SUNROOF id091500101000

#### **Outline**

- · An electric sunroof with tilt up mechanism has been adopted.
- A deflector has been added to reduce noise.
- A system control using pulse sensors (hall effect switches) has been adopted for system simplification.
- A sunroof motor with an integrated CPU has been adopted.

## **Specification**

Ite	em	Specification
Slide system		Inner slide
Opening	(mm {in})	265 × 740 {11.0 × 29.1}
measurement		203 ^ 740 {11.0 ^ 23.1}
Tilt-up amount	(mm {in})	26.4—30.4 {1.04—1.20}
Opening/closing time	(s)	Slide: 3.0—6.0, Tilt: 0.5—1.5

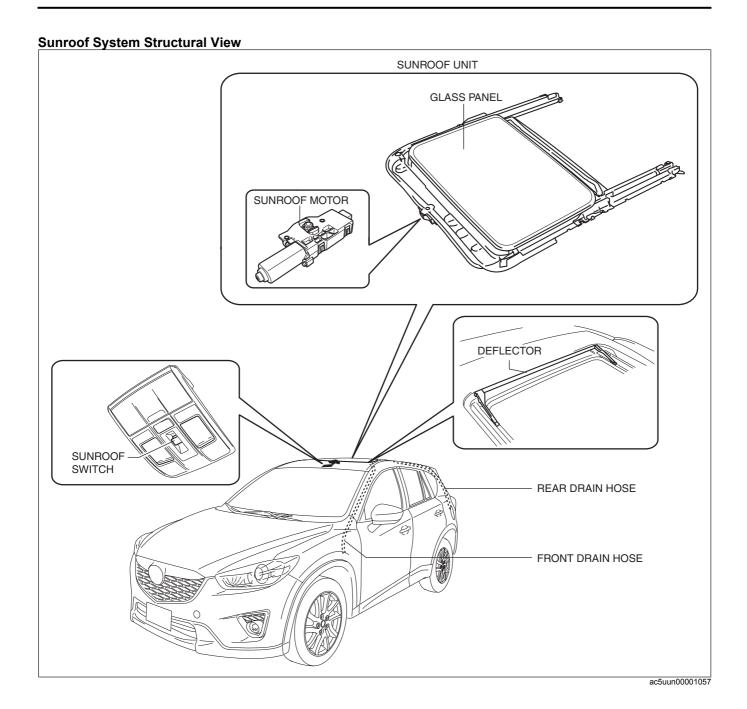
#### **Function**

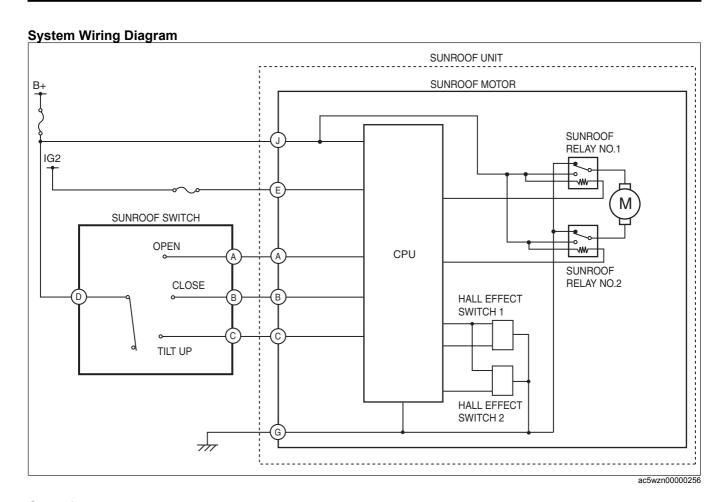
## Tilt up/open/close

- When the sunroof switch (tilt position) is operated, the sunroof tilt up.
- When the sunroof switch (open position) is operated, the sunroof open.
- · When the sunroof switch (close position) is operated, the sunroof slide close and tilt down.

## Initial setting

- If the following operations have been performed, initial setting is reset, and except tilt up operation are disabled. Therefore, performing initial setting is necessary.
  - Negative battery cable is disconnected.
  - Sunroof system power supply fuse is removed.



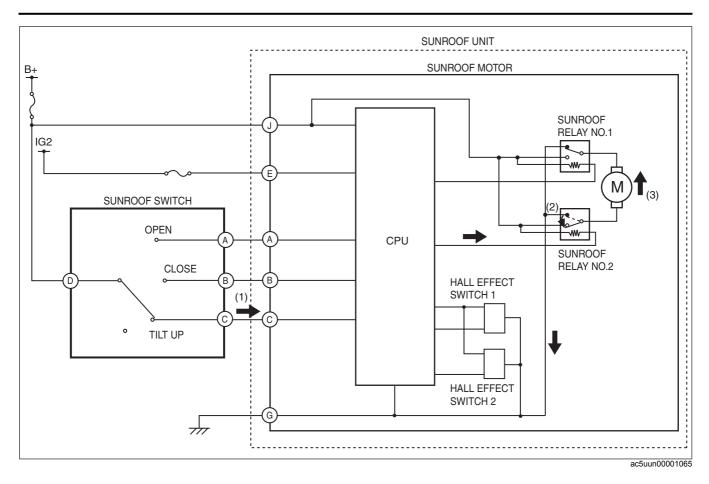


Operation

- The glass panel opens/closes using tilting and sliding operations.
- When the ignition switched ON (engine off or on), the sunroof operates by use of the sunroof switch.
- If the ignition switched OFF or ACC position while the sunroof is operating, it will stop.
- One-touch operation of the tilt up or the slide open switch provides auto-operation.
- If any switch is operated during auto-operation, the sunroof stops.

## Tilt up operation

- 1. When the sunroof switch is operated for tilt up operation, the CPU receives a tilt up signal. (1)
- 2. When the CPU receives a tilt up signal, it turns on the relay No.2. (2)
- 3. When the relay No.2 is turned on, the sunroof motor starts tilt up operation.(3)
- 4. When **approx**. **1 s.** has elapsed after the sunroof motor was starts on, the timer control of the CPU turns off the sunroof relay No.1 automatically to stop the tilt up operation.

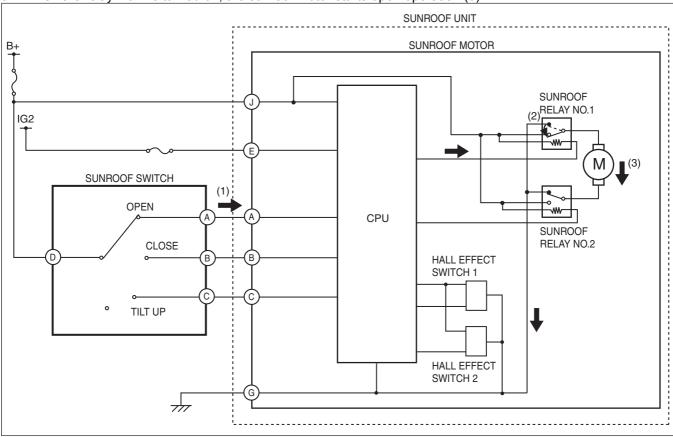


Open operation

1. When the sunroof switch is operated for open operation, the CPU receives a open signal. (1)

2. When the CPU receives a open signal, it turns on the relay No.1. (2)

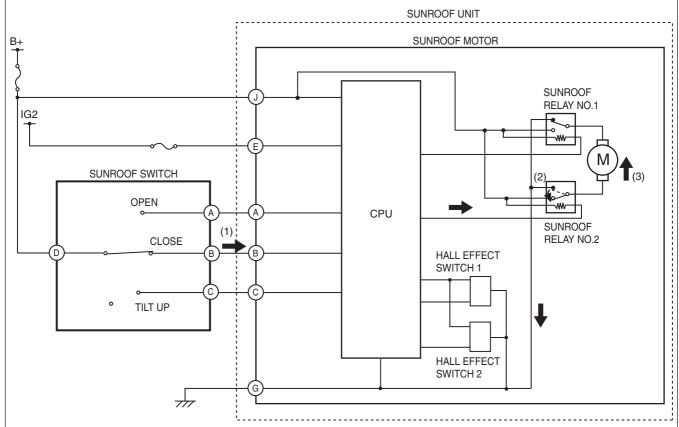
3. When the relay No.1 is turned on, the sunroof motor starts open operation.(3)



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# Close operation (at glass panel open)

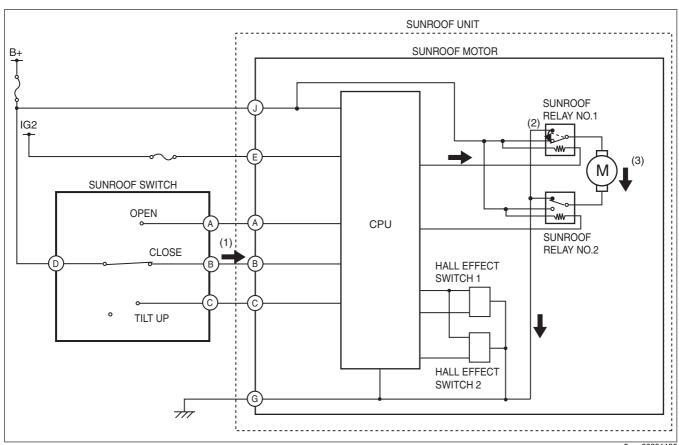
- 1. When the sunroof switch is operated for close operation, the CPU receives a close signal. (1)
- 2. When the CPU receives a close signal, it turns on the relay No.2. (2)
- 3. When the relay No.2 is turned on, the sunroof motor starts close operation.(3)



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## Close operation (at glass panel tilt up)

- 1. When the sunroof switch is operated for close operation, the CPU receives a close signal. (1)
- 2. When the CPU receives a close signal, it turns on the relay No.1. (2)
- 3. When the relay No.1 is turned on, the sunroof motor starts close operation.(3)



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