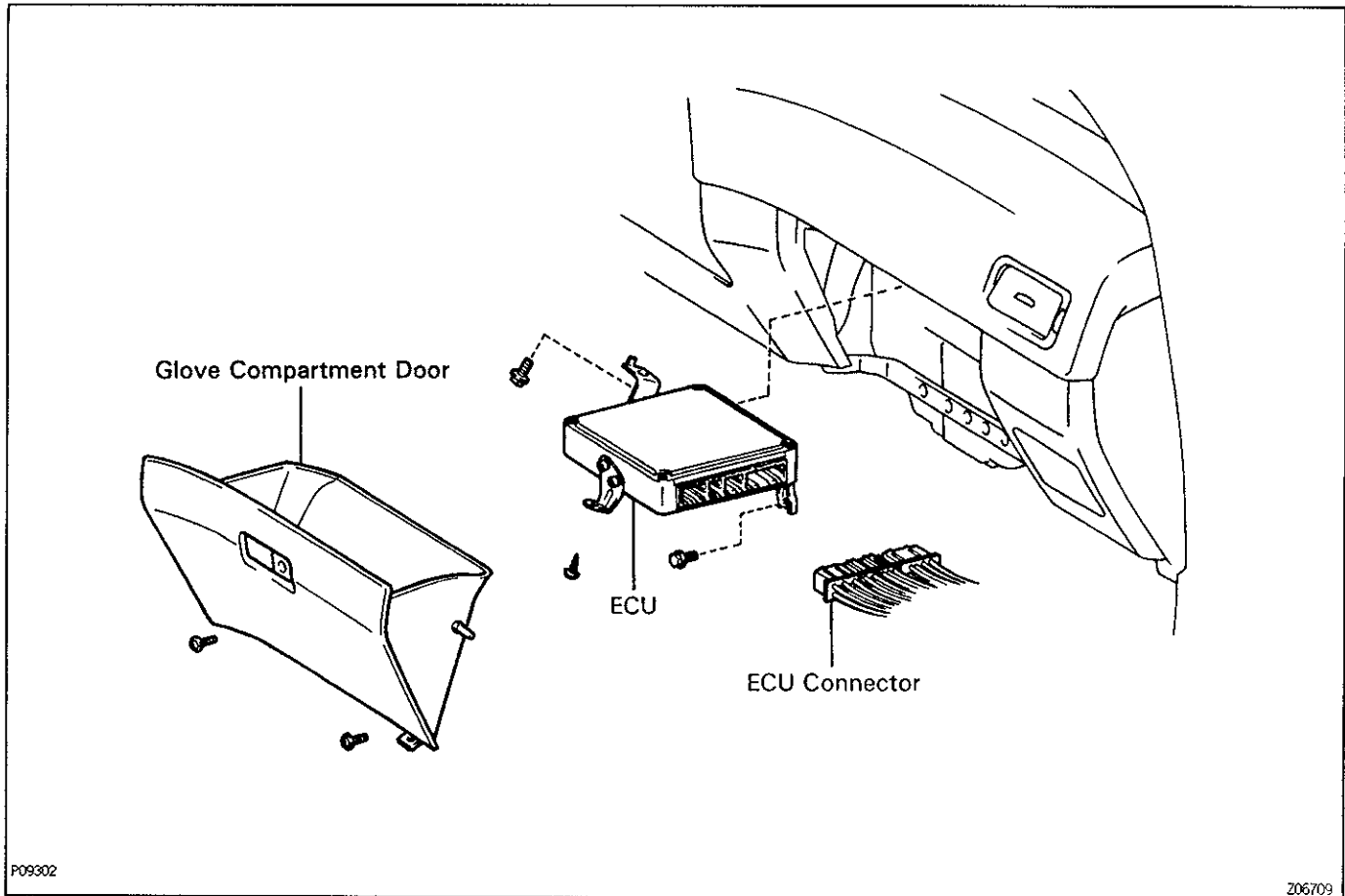


ECU ELECTRONIC CONTROL UNIT

EG0E8-07



P09302

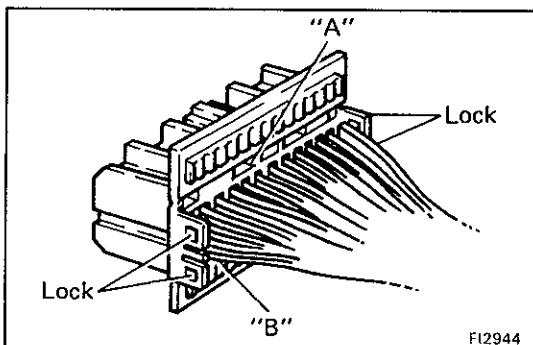
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ECU INSPECTION

EG187-02

HINT: The EFI circuit can be checked by measuring the resistance and voltage at the wiring connectors of the ECU.

1. REMOVE GLOVE COMPARTMENT DOOR

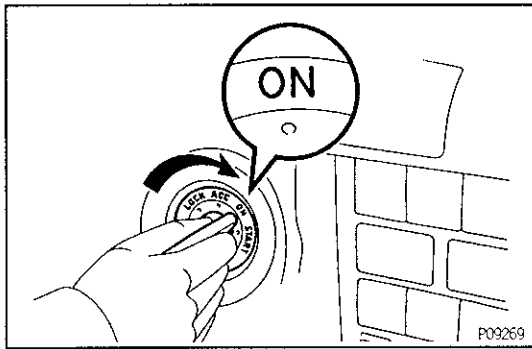


2. PREPARATION

- (a) Disconnect the four connectors from the ECU.
- (b) Remove the locks as shown in the illustration so that the tester probe(s) can easily come in.

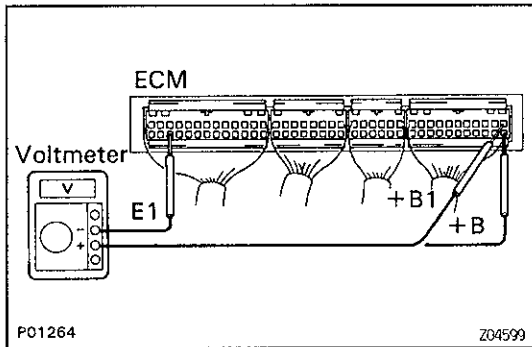
NOTICE: Pay attention to sections "A" and "B" in the illustration which can easily be broken.

- (c) Reconnect the four connectors to the ECU.



3. INSPECT VOLTAGE OF ECU

- (a) Turn the ignition switch ON.



- (b) Measure the voltage between each terminal of the wiring connectors.

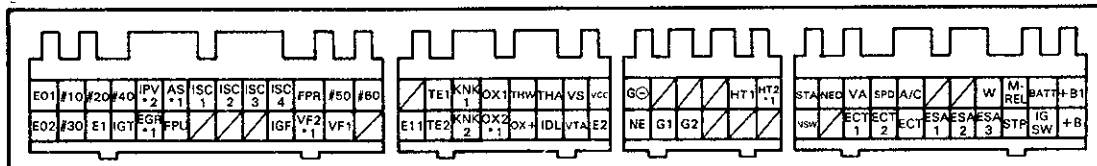
HINT:

- Perform all voltage measurements with the connectors connected.
- Verify that the battery voltage is 11 V or more when the ignition switch is ON.

ECU Wiring Connectors Voltage

Terminals	Condition		STD voltage (V)
BATT – E1	—		9 – 14
IG SW – E1	IG SW ON		
M-REL – E1			
+B +B1 – E1			
IDL – E2	IG SW ON	Throttle valve open	9 – 14
VCC – E2		—	4.5 – 5.5
VTA – E2		Throttle valve fully closed (Throttle opener must be cancelled first)	0.3 – 0.8
		Throttle valve fully open	3.2 – 4.9
VCC – E2		—	4.5 – 5.5
VS – E2		Measuring plate fully closed	3.5 – 4.5
		Measuring plate fully open	0.2 – 0.5
		Idling	1.2 – 2.4
		3,000 rpm	0.8 – 1.3

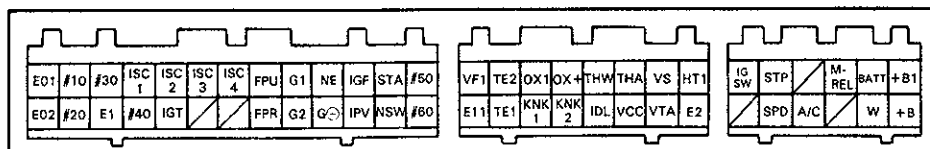
A/T



* 1: Only for Europe

* 2: Ex. GCC

M/T

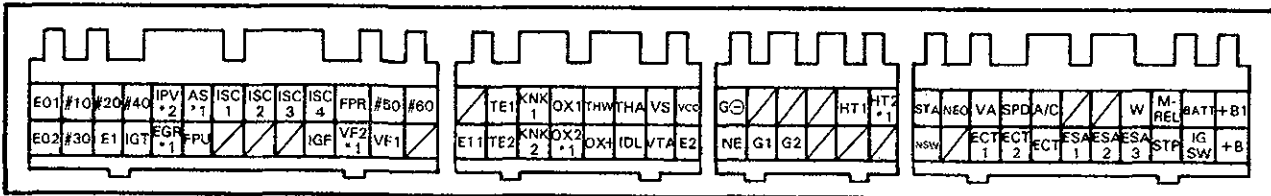


ECU Wiring Connectors Voltage (Cont'd)

Terminals	Condition		STD voltage (V)
#10 } — E01 #60 — E02	IG SW ON		9 — 14
THA — E2	IG SW ON	Intake air temp. 20°C (68°F)	0.5 — 3.4
THW — E2		Engine coolant temp. 80°C (176°F)	0.2 — 1.0
STA — E1	Cranking		6 or more
IGT — E1	Idling		Pulse generation
ISC1 } — E1 ISC4	IG SW ON		9 — 14
W — E1	No trouble (malfunction indicator lamp light off) and engine running		9 — 14
IGF — E1	IG SW ON		2.0 or less
G1 — G⊖ G2 — G⊖	Idling		Pulse generation
NE — G⊖			
KNK1 — E1 KNK2 — E1			
VF1 VF2*1 — E1	Maintain engine speed at 2,500 rpm for 120 seconds after warming up then return to idling		1.8 — 3.2
NSW — E1	IG SW ON	Shift position P or N	3 or less
		Ex. shift position P or N	9 — 14
SPD — E1		Rotate driving wheel slowly	Pulse generation
TE1 — E1 TE2 — E1		Data link connector 1 TE1 — E1 not connected	9 — 14
		Data link connector 1 TE1 — E1 connected	1.5 or less
A/C — E1		Air conditioning ON	7.5 — 14
		Air conditioning OFF	1.5 or less
STP — E1	Stop light SW ON (Brake pedal depressed)		7.5 — 14
	Stop light SW OFF		1.5 or less

EG

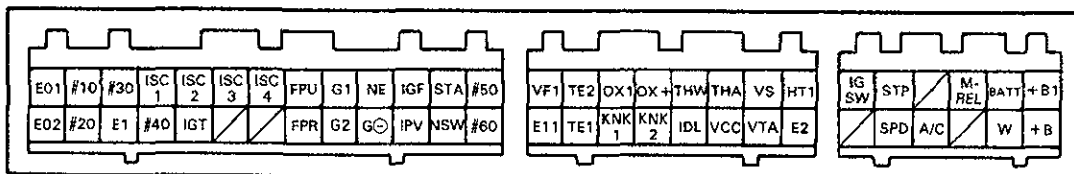
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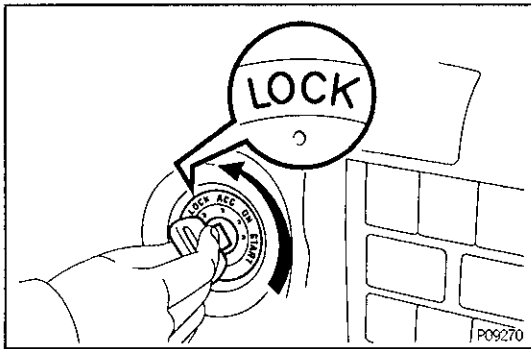


* 1: Only for Europe

* 2: Ex. GCC

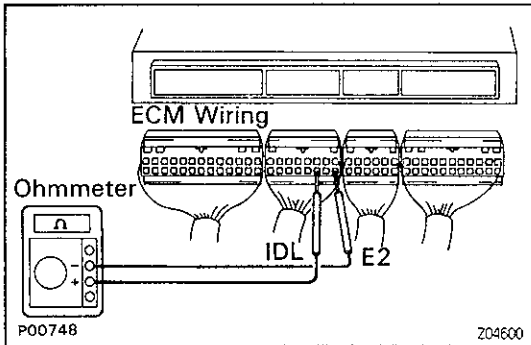
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4. INSPECT RESISTANCE OF ECU MODULE

- Turn the ignition switch OFF.
- Disconnect the four connectors from the ECU.



- Measure the resistance between each terminal of the wiring connectors.

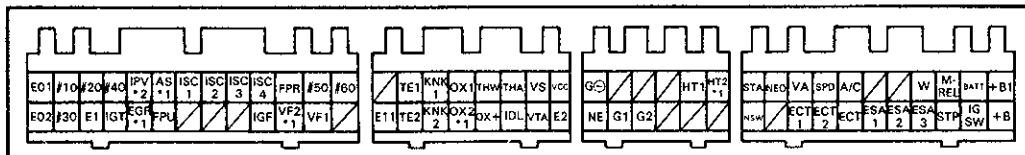
NOTICE:

- Do not touch the ECU terminals.
- The tester probe should be inserted in the wiring connector from the wiring side.

ECU Wiring Connectors Resistance

Terminals	Condition	STD resistance (Ω)
IDL – E2	Throttle valve open	Infinity
	Throttle valve fully closed (Throttle opener must be cancelled first)	2,300 or less
VTA – E2	Throttle valve fully open	2,000 – 10,200
	Throttle valve fully closed (Throttle opener must be cancelled first)	200 – 5,700
VCC – E2	–	2,500 – 5,900
VS – E2	Measuring plate fully closed	200 – 600
	Measuring plate fully open	20 – 1,200
THA – E2	Intake air temp. 20°C (68°F)	2,000 – 3,000
THW – E2	Engine coolant temp. 80°C (176°F)	200 – 400
G1 – G $\ominus$ G2 – G $\ominus$	Cold (–10°C (14°F) to 50°C (122°F))	185 – 275
	Hot (50°C (122°F) to 100°C (212°F))	240 – 325
NE – G $\ominus$	Cold (–10°C (14°F) to 50°C (122°F))	185 – 275
	Hot (50°C (122°F) to 100°C (212°F))	240 – 325
ISC1 – +B ISC4 – +B1	–	10 – 30

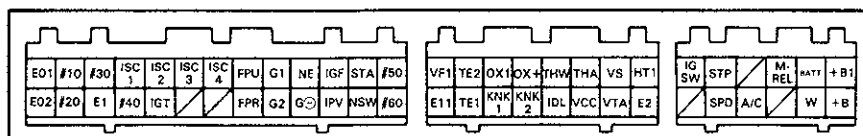
A/T



* 1: Only for Europe

* 2: Ex. GCC

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