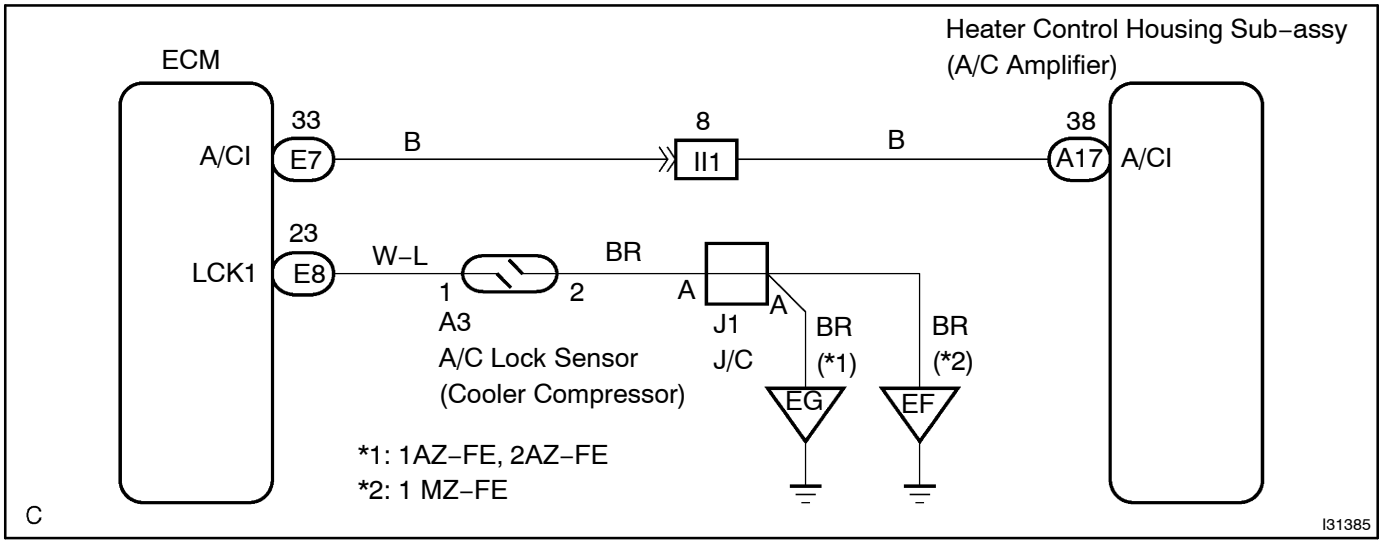
DTC 22 COMPRESSOR LOCK SENSOR CIRCUIT

CIRCUIT DESCRIPTION

This sensor sends 4 pulses par engine revolution to the A/C amplifier. If the number ratio of the compressor speed divided by the engine speed is smaller than a predetermined value, the A/C amplifier turns the compressor off. And, the indicator flashes at about 1 sec. intervals.

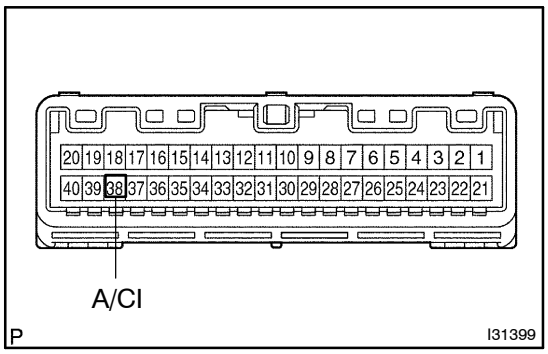
DTC No.	Detection Item	Trouble Area
22	All conditions below are detected for 3 sec. or more. (a) Engine speed : 450 rpm or more. (b) Ratio between engine and compressor speed deviates 20 % or more in comparison to normal operation.	• Compressor • Compressor drive belt • Compressor lock sensor • Harness or connector between compressor and ECM, between ECM and A/C amplifier • A/C amplifier

WIRING DIAGRAM



INSPECTION PROCEDURE

1 INSPECT HEATER CONTROL HOUSING SUB–ASSY(A/CI)



(a) Remove A/C amplifier with connectors still connected.
(b) Turn ignition switch ON.
(c) A/C switch ON.
(d) Measure voltage between terminal A/CI of A/C amplifier and body ground.
Voltage: Below 1 V

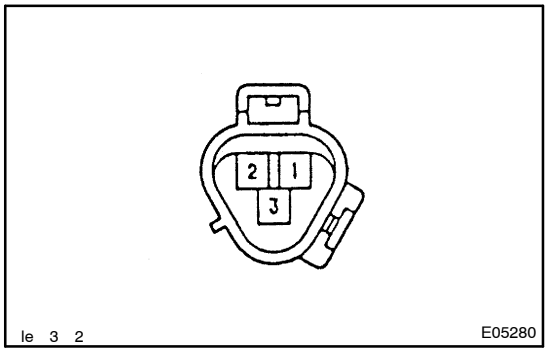
A	NG
B	OK (when checking from the PROBLEM SYMPTOM TABLE)
C	OK (Checking from the DTC)

B → **PROCEED TO NEXT CIRCUIT INSPECTION SHOWN ON PROBLEM SYMPTOM TABLE**

C → **CHECK AND REPLACE HEATER CONTROL HOUSING SUB–ASSY**

A

2 INSPECT COOLER COMPRESSOR ASSY



(a) Disconnect compressor connector.
(b) Measure resistance between terminals 1 and 2 of compressor lock sensor connector.
Resistance: at 20 °C (68 °F): 165 – 205 Ω

NG → **REPLACE COOLER COMPRESSOR ASSY**

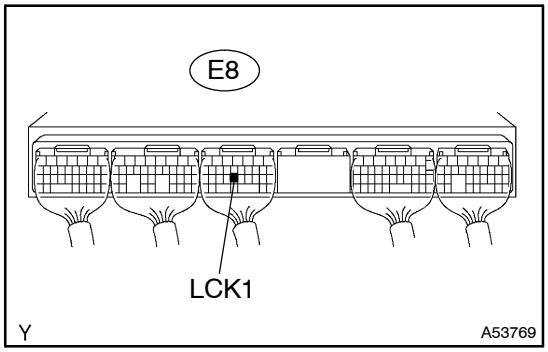
OK

3 CHECK HARNESS AND CONNECTOR(BETWEEN COOLER COMPRESSOR ASSY AND ECM)

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

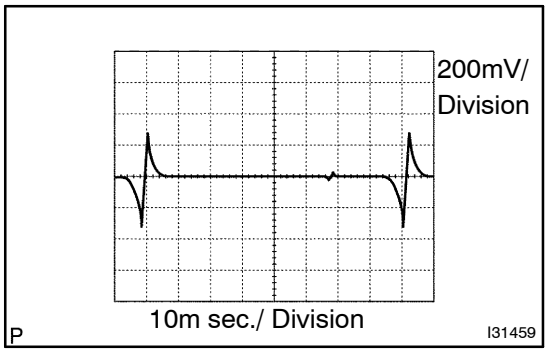
OK

4	INSPECT ECM(LCK1)



(a) Remove ECM with connectors still connected.
(b) Turn ignition switch ON.
(c) A/C switch ON.
(d) Measure waveform between terminal LCK1 of ECM and body ground.
OK : Pulse generation

HINT:
- The correct waveform is as shown.



NG → **CHECK AND REPLACE ECM**

OK

5	CHECK HARNESS AND CONNECTOR(BETWEEN ECM AND HEATER CONTROL HOUSING SUB–ASSY)

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

OK

CHECK AND REPLACE HEATER CONTROL HOUSING SUB–ASSY