

# Power Windows

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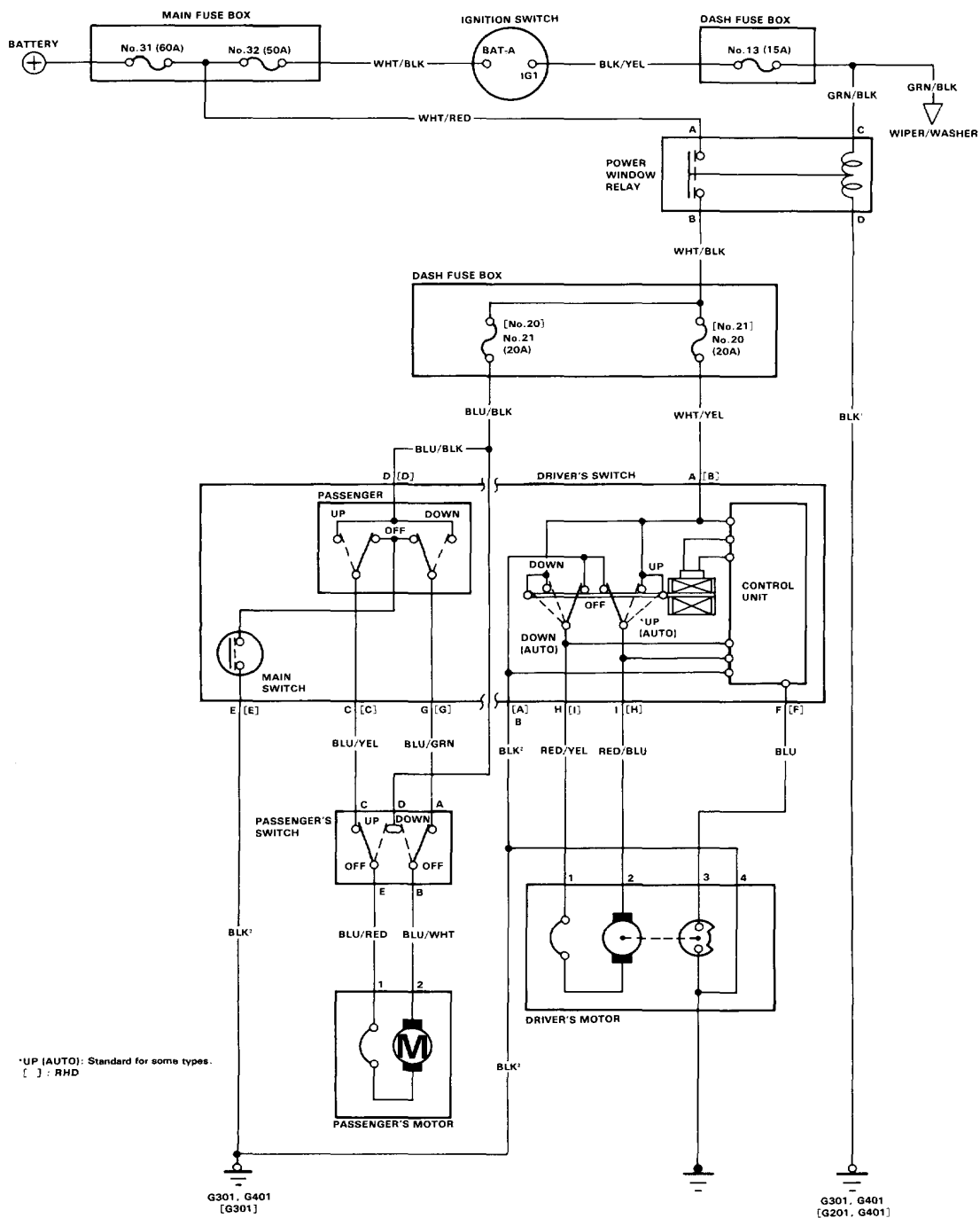
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**POWER WINDOW RELAY**  
[Wire colors: WHT/RED, WHT/BLK, GRN/BLK, BLK]  
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## Circuit Diagram



# Power Windows

## Troubleshooting

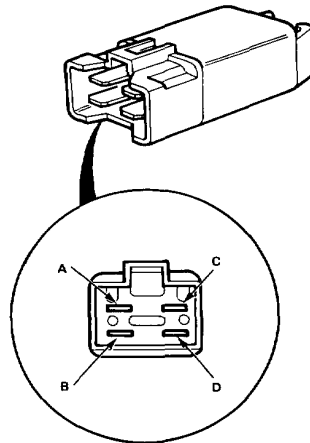
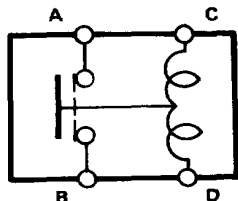
NOTE: The numbers in the table show the troubleshooting sequence.

Item to be inspected  Symptom	State of charge and clean and tight connections of battery		Power window relay	in the dash fuse box		Driver's door switch	Passenger switch	Driver's motor	Pulser (in driver's motor)	Passenger's motor	Window regulator	Driver's door switch input	Poor ground	Open circuit in wires or loose or disconnected terminals
	Blown No. 13 (15A) fuse (in the dash fuse box)			Blown No. 21 [No. 20] (20A) fuse	Blown No. 20 [No. 21] (20A) fuse									
All windows do not operate.	1	2	3										G301,G401 [G201,G401]	BLK/YEL, WHT/RED, GRN/BLK <sup>1</sup> or WHT/BLK
Driver's window does not operate.				1				2			3	4		WHT/YEL
Driver's window does not operate in AUTO.						1			2			3		BLU
Passenger's window do not operate.					1	2	3			4	5			BLU/BLK

[ ] : RHD

## Relay Test

1. Remove the relay from the dash fuse box.
2. There should be continuity between the A and B terminals when the battery is connected to the C and D terminals.  
There should be no continuity when the battery is disconnected.



# Power Windows

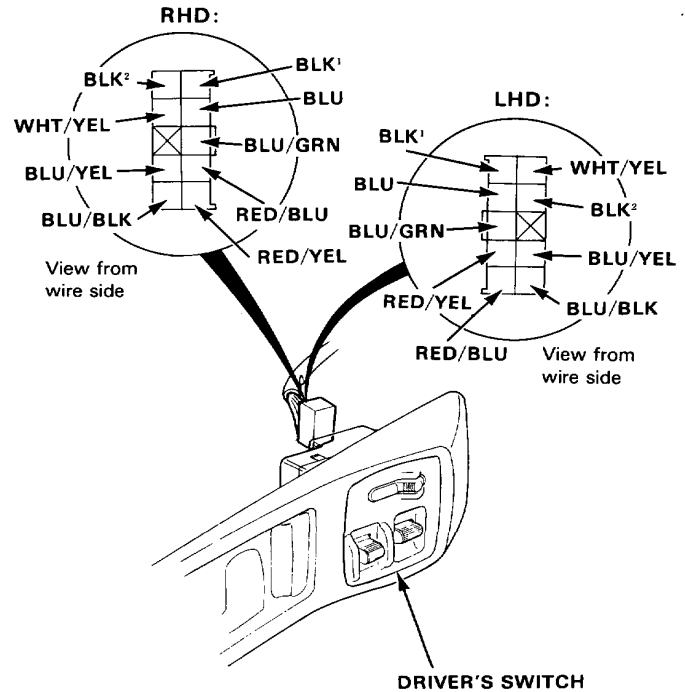


## Driver's Switch Input Test

NOTE: The control unit is built into the driver's switch, and only controls driver's door window operation.

Remove the 2 screws. Disconnect the 10-P connector and remove the driver's switch from the door trim panel. Make the following input tests at the harness pins.

NOTE: Recheck the connections between the 10-P connector and the driver's switch, then replace the driver's switch if all input tests prove OK.



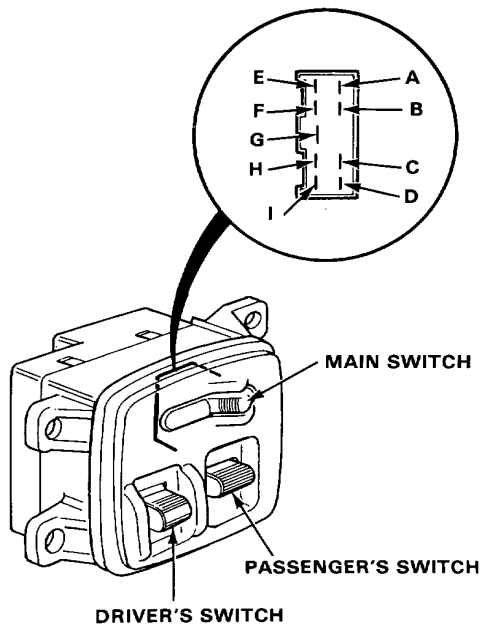
No.	Terminal	Test condition	Test: desired result	Possible cause (if result is not obtained)
1	BLK¹	Under all conditions.	Check for continuity to ground: should be continuity.	<ul style="list-style-type: none"> <li>• Poor ground (G301, G401 [G301])</li> <li>• An open in the wire.</li> </ul>
2	WHT/YEL BLU/BLK	Ignition switch ON.	Check for voltage to ground: should be battery voltage.	<ul style="list-style-type: none"> <li>• Blown No.20 or 21 (20A) fuse.</li> <li>• Faulty power window relay.</li> <li>• An open in the wire.</li> </ul>
3	RED/BLU and RED/YEL	Connect the WHT/YEL terminal to the RED/BLU terminal, and the RED/YEL terminal to the BLK terminal, then ignition switch ON.	Check the driver's motor operation: should run.	<ul style="list-style-type: none"> <li>• Faulty driver's motor.</li> <li>• An open in the wire.</li> </ul>
4	BLU/YEL and BLU/GRN	Connect the BLU/BLK terminal to the BLU/YEL terminal, and the BLU/GRN terminal to the BLK terminal, then ignition switch ON.	Check the right front motor operation: should run.	<ul style="list-style-type: none"> <li>• Faulty passenger's motor</li> <li>• Faulty passenger's switch</li> <li>• An open in the wire.</li> </ul>
5	BLU and BLK²	Connect the WHT/YEL terminal to the RED/YEL terminal, and the BLK¹ terminal to the RED/BLU terminal, then ignition Switch ON.	Check for resistance between the BLU and BLK² terminals: should indicate between 20-50 ohms as the driver's motor runs.	<ul style="list-style-type: none"> <li>• Faulty pulser.</li> <li>• Faulty driver's motor.</li> <li>• An open in the wire.</li> </ul>

# Power Windows

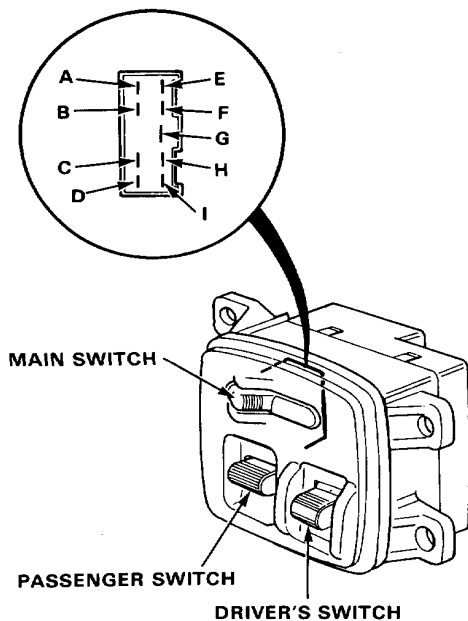
## Driver's Switch Test

- 1. Remove the 2 screws. Disconnect the 10-P connector and remove the switch from the door trim panel.
- 2. Check for continuity between the terminals in each switch position according to the tables.

LHD:



RHD:



LHD:

### DRIVER'S SWITCH

Terminal		A	B	H	I
Position					
OFF			○	○	○
UP (AUTO)		○			○
UP		○			○
DOWN		○		○	
DOWN (AUTO)		○		○	

### PASSENGER'S SWITCH

Terminal		C	D	E	G
Position	Main switch				
OFF	ON	○		○	○
	OFF	○			○
UP	ON	○	○		
	OFF	○	○		
DOWN	ON		○		○
	OFF		○		○

RHD:

### DRIVER'S SWITCH

Terminal		A	B	H	I
Position					
OFF		○		○	○
UP (AUTO)			○	○	
UP			○	○	
DOWN			○		○
DOWN (AUTO)			○		○

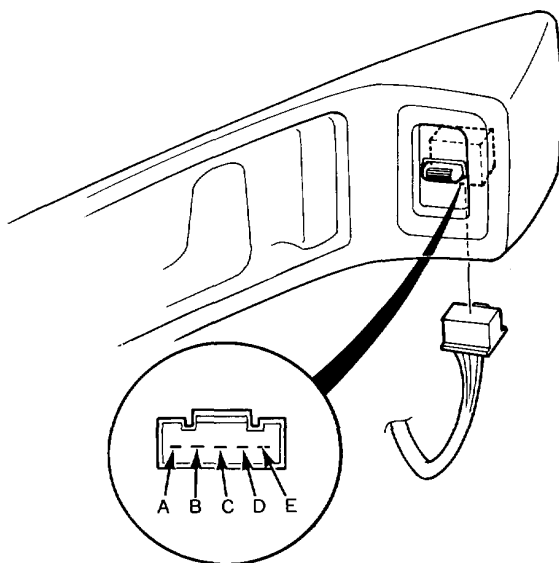
### PASSENGER'S SWITCH

Terminal		C	D	E	G
Position	Main switch				
OFF	ON	○		○	○
	OFF	○			○
UP	ON	○	○		
	OFF	○	○		
DOWN	ON		○		○
	OFF		○		○



## Passenger Switch Test

1. Remove the 2 screws. Disconnect the 5-P connector and remove the switch from the door trim panel.
2. Check for continuity between the terminals in each switch position according to the table.

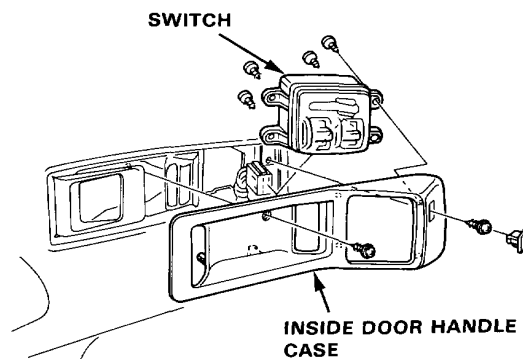


Terminal Position	A	B	C	D	E
UP				○	○
OFF	○	○	○		○
DOWN		○		○	

## Switch Replacement

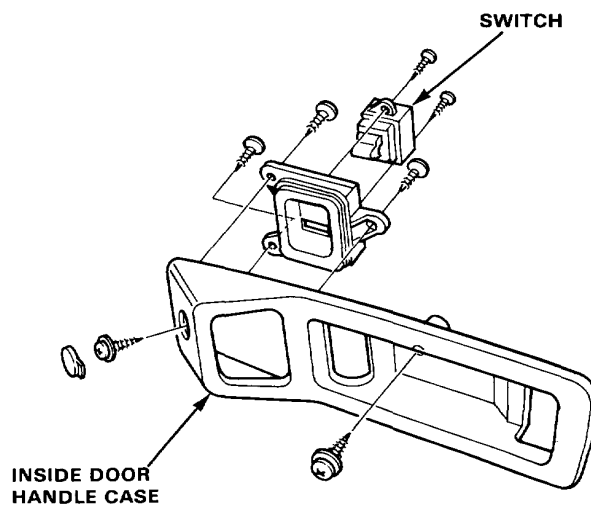
### Driver's Switch:

1. Remove the 2 screws. Disconnect the 10-P connector and remove the switch from the door trim panel.
2. Remove the 4 screws and switch from the inside door handle case.



### Passenger Switch:

1. Remove the 2 screws. Disconnect the 5-P connector and remove the switch from the door trim panel.
2. Remove the 2 screws and switch from the inside door handle case.

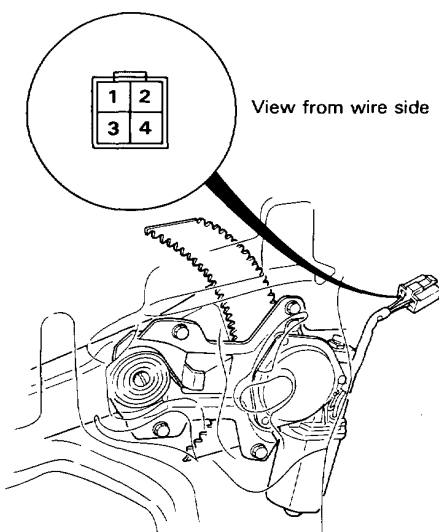


# Power Windows

## Driver's Motor Test

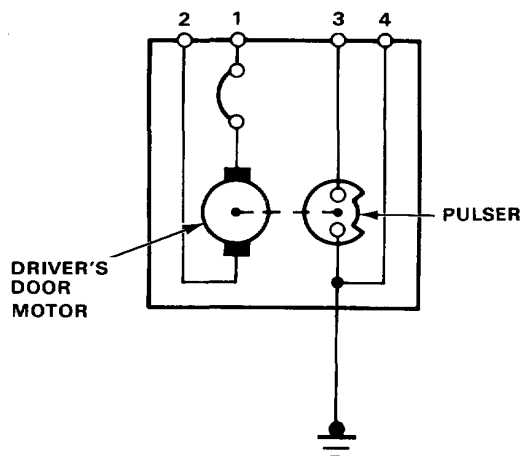
### Motor Test:

1. Remove the door trim panel.
2. Disconnect the 4-P connector from the door wire harness.
3. Test motor operation by connecting battery voltage to the No.1 and No.2 terminals.  
Test the motor in each direction, by switching the leads from the battery.
4. If the motor does not run, replace it.



### Pulser Test:

Measure resistance between the No.3 and No.4 terminals when running the motor by connecting battery voltage to the No.1 and No.2 terminals. Ohmmeter should indicate between 20-50 ohms as the motor runs.



## Passenger's Motor Test

1. Remove the door trim panel.
2. Disconnect the 2-P connector from the motor.
3. Test motor operation by applying battery voltage to the No.1 and No.2 terminals.  
Test the motor in each direction, by switching the leads from the battery.
4. If the motor does not run, replace it.

