



Power Windows Description and Operation

Power Window System Components

The power window system consists of the following components:

- Driver window switch
- Front passenger window switch
- Left rear window switch
- Right rear window switch
- Window regulator motors in each of the doors
- 30 amp fuse
- 25 amp fuse

Power Window System Controls

The power window system can be controlled by a power window up or down switch activation.

Window Operation and the Driver Window Switch

When the ignition switch is in the RUN or ACCY position, or Retained Accessory Power (RAP) is enabled, battery positive voltage is supplied to the driver window switch. Ground for the switch is provided by a ground circuit connected to a ground stake. When the driver window switch is pressed in the down position, the voltage is applied to the driver window motor down circuit and ground is applied to the driver window motor up circuit causing the window to open. When the driver window switch is pressed in the up position, the polarity is reversed, voltage and ground are applied to the opposite circuits and the window closes. In order to control the passenger windows from the driver door, the driver window switch assembly contains a separate window switch for each passenger door window. These window switches operate in the same way as the driver window switch, except that the applied voltage and ground must also pass through the local passenger, left rear or right rear window switch in order to command the respective window motor.

The driver window switch also provides power and ground for the local rear window switches. Battery positive voltage is supplied, through the power window master switch lockout signal circuit, to each remote rear window switch. The remote front passenger door window switch has a separate battery positive voltage circuit, however, this circuit is spliced into the driver window switch voltage supply circuit within the IP Fuse Block. Ground for all three of the passenger door switches, is also supplied by the driver window switch.

Driver Express Up and Express Down Power Window Motor (If Equipped)

The driver door may be equipped with a smart window motor 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 motor monitors the up, down and express signal circuits which are normally equal to B+ voltage. When a switch is used on the driver window switch, the contacts close causing a voltage drop within the appropriate signal circuit. The driver window motor will detect the voltage drop and will command the window to move in the direction requested.

Lockout Switch Feature

The driver window switch contains a rear window lockout switch which disconnects the battery positive voltage supply to the remote rear passenger door window switches, disabling them. The remote front passenger door window switch cannot be locked out.

Window Operation and the Passenger Window Switches

When the ignition switch is in the RUN or ACCY position, or Retained Accessory Power (RAP) is enabled, battery positive voltage is supplied to each of the remote passenger door window switches. When a remote window switch is pressed in the down position, voltage is applied to the window motor down circuit and ground is applied to the window motor up circuit, causing the window to open. When the window switch is pressed in the up position, the polarity is reversed, voltage and ground are applied to the opposite circuits, and the window closes.

