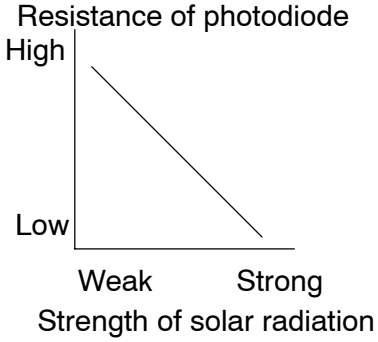
DTC	B1421/21	SOLAR SENSOR CIRCUIT (PASSENGER SIDE)

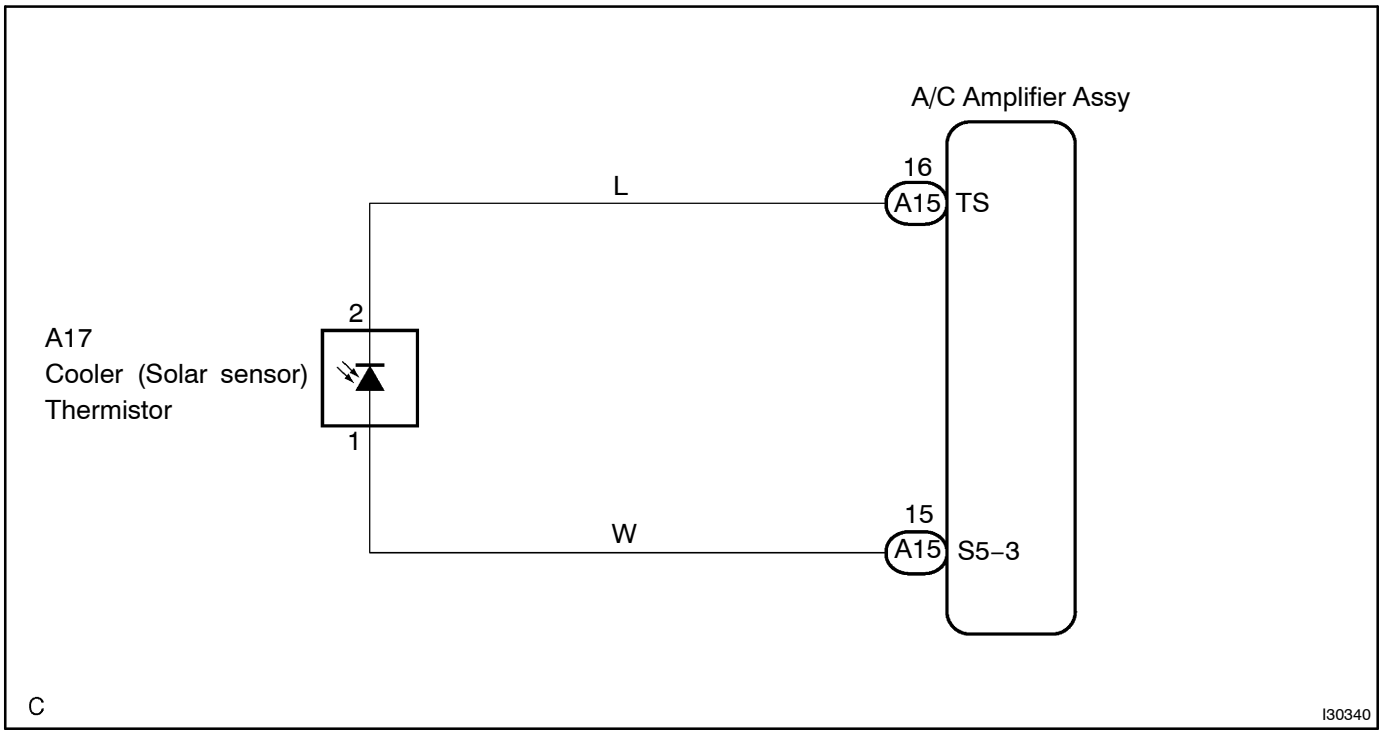
CIRCUIT DESCRIPTION



A photo diode in the solar sensor detects solar radiation and sends signals to the A/C amplifier assy.

DTC No.	Detection Item	Trouble Area
B1421/21	Open or short in solar sensor circuit. (Please note that display of DTC B1421/21 is not abnormal when the sensor is not receiving solar radiation.)	• Cooler (solar sensor) thermistor • Harness or connector between Cooler (solar sensor) Thermistor and A/C amplifier assy • A/C amplifier assy

WIRING DIAGRAM



INSPECTION PROCEDURE

HINT:
In case of using the intelligent tester II, start the inspection from step 1, and in case of not using the intelligent tester II, start from step 2.

1 READ VALUE ON INTELLIGENT TESTER II

(a) Connect the intelligent tester II to the DLC3.
(b) Turn the ignition switch ON and push the intelligent tester II main switch on.
(c) Select the item below in the DATA LIST, and read the display on the intelligent tester II.

A C:

Item	Measurement Item/Display (Range)	Normal Condition	Diagnostic Note
Solar sensor (P side) (Solar Sens–P)	Solar sensor (Passenger side) /min.: 0 max.: 255	Changes depending on brightness	–

Result:

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

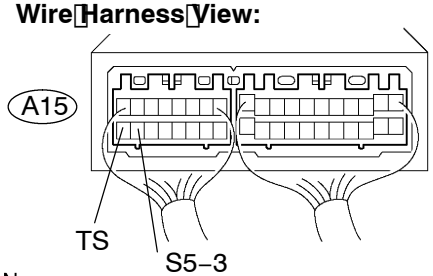
B → **REPLACE AIRCONDITIONER AMPLIFIER ASSY**

C → **PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE (SEE PAGE 05–435)**

A

2 INSPECT AIRCONDITIONER AMPLIFIER ASSY(TS, S5–3)

A/C Amplifier Connector Wire Harness View:



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

Standard:

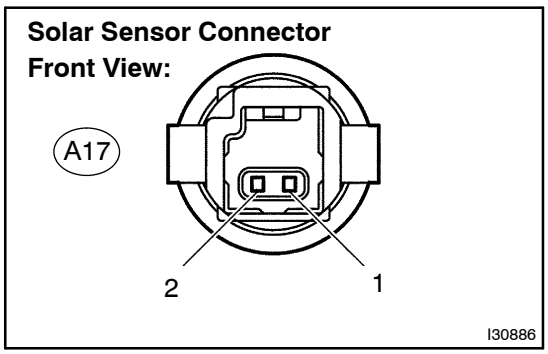
Tester connection	Condition	Specified condition
A15–16 (TS) – A15–15 (S5–3)	Sensor subject to electric light	Below 4.0 V
A15–16 (TS) – A15–15 (S5–3)	Sensor is covered by a cloth	4.0 to 4.5 V

HINT:
As the inspection light is moved away from the sensor, the voltage increases.
Use an incandescent lamp for inspection. Bring it within 30 cm (11.8 in.) of the solar sensor.

OK → **PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE (SEE PAGE 05–435)**

NG

3 INSPECT COOLER (SOLAR SENSOR) THERMISTOR



(a) Remove the cooler (solar sensor) thermistor.
(b) Measure the resistance according to the value(s) in the table below.
(c) Connect the negative (–) lead from the ohmmeter to terminal 1 and positive (+) lead to terminal 2 of the A/C solar sensor.

Standard:

Tester connection	Condition	Specified condition
A17–1 – A17–2	Sensor is subject to electric light	Except ∞ Ω
A17–1 – A17–2	Sensor is covered with a cloth	∞ Ω (No continuity)

NOTICE:

The connection procedure for using a digital tester such as a TOYOTA electrical tester is shown above. When using an analog tester, connect the negative (–) lead to terminal 2 and positive (+) lead to terminal 1 of the A/C solar sensor.

HINT:

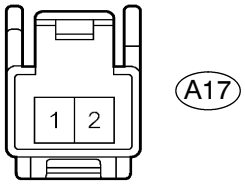
- As the inspection light is moved away from the sensor, the resistance increases.
- Use an incandescent lamp for inspection. Bring it within 30 cm (11.8 in.) of the cooler (solar sensor) thermistor.

NG → **REPLACE COOLER (SOLAR SENSOR) THERMISTOR**

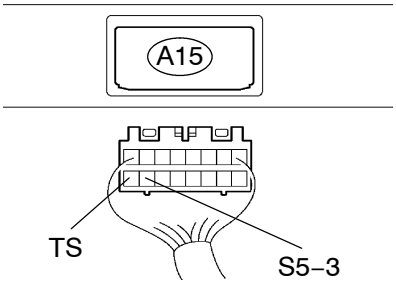
OK

4	CHECK HARNESS AND CONNECTOR(COOLER (SOLAR SENSOR) THERMISTOR – A/C AMPLIFIER ASSY)

Cooler (Solar Sensor) Thermistor Connector Wire Harness View:



A/C Amplifier Connector Wire Harness View:



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

Standard:

Tester connection	Condition	Specified condition
A15–15 (S5–3) – A17–1	Always	Below 1 Ω
A15–16 (TS) – A17–2	Always	Below 1 Ω
A15–15 (S5–3) – Body ground	Always	10 kΩ or higher
A15–16 (TS) – Body ground	Always	10 kΩ or higher

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

OK

REPLACE AIRCONDITIONER AMPLIFIER ASSY