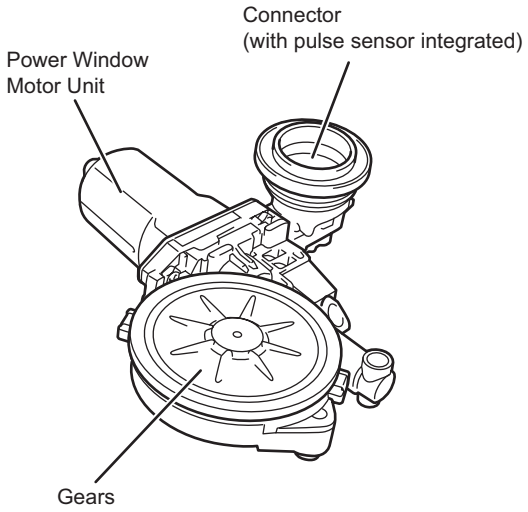
Power Window Motor

- The power window motor assembly consists of a power window motor unit, connector, and gear.
- A pulse sensor, which is used for the jam protection function, is integrated in the connector to detect the rotational movement of the power window motor.



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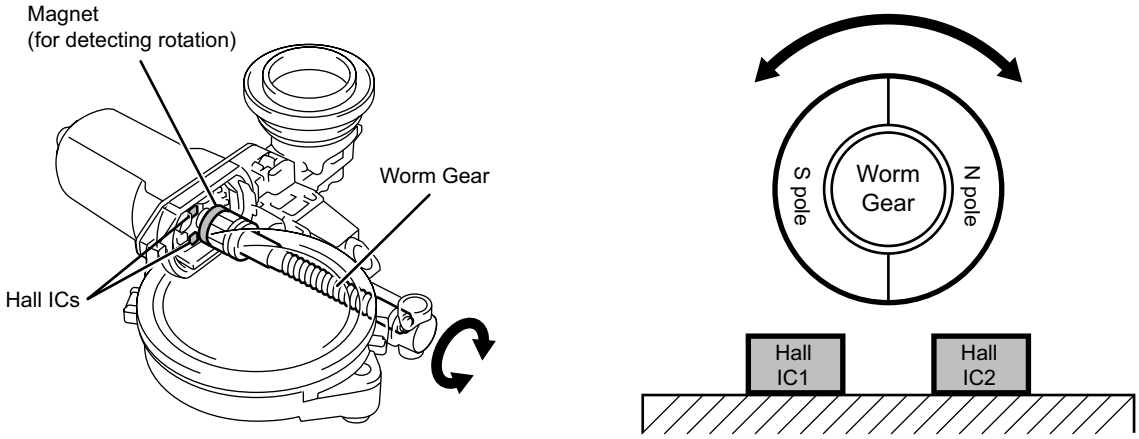
Hall IC

- The two Hall ICs output the pulse signals, which are synchronized to the rotation of the motor by a magnet that is provided on the worm gear of the power window motor, to the IC in the power window switch of its own door.



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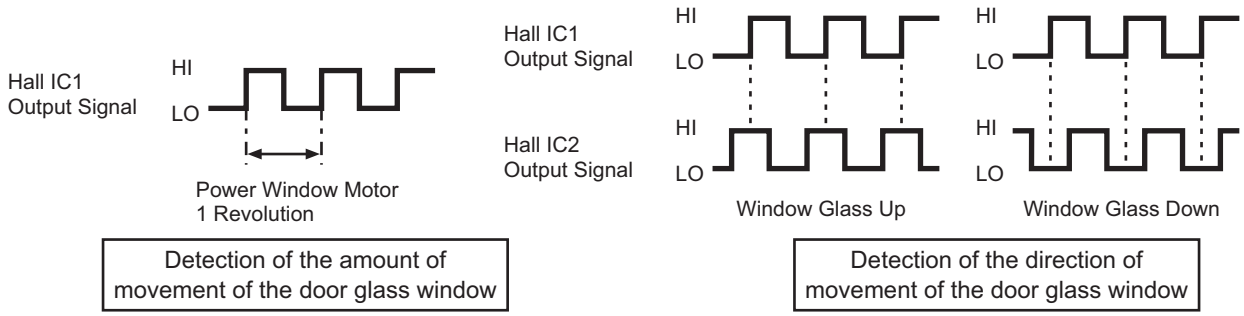
• The power window switch counts one cycle of pulse per rotation of the axis of rotation of the motor that is output by Hall IC1, in order to detect the amount of movement of the door glass window. In addition, the power window switch detects the HI/LO cycles of pulses that vary in accordance with the direction of rotation of the motor, which are output by Hall IC2. Thus, it detects the direction of the movement of the door glass window. The power window switch memorizes these pieces of information in order to recognize the present position of the door glass window. *Based on the position information that is obtained from these two Hall ICs, the power window switch controls various types of functions.

❖REFERENCE❖

*The position information of the door glass windows is backed up by the +B power supply. Therefore, if the +B power supply to the power window switch is cut off, the system must be initialized.



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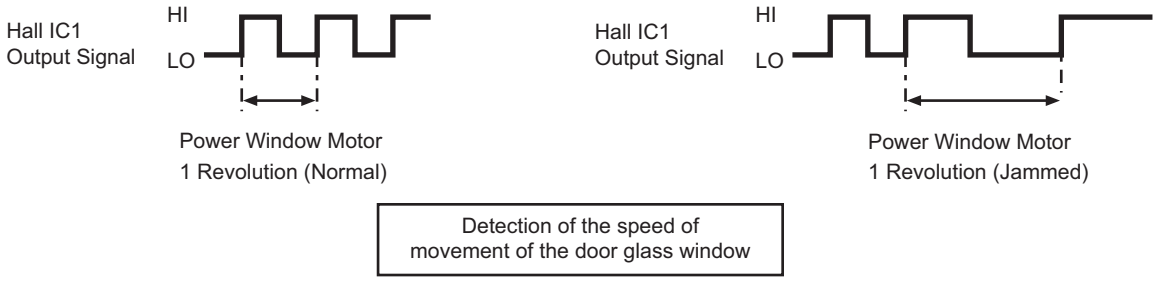
• At the same time, the power window switch detects the changes in the rotational speed of the motor based on the intervals of the pulses that are output by Hall IC1. Thus, it detects the changes in the movement speed of the door glass window. As a result, it recognizes the load that acts on the door glass window, in order to control the jam protection function and the overload stop function.



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