

2002 ACCESSORIES & EQUIPMENT

Power Windows - MDX

DESCRIPTION & OPERATION

A permanent magnet motor operates each power window. Driver's master switch assembly controls all power window motors. Each window switch controls only one power window motor. If main switch is in OFF position, only driver's window may be operated.

AUTO mode permits driver's window to be fully lowered with a single touch of switch. Moving switch past its first stop will engage AUTO mode. AUTO mode is controlled by a pulser integrated into driver's window motor assembly. Pulser cannot be serviced separately.

Driver's power window master switch is part of door multiplex control unit. Multiplex control unit cannot be serviced separately. Power window switch functions are controlled by multiplex control system control units. Multiplex control system consists of a door, driver and passenger multiplex control units.

COMPONENT LOCATIONS

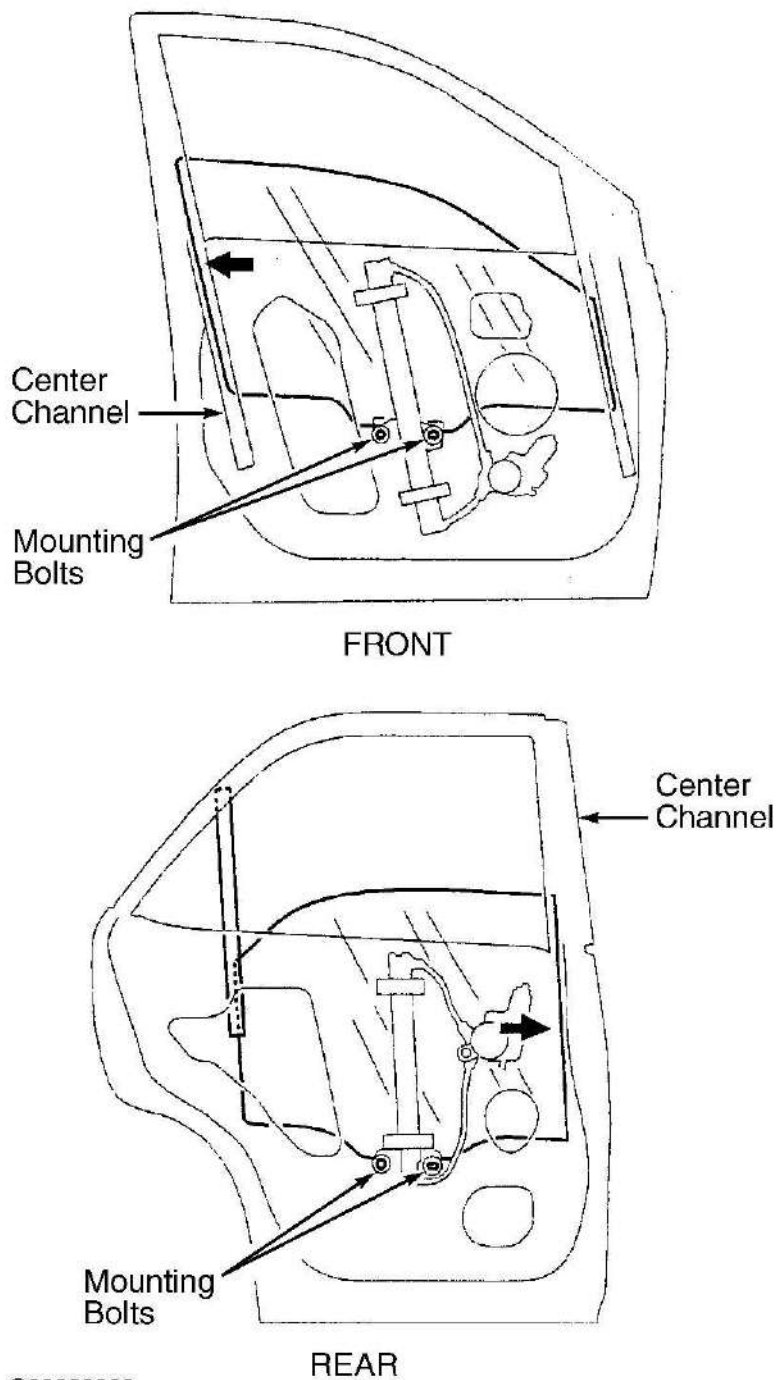
COMPONENT LOCATIONS

Component	Location
Door Multiplex Control Unit	Incorporated Into Driver's Power Window Master Switch
Driver's Multiplex Control Unit	Mounted On Driver's Underdash Fuse/Relay Block Behind Kick Panel
Passenger's Multiplex Control Unit	Mounted On Passenger's Underdash Fuse/Relay Block Behind Kick Panel

ADJUSTMENTS

DOOR GLASS

1. Make adjustments with vehicle on flat level surface. Check weather stripping for damage or deterioration. Remove door panel and plastic cover. See **DOOR PANEL** under REMOVAL & INSTALLATION.
2. Raise glass enough to access glass mounting bolts. Loosen glass mounting bolts. Push glass rearward against center channel on front doors, or forward against center channel on rear doors. See **Fig. 1** . Tighten glass mounting bolts.
3. Ensure window operates smoothly. Raise glass fully. Check for even contact between glass and run channel. Adjust as necessary. Check for leaks using low pressure water.



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Fig. 1: Making Door Glass Adjustments
Courtesy of AMERICAN HONDA MOTOR CO., INC.

SYSTEM TESTS

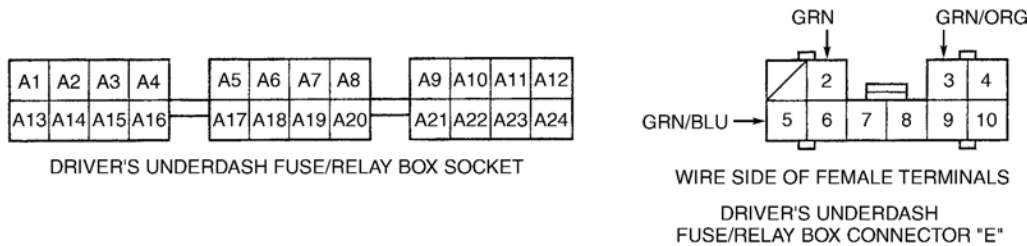
NOTE: Before attempting to diagnose power window systems, ensure multiplex control system is functioning properly. See **MULTIPLEX CONTROL SYSTEMS** article.

MULTIPLEX CONTROL UNIT INPUT TESTS

NOTE: Master power window switch function is combined with multiplex control system. Switch cannot be isolated for testing. Perform control unit input tests.

Driver's Multiplex Control Unit

Remove driver's multiplex control unit from driver's underdash fuse/relay block. Inspect connector terminals for damage or corrosion. Repair or replace as necessary. Using a DVOM, perform driver's control unit input test. See **Fig. 2** . If all input tests are okay, go to **PASSENGER'S CONTROL UNIT** .



With the driver's multiplex control unit still disconnected, make these input tests at the driver's underdash fuse/relay box socket.

Cavity	Wire	Test condition	Test: Desired result	Possible cause if result is not obtained
A12	Fuse/relay box socket	Under all conditions	Check for voltage to ground: There should be battery voltage.	- Blown No. 13 (7.5A) fuse in the passenger's under-dash fuse/relay box - An open in the wire
A14			Check for continuity to ground: There should be continuity.	- Poor ground (G401) - An open in the wire

Reconnect the driver's multiplex control unit to the driver's underdash fuse/relay box, turn the ignition switch ON (II), and perform the following input tests at the appropriate connectors on the back of the driver's underdash fuse/relay box.

Cavity	Wire	Test condition	Test: Desired result	Possible cause if result is not obtained
E2	GRN	Jump E2 to battery voltage	Check the left rear window motor operation: The window should go down.	- Poor ground (G601) - Blown No. 7 (20A) fuse in the passenger's under-dash fuse/relay box - Faulty window switch - Faulty power window master switch - An open in the wire
E3	GRN/ORN	Driver's door open	Check for voltage to ground: There should be 1 V or less.	- Faulty driver's door switch - An open in the wire
		Driver's door closed	Check for voltage to ground: There should be 5 V or more.	- Faulty driver's door switch - Short to ground in the wire
E5	GRN/BLU	Jump E5 to battery voltage	Check the left rear window motor operation: The window should go up.	- Poor ground (G601) - Blown No. 7 (20A) fuse in the passenger's under-dash fuse/relay box - Faulty window switch - Faulty power window master switch - An open in the wire

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Fig. 2: Driver's Multiplex Control Unit Input Test
Courtesy of AMERICAN HONDA MOTOR CO., INC.

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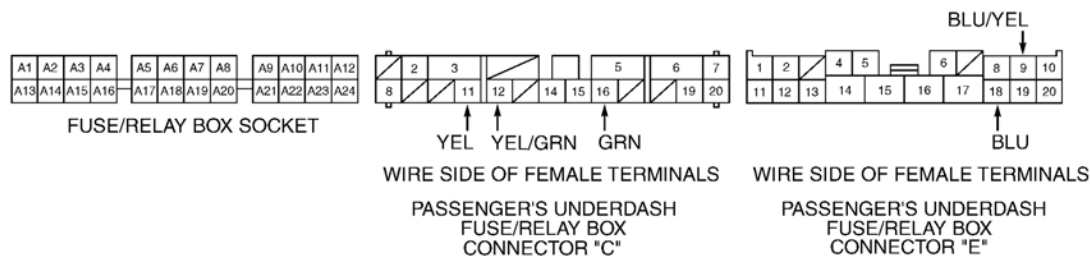
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Passenger's Multiplex Control Unit

Remove right kick panel. Remove passenger's multiplex control unit from passenger's underdash fuse/relay block and disconnect electrical connector. Inspect connector terminals for damage or corrosion. Repair or replace as necessary. Using a DVOM, perform passenger's control unit input test. See **Fig. 3** . If all input tests are okay, go to **DOOR MULTIPLEX CONTROL UNIT** .

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With the passenger's multiplex control unit still disconnected, make these input tests at the passenger's underdash fuse/relay box socket.

Cavity	Wire	Test condition	Test: Desired result	Possible cause if result is not obtained
A24	Fuse/relay box socket	Under all conditions	Check for voltage to ground: There should be battery voltage.	- Blown No. 13 (7.5A) fuse in the passenger's under-dash fuse/relay box - Faulty passenger's under-dash fuse/relay box
A12	Fuse/relay box socket	Under all conditions	Check for continuity to ground: There should be continuity.	- Faulty power window relay - Poor ground (G651) - An open in the wire
A8	Fuse/relay box socket	Under all conditions	Check for continuity to ground: There should be continuity.	- Poor ground (G651) - An open in the wire

Reconnect the passenger's multiplex control unit to the passenger's underdash fuse/relay box, and perform the following input tests at the appropriate connectors on the passenger's underdash fuse/relay box.

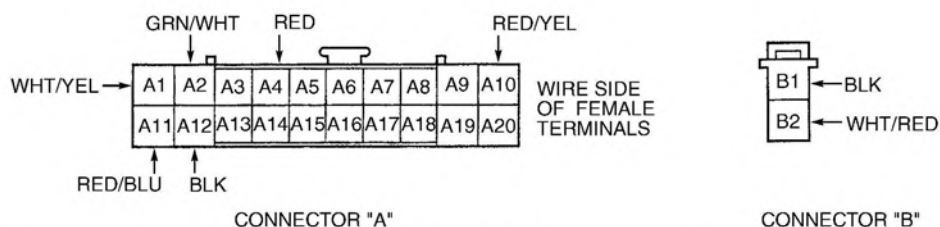
Cavity	Wire	Test condition	Test: Desired result	Possible cause if result is not obtained
C16	GRN	Front passenger's door open	Check for voltage to ground: There should be 1 V or less.	- Faulty passenger's door switch - An open in the wire - A short to ground
		Front passenger's door closed	Check for voltage to ground: There should be 5 V or more.	
E18	BLU	Jump E18 to battery voltage	Check the front passenger's window motor operation: The window should go down.	- Poor ground (G601) - Blown No. 8 (20A) fuse in the passenger's under-dash fuse/relay box - Faulty power window master switch - Faulty right rear switch - Faulty window motor - An open in the wire
E9	BLU/YEL	Jump E9 to battery voltage	Check the front passenger's window motor operation: The window should go up.	- Poor ground (G601) - Blown No. 8 (20A) fuse in the passenger's under-dash fuse/relay box - Faulty power window master switch - Faulty front passenger's switch - Faulty window motor - An open in the wire
C12	YEL/GRN	Jump C12 to battery voltage	Check the right rear window motor operation: The window should go down.	- Poor ground (G601) - Blown No. 16 (20A) fuse in the passenger's under-dash fuse/relay box - Faulty power window master switch - Faulty right rear switch - Faulty window motor - An open in the wire
C11	YEL	Jump C11 to battery voltage	Check the right rear window motor operation: The window should go up.	- Poor ground (G601) - Blown No. 16 (20A) fuse in the passenger's under-dash fuse/relay box - Faulty power window master switch - Faulty right rear switch - Faulty window motor - An open in the wire

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Fig. 3: Passenger's Multiplex Control Unit Input Test
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Door Multiplex Control Unit

Remove driver's door trim panel. Disconnect both harness connectors from door multiplex control unit. Inspect connector terminals for damage or corrosion. Repair or replace as necessary. Using a DVOM, perform door multiplex control unit input test. See **Fig. 4** . If all input tests are okay, multiplex control unit may be defective. Substitute known-good multiplex control unit for control unit most closely associated with fault. Retest system. If problem still exists, substitute known-good multiplex control unit for next most likely faulty control unit.



Cavity	Wire	Test condition	Test: Desired result	Possible cause if result is not obtained
A1	WHT/YEL	Under all conditions	Check for voltage to ground: There should be battery voltage.	- Blown No. 13 (7.5A) fuse in the passenger's under-dash fuse/relay box - Faulty passenger's fuse/relay box - An open in the wire
A2	GRN/WHT	Ignition switch ON (II)	Check for voltage to ground: There should be battery voltage.	- Blown No. 15 (20A) fuse in the passenger's under-dash fuse/relay box - Faulty power window relay - Faulty passenger's multiplex control unit - Poor ground (G651) - An open in the wire
A12	BLK	Under all conditions	Check for continuity to ground: There should be continuity.	- Poor ground (G401, G601) - An open in the wire
A19				
B1				
A10	RED/YEL	Connect the A10 terminal to the A12 terminal, and the A11 terminal to the A1 terminal.	Check the driver's window motor operation: The window should go up. NOTE: If the window is up, jump A11 to A12, and A10 to A1; the window should go down.	- Blown No. 13 (7.5A) fuse in the passenger's under-dash fuse/relay box - Faulty driver's window motor - An open in the wire - Faulty passenger's fuse/relay box
A11	RED/BLU			

Reconnect the door multiplex control unit and perform the following input test.

Cavity	Wire	Test condition	Test: Desired result	Possible cause if result is not obtained
A4	RED	While operating the driver's window switch with the ignition switch ON (II)	Check for voltage on the A4 and A12 terminals: About 6 V should be indicated as the driver's window motor runs.	- Faulty pulser - Faulty driver's window motor - An open in the wire - A short to ground in the wire
B2	WHT/RED	Ignition switch ON (II) main switch on	Check for voltage to ground: Should be 1 V or less.	- Poor ground (G401, G601) - Faulty passenger's multiplex control unit - Faulty passenger's switch - An open in the wire
		Ignition switch ON (II) main switch off	Check for voltage to ground: There should be 5 V or more.	- Faulty passenger's switch - Faulty passenger's multiplex control unit - Short to ground in the wire - An open in the wire

Fig. 4: Door Multiplex Control Unit Input Test

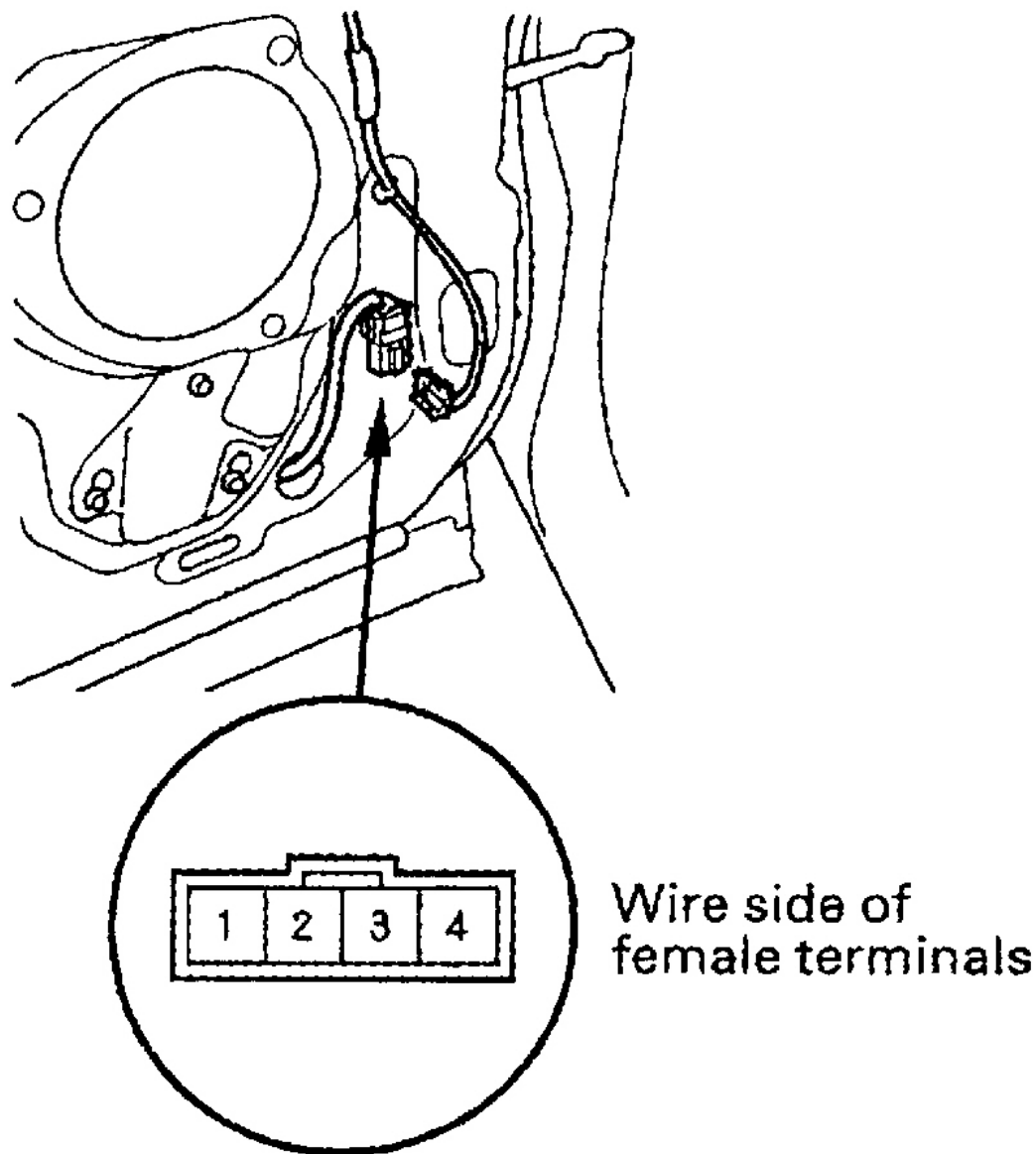
Courtesy of AMERICAN HONDA MOTOR CO., INC.

COMPONENT TESTS

MOTOR TEST

Driver's Window Motor

Remove door panel. See **DOOR PANEL** . Unplug 4-pin connector from motor. Using jumper wires, connect terminal No. 1 to battery voltage and terminal No. 2 to ground. See **Fig. 5** . Check for motor operation. Disconnect lead immediately when motor stops running. Reverse jumper wires and retest. Replace motor if it does not operate in both directions.

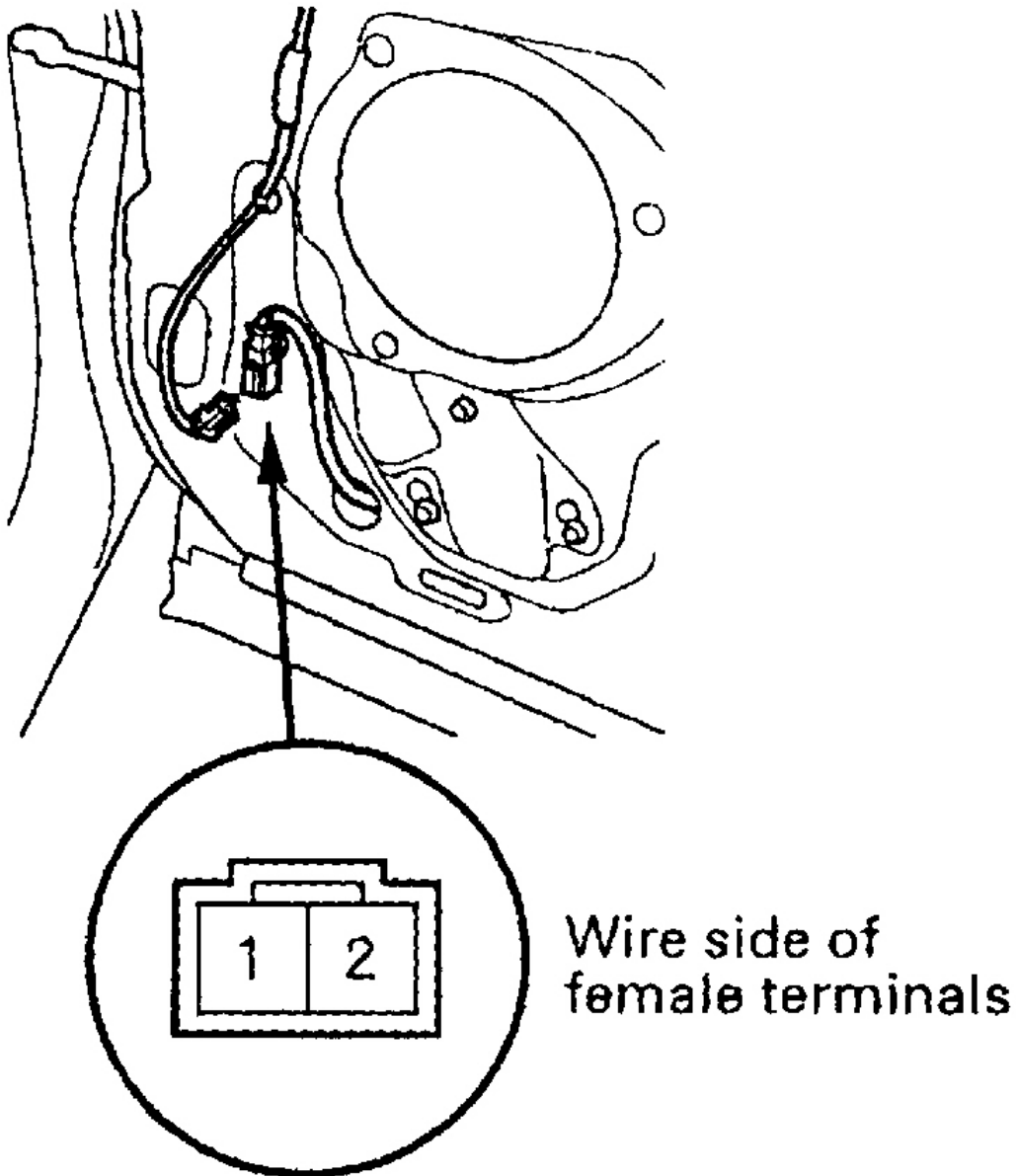


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Fig. 5: Identifying Driver's Window Motor Connector Terminals
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Passenger's Window Motor

Remove door panel. See **DOOR PANEL** . Unplug 2-pin connector from motor. Using jumper wires, connect terminal No. 1 to battery voltage and No. 2 to ground. See **Fig. 6** . Check for motor operation. Reverse jumper wires and retest. Replace motor if it does not operate in both directions.



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Fig. 6: Identifying Passenger's Window Motor Connector Terminals
Courtesy of AMERICAN HONDA MOTOR CO., INC.

PULSER TEST

NOTE: Pulser is integral part of driver's window motor assembly. If pulser is defective,

motor assembly must be replaced.

Driver's Window Motor

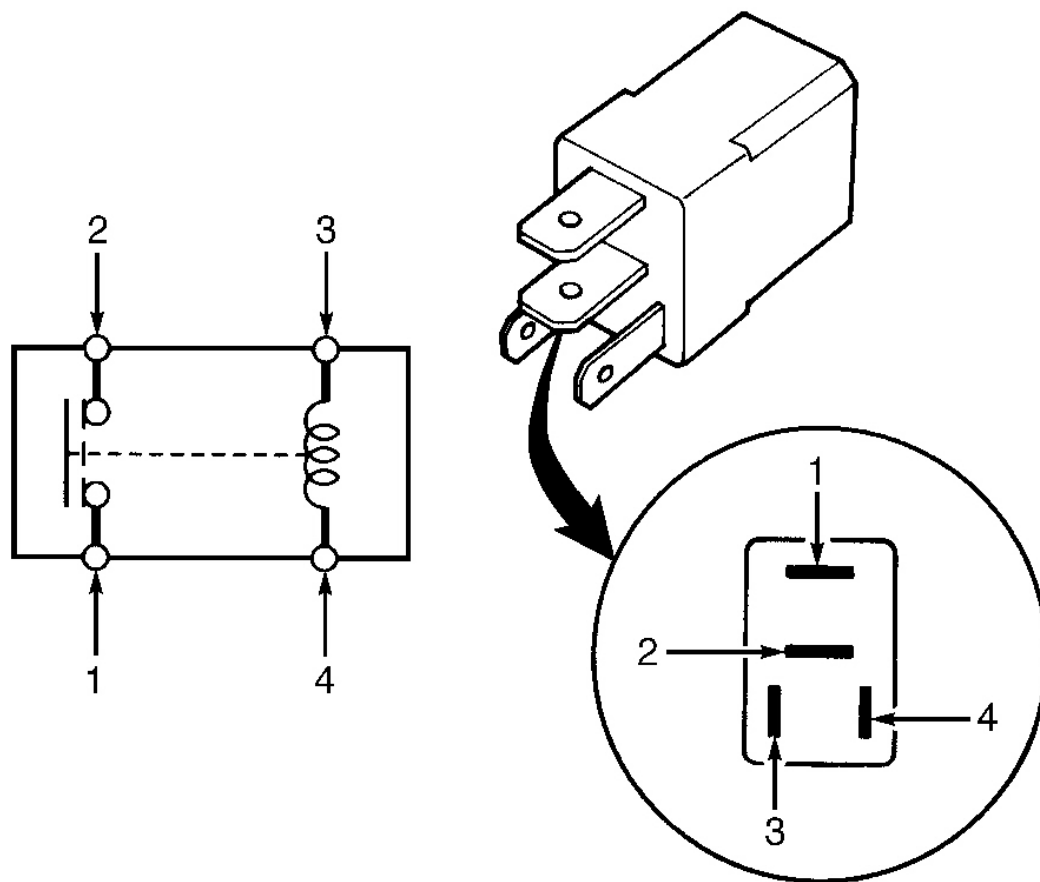
Connect test leads of analog ohmmeter to motor connector terminals No. 3 and 4. Using jumper wires, connect terminals No. 1 and 2 to battery voltage and ground. See **Fig. 5** . If ohmmeter needle does not move back and forth while motor is operating, replace motor.

SWITCH TEST

Power window switch testing procedures are not available from manufacturer.

POWER WINDOW RELAY TEST

Remove power window relay from passenger's underdash fuse/relay box. Using jumper wires, connect terminals No. 3 and 4 to battery voltage and ground. See **Fig. 7** . If continuity does not exist between terminals No. 1 and 2, replace relay.



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Fig. 7: Identifying Power Window Relay Terminals
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

REMOVAL & INSTALLATION

DOOR PANEL

Removal & Installation

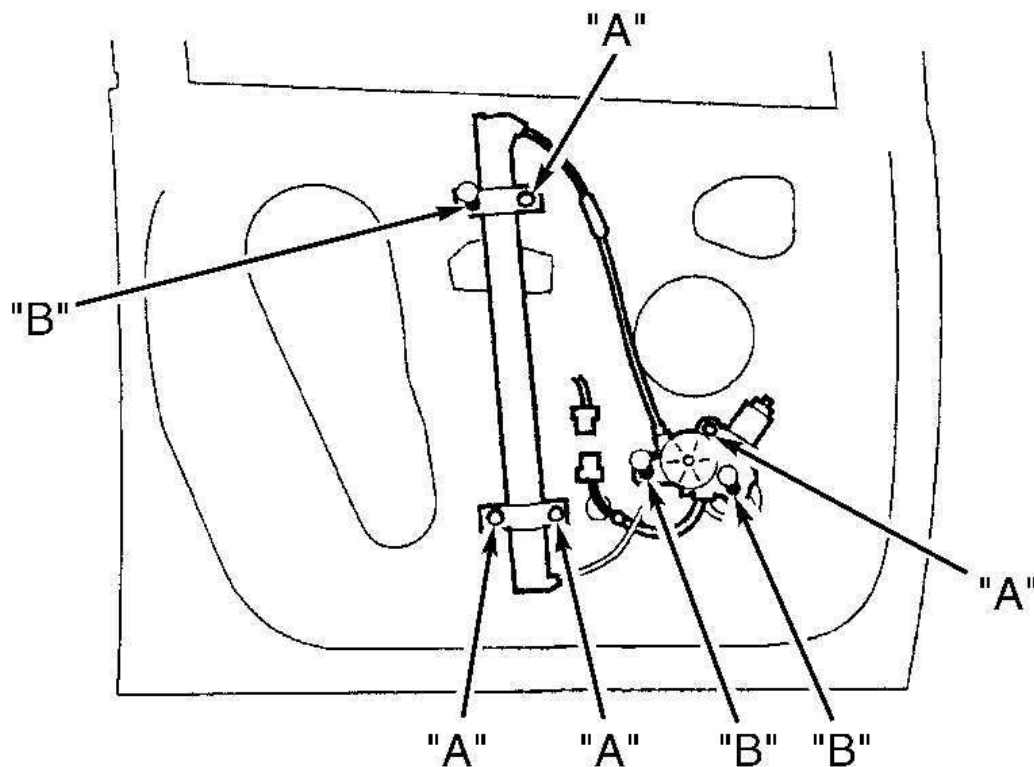
1. Remove mirror mount cover and mirror. Pry out inner handle trim screw cap. Remove screw. Remove inner handle trim. Pull inner handle out half way. Disconnect inner handle rod and power door lock switch connector.
2. Carefully pry speaker grille off from the rear. Remove 3 screws around speaker. Pry up pull pocket screw cap and remove screw. Gently pry up on rear of power window/mirror switch. Disconnect electrical connectors and remove power window/mirror switch.
3. Release clips holding door panel in place using a trim pad remover. Remove door panel by pulling

upward. Disconnect electrical connectors. To install, reverse removal procedure.

WINDOW REGULATOR ASSEMBLY

Removal & Installation

1. Remove door panel. See **DOOR PANEL** . Remove pull pocket bracket and plastic cover. Raise glass to access bolts. Remove bolts. Tilt glass forward and pull out through window opening.
2. Disconnect and detach connector and harness clip from door. Remove bolts "A" and loosen bolts "B". Remove regulator through hole in door. See **Fig. 8** .
3. To install, reverse removal procedure. Grease all sliding surfaces of regulator. Ensure no clearance exists between glass and glass run channel when glass is closed.



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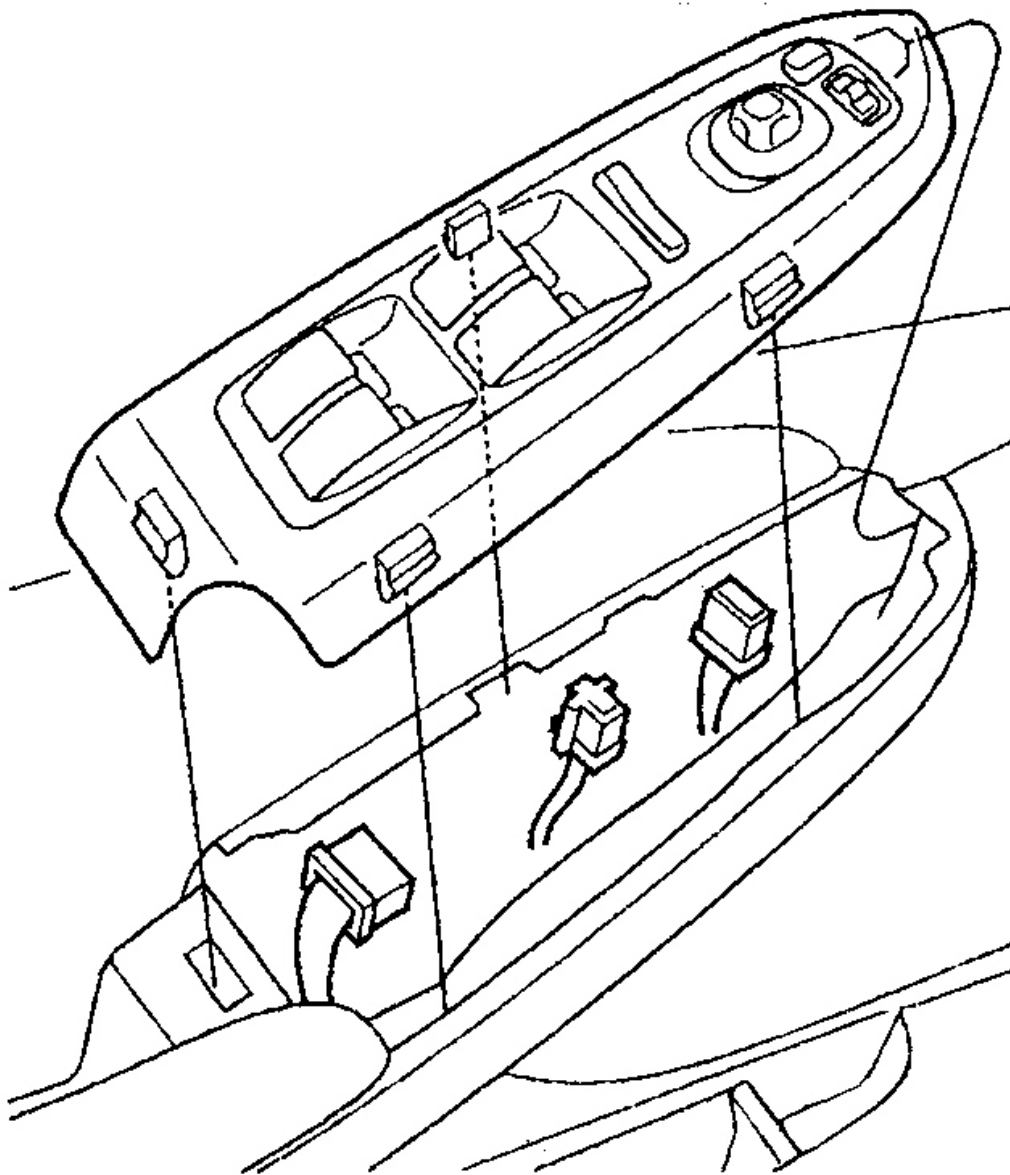
Fig. 8: Identifying Regulator Mounting Bolts

Courtesy of AMERICAN HONDA MOTOR CO., INC.

MASTER POWER WINDOW SWITCH

Removal & Installation

Gently pry up at rear of master switch assembly and release 3 clips. Pull rearward to disengage hooks at front. Disconnect electrical connectors. See **Fig. 9** . Remove master switch mounting screws. Remove master switch from panel. To install, reverse removal procedure.



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Fig. 9: Removing Master Power Window Switch
Courtesy of AMERICAN HONDA MOTOR CO., INC.

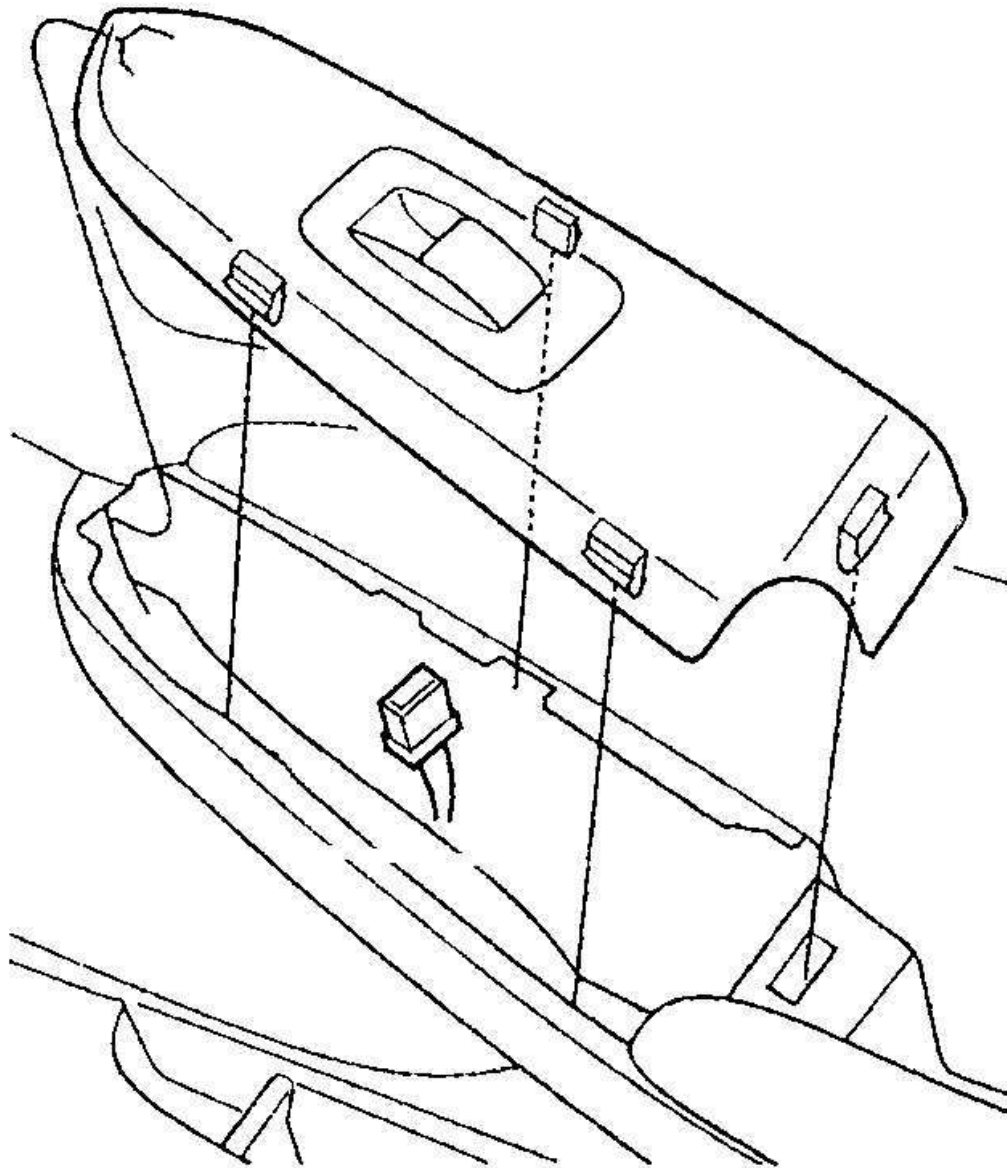
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PASSENGER'S POWER WINDOW SWITCH

Removal & Installation

Gently pry up at rear of passenger switch assembly and release 3 clips. Pull rearward to disengage hooks at front. Disconnect electrical connector. See **Fig. 10** . Remove passenger switch mounting screws. Remove master switch from panel. To install, reverse removal procedure.



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Fig. 10: Removing Passenger's Power Window Switch
Courtesy of AMERICAN HONDA MOTOR CO., INC.

WIRING DIAGRAMS

For wiring, see **POWER WINDOWS** in SYSTEM WIRING DIAGRAMS article in ELECTRICAL.