■ FUNCTION

1. General

This sliding roof system has the following functions:

Function	Outline
Manual open-and-close	This function causes the sliding roof to open (or close) while the SLIDE OPEN switch (or SLIDE CLOSE switch) is momentarily pressed. The sliding roof stops as soon as the switch is released.
One touch auto open-and-close	This function enables the sliding roof to be fully opened (or closed) by a 0.3 sec. or long press of the SLIDE OPEN switch (or SLIDE CLOSE switch).
Manual tilt up-and-down	This function causes the sliding roof to tilt up (or tilt down) while the TILT UP switch (or TILT DOWN switch) is momentarily pressed. The sliding roof stops as soon as the switch is released.
One touch auto tilt up-and-down	This function enables the sliding roof to be fully tilt up (or down) by a 0.3 sec. or long press of the TILT UP switch (or TILT DOWN switch).
Jam protection	The "jam protection" function automatically stops the sliding roof and moves it open half way (or fully tilt up) if a foreign object gets jammed in the sliding roof during close or tilt down operation.
Key-off operation	The "key-off operation" function makes it possible to operate the sliding roof for approximately 43 seconds after the ignition switch is turned to the ACC or OFF position, if the front doors are not opened.
Key-linked Open-and-close Function*1	When the ignition key is not in the key cylinder. the driver's door is locked, and the key in the driver's door is turned and maintained in the lock direction for 2.5 seconds or more, the sliding roof ECU activates the sliding roof motor to close the moon roof while the key is turned. Similarly, when the driver's door is unlocked, turning and maintaining the driver's door key in the unlock direction for 2.5 seconds or more will cause the moon roof to be opened.
Transmitter- linked Open-and-close function*1,2	When the main body ECU receives an unlock/lock signal from the key continuously for longer than 3.4 seconds, the sliding roof ECU controls the sliding roof motor in accordance with the signal to open/close the moon roof.
Smart entry and Start System- linked Close function*1,3	When the lock switch is kept pressed for approximately 3.4 seconds or more after the door lock operation is completed, the sliding roof will start a tilt-down or slide-close operation linked with the power window up operation.
Sliding roof open warning (See Page BE-269)	When the power source*4 is changed from IG-ON to OFF and the driver door is opened with the sliding roof open, the buzzer in the combination meter sounds once. Then, a warning message appears on the multi-information display.

*1: On models for countries other than G.C.C Countries and Australia, the setting functions can be changed using the customized body electronics system. For details, refer to Customized Body Electronics System section on page BE-14.

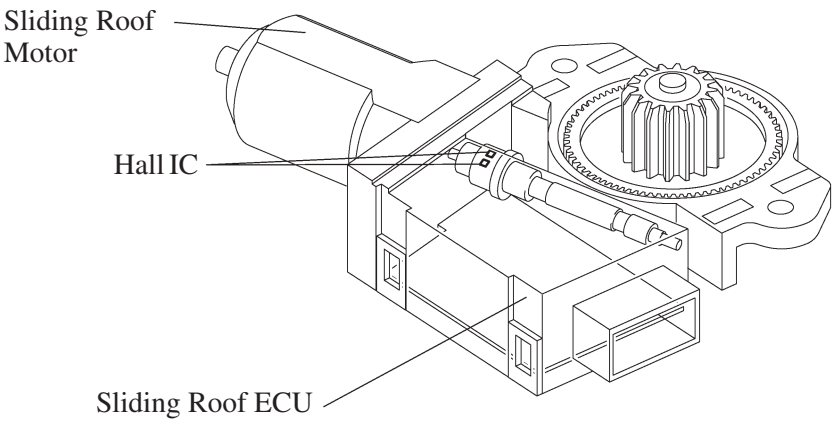
*2: Models without smart entry and start system

*3: Models with smart entry and start system

*4: Power source conditions can be changed by pressing the engine switch on models with the smart entry and start system and by operating the ignition switch on models without the smart entry and start system.

2. Jam Protection Function

- The Hall IC converts the changes in the magnetic flux that occur due to the rotation of the worm gear into pulse signals and outputs them to the ECU.

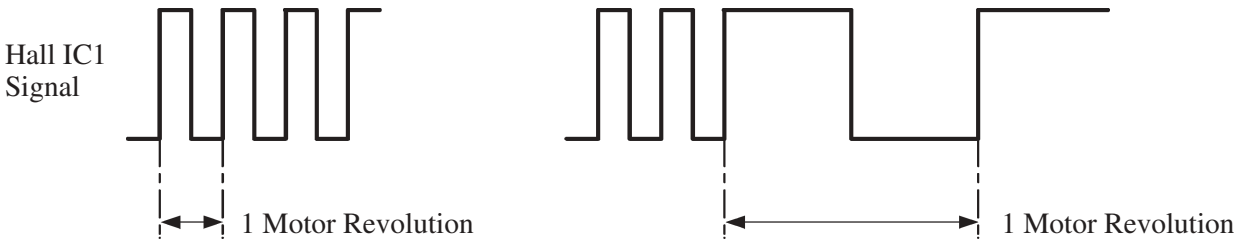


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Sliding Roof Motor Assembly

- To control the jam protection function, the ECU monitors the amount of movement and judges jamming of the moon roof based on the pulse signals from the Hall IC1, and the moving direction of the moon roof from the phase difference between the pulsed from the Hall IC1 and Hall IC2.

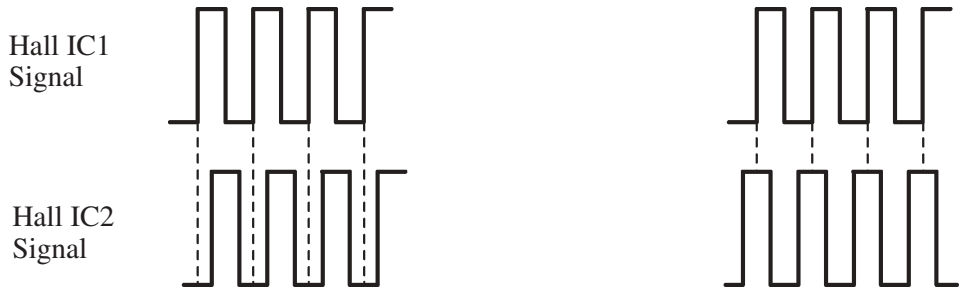
▶ Monitoring Amount of Movement Judgment of Jamming ◀



Normal **Jammed**

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▶ Judgment of Movement Direction ◀



OPEN/TILT UP **CLOSE/TILT DOWN**

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3. Sliding Roof Open Warning

When the power source* is changed from ON to OFF and the driver door is opened when the sliding roof is open, the siding roof ECU sounds the buzzer in the combination meter. Then, a warning message appears on the multi-information display.

*: Power source conditions can be changed by pressing the engine switch on models with the smart entry and start system and by operating the ignition switch on models without the smart entry and start system.

<table>
<tr><td colspan="2">Warning Condition</td><td>The warning is activated if all of the following conditions are met:
● Sliding roof is not fully closed.
● Power source* is “OFF”
● Driver door is opened.</td></tr>
<tr><td rowspan="3">Combination Meter</td><td>Buzzer</td><td>Sounds once</td></tr>
<tr><td>Multi-information Display</td><td>

025BE179P</td></tr>
<tr><td>Master Warning Light</td><td>Flash</td></tr>
<tr><td colspan="2">Warning Stop Condition</td><td>The warning is stopped when one of the following conditions is met.
● 8 seconds have elapsed after the warning condition is detected
● Power source* is “ON”
● Driver door is closed.
● Sliding roof is closed.</td></tr>
</table>

*: Power source conditions can be changed by pressing the engine switch on models with the smart entry and start system and by operating the ignition switch on models without the smart entry and start system.