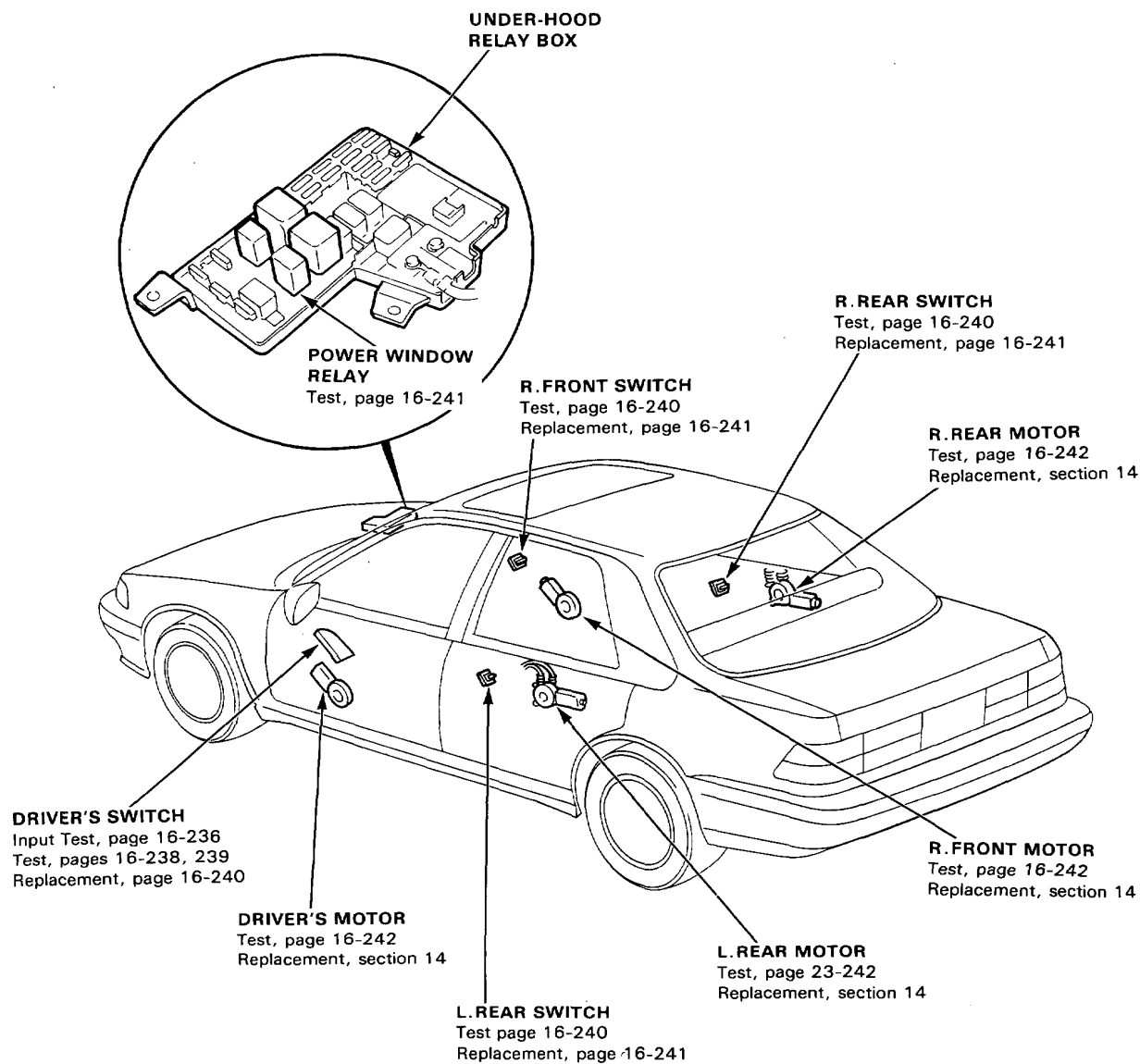


# Power Window



## Component Location Index

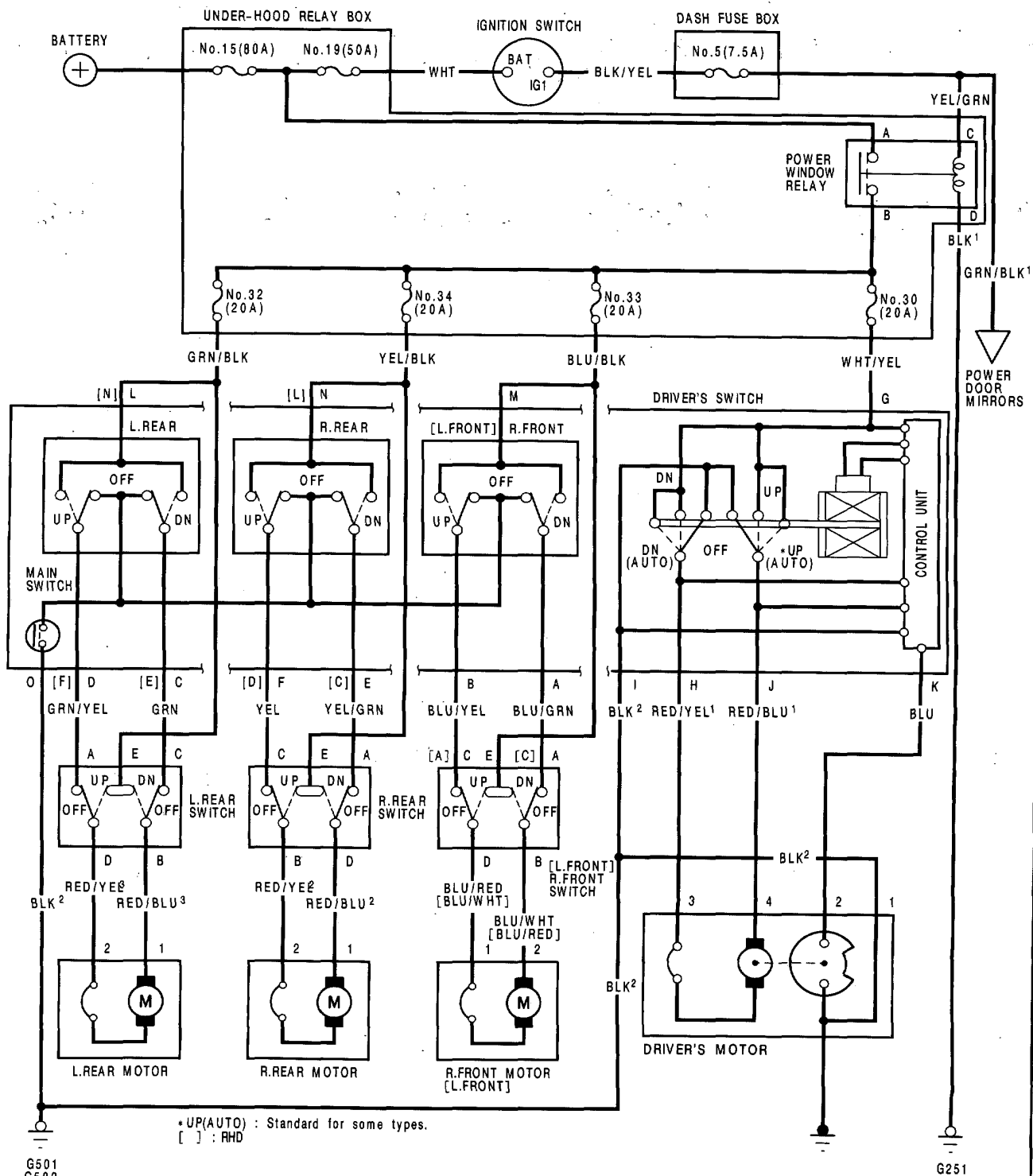


# Power Windows

## Circuit Diagram

### NOTE:

Several different wires have the same color. They have been given a number suffix to distinguish them (for example RED/BLU and RED/BLU<sup>2</sup> are not the same). "DN" in the switch circuit denotes DOWN.





## Troubleshooting

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

Symptom		Item to be inspected		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.5 (7.5 A) fuse (in the dash fuse box)		Blown No.30 (20 A) fuse		Blown No.33 (20A) fuse		Blown No.34 (20 A) fuse		Blown No.32 (20 A) fuse																						
All windows do not operate.		1	2	3																														BLK/YEL, YEL/GRN
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 windows do not operate.	Right [Left] front									1				2	3							4	5										BLU/BLK	
	Left rear												1	2	3							4	5									GRN/BLK		
	Right rear											1		2	3							4	5									YEL/BLK		

[ ] : RHD

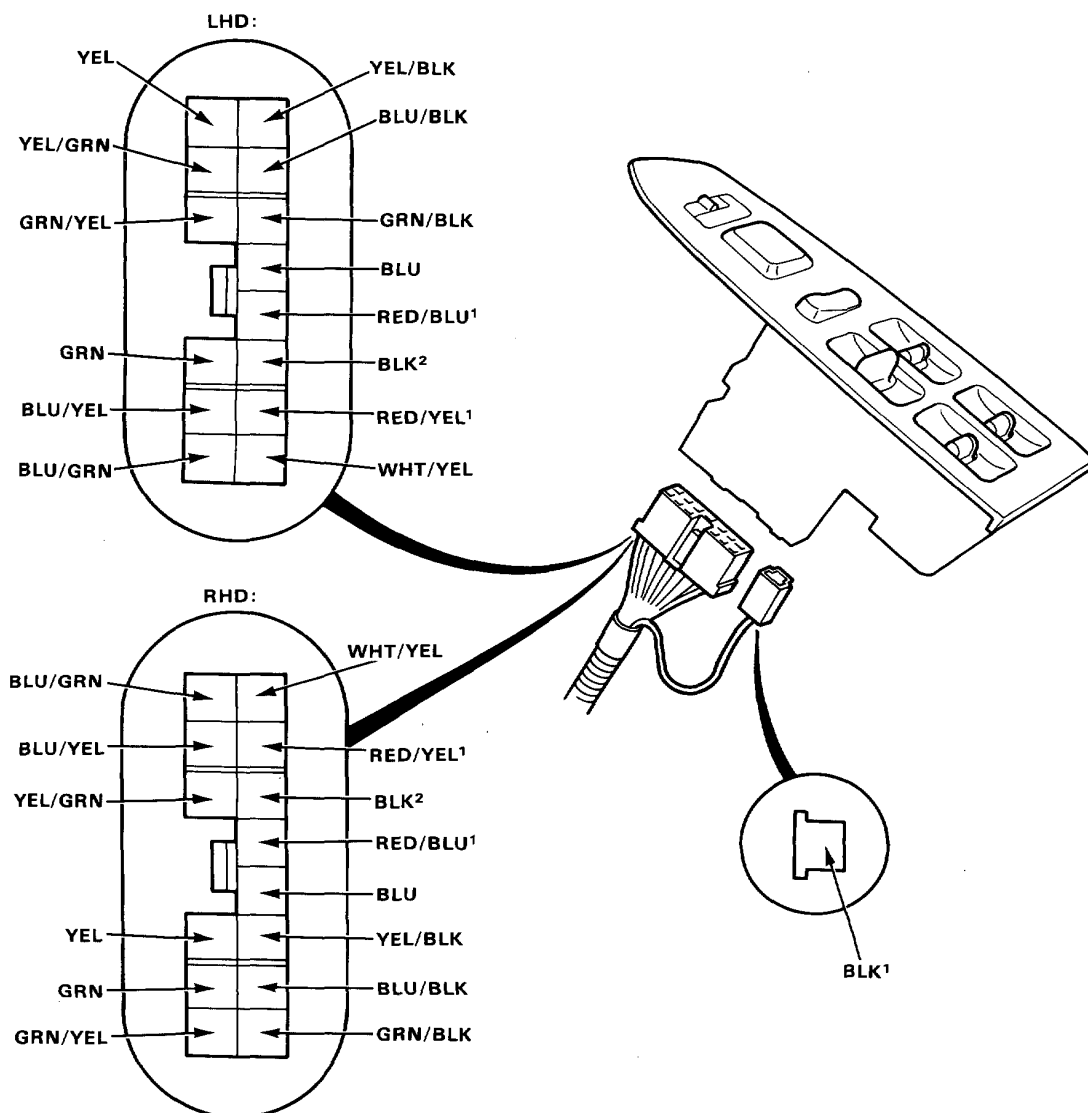
# Power Windows

## 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 driver's door trim panel and disconnect the 14-P and 1-P connectors from the driver's switch. Make the following input tests at the harness pins.

NOTE: Recheck the connections between the 10-P or 14-P and 1-P connectors, 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	BLK <sup>2</sup>	Under all conditions.	Check for continuity to ground: should be continuity.	<ul style="list-style-type: none"> <li>• Poor ground (G501, G502)</li> <li>• An open in the wire.</li> </ul>
2	WHT/YEL	Ignition switch ON.	Check for voltage to ground: should be battery voltage .	<ul style="list-style-type: none"> <li>• Blown No.30, 32, 33 or 34 (20 A) fuse.</li> <li>• Faulty power window relay.</li> <li>• An open in the wire.</li> </ul>
	BLU/BLK			
	YEL/BLK			
	GRN/BLK			
3	RED/BLU <sup>1</sup> and RED/YEL <sup>1</sup>	Connect the WHT/YEL terminal to the RED/BLU <sup>1</sup> terminal, and the RED/YEL terminal to the BLK <sup>2</sup> 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 <sup>2</sup> terminal, then ignition switch ON.	Check the right front motor operation: should run.	<ul style="list-style-type: none"> <li>• Faulty R.front [L.front] motor.</li> <li>• Faulty R.front [L.front] switch.</li> <li>• An open in the wire.</li> </ul>
5	YEL and YEL/GRN	Connect the YEL/BLK terminal to the YEL terminal, and the YEL/GRN terminal to the BLK terminal, then ignition switch ON.	Check the right rear motor operation: should run.	<ul style="list-style-type: none"> <li>• Faulty R. rear motor.</li> <li>• Faulty R. rear switch.</li> <li>• An open in the wire.</li> </ul>
6	GRN/YEL and GRN	Connect the GRN/BLK terminal to the GRN/YEL terminal, and the GRN terminal to the BLK terminal, then ignition switch ON.	Check the left rear motor operation: should run.	<ul style="list-style-type: none"> <li>• Faulty L. rear motor.</li> <li>• Faulty L. rear switch.</li> <li>• An open in the wire.</li> </ul>
7	BLU and BLK <sup>2</sup>	Connect the WHT/YEL terminal to the RED/YEL <sup>1</sup> terminal, and the BLK <sup>2</sup> terminal to the RED/BLU <sup>1</sup> terminal, then ignition Switch ON.	Check for resistance between the BLU and BLK <sup>2</sup> 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>

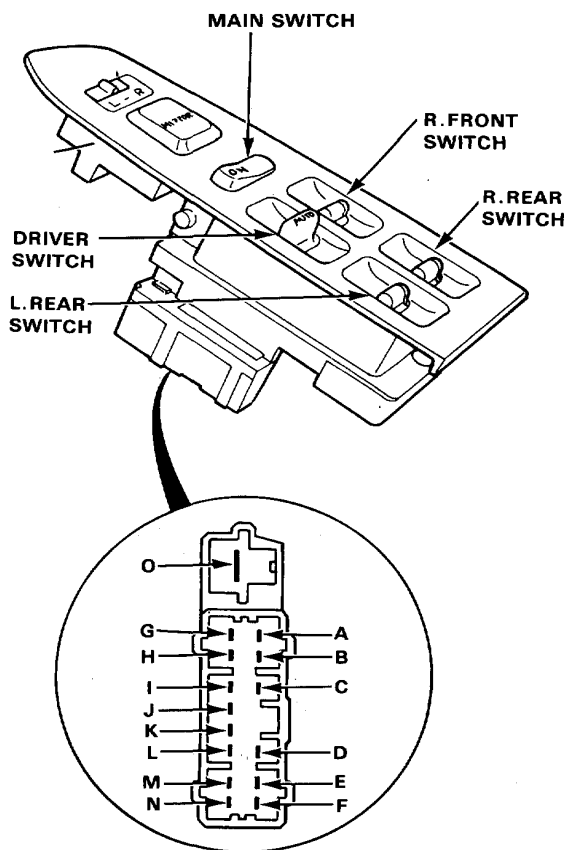
[ ] : RHD

# Power Windows

## Driver's Switch Test

LHD:

1. Remove the switch from the arm rest.
2. Check for continuity between the terminals in each switch position according to the tables.



### DRIVER'S SWITCH

Terminal		G	H	I	J
Position					
OFF			○	○	○
UP		○	○		○
DOWN		○	○		
DOWN (AUTO)		○	○		

### R. FRONT SWITCH

Terminal		A	B	M	O
Position	Main Switch				
OFF	ON	○	○		○
	OFF	○	○		
UP	ON		○	○	
	OFF		○	○	
DOWN	ON	○		○	
	OFF	○		○	

### R. REAR SWITCH

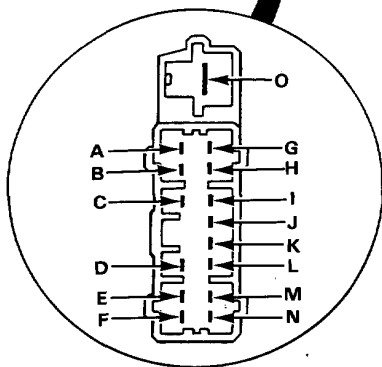
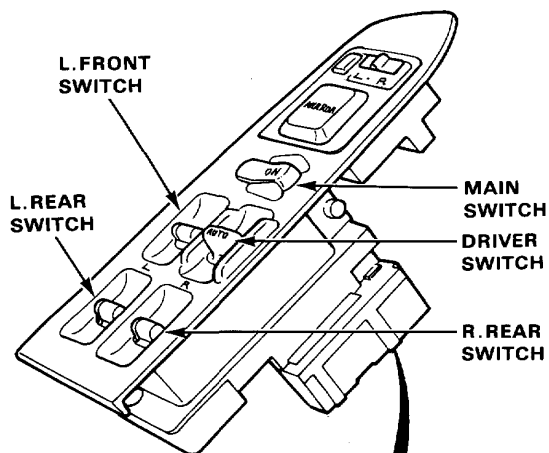
Terminal		E	F	N	O
Position	Main Switch				
OFF	ON	○	○		○
	OFF	○	○		
UP	ON		○	○	
	OFF		○	○	
DOWN	ON	○		○	
	OFF	○		○	

### L. REAR SWITCH

Terminal		C	D	L	O
Position	Main Switch				
OFF	ON	○	○		○
	OFF	○	○		
UP	ON		○	○	
	OFF		○	○	
DOWN	ON	○		○	
	OFF	○		○	



RHD:



#### DRIVER'S SWITCH

Terminal		G	H	I	J
Position					
OFF			<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
UP (AUTO)		<input type="radio"/>			<input type="radio"/>
UP		<input type="radio"/>			<input type="radio"/>
DOWN		<input type="radio"/>	<input type="radio"/>		
DOWN (AUTO)		<input type="radio"/>	<input type="radio"/>		

#### L. FRONT SWITCH

Terminal		A	B	M	O
Position	Main Switch				
OFF	ON	<input type="radio"/>	<input type="radio"/>		<input type="radio"/>
	OFF	<input type="radio"/>	<input type="radio"/>		
UP	ON		<input type="radio"/>	<input type="radio"/>	
	OFF		<input type="radio"/>	<input type="radio"/>	
DOWN	ON	<input type="radio"/>		<input type="radio"/>	
	OFF	<input type="radio"/>		<input type="radio"/>	

#### R. REAR SWITCH

Terminal		C	D	L	O
Position	Main Switch				
OFF	ON	<input type="radio"/>	<input type="radio"/>		<input type="radio"/>
	OFF	<input type="radio"/>	<input type="radio"/>		
UP	ON		<input type="radio"/>	<input type="radio"/>	
	OFF		<input type="radio"/>	<input type="radio"/>	
DOWN	ON	<input type="radio"/>		<input type="radio"/>	
	OFF	<input type="radio"/>		<input type="radio"/>	

#### L. REAR SWITCH

Terminal		E	F	N	O
Position	Main Switch				
OFF	ON	<input type="radio"/>	<input type="radio"/>		<input type="radio"/>
	OFF	<input type="radio"/>	<input type="radio"/>		
UP	ON		<input type="radio"/>	<input type="radio"/>	
	OFF		<input type="radio"/>	<input type="radio"/>	
DOWN	ON	<input type="radio"/>		<input type="radio"/>	
	OFF	<input type="radio"/>		<input type="radio"/>	

# Power Windows

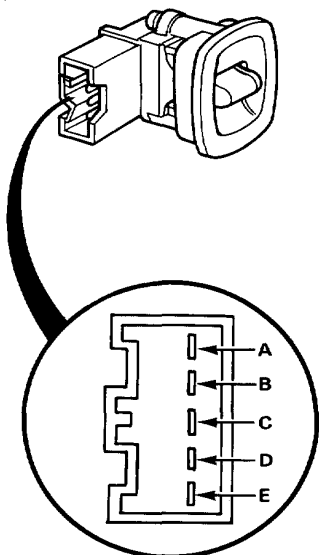
## Passenger's Switch Test

1. Remove the switch from the arm rest, then disconnect the 5-P connector.
2. Check for continuity between the terminals in each switch position according to the table.

NOTE: Right [Left] front switch is shown. Rear switches are similar.

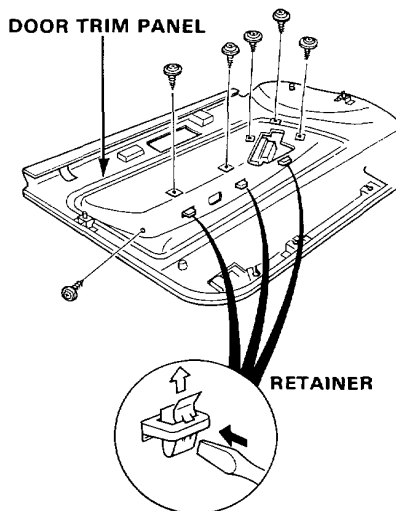
[ ]: RHD

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

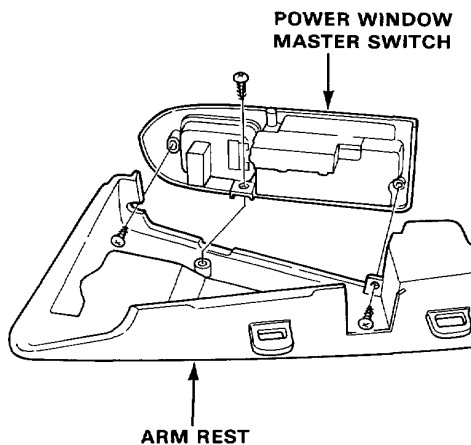


## Driver's Switch Replacement

1. Remove the driver's door trim panel, then disconnect all of the connectors from the driver's door trim panel.
2. Remove the arm rest from the driver's door trim panel by removing the retainer and the screws.



3. Remove the power window master switch from the arm rest by removing three screws.

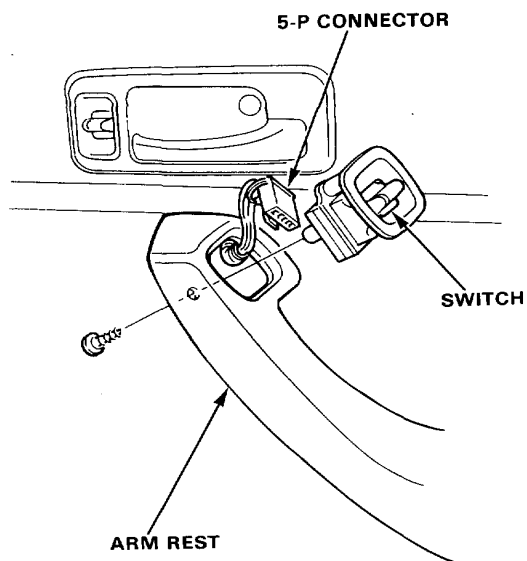






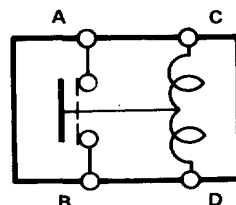
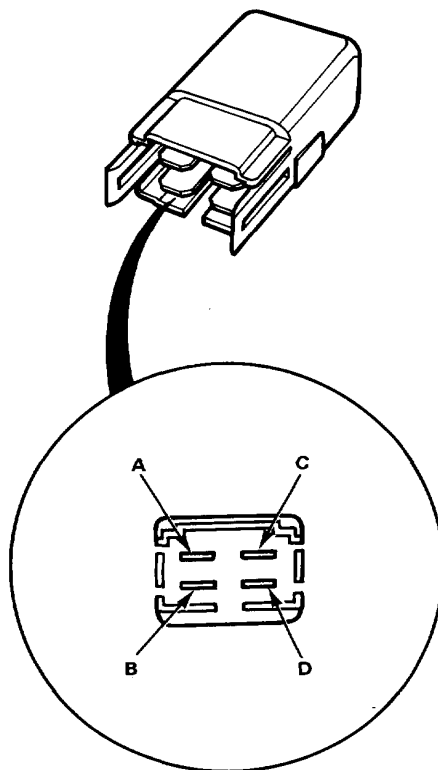
## Passenger's Switch Replacement

1. Remove the switch from the arm rest by removing the 1 mounting screw, then disconnect the 5-P connector from the switch.



## Relay Test

1. Remove the relay from the under-hood relay 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.

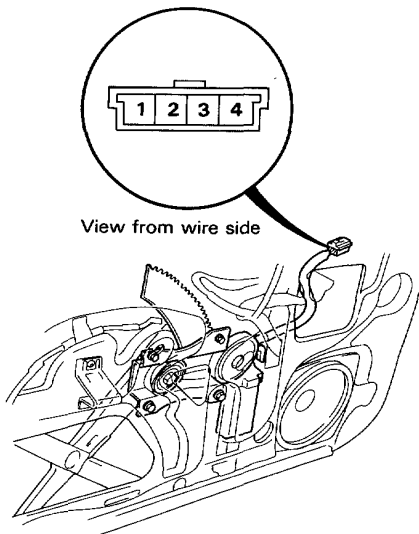


# Power Windows

## Driver's Motor Test

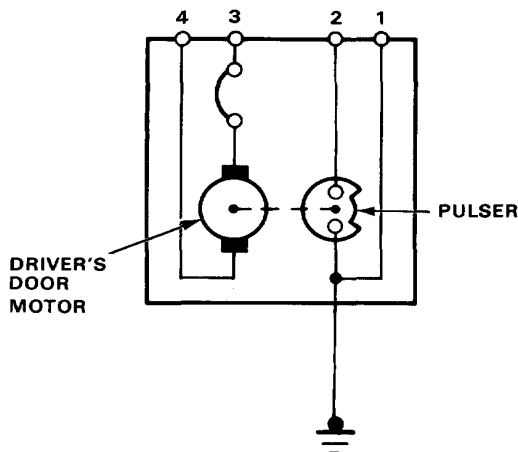
### Motor Test:

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.3 and No.4 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.1 and No.2 terminals when running the motor by connecting battery voltage to the No.3 and No.4 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.

