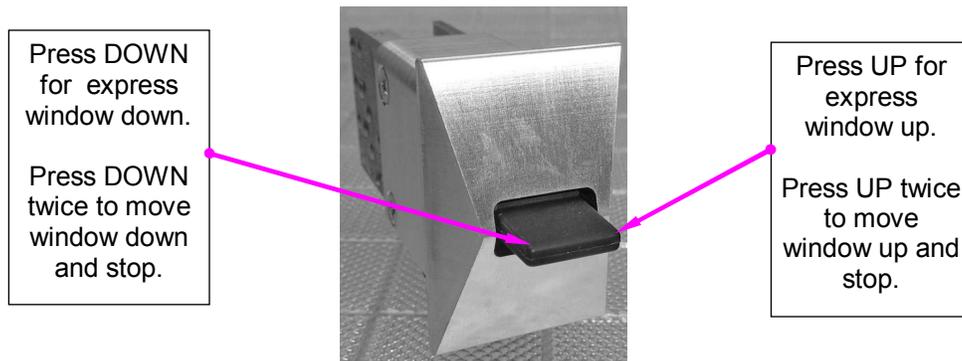

Pantera Electronics Power Window Switch Installation Manual

Power Window Switch Features and Operation

- > Durable aluminum bezel that fits the factory switch size opening.
- > Connects to the factory wire harness without changes.
(except for wiring the extra features)
- > Switch contact rating is 25 amps that exceeds the factory switch rating.
- > Electronic contact arc protection for relay contacts, stops damaging contact erosion.
- > Internal lighting for night visibility with brightness adjustable with the factory dimmer control.
- > Input terminals for additional switches in door panel or remote operation.
- > Removable aluminum bezel can be finished in a variety of styles and colors.



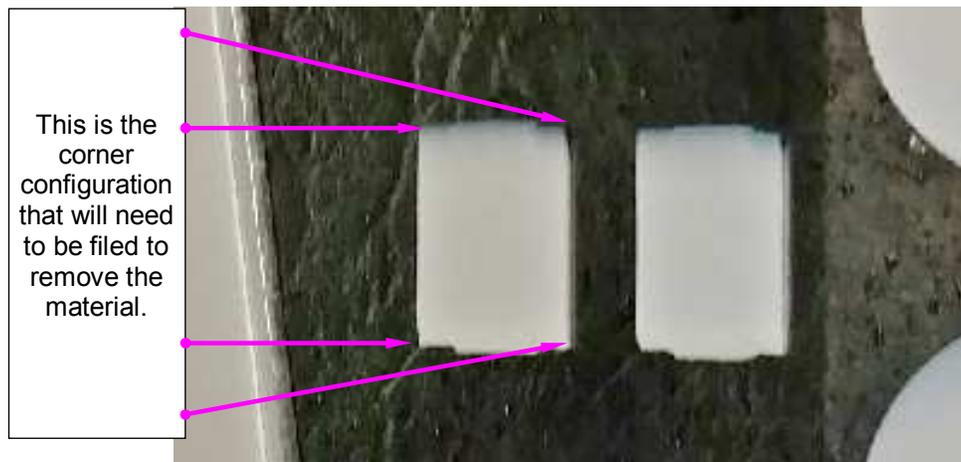
WARNING

The Pantera power windows do not have a moving glass safety sensor. Keep body parts away from the window opening during closing. Persons can be severely injured by the window closure. Do NOT allow children to use the power windows. Use caution when closing the power windows with Pantera Electronics switches.

NOTE: It's important to keep this installation manual for future reference since revisions to this product change the contents of the installation manual.

Installation

1. Unscrew the 3 thumb screws that retain the console gauge plate.
2. Disconnect the wires from the back of the switch and push the switch out of the panel, this may require rocking the switch in the hole.
3. Make sure the hole is free from the surface material, it cannot be inside the hole or the PE switch will not fit.
4. There are several different hole configurations of the openings in the console plate. This may require the corners to be modified by filing the corner to remove the alignment edges. This can be done with a sharp flat file or Dremel tool with a grinding disk for the metal console plates. The plastic console plates are easily filed or trimmed with a razor blade and do not use the Dremel tool, it may melt the plastic.
5. Check the fit of the switch in the hole, make sure that it can sit flat and even against the console plate.
6. Pull the wires through the hole first and slide the O-ring over all the wires. Don't forget the new wires that need to be added.
7. Connect the wires matching the wire colors to the tabs labeled with the wire color. **Note: BLACK wires to the window motors are used for both driver side and passenger side switches.**
8. Insert the PE switch in the hole and roll the O-ring over the back side of the bezel until it rolls into the groove.
9. Test the switch functions. (see pages 9 and 10)
10. Reassemble the console panel and thumb screws and re-test the switch.



This should be done before operating the Power Window Switch.

It's ***absolutely critical*** to verify that the windows regulators operate with the least amount of resistance as the windows move throughout the full travel. The Power Window Switch senses high motor current to stop the window as it hits the end stops. If the regulator has too much resistance to movement, the Power Window Switch will detect the increased current and stop the window after the switch is activated.

The glass has a curvature that should match the frame of the door as close as possible. To reduce the resistance, spacers 0.25" thick were installed between the door sheet metal and the window regulator mechanisms. Bolts #1 and #5 have the spacers and the other bolt locations do not. This may vary from car to car but by experimentation you should be able to determine which locations work best for your doors.

After installing spacers test the speed of the window, the faster the operation, the lower the resistance. 6mm washers can be stacked to get the desired thickness as an option to using spacers.

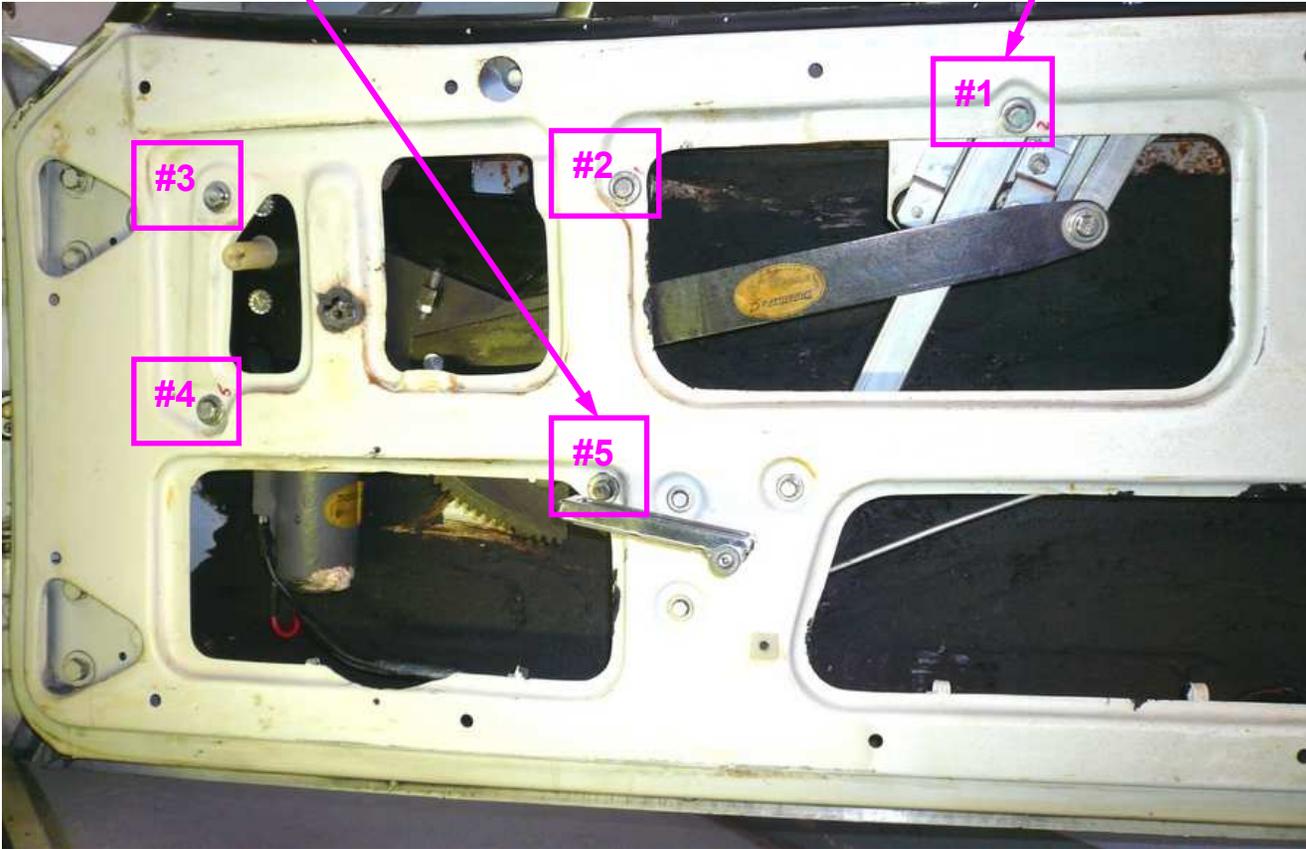
Use a current meter to measure the motor current after improving the window regulator. As a reference motor current for window "DOWN" is 5 to 6 amps and 7 to 8 amps maximum for window "UP"

Disclaimer

The products from Pantera Electronics have been design and manufactured with the best quality components known to the engineer. The installation instructions have been written to assist the owner in the proper use and installation of the products. Pantera Electronics can not be held responsible or held liable for the interpretation or incorrect implementation of the products.

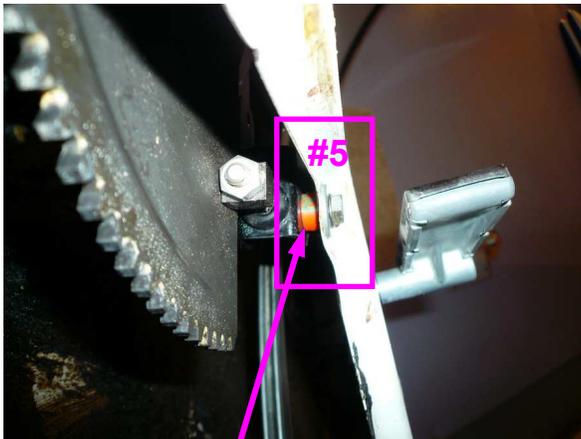
Window Mechanism Adjustment

These are the bolts that mount the window regulator to the door frame, numbered 1 through 5.



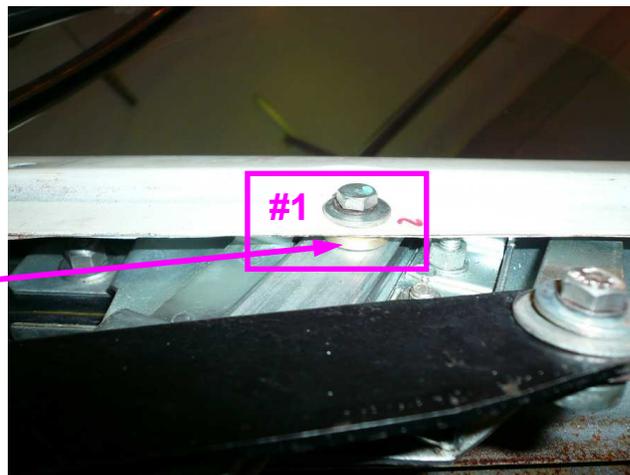
Very Important:

The window motor lift mechanism is assumed to be operating correctly and the motor gearbox has been up-graded with the brass gear replacement, cleaned and lubricated. The window regulator bearing points have been cleaned, lubricated and rust removed. This maintenance is a must for proper operation with the Power Window Switch. Over-loading the motor will cause the automatic current sensing to shut off the motor if the proper maintenance is not preformed.



Window Mechanism Adjustment Image 15

Add 0.25" thick spacer between the vertical guide rail and the door in position #1 and #5.



Window Switch Connections

Drivers Side Window Switch:

1. The drivers side PINK/BLACK wire connects to the terminal labeled PINK and YELLOW terminal.
2. The drivers side WHITE/BLACK wire connects to the terminal labeled WHT/BLK terminal.
3. The drivers side BLACK wire connects to the terminal labeled BLACK terminal.
4. The drivers side RED wire connects to the terminal labeled RED * BRN terminal.

Note:

Due to the high start-current and stop current the quick-disconnect terminals must fit tight onto the power window switch tabs. If they are not tight enough the window will not stop and start properly.

To make the quick-disconnect terminals tighter, slide the clear boot back from the metal terminal. Then use a pair of pliers and squeeze the roll springs to the bottom flat area of the terminal. See image on page 9.

Passengers Side Window Switch:

1. The passengers side WHITE/BLACK wire connects to the terminal labeled WHT/BLK terminal.
2. The passengers side YELLOW/BLACK wire connects to the terminal labeled PINK and YELLOW terminal.
3. The passengers side BLACK wire connects to the terminal labeled BLACK terminal.
4. The passengers side BROWN wire connects to the terminal labeled RED * BRN terminal.
5. Add a YELLOW wire with female terminals to a factory YELLOW/BLACK wire on a gauge light that is in close proximity.

Note: Piggy-back quick-disconnect terminals are ideal for connection to the gauge lights.

Piggy-back terminal



Window Switch Connections

Note: If the power window switch is wired incorrectly permanent damage to the power window switch may result.

PINK/BLACK wire terminal to **driver** side. to Fuse #13 (+12V)

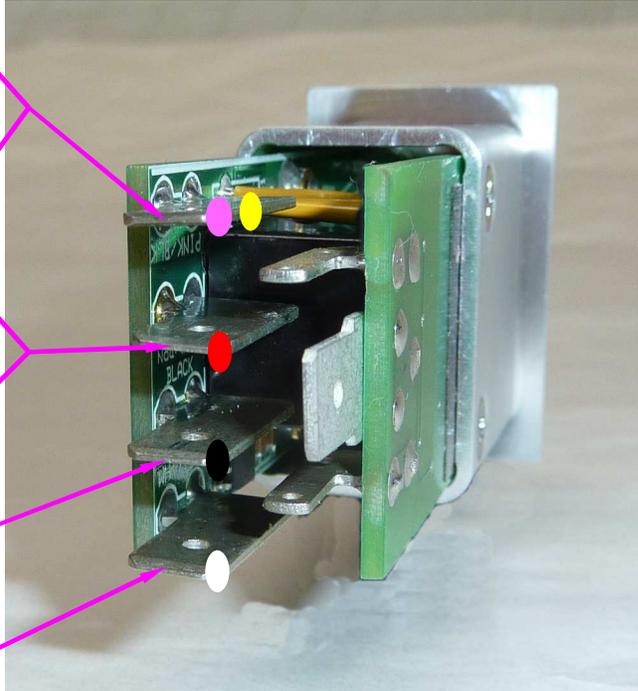
YELLOW wire terminal to **passenger** side. To Fuse #14 (+12V)

RED wire terminal to **drivers** window motor.

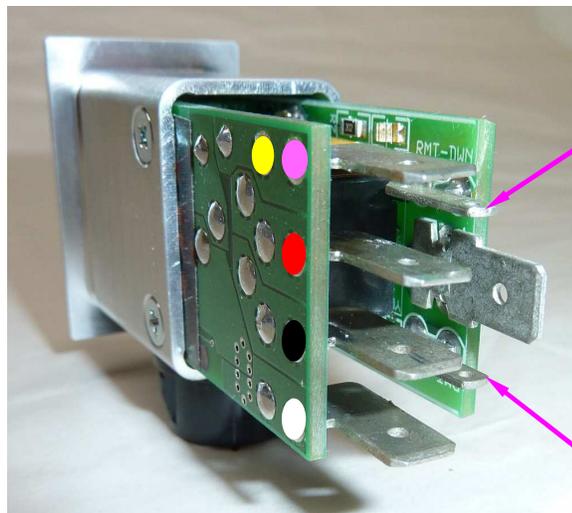
BROWN wire terminal to **passengers** window motor.

BLACK wire terminal to **drivers** or **passengers** window motor.

WHT/BLK wire terminal (Ground) **drivers** or **passengers** side.



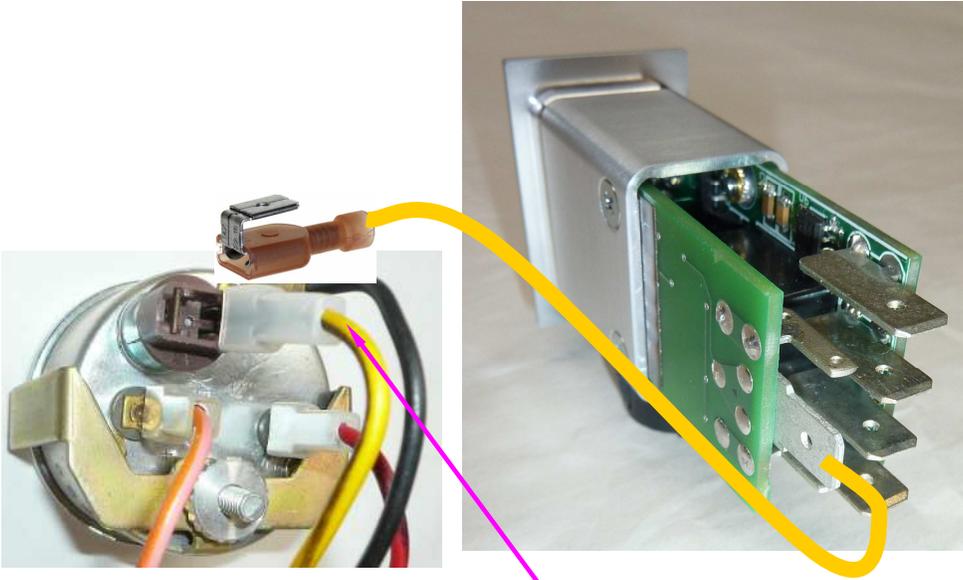
Remote Connections (Optional must be requested at time of order)



Remote DOWN terminal. See page 13 for details.

Remote UP terminal. See page 13 for details.

Lighting Connections



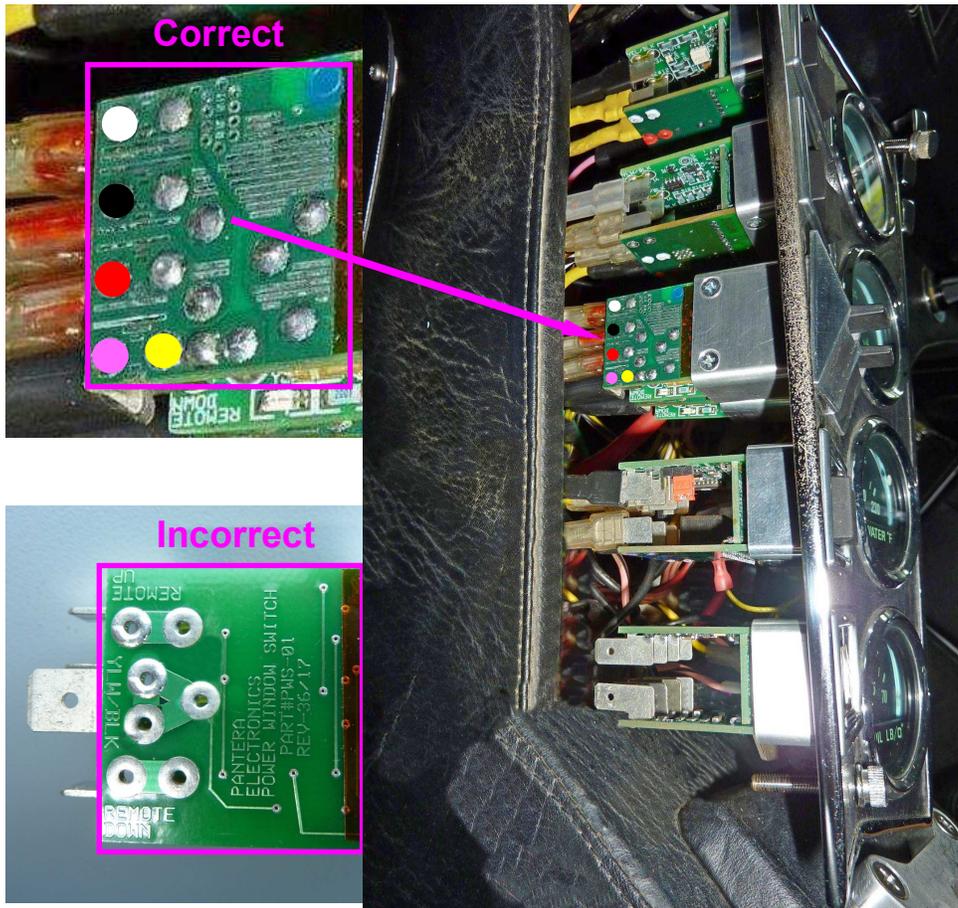
Connect a yellow 18 AWG wire to a terminal on any gauge light that has a YELLOW/BLK wire. Use a piggy-back terminal for ease of installation. This will illuminate the power window switch edge light when the headlights or parking lights are activated.

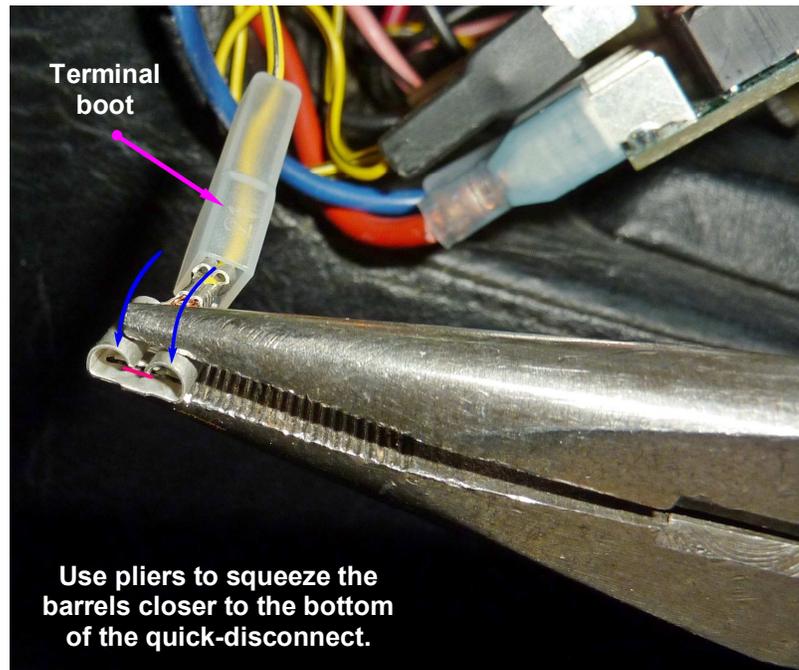
Window Switch Orientation in Console Plate

The orientation of the switch in the console plate is important in order for the switch to operate properly when the lever is pressed down the window moves downward. Since the sides of the switch look different the proper installation can be determined by observing the pattern on the side of the power window switch.

This picture was taken from the drivers seat of the console plate partially removed. This allows the side of the window switch to be viewed, note the geometry of the side of the window switch in the picture.

Both drivers side and passengers side window switch should be orientated in this way.





Important to note:

After installation, make sure the battery is at full charge before testing the Power Window Switch. In order for the Power Window Switch control to function properly the battery voltage should be at proper nominal voltage or have the engine operating to keep the battery charged during testing.

Testing

1. Turn on ignition switch to the “RUN” or “IGNITION” position.
2. Momentarily press the driver power window switch DOWN, note that the RED indicator illuminates for window DOWN. It is important to observe the RED indicator is off at the end of travel. This indicates that the window motor has been automatically turned off. If this is not observed then turn off the ignition immediately **and check wiring, window regulator and window motor for proper operation**. If the window only moves in small increments without complete travel then check window regulator for a mechanically binding condition.
3. Momentarily press the driver power window switch UP, note that the YELLOW indicator illuminates for window UP. It is important to observe the YELLOW indicator is off at the end of travel. This indicates that the window motor has been automatically turned off. If this is not observed then turn off the ignition immediately **and check wiring, window regulator and window motor for proper operation**. If the window only moves in small increments without complete travel then check window regulator for a mechanically binding condition.

Testing Continued

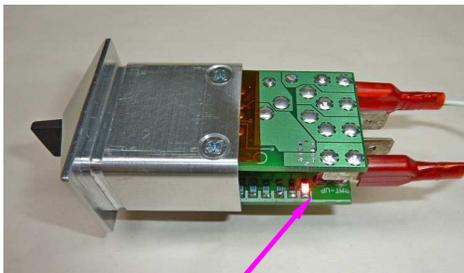
4. Momentarily press the passenger power window switch DOWN, note that the RED indicator illuminates for window DOWN. It is important to observe the RED indicator is off at the end of travel. This indicates that the window motor has been automatically turned off. If this is not observed then turn off the ignition immediately **and check wiring, window regulator and window motor for proper operation**. If the window only moves in small increments without complete travel then check window regulator for a mechanically binding condition.

5. Momentarily press the passenger power window switch UP, note that the YELLOW indicator illuminates for window UP. It is important to observe the YELLOW indicator is off at the end of travel. This indicates that the window motor has been automatically turned off. If this is not observed then turn off the ignition immediately **and check wiring, window regulator and window motor for proper operation**. If the window only moves in small increments without complete travel then check window regulator for a mechanically binding condition.

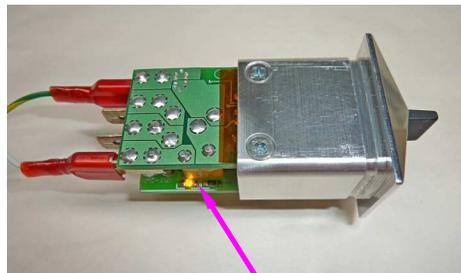
6. Turn on headlight switch to the mid position or parking light position of the switch.

7. The edge-lighting on the power window switch should illuminate whenever the parking or headlights are "ON".

If the edge-lighting is not operating then check wiring to gauge lamp.



Red UP Indicator



Yellow DOWN Indicator

Remote operation

The switches can be operated by additional switches by connecting to the small quick disconnects terminals. (see page 11 and 12)

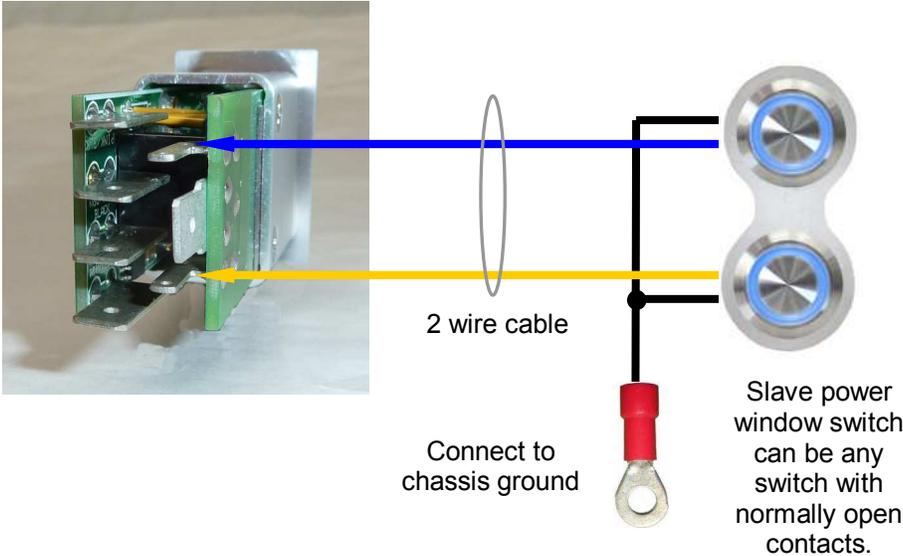
Any momentary switch can be used and separate UP and DOWN switches can be used. Use 2 wires to connect the remote terminals to the remote switches and a ground wire to each switch.

Now the remote or master power window switch will operate the glass.

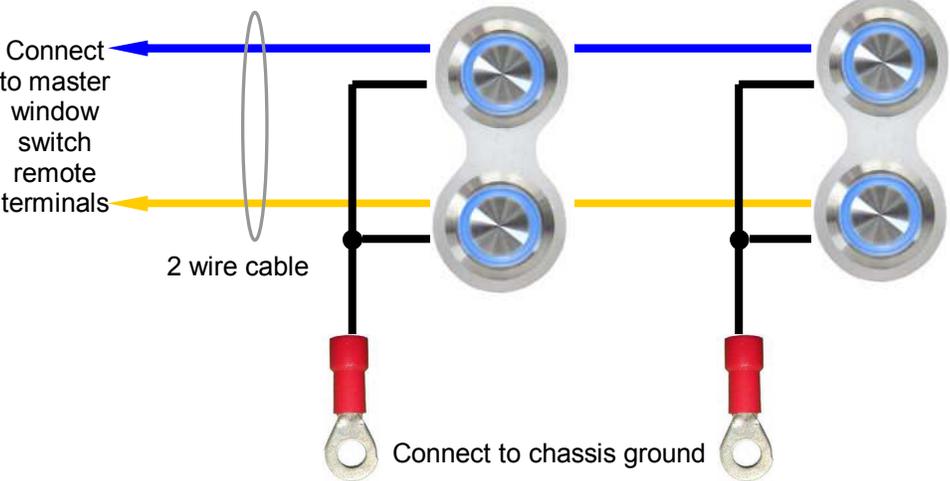
Slave Window Switches
Optional must be requested at time of order.

Note: These tabs are for 0.110" wide quick-disconnect terminals.

Power window switch as Master



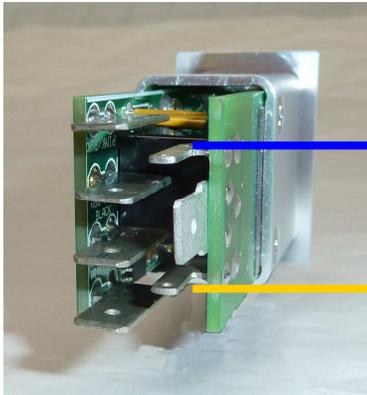
Multiple Slave Window Switches



Remote Operation Connections
Optional must be requested at time of order.

Note: These tabs are for 0.110" wide quick-disconnect terminals.

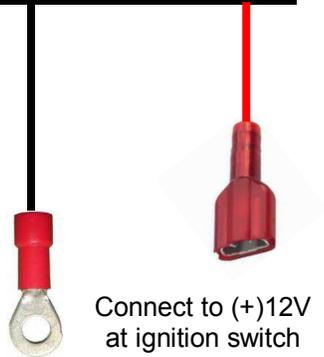
Power Window Switch



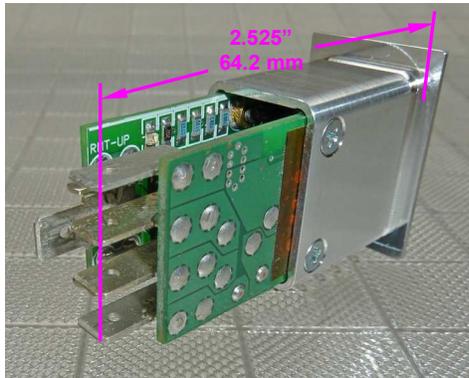
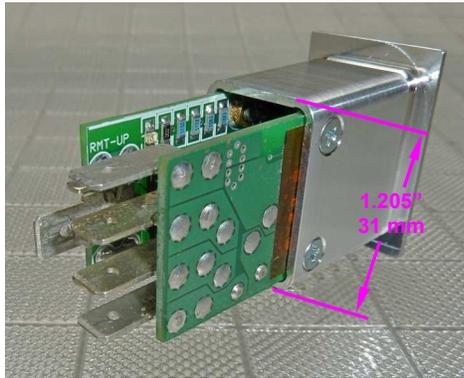
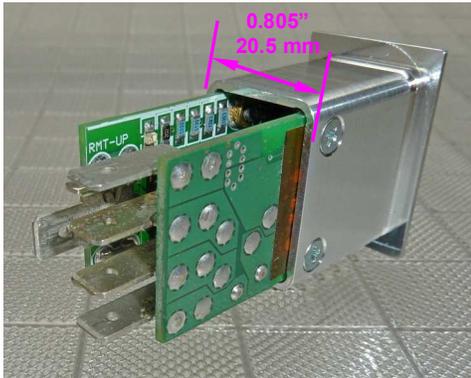
Remote control system must have control outputs that connect to ground when active.

Connect to chassis ground

Connect to (+)12V at ignition switch



Window Switch Dimensions



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