■ FUNCTION

1. General

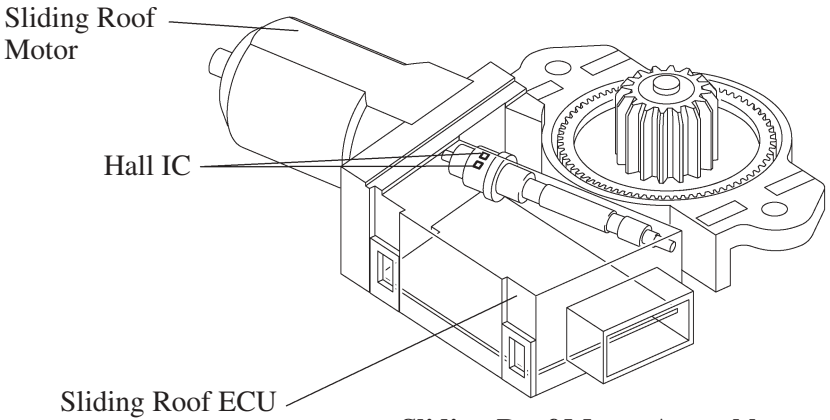
This sliding roof system has the following functions:

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 Fuction*	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 1.5 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 1.5 seconds or more will cause the moon roof to be opened.
Transmitter-linked Open-and-close function*	When the main body ECU receives an unlock/lock signal from the transmitter continuously for longer than 2.4 seconds, the sliding roof ECU controls the sliding roof motor in accordance with the signal to open/close the moon roof.
Sliding roof open warning (See Page BE-117)	When the ignition switch is turned 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.

*: The setting of function can be changed using the customized body electronics system. For details, refer to Customized Body Electronics System section on page BE-9.

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.

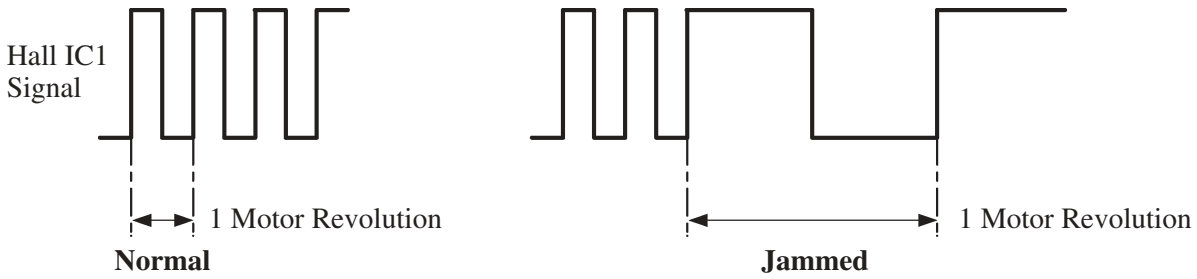


Sliding Roof Motor Assembly

01YBE140Y

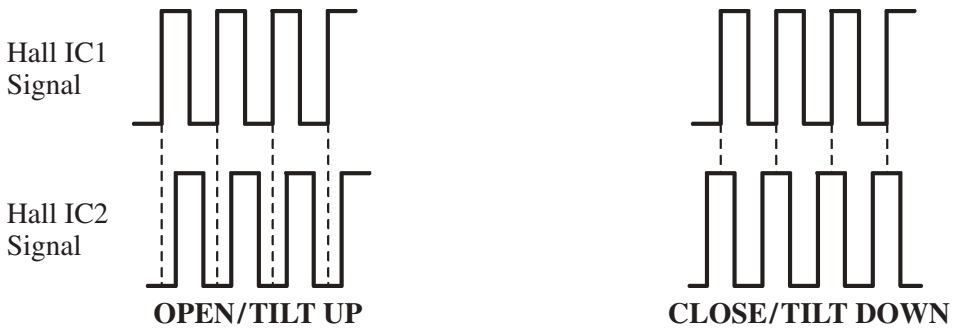
- To control the jam protection function, the ECU monitors the amount of movement and judges jamming of the moon roof based on the pulse signals from the Hall IC1, and the moving direction of the moon roof from the phase difference between the pulsed from the Hall IC1 and Hall IC2.

▶ Monitoring Amount of Movement Judgment of Jamming ◀



232BE34

▶ Judgment of Movement Direction ◀



232BE35

3. Sliding Roof Open Warning

When the ignition switch 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.

Warning Condition		The warning is activated when all of the following conditions are met: ● Sliding roof is not fully closed. ● Ignition switch is "OFF" ● Driver door is opened.
Combination Meter	Buzzer	Sounds once
	Multi-information Display	 025BE179P
	Master Warning Light	Flash
Warning Stop Condition		The warning is stopped when one of the following conditions is met. ● 8 seconds have elapsed after the warning condition is detected. ● Ignition switch is "ON" ● Driver door is closed.