2003-06 ACCESSORIES & EQUIPMENT

Power Windows - MDX

COMPONENT LOCATION INDEX

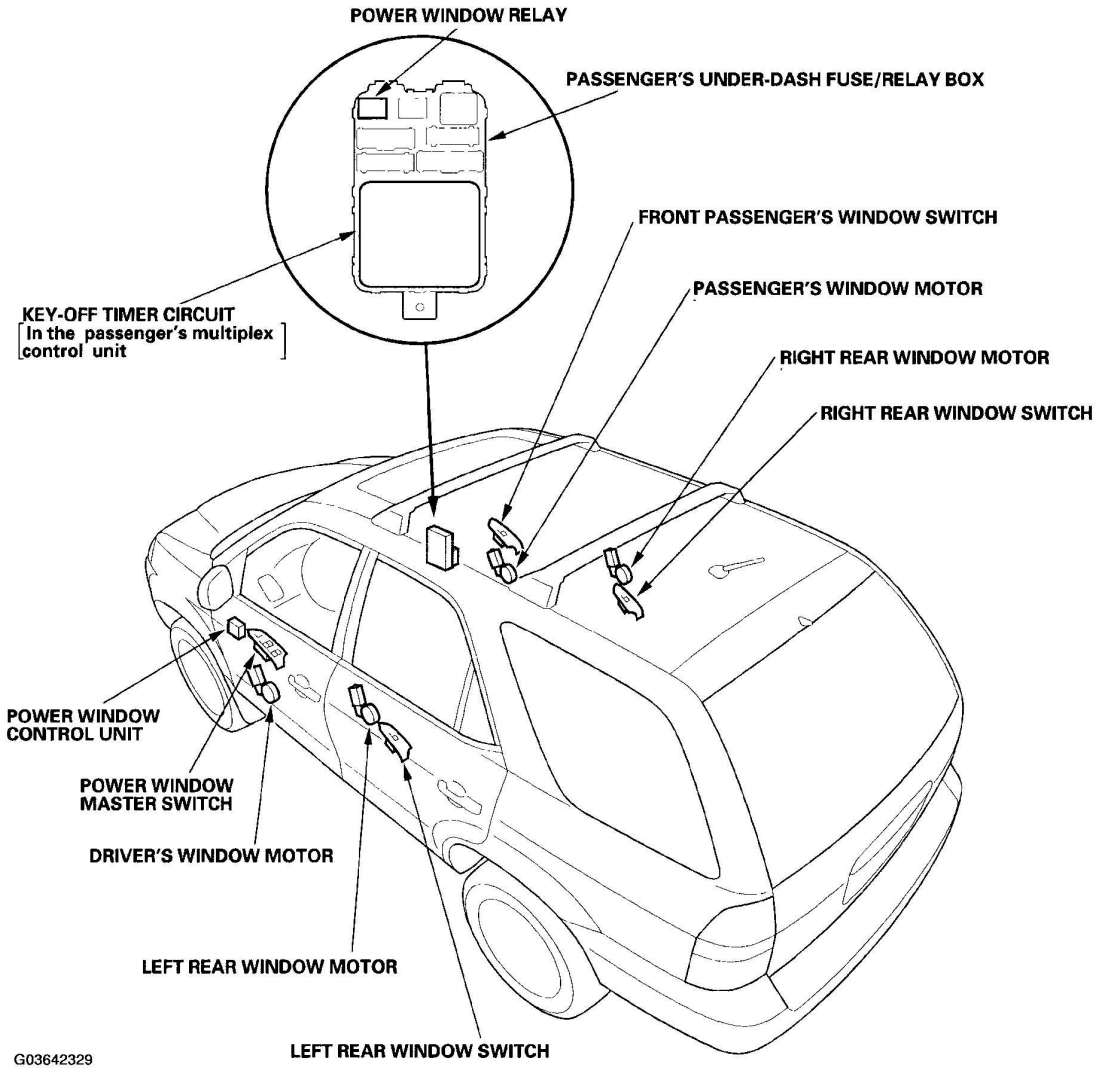

Fig. 1: Identifying Power Window Components Location
Courtesy of AMERICAN HONDA MOTOR CO., INC.

SYSTEM DESCRIPTION

The system is composed of the power window master switch, the power window control unit and the driver's window motor. The power window motor incorporates a pulser which generates pulses during the motor's operation and sends the pulses to the power window control unit. As soon as the power window control unit

detects no pulses from the pulser, the control unit makes the power window motor stop and reverse. This is to prevent pinching your hand or fingers during auto-up operation.

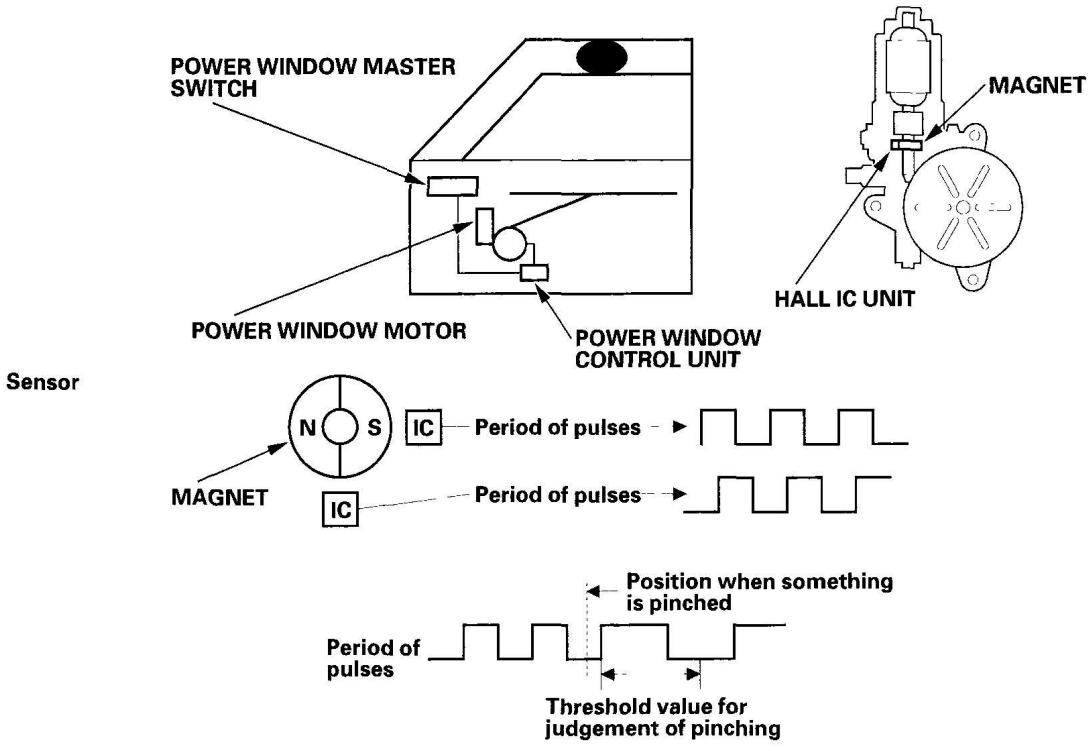

Fig. 2: Power Windows System Description
Courtesy of AMERICAN HONDA MOTOR CO., INC.

RESETTING THE POWER WINDOW CONTROL UNIT

RESETTING THE POWER WINDOW CONTROL UNIT IS REQUIRED AFTER PERFORMING THE FOLLOWING PROCEDURES

- Disconnecting the battery.
- Removing the No. 8 (20 A) fuse from the under-hood subfuse box.
- Disconnecting the 18P connector from the power window control unit.
- Removing the window regulator, glass or glass run channel.
- Disconnecting the driver's door wire harness.

1. Turn the ignition switch OFF.
2. Turn the ignition ON (II).
3. Lower the driver's window all the way down by pushing the driver's switch to the second detent (AUTO DOWN) when the window reaches the bottom, hold the driver's window switch in the AUTO DOWN

position for 2 seconds.

4. Raise the driver's window all the way up without stopping by pulling the driver's switch to the second detent (AUTO UP) when the window reaches the top, hold the driver's window switch in the AUTO UP position for 2 seconds.

   If the window does not work in AUTO, reset the power window control unit according to the above procedure again.

CIRCUIT DIAGRAM

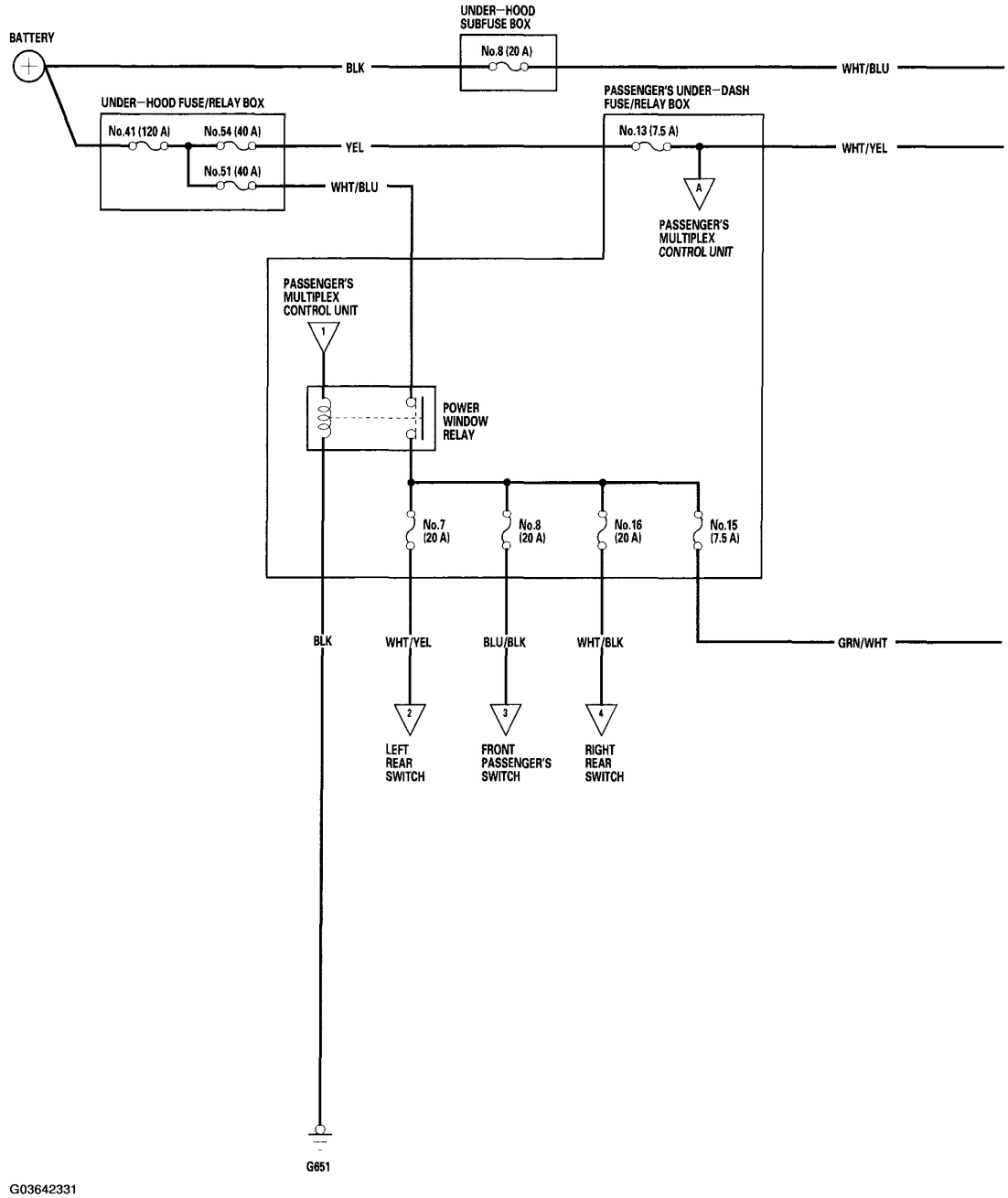

Fig. 3: Power Windows Circuit Diagram (1 Of 4)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

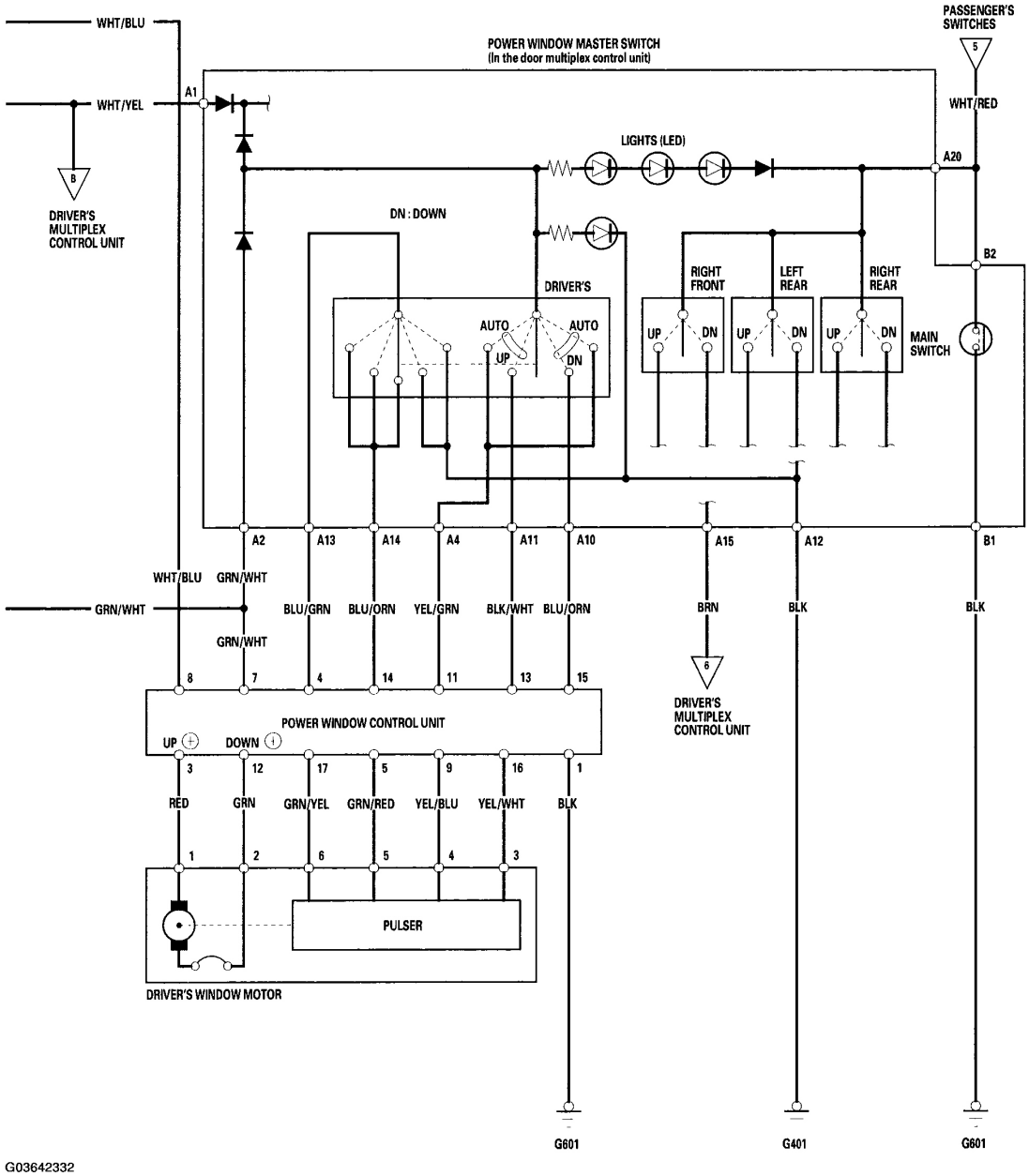

Fig. 4: Power Windows Circuit Diagram (2 Of 4)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

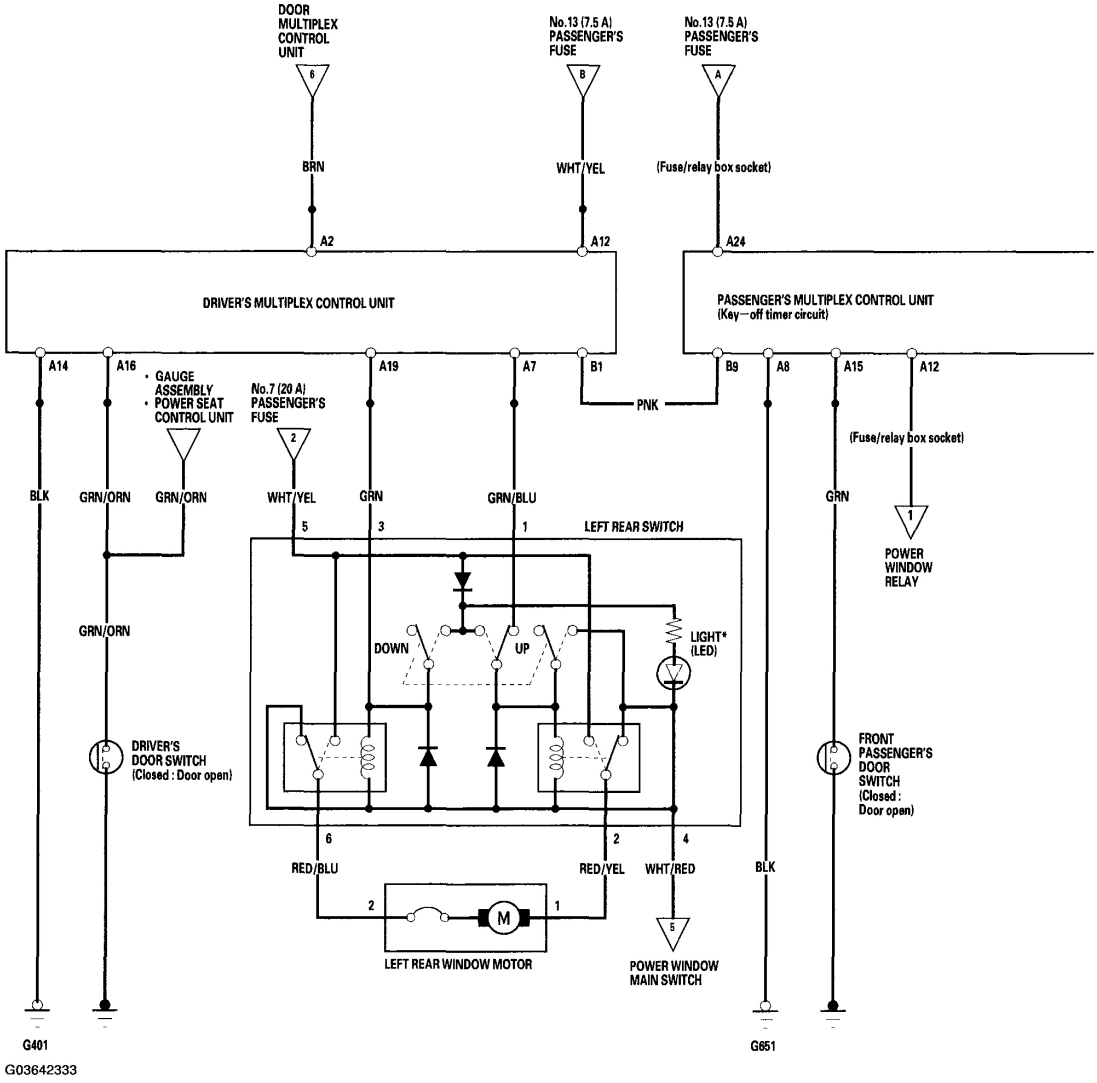

Fig. 5: Power Windows Circuit Diagram (3 Of 4)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

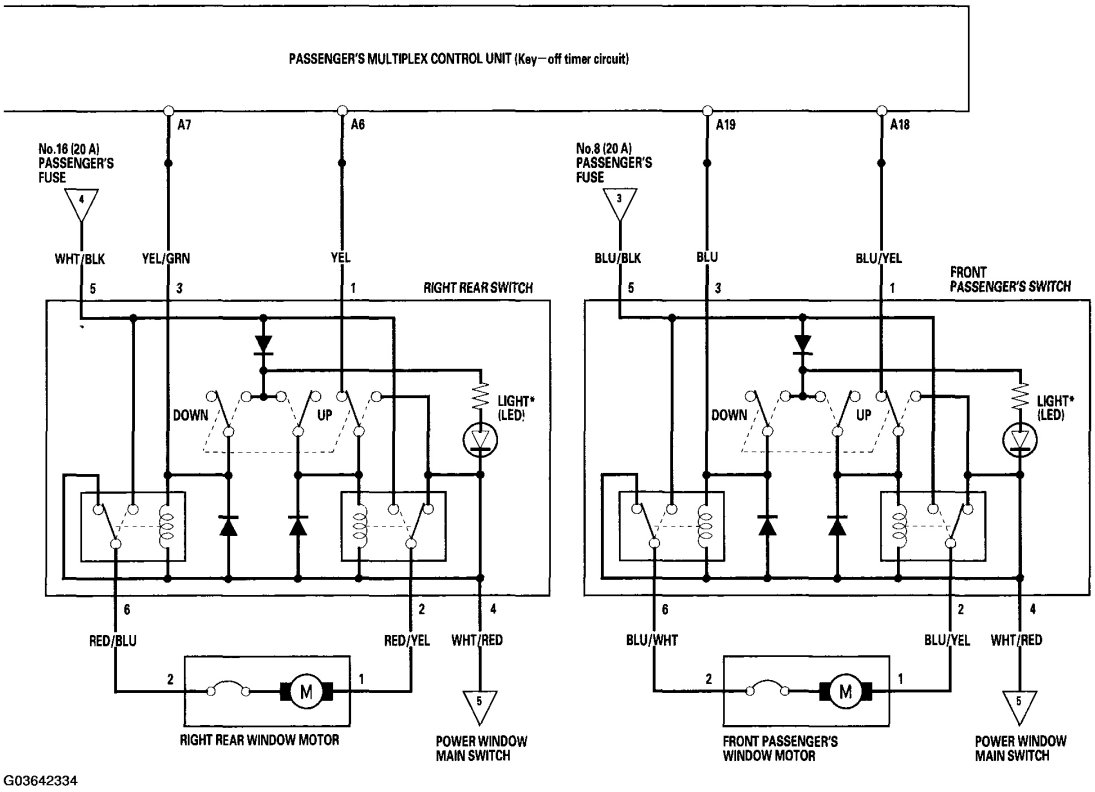

Fig. 6: Power Windows Circuit Diagram (4 Of 4)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

CONTROL UNIT INPUT TEST

NOTE: If the power window cannot be operated by its own window switch, the problem is not a multiplex control unit. Troubleshoot power or ground to the window switch or motor.

PASSENGER'S UNIT

1. Before testing the power window control functions, troubleshoot the multiplex control system (see **TROUBLESHOOTING**).
2. Remove the passenger's multiplex control unit from the passenger's under-dash fuse/relay box, and disconnect its connector.
3. Inspect the connector and socket terminals to be sure they are all making good contact.
   - If the terminals are bent, loose or corroded, repair them as necessary, and recheck the system.
   - If the terminals look OK, go to step 4.

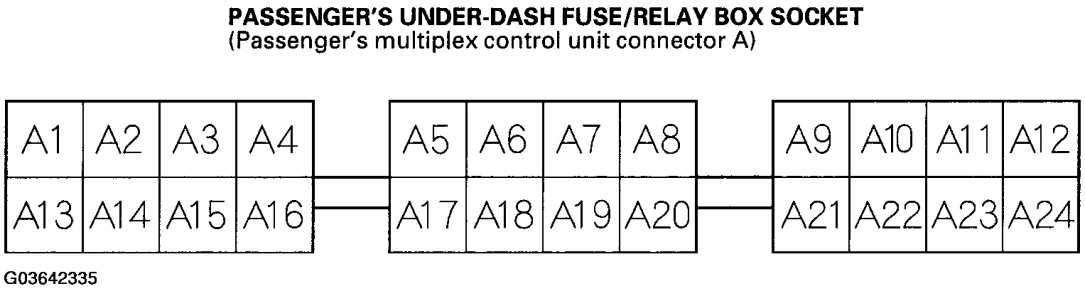

Fig. 7: Identifying Passenger's Under-Dash Fuse/Relay Socket
Courtesy of AMERICAN HONDA MOTOR CO., INC.

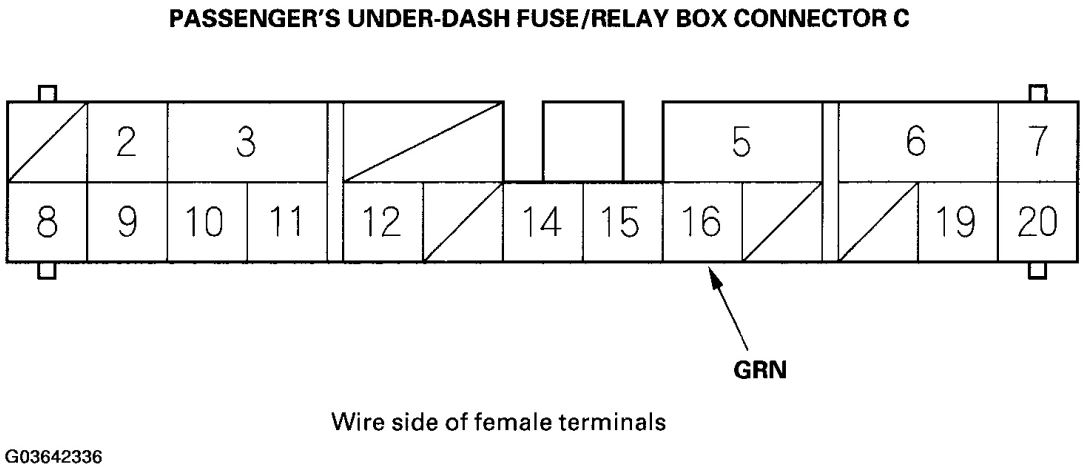

Fig. 8: Identifying Passenger's Under-Dash Fuse/Relay Box Connector C
Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. With the passenger's multiplex control unit still disconnected, make these input tests at the passenger's under-dash fuse/relay box socket.
   - If any test indicates a problem, find and correct the cause, then recheck the system.
   - If all the input tests prove OK, go to step 1 in **DRIVER'S UNIT** .

CONTROL UNIT INPUT TEST (PASSENGER'S UNIT)

Cavity	Wire	Test condition	Test: Desired result	Possible cause if result is not obtained
			Check for voltage	• Blown No. 13 (7.5 A) fuse in the passenger's under-dash

A24	Fuse/relay box socket	Under all conditions	to ground: There should be battery voltage.	fuse/relay box • Faulty passenger's under-dash fuse/relay box
A12	Fuse/relay box socket	Jump A12 to battery voltage	The power window relay should make a click sound and there should be 12 V to ground at fuses 7, 8 and 16.	• Faulty power window relay • Poor ground (G651) • Blown No. 51 (40 A) fuse in the under-hood fuse/relay box • 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
A19	Fuse/relay box socket	With power window main switch ON, jump A12 to battery voltage	Check the front passenger's window motor operation: The window should go down.	• Poor ground (G601, G651) • Blown No. 8 (20 A) fuse in the passenger's under-dash fuse/relay box • Faulty power window master switch • Faulty front passenger's window switch • Faulty window motor • An open in the wire
A18 A12	Fuse/relay box socket	With power window main switch ON, jump A18 and A12 to battery voltage	Check the front passenger's window motor operation: The window should go up.	
A7 A12	YEL/GRN	With power window main switch ON, jump A7 and A12 to	Check the right rear window motor operation: The window should go	• Poor ground (G601, G651) • Blown No. 16 (20 A) fuse in the passenger's under-dash

		battery voltage	down.	fuse/relay box • Faulty power window master switch • Faulty right rear window switch • Faulty window motor • An open in the wire
A6	YEL	With power window main switch ON, jump A6 and A12 to battery voltage	Check the right rear window motor operation: The window should go up.	
C16(1)	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.	
(1) Reconnect the passenger's multiplex control unit to the passenger's under-dash fuse/relay box.				

DRIVER'S UNIT

1. Remove the driver's multiplex control unit from the driver's under-dash fuse/relay box.
2. Inspect all connector and socket terminals to be sure they are all making good contact.
   - If the terminals are bent, loose or corroded, repair them as necessary, and recheck the system.
   - If the terminals look OK, go to step 3.

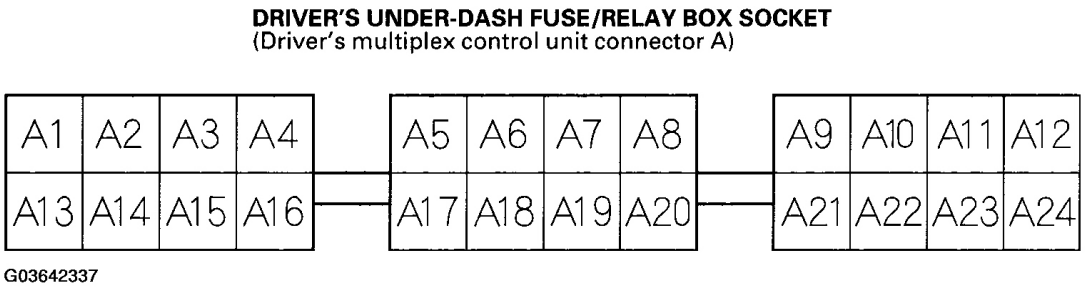

Fig. 9: Identifying Drivers Under Dash Fuse Socket
Courtesy of AMERICAN HONDA MOTOR CO., INC.

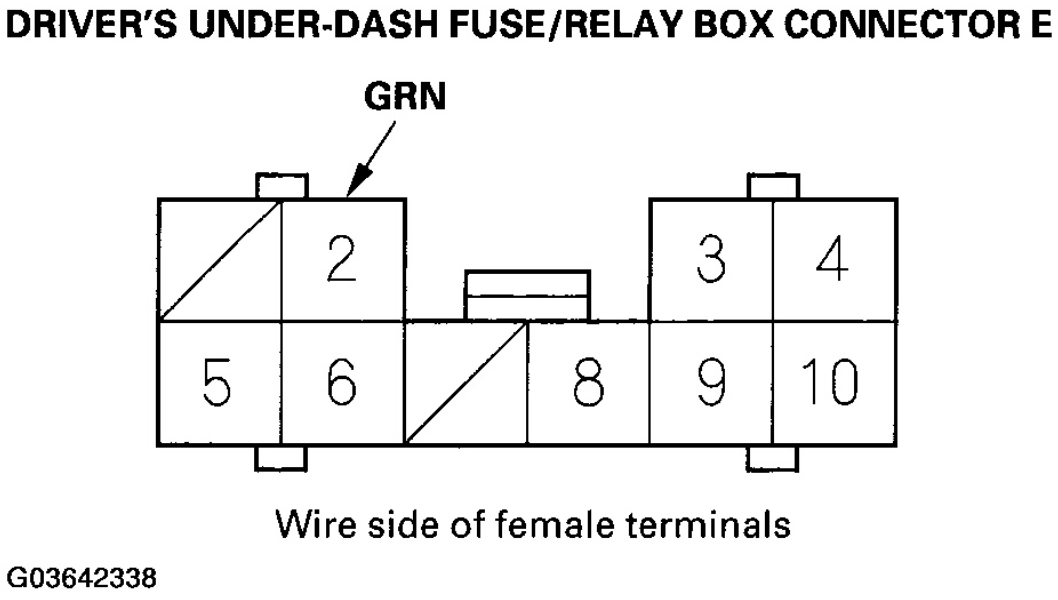

Fig. 10: Identifying Drivers Under Dash Fuse Box Connector
Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. With the driver's multiplex control unit still disconnected, make these input tests at the driver's under-dash fuse/relay box socket.
   - If any test indicates a problem, find and correct the cause, then recheck the system.
   - If all the input tests prove OK, go to step 4.

CONTROL UNIT INPUT TEST (DRIVER'S UNIT - DISCONNECTED - 1 OF 2)

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 (7.5 A) 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

4. Remove the passenger's multiplex control unit from the passenger's under-dash fuse/relay box and connect fuse/relay box socket terminal A12 to battery voltage. This turns the power window relay on.
5. With the driver's multiplex control unit still disconnected, make these input tests at the driver's under-dash fuse/relay box socket.
    - If any test indicates a problem, find and correct the cause, then recheck the system.
    - If the input test proves OK, go to step 6.

CONTROL UNIT INPUT TEST (DRIVER'S UNIT - DISCONNECTED - 2 OF 2)

Cavity	Wire	Test condition	Test: Desired result	Possible cause if result is not obtained
A7	Fuse/relay box socket	With power window main switch ON, jump A7 to battery voltage	Check the left rear window motor operation: The window should go up.	• Poor ground (G601, G651) • Blown No. 7 (20 A) fuse in the passenger's under-dash fuse/relay box • Faulty left rear window switch • Faulty power window master switch • Faulty power window motor • An open in the wire
A19	Fuse/relay box socket	With power window main switch ON, jump A19 to battery voltage	Check the left rear window motor operation: The window should go down.	• Poor ground (G601, G651) • Blown No. 7 (20 A) fuse in the passenger's under-dash fuse/relay box • Faulty left rear window switch • Faulty power window master switch • Faulty power window motor • An open in the

				wire

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

   For driver's under-dash fuse/relay box connector socket location (see **DRIVER'S UNDER-DASH FUSE/RELAY BOX**).

   - If any test indicates a problem, find and correct the cause then recheck the system.
   - If all the input tests prove OK, go to step 1 in **DOOR UNIT** .

CONTROL UNIT INPUT TEST (DRIVER'S UNIT - RECONNECTED)

Cavity	Wire	Test condition	Test: Desired result	Possible cause if result is not obtained
E3	GRN/ORN	Driver's door open	Check for voltage to ground: There should be less than 1 V.	• 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

DOOR UNIT

1. Remove the door multiplex control unit from the driver's door, and disconnect its connectors.
2. Inspect the connector and socket terminals to be sure they are all making good contact.
   - If the terminals are bent, loose or corroded, repair them as necessary, and recheck the system.
   - If the terminals look OK, go to step 3.

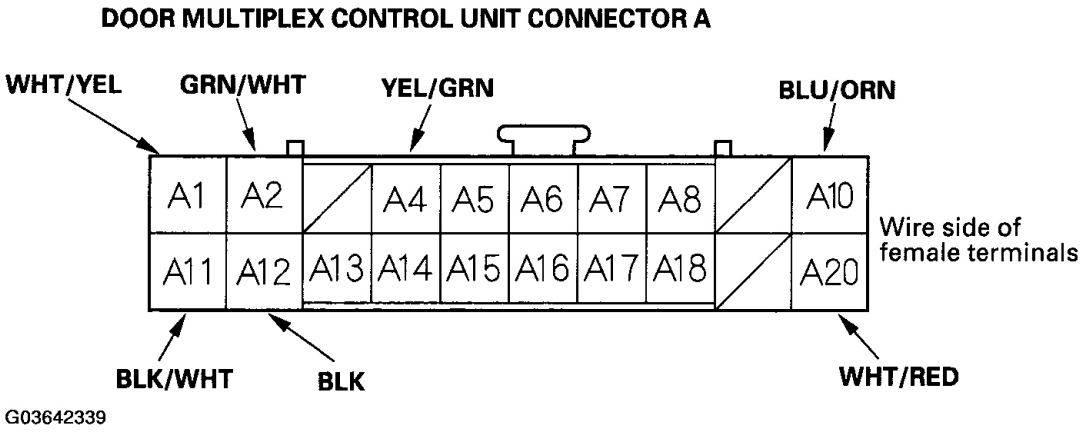

Fig. 11: Identifying Door Multiplex Control Unit Connector A
Courtesy of AMERICAN HONDA MOTOR CO., INC.

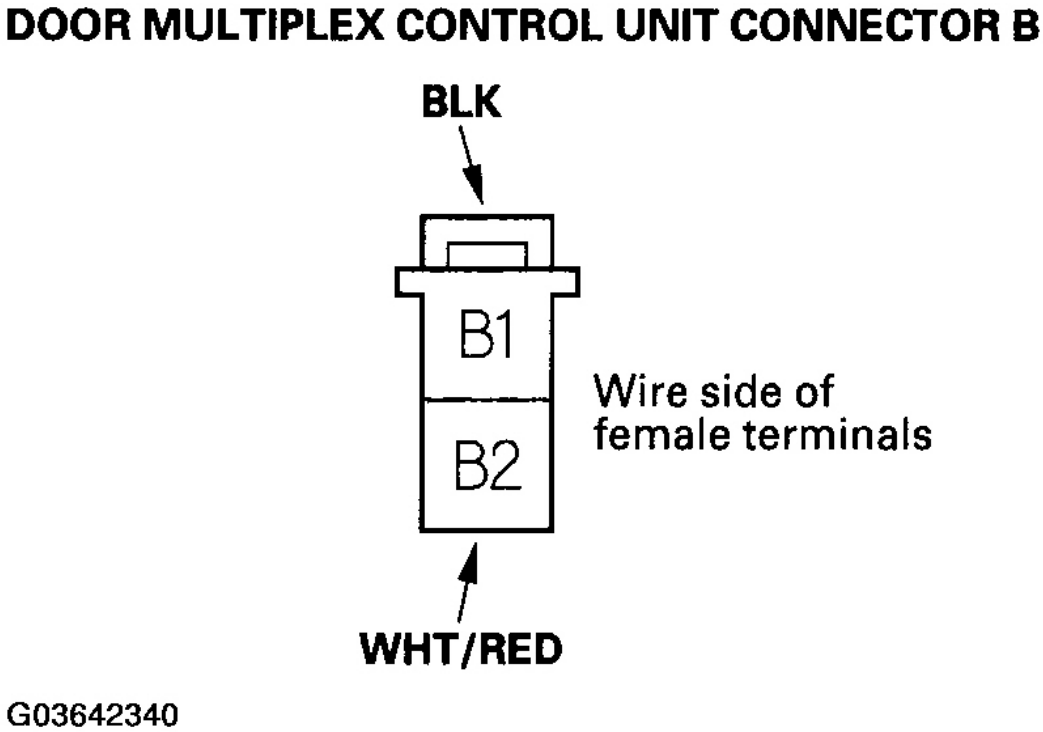

Fig. 12: Identifying Door Multiplex Control Unit Connector B
Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Reconnect the door multiplex control unit connector, and make these input tests at the connectors.
   - If any test indicates a problem, find and correct the cause, then recheck the system.
   - If all the input tests prove OK, go to step 4.

CONTROL UNIT INPUT TEST (DOOR UNIT - RECONNECTED)

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 (7.5 A) 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 (20 A) fuse in the passenger's under-dash fuse/relay box • Faulty passenger's multiplex control unit • Faulty power window relay • Poor ground (G651) • An open in the wire
A12	BLK	Under all conditions	Check for voltage to ground: There should be less than 1 V.	• Poor ground (G401, G601) • An open in the wire
B1				
A20	WHT/RED	Under all conditions	Check for continuity between the A20 and B2 terminals: There should be continuity.	An open in the wire
B2	WHT/RED			

4. If all the input tests prove OK, one of the control units must be faulty. Substitute a known-good control unit for the one that is most likely at fault using the chart below, then check the system. If the system works properly, the original control unit is faulty; replace it. If there is still a malfunction, substitute a known-good control unit for the next most likely unit to be at fault, and recheck. If the system works properly, the original unit is faulty; replace it.

CONTROL UNIT INPUT TEST (DOOR UNIT)

Affected window	Most likely control unit
Driver's window	Door multiplex control unit or power window control unit
Front passenger's window from power window master switch	Passenger's multiplex control unit
Right rear window from power window master switch	Passenger's multiplex control unit
Left rear window from power window master switch	Driver's multiplex control unit

POWER WINDOW CONTROL UNIT INPUT TEST

1. Remove the driver's door panel (see **FRONT DOOR PANEL REMOVAL/INSTALLATION**).
2. Disconnect the 18P connector (A) from the power window control unit (B).

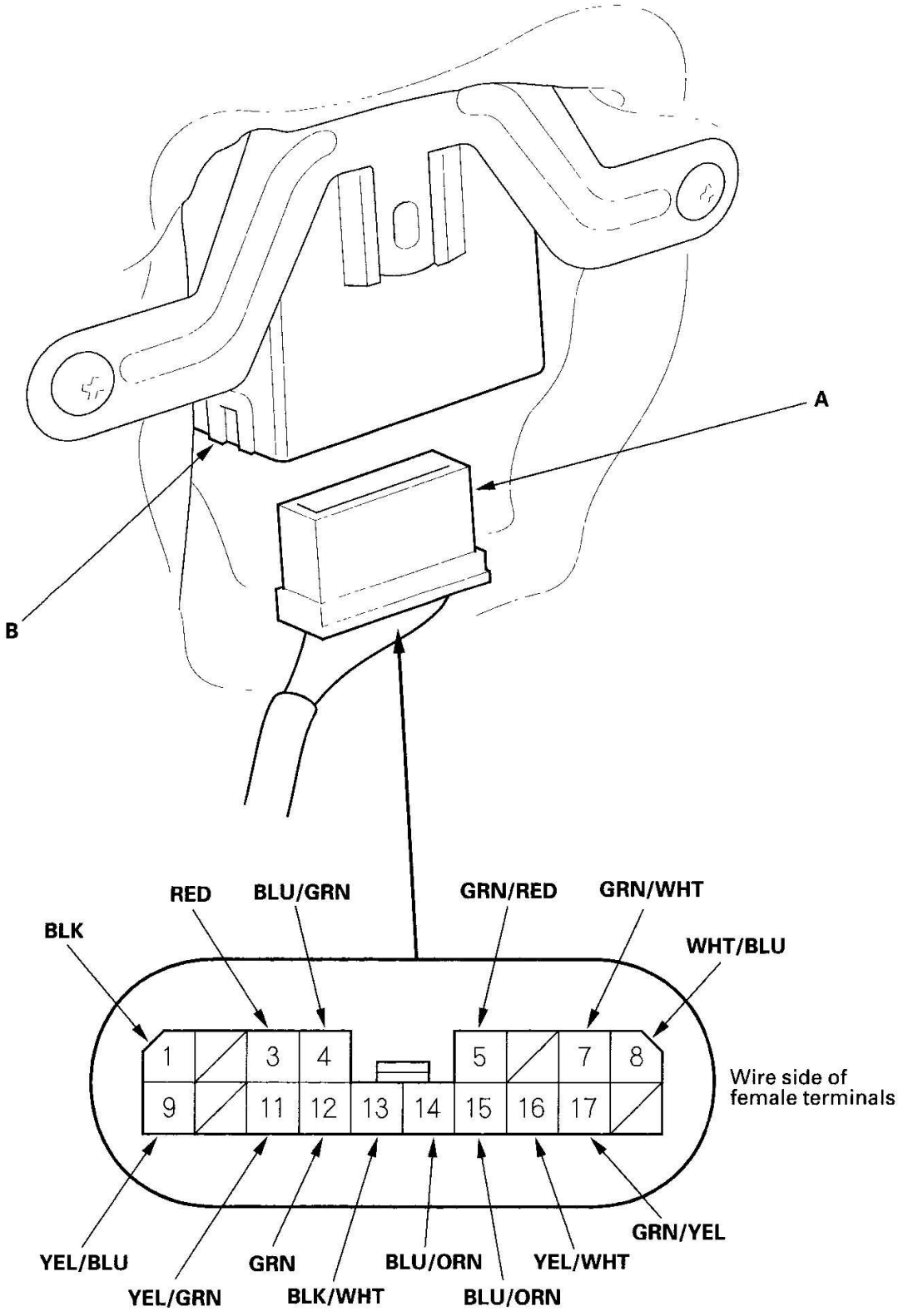
A
B
RED
BLU/GRN
GRN/RED
GRN/WHT
BLK
WHT/BLU
1
3
4
5
7
8
9
11
12
13
14
15
16
17
Wire side of female terminals
GRN/YEL
YEL/BLU
GRN
BLU/ORN
YEL/WHT
YEL/GRN
BLK/WHT
BLU/ORN

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Fig. 13: Disconnecting 18P Connector From Power Window Control Unit
Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Inspect the connector and socket terminals to be sure they are all making good contact.
   - If the terminals are bent, loose or corroded, repair them as necessary, and recheck the system.
   - If the terminals look OK, go to step 4.
4. With the connector still disconnected, make these input tests at the connectors.
   - If any test indicates a problem, find and correct, then recheck the system.
   - If all the input tests prove OK, go to step 5.

POWER WINDOW CONTROL UNIT INPUT TEST (CONNECTOR DISCONNECTED)

Cavity	Wire	Test condition	Test: Desired result	Possible cause if result is not obtained
1	BLK	Under all conditions	Check for continuity to ground: There should be continuity.	• Poor ground (G601) • An open in the wire
8	WHT/BLU	Under all conditions(1)	Check for voltage to ground on terminal 7: There should be battery voltage.	• Blown No. 8 (20 A) fuse in the under-hood subfuse box • An open in the wire
7	GRN/WHT	Ignition switch ON (II) and passenger's multiplex terminal A12 connected to battery voltage	Check for voltage to ground: There should be battery voltage.	• Blown No. 15 (20 A) fuse in the passenger's under-dash fuse/relay box • Faulty power window relay • An open in the wire
A12(2)	Fuse/relay box cavity			
13	BLK/WHT	Ignition switch ON (II) and driver's window switch UP	Check for voltage to ground: There should be battery voltage.	• Faulty power window master switch
11	YEL/GRN	Ignition switch ON (II) and driver's window switch AUTO UP		
		Ignition switch		

		ON (II) and driver's window switch AUTO DOWN	voltage.	• An open in the wire
15	BLU/ORN	Ignition switch ON (II) and driver's window switch DOWN		
4	BLU/GRN	Driver's window switch DOWN	Check for continuity to ground: There should be continuity.	• Poor ground (G401, G601) • Faulty power window master switch • An open in the wire
4	BLU/GRN	Driver's window switch OFF	Check for continuity between the No. 4 and No. 14 terminals: There should be continuity.	• Faulty power window master switch • An open in the wire
14	BLU/ORN			
3	RED	Connect the battery power to the No. 12 (+) and ground the No. 3 (-) terminals	Check the driver's window motor: It should run (the window moves down).	• Faulty power window motor • An open in the wire
12	GRN	Connect the battery power to the No. 3 (+) and ground the No. 12 (-) terminals	Check the driver's window motor: It should run (the window moves up).	• Faulty power window motor • An open in the wire
(1) Make sure the driver's door harness is connected (2) Passenger's multiplex control unit connector A				

5. Reconnect the 18P connector to the power window control unit and reconnect the passenger's multiplex control unit, then make these input tests at the connector.
   - If any test indicates a problem, find and correct the cause, then recheck the system.
   - If all the input tests prove OK, the control unit must be faulty; replace it.

POWER WINDOW CONTROL UNIT INPUT TEST (CONNECTORS RECONNECTED)

			Test: Desired	**Possible cause if result is not**

Cavity	Wire	Test condition	result	obtained
17	GRN/YEL	Ignition switch ON (II)	Check for voltage between the No. 17 (+) and No. 9 (-) terminals: There should be battery voltage.	• Faulty power window motor • Faulty pulser • An open in the wire • Faulty power window control unit
9	YEL/BLU			
5	GRN/RED	While operating the driver's window switch	Check for voltage between the No. 5 (+) and No. 9 (-) terminals: There should be pulse voltage 0-5 V (an analog voltmeter needle should move back and forth alternately; a digital voltmeter should show the average voltage of about 2.5 V).	
16	YEL/WHT	While operating the driver's window switch	Check for voltage between the No. 16 (+) and No. 9 (-) terminals: There should be pulse voltage 0-5 V (an analog voltmeter needle should move back and forth alternately; a digital voltmeter should show the average voltage of about 2.5 V).	
17	GRN/YEL	Ignition switch ON (II)	Check for voltage between terminal No. 17 and body ground: There should be battery voltage.	• Faulty power window control unit • Short to ground • Faulty power window motor

MASTER SWITCH REPLACEMENT

1. Carefully pry off the driver's door switch trim (see **FRONT DOOR PANEL REMOVAL/INSTALLATION**).
2. Disconnect the power mirror and power window switch connectors (A).

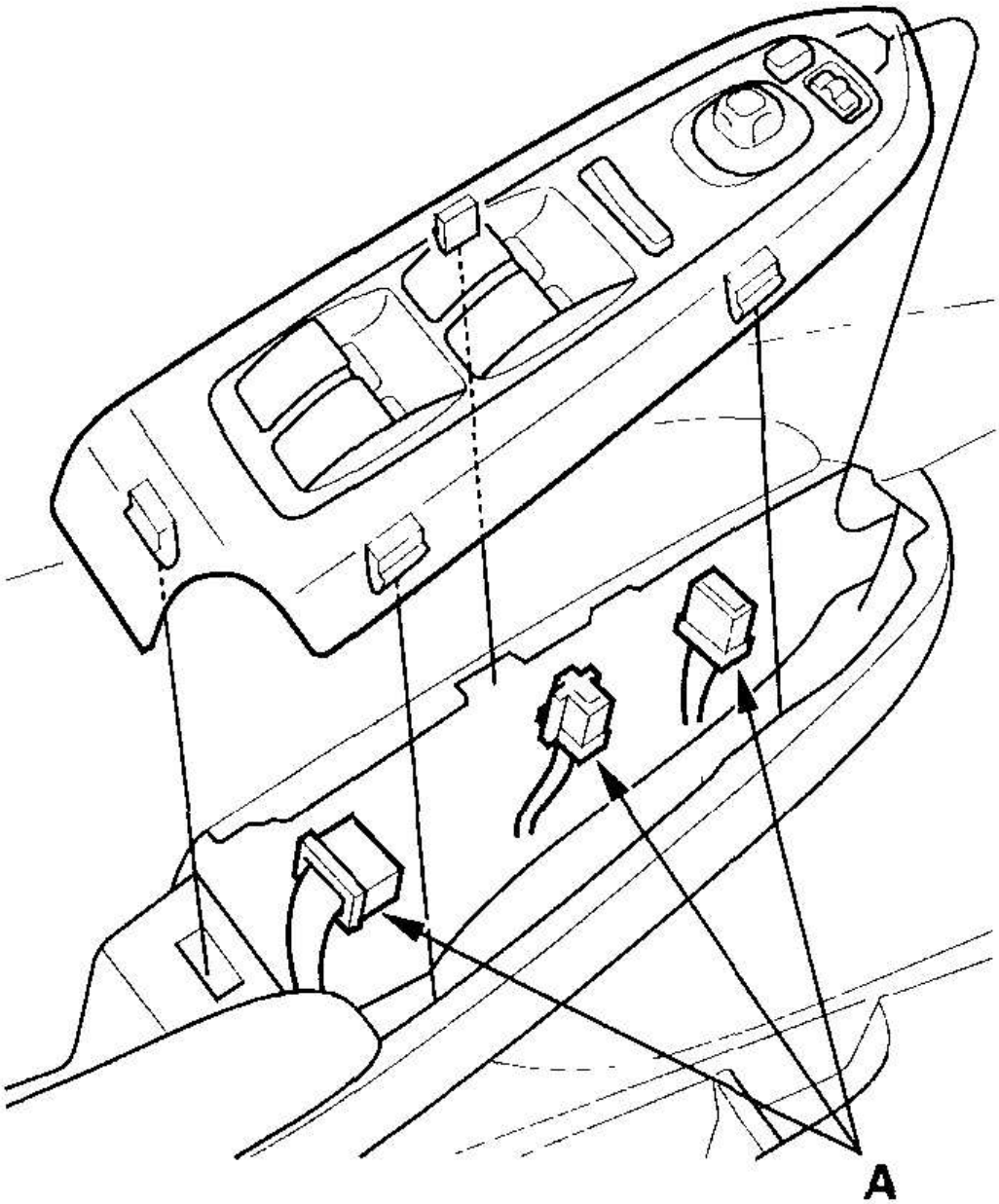

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Fig. 14: Disconnecting Power Mirror And Power Window Switch Connectors
Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Remove the four mounting screws, then remove the master switch (A) from the panel (B).

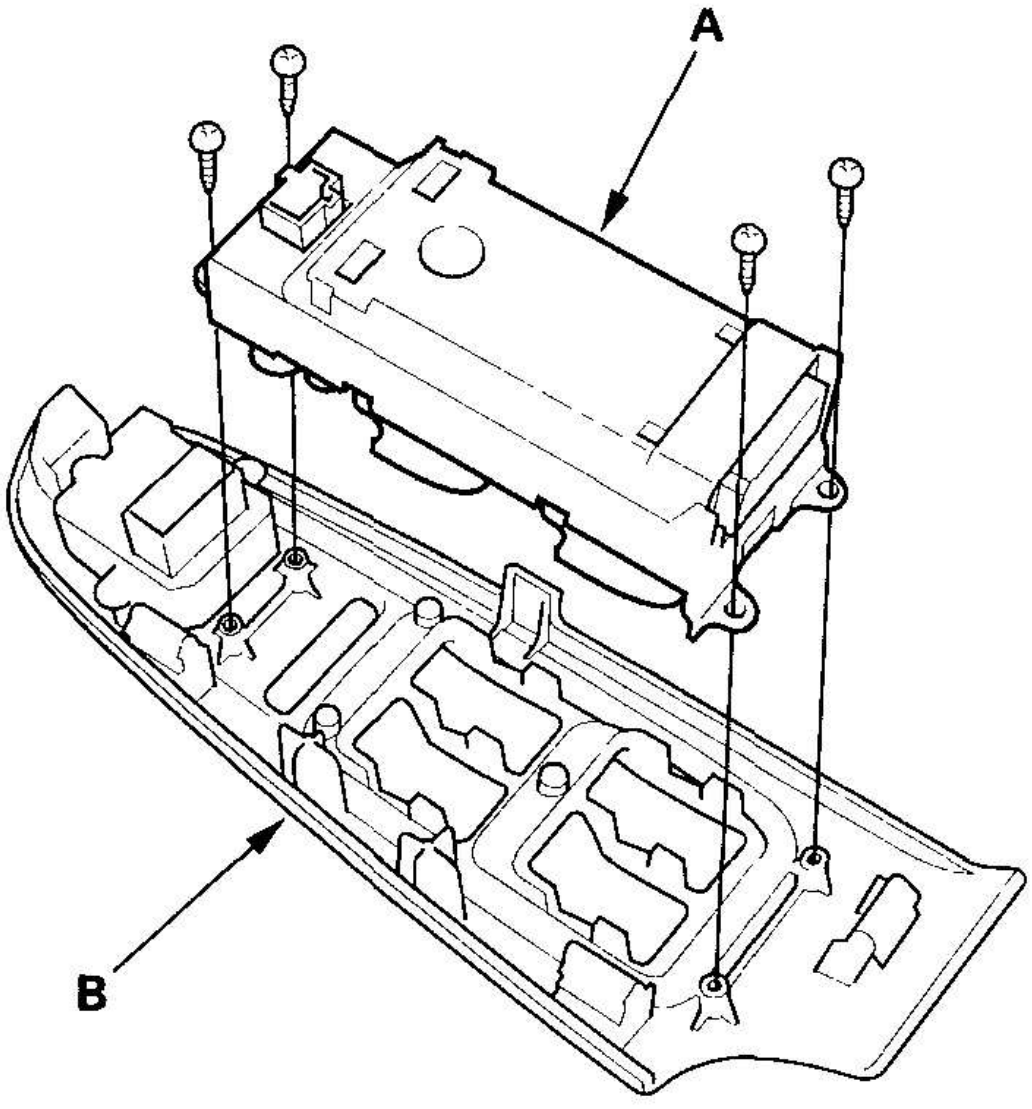

Fig. 15: Removing Master Switch
Courtesy of AMERICAN HONDA MOTOR CO., INC.

PASSENGER'S WINDOW SWITCH TEST/REPLACEMENT

1. Carefully pry off the door switch trim (see **FRONT DOOR PANEL REMOVAL/INSTALLATION**).
2. Disconnect the 6P connector (A) from the power window switch (B).

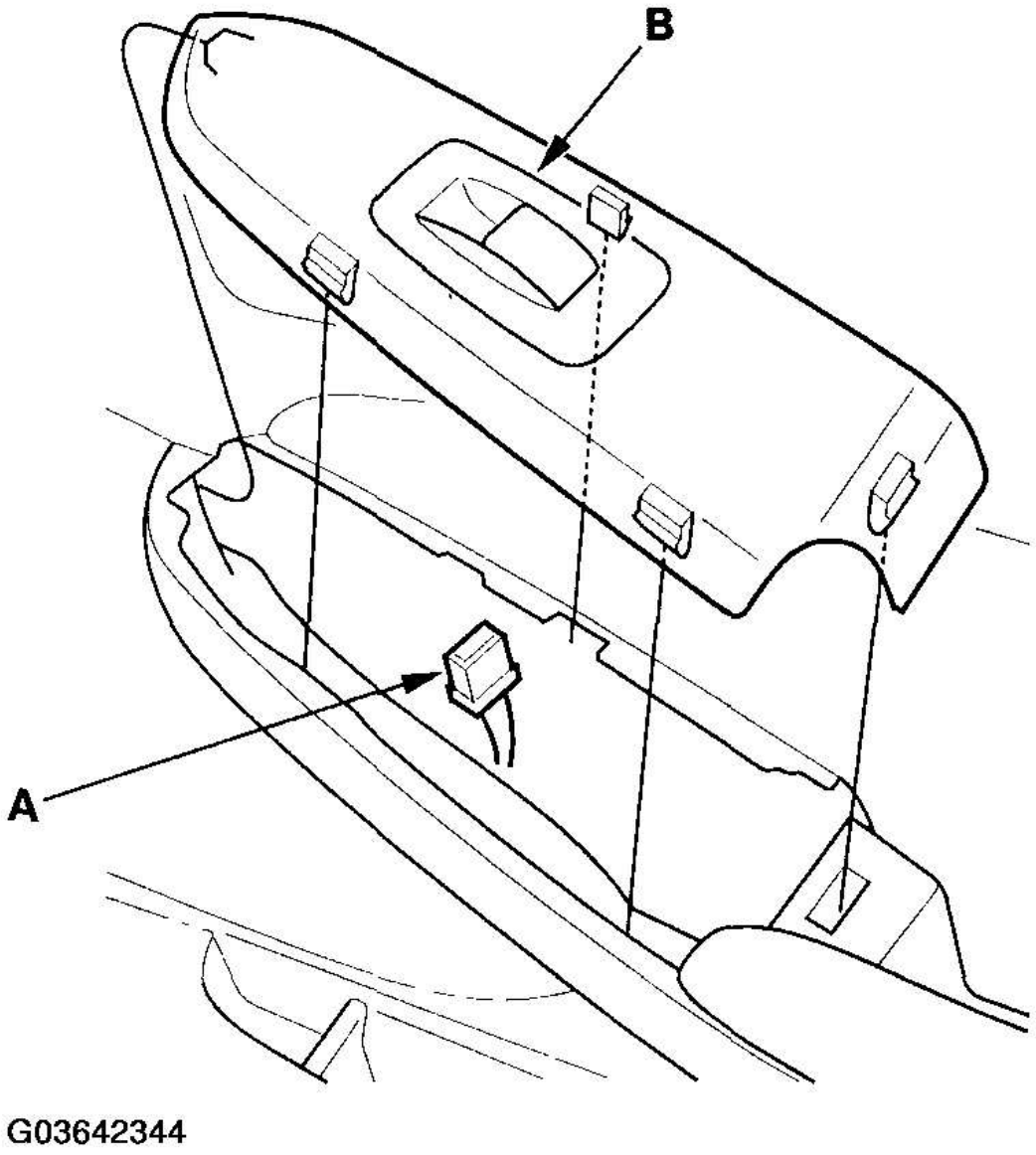

Fig. 16: Disconnecting 6P Connector From Power Window Switch
Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Remove the three mounting screws, then remove the power window switch (A) from the switch trim (B).

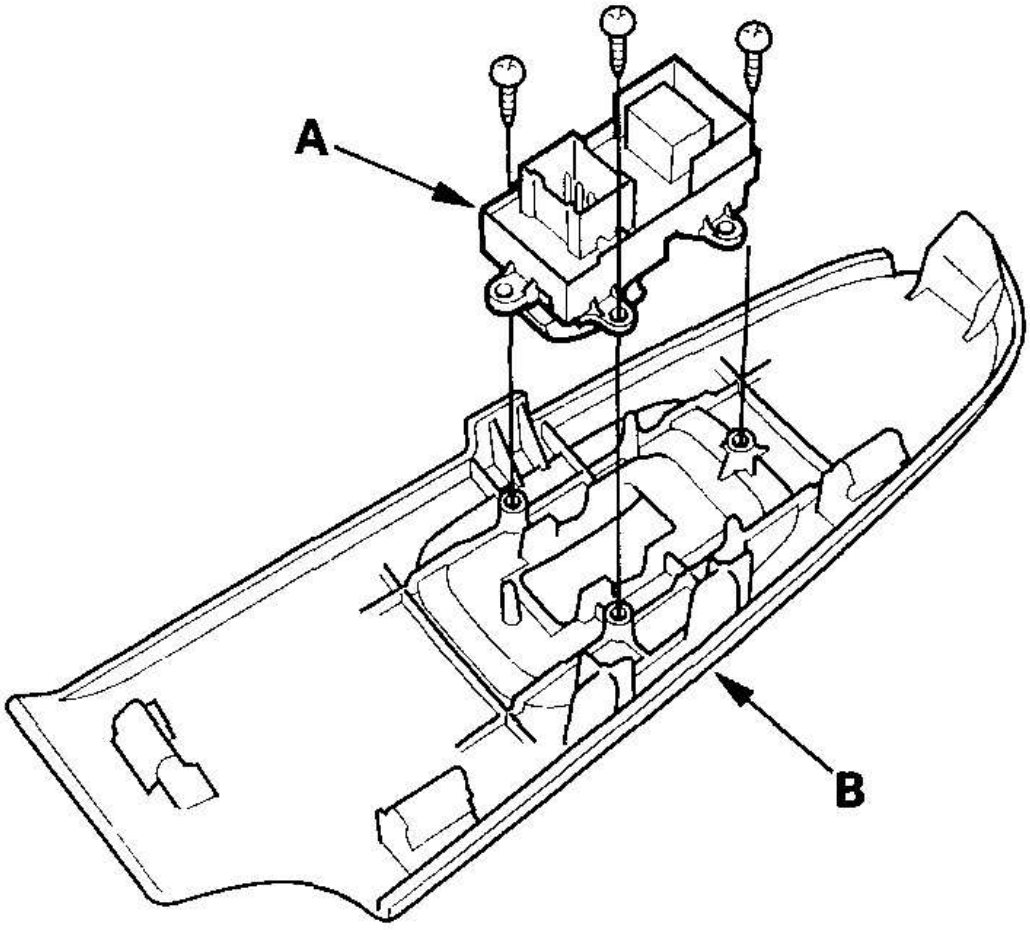

Fig. 17: Removing Power Window Switch From Switch Trim
Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. Swap the window switch with another known-good switch and test.

   If the original window switch is faulty, replace it.

DRIVER'S WINDOW MOTOR TEST

MOTOR TEST

1. Remove the driver's door panel (see **FRONT DOOR PANEL REMOVAL/INSTALLATION**).
2. Disconnect the 6P connector (A) from the window motor.

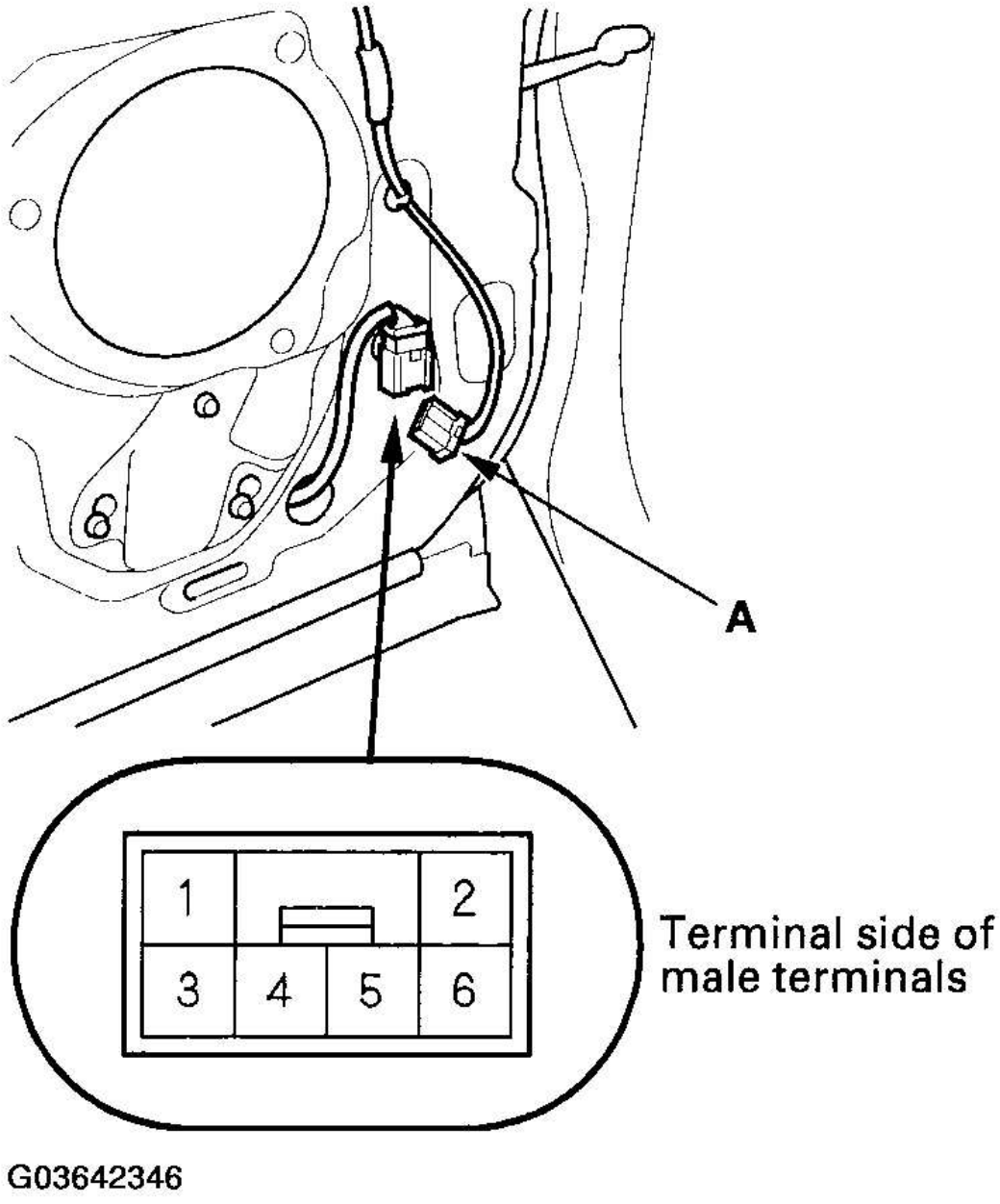

Fig. 18: Disconnecting 6P Connector From Window Motor
Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Test the motor in each direction by connecting battery power and ground according to **Fig. 19** . When the motor stops running, disconnect one lead immediately.

Terminal / Direction	1	2
UP	⊕	⊖
DOWN	⊖	⊕

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Fig. 19: Testing Motor In Each Direction By Connecting Battery Power And Ground Chart
Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. If the motor does not run or fails to run smoothly, replace it.

PULSER TEST

1. Reconnect the 6P connector to the window motor.
2. Check for voltage between the terminals: There should be battery voltage between the No. 6 (+) and No. 4 (-) terminals when the ignition switch ON (II).
3. If there is no battery voltage, check for an open in the wire.
4. Check the voltage between terminals:
   - Connect an analog voltmeter between the No. 5 (+) and No. 4 (-) terminals, and run the window motor at down or up. The voltmeter needle should move back and forth alternately (a digital voltmeter should show the average voltage between 0-5 V).
   - Connect an analog voltmeter between the No. 3 (+) and No. 4 (-) terminals, and run the window motor at down or up. The voltmeter needle should move back and forth alternately (a digital voltmeter should show the average voltage between 0-5 V).
5. If the voltmeter does not indicate as specified, replace the window motor.

PASSENGER'S WINDOW MOTOR TEST

1. Remove the passenger's door panel (see **FRONT DOOR PANEL REMOVAL/INSTALLATION**).
2. Disconnect the 2P connector from the window motor.

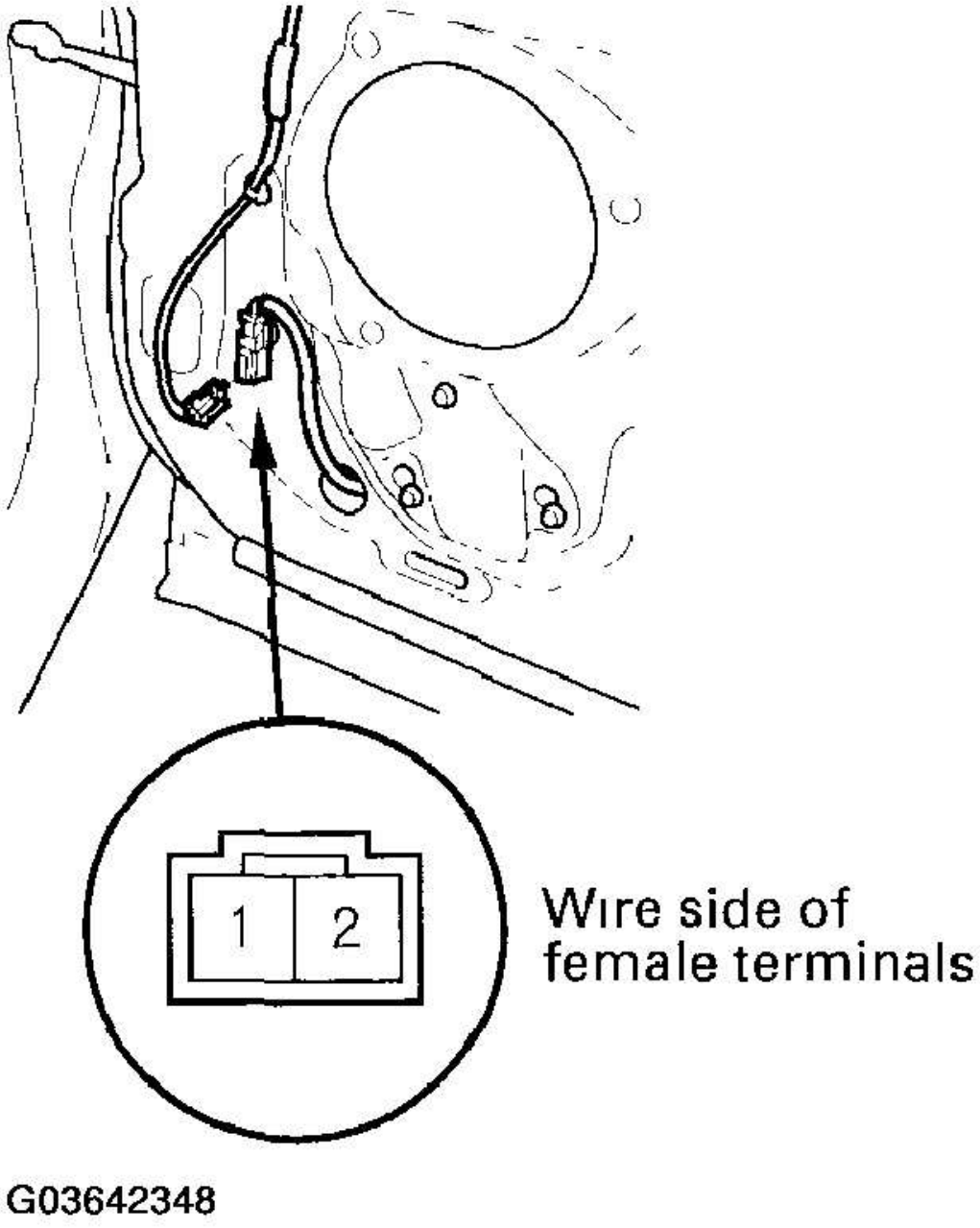

Fig. 20: Disconnecting 2P Connector From Window Motor
Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Test the motor by connecting battery power and ground according to **Fig. 21** . When the motor stops running, disconnect one lead immediately.

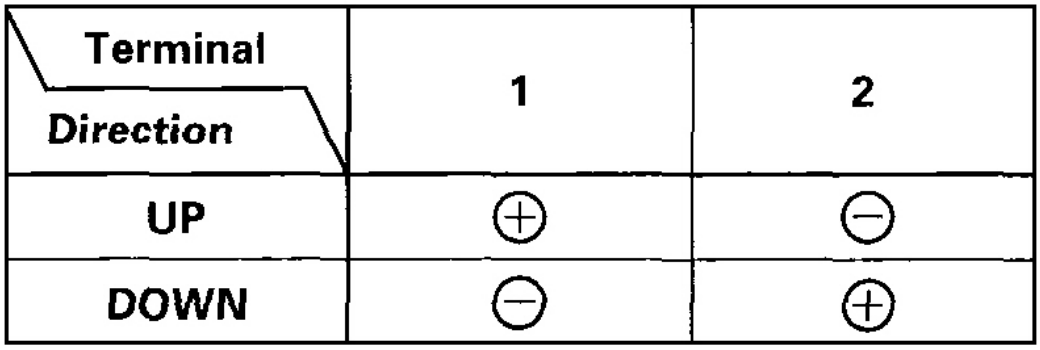

Fig. 21: Testing Motor By Connecting Battery Power And Ground Chart
Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. If the motor does not run or fails to run smoothly, replace it.