

2022 CHEVROLET CORVETTE SERVICE MANUAL

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Power Windows Description and Operation

Power Windows System Components

The power window system consists of the following components:

- Driver front side door control switch
- Passenger front side window switch
- Window motors both doors
- Sliding rear window motor (CM9)
- Body control module
- Left folding top control module (CM9)

Driver and Passenger Express Up and Express Down Window Motors

The driver and passenger doors contain smart motors that will detect excessive resistance while performing the express up function and automatically reverse direction to prevent injury to any occupants that may become trapped between the closing window and the door frame. The automatic reverse safety feature can be overridden by pulling and holding the window switch.

The logic circuit within the window motors monitor the up, down and express signal circuits which are normally equal to B+ voltage. When a switch is used on the driver, passenger, left rear or right rear window switch, the contacts close causing a voltage drop within the appropriate signal circuit. The window motor will detect the voltage drop and will command the window to move in the direction requested.

Each window motor communicates to the body control module (BCM) by a serial data circuit. When the driver wishes to control the passenger window, the driver will use the appropriate switch on the driver window switch. When this switch is used, a serial data message is sent to the BCM requesting a window motor command, the BCM will then send a serial data message to the passenger window motor which will then move in the direction requested.

Window Indexing

The window indexing feature is used to lower the driver and passenger power windows approximately 4 mm when the door is opened. This is necessary to allow the top edge of the window to clear the window weatherstrip. This feature will also raise the window to the fully seated position once the door is closed.

For vehicles that may be exposed to icy conditions, the body control module will detect when the window will not index due to ice accumulation, when this occurs, the body control module will command the affected window to perform the index function three more times to free the window to allow normal indexing functions.

The window switch monitors the status of the door ajar switch, when the window switch detects that the door is open, the window switch will command the window motor to lower the window.

The window switch monitors the status of the door ajar switch, when the window switch detects that the door is closed, the window switch will command the window motor to fully close the window.

Power Sliding Rear Window (Convertible Only)

The left folding top control module continuously monitors power sliding rear window operation and calculates its up and down position from Hall effect sensors (part of the rear sliding window motor). The left folding top control module then uses these 2 inputs together to calculate the position the rear window and to determine when it is in the fully open position or fully closed position. When the appropriate driver front side door control switch is press or pulled, the driver front side door control switch will send a serial data message to the left folding top control module to perform the UP or DOWN command of the rear sliding power window.