

SUNROOF/T-TOP/CONVERTIBLE TOP (SUNROOF)

SR

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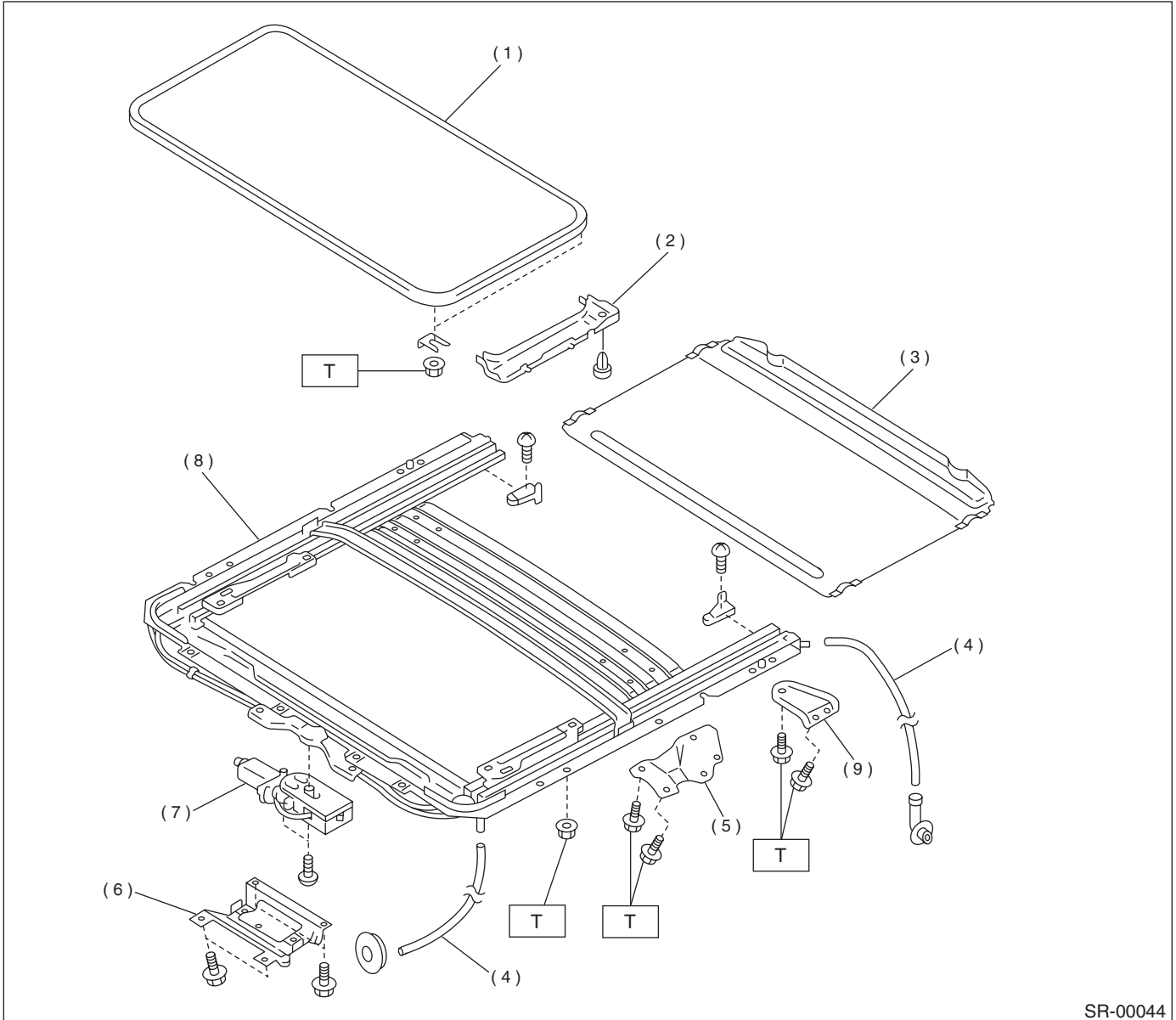


GENERAL DESCRIPTION

SUNROOF/T-TOP/CONVERTIBLE TOP (SUNROOF)

1. General Description

A: COMPONENT



SR-00044

- | | |
|-----------------------------|----------------------------|
| (1) Sunroof lid | (6) Motor cover |
| (2) Guide rail cover | (7) Motor ASSY |
| (3) Sunshade | (8) Frame ASSY |
| (4) Drain tube | (9) Sunroof bracket (Rear) |
| (5) Sunroof bracket (Front) | |

Tightening torque: N-m (kgf-m, ft-lb)
T: 7.4 (0.75, 5.4)

GENERAL DESCRIPTION

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B: CAUTION

- Before disassembling or reassembling parts, always disconnect battery ground cable. When replacing radio, control module, and other parts provided with memory functions, record memory contents before disconnecting the battery ground cable. Otherwise, the memory will be erased.
- Reassemble in reverse order of disassembly, unless otherwise indicated.
- Adjust parts to the given specifications.
- Connect connectors and hoses securely during reassembly.
- After reassembly, make sure all functional parts operate smoothly.

C: PREPARATION TOOL

1. GENERAL TOOLS

TOOL NAME	REMARKS
Circuit Tester	Used for measuring resistance and voltage.

SUNROOF CONTROL SYSTEM

SUNROOF/T-TOP/CONVERTIBLE TOP (SUNROOF)

2. Sunroof Control System

A: SCHEMATIC

1. SUNROOF

<Ref. to WI-166, SCHEMATIC, Sunroof System.>

B: INSPECTION

Symptom	Checking order
Water leaks.	(1) Check roof panel and sunroof lid for improper or poor sealing. (2) Check drain tube for clogging on bend. (3) Check sunroof frame seal and body for improper fit.
Booming noise	(1) Check sunroof lid and roof panel for improper clearance. (2) Check sunshade and roof trim for improper clearance.
Abnormal motor noise	(1) Check motor for looseness. (2) Check gears and bearings for wear. (3) Check cables for wear. (4) Check cable pipe for deformities.
Failure of sunroof (Motor operates properly.)	(1) Check guide rail for foreign particles. (2) Check guide rail for improper installation. (3) Check parts for mutual interference. (4) Check cable slider for improper clinching. (5) Check cable for improper installation. (6) Check clutch adjustment nut for improper tightness.
Motor does not rotate or rotates improperly.	(1) Check fuse for blow-out. (2) Check switch for improper function. (3) Check motor for incorrect terminal voltage. (4) Check relay for improper operation. (5) Check poor grounding system. (6) Check harness for open or short and terminals for poor connections. (7) Check limit switch for improper operation.

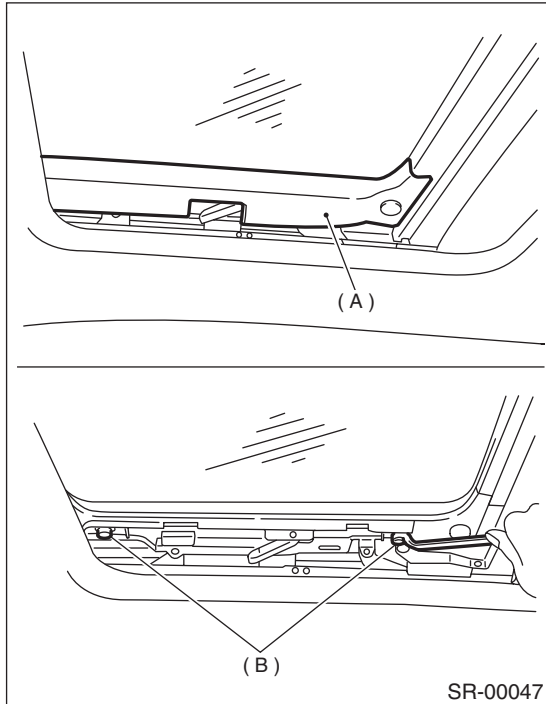
SUNROOF LID

SUNROOF/T-TOP/CONVERTIBLE TOP (SUNROOF)

3. Sunroof Lid

A: REMOVAL

- 1) Completely close rear sunroof lid and open sunshade.
- 2) Remove covers (A) then remove nuts (B).



- 3) Remove the sunroof lid carefully.

B: INSTALLATION

Install in the reverse order of removal.

C: ADJUSTMENT

1. ALIGNMENT OF HEIGHT BETWEEN SUNROOF LID AND ROOF PANEL

Loosen sunroof lid mounting nut. Adjust height between sunroof lid and lid bracket by number of shims being inserted into the space.

Number of shims:

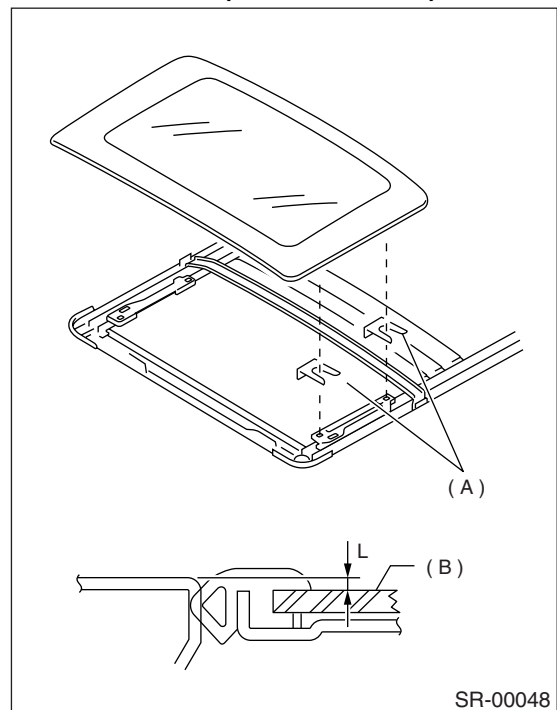
Standard : 1 piece

Max. : 3 pieces [1 piece (standard) + 2 pieces (addition)]

Min. : zero piece

Difference in height between sunroof lid and roof panel: L

L: 2.0 ± 0.5 mm (0.079 ± 0.020 in)



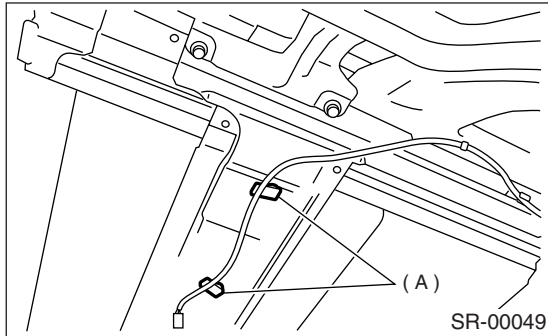
SUNROOF ASSEMBLY

SUNROOF/T-TOP/CONVERTIBLE TOP (SUNROOF)

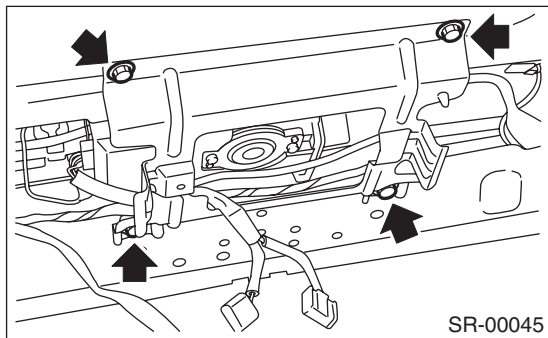
4. Sunroof Assembly

A: REMOVAL

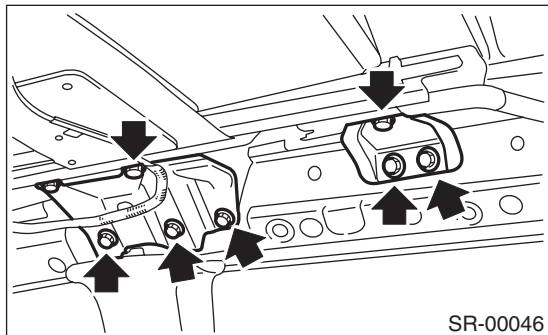
- 1) Disconnect ground cable from battery.
- 2) Remove roof trim. <Ref. to EI-44, REMOVAL, Roof Trim.>
- 3) Remove sunroof lid. <Ref. to SR-5, REMOVAL, Sunroof Lid.>
- 4) Disconnect drain tube from sunroof frame.
- 5) Remove room lamp harness clip (A).



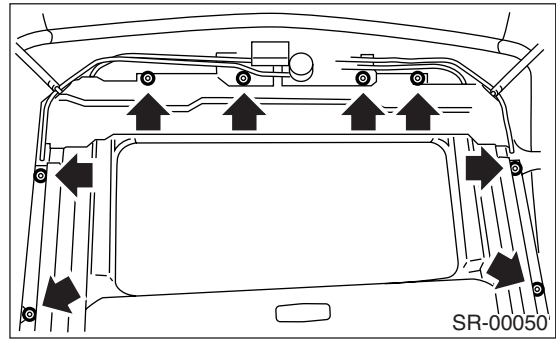
- 6) Disconnect sunroof harness connector.
- 7) Remove motor cover.



- 8) Remove sunroof brackets.



- 9) Remove nuts then detach the sunroof frame.



B: INSTALLATION

Install in the reverse order of removal.

CAUTION:

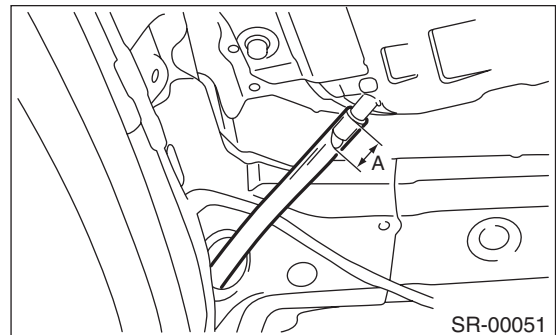
Be careful not to snag the harness.

NOTE:

- Make sure to connect harness connector.
- When installing drain tube, insert it securely onto drain pipe.

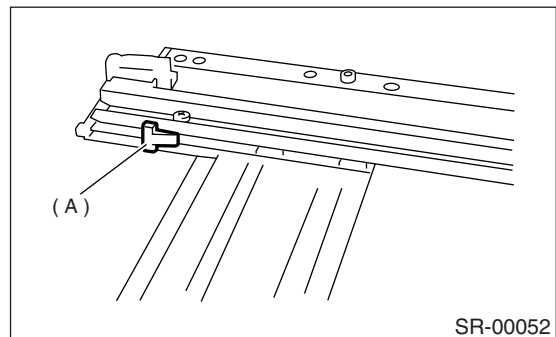
Length A:

15 mm (0.59 in) or more



C: DISASSEMBLY

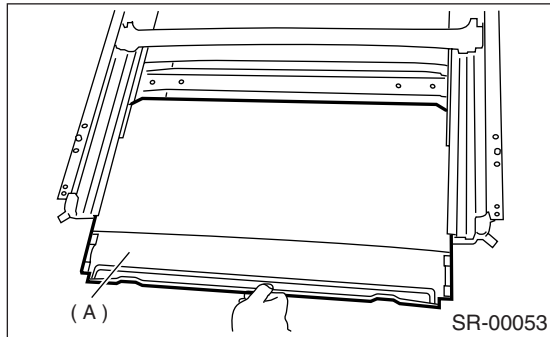
- 1) Remove sunroof frame.
- 2) Remove rail stoppers (A).



SUNROOF ASSEMBLY

SUNROOF/T-TOP/CONVERTIBLE TOP (SUNROOF)

3) Pull out the sunshade (A) from sunroof frame.



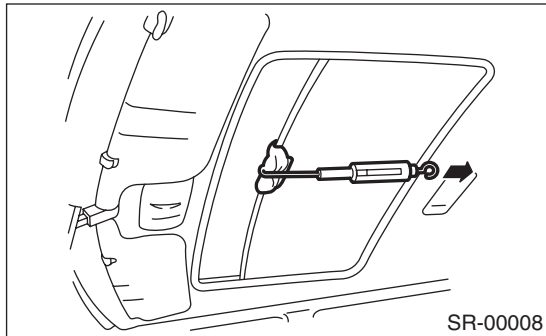
D: ASSEMBLY

Assemble in the reverse order of disassembly.

E: INSPECTION

1. CHECK FOR MOVEMENT OF SUNSHADE

1) Place a cloth on sunshade edge, and attach a spring scale.



2) Pull spring scale backward, and measure the load to move the sunshade.

Load to move rear sunshade:

Less than 24.5 ± 4.9 N (2.5 ± 0.5 kgf, 5.5 ± 1.1 lb)

NOTE:

Considerable load is required to start pulling spring scale, so take a scale reading when it moves smoothly.

3) If the measured value is more than the specified value, check sunroof lid, sunshade and guide rail assembly for improper installation.

SUNROOF MOTOR

SUNROOF/T-TOP/CONVERTIBLE TOP (SUNROOF)

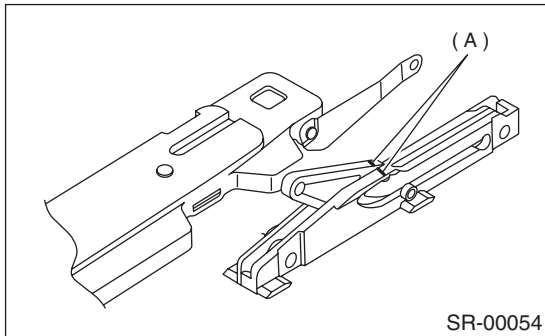
5. Sunroof Motor

A: REMOVAL

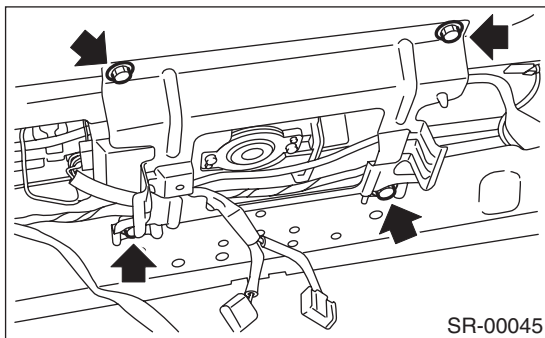
CAUTION:

When removing clip, use great care not to damage the roof trim.

- 1) Completely close the sunroof.
- 2) Disconnect ground cable from battery.
- 3) Remove sunroof lid. <Ref. to SR-5, REMOVAL, Sunroof Lid.>
- 4) Confirm the matching mark (A) of rear sunroof bracket link and the guide from sunroof opening. (If the mark does not match, adjust to match the mark.)



- 5) Remove roof trim. <Ref. to EI-44, REMOVAL, Roof Trim.>
- 6) Remove motor cover.



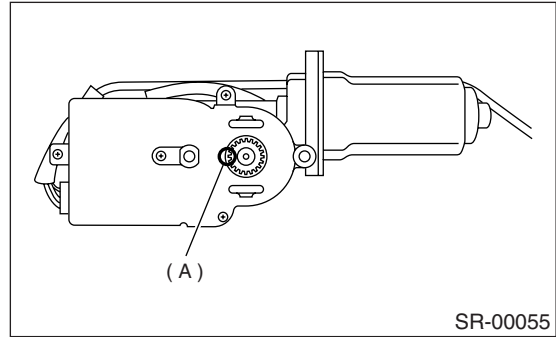
- 7) Disconnect harness connector and remove sunroof motor mounting screw.

B: INSTALLATION

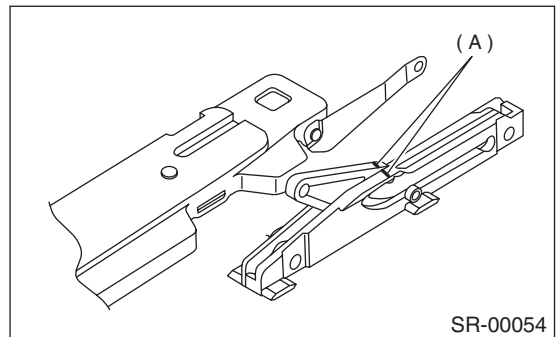
CAUTION:

- Never rotate the sunroof motor while removed.
- Be careful not to move the sunroof cable when installing sunroof motor.

- 1) Check the matching mark (A) of sunroof motor.



- 2) Confirm the matching mark (A) of sunroof bracket link.



- 3) Install sunroof motor.
- 4) After installing the motor, reconfirm the matching marks of motor side and sunroof bracket link side.
- 5) Connect sunroof motor harness connector and then connect battery ground cable.

SUNROOF MOTOR

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6) Check the sunroof operation in order as shown in the table.

Operation	Switch position
Completely close sunroof.	Closed
Tilt-up sunroof to most upper position.	Tilt up
Completely lower sunroof.	Tilt down
Open sunroof to near the completely open position.	Open
Completely open sunroof.	Open
Close sunroof 150 mm (5.91 in) away from completely closed position.	Closed
Completely close sunroof.	Closed

7) Install sunroof lid and trim in the reverse order of removal.

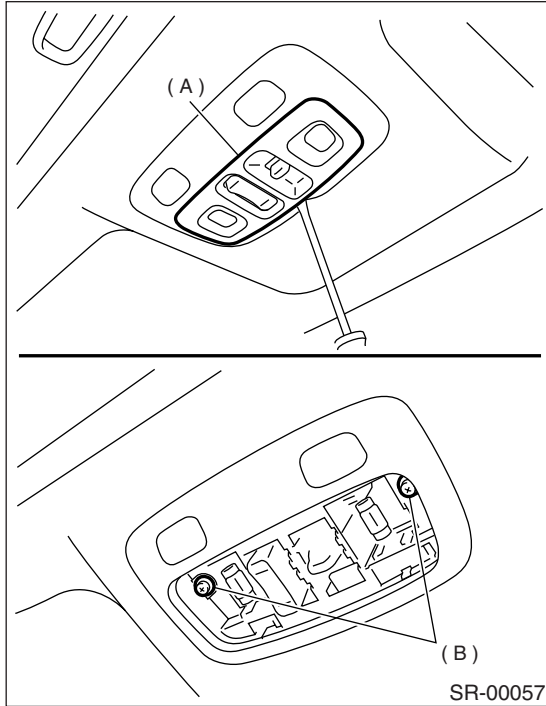
SUNROOF SWITCH

SUNROOF/T-TOP/CONVERTIBLE TOP (SUNROOF)

6. Sunroof Switch

A: REMOVAL

- 1) Disconnect ground cable from battery.
- 2) Remove spot light lens (A) and sunroof switch mounting screw (B).



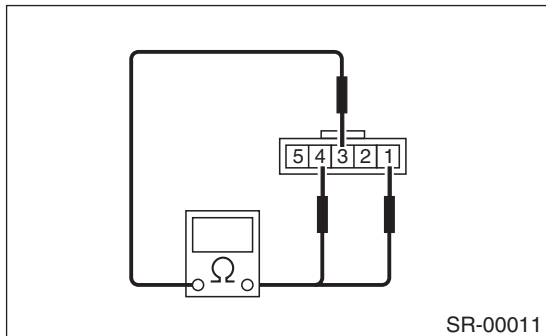
- 3) Disconnect harness connectors and remove sunroof switch.

B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

Measure sunroof switch resistance.



Switch position	Terminal No.	Specified condition
Open	3 and 4	Less than 1 Ω
Closed	1 and 3	Less than 1 Ω
Tilt up	3 and 4	Less than 1 Ω
Tilt down	1 and 3	Less than 1 Ω