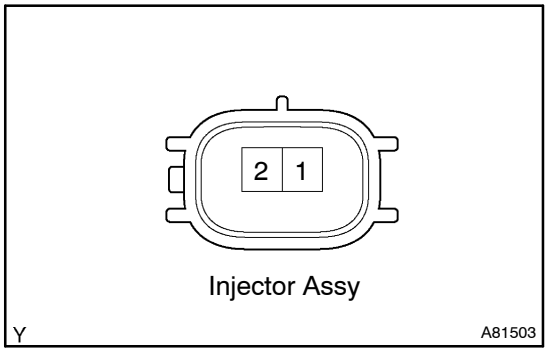
(a) Disconnect the E10 EDU connector.
(b) Measure the resistance of the EDU connector.
Standard:

Tester Connection	Condition	Specified Condition
E10–4 (INJ#1) – E10–5 (COM1) E10–2 (INJ#2) – E10–6 (COM2) E10–1 (INJ#3) – E10–6 (COM2) E10–3 (INJ#4) – E10–5 (COM1)	20°C (68°F)	0.35 to 0.55 Ω

OK → **Go to step 4**

NG

3 INSPECT INJECTOR ASSY



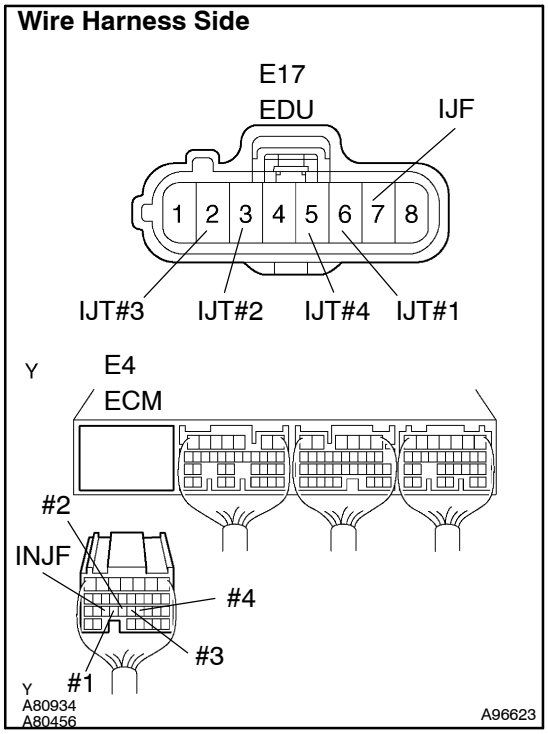
(a) Measure the resistance between the terminals.
Standard: 0.35 to 0.55 Ω at 20°C (68°F)

NG → **REPLACE INJECTOR ASSY (See page 11–20)**

OK

REPAIR OR REPLACE HARNESS AND CONNECTOR

4 CHECK WIRE HARNESS (EDU – ECM)



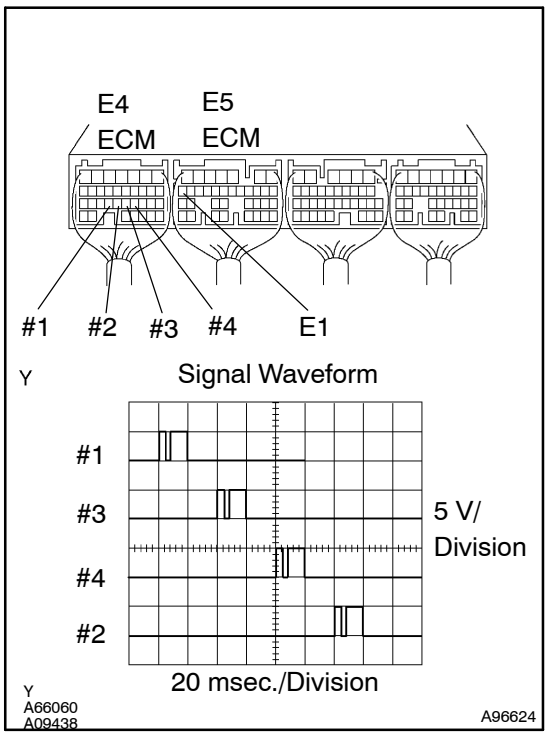
(a) Disconnect the E17 EDU connector.
(b) Disconnect the E4 ECM connector.
(c) Measure the resistance of the wire harness side connectors.
Standard:

Tester Connection	Specified Condition
E17–6 (IJT#1) – E4–24 (#1) E17–3 (IJT#2) – E4–23 (#2) E17–2 (IJT#3) – E4–22 (#3) E17–5 (IJT#4) – E4–21 (#4) E17–7 (IJF) – E4–25 (INJF)	Below 1 Ω
E4–24 (#1) or E17–6 (IJT#1) – Body ground E4–23 (#2) or E17–3 (IJT#2) – Body ground E4–22 (#3) or E17–2 (IJT#3) – Body ground E4–21 (#4) or E17–5 (IJT#4) – Body ground E4–25 (INJF) or E17–7 (IJF) – Body ground	10 kΩ or higher

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

OK

5	CHECK ECM



(a) Inspect using an oscilloscope.

(1) While the engine is idling, check the waveform of the ECM connectors.

Standard:

Tester Connection	Specified Condition
E4–24 (#1) – E5–7 (E1) E4–23 (#2) – E5–7 (E1) E4–22 (#3) – E5–7 (E1) E4–21 (#4) – E5–7 (E1)	Correct waveform is as shown

NG → **REPLACE ECM (See page 10–10)**

OK

REPLACE EDU