

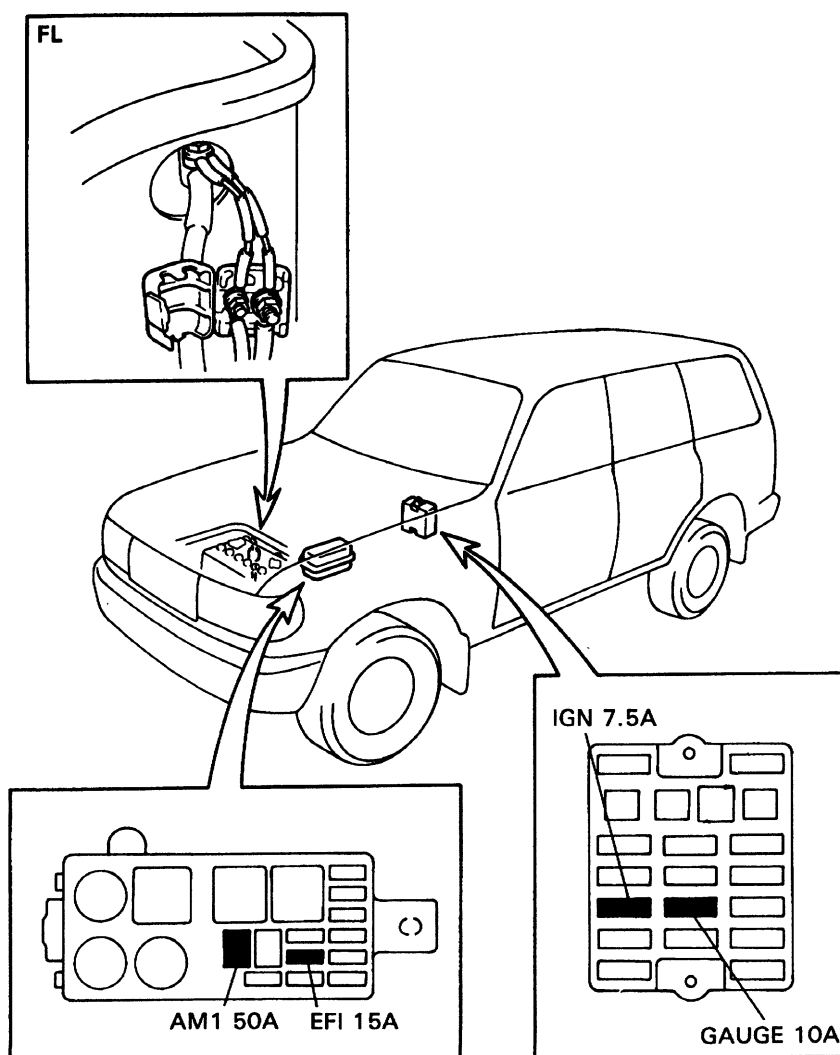
TROUBLESHOOTING

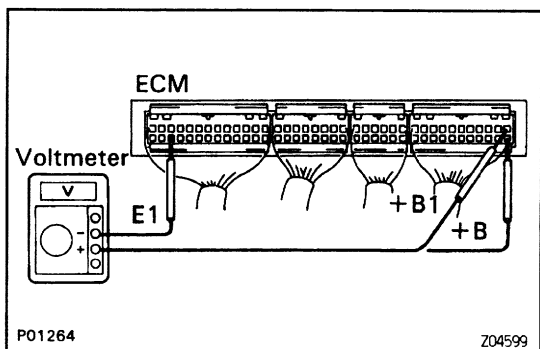
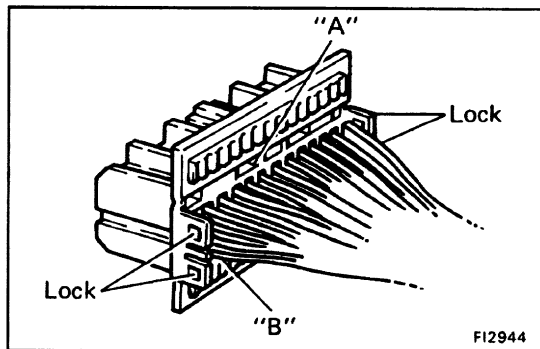
HINT:

EG068-02

- The following troubleshooting procedures are designed for inspection of each separate system, and therefore the actual procedure may vary somewhat. However, troubleshooting should be performed while referring to the inspection methods described in this manual.
- Before beginning inspection, it is best to first make a simple check of the fuses, H-fuses, fusible links and the condition of the connectors.
- The following troubleshooting procedures are based on the supposition that the trouble lies in either a short or open circuit within the computer.
- If engine trouble occurs even though proper operating voltage is detected in the computer connector, then it can be assumed that the ECM is faulty and should be replaced.

FUSES AND FUSIBLE LINKS LOCATION





SFI SYSTEM CHECK PROCEDURE

PREPARATION

- (a) Disconnect the connectors from the ECM.
- (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 be easily broken.

- (c) Reconnect the connectors to the ECM.

- (d) Using a voltmeter with high impedance (10 k Ω /V minimum), measure the voltage at each terminal of the wiring connectors.

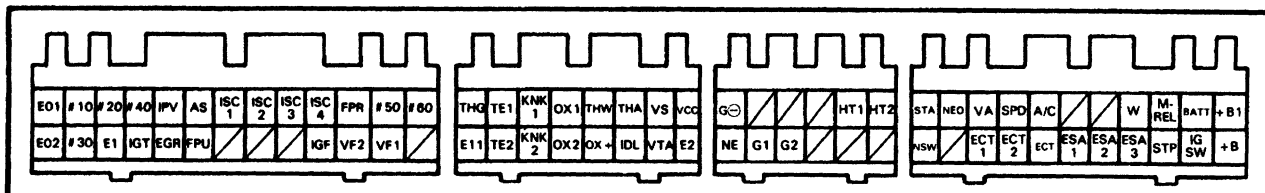
HINT:

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

ECM Terminals

Symbol	Terminal Name	Symbol	Terminal Name	Symbol	Terminal Name
E01	POWER GROUND	*THG	EGR GAS TEMP. SENSOR	HT2	NO.2 HEATED OXYGEN SENSOR
E02	POWER GROUND	E11	ECM GROUND	/	—
# 10	INJECTOR (No.1)	TE1	DLC1	STA	PNP SWITCH
# 30	INJECTOR (No.3)	TE2	DLC1	NSW	IGNITION SWITCH
# 20	INJECTOR (No.2)	KNK1	NO.1 KNOCK SENSOR	NEO	TCM
E1	ECM GROUND	KNK2	NO.2 KNOCK SENSOR	/	—
# 40	INJECTOR (No.4)	OX1	NO.1 HEATED OXYGEN SENSOR	VA	TCM
IGT	IGNITER	OX2	NO.2 HEATED OXYGEN SENSOR	ECT1	TCM
IPV	VSV FOR EVAP	THW	ECT SENSOR	SPD	VEHICLE SPEED SENSOR
EGR	VSV FOR EGR	OX +	HEATED OXYGEN SENSORS	ECT2	TCM
AS	VSV FOR PAIR	THA	VAF METER	A/C	A/C AMPLIFIE
FPU	VSV FOR FUEL PRESSURE CONTROL	IDL	TP SENSOR	ECT	TCM
ISC1	IAC VALVE (No.1 Motor Coil)	VS	VAF METER	/	—
/		VTA	TP SENSOR	ESA1	TCM
ISC2	IAC VALVE (No.2 Motor Coil)	VCC	TP SENSOR	/	—
/	—	E2	SENSOR GROUND	ESA2	TCM
ISC3	IAC VALVE (No.3 Motor Coil)	G ⊖	DISTRIBUTOR	W	MALFUNCTION INDICATOR LAMP
/	—	NE	DISTRIBUTOR	ESA3	TCM
ISC4	IAC VALVE (No.4 Motor Coil)	/	—	M-REL	EFI MAIN RELAY (COIL)
IGF	IGNITER	G1	DISTRIBUTOR	STP	STOP LIGHT SWITCH
FPR	FUEL PUMP RELAY	/	—	BATT	BATTERY B +
VF2	DLC1	G2	DISTRIBUTOR	IGSW	IGNITION SWITCH
# 50	INJECTOR (No.5)	/	—	+ B1	EFI MAIN RELAY
VF1	DLC1	/	—	+ B	EFI MAIN RELAY
# 60	INJECTOR (No.6)	HT1	NO.1 HEATED OXYGEN SENSOR	*Calif. only	
/	—	/	—		

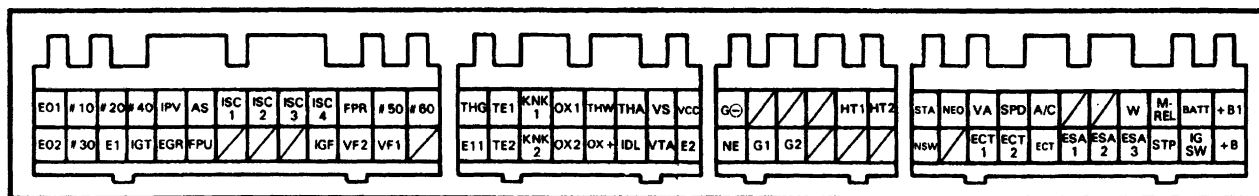
ECM Terminals



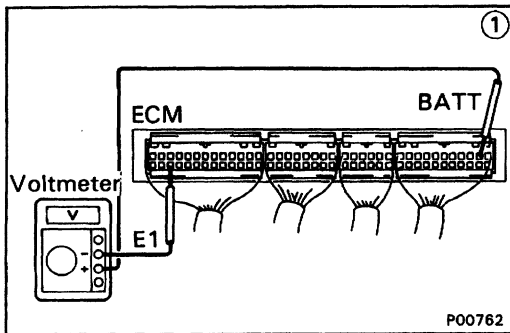
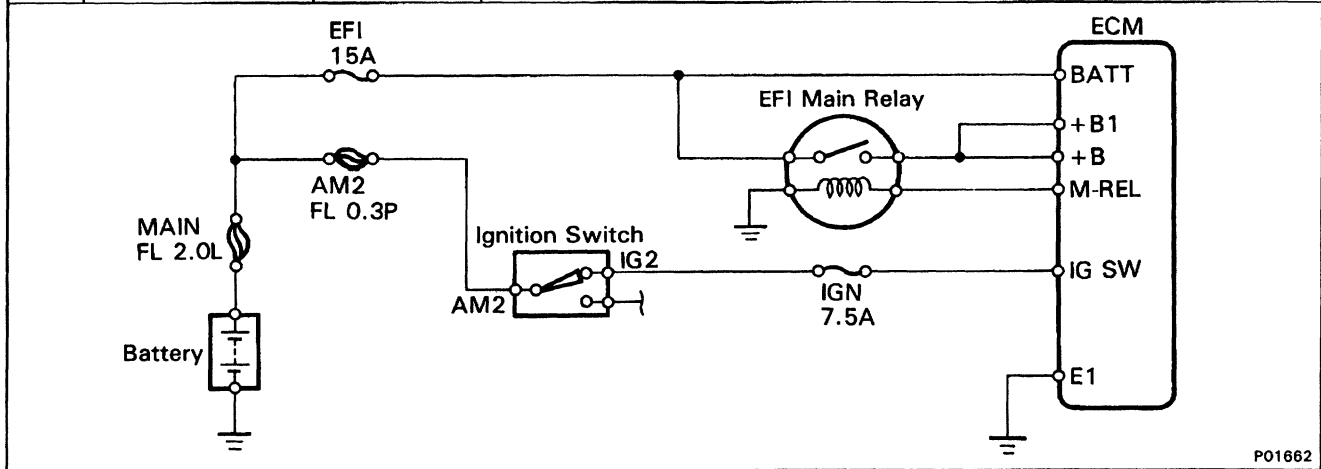
ECM Wiring Connectors Voltage

No.	Terminals	Condition		STD voltage (V)	See page
1	BATT — E1	—		9 — 14	EG-235
	IG SW — E1	IG SW ON			
	M-REL — E1				
	+B +B1 — E1				
2	IDL — E2	IG SW ON	Throttle valve open	9 — 14	EG-238
	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	
3	VCC — E2		—	4.5 — 5.5	EG-240
	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		
4	#10 } — E01 #60 — E02	IG SW ON		9 — 14	EG-241
5	THA — E2	IG SW ON	Intake air temp. 20°C (68°F)	0.5 — 3.4	EG-242
6	THW — E2		Engine coolant temp. 80°C (176°F)	0.2 — 1.0	EG-243
7	STA — E1	Cranking		6 or more	EG-244
8	IGT — E1	Idling		Pulse generation	EG-245
9	ISC1 } — E1 ISC4	IG SW ON		9 — 14	EG-246
10	W — E1	No trouble (malfunction indicator lamp light off) and engine running		9 — 14	EG-247

ECM Terminals



No.	Terminals	Trouble	Condition	STD voltage
1	BATT - E1	No voltage	—	9 - 14 V
	IG SW - E1	No voltage	IG SW ON	9 - 14 V
	M-REL - E1			
	+B (+B1) - E1			



• BATT - E1

(1) There is no voltage between ECM terminals BATT and E1.

(2) Check that there is voltage between ECM terminal BATT and body ground.

NO

OK

(3) Check wiring between ECM terminal E1 and body ground.

OK

BAD

Try another ECM.

Repair or replace.

Check fuse and fusible link.

BAD

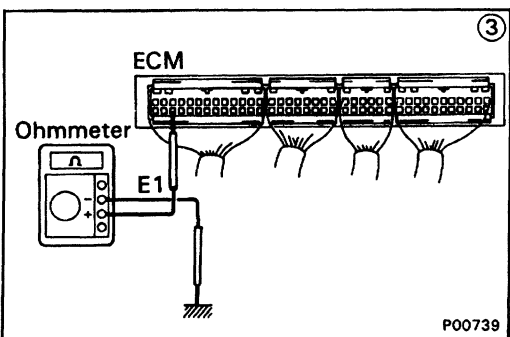
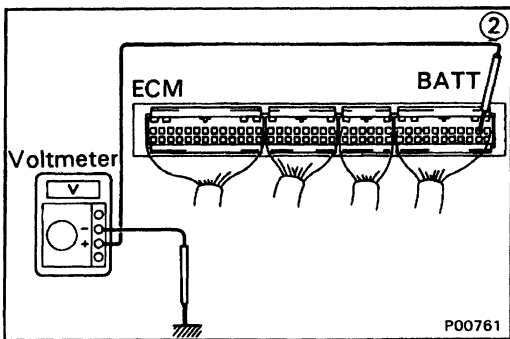
Replace.

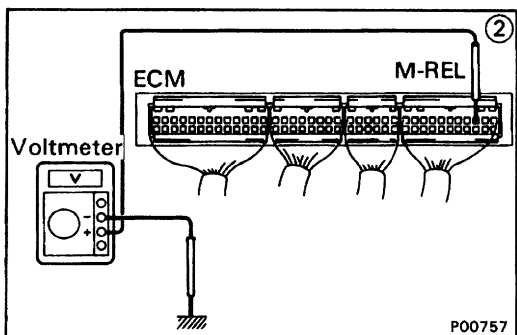
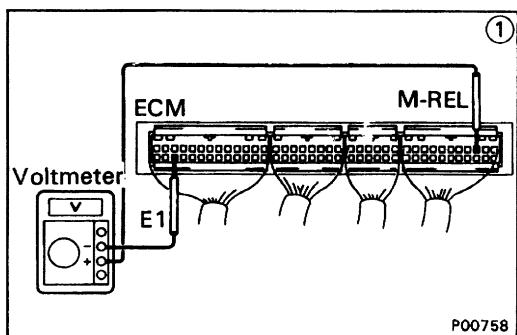
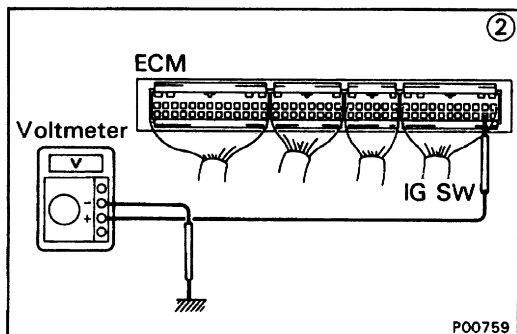
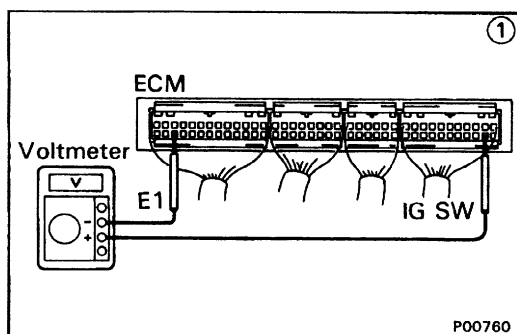
OK

Check wiring between ECM terminal and battery.

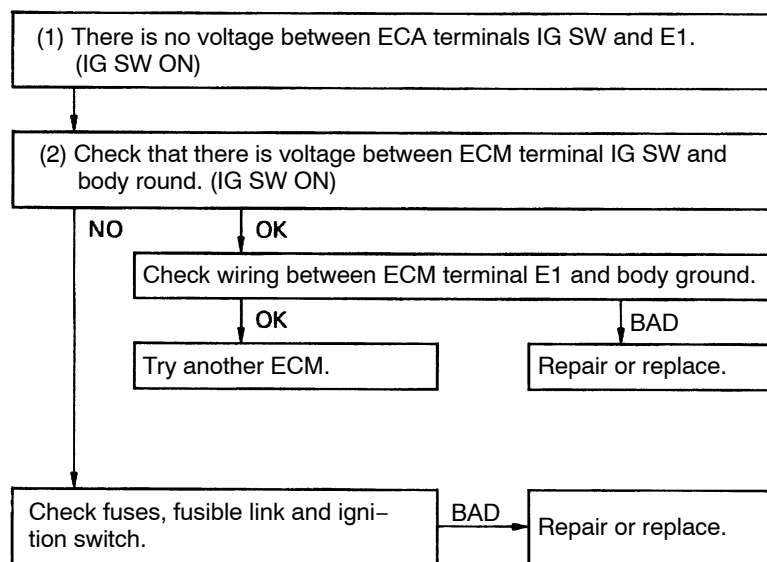
BAD

Repair or replace.

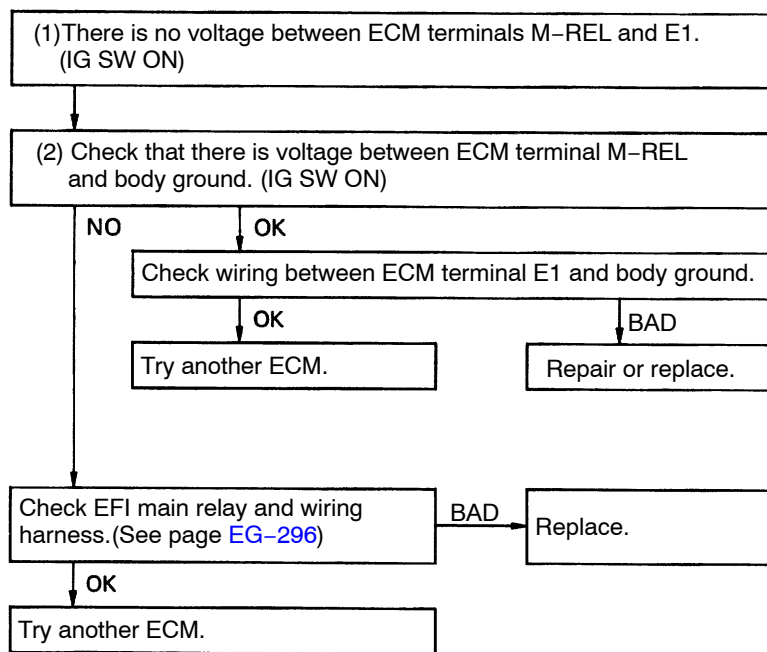


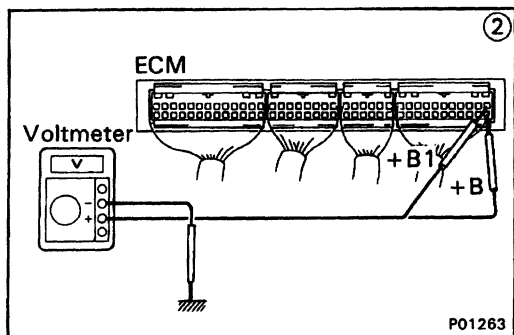
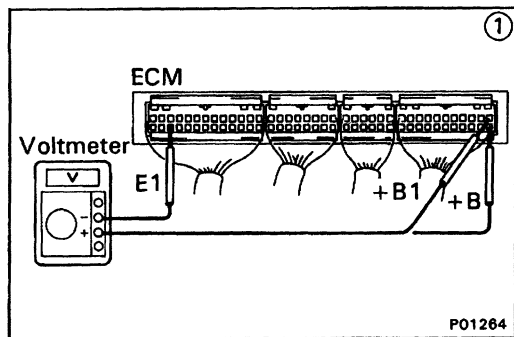


• IG SW-E1

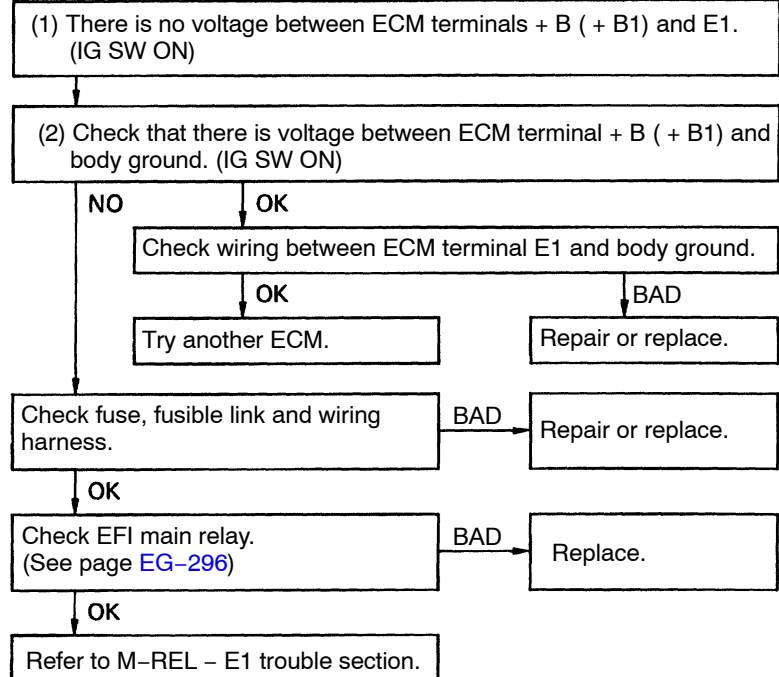


• M-REL - E1

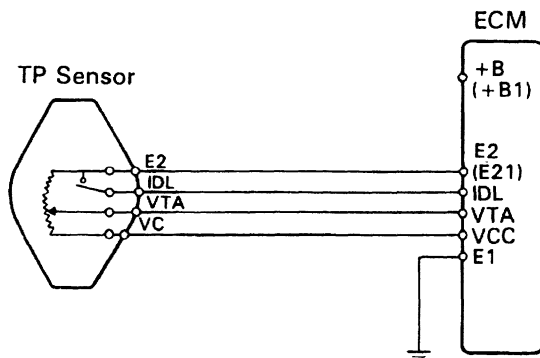




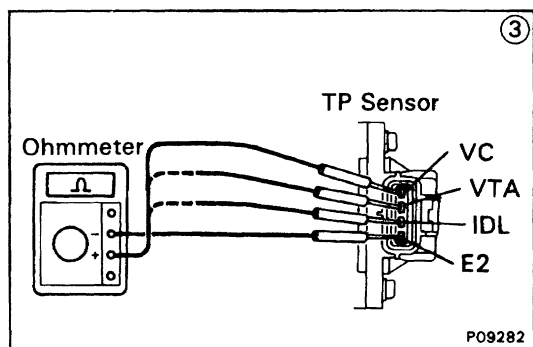
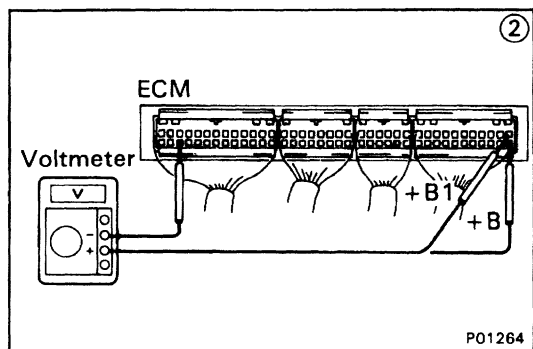
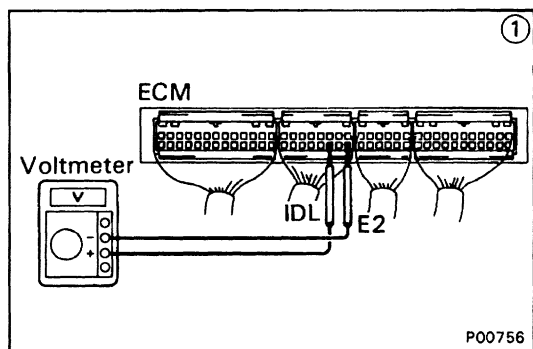
• +B (+B1) - E1



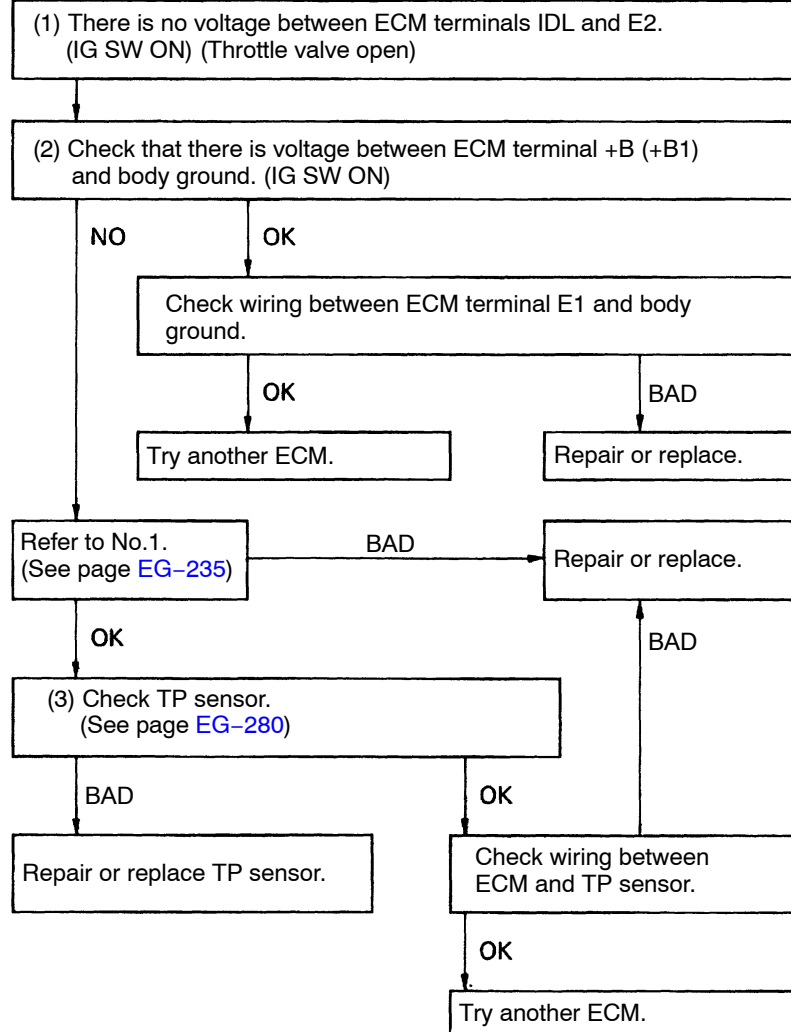
No.	Terminals	Trouble	Condition		STD voltage
2	IDL — E2	No voltage	IG SW ON	Throttle valve open	9 — 14 V
	VCC — E2			—	4.5 — 5.5 V
	VTA — E2			Throttle valve fully closed (Throttle opener must be cancelled first)	0.3 — 0.8 V
				Throttle valve fully open	3.2 — 4.9 V

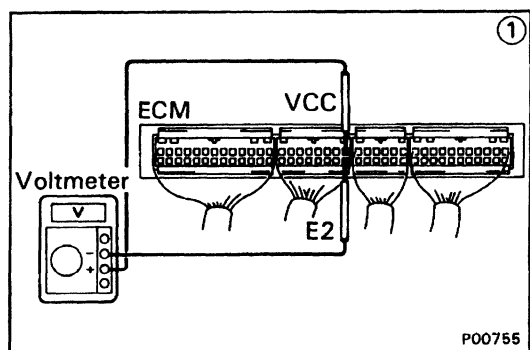


P01419



• IDL - E2





• VCC - E2

(1) There is no voltage between ECM terminals VCC and E2.
(IG SW ON)

Check that there is voltage between ECM terminal +B (+B1)
and body ground. (IG SW ON)

OK

NO

(2) Check TP sensor.
(See page EG-280)

Refer to No.1.
(See page EG-235)

BAD

OK

Repair or replace.

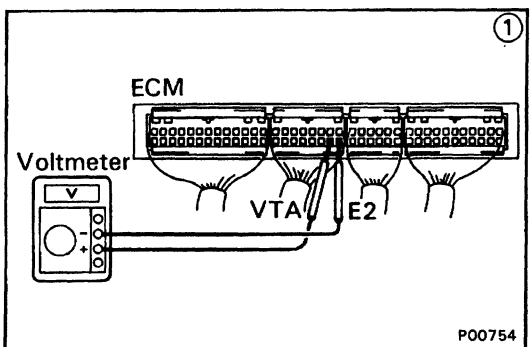
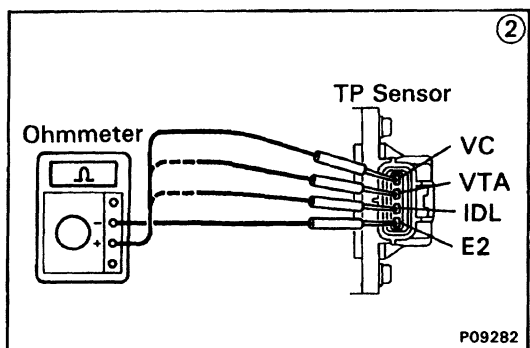
Check wiring between ECM and TP sensor.

OK

BAD

Try another ECM.

Repair or replace
wiring.



• VTA-E2

(1) There is no specified voltage at ECM terminals VTA and E2.
(IG SW ON)

(2) Check that there is voltage between ECM terminals VCC and E2.
(IG SW ON)

NO

OK

Refer to VCC - E2
trouble section.

OK

(3) Check TP sensor
(See page EG-280)

BAD

Repair or replace.

OK

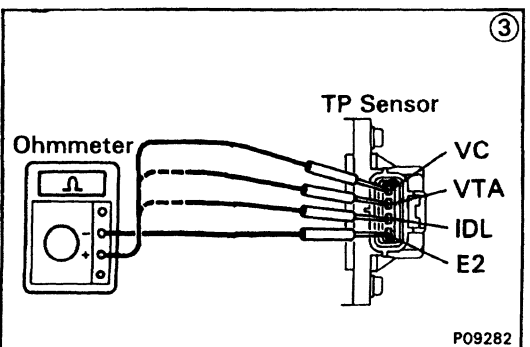
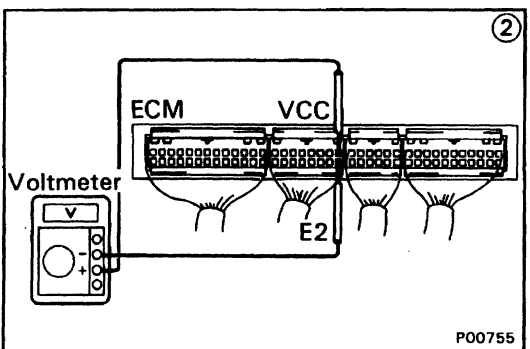
Check wiring between ECM and
TP sensor.

BAD

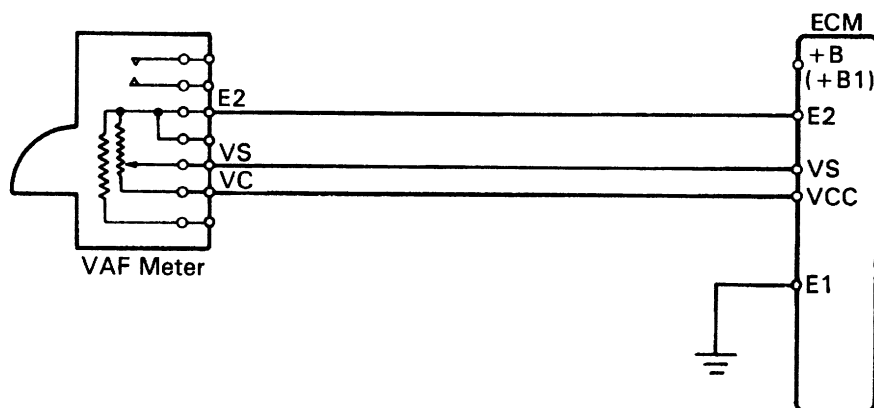
Repair or replace.

OK

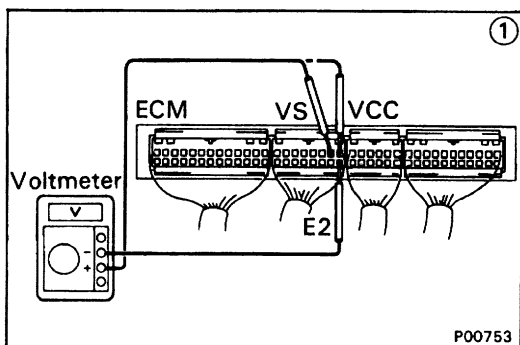
Try another ECM.



No.	Terminals	Trouble	Condition		STD voltage
3	VCC - E2	No voltage	IG SW ON	—	4.5 - 5.5 V
	VS - E2			Measuring plate fully closed	3.5 - 4.5 V
	VS - E2			Measuring plate fully open	0.2 - 0.5 V
	VS - E2		Idling		1.2 - 2.4 V
	VS - E2		3,000 rpm		0.8 - 1.3 V



FI6032



P00753

(1) There is no voltage between ECM terminals VCC or VS and E2. (IG SW ON)

(2) Check that there is voltage between ECM terminal +B (+B1) and body ground. (IG SW ON)

OK

NO

Refer to No.1.
(See page [EG-235](#))

Check wiring between ECM terminal E1 and body ground.

OK

BAD

(3) Check VAF meter.
(See Page [EG-289](#))

BAD

Replace VAF meter.

OK

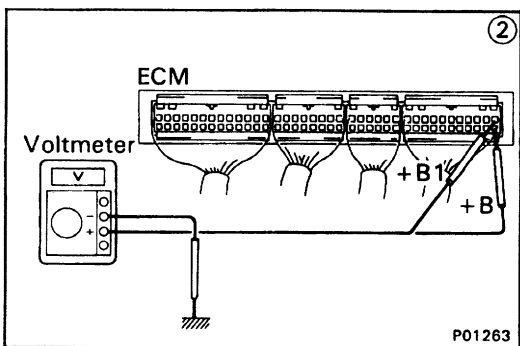
Check wiring between ECM and VAF meter.

OK

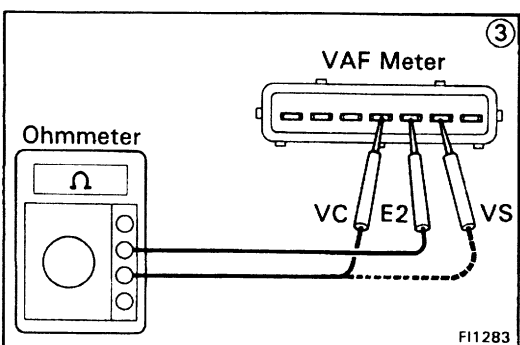
Try another ECM.

BAD

Repair or replace.

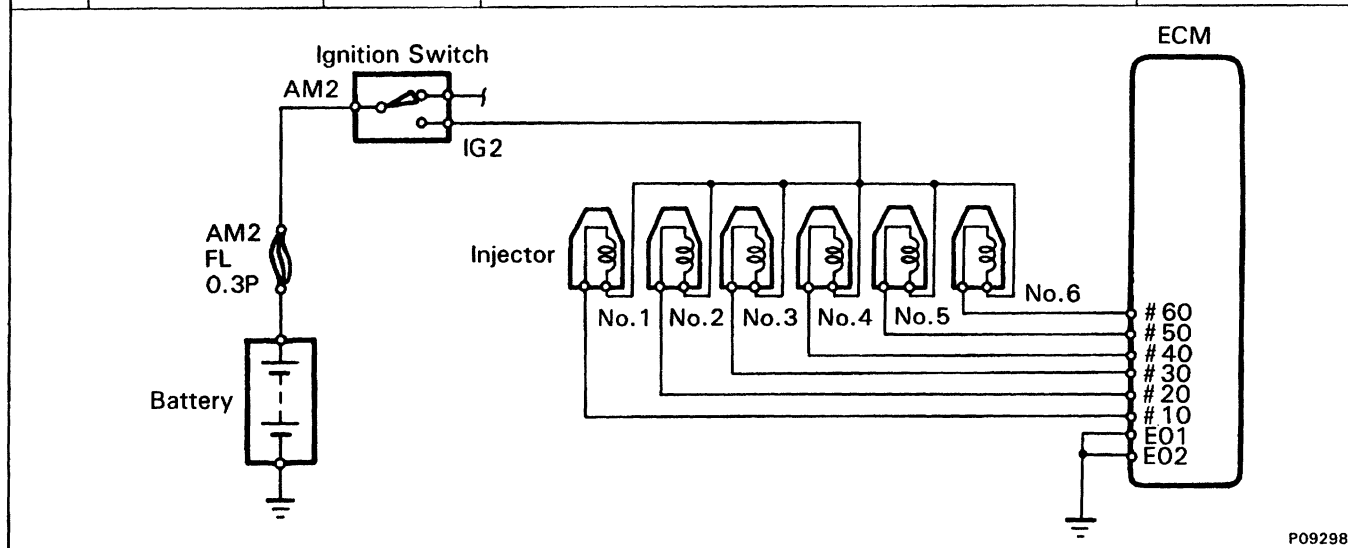


P01263

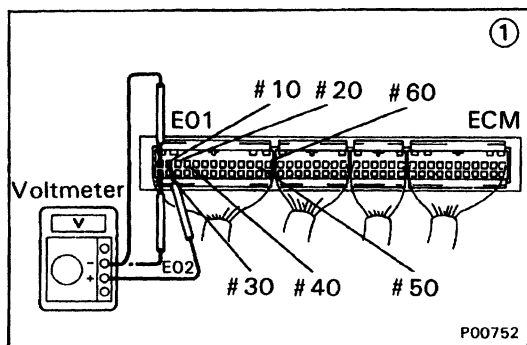


FI1283

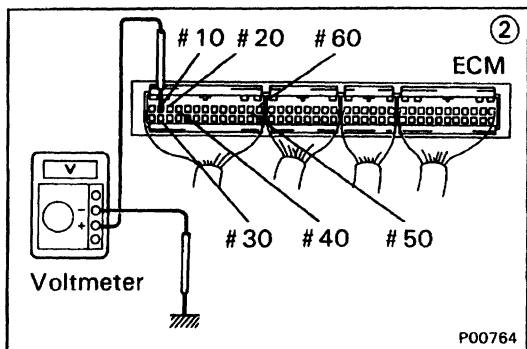
No.	Terminals	Trouble	Condition	STD voltage
4	# 10 E01 # 60 E02	No voltage	IG SW ON	9 - 14 V



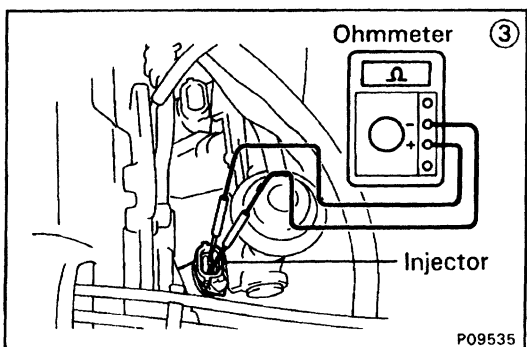
P09298



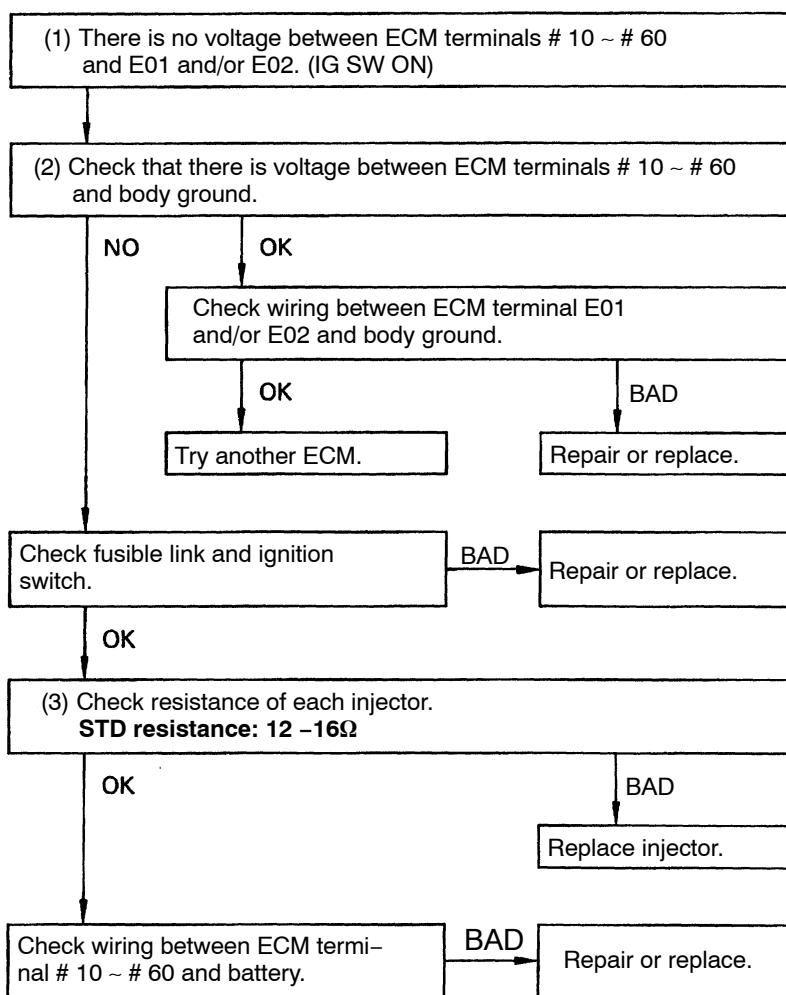
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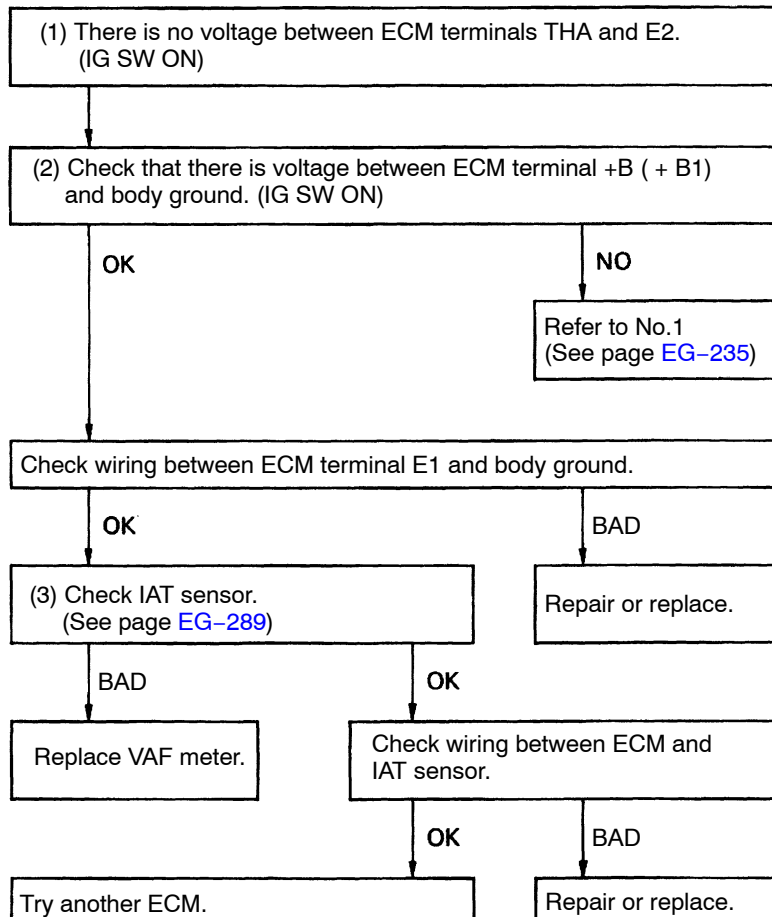
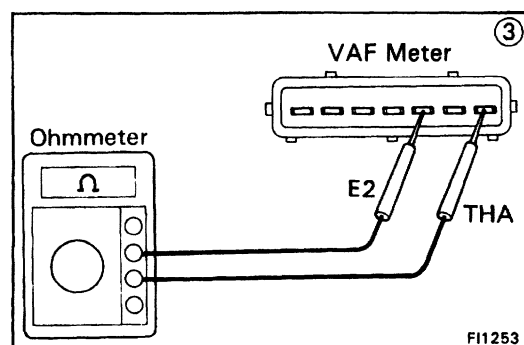
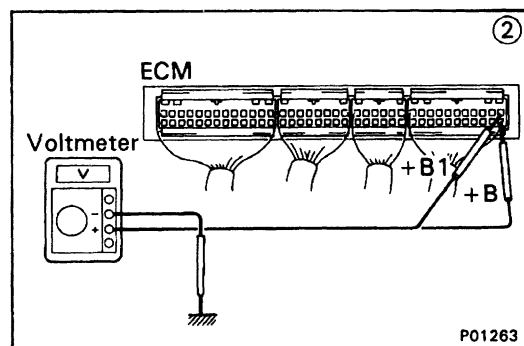
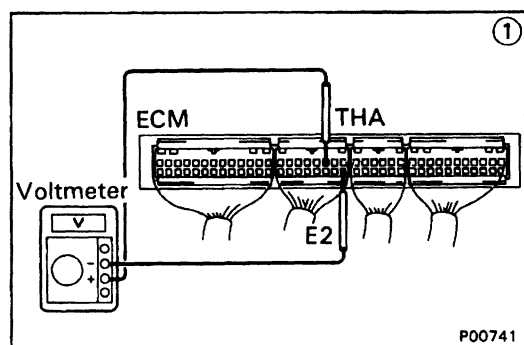
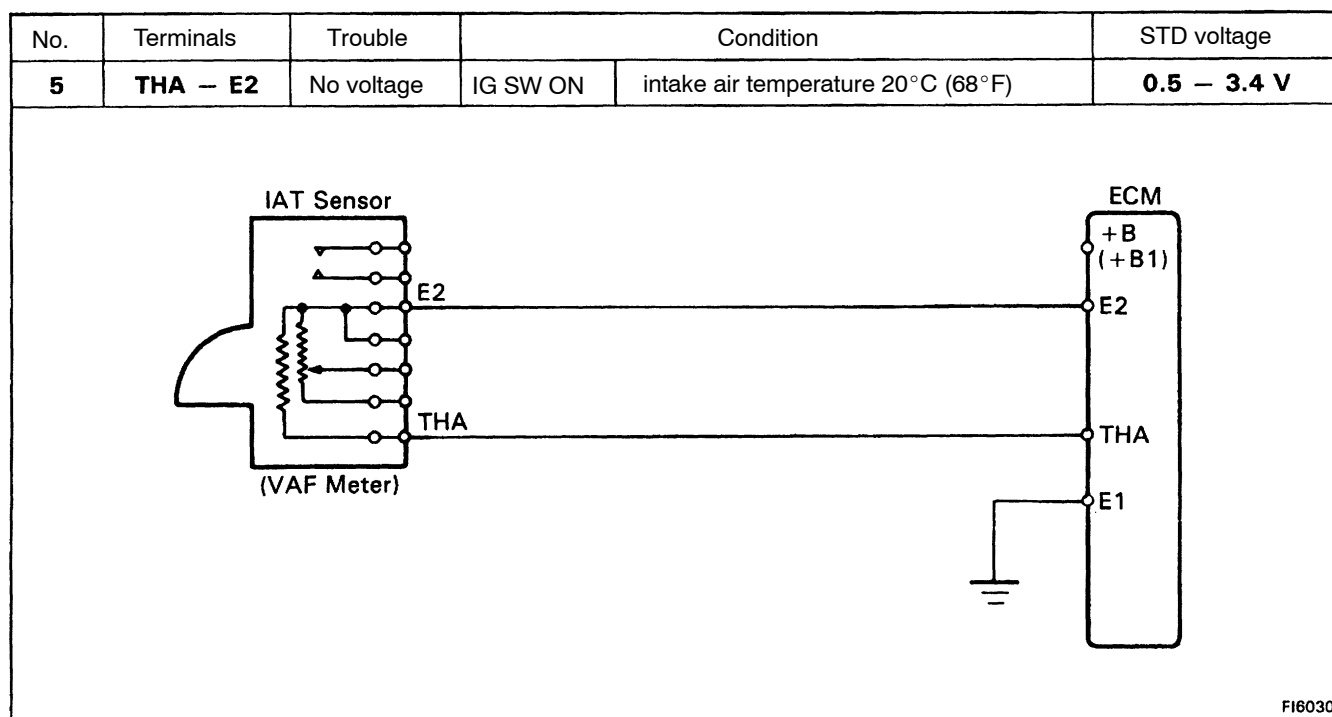


P00764



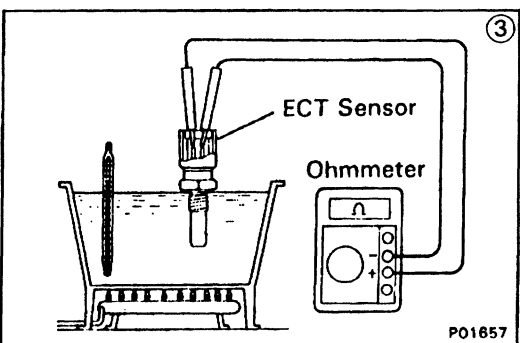
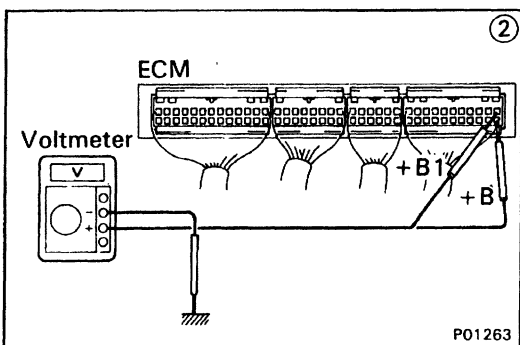
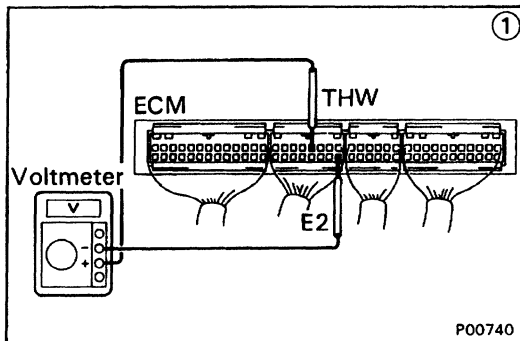
P09535





No.	Terminals	Trouble	Condition		STD voltage
6	THW - E2	No voltage	IG SW ON .	Engine coolant temperature 80° C (176°F)	0.2 - 1.0 V

FI3572



(1) There is no voltage between ECM terminals THW and E2.
(IG SW ON)

(2) Check that there is voltage between ECM terminal +B
(+ B1) and body ground. (IG SW ON)

OK

NO

Refer to No. 1
(See page [EG-235](#))

Check wiring between ECM terminal E1 and body ground.

OK

BAD

(3) Check ECT sensor.
(See page [EG-299](#))

Repair or replace.

BAD

OK

Replace ECT sensor.

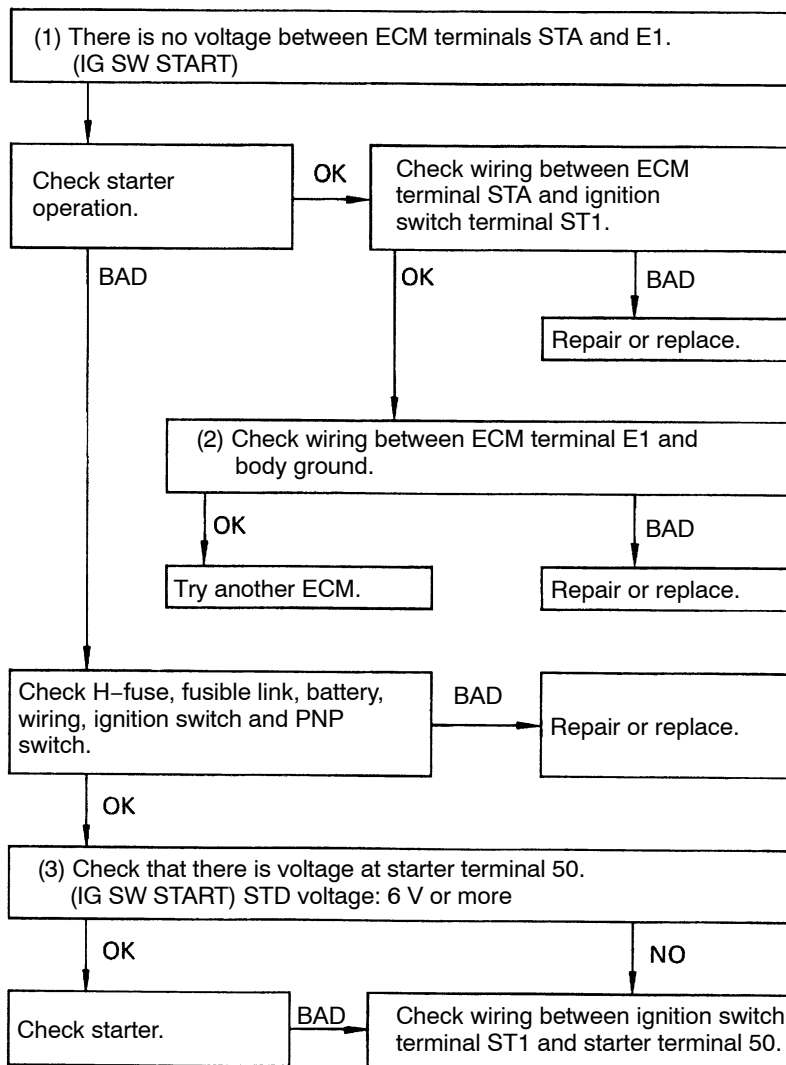
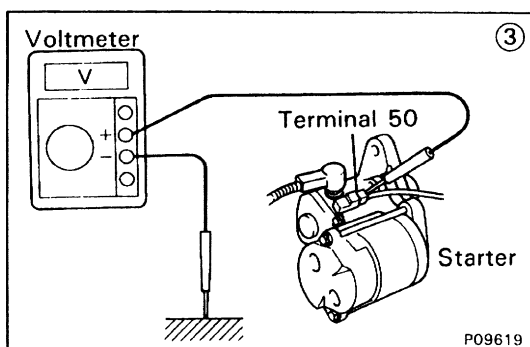
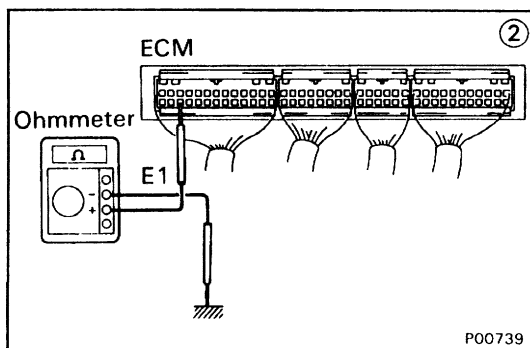
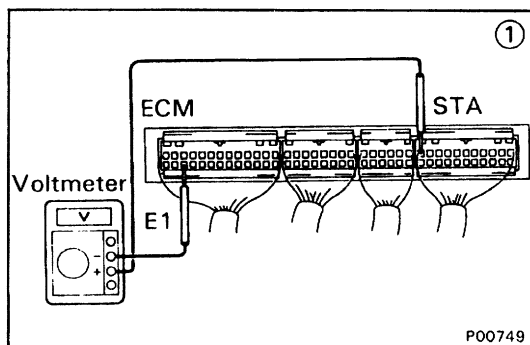
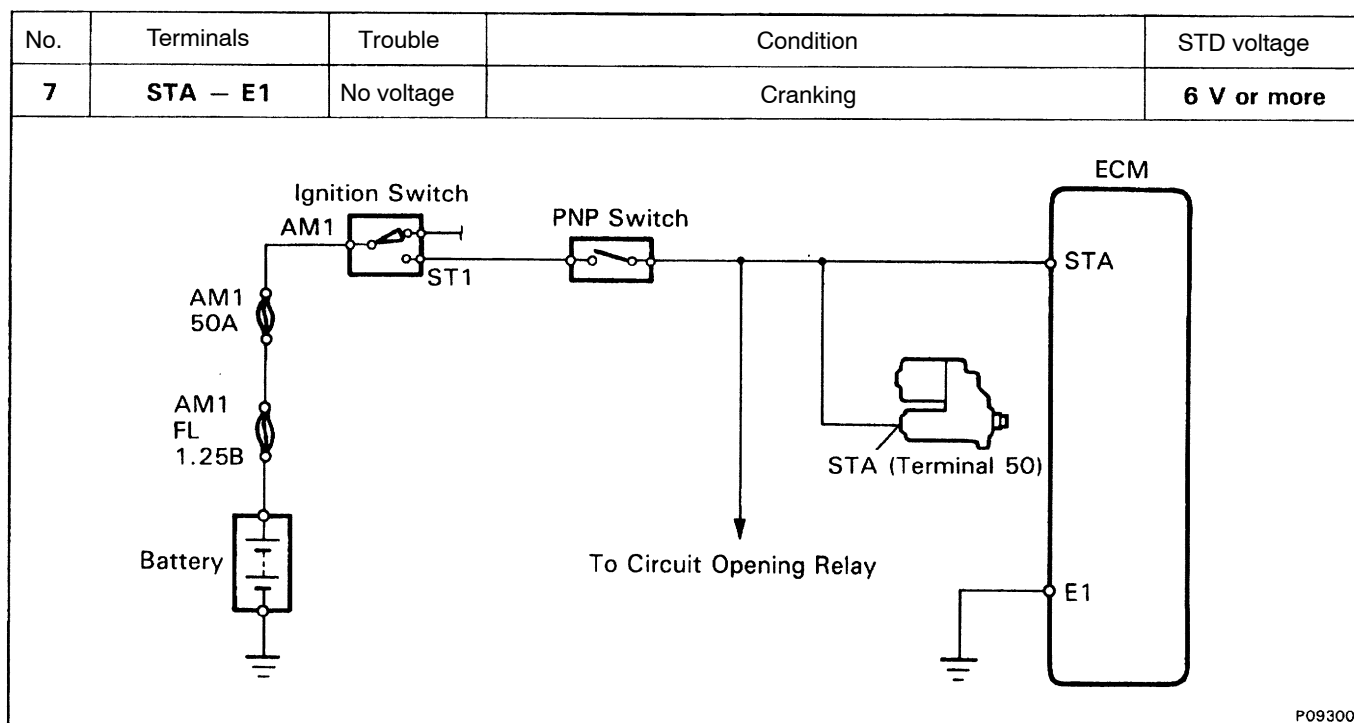
Check wiring between ECM
and ECT sensor.

OK

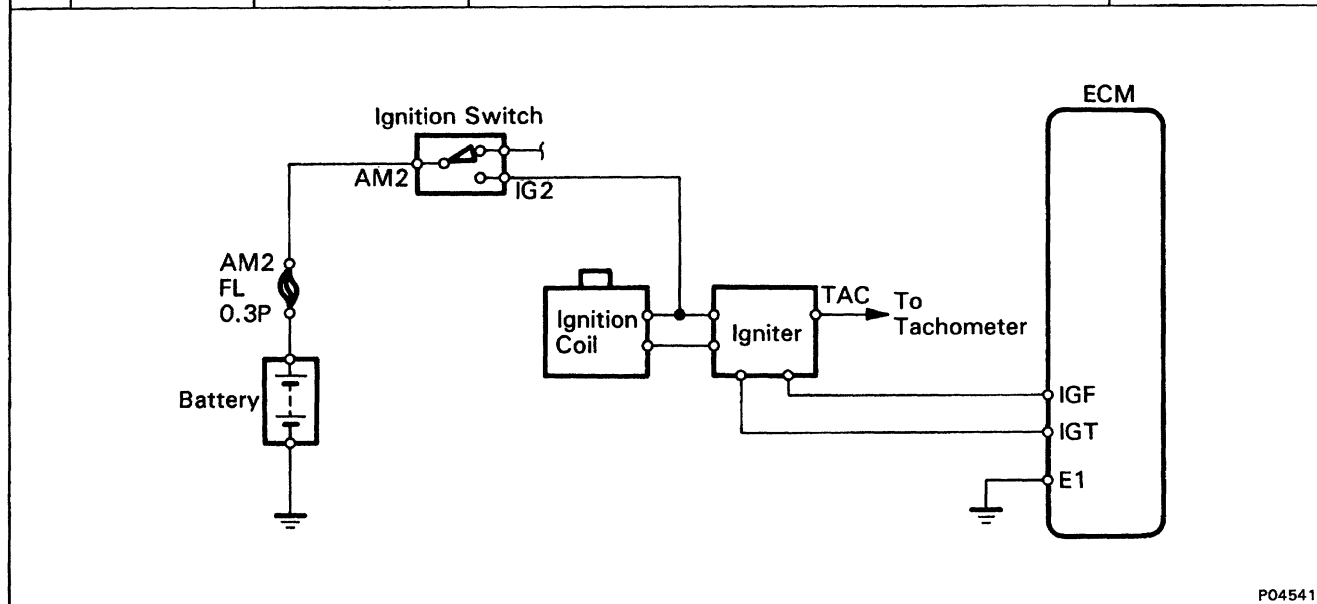
BAD

Try another ECM.

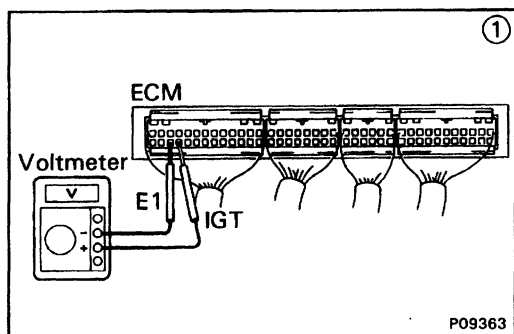
Repair or replace.



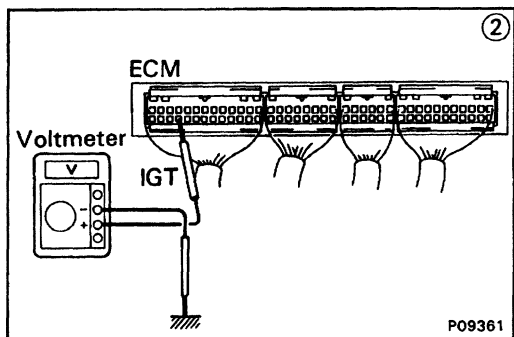
No.	Terminals	Trouble	Condition	STD voltage
8	IGT - E1	No voltage	Idling	False generation



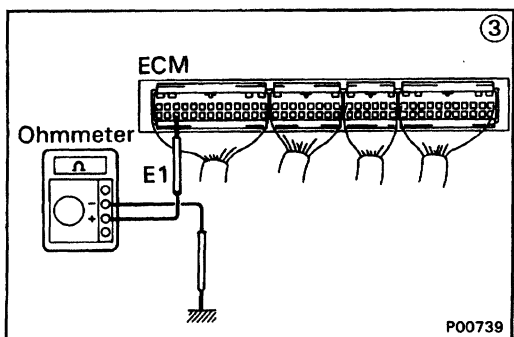
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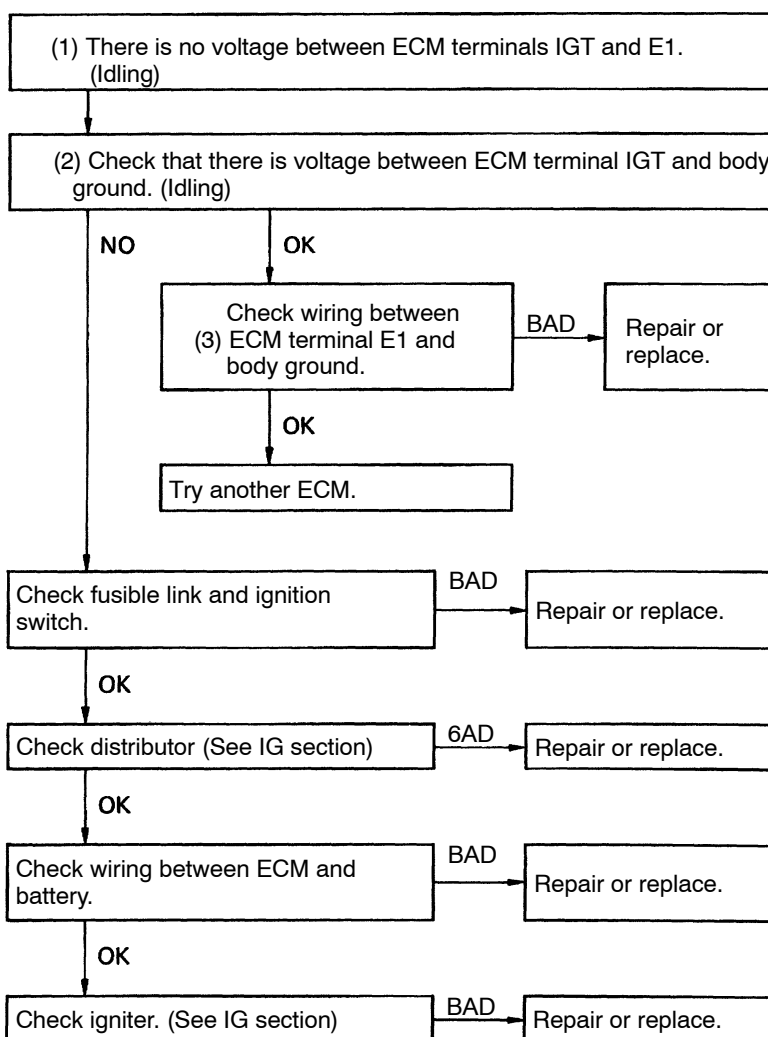
P09363

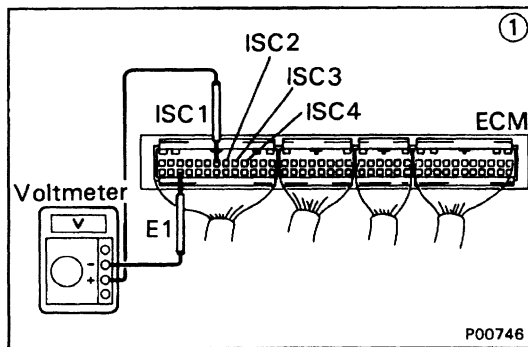
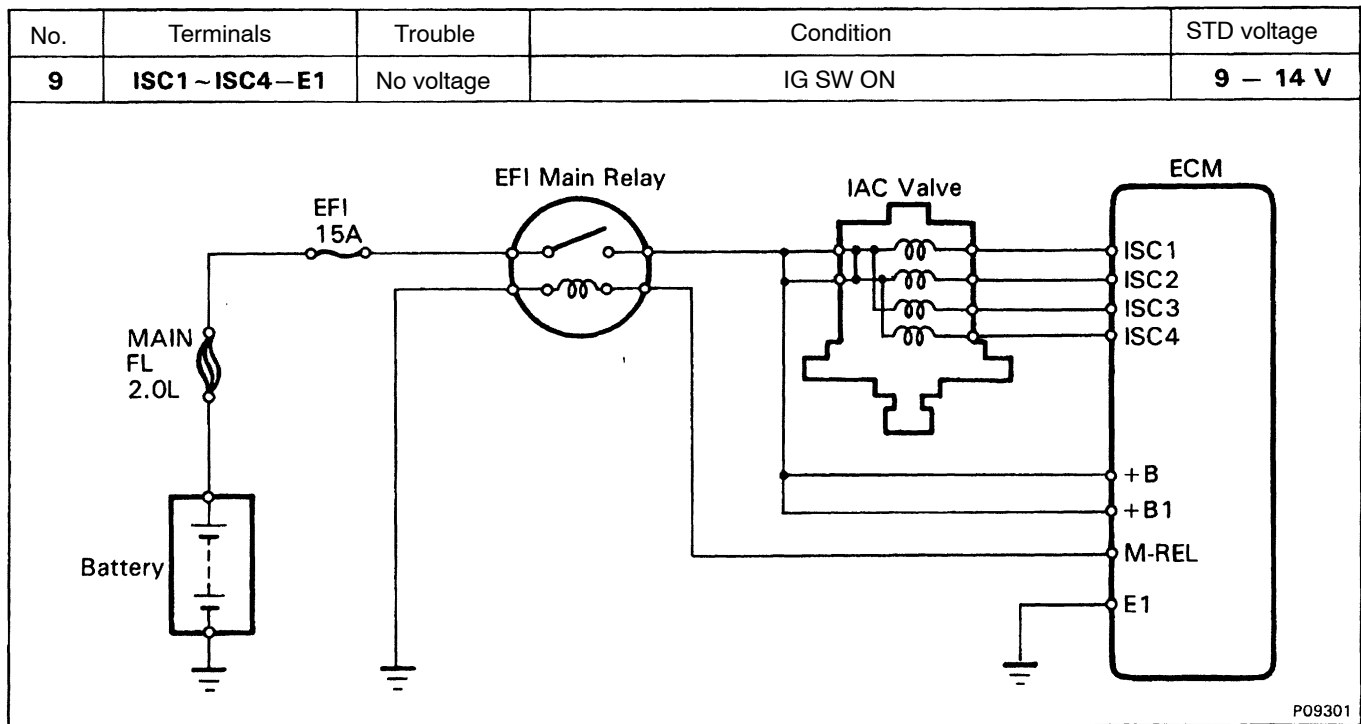


P09361



P00739





(1) There is no voltage between ECM terminals ISC1 - ISC4 and E1. (IG SW ON)

(2) Check that there is voltage between ECM terminal +B (+B1) and body ground. (IG SW ON)

OK

NO

Refer to No.1
(See page [EG-235](#))

Check wiring between ECM terminal E1 and body ground.

OK

BAD

(3) Check IAC valve.
(See page [EG-294](#))

BAD

Replace IAC valve.

OK

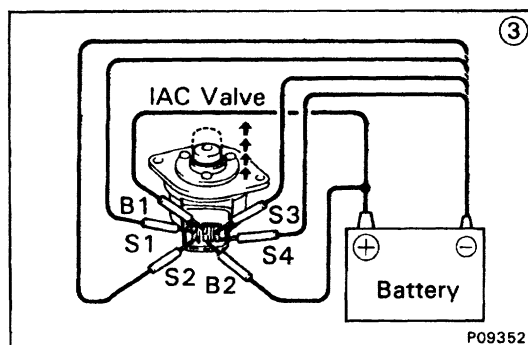
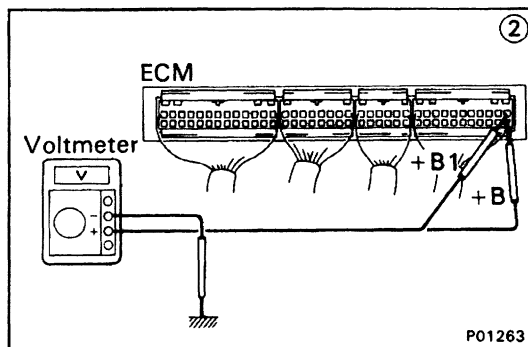
Check wiring between ECM and EFI main relay.

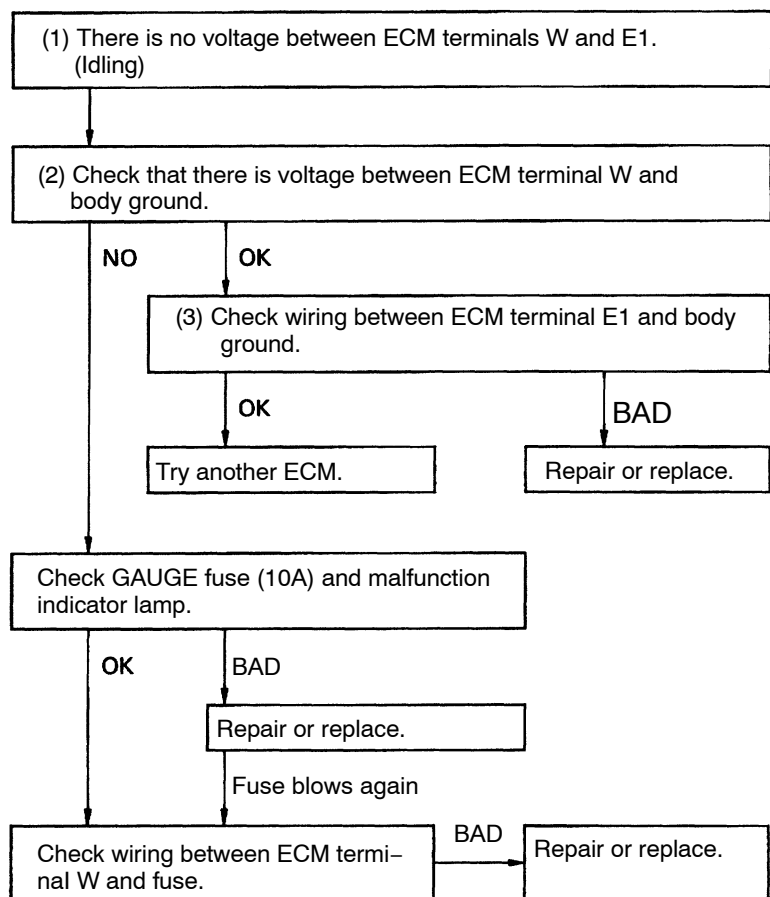
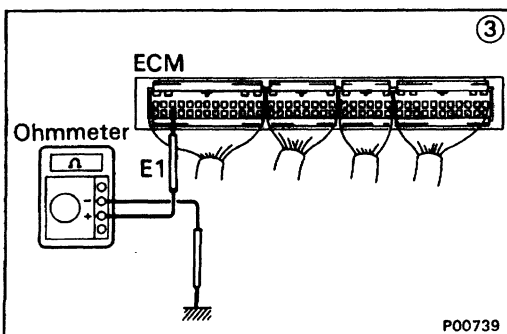
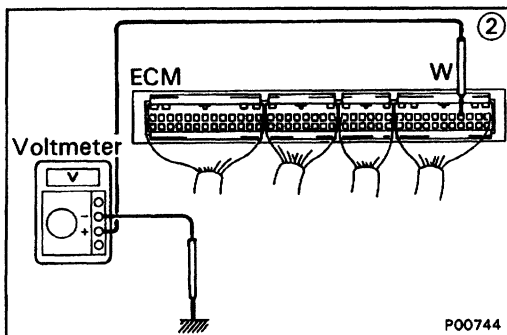
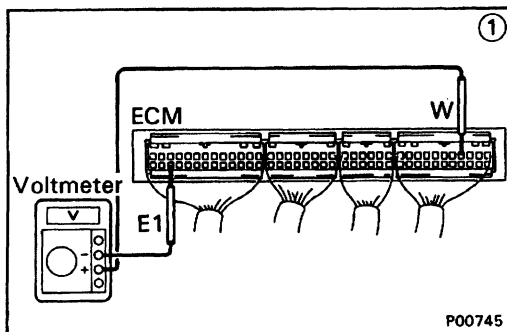
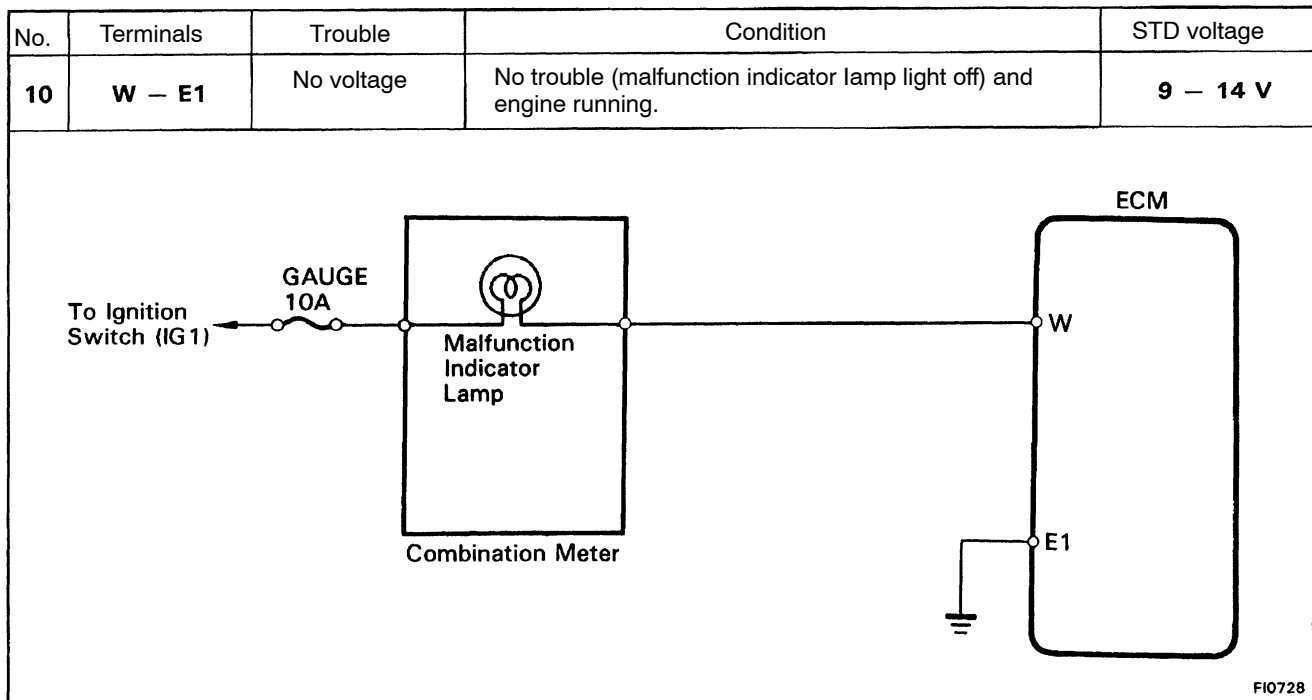
OK

Try another ECM.

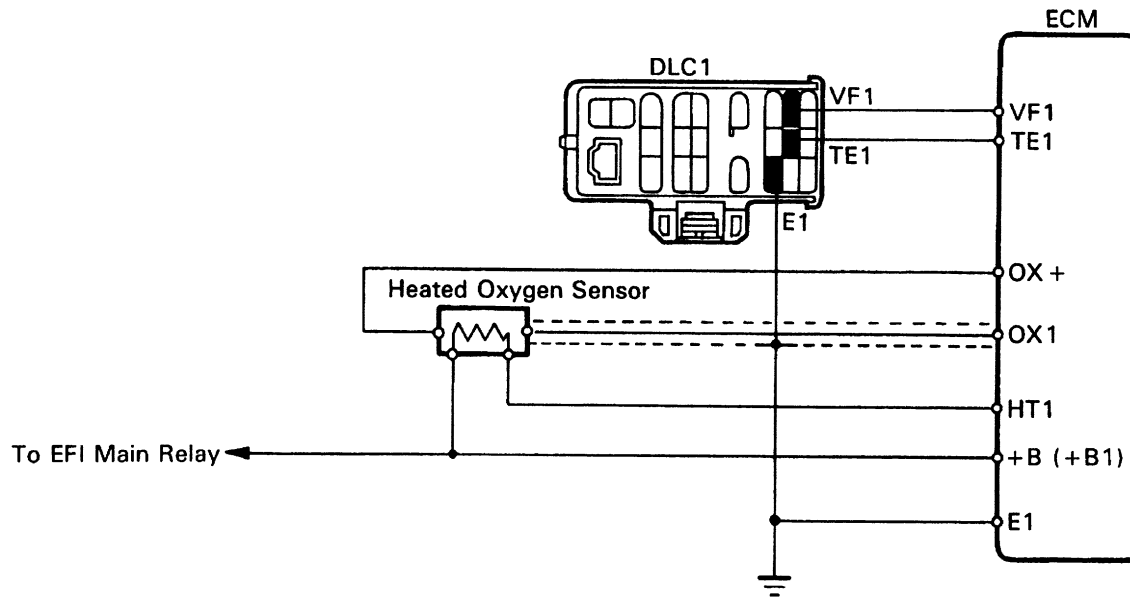
BAD

Repair or replace.

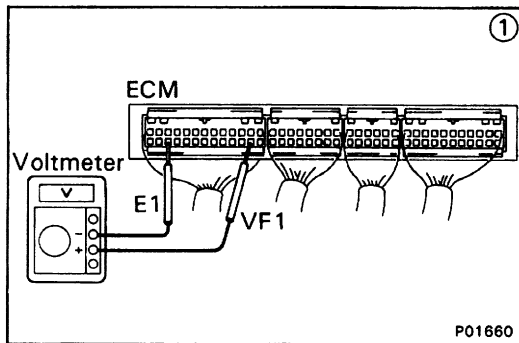




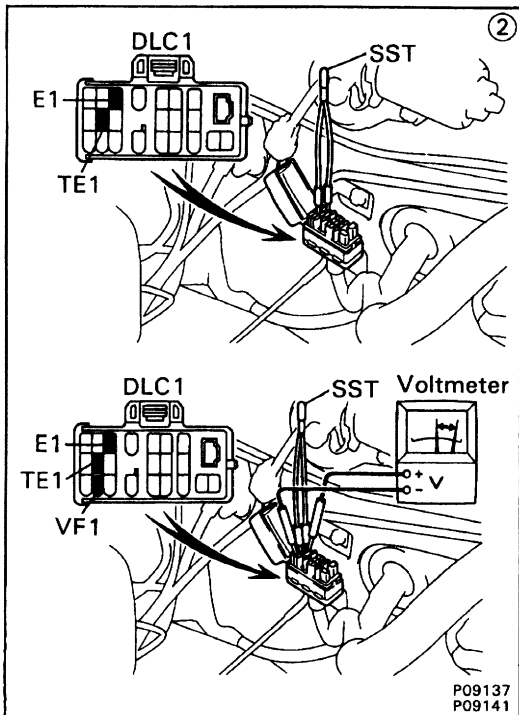
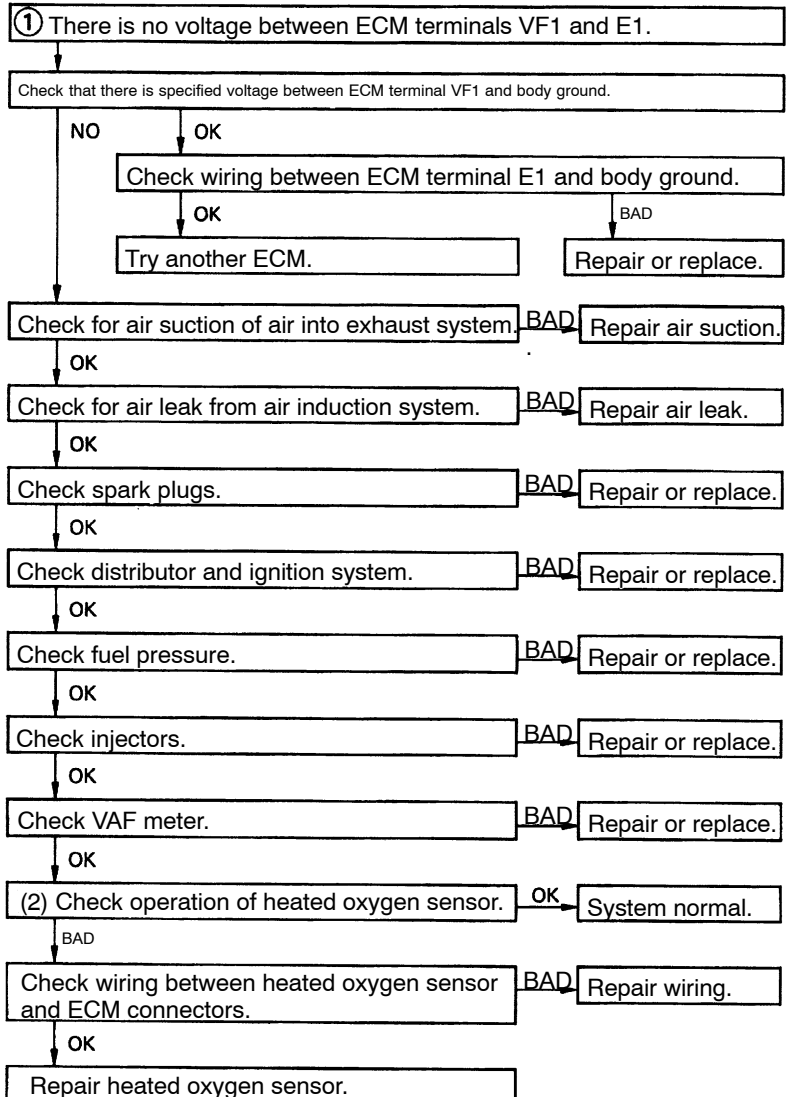
No.1 Heated Oxygen Sensor



P09365

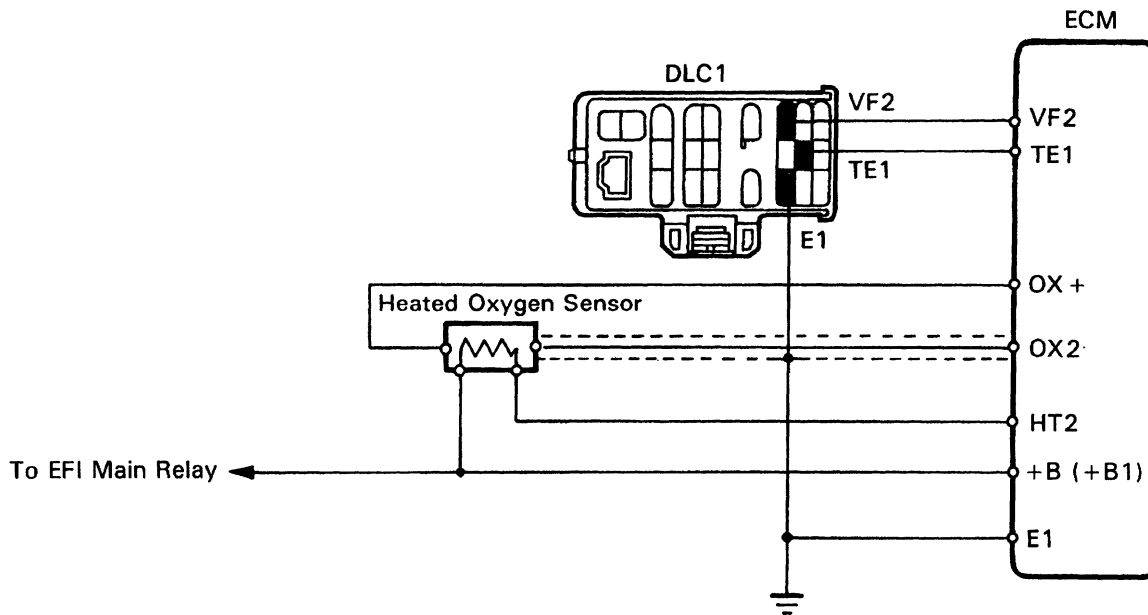


P01660

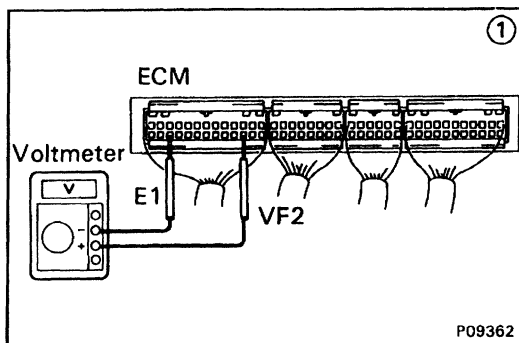
P09137
P09141

V01941

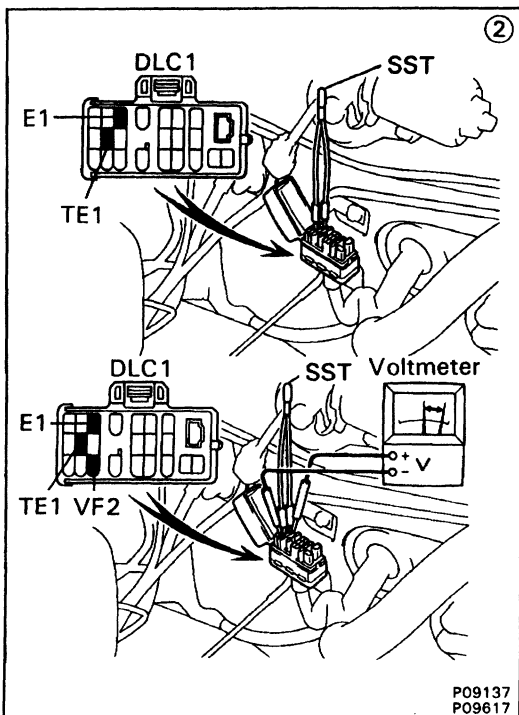
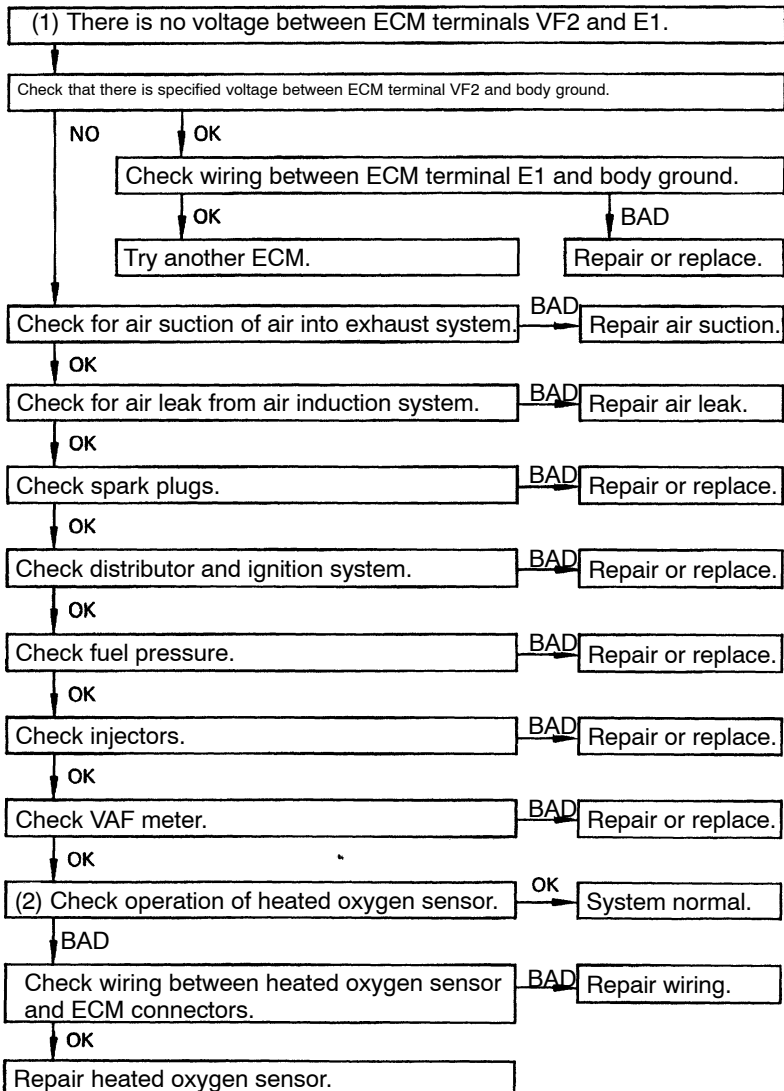
No.1 Heated Oxygen Sensor



P09413

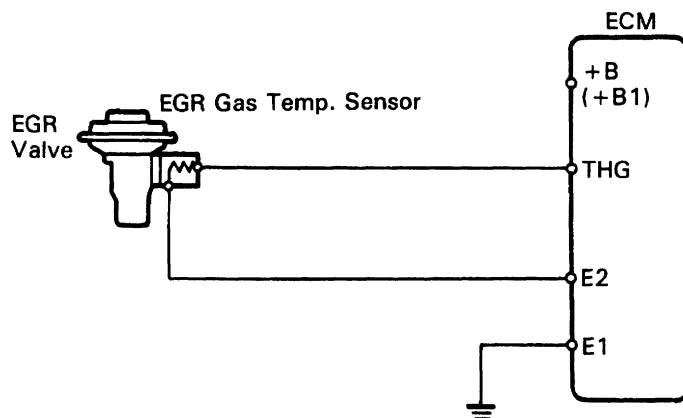


P09362

P09137
P09617

V01942

Calif. only



F12680

