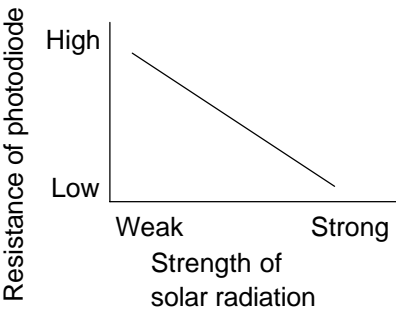


|     |    |                      |
|-----|----|----------------------|
| DTC | 21 | Solar Sensor Circuit |
|-----|----|----------------------|

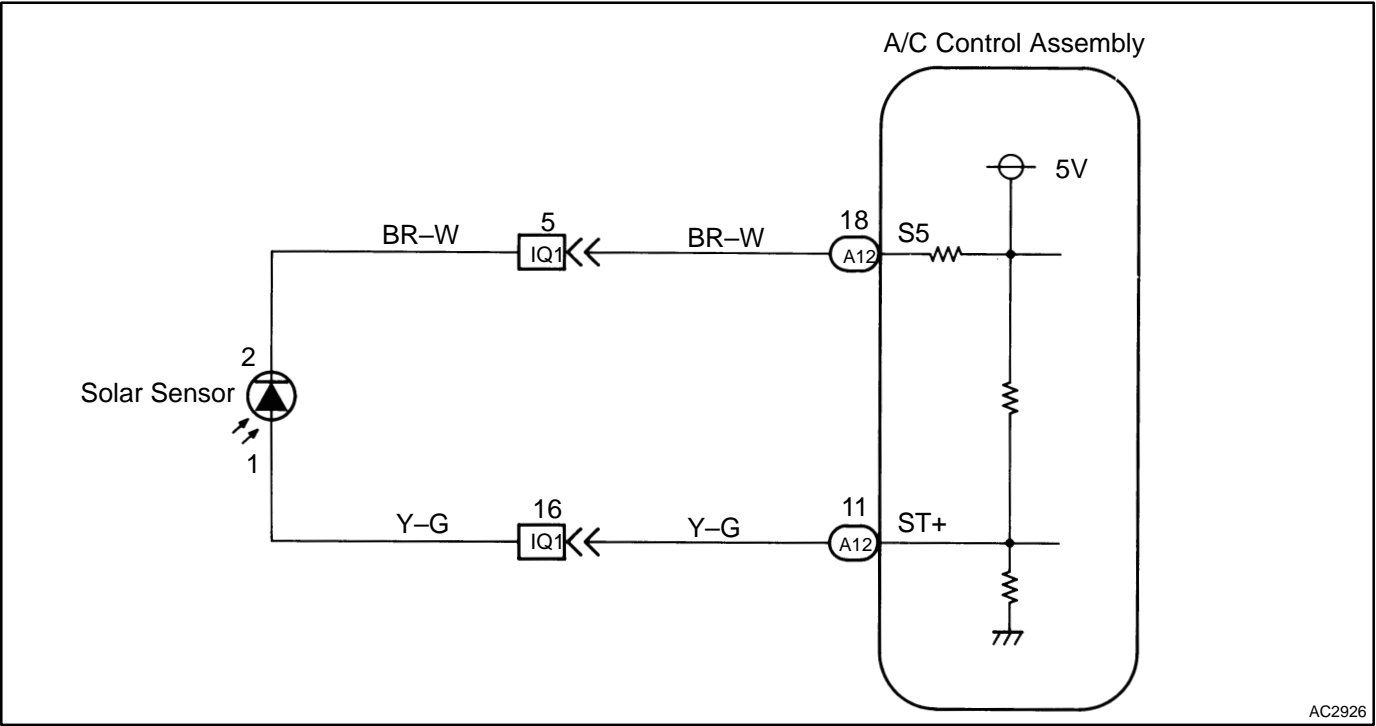
CIRCUIT DESCRIPTION



A photo diode in the solar sensor detects solar radiation and sends signals to the air conditioning control assembly.

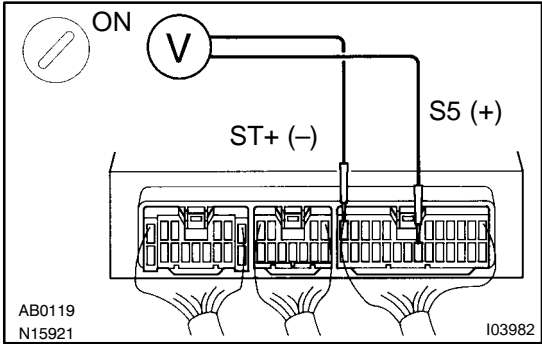
| DTC No. | DTC Detecting Condition  | Trouble Area  |
|---------|--|---|
| 21      | Open or short in solar sensor circuit.<br>(Please note that display of diagnostic trouble code 21 is not abnormal when the sensor is not receiving solar radiation.) | <ul style="list-style-type: none"><li>• Solar sensor.</li><li>• Harness or connector between solar sensor and A/C control assembly.</li><li>• A/C control assembly.</li></ul> |

WIRING DIAGRAM



# INSPECTION PROCEDURE

|   |  |
|---|--|
| 1 | Check voltage between terminals S5 and ST+ of air conditioning control assembly connector. |
|---|--|



## PREPARATION:

- Remove A/C control assembly with connectors still connected.
- Turn ignition switch ON.

## CHECK:

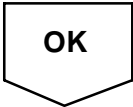
Measure voltage between terminals S5 and ST+ of air conditioning control assembly connector when the solar sensor is subjected to an electric light, when the sensor is covered by a cloth.

## OK:

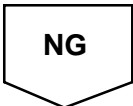
| Condition                          | Voltage   |
|------------------------------------|-----------|
| Sensor subjected to electric light | Below 4 V |
| Sensor covered by a cloth          | 4 – 4.5 V |

## HINT:

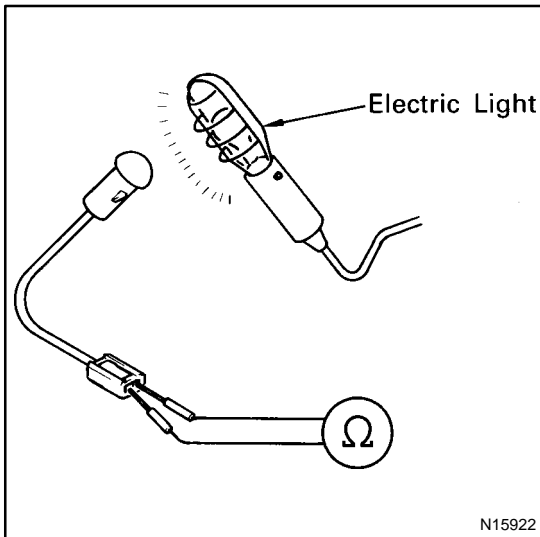
As the inspection light is gradually moved away from the sensor, the voltage increases.



|   |
|---|
| Proceed to next circuit inspection shown on matrix chart (See page DI-821). However, if DTC 21 is displayed, check and replace air conditioning control assembly. |
|---|



## 2 Check solar sensor.

**PREPARATION:**

Remove solar sensor (See page [AC-65](#)).

**CHECK:**

- Cover the sensor by a cloth.
- Measure resistance between terminals 1 and 2 of solar sensor connector.

**HINT:**

Connect positive  $\oplus$  lead of ohmmeter to terminal 2 and negative  $\ominus$  lead to terminal 1 of the solar sensor.

**PREPARATION:**

- Remove the cloth from the solar sensor and subject the sensor to electric light.
- Measure resistance.

**OK:**

**Resistance: Approx. 4 k $\Omega$  (continuity)**

**HINT:**

As the electric light is moved gradually away from the sensor, the resistance increases.

**NG**

**Replace solar sensor.**

**OK**

## 3 Check for open and short in harness and connector between air conditioning control assembly and solar sensor (See page [IN-29](#)).

**NG**

**Repair or replace harness or connector.**

**OK**

**Check and replace air conditioning control assembly.**