

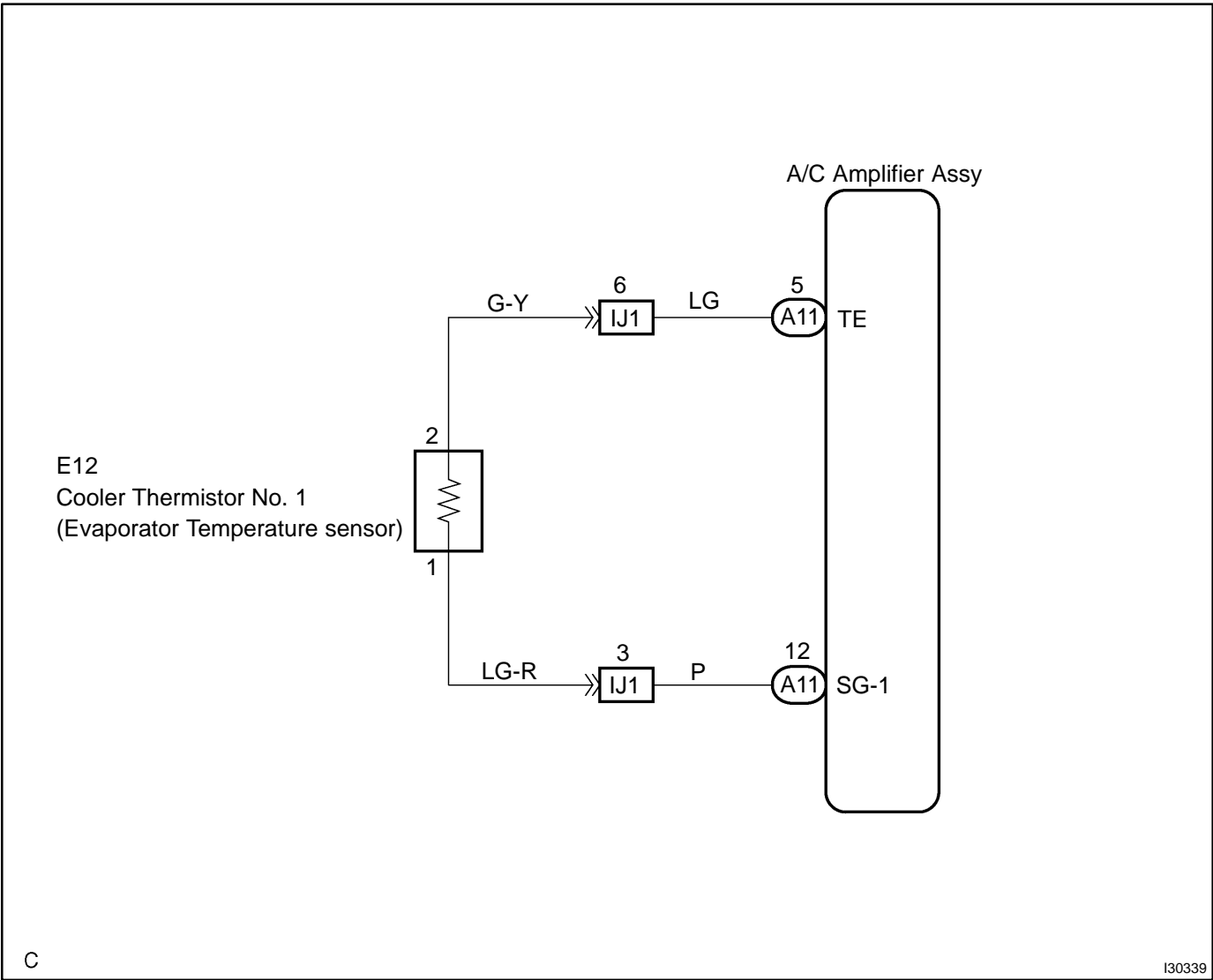
DTC	B1413/13	EVAPORATOR TEMPERATURE SENSOR CIRCUIT
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CIRCUIT DESCRIPTION

This sensor detects the temperature inside the cooling unit and sends the appropriate signals to the A/C amplifier assy.

DTC No.	Detection Item	Trouble Area
B1413/13	Open or short in evaporator temperature sensor circuit.	<ul style="list-style-type: none">• Cooler thermistor No. 1 (Evaporator temperature sensor)• Harness or connector between cooler thermistor No. 1 and A/C amplifier assy.• A/C amplifier assy.

WIRING DIAGRAM



INSPECTION PROCEDURE

HINT:

In case of using the hand-held tester, start the inspection step 1 and in case of not using the hand-held tester, start from step 2.

1 READ VALUE OF HAND-HELD TESTER

- Connect the hand-held tester to DLC3.
- Turn the ignition switch ON and push the hand-held tester main switch ON.
- Select the items below in the DATA LIST, and read the displays on the hand-held tester.

A C:

Item	Measurement Item/Display (Range)	Normal Condition	Diagnostic Note
EVAP TEMP	Evaporator temperature sensor /min.: -29.7°C (-21.46°F) max.: 59.55°C (139.19°F)	Actual evaporator temperature	-

Result:

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

B

REPLACE AIRCONDITIONER AMPLIFIER ASSY

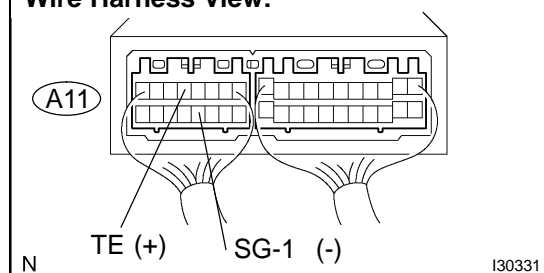
C

**PROCEED TO NEXT CIRCUIT INSPECTION
SHOWN IN PROBLEM SYMPTOMS TABLE(SEE
PAGE 05-1 129)**

A

2 INSPECT AIRCONDITIONER AMPLIFIER ASSY(TE, SG-1)

A/C Amplifier Connector Wire Harness View:



- Remove A/C amplifier assy with connectors still connected.
- Turn the ignition switch to the ON position.
- Measure the voltage according to the value(s) in the table below.

Standard:

Tester connection	Condition	Specified condition
A11-5 (TE) - A11-12 (SG-1)	at 0°C (32°F)	2.0 to 2.4 V
A11-5 (TE) - A11-12 (SG-1)	at 15°C (59°F)	1.4 to 1.8 V

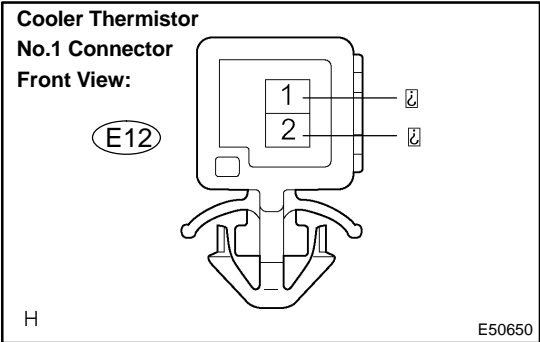
OK

REPLACE AIRCONDITIONER AMPLIFIER ASSY

NG

3

INSPECT COOLER THERMISTOR NO.1(EVAPORATOR TEMPERATURE SENSOR)



- (a)
- Remove cooler thermistor No. 1.
- (b)
- Check resistance between terminals 1 and 2 of cooler thermistor No. 1 at each temperature, as shown in the chart.

Standard:

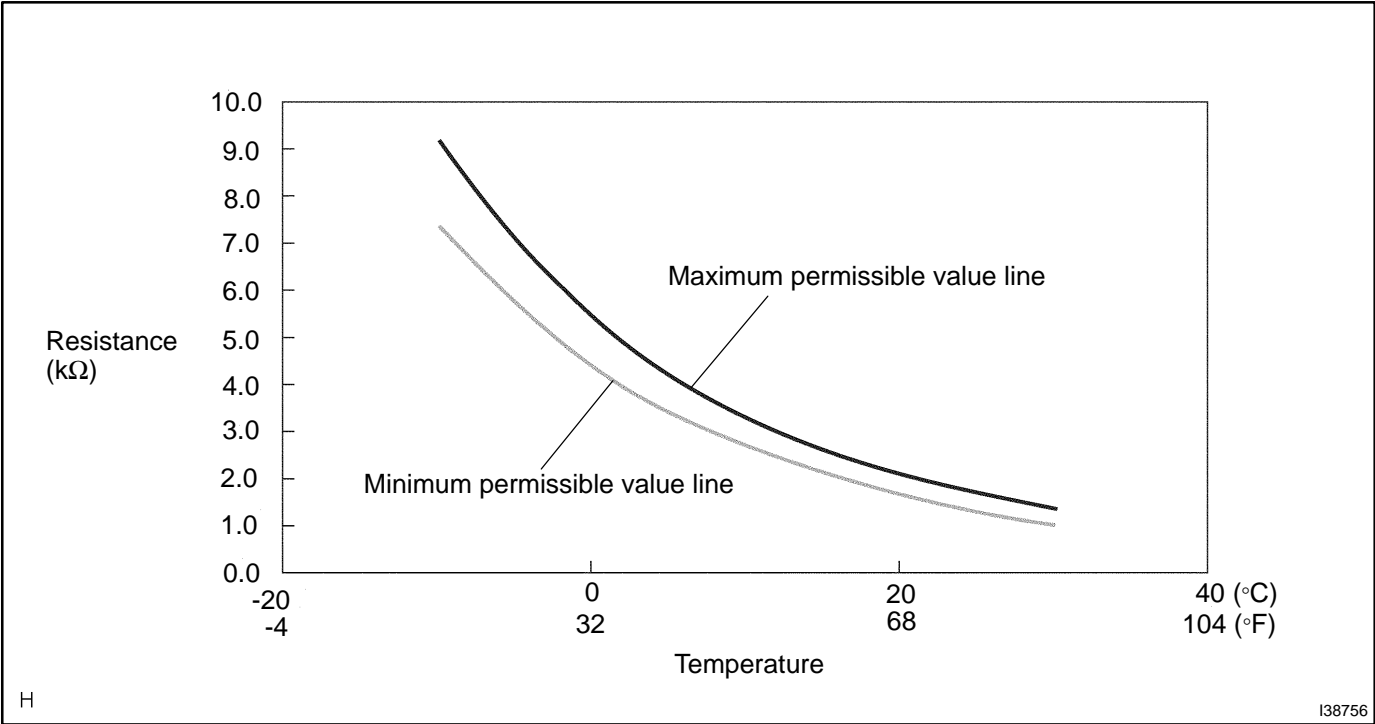
Tester connection	Condition	Specified condition
E12-1 - E12-2	-10 °C (14°F)	7.40 to 9.20 kΩ
E12-1 - E12-2	-5 °C (23°F)	5.65 to 7.00 kΩ
E12-1 - E12-2	0°C (32°F)	4.35 to 5.40 kΩ
E12-1 - E12-2	5°C (41°F)	3.40 to 4.20 kΩ
E12-1 - E12-2	10°C (50°F)	2.68 to 3.30 kΩ
E12-1 - E12-2	15°C (59°F)	2.10 to 2.60 kΩ
E12-1 - E12-2	20°F (68°F)	1.66 to 2.10 kΩ
E12-1 - E12-2	25°C (77°F)	1.32 to 1.66 kΩ
E12-1 - E12-2	30°C (86°F)	1.05 to 1.35 kΩ

NOTICE:

- Even slightly touching the sensor may change the resistance value. Be sure to hold the connector of the sensor.
- When measuring the sensor temperature must be the same as the ambient temperature.

HINT:

As the temperature increases, the resistance decrease (see the graph below).



NG

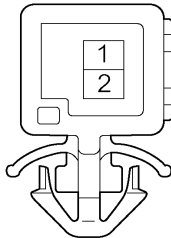
REPLACE COOLER THERMISTOR NO.1(EVAPORATOR TEMPERATURE SENSOR)

OK

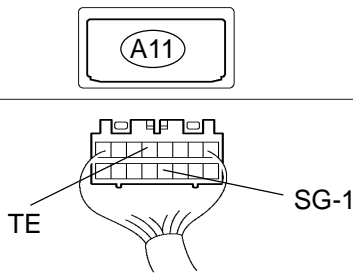
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CHECK HARNESS AND CONNECTOR(COOLER THERMISTER NO.1 (EVAPORATOR TEMPERATURE SENSOR) - A/C AMPLIFIER ASSY)

Cooler Thermistor No.1 Connector
Wire Harness View:



A/C Amplifier Connector
Wire Harness View:



I41012

(a) Measure the resistance according to the value(s) in the table below.

Standard:

Tester connection	Condition	Specified condition
A11-5 (TE) - E12-2	Always	Below 1 Ω
A11-12 (SG-1) - E12-1	Always	Below 1 Ω
A11-5 (TE) - Body ground	Always	10 k Ω or higher
A11-12 (SG-1) - Body ground	Always	10 k Ω or higher

NG

REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE AIRCONDITIONER AMPLIFIER ASSY