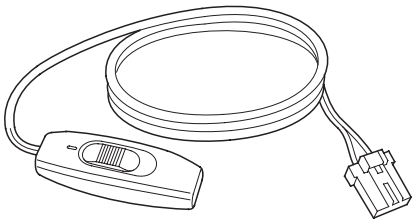
22A

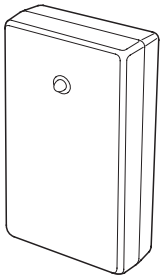
Body Electrical

Special Tools

Ref. No.	Tool Number	Description	Qty
1	07WAZ-0010100	MPCS Short Connector	1
2	07MAJ-SP00300	Keyless Entry Checker	1
3	07LAJ-PT30200	Test Harness	1



1



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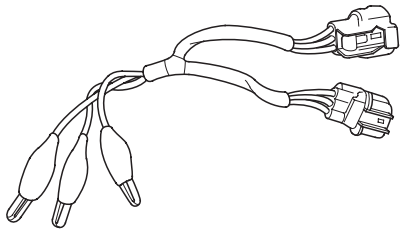


3

SUPPLEMENTAL RESTRAINT SYSTEM (SRS) (If electrical maintenance is required)

The CR-V SRS includes a driver's airbag in the steering wheel hub, a passenger's airbag in the dashboard above the glove box, seat belt tensioners in the front seat belt retractors, seat belt buckle tensioners in the front seat belt buckles, and side airbags in the front seat-backs. Information necessary to safely service the SRS is included in this Service Manual. Items marked with an asterisk (*) on the contents page include or are located near SRS components. Servicing, disassembling, or replacing these items will require special precautions and tools, and should be done only by an authorized Honda dealer.

- To avoid rendering the SRS inoperative, which could lead to personal injury or death in the event of a severe frontal collision, all SRS service work must be performed by an authorized Honda dealer.
- Improper service procedures, including incorrect removal and installation of the SRS could lead to personal injury caused by unintentional deployment of the airbags and side airbags.
- Do not bump the SRS unit. Otherwise, the system may fail in a collision, or the airbags may deploy when the ignition switch is ON (II).
- SRS electrical connectors are identified by yellow color coding. Related components are located in the steering column, front console, dashboard, dashboard lower panel, in the dashboard above the glove box, in the front seats, and around the floor. Do not use electrical test equipment on these circuits.

General Troubleshooting Information

Tips and Precautions

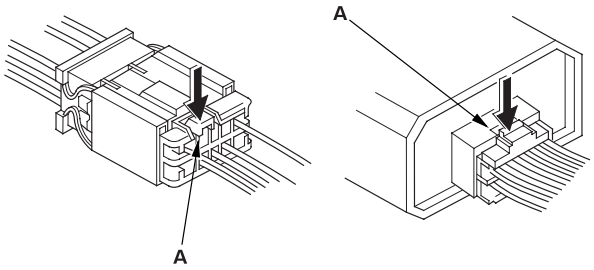
Before Troubleshooting

1. Check applicable fuses in the appropriate fuse/relay box.
2. Check the battery for damage, state of charge, and clean and tight connections.

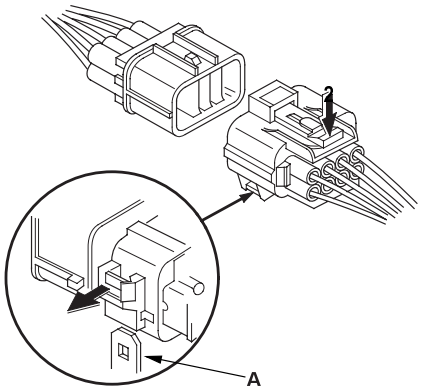
   NOTICE
   - Do not quick-charge a battery unless the battery ground cable has been disconnected, otherwise you will damage the alternator diodes.
   - Do not attempt to crank the engine with the battery ground cable loosely connected or you will severely damage the wiring.
3. Check the alternator belt tension.

Handling Connectors

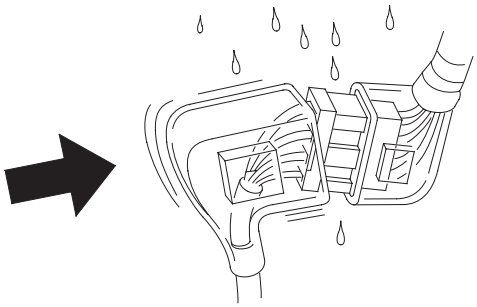
- Make sure the connectors are clean and have no loose wire terminals.
- Make sure multiple cavity connectors are packed with grease (except watertight connectors).
- All connectors have push-down release type locks (A).



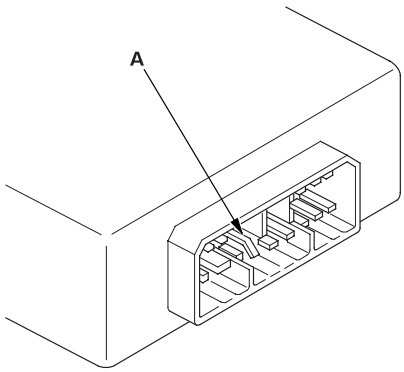
- Some connectors have a clip on their side used to attach them to a mount bracket on the body or on another component. This clip has a pull type lock.
- Some mounted connectors cannot be disconnected unless you first release the lock and remove the connector from its mount bracket (A).



- Never try to disconnect connectors by pulling on their wires; pull on the connector halves instead.
- Always reinstall plastic covers.



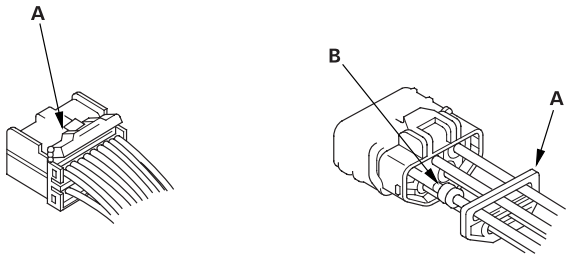
- Before connecting connectors, make sure the terminals (A) are in place and not bent.



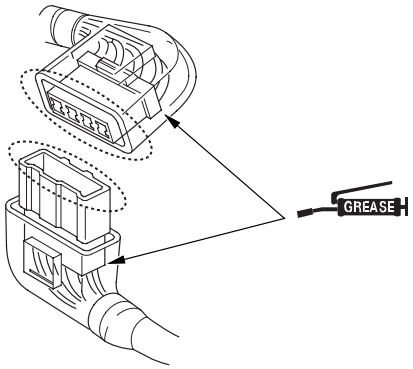
(cont'd)

Tips and Precautions (cont'd)

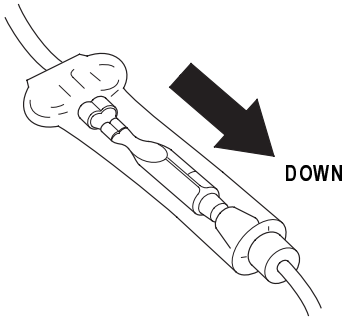
- Check for loose retainer (A) and rubber seals (B).



- The backs of some connectors are packed with grease. Add grease if necessary. If the grease is contaminated, replace it.

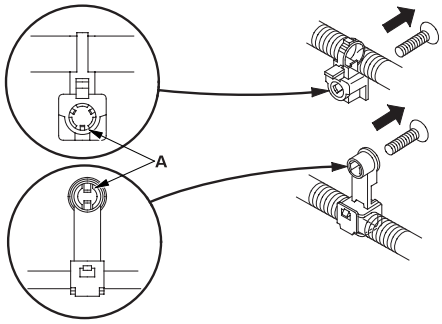


- Insert the connector all the way and make sure it is securely locked.
- Position wires so that the open end of the cover faces down.

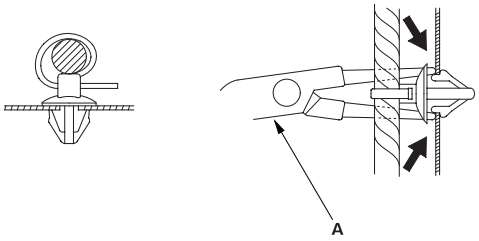


Handling Wires and Harnesses

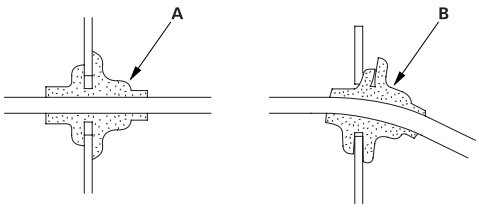
- Secure wires and wire harnesses to the frame with their respective wire ties at the designated locations.
- Remove clips carefully; don't damage their locks (A).



- Slip pliers (A) under the clip base and through the hole at an angle, then squeeze the expansion tabs to release the clip.

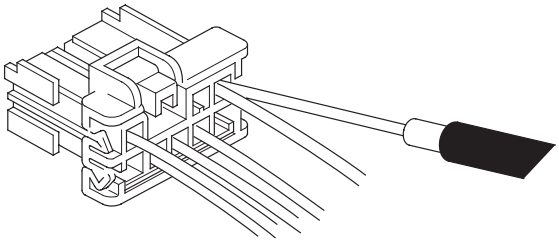


- After installing harness clips, make sure the harness doesn't interfere with any moving parts.
- Keep wire harnesses away from exhaust pipes and other hot parts, from sharp edges of brackets and holes, and from exposed screws and bolts.
- Seat grommets in their grooves properly (A). Do not leave grommets distorted (B).

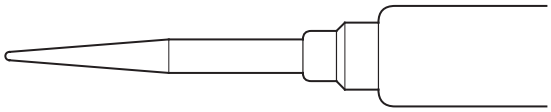


Testing and Repairs

- Do not use wires or harnesses with broken insulation. Replace them or repair them by wrapping the break with electrical tape.
- After installing parts, make sure that no wires are pinched under them.
- When using electrical test equipment, follow the manufacturer's instructions and those described in this manual.
- If possible, insert the probe of the tester from the wire side (except waterproof connector).



- Use a probe with a tapered tip.



- Refer to the instructions in the Honda Terminal Kit for identification and replacement of connector terminals.

(cont'd)

5-step Troubleshooting

1. Verify The Complaint

Turn on all the components in the problem circuit to verify the customer complaint. Note the symptoms. Do not begin disassembly or testing until you have narrowed down the problem area.

2. Analyze The Schematic

Look up the schematic for the problem circuit. Determine how the circuit is supposed to work by tracing the current paths from the power feed through the circuit components to ground. If several circuits fail at the same time, the fuse or ground is a likely cause.

Based on the symptoms and your understanding of the circuit operation, identify one or more possible causes of the problem.

3. Isolate The Problem By Testing The Circuit

Make circuit tests to check the diagnosis you made in step 2. Keep in mind that a logical, simple procedure is the key to efficient troubleshooting. Test for the most likely cause of failure first. Try to make tests at points that are easily accessible.

4. Fix The Problem

Once the specific problem is identified, make the repair. Be sure to use proper tools and safe procedures.

5. Make Sure The Circuit Works

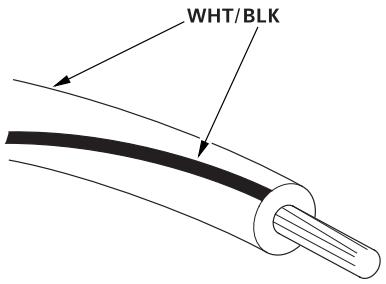
Turn on all components in the repaired circuit in all modes to make sure you've fixed the entire problem. If the problem was a blown fuse, be sure to test all of the circuits on the fuse. Make sure no new problems turn up and the original problem does not recur.

Wire Color Codes

The following abbreviations are used to identify wire colors in the circuit schematics:

WHT	White
YEL	Yellow
BLK	Black
BLU	Blue
GRN	Green
RED	Red
ORN	Orange
PNK	Pink
BRN	Brown
GRY	Gray
PUR	Purple
LT BLU	Light Blue
LT GRN	Light Green

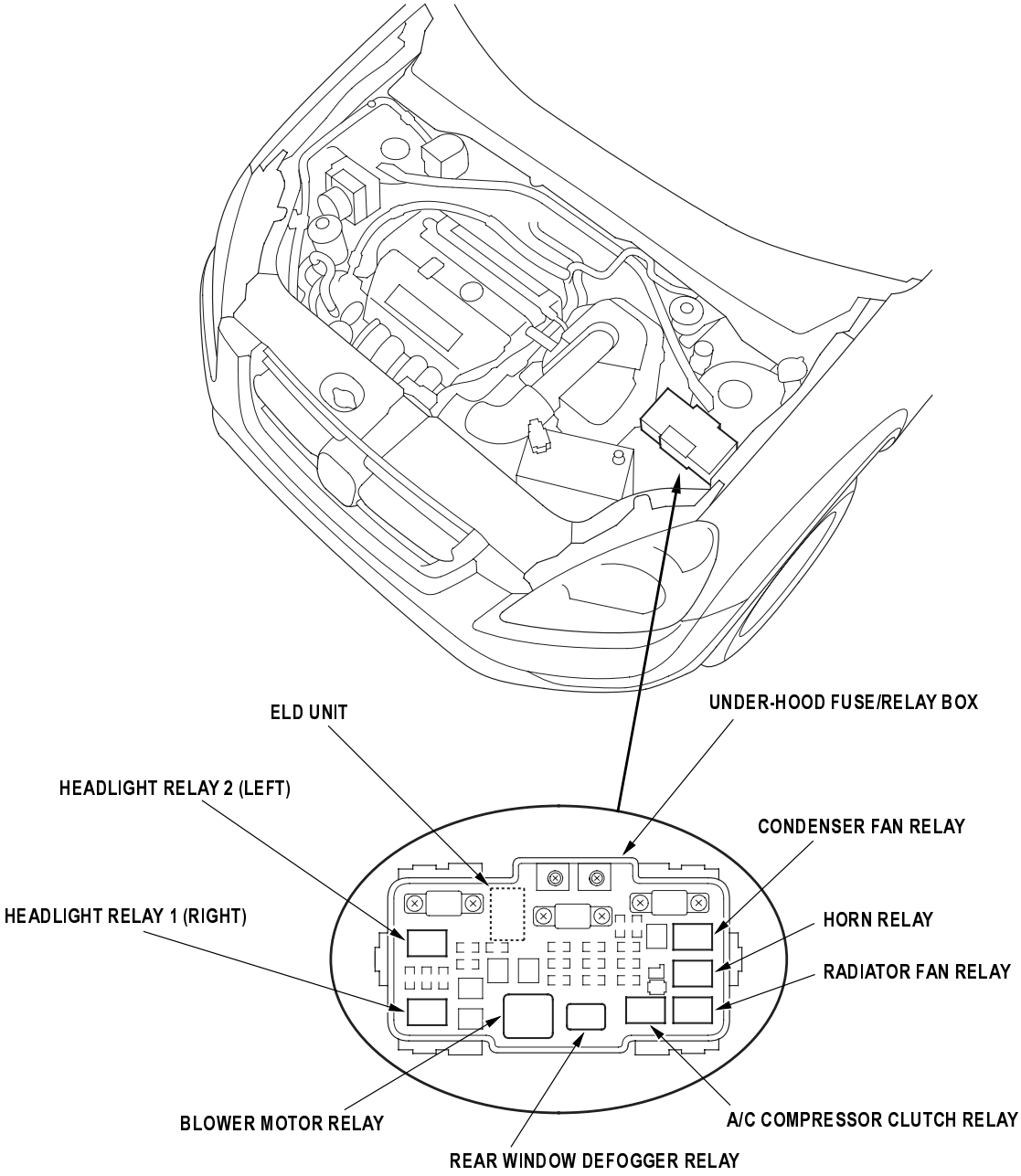
The wire insulation has one color or one color with another color stripe. The second color is the stripe.



Relay and Control Unit Locations

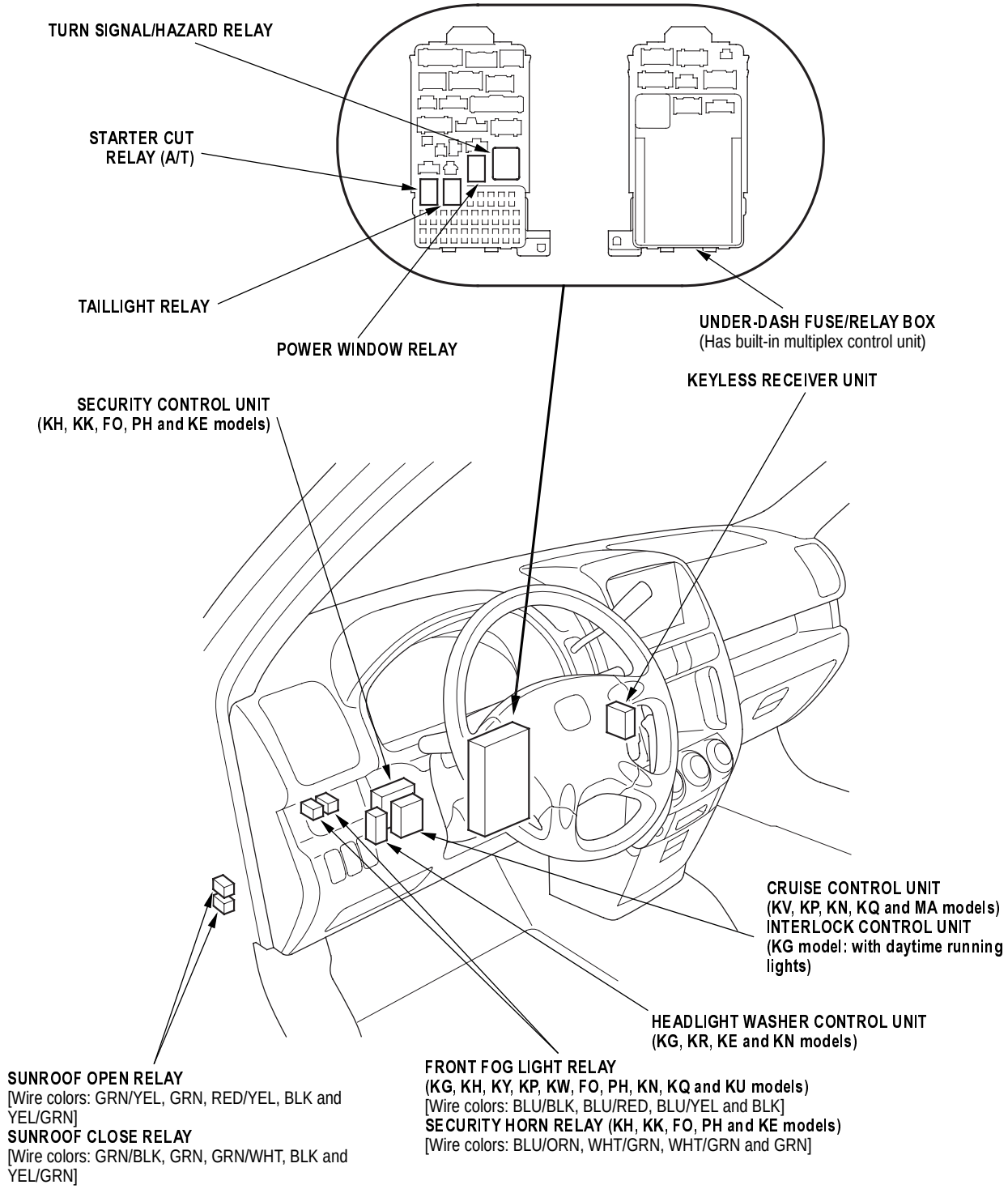
Engine Compartment

Note: LHD type is shown, RHD type is similar.

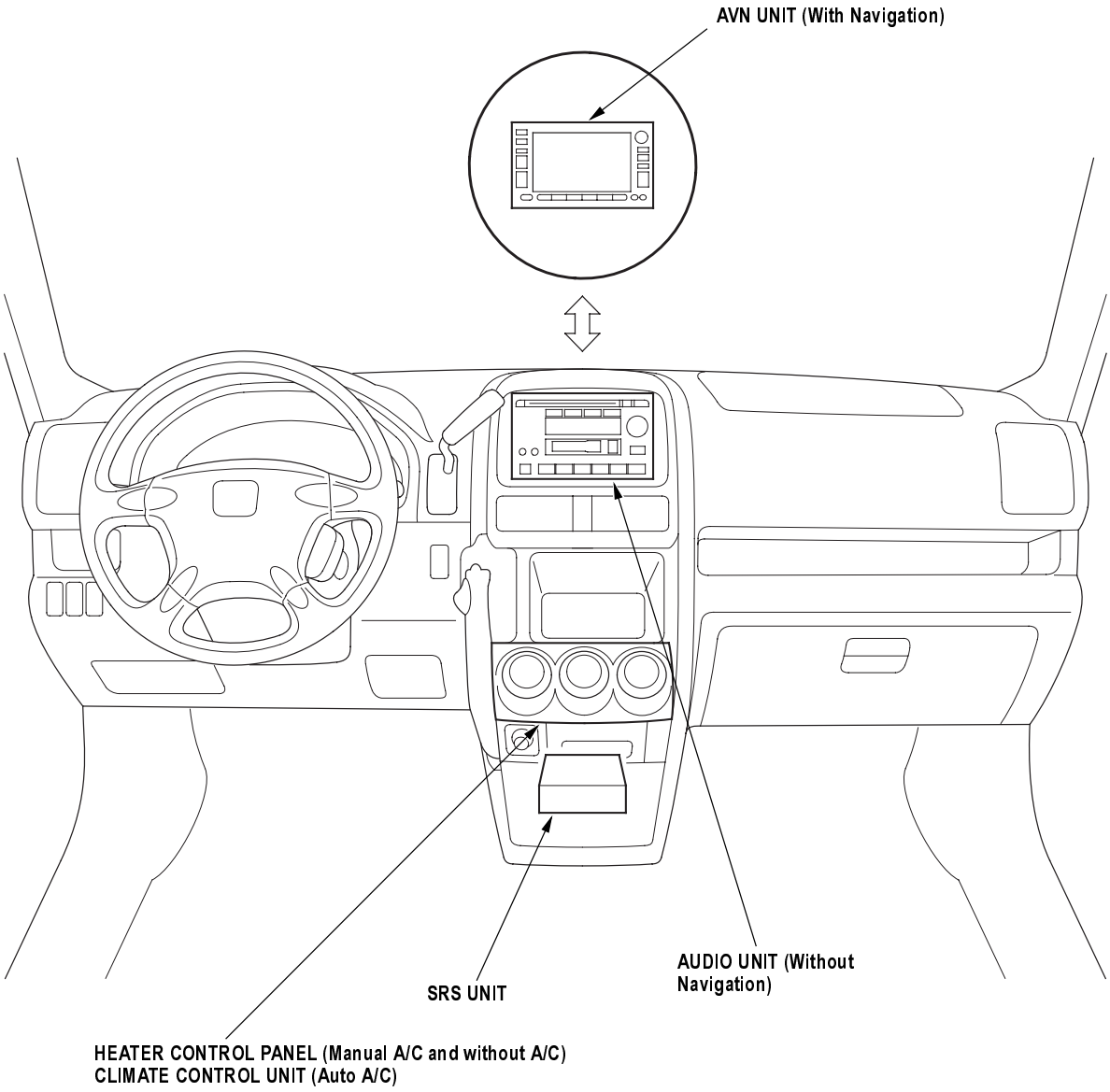


Dashboard

Note: LHD type is shown, RHD type is similar.



Note: LHD type is shown, RHD type is similar.



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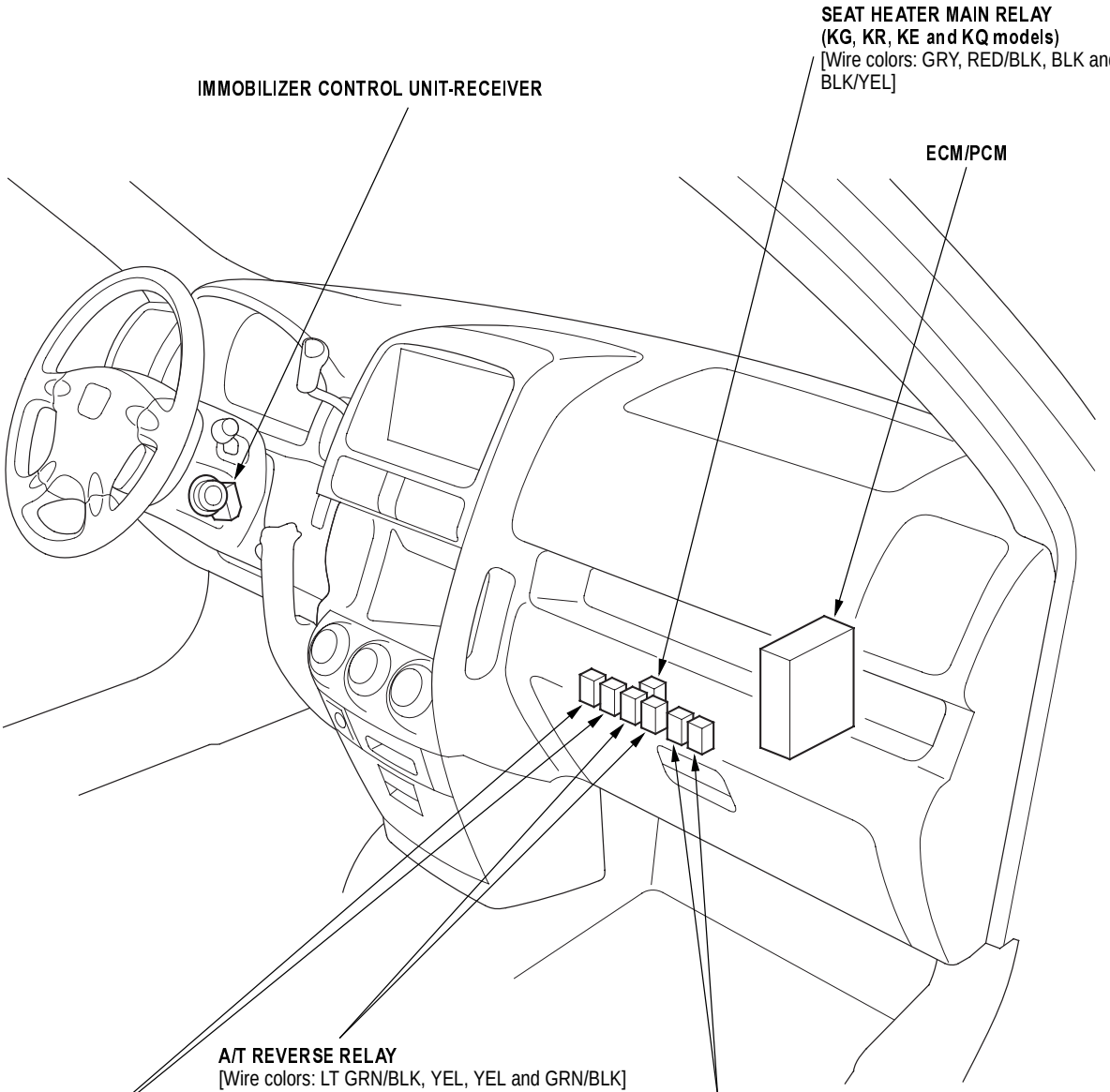
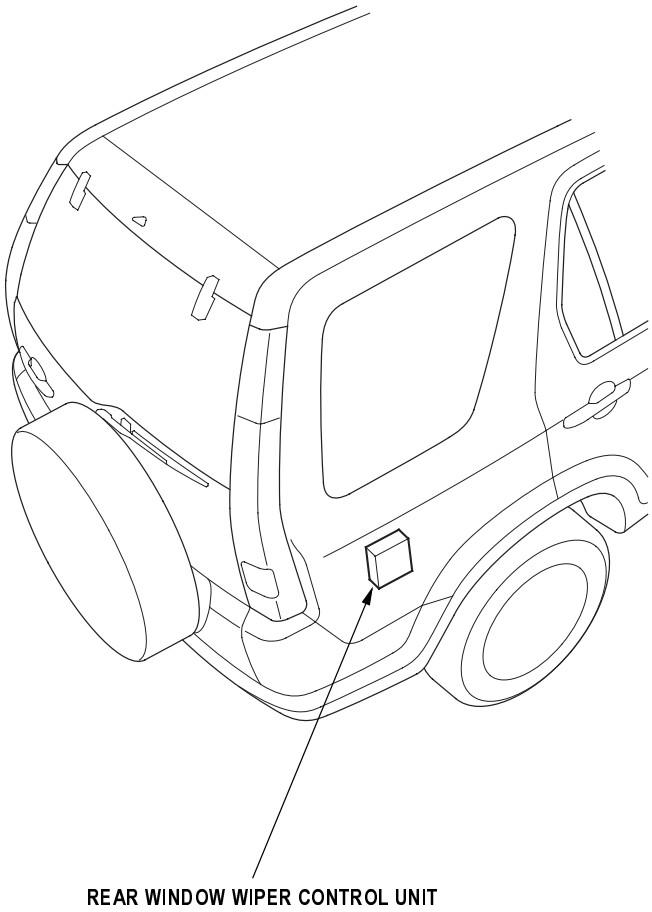
Dashboard (cont'd)

Note: LHD type is shown, RHD type is similar.

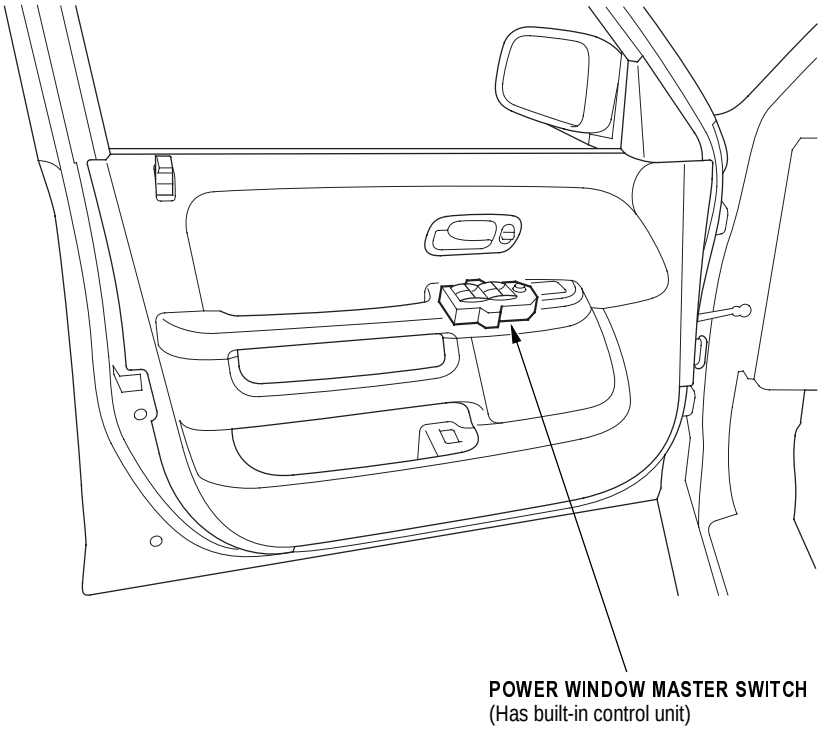


Rear



Door

Note: LHD type is shown, RHD type is similar.

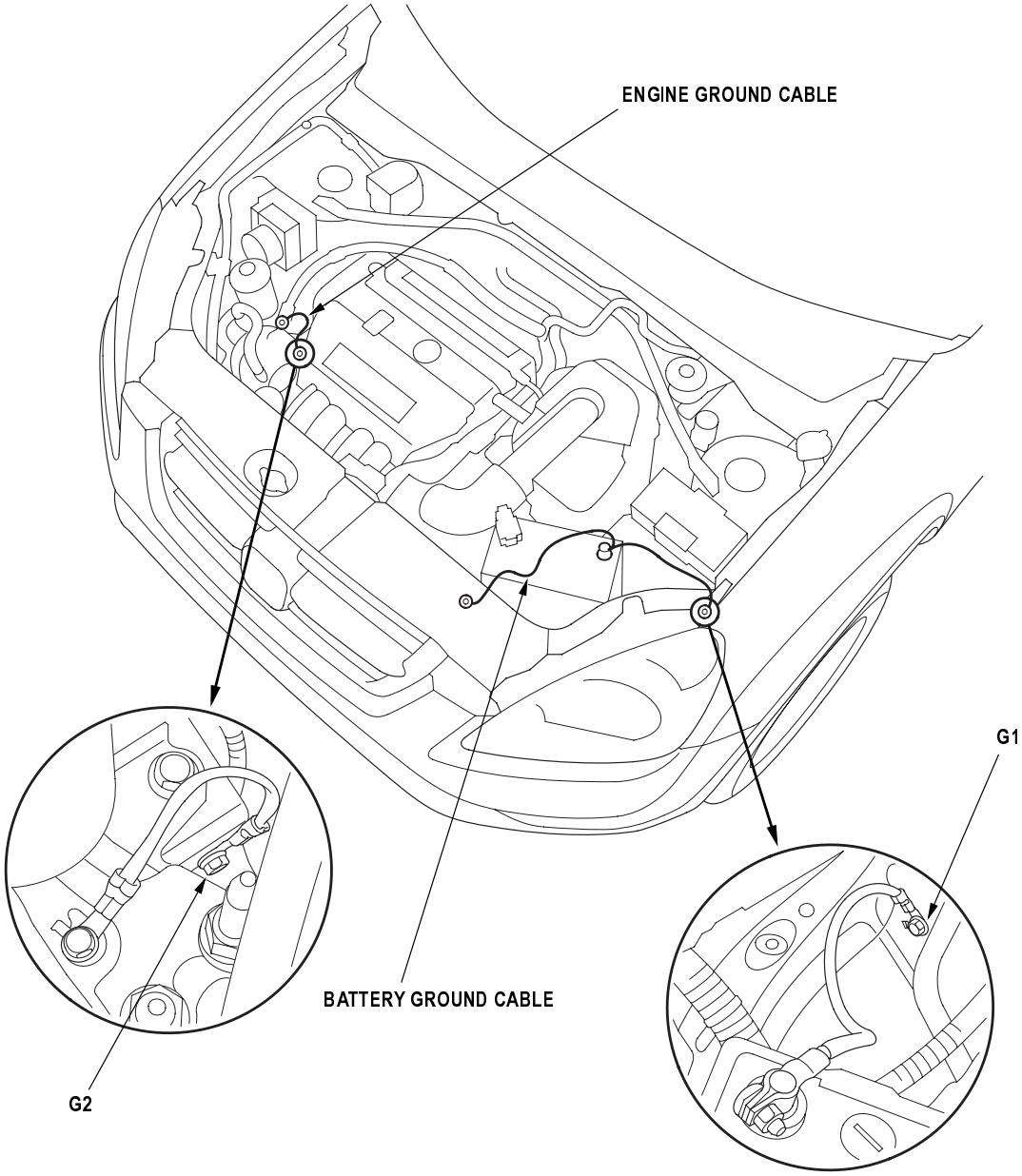


Seat

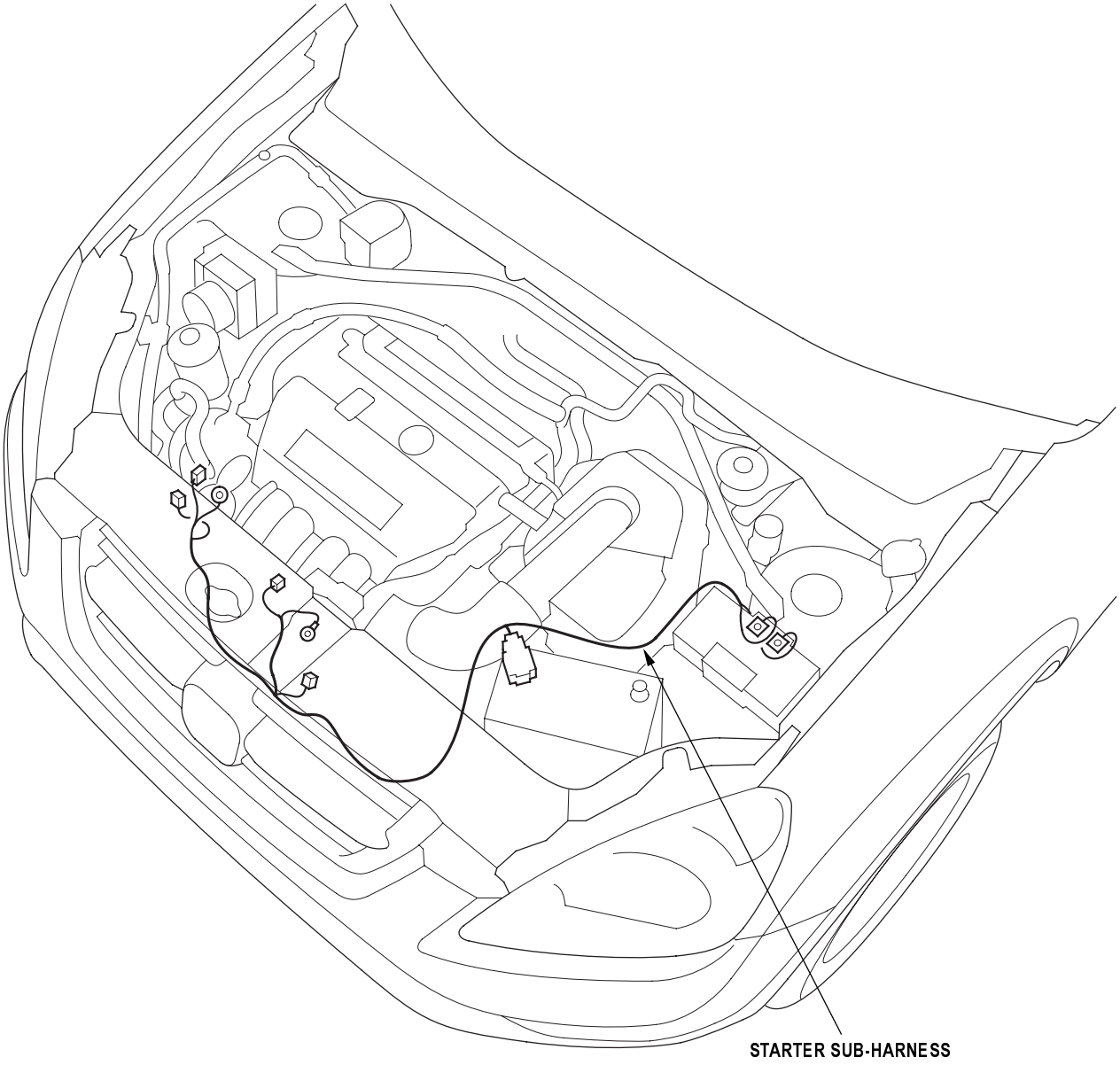
Wire Harness and Ground Locations

Engine Compartment

Note: LHD type is shown, RHD type is similar.



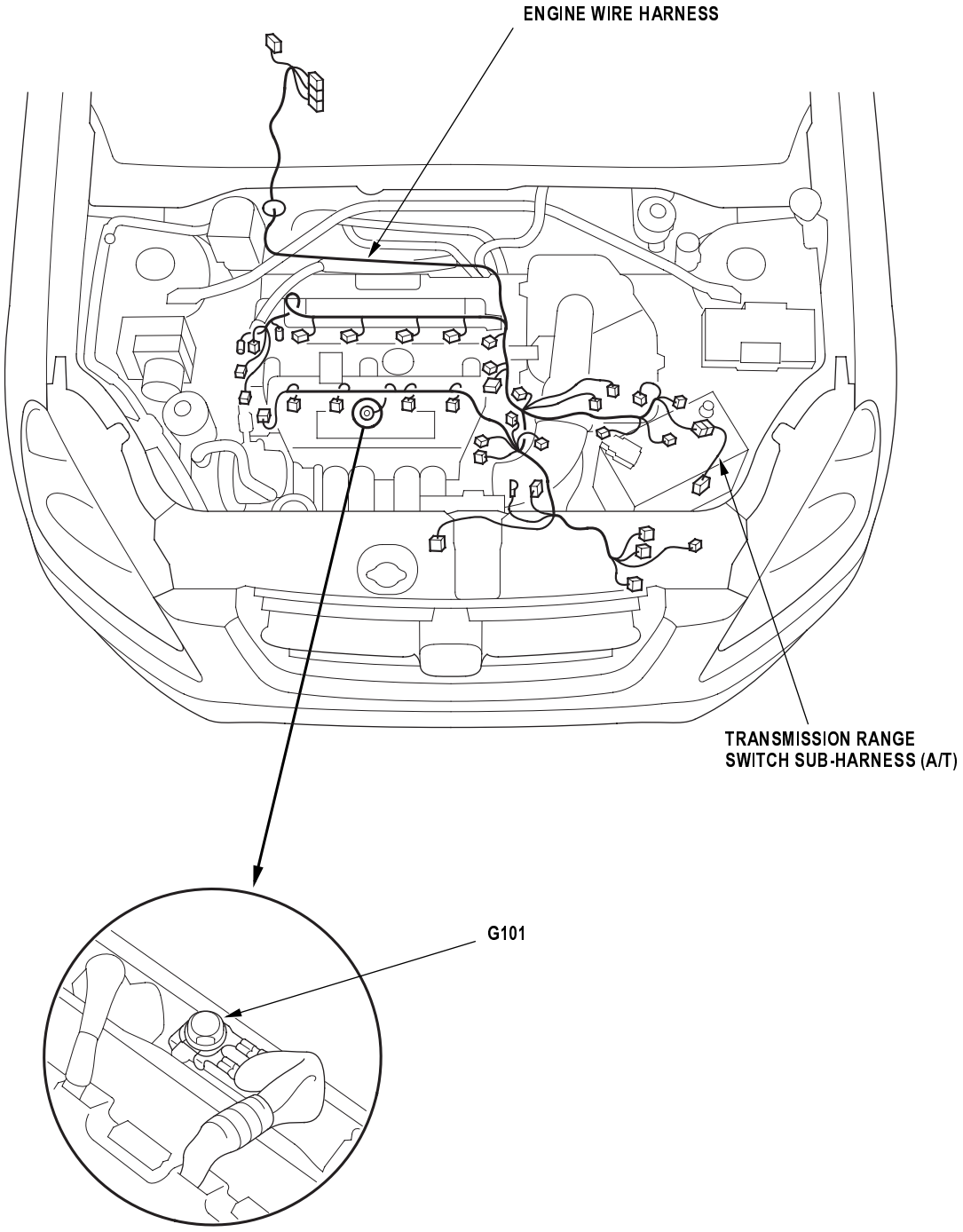
Note: LHD type is shown, RHD type is similar.



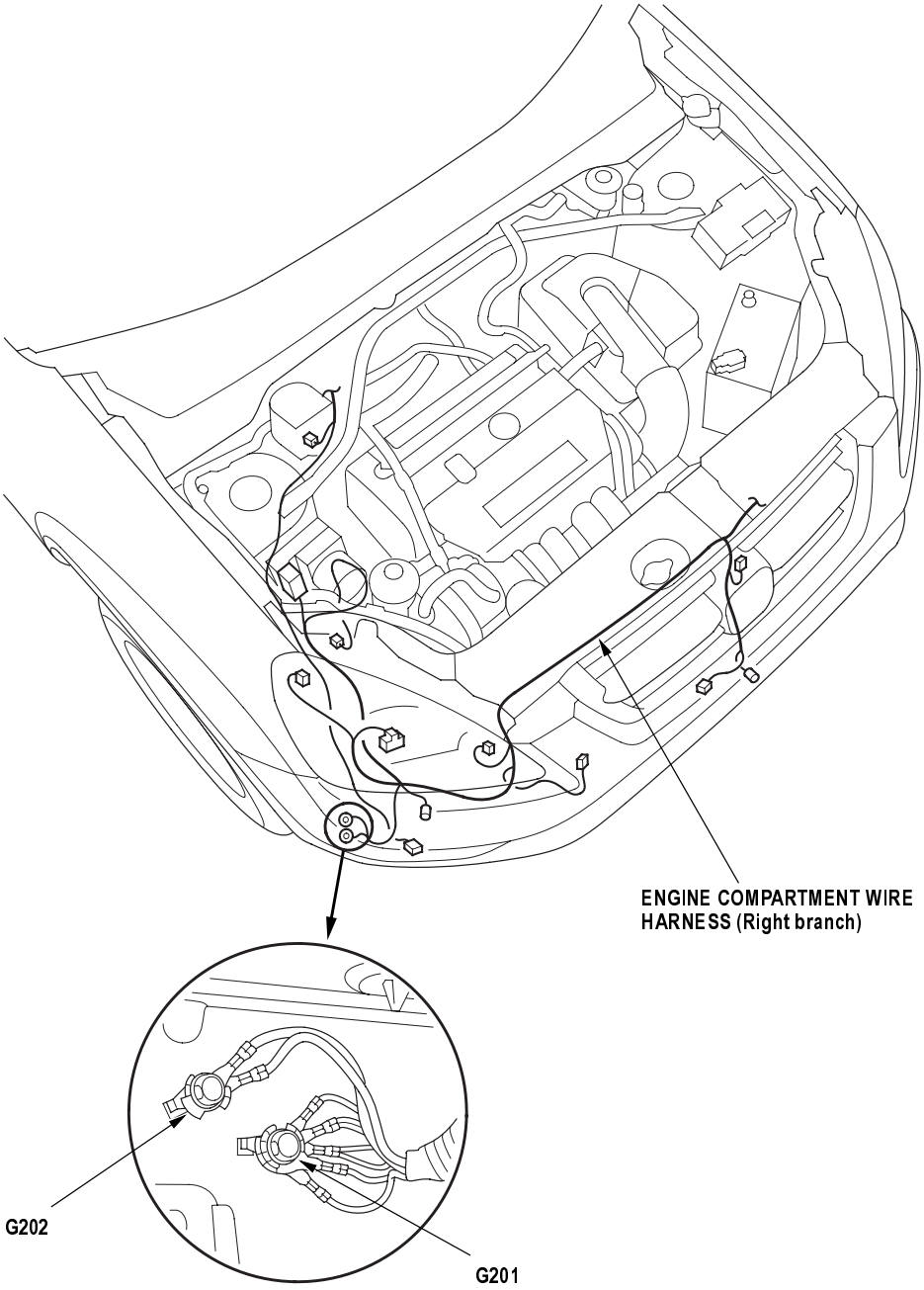
(cont'd)

Engine Compartment (cont'd)

Note: LHD type is shown, RHD type is similar.



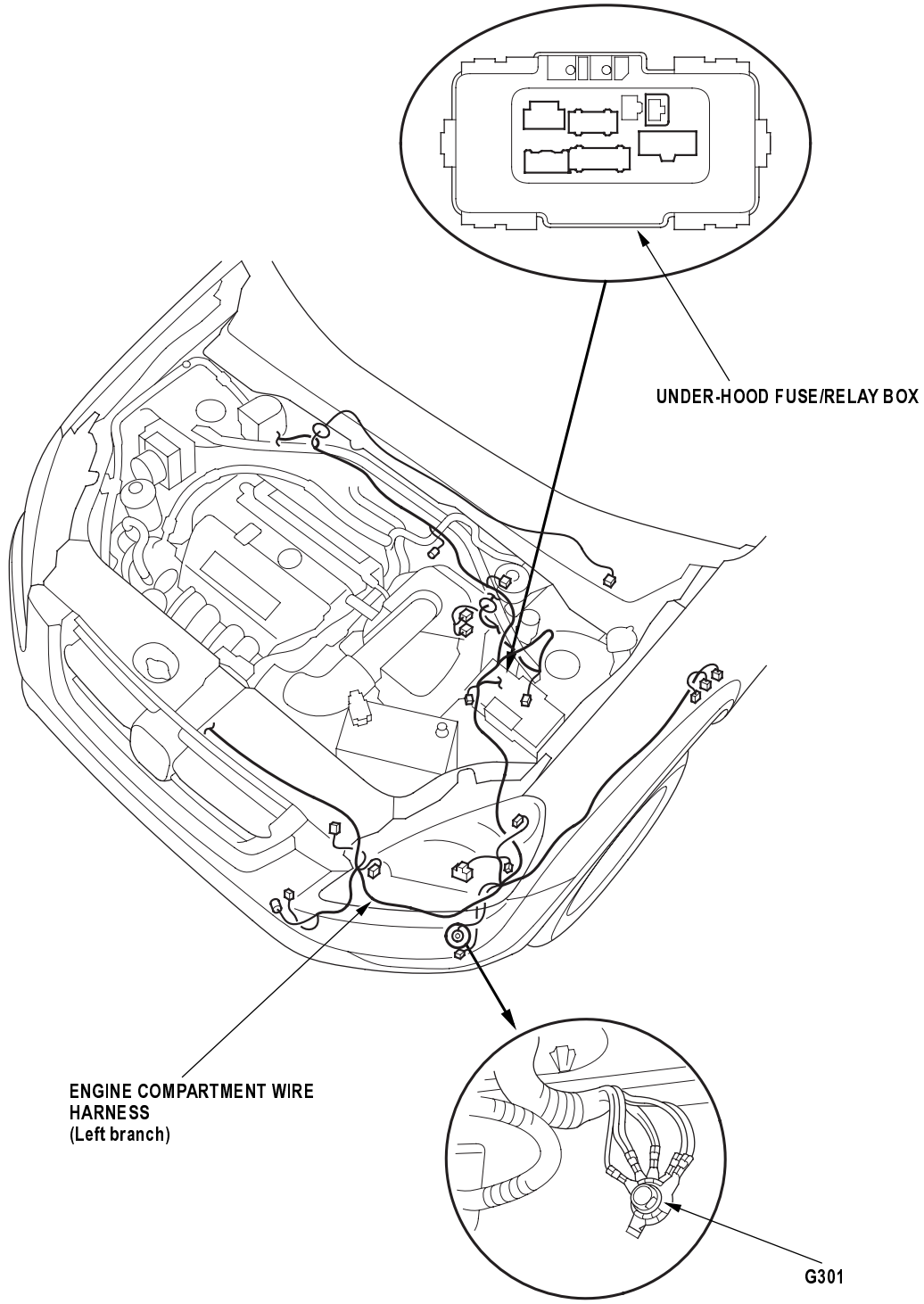
Note: LHD type is shown, RHD type is similar.



(cont'd)

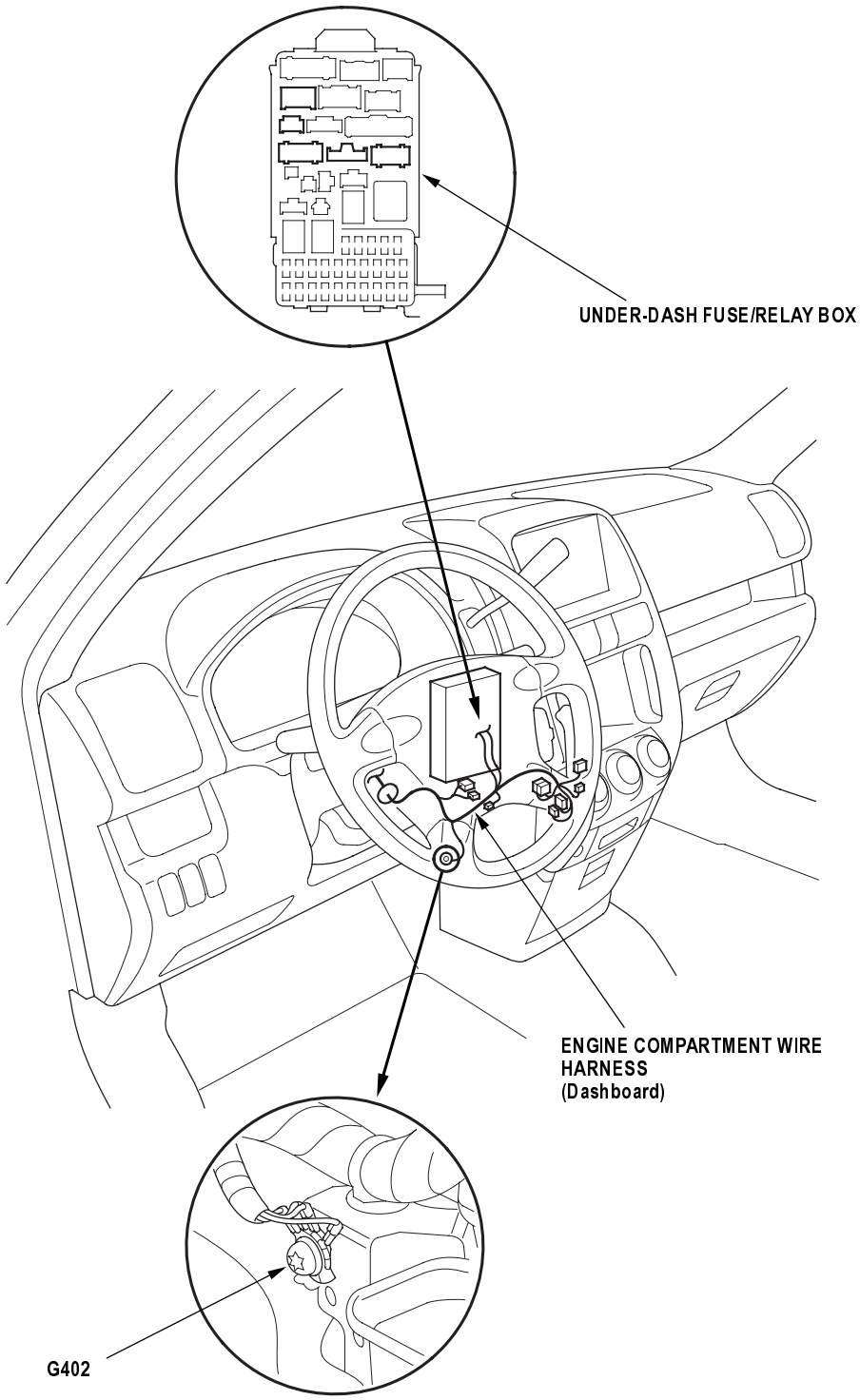
Engine Compartment (cont'd)

Note: LHD type is shown, RHD type is similar.



Dashoard

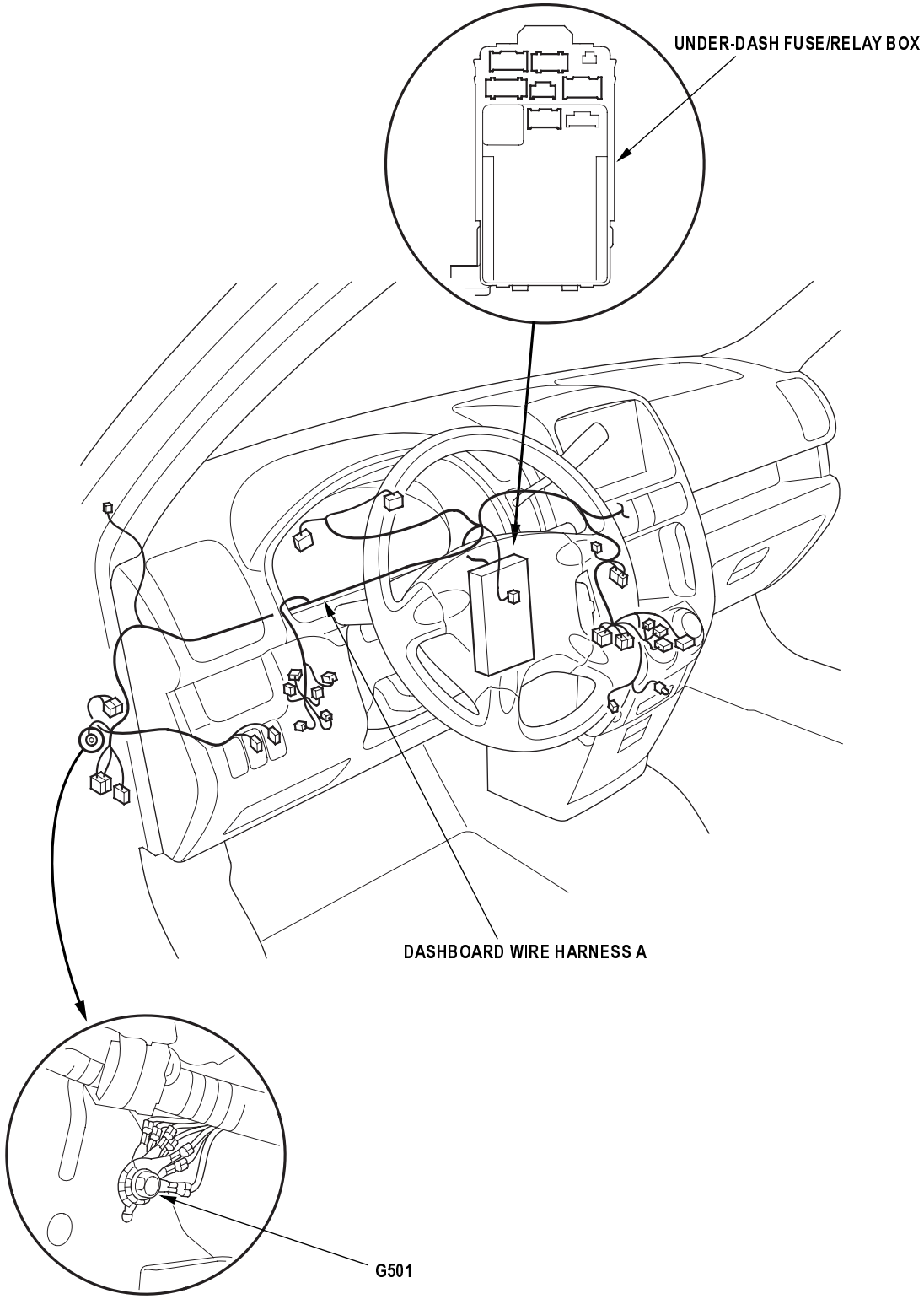
Note: LHD type is shown, RHD type is similar.



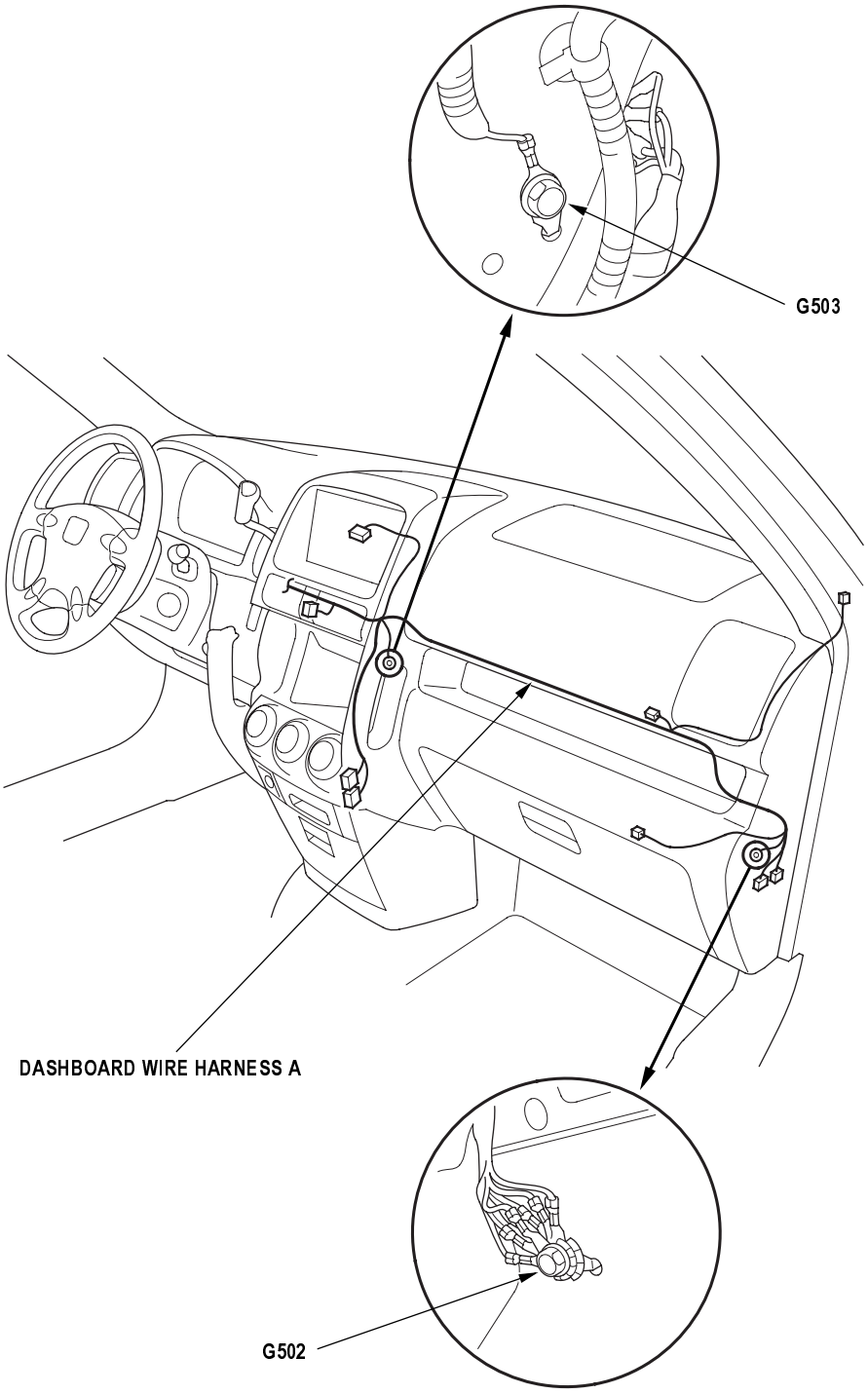
(cont'd)

Dashboard (cont'd)

Note: LHD type is shown, RHD type is similar.



Note: LHD type is shown, RHD type is similar.



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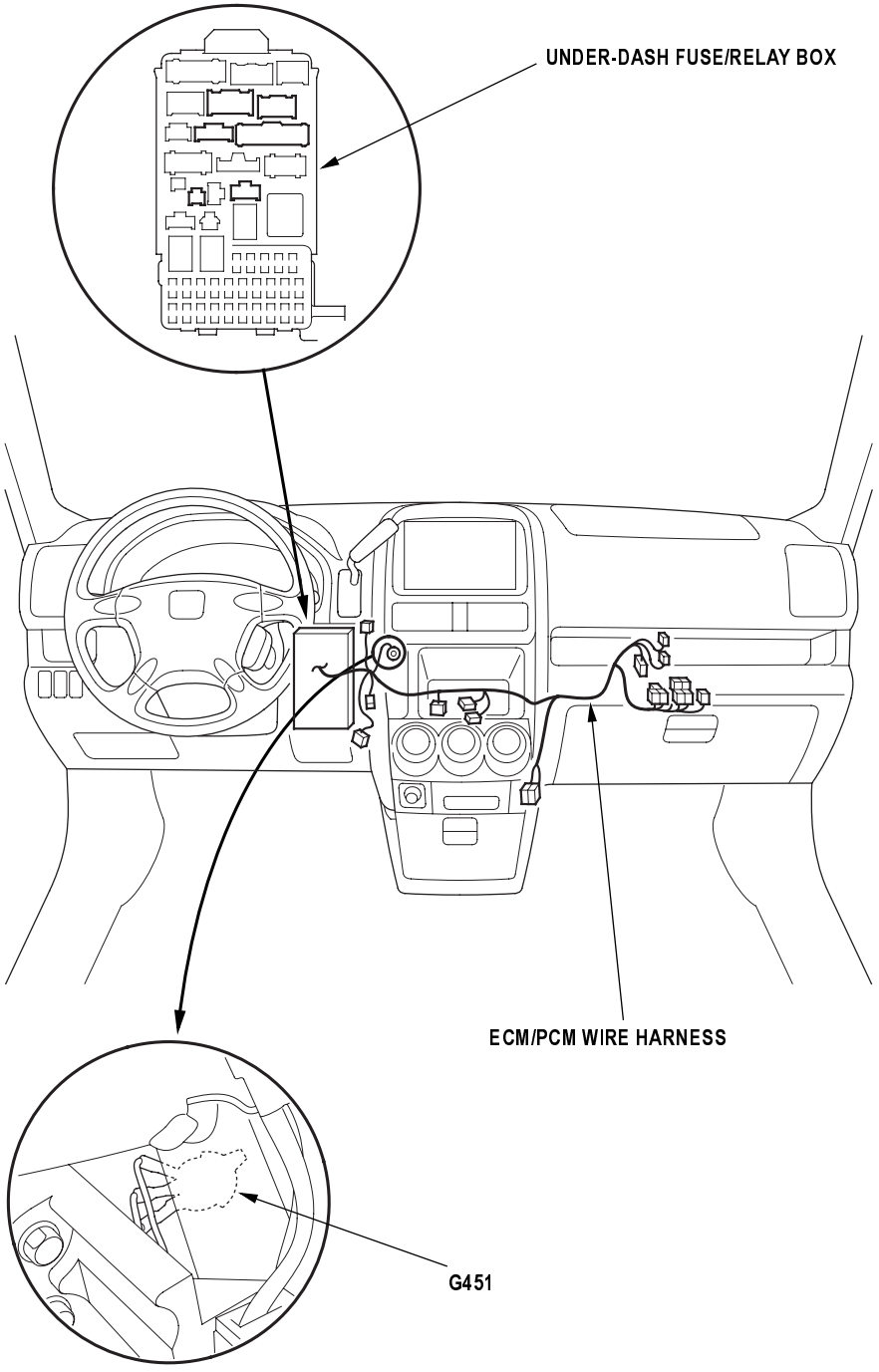
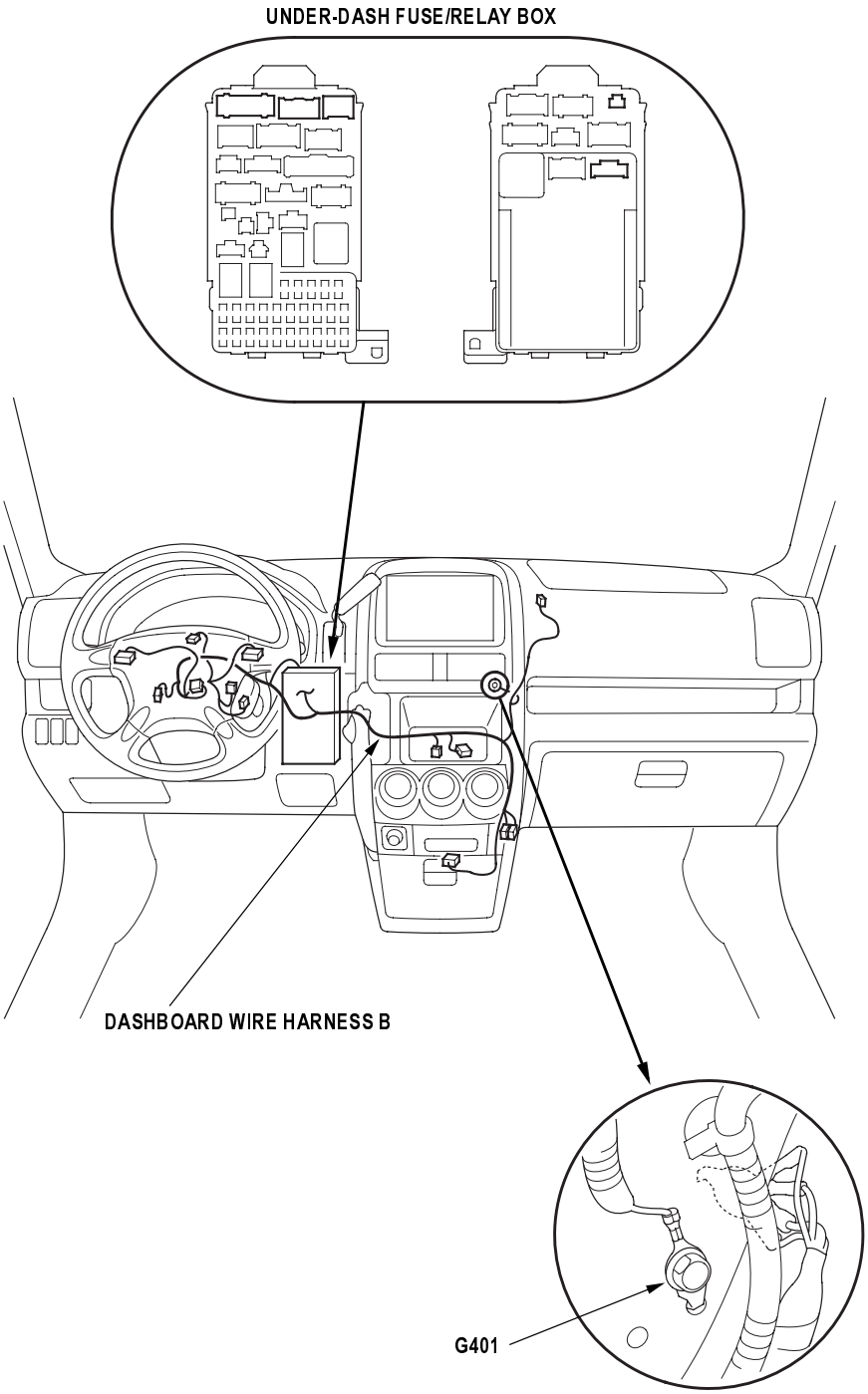
Dashboard (cont'd)

Note: LHD type is shown, RHD type is similar.

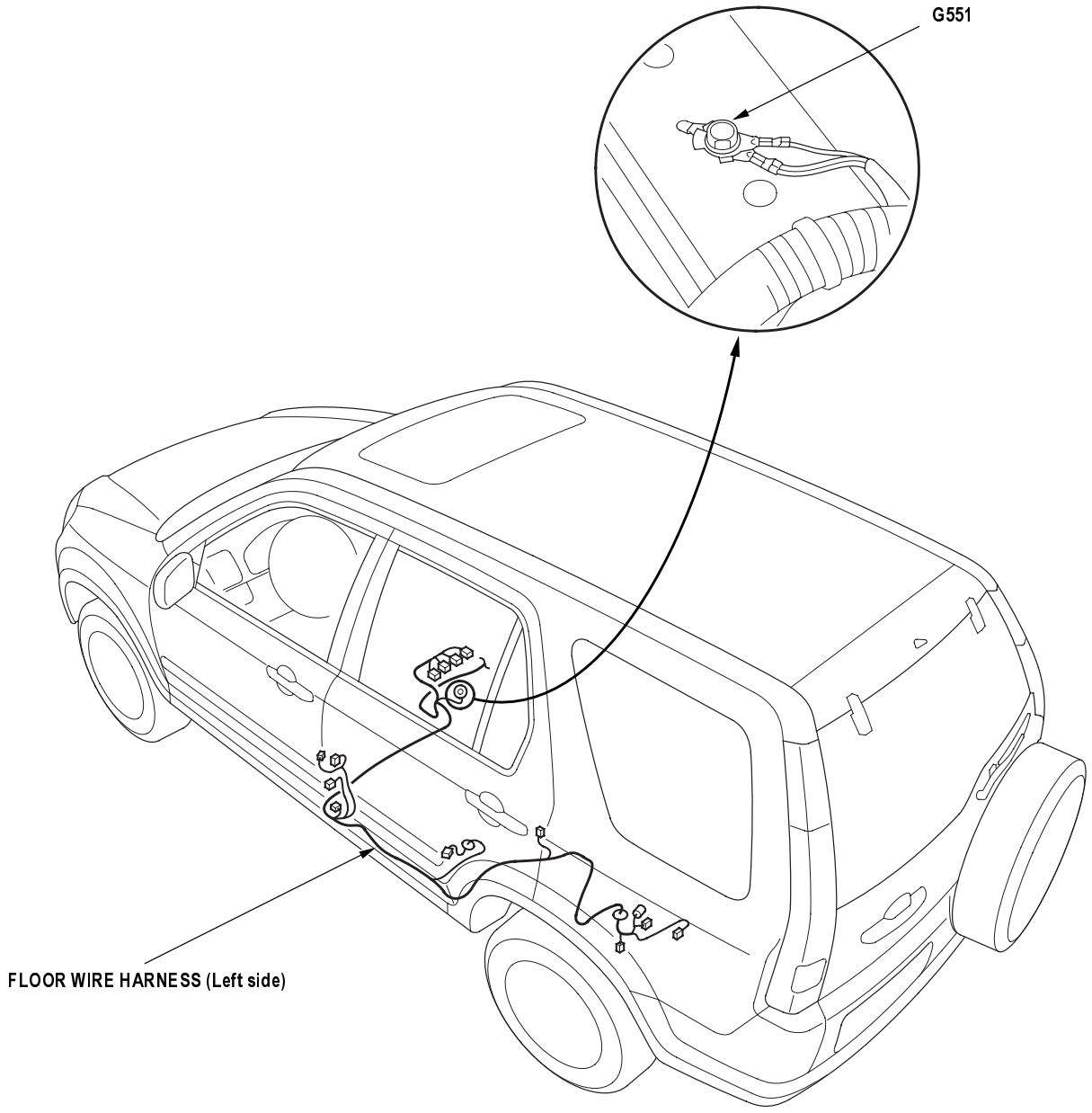


Note: LHD type is shown, RHD type is similar.

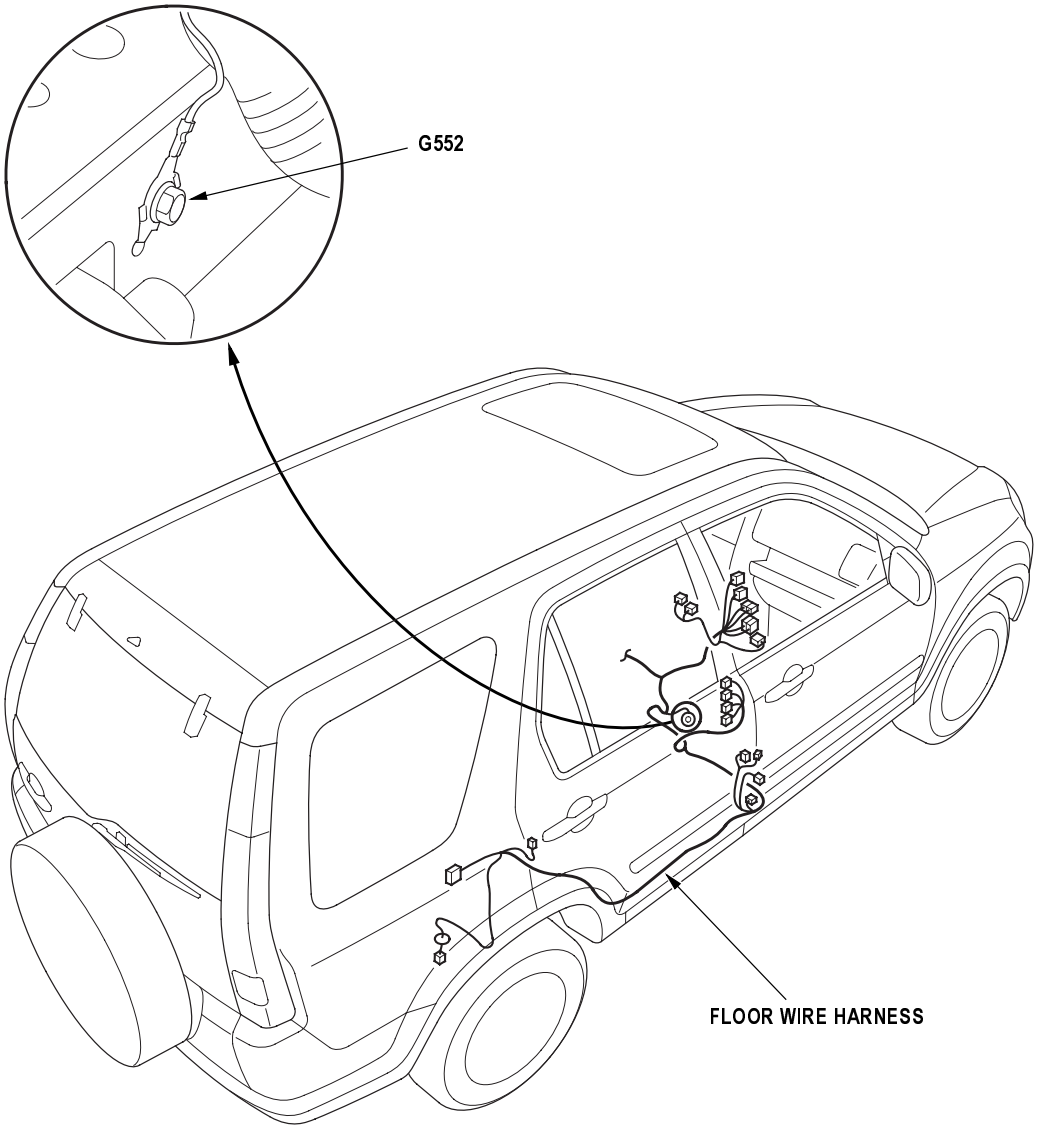


Floor

Note: LHD type is shown, RHD type is similar.

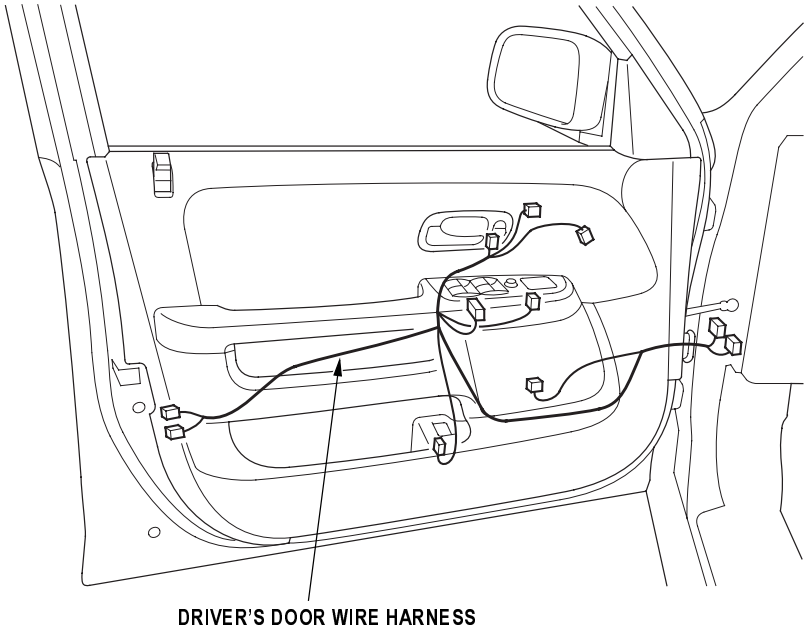


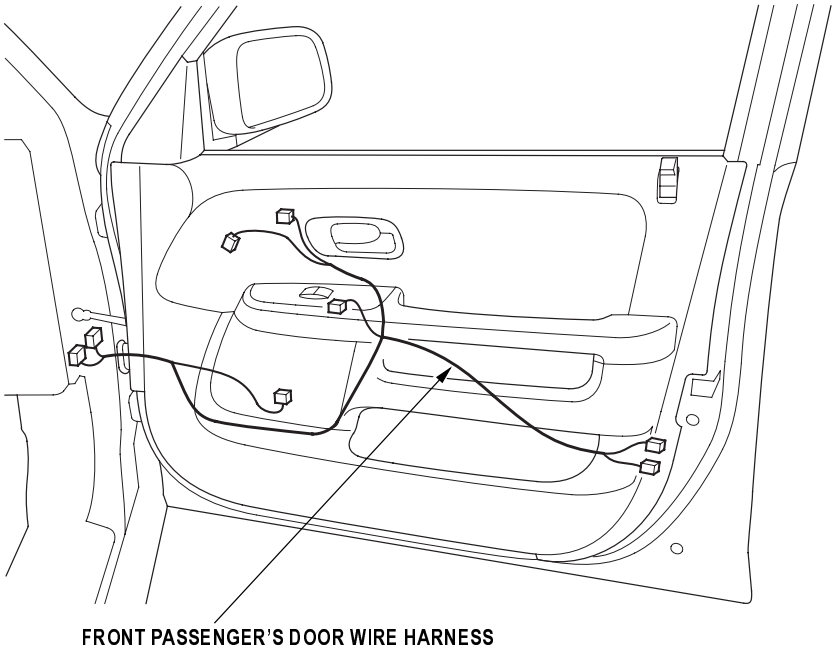
Note: LHD type is shown, RHD type is similar.



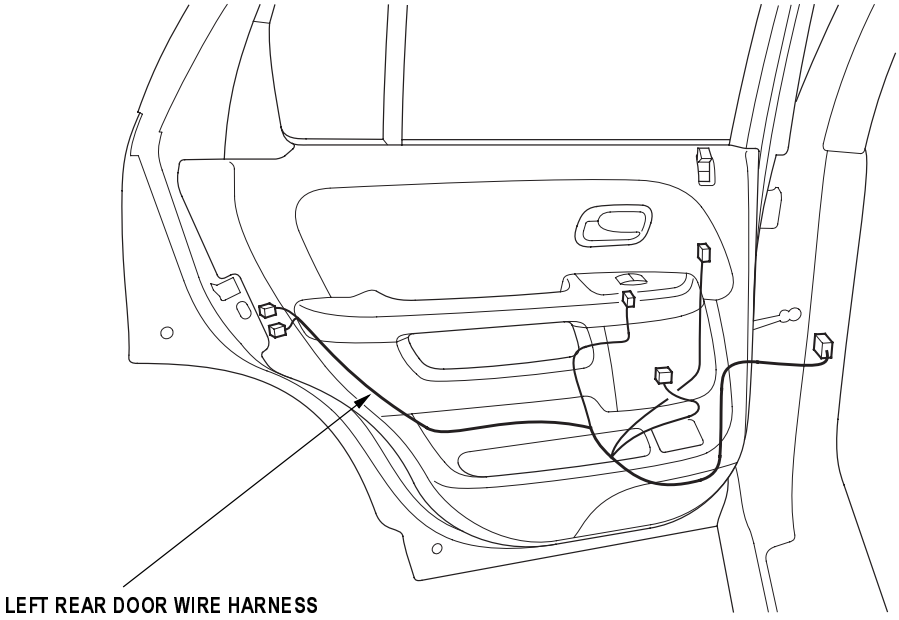
Door

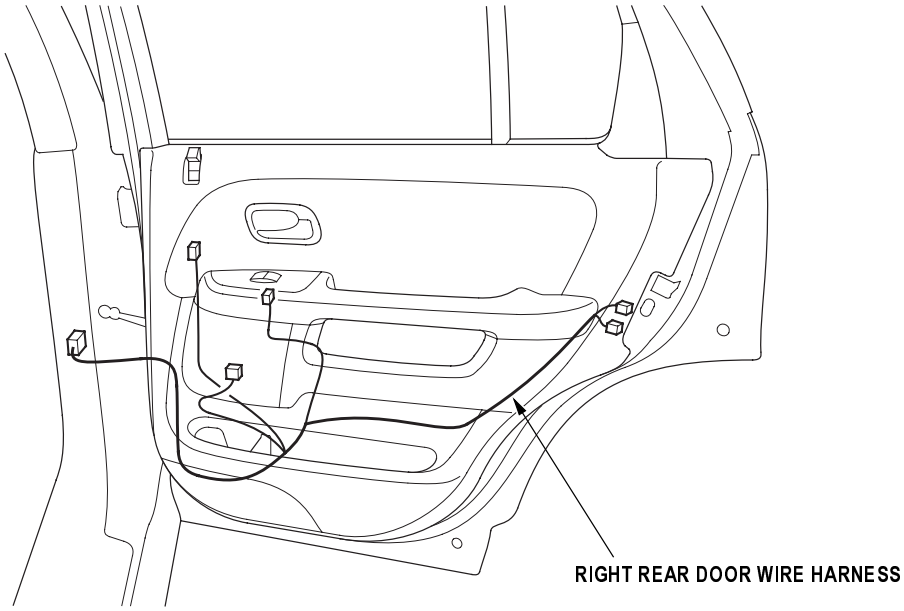
Note: LHD type is shown, RHD type is symmetrical.





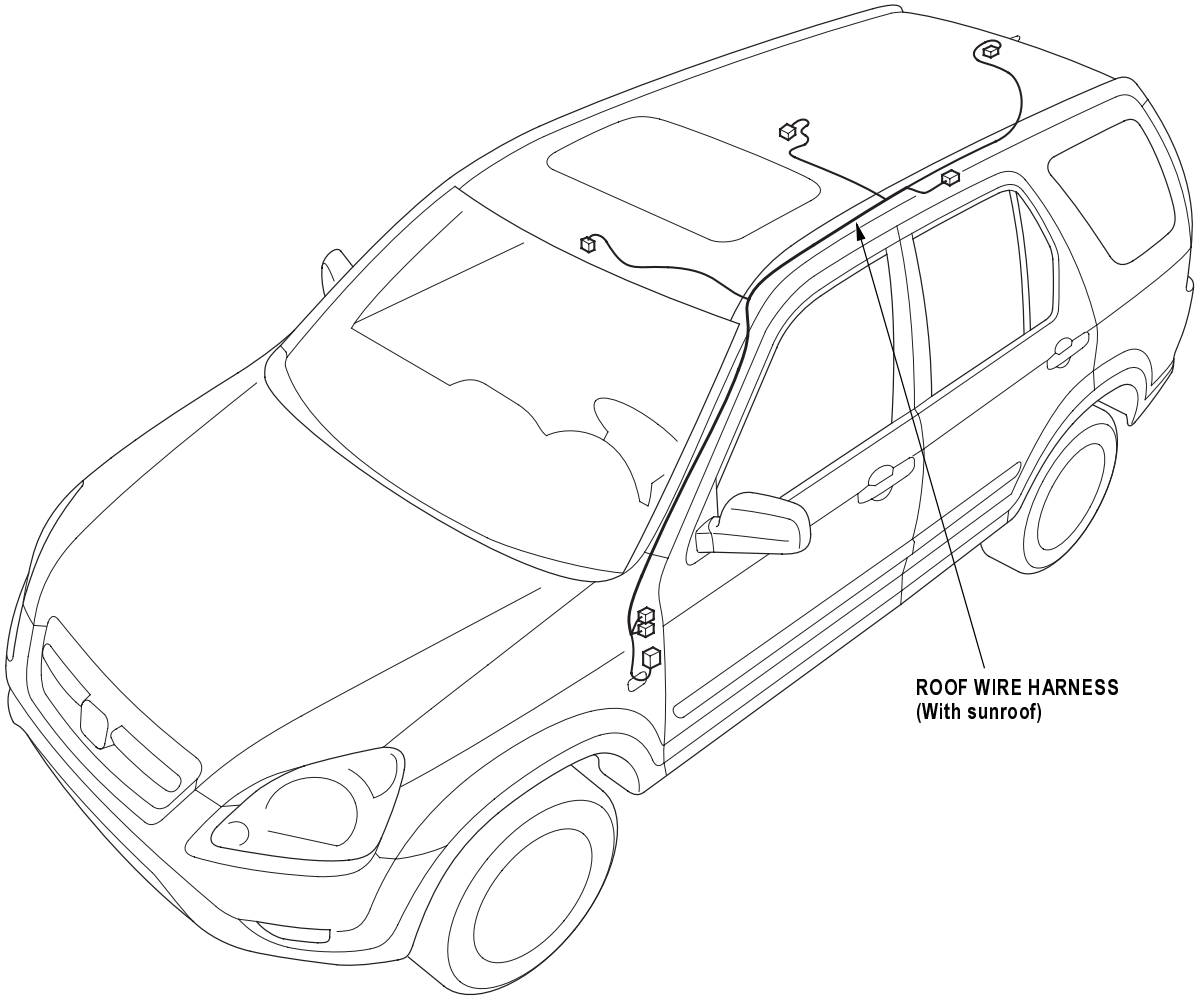
Note: LHD type is shown, RHD type is similar.

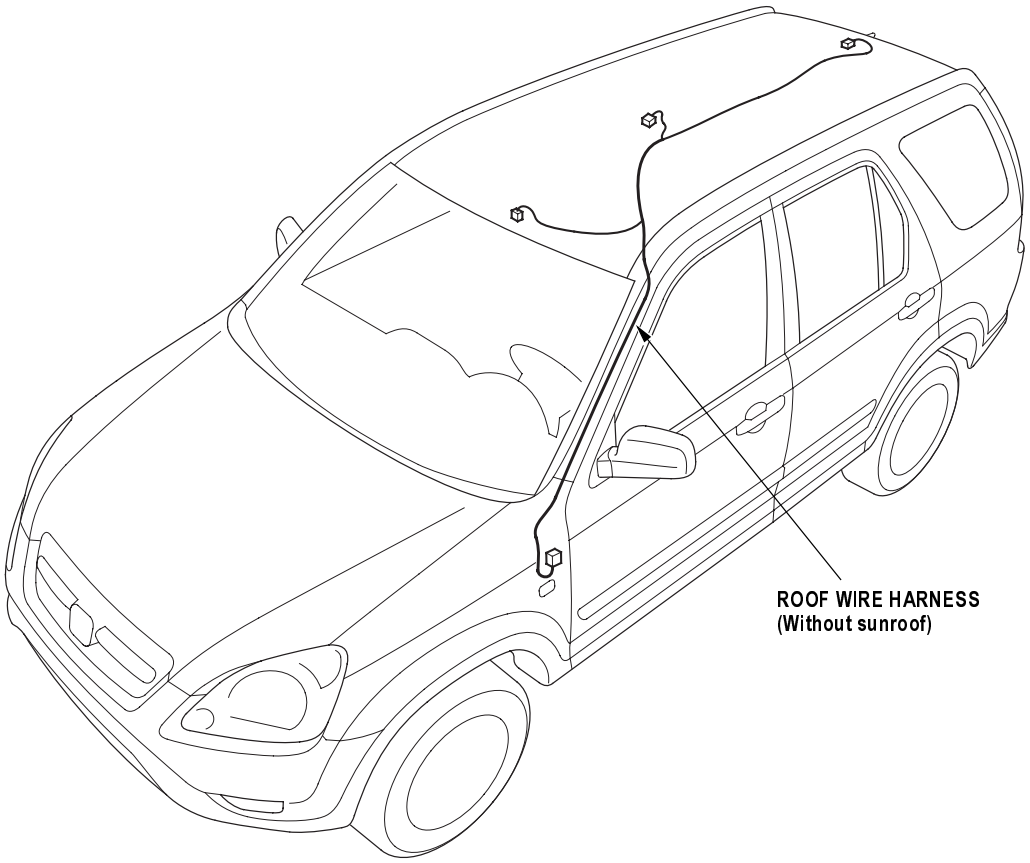




Roof

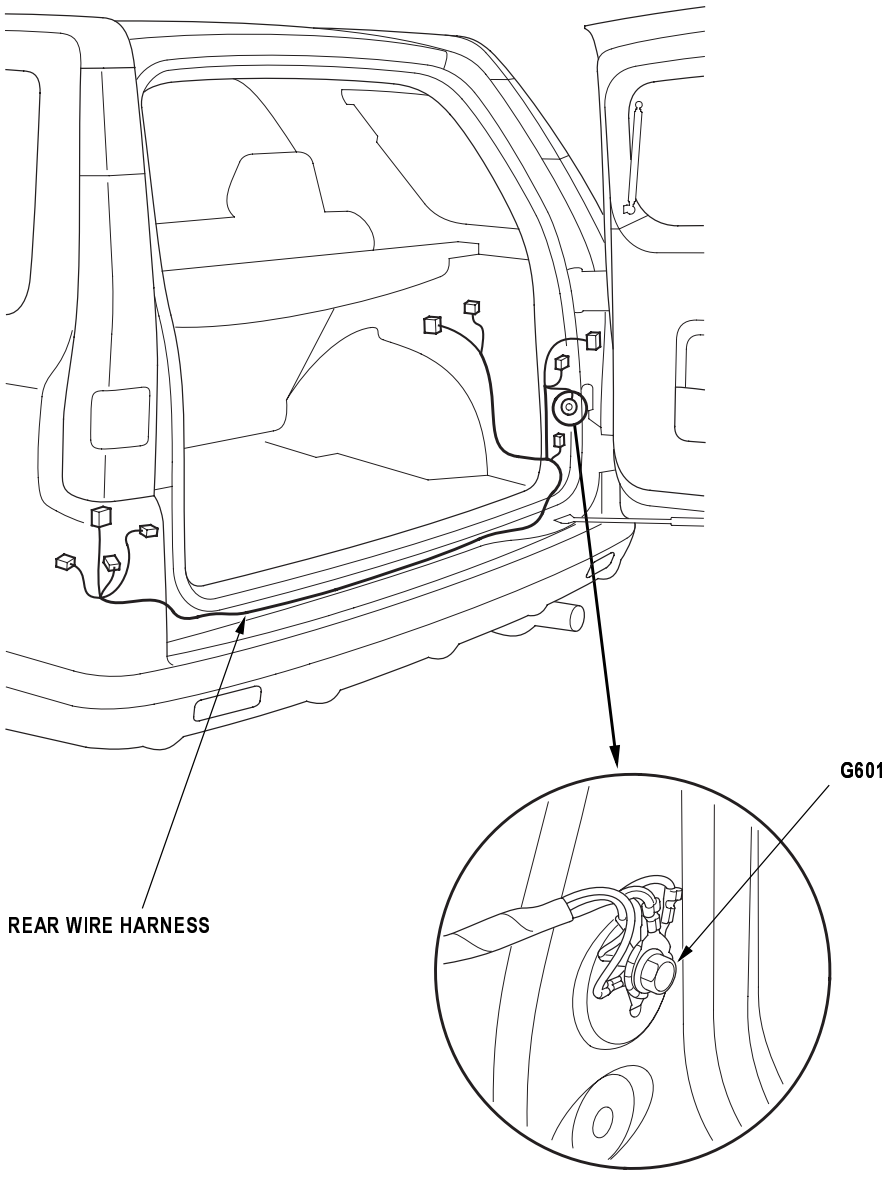
Note: LHD type is shown, RHD type is similar.



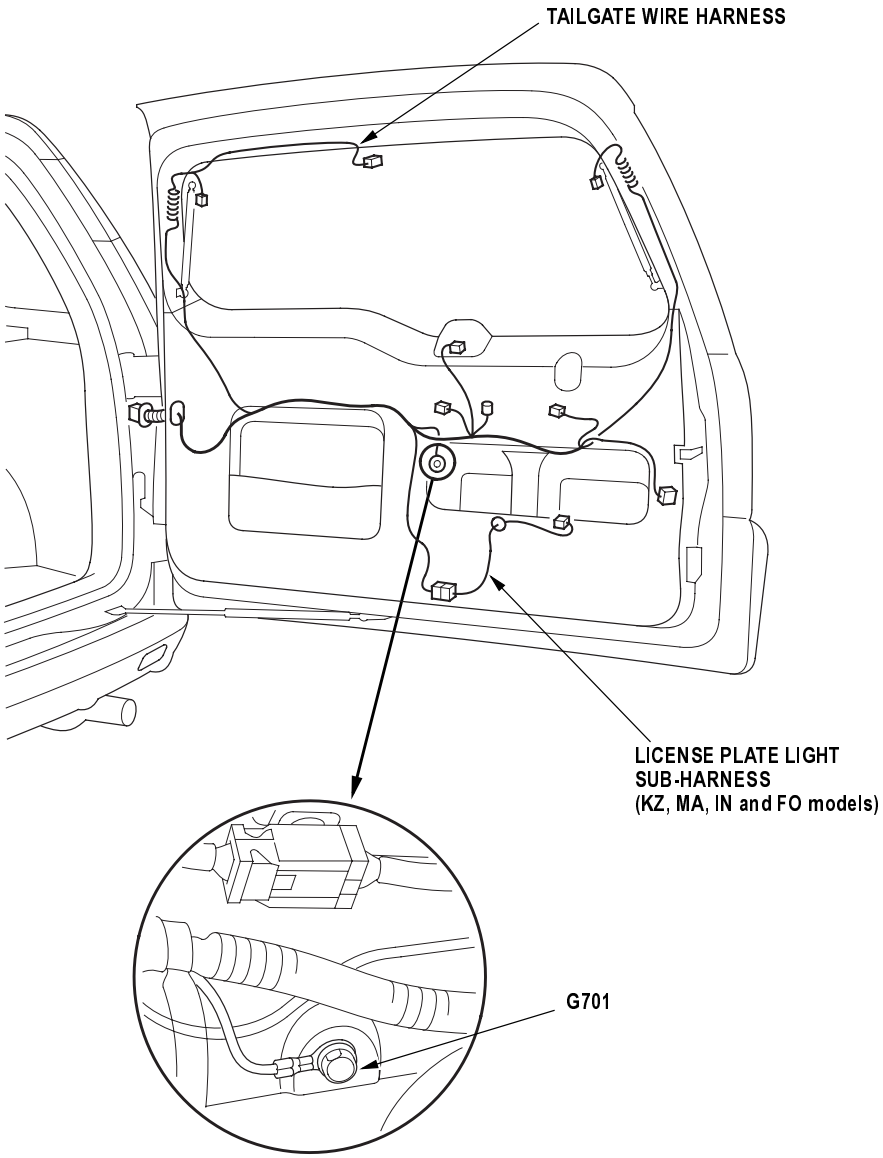

ROOF WIRE HARNESS
(Without sunroof)

Rear/Tailgate

Note: LHD type is shown, RHD type is similar.

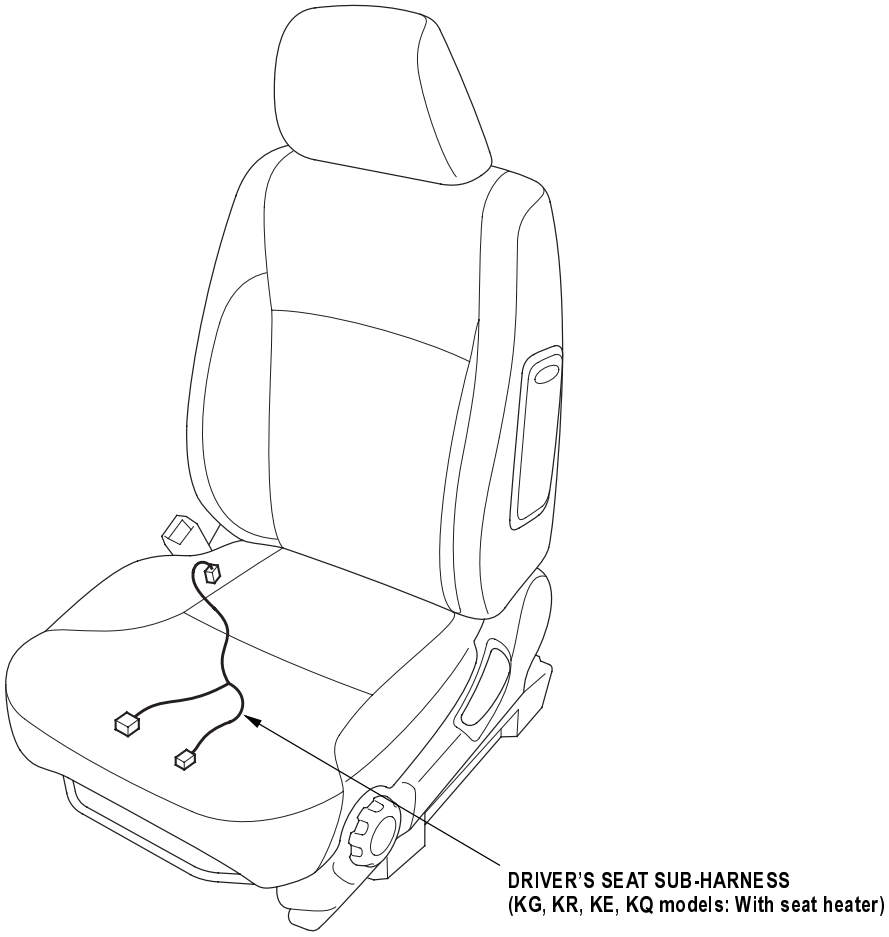


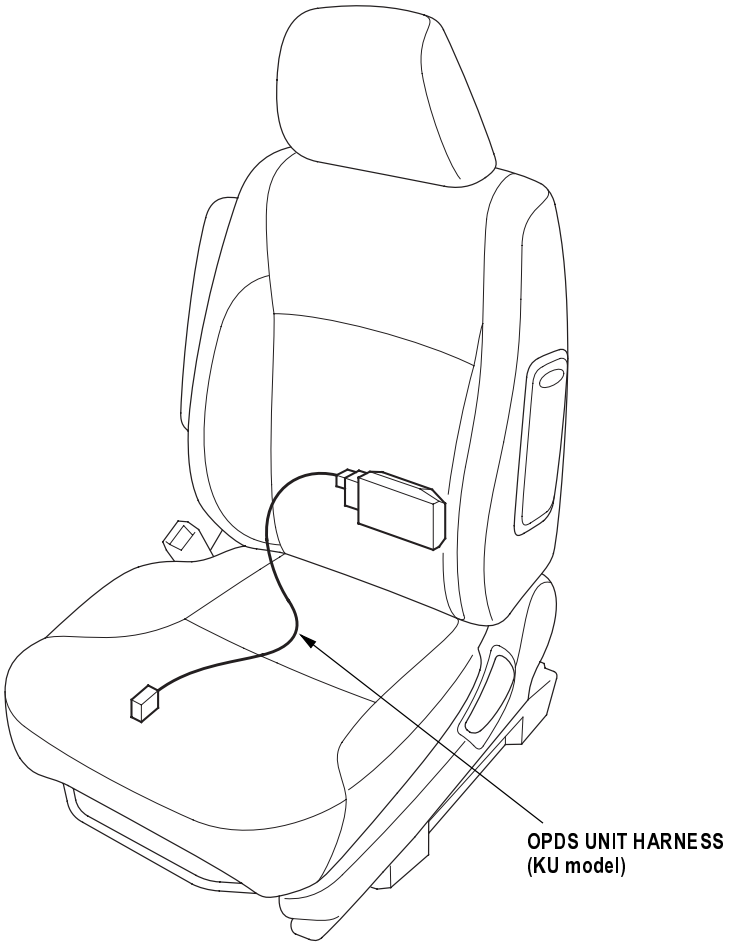
Note: LHD type is shown, RHD type is similar.



Seat

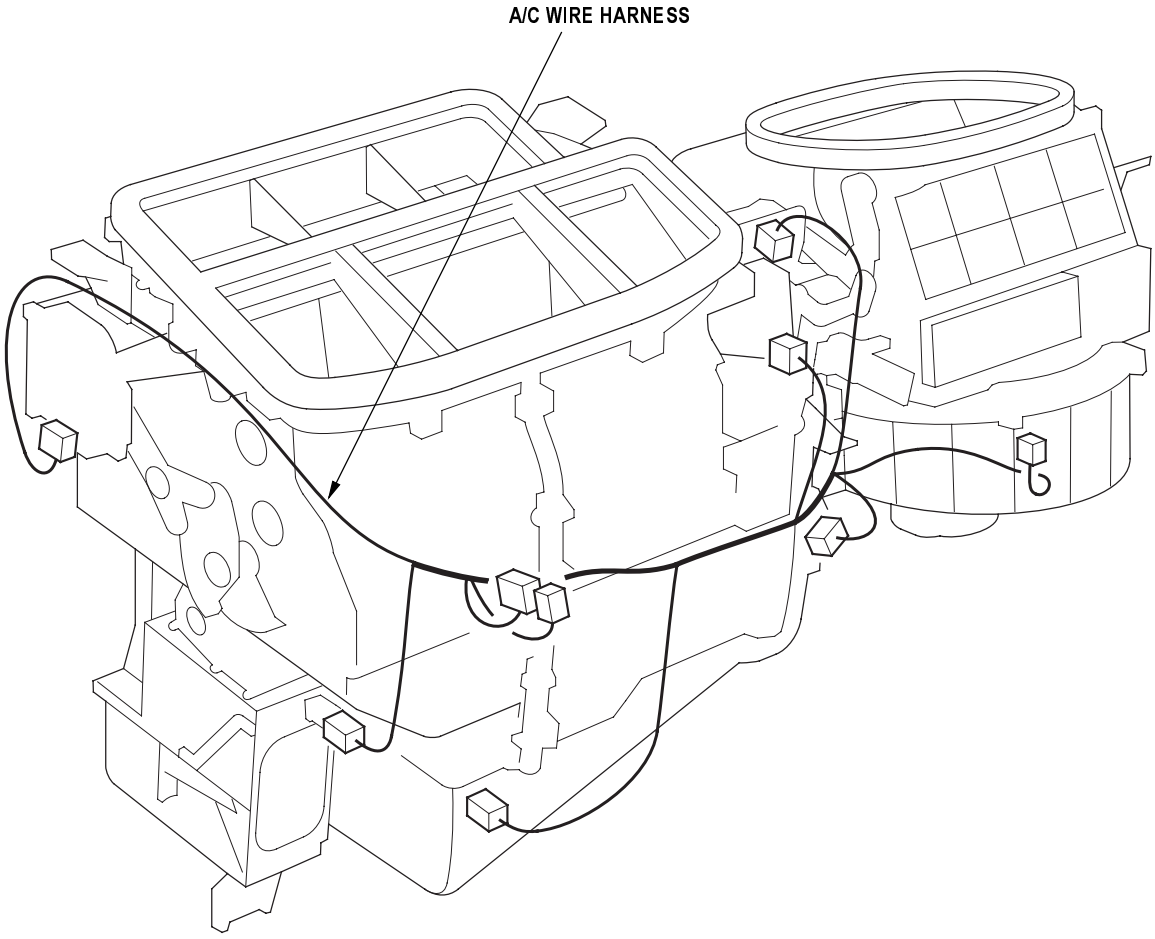
Note: LHD type is shown, RHD type is similar.




OPDS UNIT HARNESS
(KU model)

Blower

Note: LHD type is shown, RHD type is symmetrical.

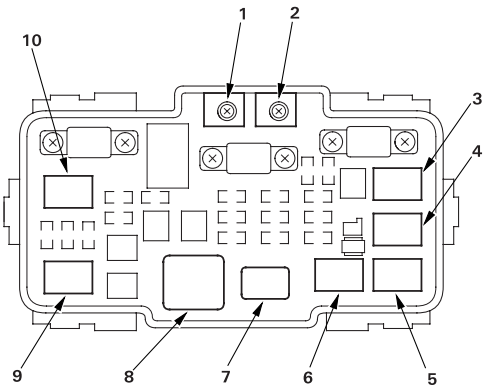


Fuse/Relay Boxes

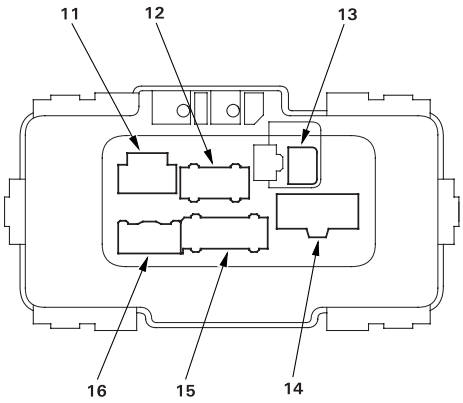
Connector to Fuse/Relay Box Index

Under-hood Fuse/Relay Box

Socket	Ref	Terminal	Connects to
A	11	2	Engine compartment wire harness
A/C compressor clutch relay	6	4	
B	16	5	Engine compartment wire harness
Blower motor relay	8	4	
C	12	12	Engine compartment wire harness
Condenser fan relay	3	4	
D	15	14	Engine compartment wire harness
E	14	7	Engine compartment wire harness
ELD unit	13	3	Engine compartment wire harness
Horn relay	4	4	
Headlight relay 1	9	4	
Headlight relay 2	10	4	
Radiator fan relay	5	4	
Rear window defogger relay	7	4	
T1 (Battery)	2		Starter sub-harness
T101 (Alternator)	1		Starter sub-harness



(View of front side)



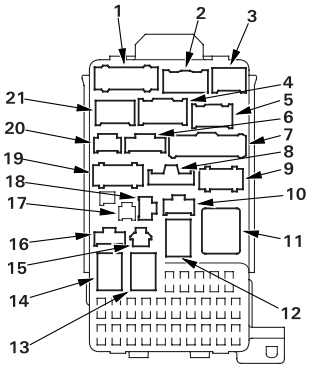
(View of back side)

(cont'd)

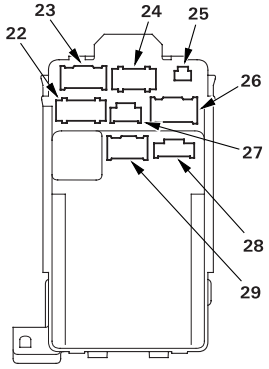
Connector to Fuse/Relay Box Index (cont'd)

Under-dash Fuse/Relay Box

Socket	Ref	Terminal	Connects to
A	2	5	Dashboard wire harness
B	3	6	Dashboard wire harness
C	1	14	Dashboard wire harness
D	4	12	ECM/PCM wire harness
E	5	13	ECM/PCM wire harness
F	19	12	Engine compartment wire harness
G	9	10	Engine compartment wire harness
H	8	3	Engine compartment wire harness
I	20	5	Engine compartment wire harness
J	21	8	Engine compartment wire harness
K	23	17	Dashboard wire harness
L	24	10	Dashboard wire harness
M	22	12	Dashboard wire harness
N	27	6	Dashboard wire harness
O	26	12	Dashboard wire harness
P	7	18	ECM/PCM wire harness
Q	6	8	ECM/PCM wire harness
R	10	6	ECM/PCM wire harness
Power Window relay	12	4	
S	25	2	Dashboard wire harness
Starter cut relay	14	4	
T	18	3	Multiplex control unit service check connector
Taillight relay	13	4	
Turn signal/hazard relay	11	3	
U	15	1	Optional connector
V	16	4	Optional connector
W (Memory erase signal (MES) connector)	17	2	ECM/PCM wire harness
X	28	8	Dashboard wire harness B (Plugs directly into the multiplex control unit)
Y	29	13	Dashboard wire harness A (Plugs directly into the multiplex control unit)



(View of front side)



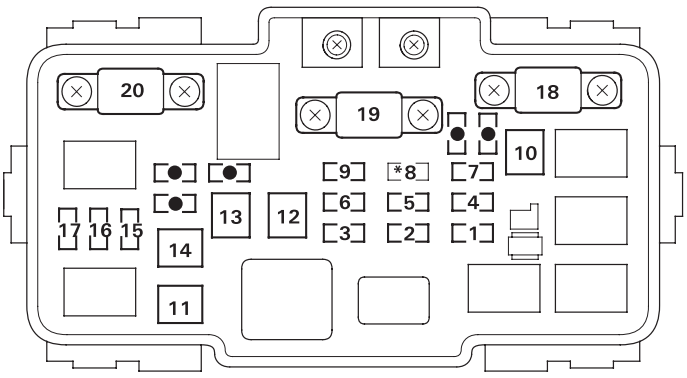
(View of back side)

Power Distribution

Fuse to Component Index

Under-hood Fuse/Relay Box

Fuse Number	Amps	Wire Color	Component(s) or Circuit(s) Protected
1	20A	BLU/YEL	Condenser fan motor
		BLU/RED	A/C compressor clutch
2	15A	WHT/GRN	Dash lights, Fog light switch, Front parking lights, Front side marker lights, Multiplex control unit (KG model: daytime running lights), License plate lights, Taillights, Taillight relay
3	15A	WHT/BLU	Ceiling lights,Ignition key light, Rear wiper control unit, Spotlights
4	20A	BLU/BLK	Radiator fan motor
5	15A	WHT/BLK	Hazard warning light, Security control unit, Turn signal/hazard relay
6	15A	WHT/BLK	CKP sensor, ECM/PCM, Fuel injectors, IAC valve, Immobilizer control unit-receiver, PGM-FI main relay 1 and 2, TDC sensor
7	15A	WHT/GRN	ABS modulator-control unit, Brake lights, Cruise control unit, ECM/PCM, Security horn relay, Security horn
		BLU/RED	Horn
8	—	—	Not used
9	10A	WHT/RED	AVN unit (With Navigation), Audio unit (Without Navigation), Data link connector, Gauge assembly, Immobilizer control unit-receiver, Keyless receiver unit, Multiplex control unit, Security control unit
10	30A	WHT/RED	ABS modulator-control unit (+B MR)
11	20A	BLK/YEL	Noise condenser, Rear window defogger
12	40A	BLU/WHT	Blower motor
13	40A	WHT/BLK	No. 7, 22, 23, 24, 25 fuses (in the under-dash fuse/relay box)
14	40A	WHT/RED	No. 2, 3, 5, 15, 16 fuses (in the under-dash fuse/relay box)
15	15A	RED/YEL	Headlight washer control unit, High beam indicator light, Left headlight
16	20A	WHT	Multiplex control unit
17	15A	RED	Right headlight
18	30A	WHT/BLU	ABS modulator-control unit (+B FSR)
19	100A	—	Battery, Power distribution
20	50A	WHT	Ignition switch (BAT)



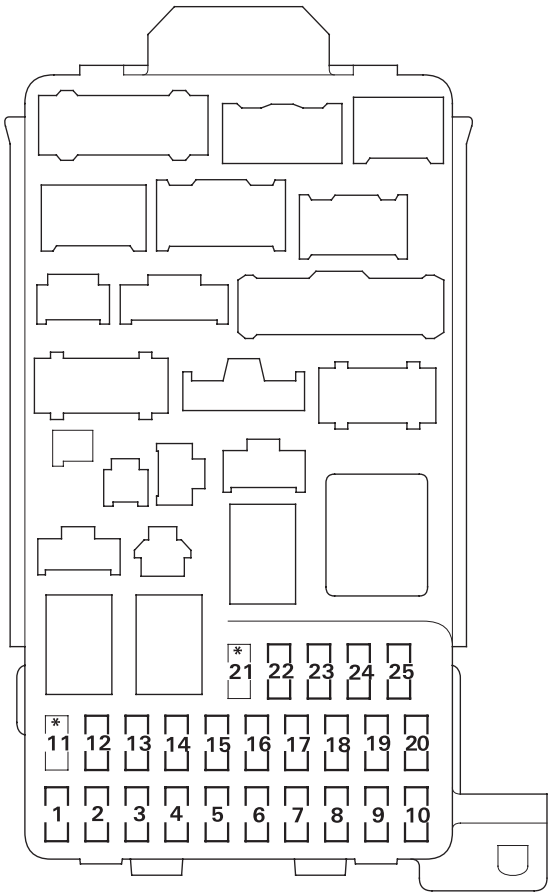
● : Spare fuse
* : Not used

(cont'd)

Fuse to Component Index (cont'd)

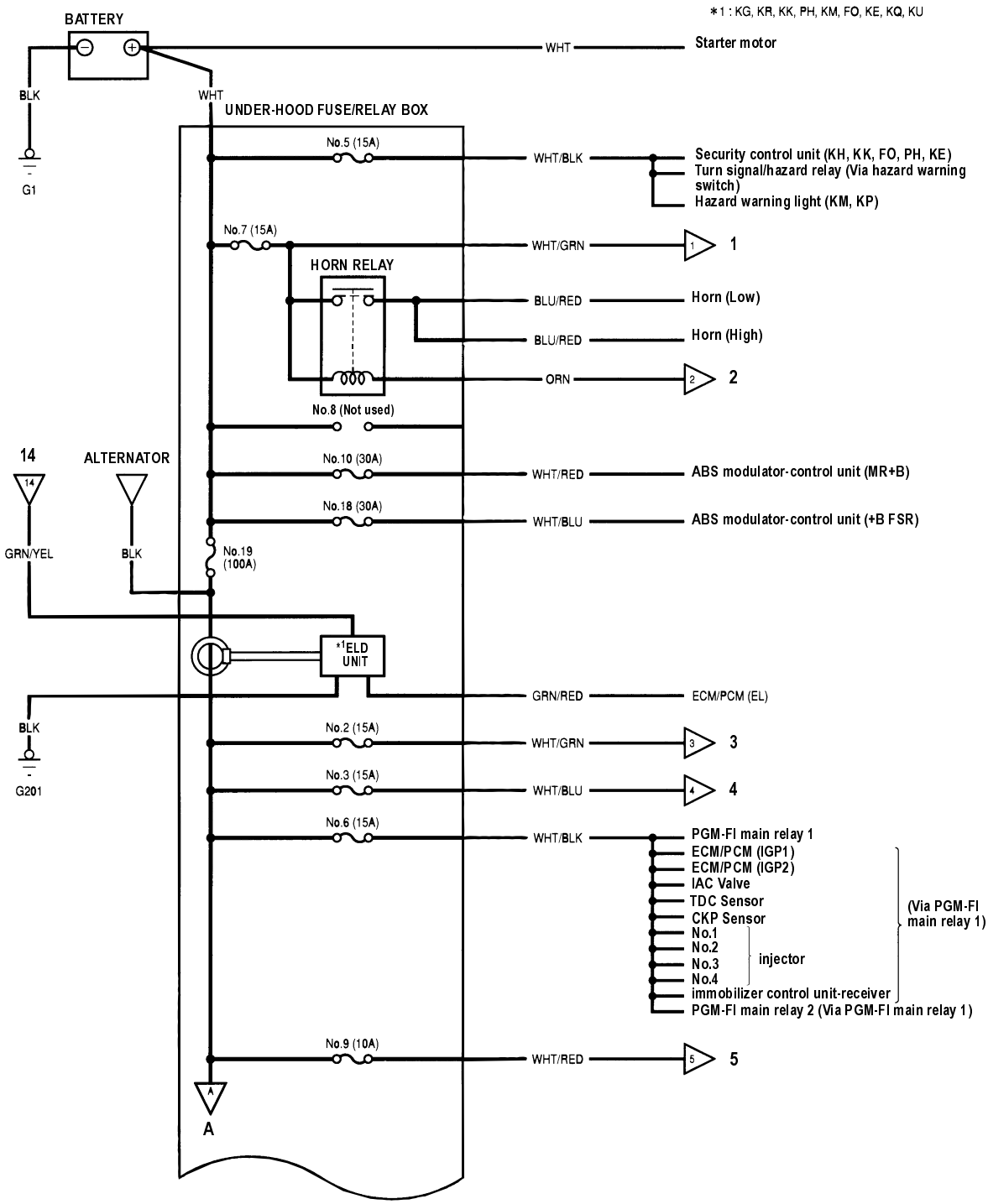
Under-dash Fuse/Relay Box

Fuse Number	Amps	Wire Color	Component(s) or Circuit(s) Protected
1	15A	BLK/WHT	Ignition coils
2	10A	GRN/WHT	Rear accessory power socket
3	10A	Fuse/relay box socket	Multiplex control unit (KG model: daytime running lights)
	20A	BLU/RED	Front fog lights
4	10A	GRN/YEL	Alternator, Camshaft position (CMP) sensor, Cruise main switch, Cruise control unit, ELD unit, EVAP canister purge valve, Intake manifold runner control (IMRC) solenoid valve, Primary HO2S, Secondary HO2S, Vehicle speed sensor
5	7.5A	Fuse/relay box socket	Multiplex control unit (With rear fog light)
6	7.5A	YEL/GRN	Headlight adjuster switch, Headlight adjuster unit, Power window control unit, Power window relay, Sunroof open relay, Sunroof close relay
7	20A	GRN	Sunroof motor
8	7.5A	Fuse/relay box socket	Option connector, Multiplex control unit
		YEL/RED	AVN unit (With Navigation), Audio unit (Without Navigation), Interlock control unit (KG model: daytime running lights), Key interlock solenoid, Key interlock relay, Shift lock solenoid
9	7.5A	RED/GRN	OPDS unit (With side airbag), Rear wiper control unit, Rear wiper motor, Rear window washer motor
10	7.5A	Fuse/relay box socket	Multiplex control unit
		YEL	ABS modulator-control unit, A/T reverse relay, Back-up lights, Gauge assembly, Keyless receiver unit, Security control unit, Shift lock relay
11	—	—	Not used
12	7.5A	Fuse/relay box socket	Multiplex control unit (KG model: daytime running lights)
13	10A	PNK	SRS unit(VB)
14	10A	Fuse/relay box socket	Option connector
		BLK/YEL	A/C compressor clutch relay, Blower motor relay, Condenser fan relay, Climate control unit (With auto A/C), Heater control panel (Without auto A/C), In-car temperature sensor assembly (LHD type with auto A/C), Power mirror actuator, Power mirror defogger, Radiator fan relay, Rear window defogger relay, Recirculation control motor
15	30A	RED/YEL	Headlight washer motor
16	20A	RED/BLK	Seat heaters
17	15A	BLK/YEL	ECM/PCM, Fuel pump, Inertia switch (KG, KR and KE models), SRS unit (VA)
18	15A	YEL/GRN	Cigarette lighter, Rear accessory power socket relay
19	7.5A	YEL/BLK	Turn signal/hazard relay
20	20A	Fuse/relay box socket	Multiplex control unit
		GRN/BLK	Windshield wiper motor, Windshield washer motor
21	—	—	Not used
22	20A	GRN/BLK	Front passenger's power window motor
23	20A	GRN/WHT	Driver's power window motor
24	20A	YEL/RED	Left rear power window motor
25	20A	YEL/BLU	Right rear power window motor



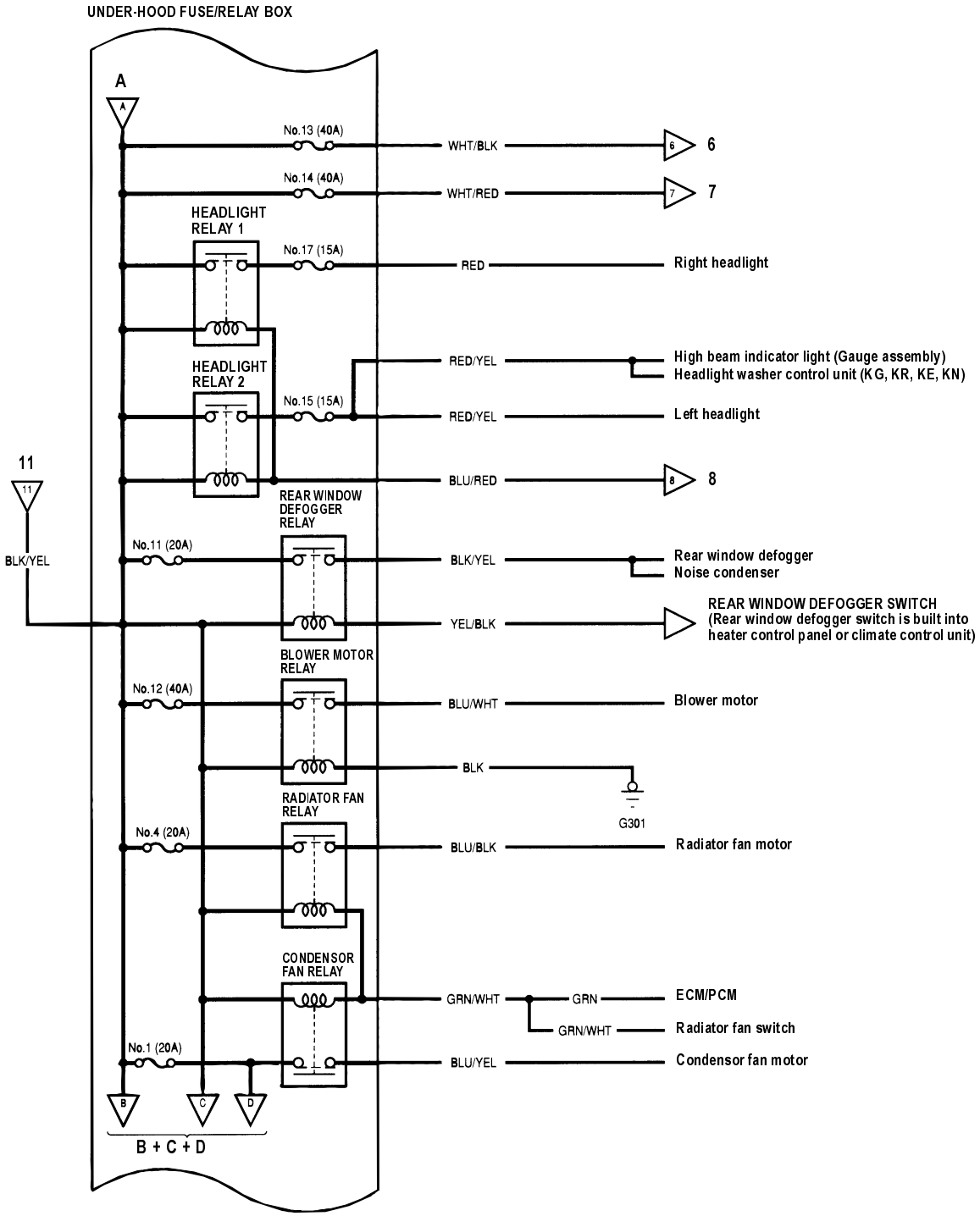
* : Not used

Circuit Identification



1	UNDER-DASH FUSE/RELAY BOX	To page 22A-45
2	UNDER-DASH FUSE/RELAY BOX	To page 22A-47
3	UNDER-DASH FUSE/RELAY BOX	To page 22A-46
4	UNDER-DASH FUSE/RELAY BOX	To page 22A-48
5	UNDER-DASH FUSE/RELAY BOX	To page 22A-47
14	No.4 (10A) UNDER-DASH FUSE/RELAY BOX	From page 22A-43
A		To page 22A-41

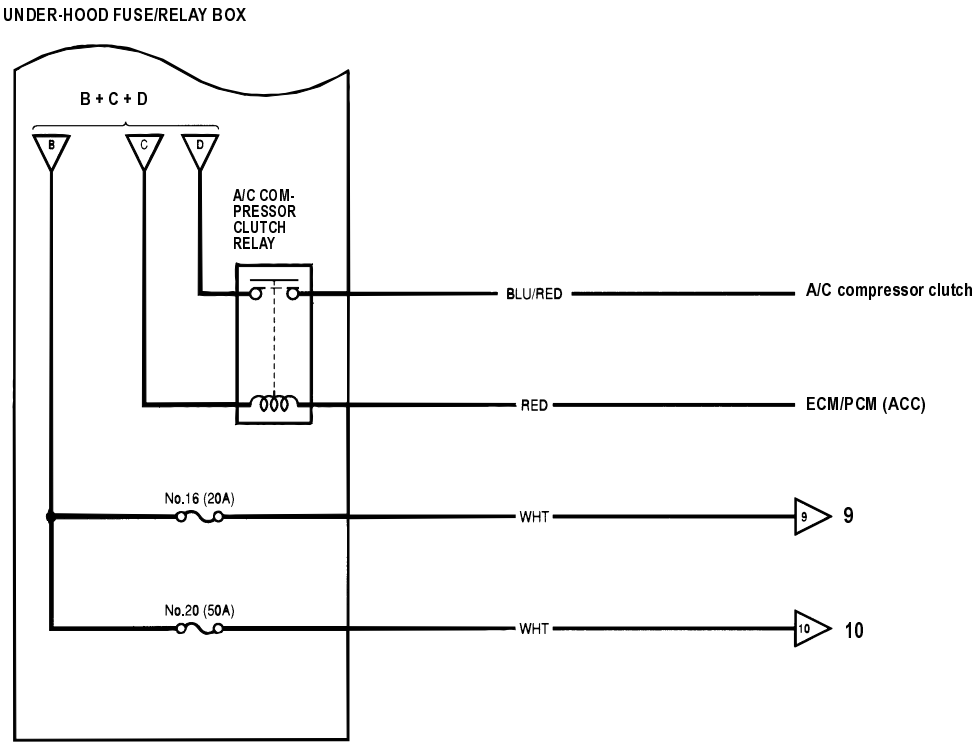
Circuit Identification (cont'd)



6	UNDER-DASH FUSE/RELAY BOX	To page 22A-44
7	UNDER-DASH FUSE/RELAY BOX	To page 22A-45
8	UNDER-DASH FUSE/RELAY BOX	To page 22A-47
11	No.14 (10A) UNDER-DASH FUSE/RELAY BOX	From page 22A-43
B+C+D		To page 22A-42
A		From page 22A-40

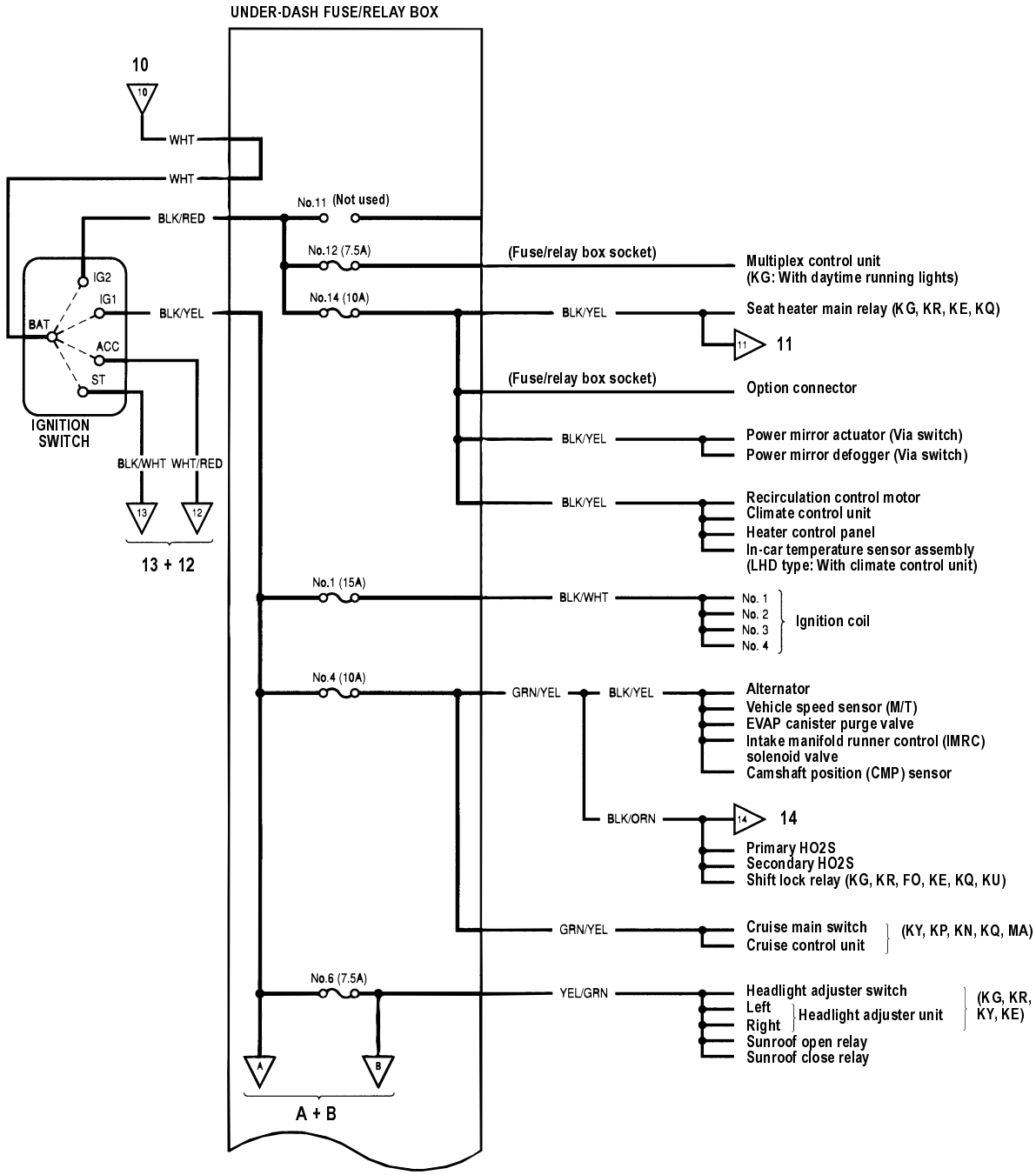
(cont'd)

Circuit Identification (cont'd)



9 UNDER-DASH FUSE/RELAY BOX To page 22A-47
10 UNDER-DASH FUSE/RELAY BOX To page 22A-43
B+C+D From page 22A-41

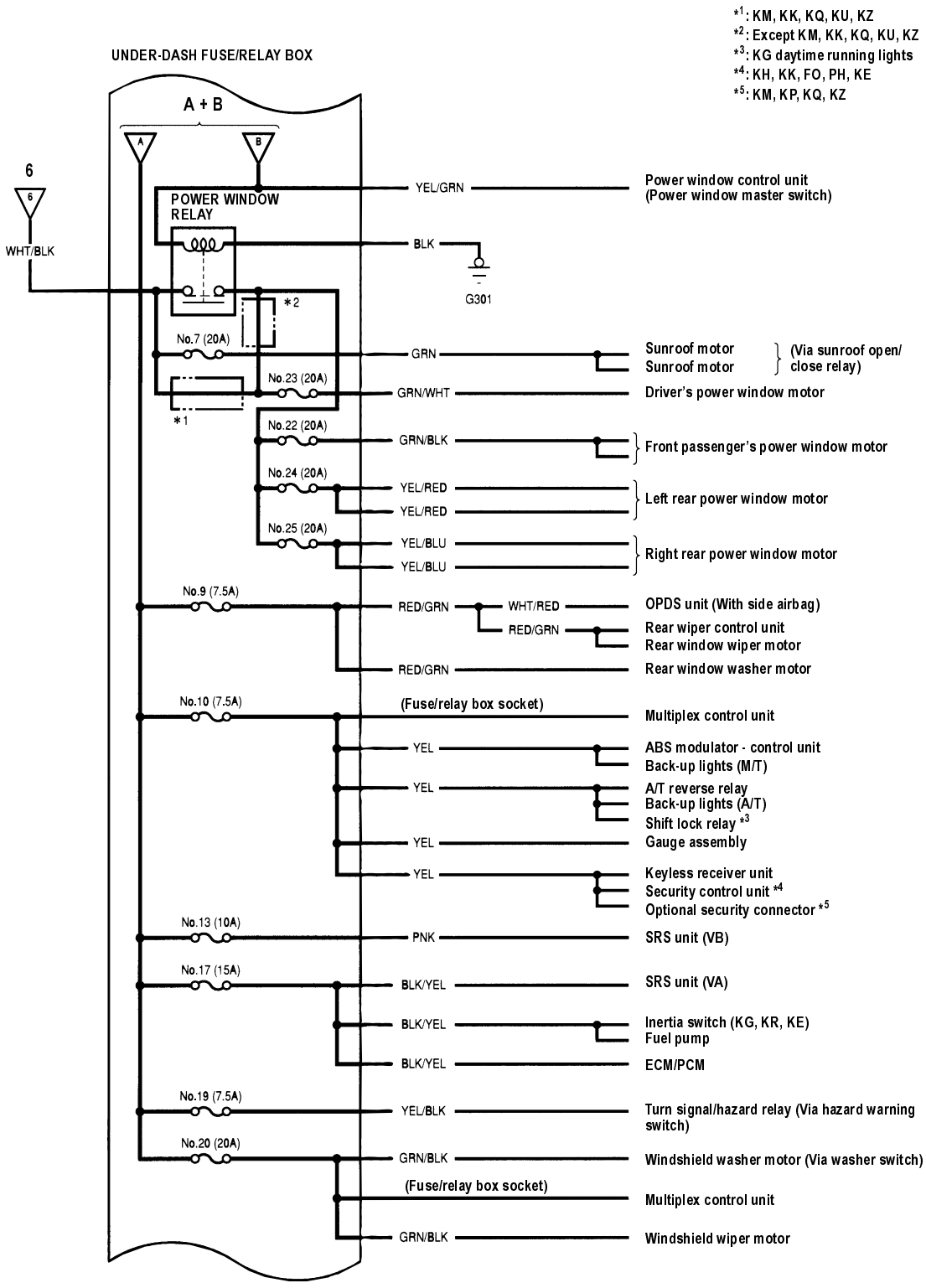
Circuit Identification (cont'd)



10	No. 20 (50A) UNDER-HOOD FUSE/RELAY BOX	From page 22A-42
11	UNDER-HOOD FUSE/RELAY BOX	To page 22A-41
12 + 13	UNDER-DASH FUSE/RELAY BOX	To page 22A-45
14	ELD UNIT	To page 22A-40
A + B		To page 22A-44

(cont'd)

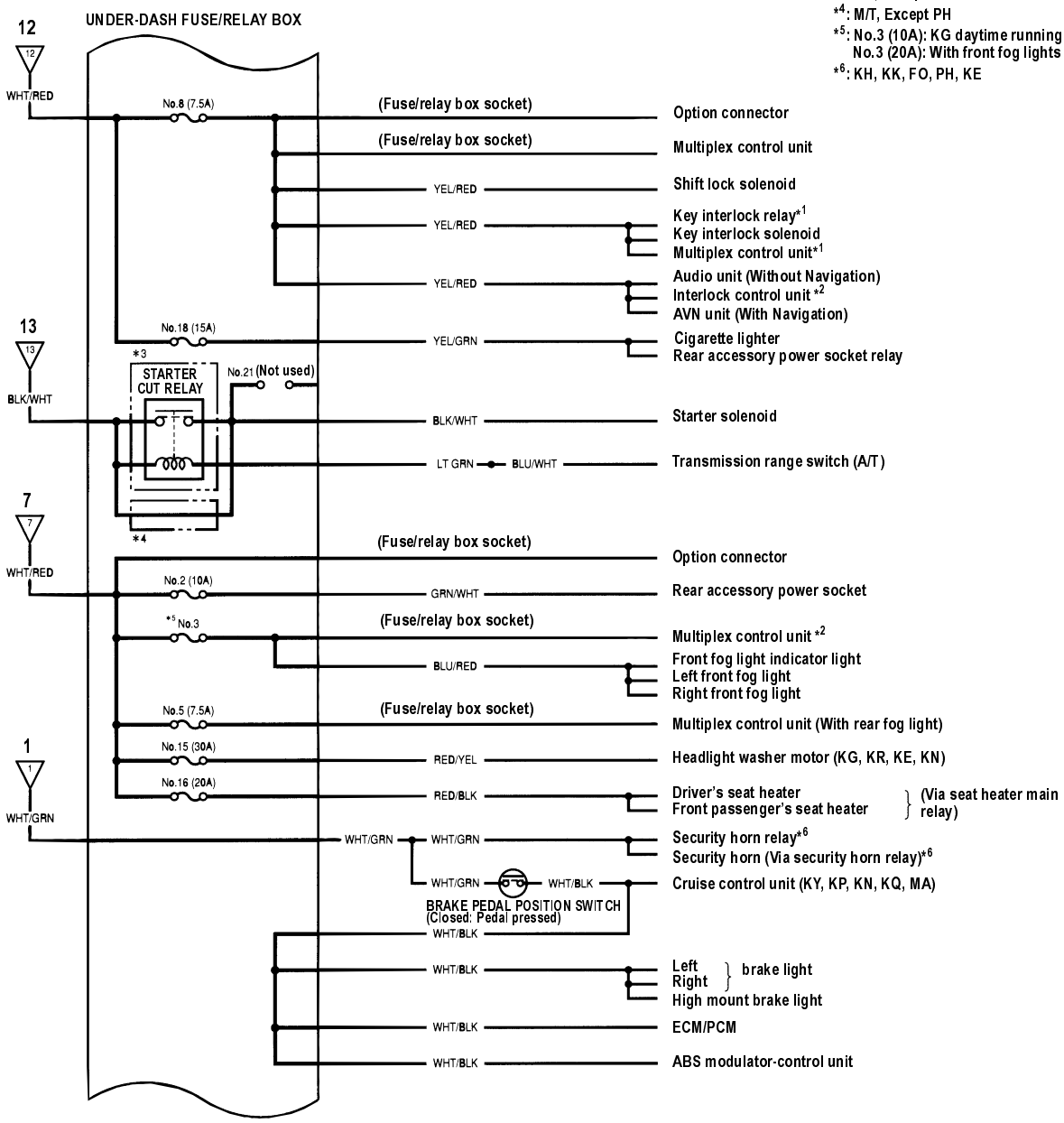
Circuit Identification (cont'd)



6 No.13 (40A) UNDER-HOOD FUSE/RELAY BOX From page 22A-41
A + B From page 22A-43

Circuit Identification (cont'd)

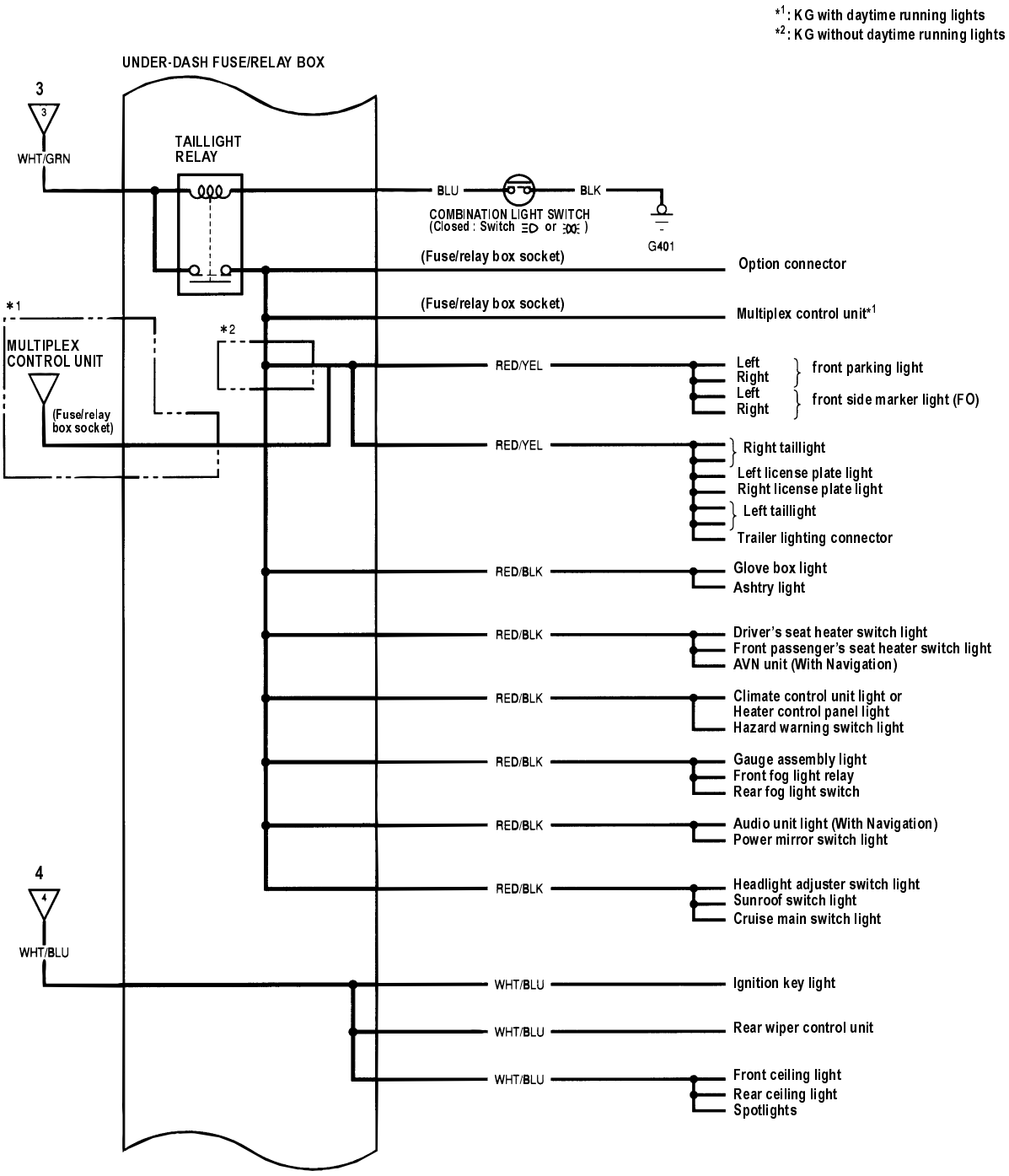
*1: Except KG daytime running lights
*2: KG daytime running lights
*3: A/T, Except PH
*4: M/T, Except PH
*5: No.3 (10A): KG daytime running lights
No.3 (20A): With front fog lights
*6: KH, KK, FO, PH, KE



12	IGNITION SWITCH (ACC) From page 22A-43	7	No.14 (40A) UNDER-HOOD FUSE/ RELAY BOX From page 22A-41
13	IGNITION SWITCH (ST) From page 22A-43	1	No. 7 (15A) UNDER-HOOD FUSE/ RELAY BOX From page 22A-40

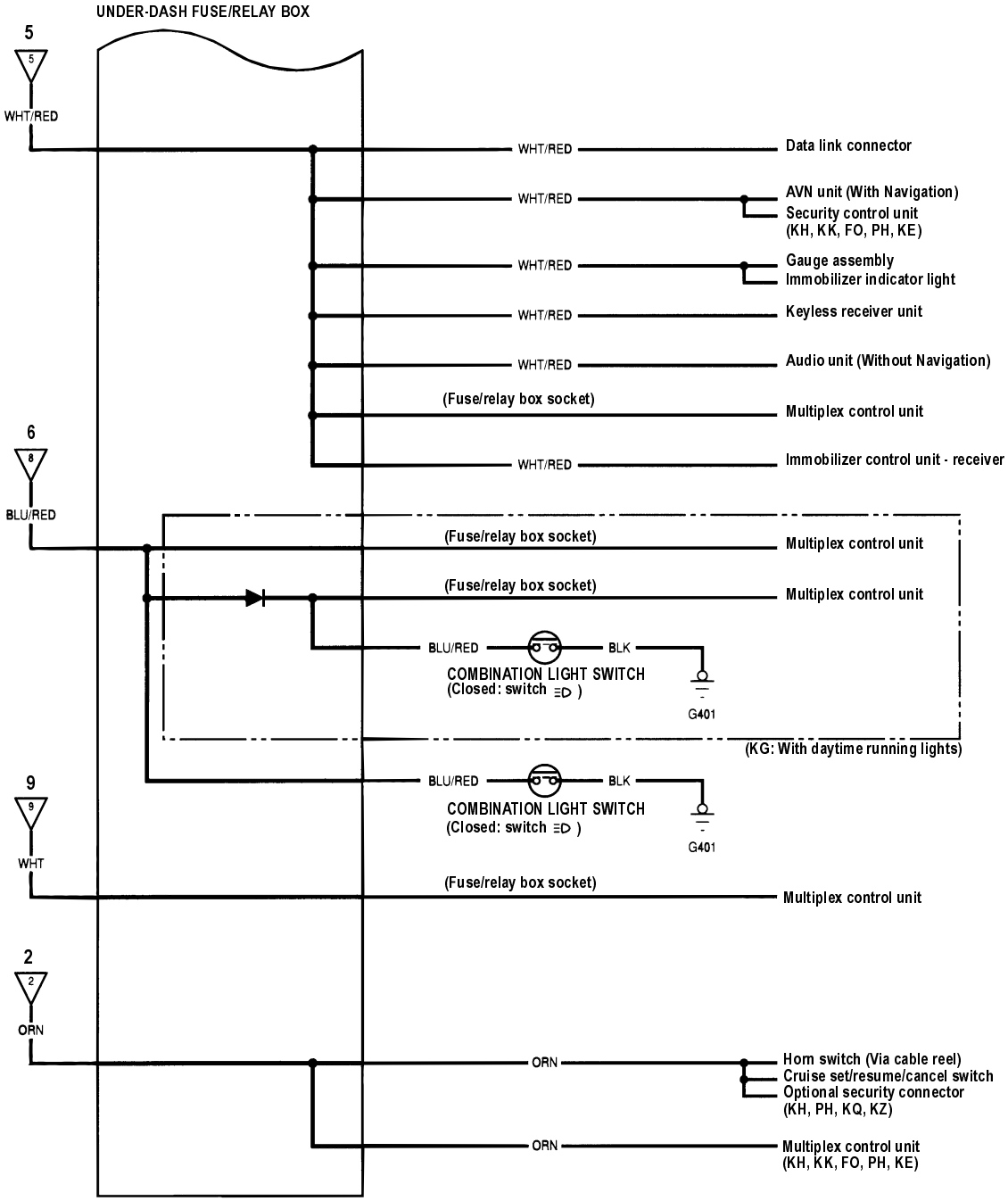
(cont'd)

Circuit Identification (cont'd)



3	No.2 (15A) UNDER-HOOD FUSE/RELAY BOX	From page 22A-40
4	No.3 (15A) UNDER-HOOD FUSE/RELAY BOX	From page 22A-40

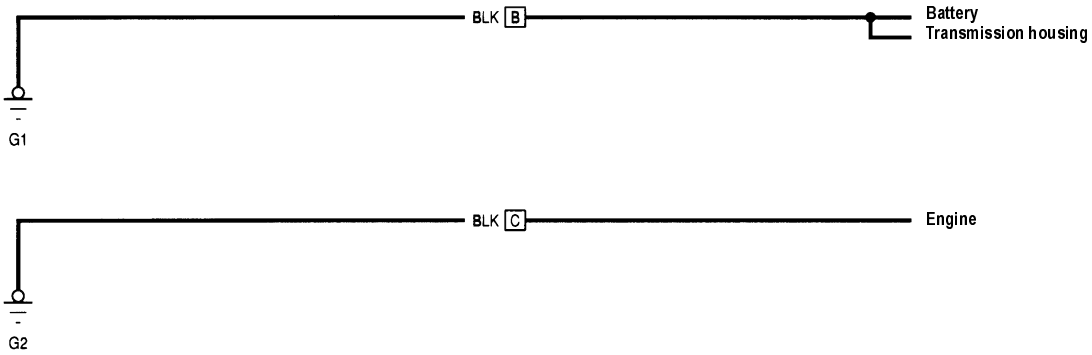
Circuit Identification (cont'd)



5	No.9 (10A) UNDER-HOOD FUSE/RELAY BOX	From page 22A-40
6	HEADLIGHT RELAY 1, 2	From page 22A-41
9	No. 16 (20A) UNDER-HOOD FUSE/RELAY BOX	From page 22A-42
2	HORN RELAY	From page 22A-40

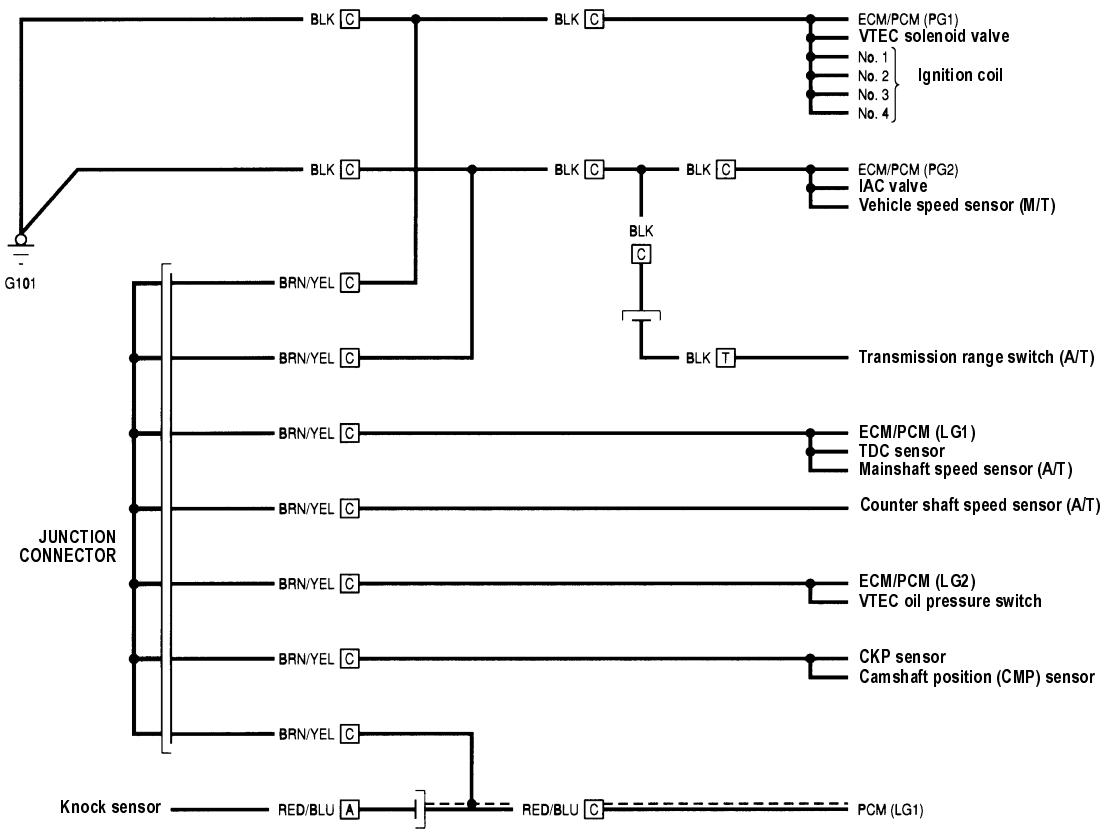
Ground Distribution

Circuit Identification



B : Battery ground cable
C : Engine ground cable

Circuit Identification (cont'd)

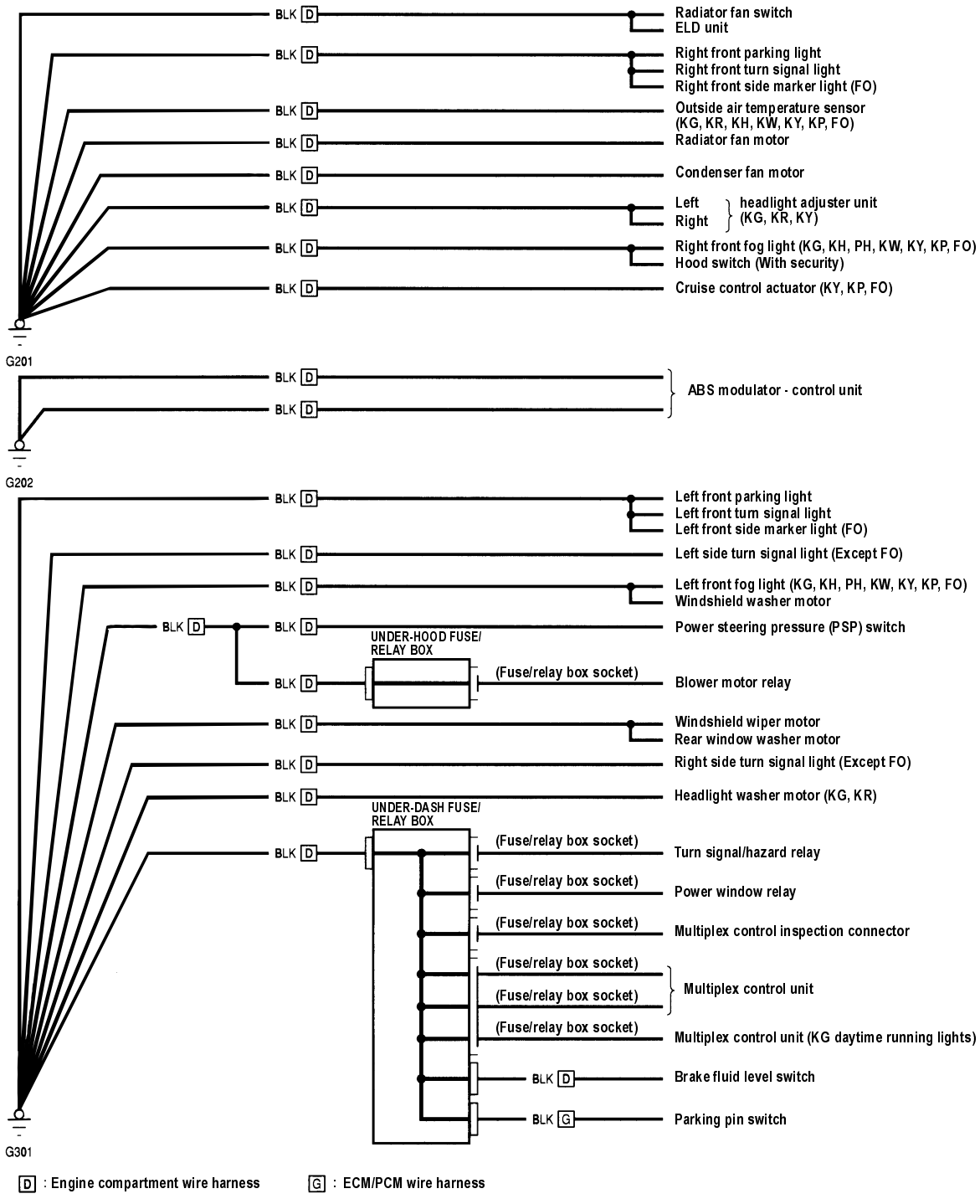


A : Starter sub-harness
C : Engine wire harness
T : Transmission range switch sub-harness
- - - - - - - : Shielding

(cont'd)

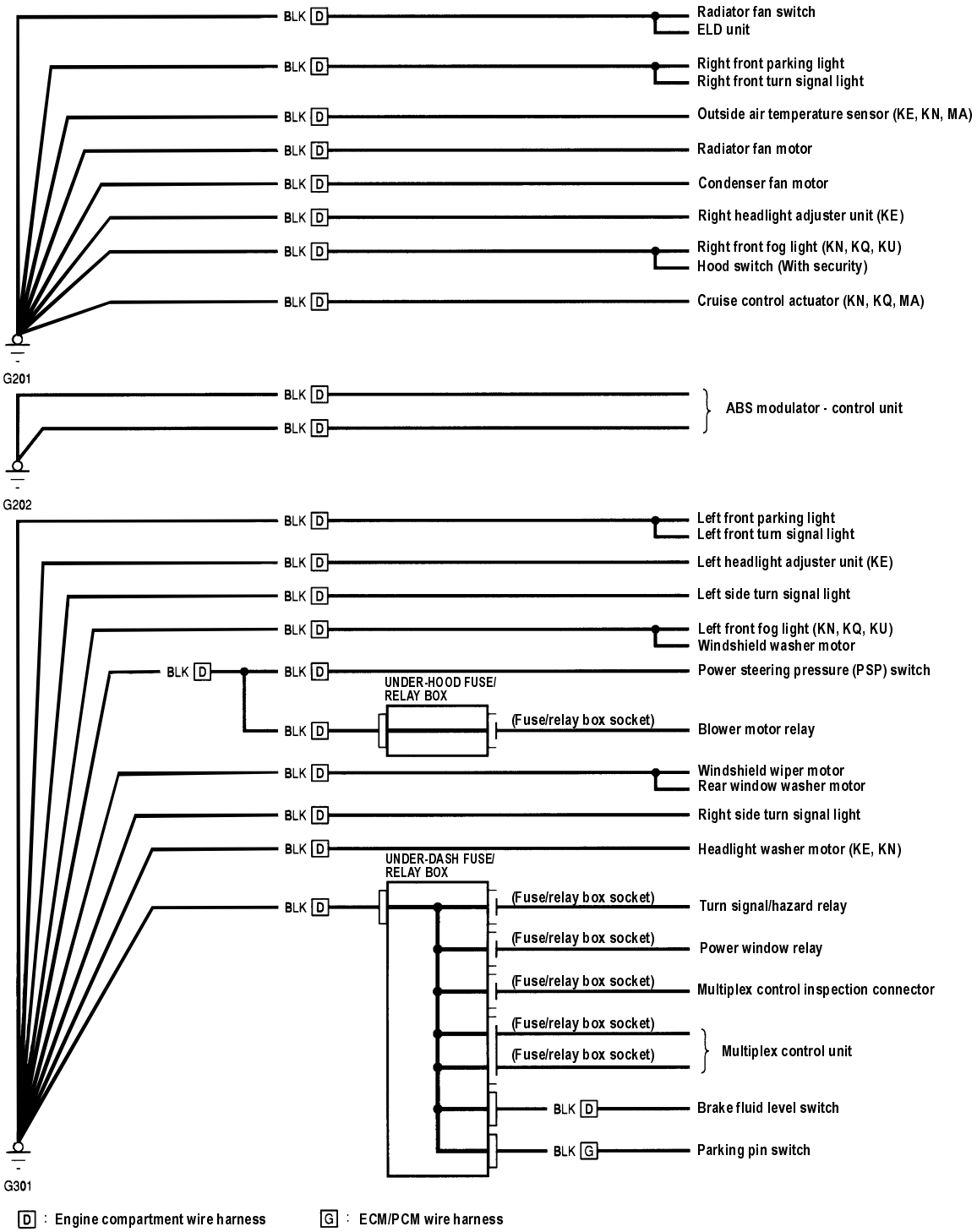
Circuit Identification (cont'd)

LHD type:



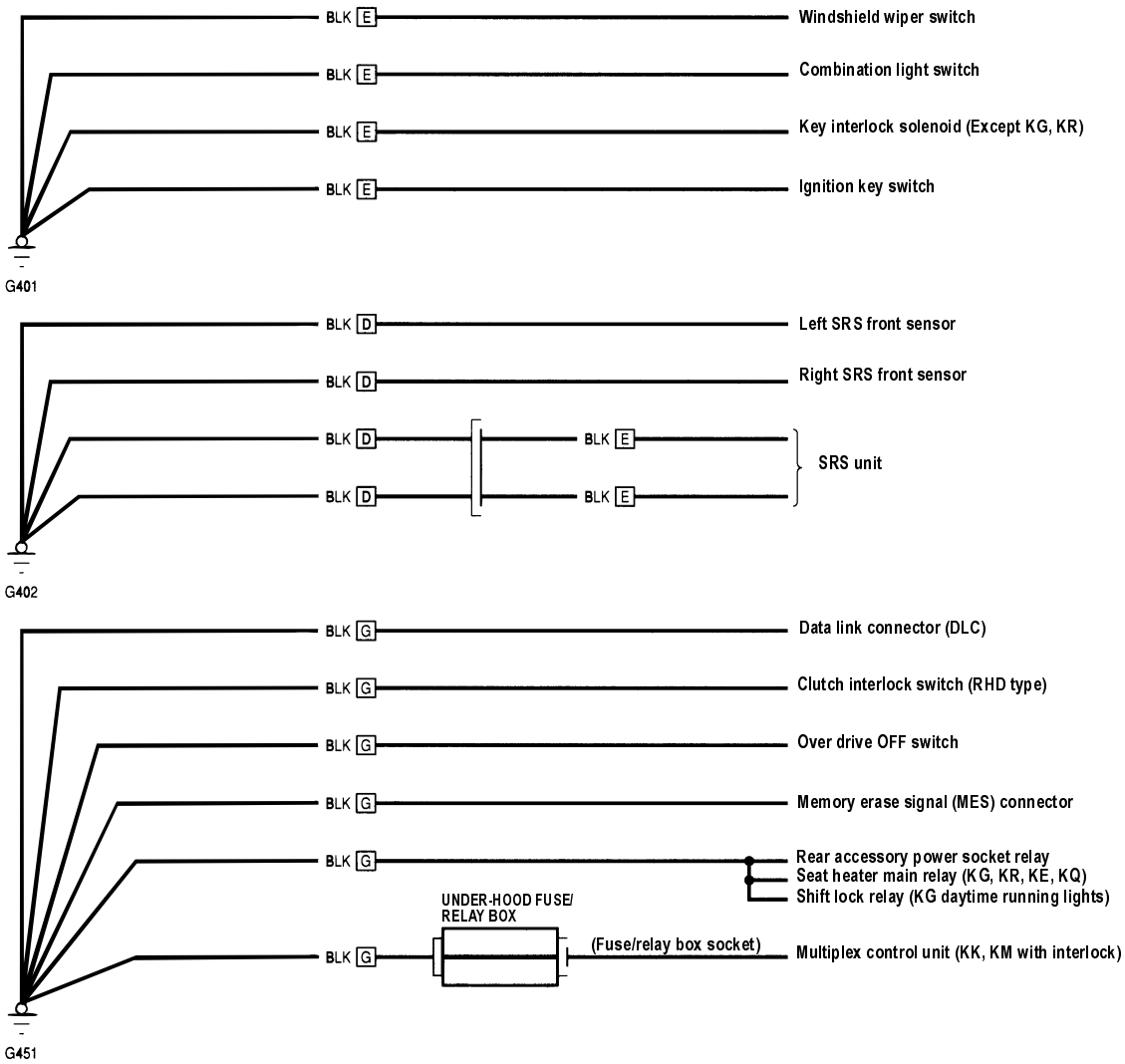
Circuit Identification (cont'd)

RHD type:



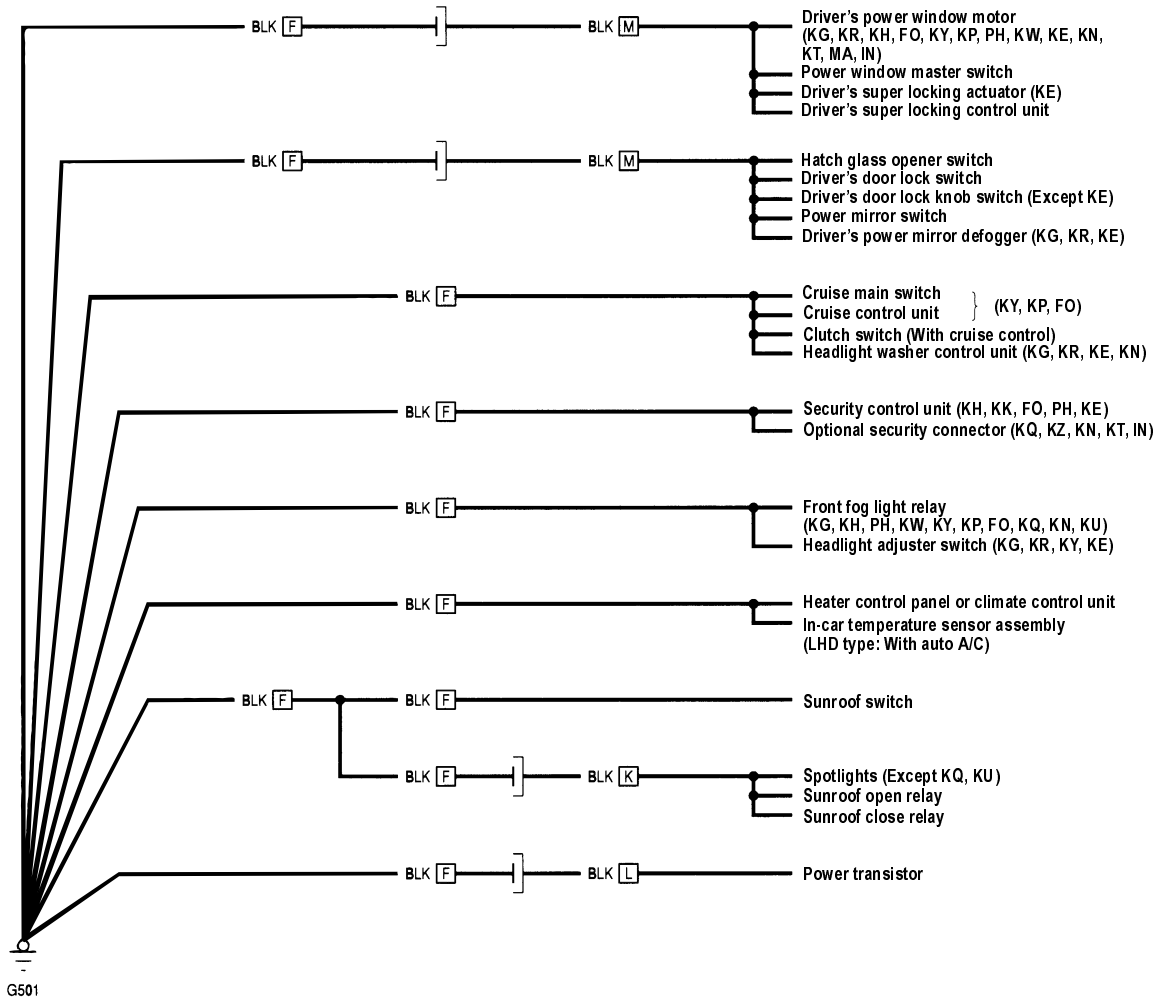
(cont'd)

Circuit Identification (cont'd)



D : Engine compartment wire harness
E : Dashboard wire harness B
G : ECM/PCM wire harness

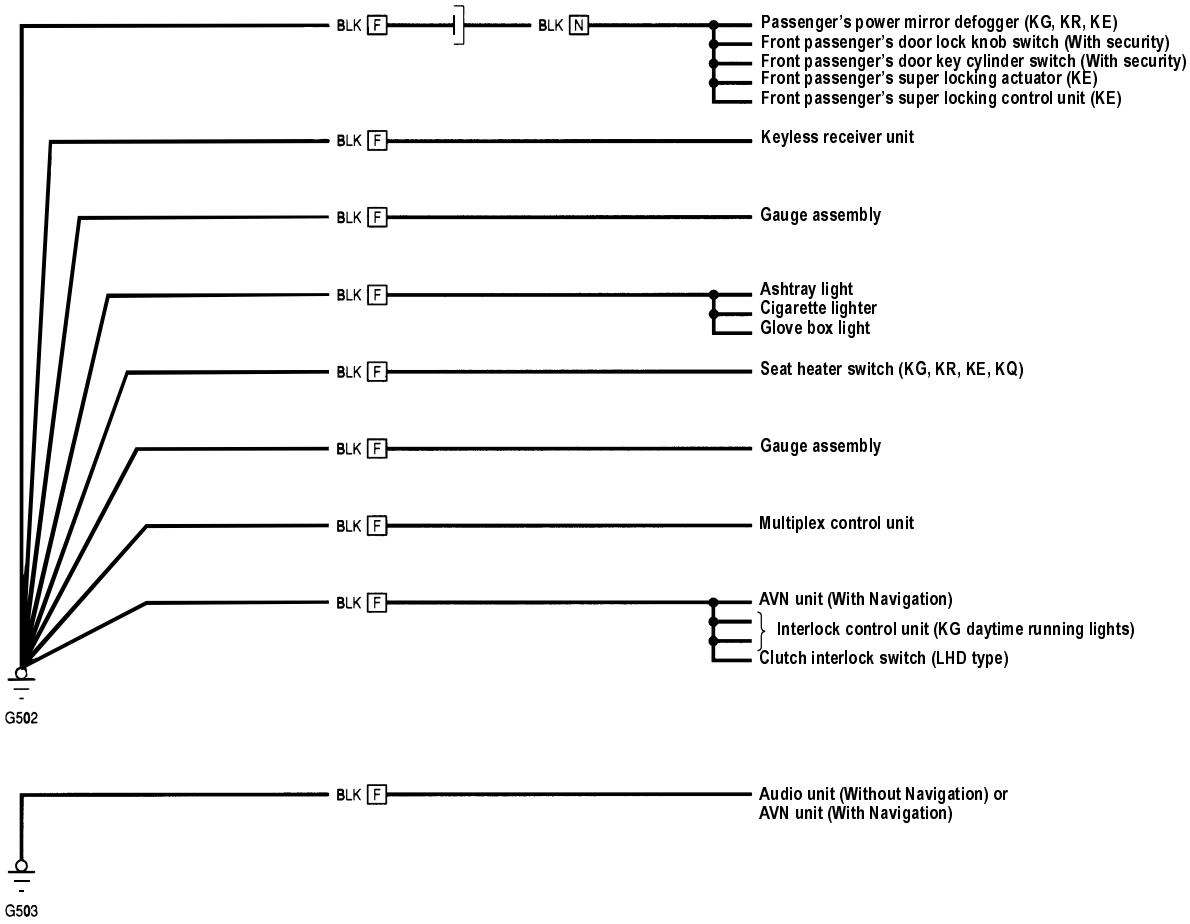
Circuit Identification (cont'd)



F : Dashboard wire harness A
K : Roof wire harness
L : A/C wire harness
M : Driver's door wire harness

(cont'd)

Circuit Identification (cont'd)



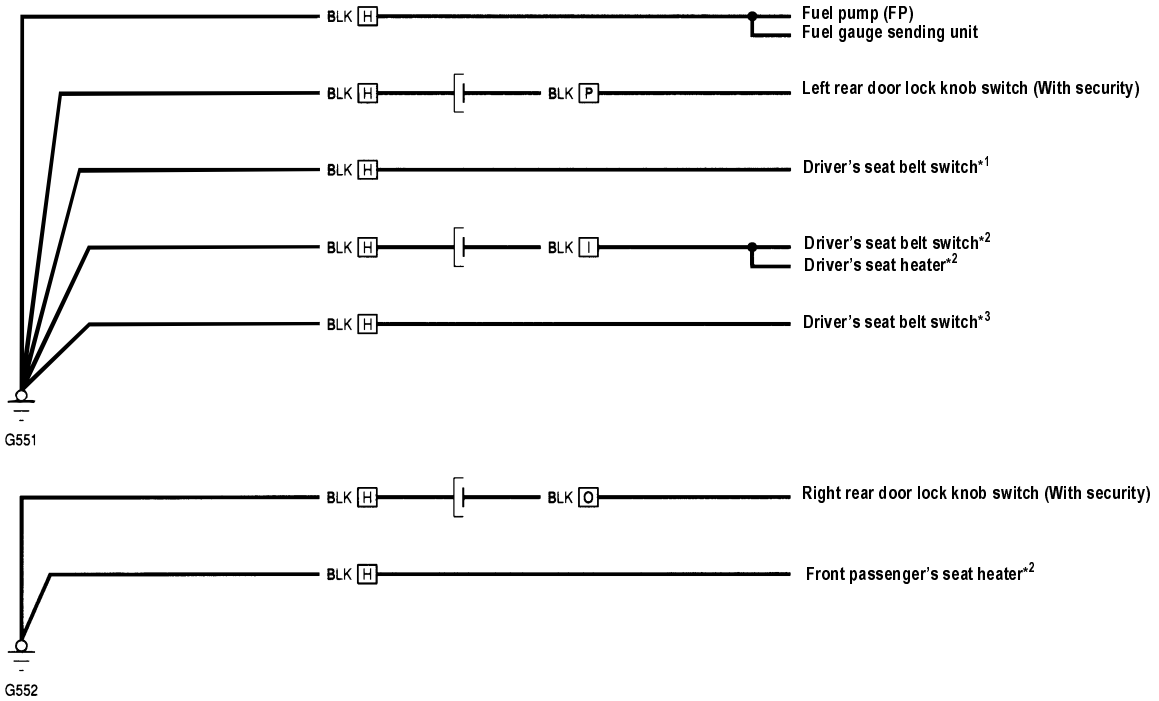
F : Dashboard wire harness A

N : Front passenger's door wire harness

Circuit Identification (cont'd)

LHD type:

*1: KG, KR without seat heater
*2: KG, KR with seat heater
*3: KP, KY, KK, KM, KW, FO, PH



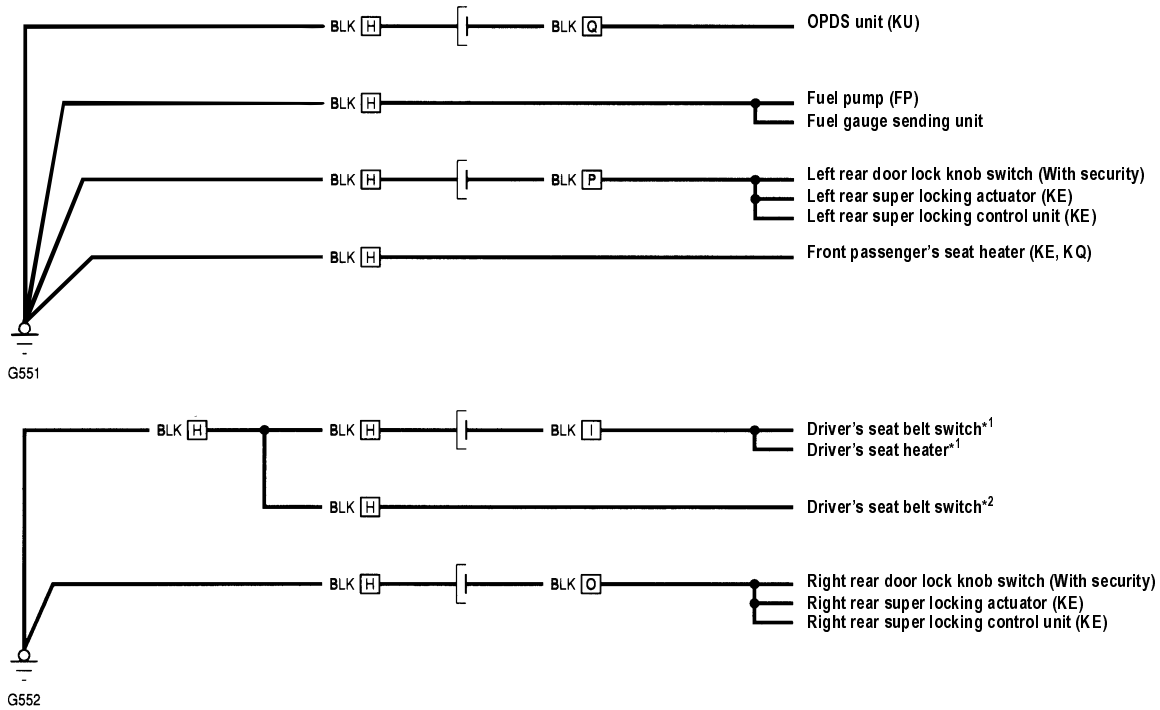
H : Floor wire harness
I : Driver's seat sub-harness
O : Right rear door wire harness
P : Left rear door wire harness

(cont'd)

Circuit Identification (cont'd)

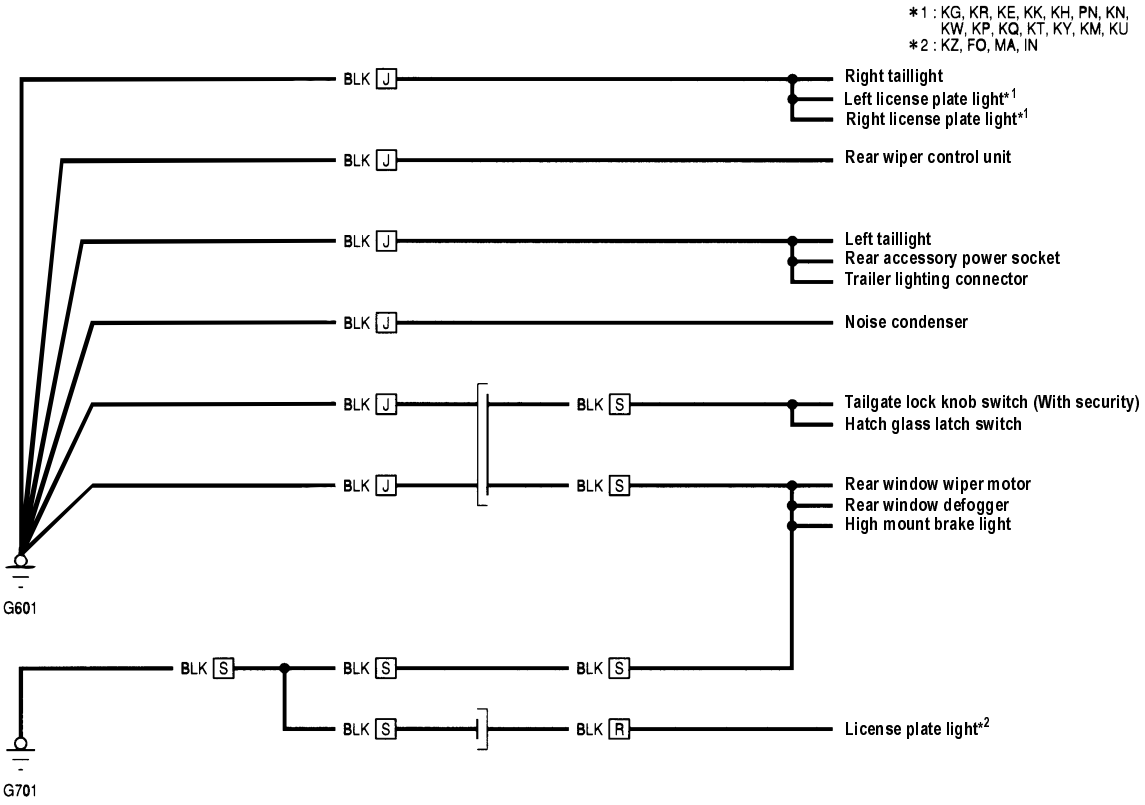
RHD type:

*1: KE, KQ with seat heater
*2: KE, KQ without seat heater, KZ, KN, KU, MA



H : Floor wire harness
I : Driver's seat belt sub-harness
O : Right rear door wire harness
P : Left rear door wire harness
Q : OPDS unit harness

Circuit Identification (cont'd)



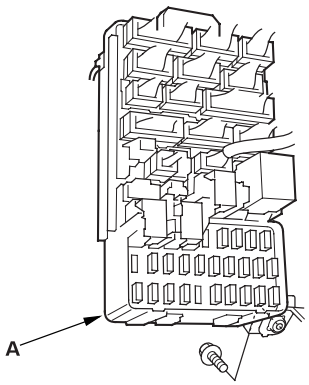
Under-dash Fuse/Relay Box

Removal and Installation

SRS components are located in this area. Review the SRS component locations (see page 23-14), and precautions and procedures (see page 23-16) in the SRS section before performing repairs or service.

Removal

1. Make sure you have the anti-theft code for the radio, then write down the frequencies for the radio's preset buttons.
2. Disconnect the battery negative cable, then disconnect the positive cable, and wait at least three minutes.
3. Remove the dashboard lower cover (see page 20-88).
4. Disconnect the connectors from the fuse side of the under-dash fuse/relay box.



5. Remove the mounting bolt and the under-dash fuse/relay box (A).
6. Disconnect the connectors from the back of the under-dash fuse/relay box, and remove the fuse/relay box.

   NOTE: The SRS connector is a spring-loaded lock type (see page 23-20).

Installation

1. Install the under-dash fuse/relay box in the reverse order of removal and connect all connectors to the under-dash fuse/relay box.
2. Install the dashboard lower cover.
3. Connect both the negative cable and positive cable to the battery.
4. Enter the anti-theft code for the radio, then enter the customer's radio station presets.
5. Confirm that all systems work properly.

Battery

Battery Test

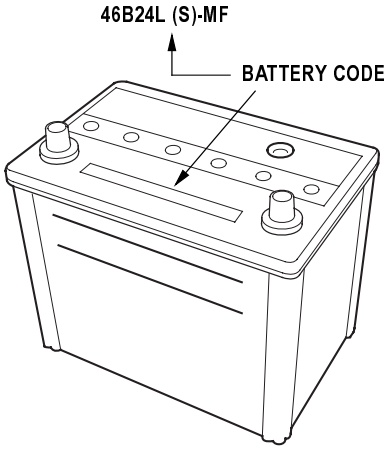
WARNING

A battery can explode if you do not follow the proper procedure, causing serious injury to anyone nearby.
Follow all procedures carefully and keep sparks and open flames away from the battery.

NOTE:
- To get accurate results, the temperature of the electrolyte must be between 21 and 38°C (70 and 100°F) before testing.
- The ECM/PCM memory must be reset after reconnecting the battery (see page 11-4).

Test Equipment Required:

- Battery Tester with:
  Voltmeter with 0 - 18 V scale, ammeter with 0 - 100 A and 0 -- 500 A scales, and a carbon pile with 0 - 300 W
- 12 V Battery Charger: Fast charge capability of 50 A and slow charge capability of 5 A



Test Procedure:

1. Check for damage: If the case is cracked or the terminals are loose, replace the battery.
2. Check indicator (for basic charge condition): Blue or Green is OK. If the indicator is red, peel the tape off, remove the caps, and add distilled water; then reinstall the caps and tape. If the indicator is clear, go to step 3.
3. Test battery load capacity by connecting a battery tester, and applying a load of three times the battery ampere hour rating.

   When the load has been applied for exactly 15 seconds, the battery voltage reading should stay above 9.6 V.
   - If the reading stays above 9.6 V, the battery is OK; clean its terminals and case, and reinstall it.
   - If the reading is between 6.5 and 9.6 V, connect a battery charger and charge the battery for 3 minutes at an initial rate of 40 amps.

CAUTION

Amperage will drop as voltage increases; do not increase the amperage to compensate or you may damage the battery.

   - Watch the battery voltage during the entire 3 minutes; the highest reading should stay below 15.5 V.
     – If the reading stays below 15.5 V, the battery is OK; clean its terminals and case, and reinstall it.
     – If the reading exceeds 15.5 V any time during the 3 minutes of fast charge, the battery is not good; replace it.
   - If the reading drops below 6.5 V, slow-charge the battery by connecting a battery, and charge at 5 amps for no more than 24 hours (or until the indicator shows full charge, or the specific gravity of the electrolyte is at least 1.270).
     Then test load capacity again.
     – If the voltage stays above 9.6 V, the battery is OK; clean its terminals and case, and reinstall it.
     – If the voltage still drops below 6.5 V, the battery is not good; replace it.

Relays

Power Relay Test

Use this chart to identify the type of relay, then do the test listed for it.

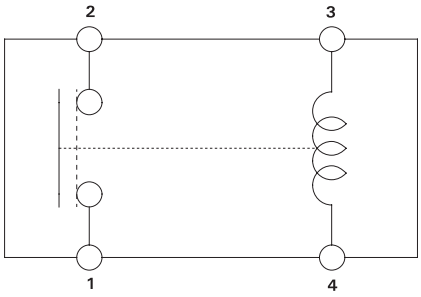
NOTE: See (see page 22A-104) for the turn signal/hazard relay input test.

Relay	Test
A/C compressor clutch relay	Normally-open type A
A/T reverse relay	
Condenser fan relay	
Front fog light relay	
Headlight relay 1	
Headlight relay 2	
Horn relay	
PGM-FI main relay 1	
Power window relay	
Radiator fan relay	
Rear accessory power socket relay	
Seat heater main relay	
Security horn relay	
Starter cut relay (A/T)	
Taillight relay	
Blower motor relay	Normally-open type B
Rear window defogger relay	
PGM-FI main relay 2	Five terminal type
Key interlock relay	
Shift lock relay	
Sunroof open relay	
Sunroof open relay	
Security starter cut relay	

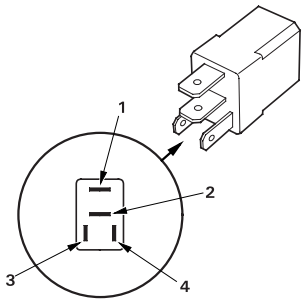
Normally-open type A:

Check for continuity between the terminals.

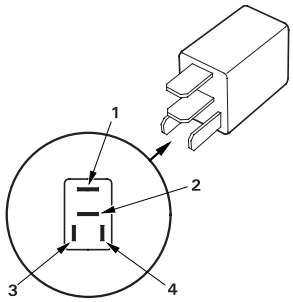
- There should be continuity between the No. 1 and No. 2 terminals when power and ground are connected to the No. 3 and No. 4 terminals.
- There should be no continuity between the No. 1 and No. 2 terminals when power is disconnected.



type 1:

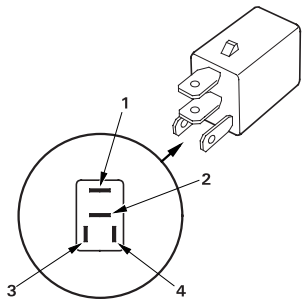


type 2:

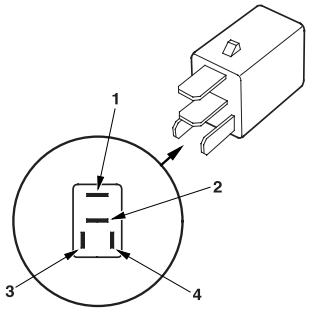


PGM-FI main relay 1

type 1:



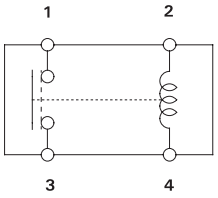
type 2:



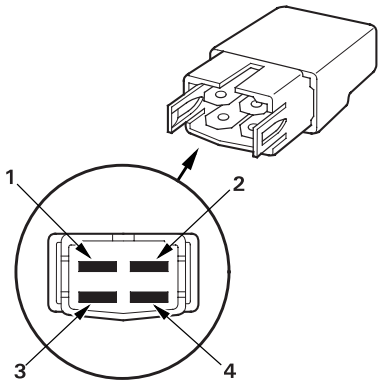
Normally-open type B:

Check for continuity between the terminals.

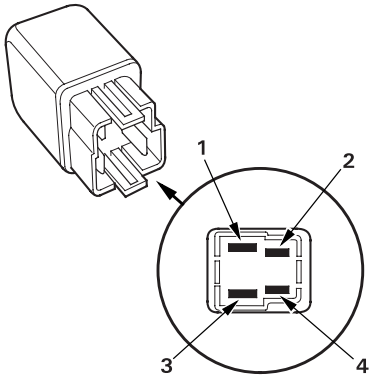
- There should be continuity between the No. 1 and No. 3 terminals when power and ground are connected to the No. 2 and No. 4 terminals.
- There should be no continuity between the No. 1 and No. 3 terminals when power is disconnected.



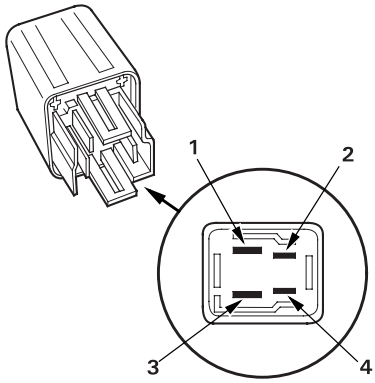
Rear window defogger relay



Blower motor relay type 1:



type 2:



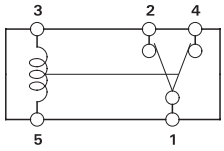
(cont'd)

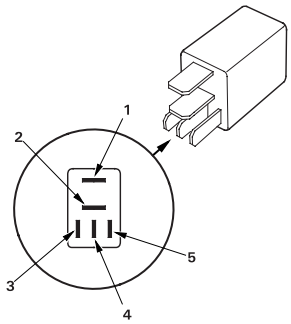
Power Relay Test (cont'd)

Five terminal type

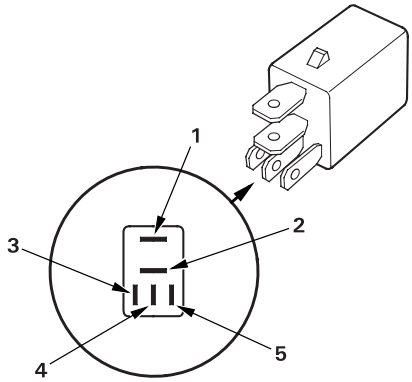
Check for continuity between the terminals.

- There should be continuity between the No. 1 and No. 2 terminals when power and ground are connected to the No. 3 and No. 5 terminals.
- There should be continuity between the No. 1 and No. 4 terminals when power is disconnected.

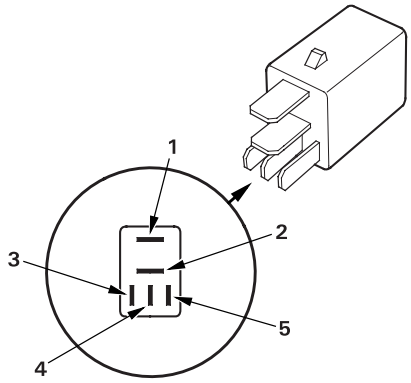




PGM-FI main relay 2
type 1:



type 2:

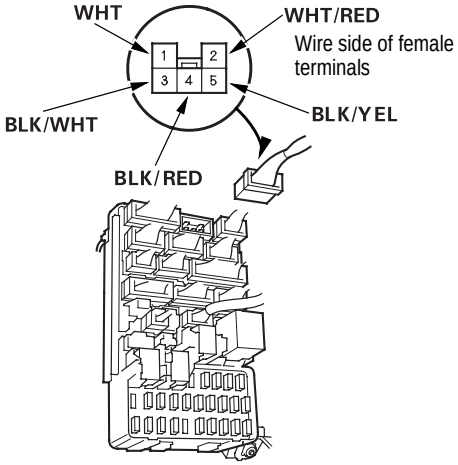


Ignition Switch

Test

SRS components are located in this area. Review the SRS component locations (see page 23-14) and precautions and procedures (see page 23-16) in the SRS section before performing repairs or servicing.

1. Remove the dashboard lower cover (see page 20-88).
2. Disconnect connector A (5P) from the under-dash fuse/relay box.



3. Check for continuity between the terminals in each switch position according to the table.

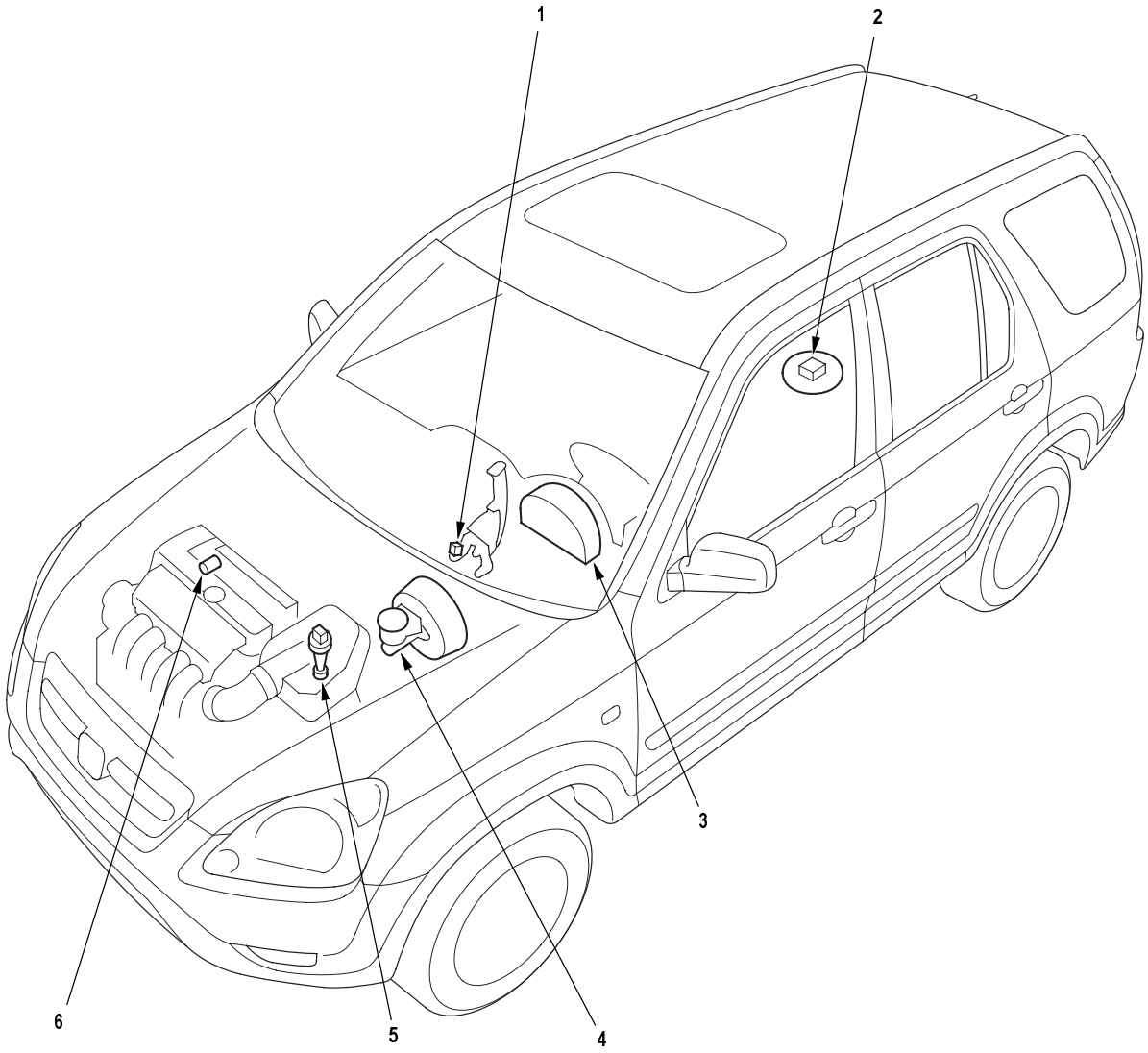
Terminal / Position	WHT/ RED (ACC)	WHT (BAT)	BLK/ YEL (IG1)	BLK/ RED (IG2)	BLK/ WHT (ST)
O (LOCK)					
I (ACC)	○	○			
II (ON)	○		○	○	○
III (START)		○	○		○

4. If the continuity checks do not agree with the table, replace the steering lock assembly (see page 17-27).

Gauges

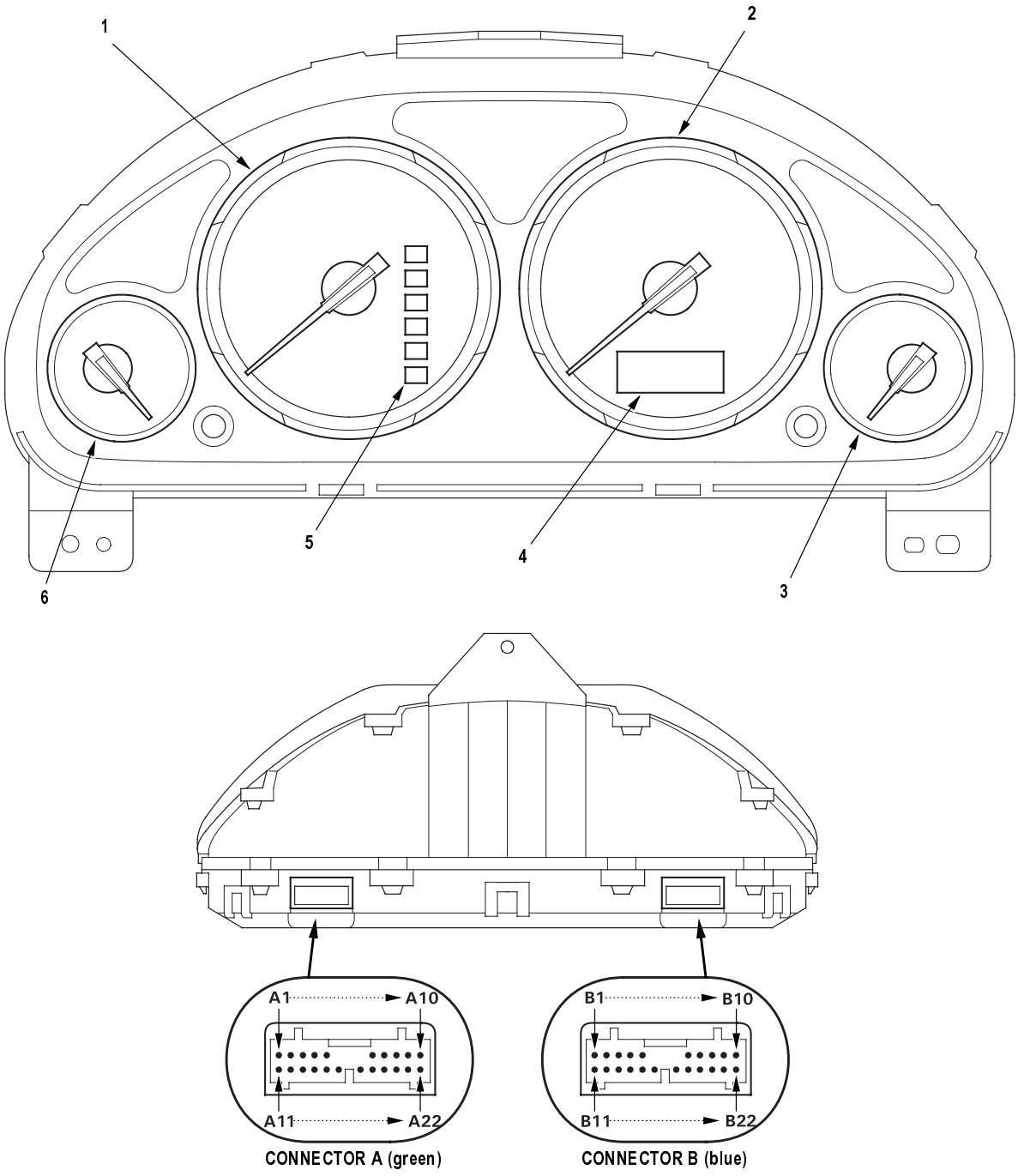
Component Location Index

NOTE: LHD type is shown, RHD type is similar.



1	PARKING BRAKE SWITCH	page 19A-11
2	FUEL GAUGE SENDING UNIT	page 11-173
3	GAUGE ASSEMBLY	Self-diagnosis Procedure, page 22A-66; Outside, Air Temperature Indicator Test, page 22A-78; Gauge Bulb Replacement, page 22A-73; Replacement, page 22A-74; Coolant Temperature Gauge Troubleshooting, page 22A-74
4	BRAKE FLUID LEVEL SWITCH	page 19A-11
5	VEHICLE SPEED SENSOR (VSS) (M/T)	Troubleshooting, page 22A-75; Replacement, page 22A-77
6	ENGINE OIL PRESSURE SWITCH	page 08-4

Gauge/Terminal Location Index



1	TACHOMETER	
2	SPEEDOMETER	Vehicle Speed Signal Circuit Troubleshooting, page 22A-75
3	FUEL GAUGE	Troubleshooting, page 11-173
4	ODO/TRIP/OUTSIDE AIR TEMPERATURE METER	
5	A/T GEAR POSITION INDICATOR	
6	COOLANT TEMPERATURE GAUGE	Troubleshooting, page 22A-74

Self-diagnostic Procedure

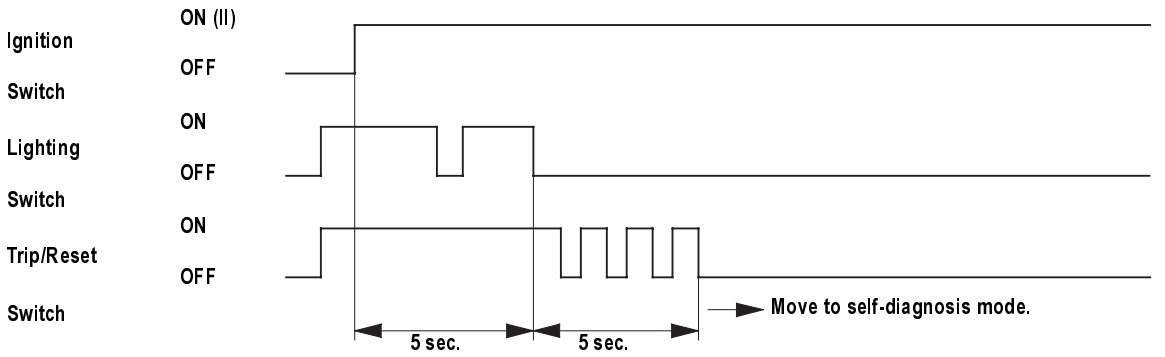
The gauge assembly has a self-diagnosis function that checks these circuits:
- The beeper drive circuit
- The indicator drive circuit
- The LCD segments
- The gauges drive circuit (Speedometer, Tachometer, Fuel gauge, Coolant temperature gauge)
- The communication line (the coolant temperature signal line between the gauge and the ECM/PCM)

Entering the self-diagnosis function:

Before entering the self-diagnosis function, check the No. 9 (10A) fuse in the under-hood fuse/relay box and No. 10 (7.5A) fuse in the under-dash fuse/relay box.

1. Push and hold the trip/reset button.
2. Turn the headlights ON.
3. Turn the ignition switch ON (II).
4. With in 5 sec., turn the headlights OFF, then ON and OFF again.
5. With in 5 sec., release the trip/reset button, then push and release the button four times.

Note:
- While in the self-diagnosis mode, the dash lights brightness controller operates normally.
- While in the self-diagnosis mode, the trip/reset button is used to start the Beeper Drive Circuit Test and the Gauge Drive Circuit Check.
- If the vehicle speed exceeds 1.2 mph (2 km/h) or the ignition switch is turned OFF, the self-diagnosis mode ends.



The Beeper Drive Circuit Check:

When entering the self-diagnosis mode, the beeper sounds five times.

The Indicator Drive Circuit Check:

When entering the self-diagnosis mode, these indicator lights blink:
Seat belt indicator light, Door indicator light, Brake system light, Charging system light, Low fuel indicator light, Tailgace indicator light.
A/T gear position Indicator (except [**P**], [**R**], [**N**])

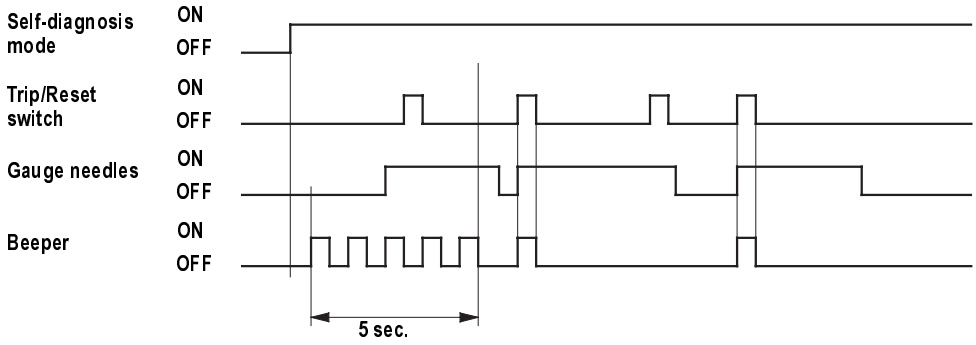
The LCD Segments Check:

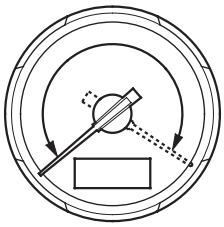
When entering the self-diagnosis mode, the odo/trip segments blinks five times.

The Gauge Drive Circuit Check:

When entering the self-diagnosis mode, the speedometer, the tachometer, the fuel gauge, and the coolant temperature gauge needles move from the minimum position to the maximum position, then return to the minimum position.

Note:
After the beeper stops sounding and the gauge needles return the minimum position, pushing the trip/reset button starts the Beeper Drive Circuit Check (one beep), and the Gauge Drive Circuit Check again.
The check cannot be started until the gauge needles return the minimum position.





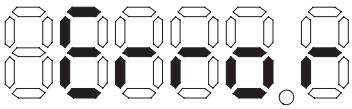
The needles sweep from the minimum position to the maximum position, then return to the minimum position.

The Communication Line Check:

In the self-diagnosis mode, and after the odo/trip LCD Segments Check, the self-diagnosis starts the Communication Line Check.
If all segments comes on, the communication line is OK.
If the word "Error" is indicated, there is a malfunction in the communication line between the gauge assembly, the multiplex control unit, and the ECM/PCM. Go to Multiplex System Troubleshooting (see page 22A-231).

Normal:

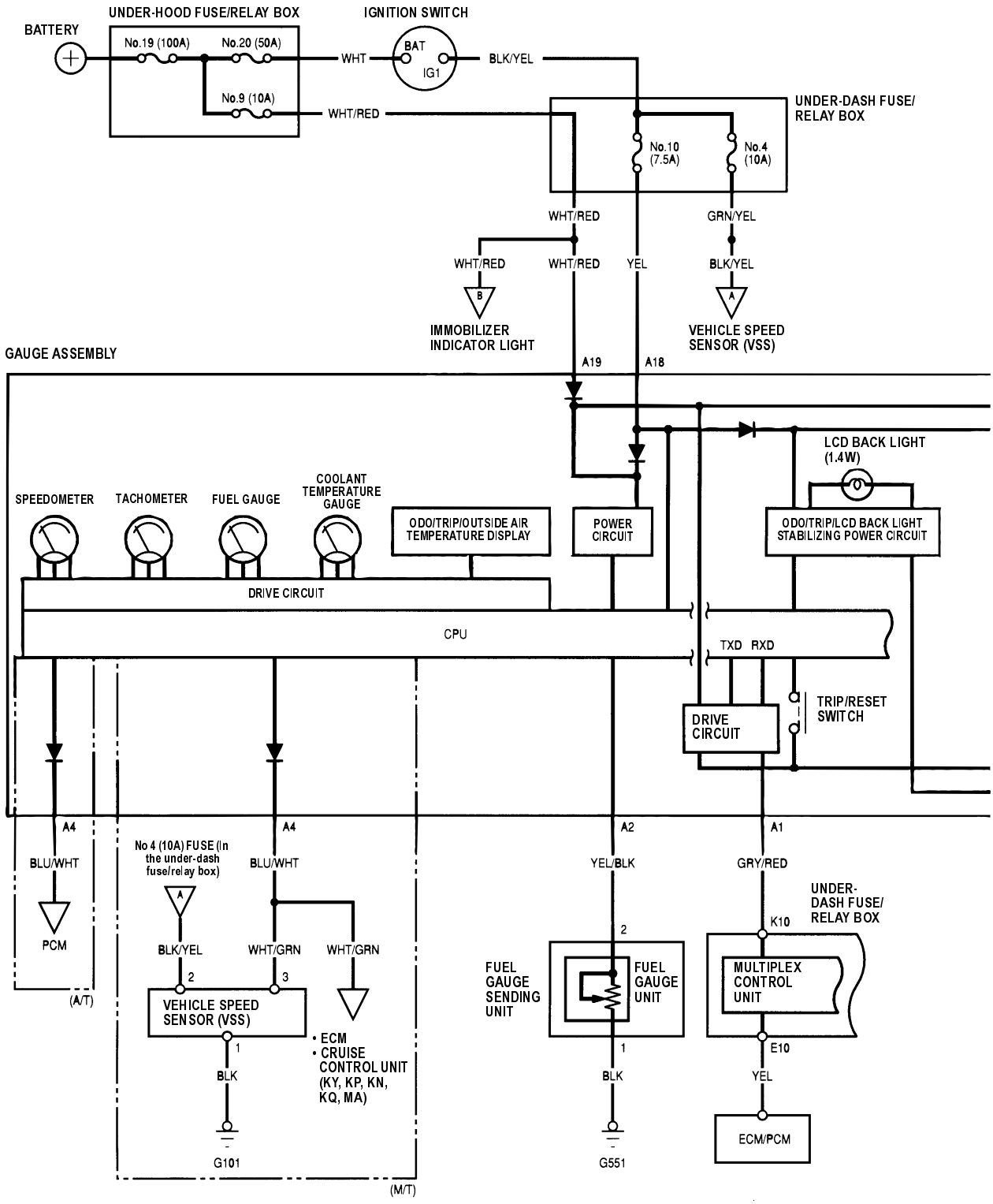
Faulty:



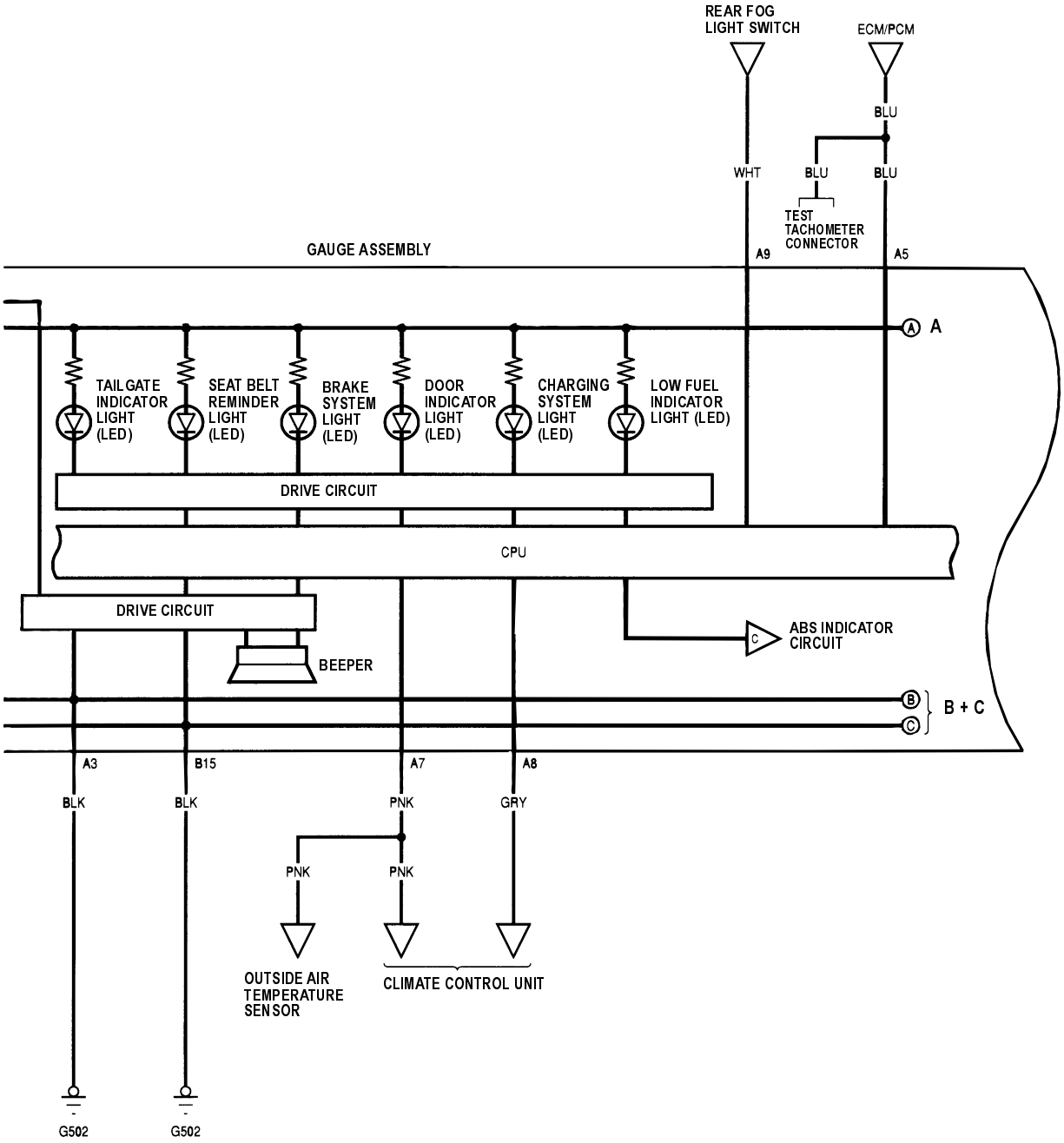
Ending the self-diagnosis function:

Turn the ignition switch OFF.
Note: If the vehicle speed exceeds 1.2 mph (2 km/h), the self-diagnosis function ends.

Circuit Diagram



Circuit Diagram (cont'd)

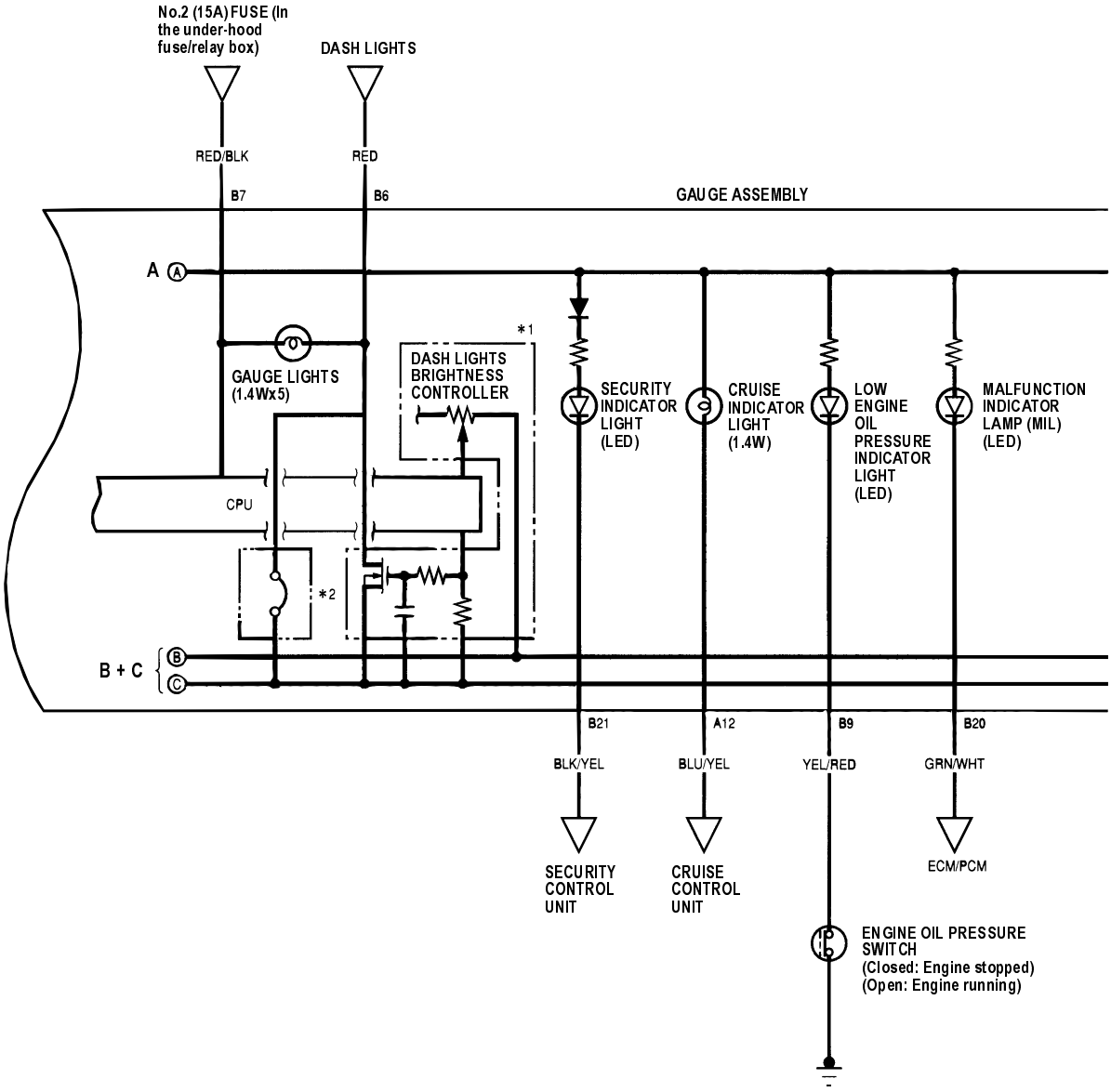


A To page 22A-70

B + C To page 22A-70

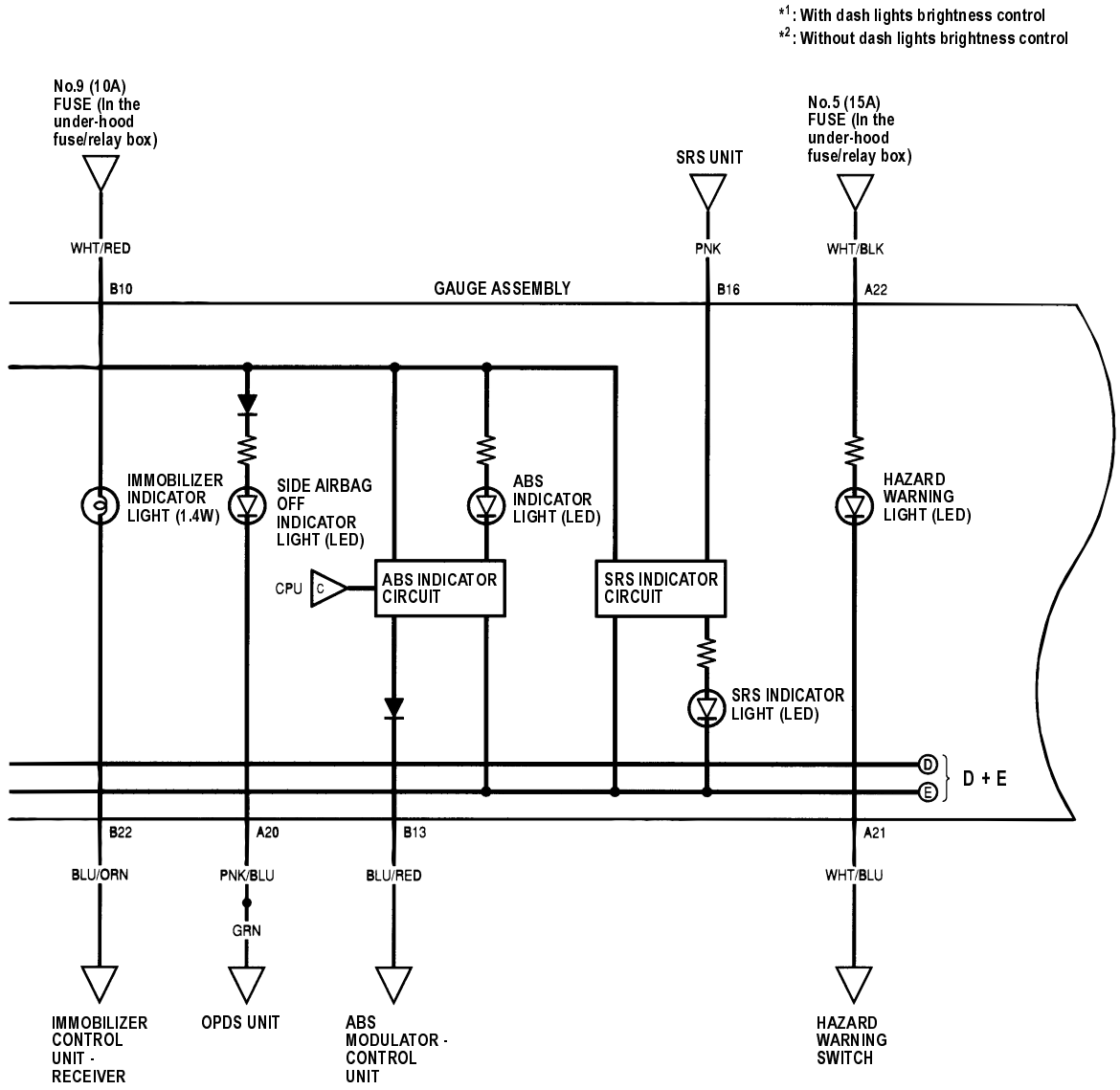
(cont'd)

Circuit Diagram (cont'd)



A From page 22A-69
B + C From page 22A-69

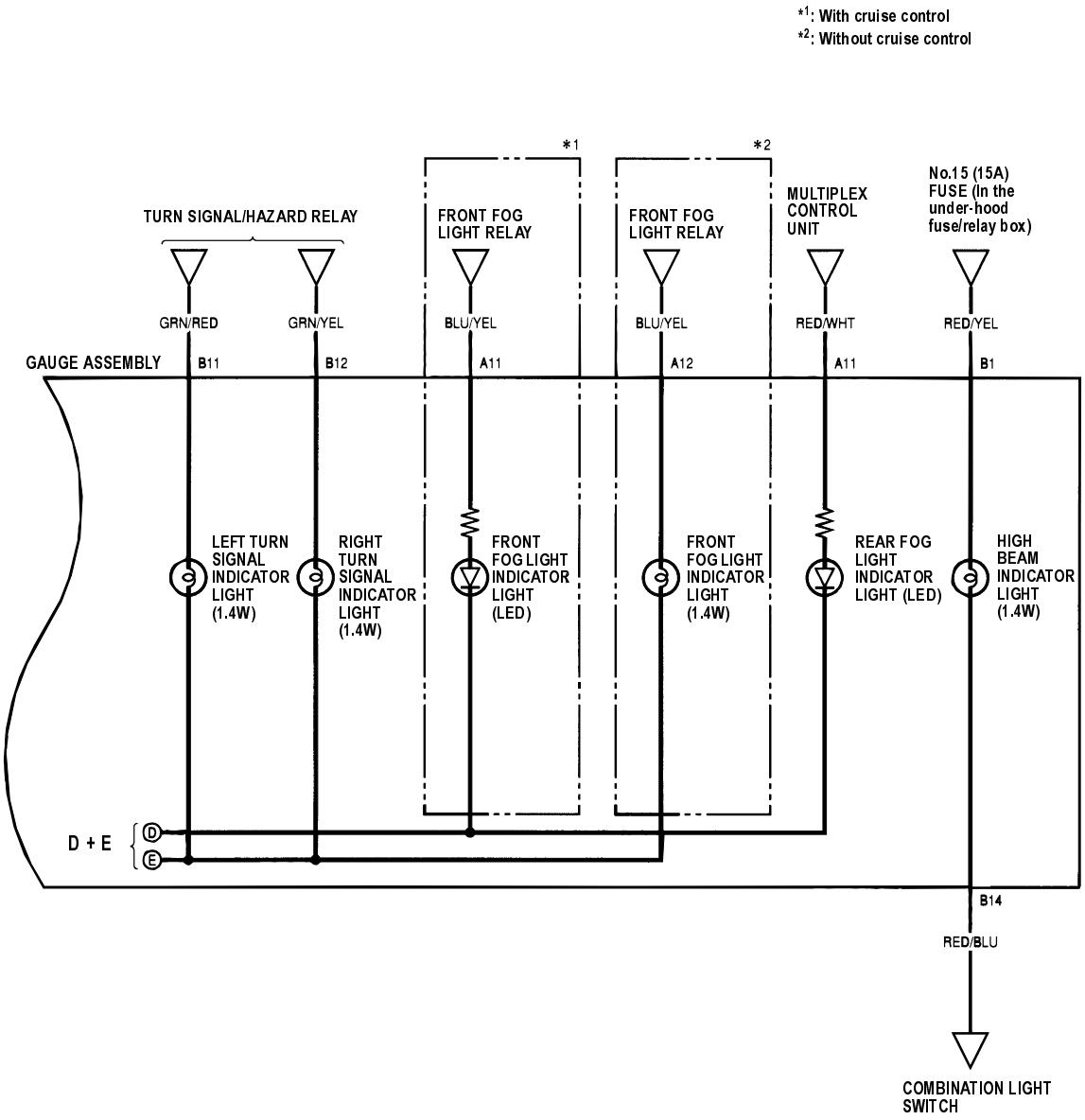
Circuit Diagram (cont'd)



D + E To page 22A-72

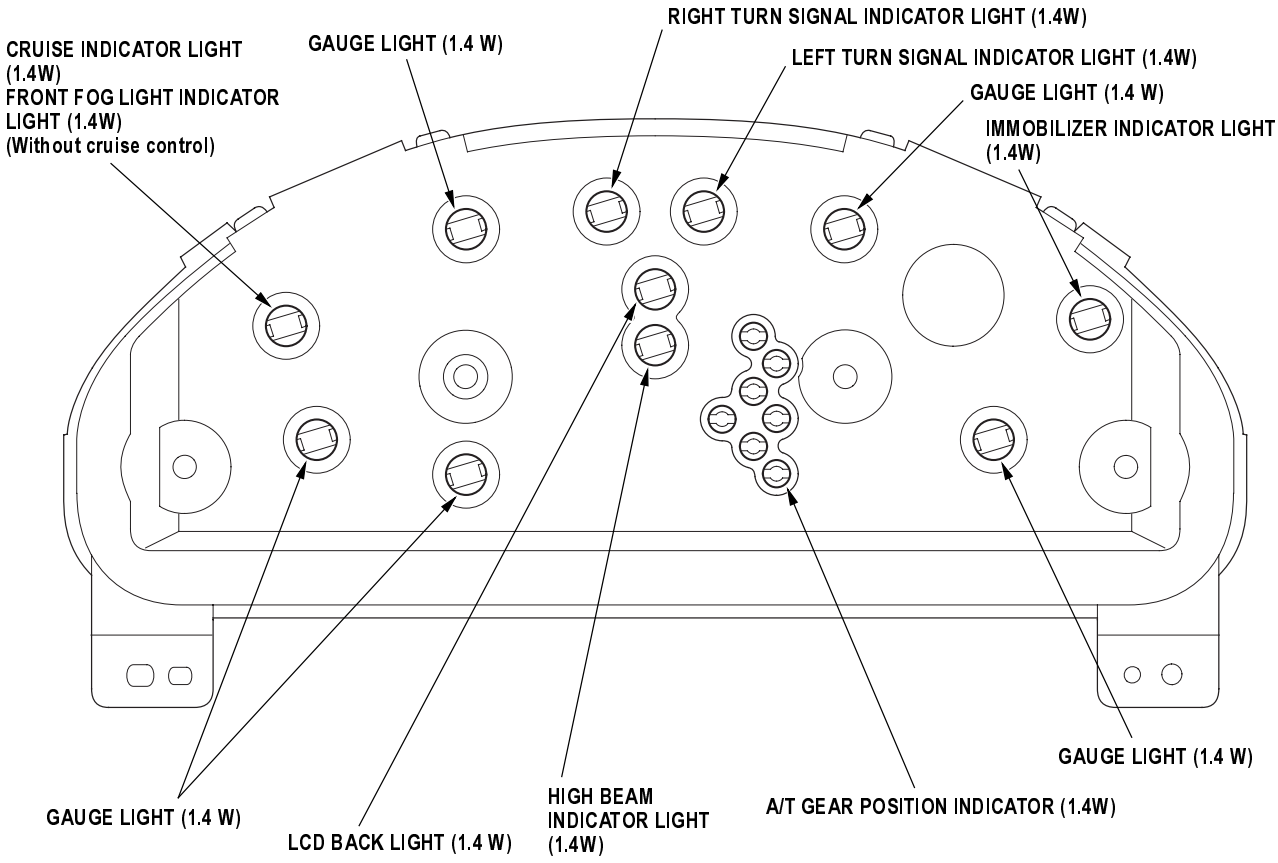
(cont'd)

Circuit Diagram (cont'd)



D + E From page 22A-71

Gauge Bulb Replacement

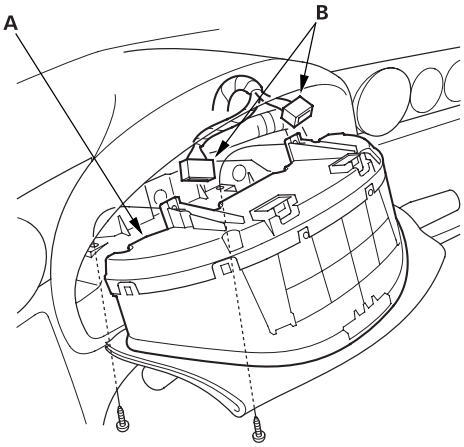


Gauge Assembly Replacement

1. Remove the driver's dashboard lower cover (see page 20-88), then remove the instrument panel (see page 20-87).

   Place a clean shop towel under the gauge assembly to prevent scratching the steering column or dashboard.

2. Remove the three mounting screws from the gauge assembly (A).



3. Disconnect the connectors (B), and remove the gauge assembly.
4. Install the gauge assembly in the reverse order of removal.

Coolant Temperature Gauge Troubleshooting

Before testing, check the No. 9 (10A) fuse in the under-hood fuse/relay box and the No. 10 (7.5A) fuse in the under-dash fuse/relay box.

1. Start the engine, and check the malfunction indicator lamp (MIL).

   Does the MIL come on and stay on?

   Yes Troubleshoot the cause of the ECM/PCM DTC (see page 11-62), and recheck.

   No Go to step 2.

2. Check for a multiplex control unit DTC (see page 22A-231).

   Is a DTC indicated?

   Yes Troubleshooting the cause of the multiplex control unit DTC (see page 22A-231), and recheck.

   No Go to step 3.

3. Do the communication line check with the self-diagnosis procedure (see page 22A-66).

   Is the word "Error" indicated on the odo/trip display?

   Yes The gauge cannot receive the signal from the multiplex control unit and the ECM/PCM. Check for an open in the GRY/RED wire (gauge connector terminal A1).

   No Go to step 4.

4. Do the gauge drive circuit check with the self-diagnosis procedure (see page 22A-66).

   Does the temperature gauge needle sweep from the minimum position to the maximum, then return to the minimum position?

   Yes Go to step 5.

   No Replace the gauge assembly.■

5. Substitute a known-good ECM/PCM, and recheck.

   Did the symptom/indication go away?

   Yes Replace the ECM/PCM.

   No Substitute a known-good gauge assembly. If the symptom/indication goes away, replace the gauge assembly.■

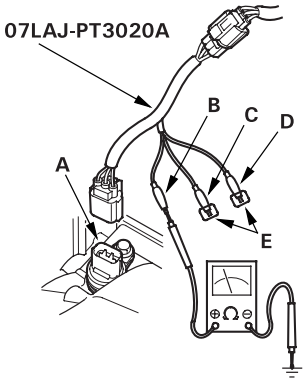
Vehicle Speed Signal Circuit Troubleshooting

Special Tools Required:
Test Harness 07LAJ-PT3020A

M/T:

Before testing, inspect the No. 4 (10A) and No. 10 (7.5A) fuses in the under-dash fuse/relay box.

1. Disconnect the 3P connector from the vehicle speed sensor (VSS) (A).



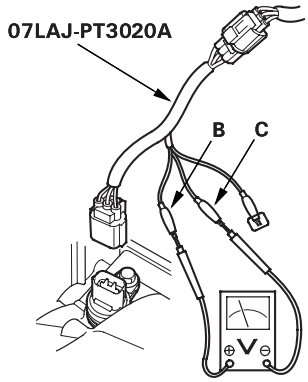
2. Connect the test harness only to the engine wire harness.
3. Connect the RED test harness clip (B) to the positive probe of an ohmmeter. Cover the white (C) and green (D) test harness leads with protective tape (E).
4. Check for continuity between the RED test harness clip and body ground.

   Is there continuity?

   Yes Go to step 5.

   No Repair open in the BLK wire between the VSS and G101.■

5. Connect the WHT test harness clip (B) to the positive probe of a voltmeter, and connect the RED test harness clip (C) to the negative probe.



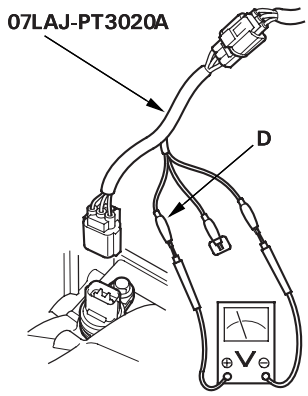
6. Turn the ignition switch ON (II).

   Is there battery voltage?

   Yes Go to step 7.

   No Repair open in the BLK/YEL wire between the VSS and the under-dash fuse/relay box.■

7. Disconnect the WHT test harness clip (B).
8. Connect the GRN test harness clip (D) to the positive probe of a voltmeter.



   Is there 5 V or battery voltage?

   Yes Go to step 9.

   No Repair short or open in the BLU/WHT [WHT/GRN] wire between the VSS and the ECM.■

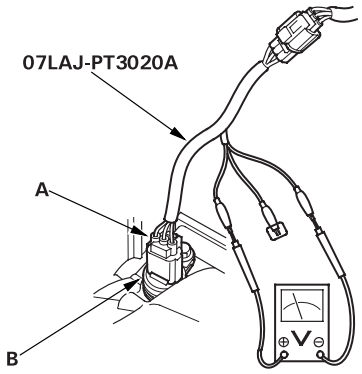
(cont'd)

Vehicle Speed Signal Circuit Troubleshooting (cont'd)

M/T: (cont'd)

9. Turn the ignition switch OFF.

10. Connect the other test harness connector (A) to the VSS (B).



11. Raise the front of the vehicle, and make sure it is securely supported.

12. Put the vehicle in neutral with the ignition switch ON (II).

13. Slowly rotate one wheel with the other wheel blocked.

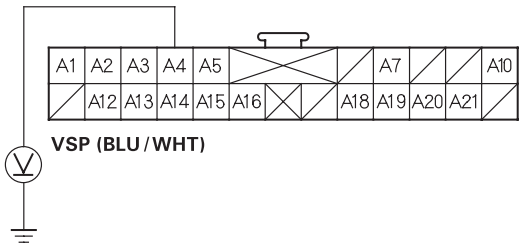
Does the voltage pulse from 0 to about 5 V or battery voltage?

Yes Go to step 14.

No Replace the VSS.■

14. Disconnect the 22P connector "A" from the gauge assembly.

GAUGE ASSEMBLY CONNECTOR A (22P)



Wire side of female terminals

15. Touch the voltmeter positive probe to the gauge assembly A4 terminal, and connect the negative prove to body ground.

16. Slowly rotate one wheel with the other wheel blocked.

Does the voltage pulse from 0 to about 5 V or battery voltage?

Yes Replace the speedometer assembly.■

No Repair open in the BLU/WHT [WHT/GRN] wire between the VSS and the speedometer.■

A/T:

Before testing, check the No. 9 (10A) fuse in the under-hood fuse/relay box and the No. 10 (7.5A) fuse in the under-dash fuse/relay box.

1. Start the engine, and check the malfunction indicator lamp (MIL).

   Does the MIL come on and stay on?

   Yes Troubleshoot the PCM DTC (see page 11-62), and recheck.

   No Go to step 2.

2. Check the multiplex control unit DTC (see page 22A-231).

   Is the DTC indicated?

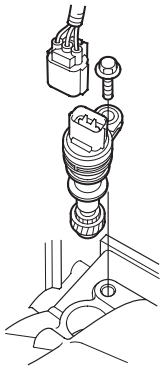
   Yes Troubleshoot the DTC (see page 22A-231), and recheck.■

   No Inspect the connector and socket terminals of the gauge assembly connectors. If the terminals look OK, substitute a known-good gauge assembly and reset. If the problem is fixed, replace the gauge assembly. If the problem is not fixed, replace the PCM.■

VSS Replacement

M/T only:

1. Remove the air cleaner (see page 11-182).
2. Disconnect the 3P connector from the vehicle speed sensor (VSS).



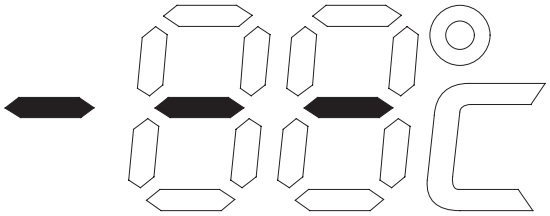
3. Remove the mounting bolt, then remove the VSS.
4. Install the VSS in the reverse order of removal.

Outside Air Temperature Indicator Test

NOTE: To test the outside air temperature sensor (see page 21-90).

Troubleshooting:

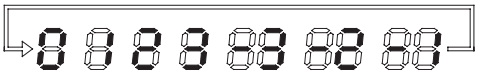
If the indicator displays ”- - -” for more than 2 seconds after selecting the outside air temperature display mode, check for an open in the wire between the gauge and the outside air temperature sensor.



Calibration:

The outside air temperature indicator’s displayed temperature can be recalibrated ± 3° to meet the customer's expectations.

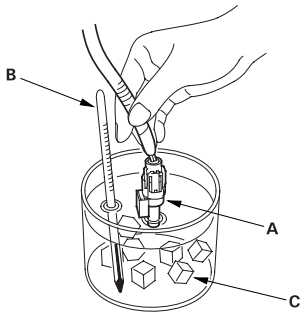
1. Turn the ignition switch ON (II).
2. Push and hold the trip/reset switch for 10 seconds. While you continue to hold the button, the display will scroll through temperature settings from +3° to -3° as shown.



3. When the desired correction value appears on the display, release the buttons, and the recalibrated outside air temperature will be displayed.

   If the outside temperature indicator display is off by more than 3 degrees of the desired value, turn the ignition switch OFF and repeat steps 1-3.

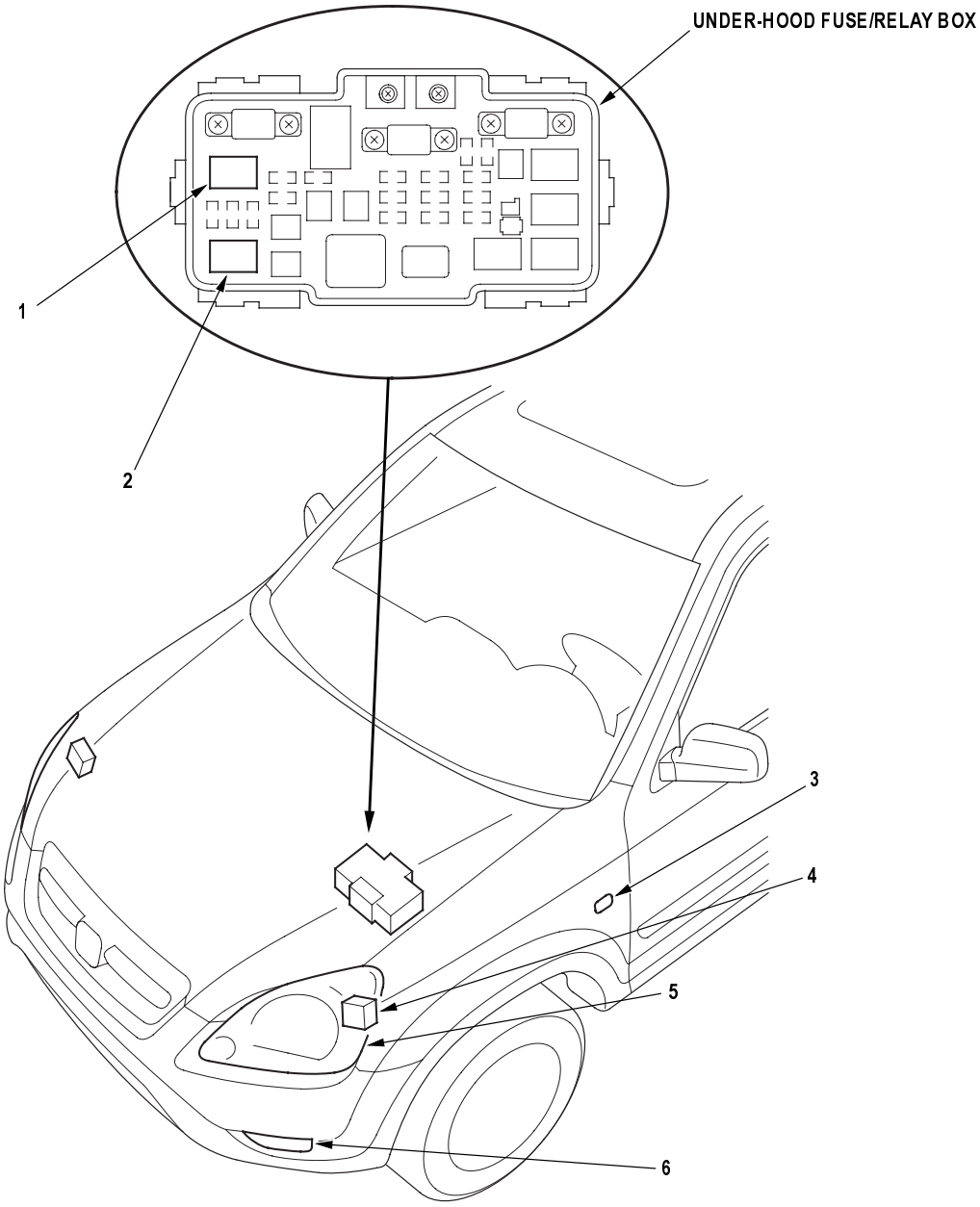
   NOTE: To recalibrate the display to the true temperature, remove the outside air temperature sensor (A), but leave it connected. Submerge the sensor and a thermometer (B) in a container of ice water (C). Select the calibration mode as described above, then recalibrate the display to the true temperature.



Exterior Lights

Component Location Index

NOTE: LHD type is shown, RHD type is similar.

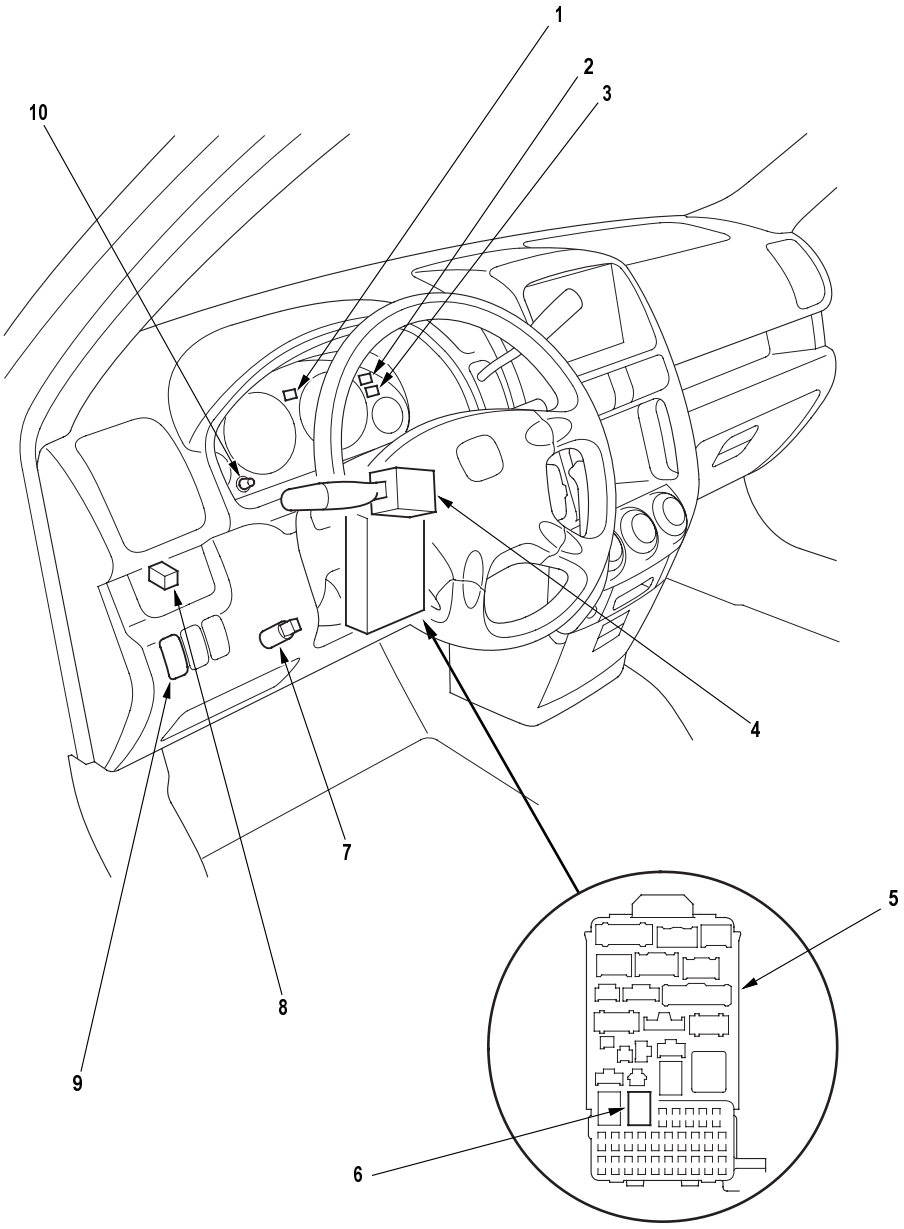


1	HEADLIGHT RELAY 2 (LEFT)	Test, page 22A-60
2	HEADLIGHT RELAY 1 (RIGHT)	Test, page 22A-60
3	SIDE TURN SIGNAL LIGHT	Replacement, page 22A-101
4	HEADLIGHT ADJUSTER UNIT	Troubleshooting, page 22A-94
5	• HEADLIGHTS	Replacement, page 22A-96; Adjustment, page 22A-96; Damaged Headlight Alignment Pin Procedure, page 22A-97
	• FRONT PARKING LIGHT	
	• FRONT TURN SIGNAL/SIDE MARKER LIGHT	
6	FRONT FOG LIGHT	Replacement, page 22A-100; Adjustment, page 22A-100

(cont'd)

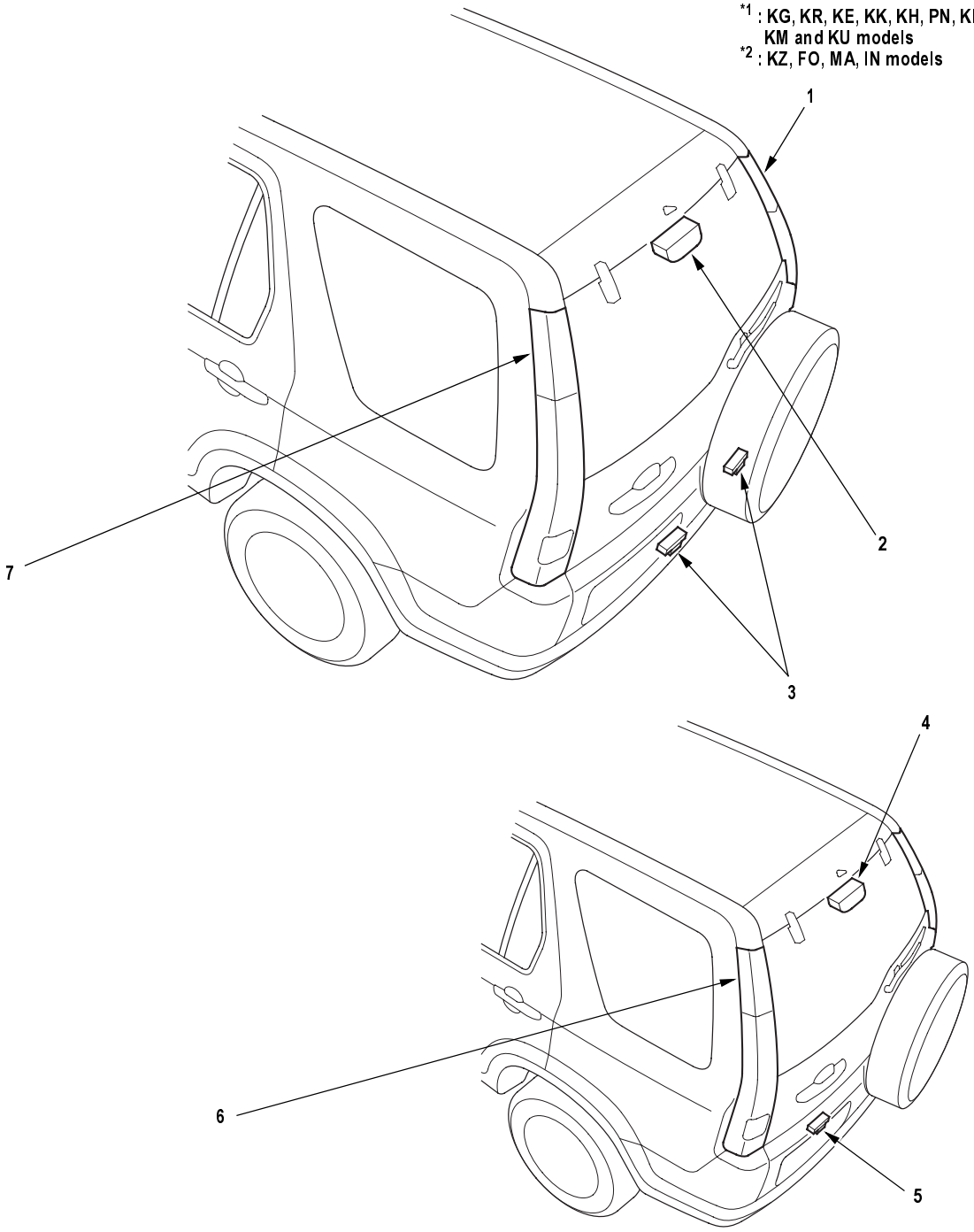
Component Location Index (cont'd)

NOTE: LHD type is shown, RHD type is similar.



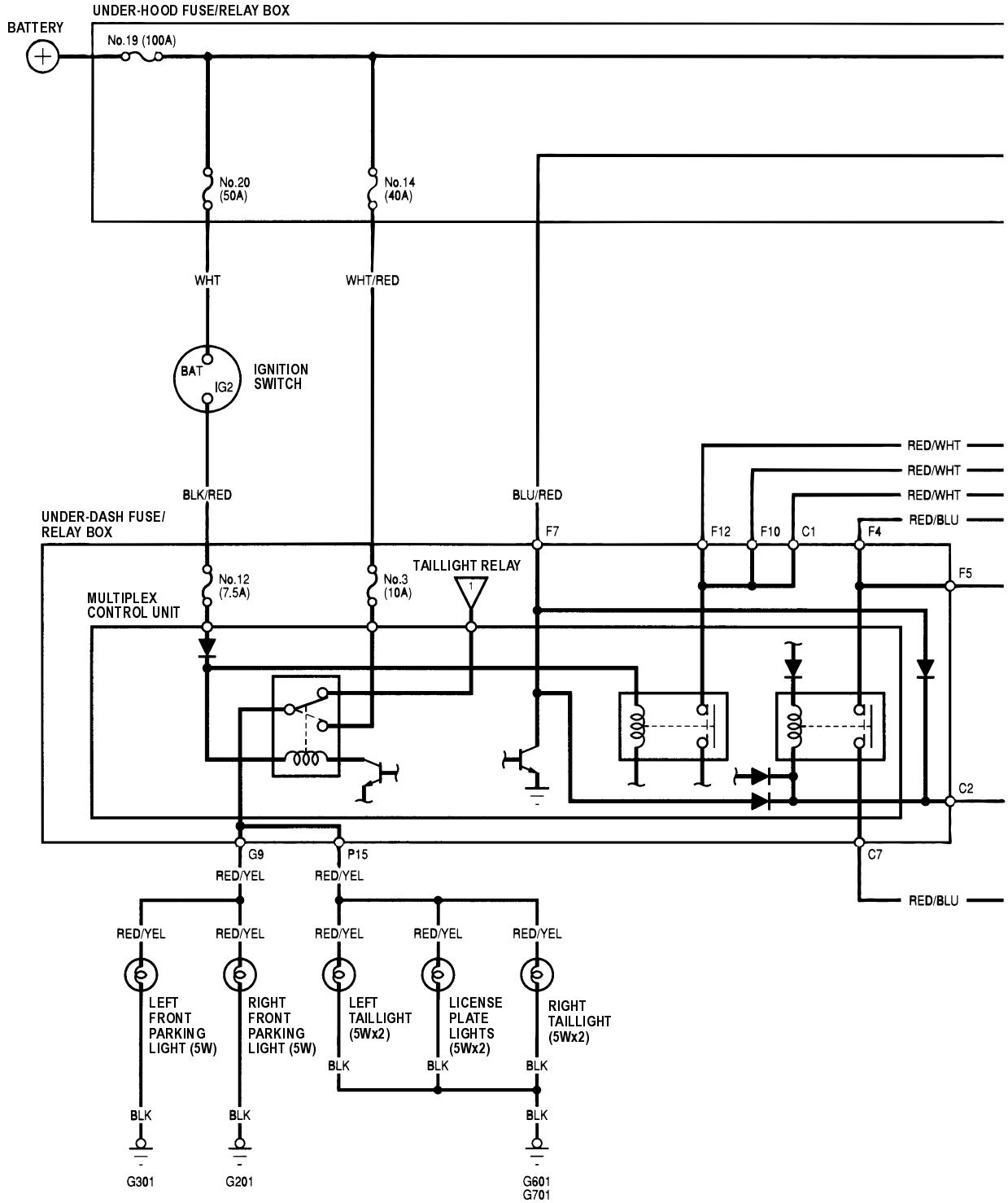
1	HIGH BEAM INDICATOR LIGHT	Bulb Replacement, page 22A-73
2	REAR FOG LIGHT INDICATOR LIGHT	
3	FRONT FOG LIGHT INDICATOR LIGHT	Bulb Replacement, page 22A-73
4	• COMBINATION LIGHT SWITCH	Test, page 22A-92; Replacement, page 22A-92
	• FRONT FOG LIGHT SWITCH	Test, page 22A-92
	• REAR FOG LIGHT SWITCH	Test, page 22A-92
5	UNDER-DASH FUSE/RELAY BOX	
6	TAILLIGHT RELAY	Test, page 22A-60
7	BRAKE PEDAL POSITION SWITCH	Test, page 22A-99
8	FRONT FOG LIGHT RELAY	Test, page 22A-60
9	HEAD LIGHT ADJUSTER SWITCH	Test, page 22A-95
10	DASH LIGHTS BRIGHTNESS CONTROLLER	

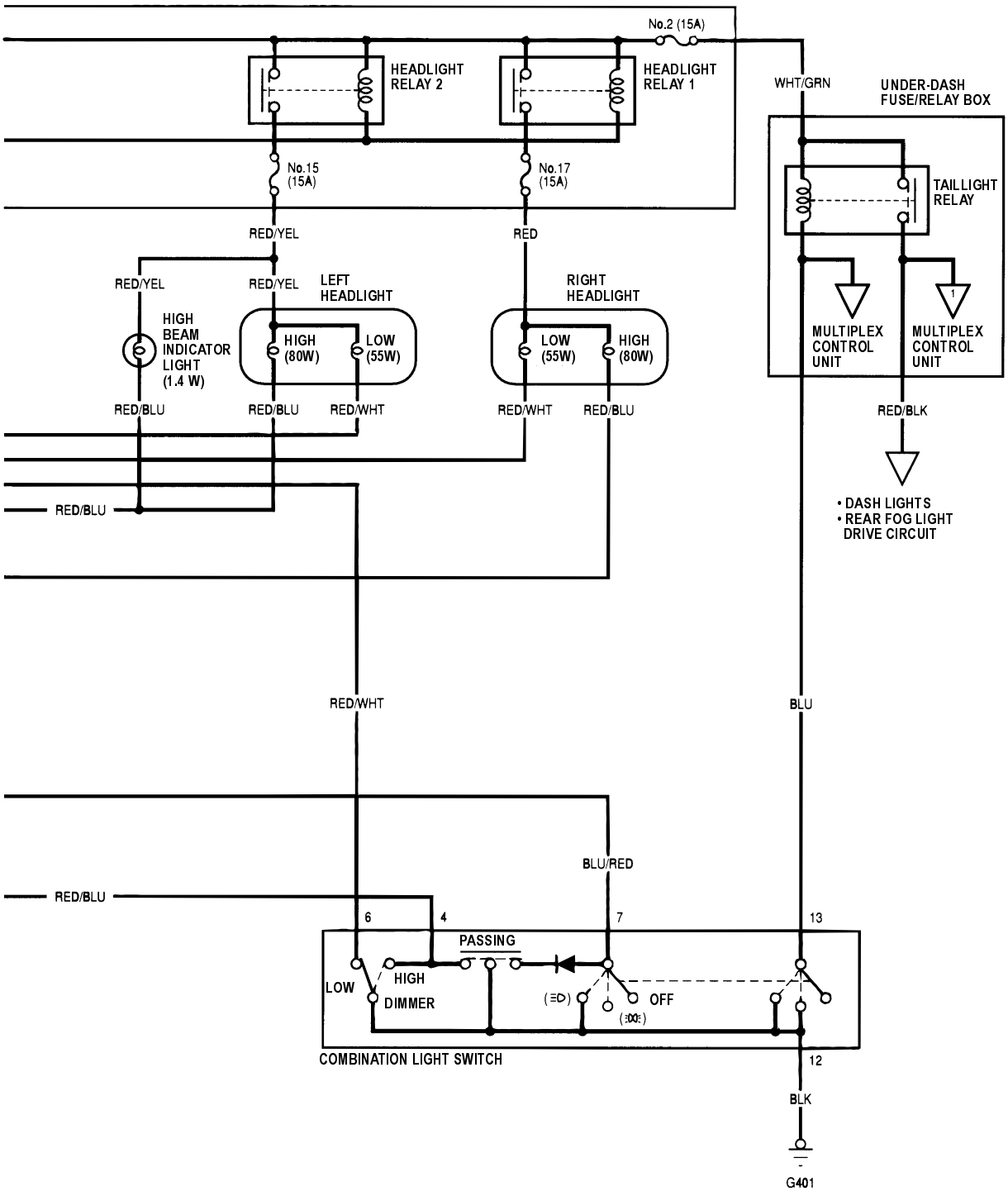
*1 : KG, KR, KE, KK, KH, PN, KN, KW, KP, KQ, KT, KY, KM and KU models
*2 : KZ, FO, MA, IN models



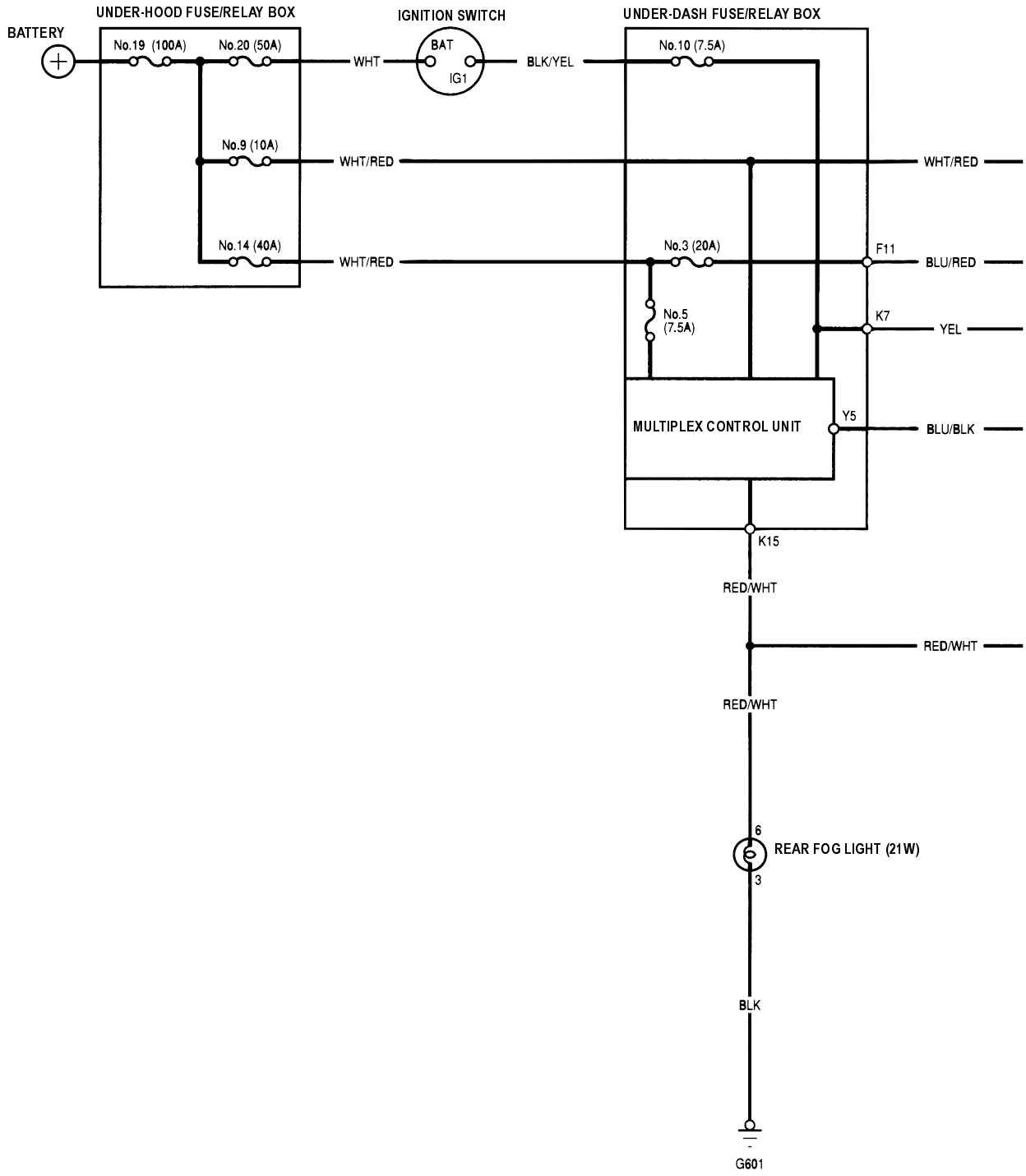
1	• TAILLIGHT/BRAKE LIGHT	Replacement, page 22A-98	6	• TAILLIGHT/BRAKE LIGHT	Replacement, page 22A-98
	• REAR TURN SIGNAL LIGHT	Replacement, page 22A-98		• REAR TURN SIGNAL LIGHT	Replacement, page 22A-98
	• BACK-UP LIGHT	Replacement, page 22A-98		• BACK-UP LIGHT	Replacement, page 22A-98
	• REAR FOG LIGHT (RHD type)	Replacement, page 22A-98	7	• TAILLIGHT/BRAKE LIGHT	Replacement, page 22A-98
2	HIGH MOUNT BRAKE LIGHT	Replacement, page 22A-98		• REAR TURN SIGNAL LIGHT	Replacement, page 22A-98
3	LICENSE PLATE LIGHTS*1	Replacement, page 22A-99		• BACK-UP LIGHT	Replacement, page 22A-98
4	HIGH MOUNT BRAKE LIGHT	Replacement, page 22A-98		• REAR FOG LIGHT (LHD type)	Replacement, page 22A-98
5	LICENSE PLATE LIGHT*2	Replacement, page 22A-99			

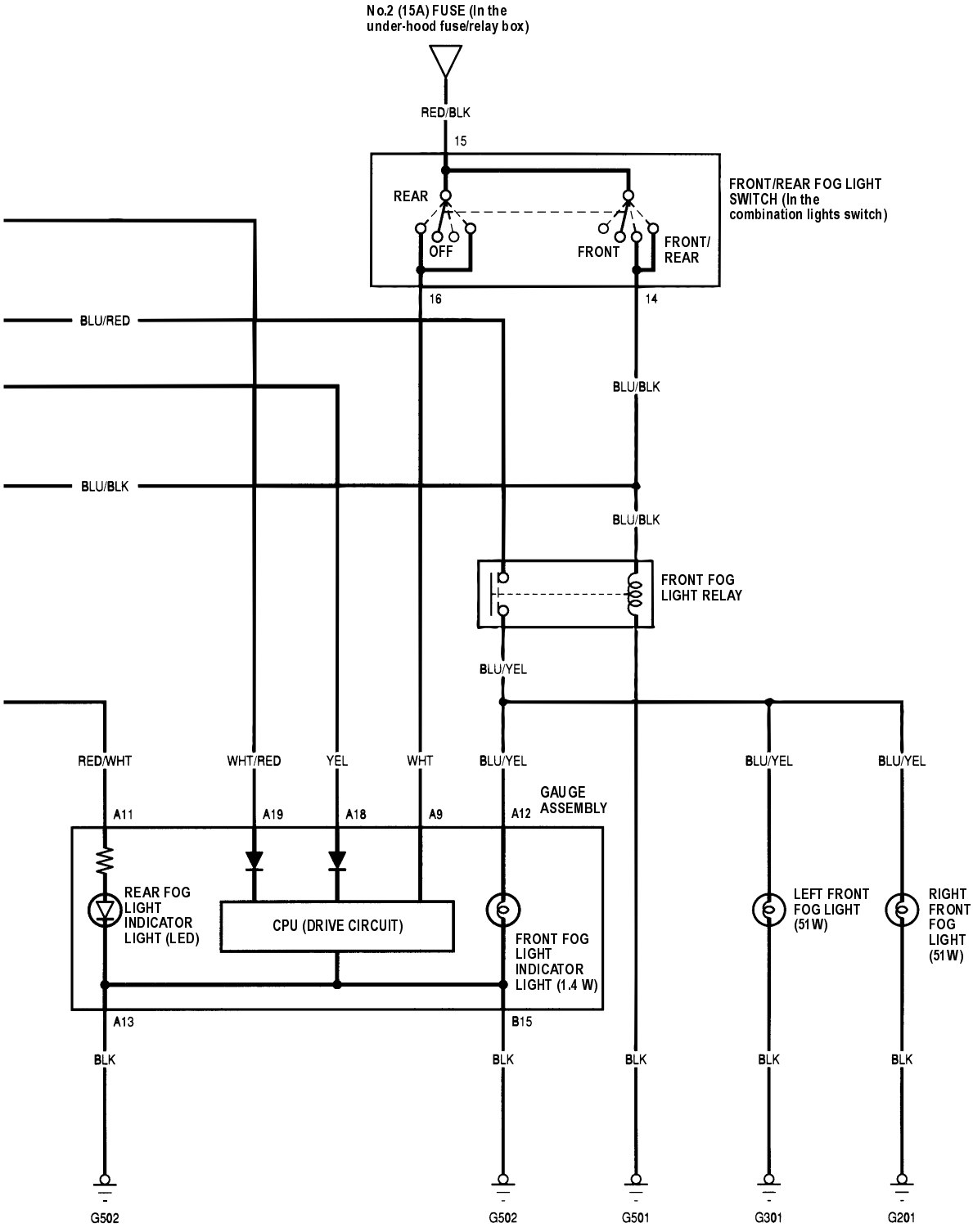
Circuit Diagram - With Daytime Running Lights



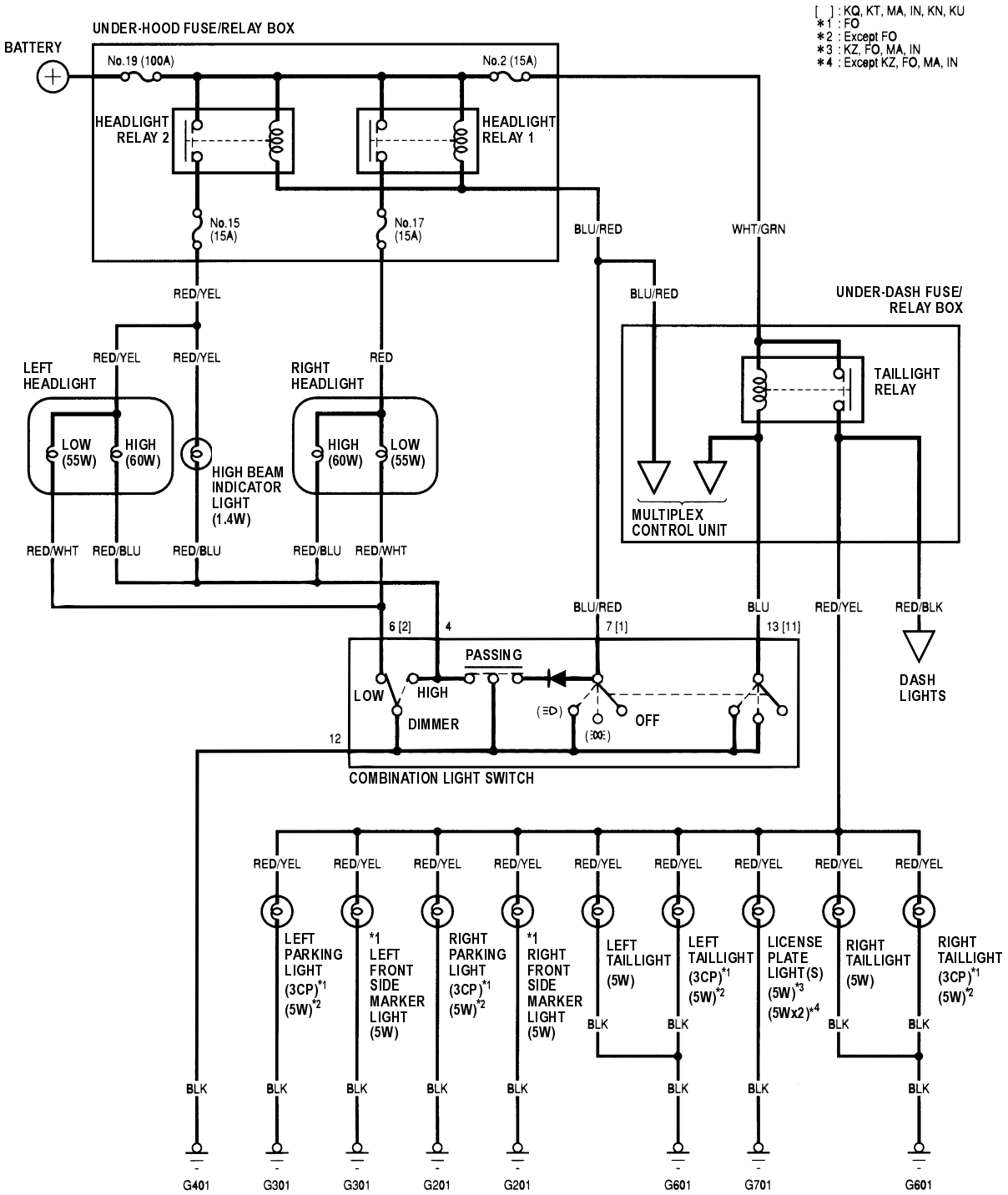

No.2 (15A)
HEADLIGHT RELAY 2
HEADLIGHT RELAY 1
WHT/GRN
UNDER-DASH FUSE/RELAY BOX
No.15 (15A)
No.17 (15A)
TAILLIGHT RELAY
RED/YEL
RED
RED/YEL
RED/YEL
LEFT HEADLIGHT
RIGHT HEADLIGHT
HIGH BEAM INDICATOR LIGHT (1.4 W)
HIGH (80W)
LOW (55W)
LOW (55W)
HIGH (80W)
MULTIPLEX CONTROL UNIT
MULTIPLEX CONTROL UNIT
RED/BLU
RED/BLU
RED/WHT
RED/WHT
RED/BLU
RED/BLK
• DASH LIGHTS
• REAR FOG LIGHT DRIVE CIRCUIT
RED/BLU
RED/WHT
BLU
BLU/RED
RED/BLU
6
4
7
13
PASSING
LOW
HIGH
DIMMER
OFF
COMBINATION LIGHT SWITCH
12
BLK
G401

Circuit Diagram - Front/Rear Fog Lights

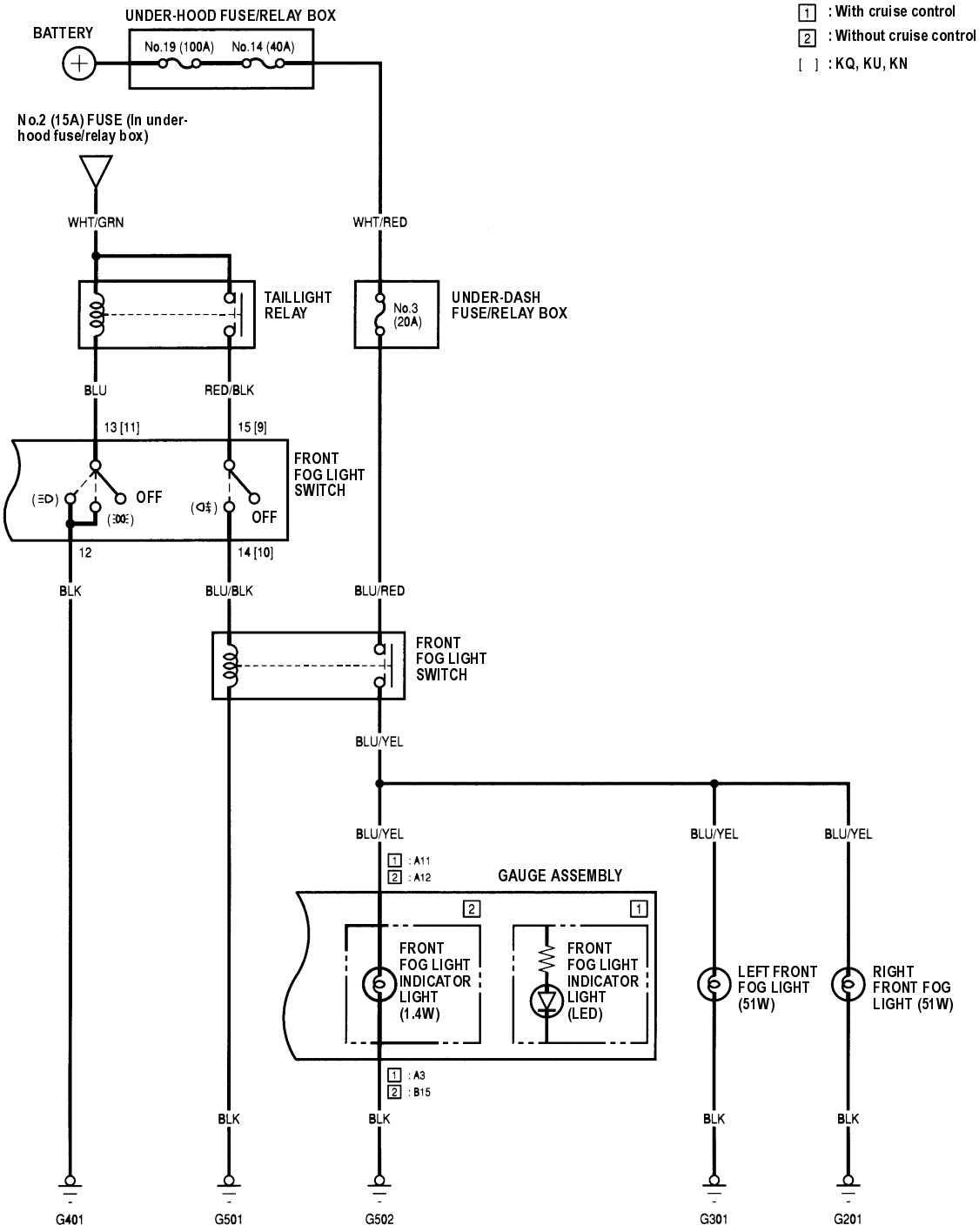



No.2 (15A) FUSE (In the under-hood fuse/relay box)
RED/BLK
15
REAR
OFF
FRONT
FRONT/ REAR
FRONT/REAR FOG LIGHT SWITCH (In the combination lights switch)
16
14
BLU/RED
BLU/BLK
BLU/BLK
BLU/BLK
FRONT FOG LIGHT RELAY
BLU/YEL
RED/WHT
WHT/RED
YEL
WHT
BLU/YEL
BLU/YEL
BLU/YEL
GAUGE ASSEMBLY
A11
A19
A18
A9
A12
REAR FOG LIGHT INDICATOR LIGHT (LED)
CPU (DRIVE CIRCUIT)
FRONT FOG LIGHT INDICATOR LIGHT (1.4 W)
LEFT FRONT FOG LIGHT (51W)
RIGHT FRONT FOG LIGHT (51W)
A13
B15
BLK
BLK
BLK
BLK
BLK
G502
G502
G501
G301
G201

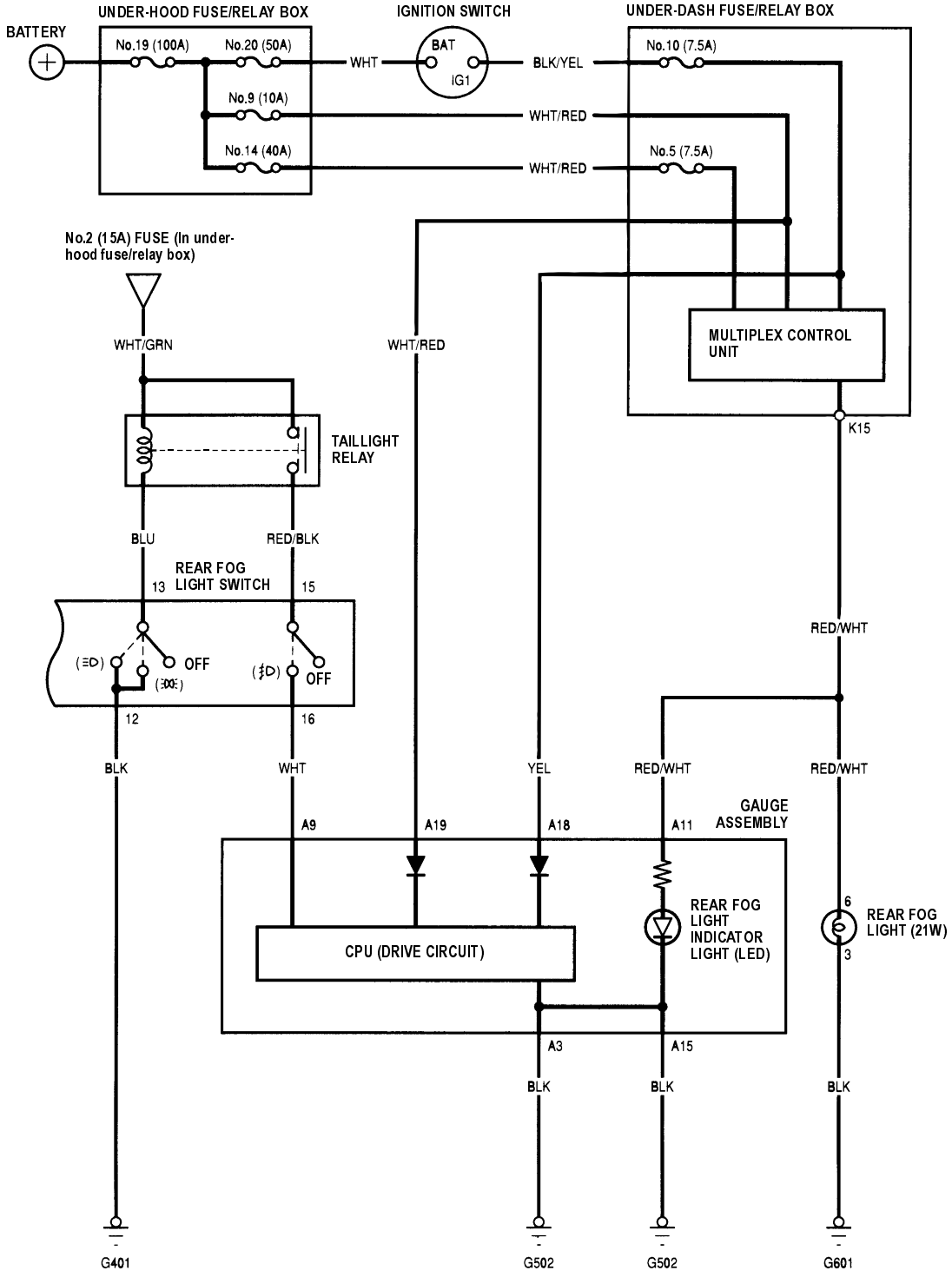
Circuit Diagram



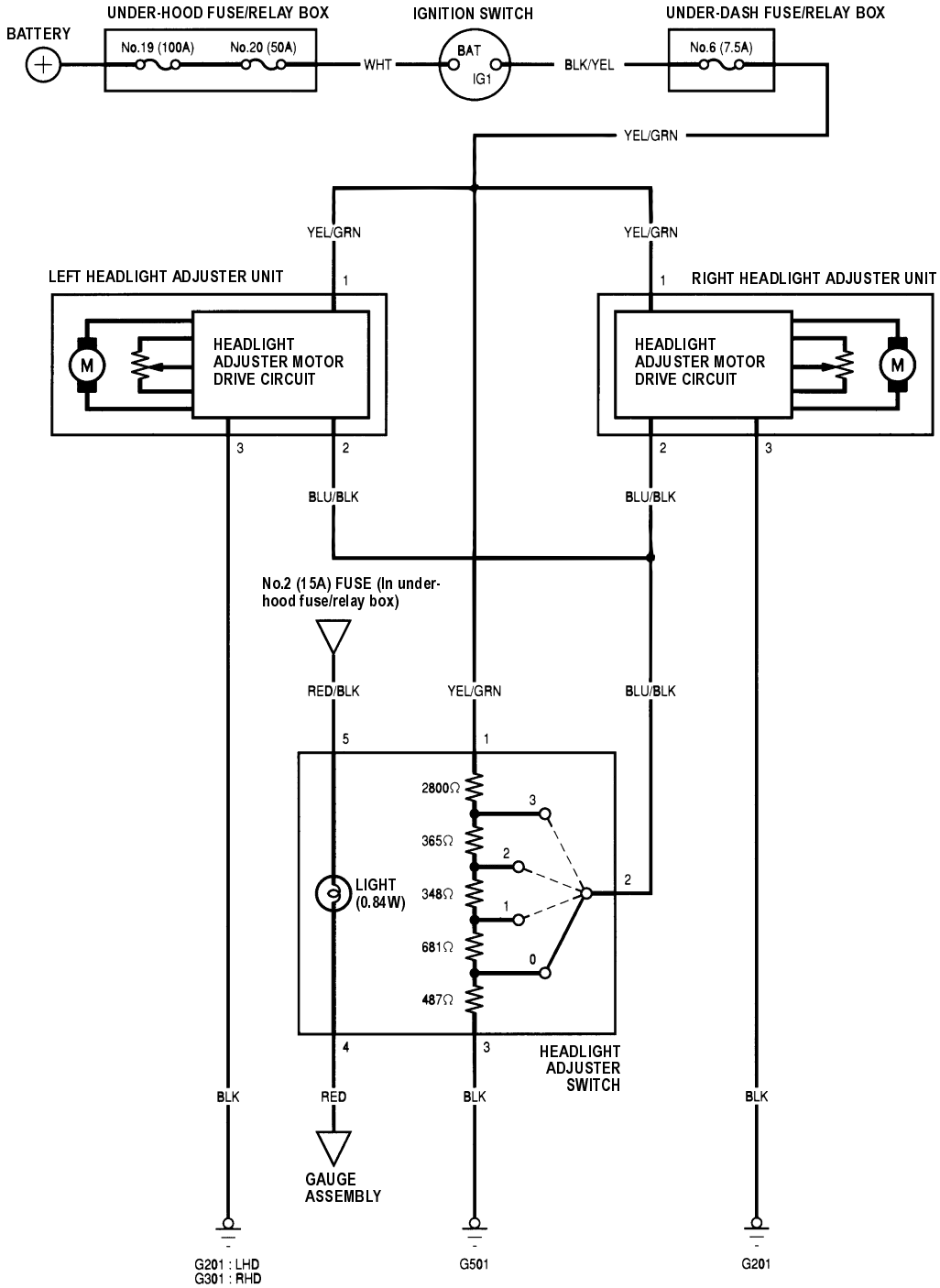
Circuit Diagram - Front Fog Lights



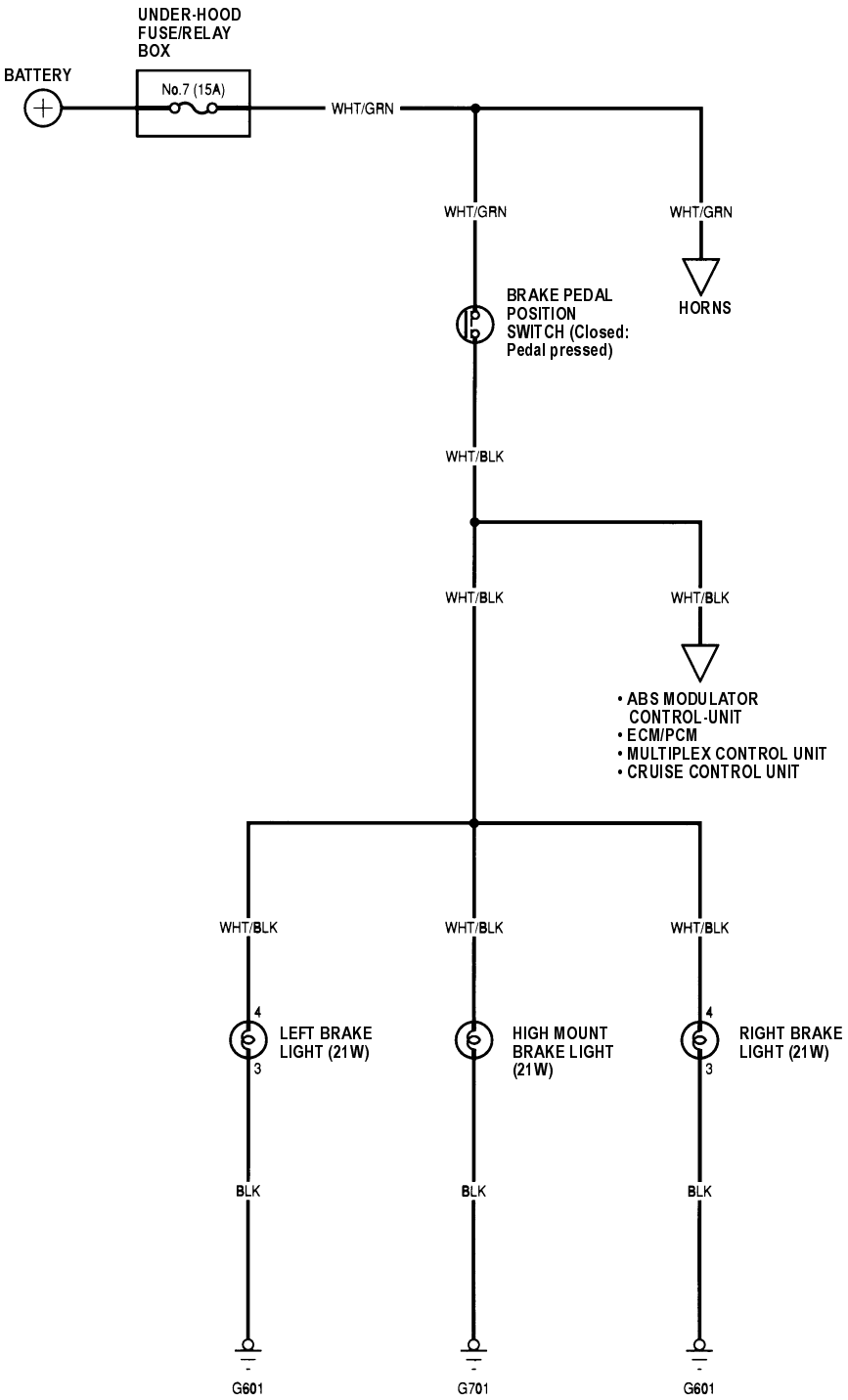
Circuit Diagram - Rear Fog Light



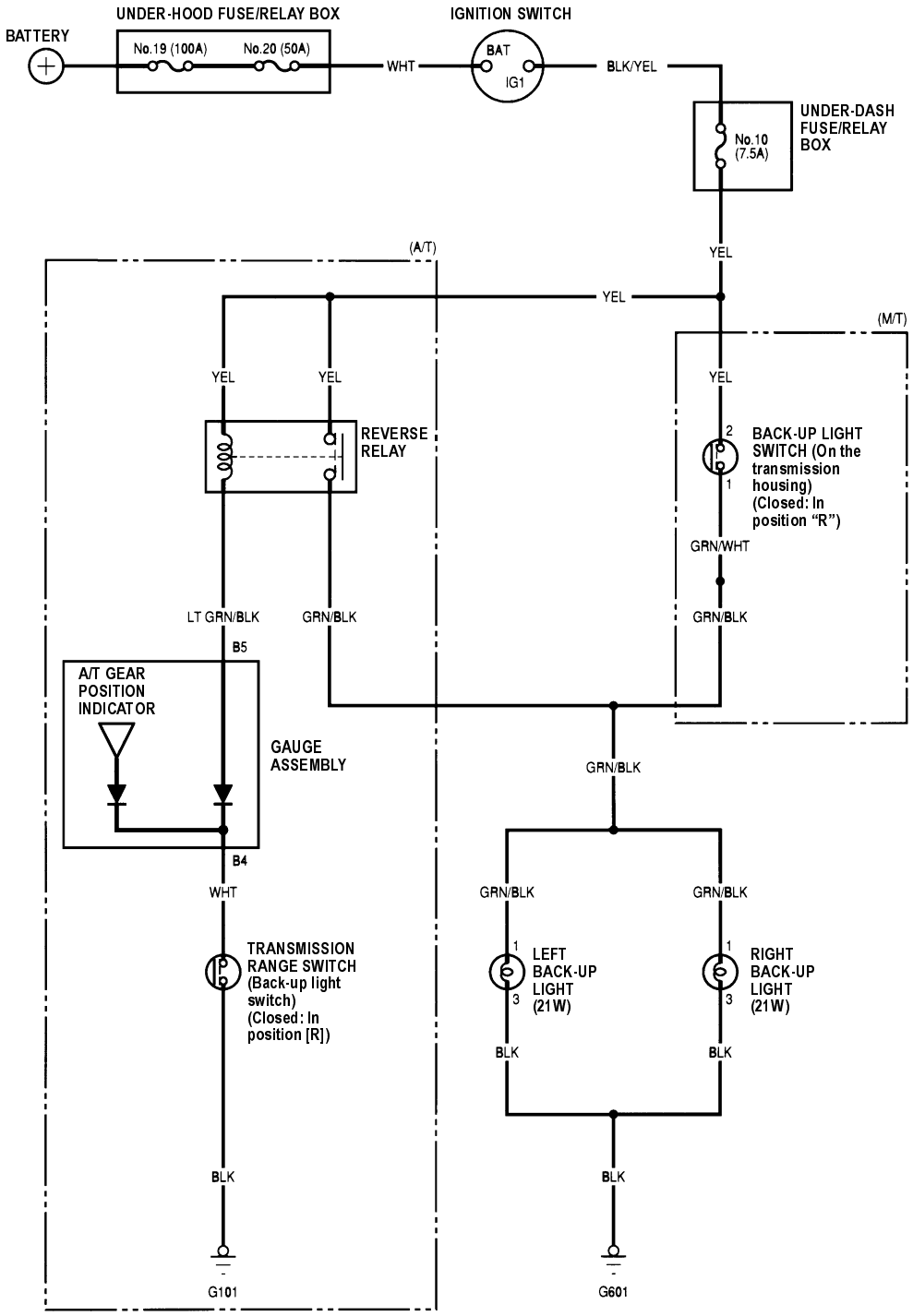
Circuit Diagram - Headlights Adjuster



Circuit Diagram - Brake Lights



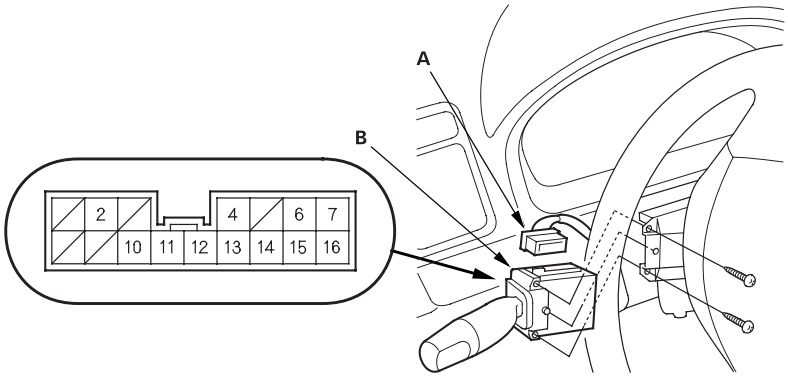
Circuit Diagram - Back-up Lights



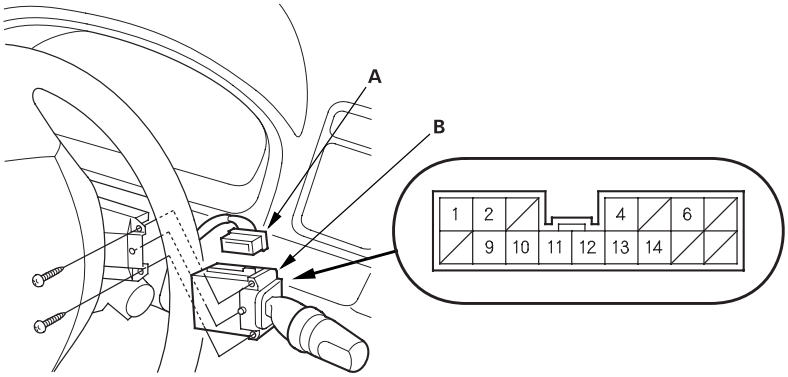
Combination Light Switch Test/Replacement

1. Remove the steering column covers (see page 17-24).
2. Disconnect the 16P connector (A) from the combination light switch (B).

LHD type and KE model:



RHD type:



3. Remove the two screws, then slide out the combination light switch.

4. Inspect the connector 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, check for continuity between the terminals in each switch position according to the tables.
  - If the continuity is not specified, replace the switch.

Light Switch:

Position \ Terminal			4	6 [2]	7 [1]		12	13 [11]
Headlight switch	OFF			○	—	—	○	
	≡00≡						○	○
	≡D	LOW		○	—	—	○	○
		HIGH	○	—	○	—	○	○
Passing switch	OFF							
	ON		○		○	▷	○	
							○	

[ ] : RHD type

Turn Signal Switch:

Position \ Terminal	2 [13]	10 [14]	11 [6]
LEFT	○	○	
NEUTRAL			
RIGHT		○	○

[ ] : RHD type

Front/Rear Fog Lights Switch:

Position \ Terminal	14	15	16
OFF			
Front ON	○	○	
Rear ON		○	○
Front/Rear ON	○	○	○

Front Fog Lights Switch:

Position \ Terminal	14 [10]	15 [9]
OFF		
ON	○	○

[ ] : RHD type

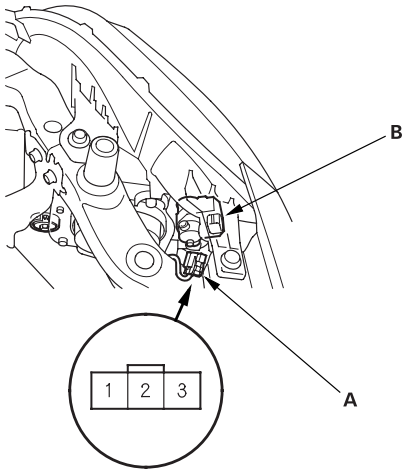
Rear Fog Lights Switch:

Position \ Terminal	15	16
OFF		
ON	○	○

Headlight Adjuster Unit Troubleshooting

NOTE: Before testing, check for a blown No. 6 (7.5A) fuse in the under-dash fuse/relay box.

1. Disconnect the 3P connector (A) from the headlight adjuster unit (B).



Wire side of female terminals

2. Check for continuity between the No. 1 terminal and body ground.

Is there continuity?

Yes Go to step 3.

No Check for these problems:■

- Repair open in the BLK wire between the headlight adjuster unit and body ground.
- Poor ground (G201, G301).

3. Check for voltage between the No. 3 terminal and body ground.

Is there battery voltage?

Yes Go to step 4.

No Repair open in the YEL/GRN wire between the headlight adjuster unit and under-dash fuse/relay box.■

4. Using an ohmmeter, measure resistance between the No. 2 terminal and body ground in position 0 of the headlight adjuster switch.

Is there about 730 Ω?

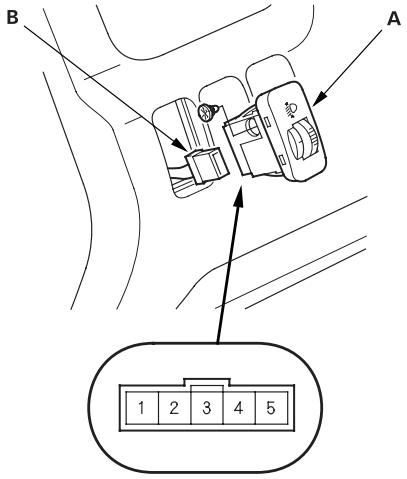
Yes Check for frozen, stuck or improperly installed the headlight adjuster unit. If the mechanical check is OK, replace the headlight adjuster unit.■

No Check for these problems:■

- An open in the BLU/BLK wire between the headlight adjuster unit and headlight adjuster switch.
- A faulty headlight adjuster switch.

Headlight Adjuster Switch Test

1. Remove the dashboard lower cover (see page 20-88).
2. Carefully push out the headlight adjuster switch (A) from behind the dashboard.



3. Disconnect the 5P connector (B) from the switch.
4. Measure resistance between the No. 1 and No. 3 terminals and No. 1 and No. 2 terminals at positions 0, 1, 2, and 3 by moving the switch knob.

Between the No. 1 and No. 3 terminals:
About 4.7 kΩ

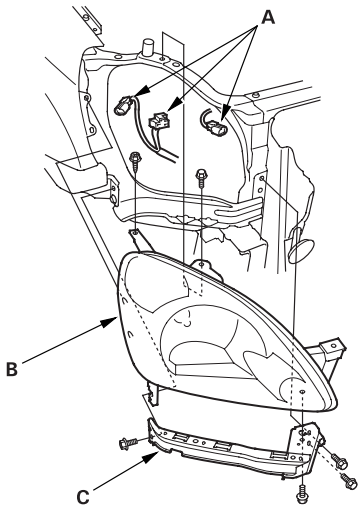
Between the No. 1 and No. 2 terminals:

Knob position	0	1	2	3
Resistance [About (kΩ)]	4.2	3.6	3.2	2.8

Headlight Replacement

1. Remove the front bumper (see page 20-130).
2. Disconnect the connectors (A) from the headlight (B).

   Headlight: 60/55 W
   Front Parking Light: 5 W or 3 CP
   Front Turn Signal Light: 21 W
   Front Turn Signal/Side Maker Light: 21 /5 W



3. Remove the screw and mounting bolts, then remove the corner upper beam (C) and headlight assembly.
4. Install in the reverse order of removal.
5. After replacement, adjust the headlights to local requirements.

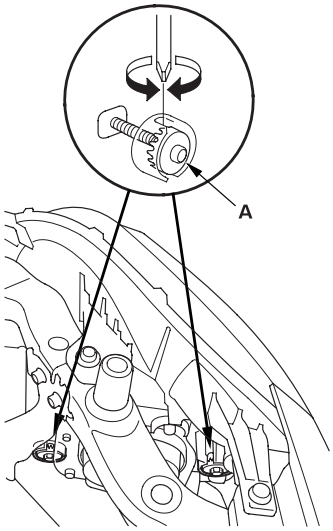
Headlight Adjustment

CAUTION

Headlights become very hot during use; do not touch them or any attaching hardware immediately after they have been turned off.

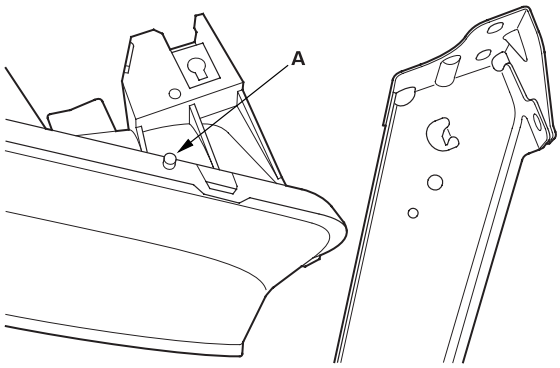
Before adjusting the headlights:
- Park the vehicle on a level surface.
- Make sure the tire pressures are correct.
- The driver or someone who weights the same should sit in the driver's seat.

Adjust the headlights to local requirements by turning the adjusters (A).

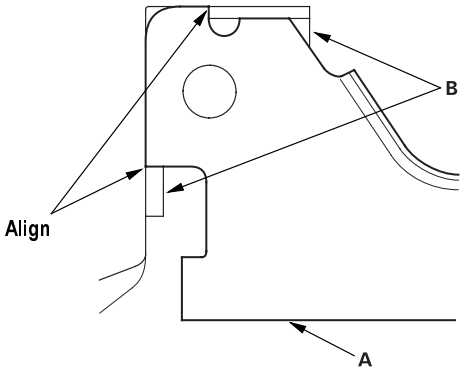


Damaged Headlight Alignment Pin Procedure

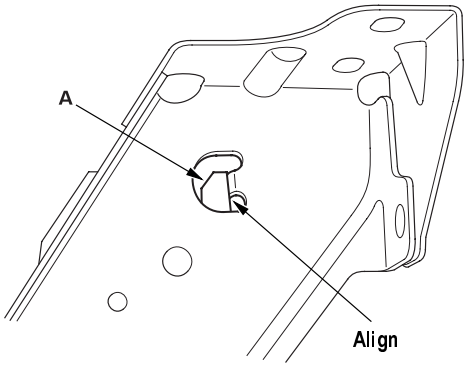
If the alignment pin (A) was broken in a collision and the headlight assembly itself was not damaged, the headlight assembly can be reused.



1. Align the corner upper beam (A) with the guides (B) on the headlight housing.



2. Align the headlight housing with the flange (A) before tightening the bolts.

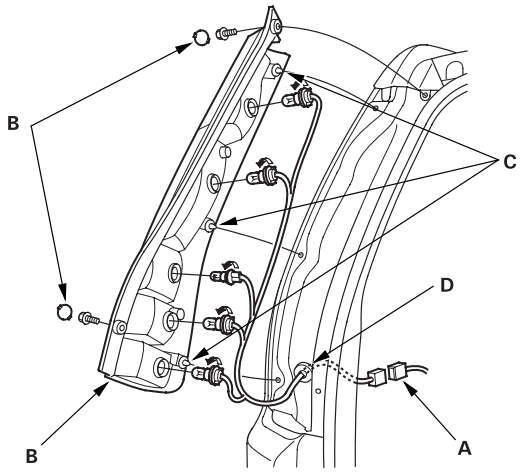


3. Reinstall the headlight assembly, and adjust the headlights to local requirements (see page 22A-86).

Taillight Replacement

1. Open the tailgate.
2. Remove the rear side trim panel (see page 20-77).
3. Disconnect the 6P connector (A) from the taillight.
4. Remove the mounting bolt covers from the taillight.
5. Remove the mounting bolts from the taillight.

Brake/Taillight:	**21/5 W**
Back-up Light:	**21 W**
Rear Turn Signal Light:	**21 W**
Taillight:	**5 W or 3 CP**
Rear Fog Light:	**21 W**



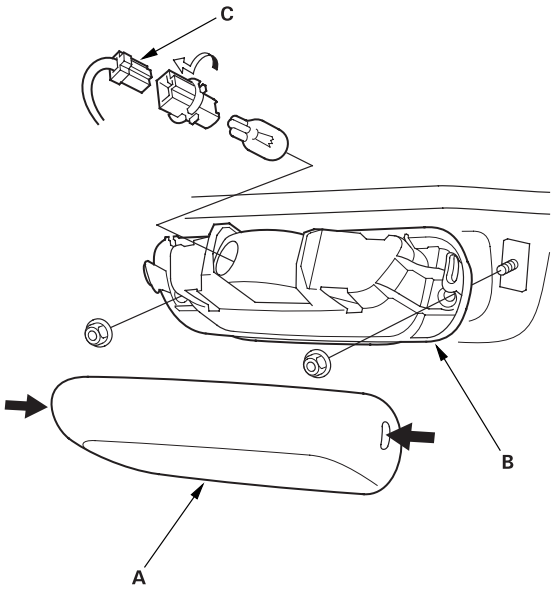
6. Pull the taillight away from the body to disengage the three clips (C).
7. Remove the taillight harness grommet (D) from the body.

   Pull the harness and the 6P connector out of the body, and disconnect the connector. Remove the taillight.
8. Turn the bulb socket 45° counterclockwise to remove the bulb socket.
9. Install the taillight in the reverse order of removal and run water over it to make sure it does not leak.

High Mount Brake Light Replacement

1. Push in on the clips, and remove the cover (A) from the housing (B).

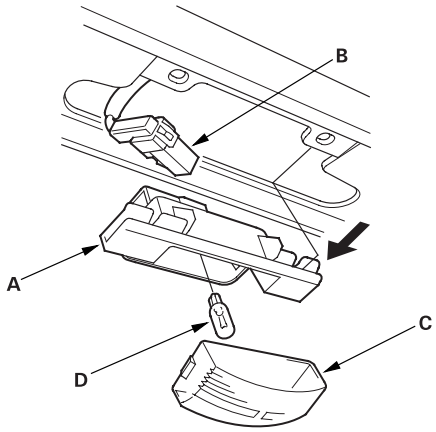
   High Mount Brake Light Bulb: 21 W
2. Disconnect the 2P connector (C).
3. Remove the mounting nuts and the housing.
4. Install the high mount broke light in the reverse order of removal.



License Plate Light Replacement

1. Remove the license plate light (A) from the rear bumper.

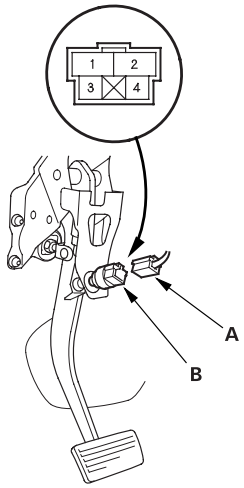
   License Plate Light Bulb: 5 W



2. Disconnect the 2P connector (B) from the light.
3. Take the lens (C) off, then remove the bulb (D).
4. Install the light in the reverse order of removal.

Brake Pedal Position Switch Test

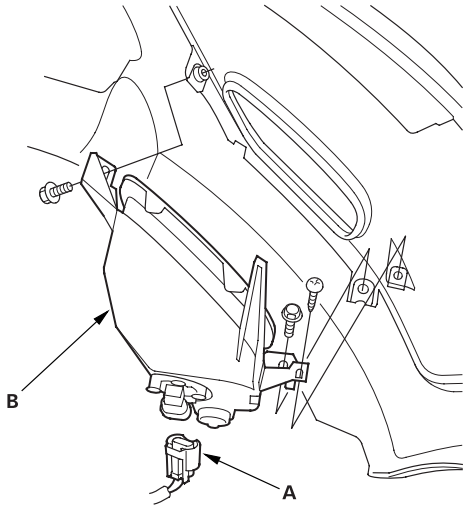
1. Remove the driver's dashboard lower cover (see page 20-88).
2. Disconnect the 4P connector (A) from the brake pedal position switch (B).



3. Check for continuity between the No. 1 and No. 2 terminals.
   - There should be continuity when the brake pedal is pressed.
   - There should be no continuity when the brake pedal is released.
4. Check for continuity between the No. 3 and No. 4 terminals (with cruise control).
   - There should be no continuity when the brake pedal is pressed.
   - There should be continuity when the brake pedal is released.
5. If necessary, adjust or replace the switch, or adjust the pedal height (see page 19A-5).

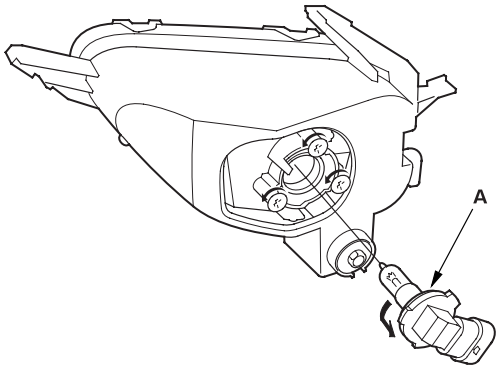
Front Fog Lights Replacement

1. Remove the front bumper (see page 20-130).
2. Disconnect the 2P connector (A) from the front fog light.
3. Remove the screw and mounting bolts from the front fog light (B).



4. Turn the bulb socket (A) 45° counterclockwise to remove the bulb.

Front Fog Light: 51 W



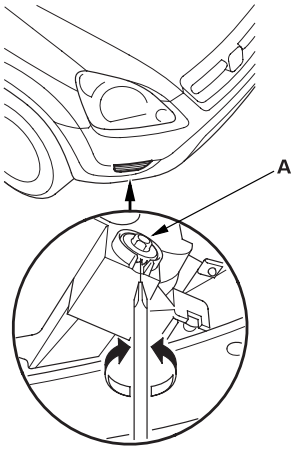
5. Install the light in the reverse order of removal.

Front Fog Lights Adjustment

Before adjusting the fog lights:

- Park the vehicle on a level surface.
- Make sure the tire pressures are correct.
- The driver or someone who weights the same should sit in the driver's seat.

Adjust the fog lights to local requirements by turning the adjuster (A).

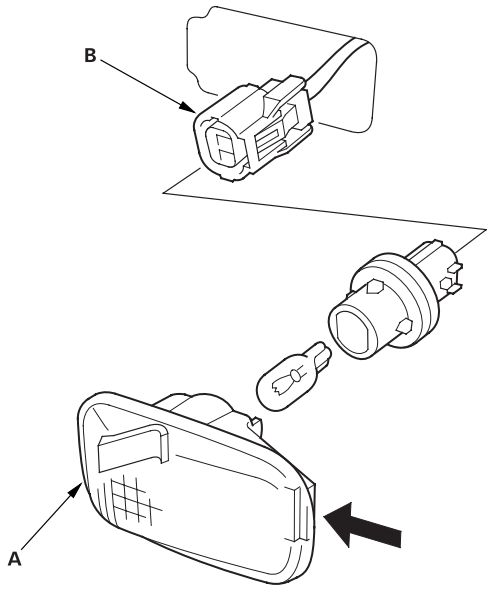


Side Turn Signal Lights Replacement

NOTE: Be careful not to damage the fender.

1. Push the retaining spring, and remove the side turn signal light (A).

   Side Turn Signal Light: 5W

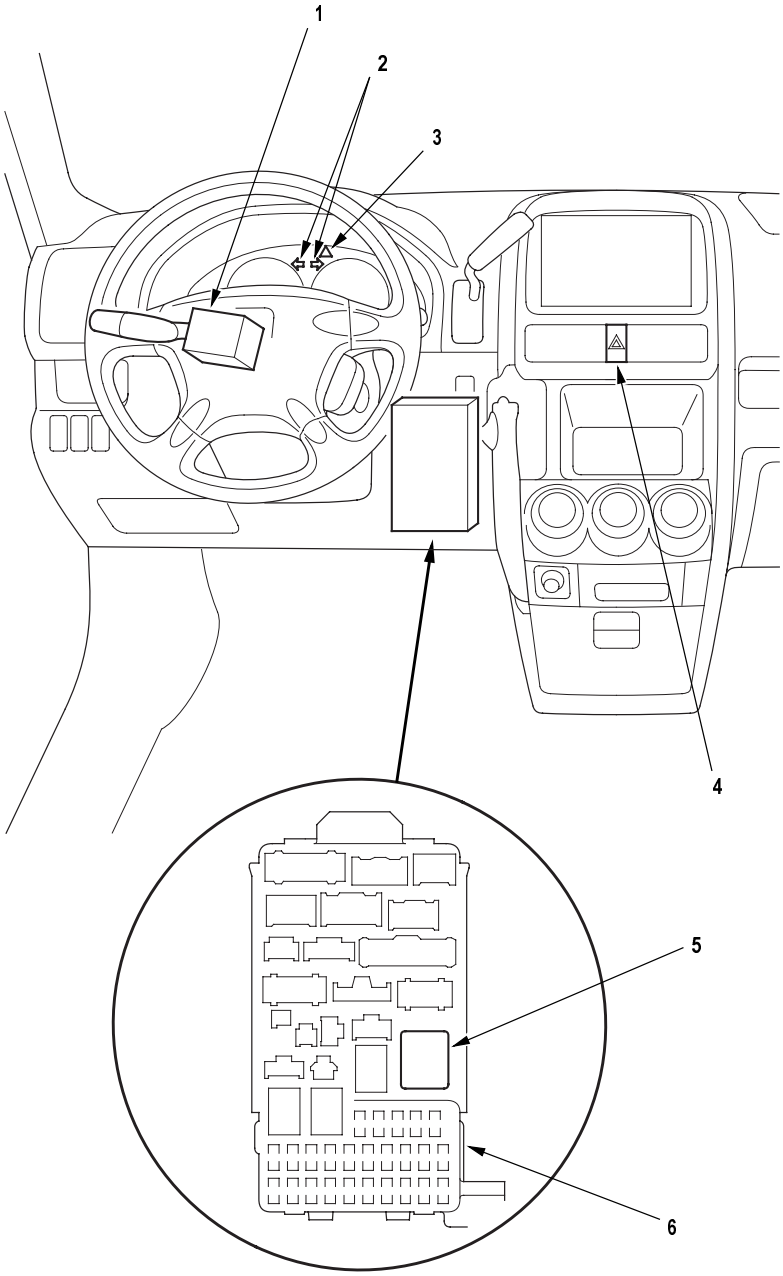


2. Disconnect the 2 P connector (B) from the light.

Turn Signal/Hazard Flasher

Component Location Index

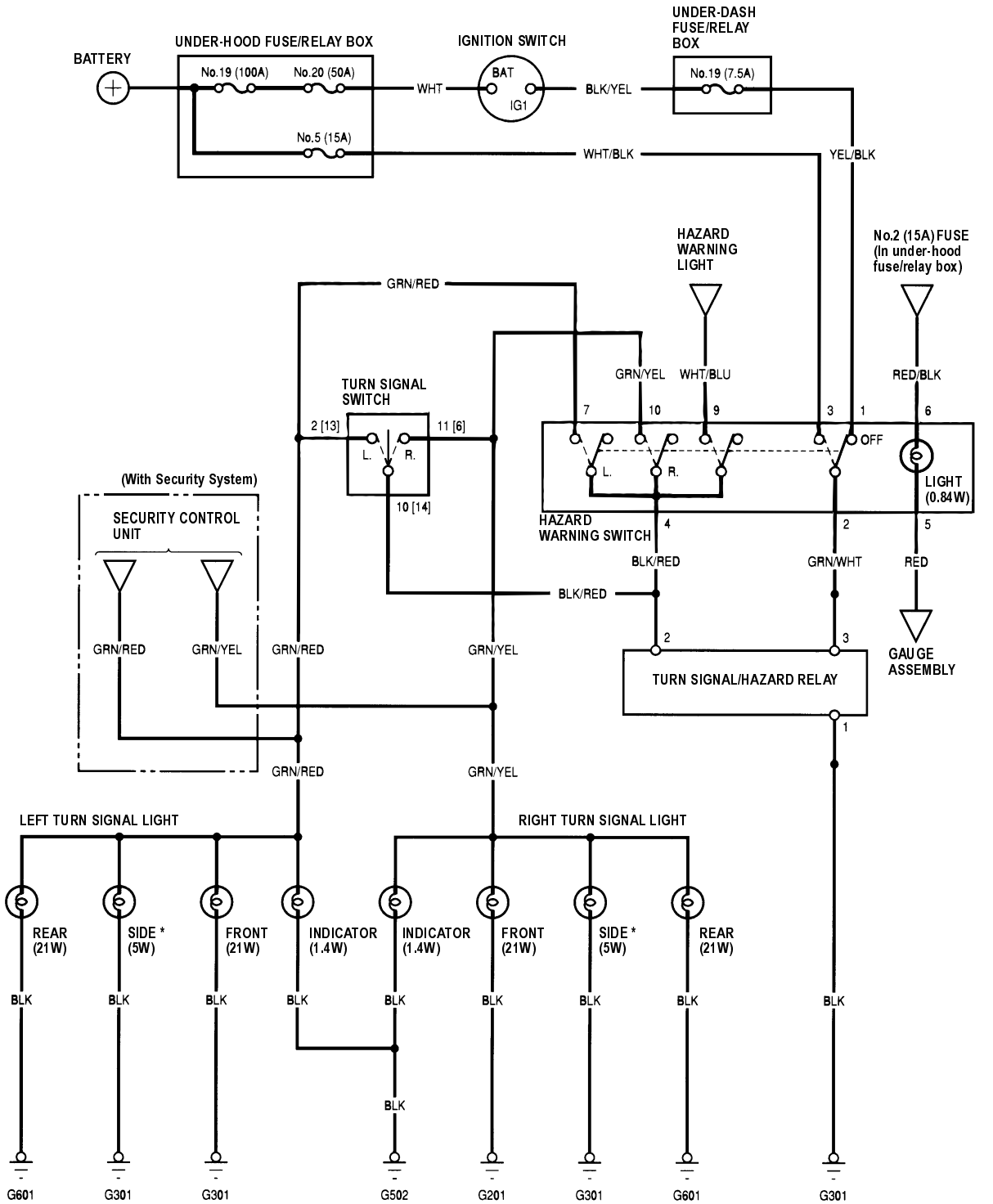
Note: LHD type is shown, RHD type is similar.



1	COMBINATION LIGHT/TURN SIGNAL SWITCH	Test, page 22A-92
2	TURN SIGNAL INDICATOR LIGHTS (In the gauge assembly)	Gauge Bulb Replacement, page 22A-73
3	HAZARD WARNING LIGHT (KM and KP models)	
4	HAZARD WARNING SWITCH	Test, page 22A-105
5	TURN SIGNAL/HAZARD RELAY	Input Test, page 22A-104
6	UNDER-DASH FUSE/RELAY BOX	

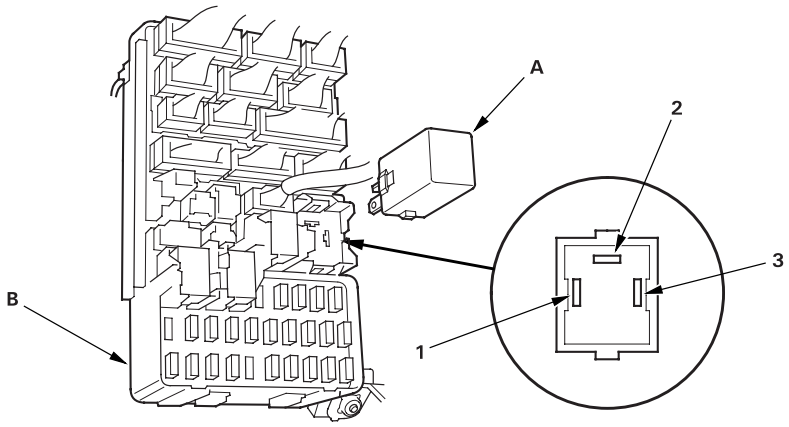
Circuit Diagram

* : Except FO



Turn Signal/Hazard Relay Input Test

1. Remove the turn signal/hazard relay (A) from the under-dash fuse/relay box (B).



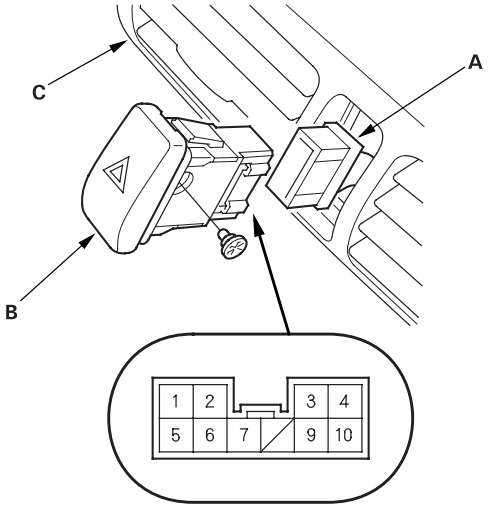
2. Inspect the relay and fuse/relay box socket terminals to be sure they are all making good contact.
- If the terminals are bent, loose, or corroded, repair them as necessary, and recheck the system.
- If the terminals look OK, go to step 3.

3. Make these input tests at the 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, the turn signal/hazard relay must be faulty; replace it.

Cavity	Test condition	Test: Desired result	Possible cause if result is not obtained
1	Under all conditions	Check for continuity to ground: There should be continuity.	• Poor ground (G301) • An open in the wire
3	Ignition switch ON (II) Hazard warning switch OFF	Check for voltage to ground: There should be battery voltage.	• Blown No. 19 (7.5A) fuse in the under-dash fuse/relay box • Faulty hazard warning switch • An open in the wire
	Hazard warning switch ON Ignition switch OFF	Check for voltage to ground: There should be battery voltage.	• Blown No. 5 (15A) fuse in the under-hood fuse/relay box • Faulty hazard warning switch • An open in the wire
2	Ignition switch ON (II) and turn signal switch in Right or Left position	Connect No. 2 terminal to No. 3 terminal: Right or left turn signal lights should come on.	• Poor ground (G201, G301, G502, G601) • Faulty turn signal switch • An open in the wire
	Hazard warning switch ON	Connect No. 2 terminal to No. 3 terminal: Hazard warning lights should come on.	• Poor ground (G201, G301, G502, G601) • Faulty hazard warning switch • An open in the wire

Hazard Warning Switch Test

1. Remove the center panel (see page 20-89).
2. Disconnect the 10P connector (A) from the hazard warning switch (B).



3. Push out the hazard warning switch from behind the center panel (C).
4. Check for continuity between the terminals in each switch position according to the table.

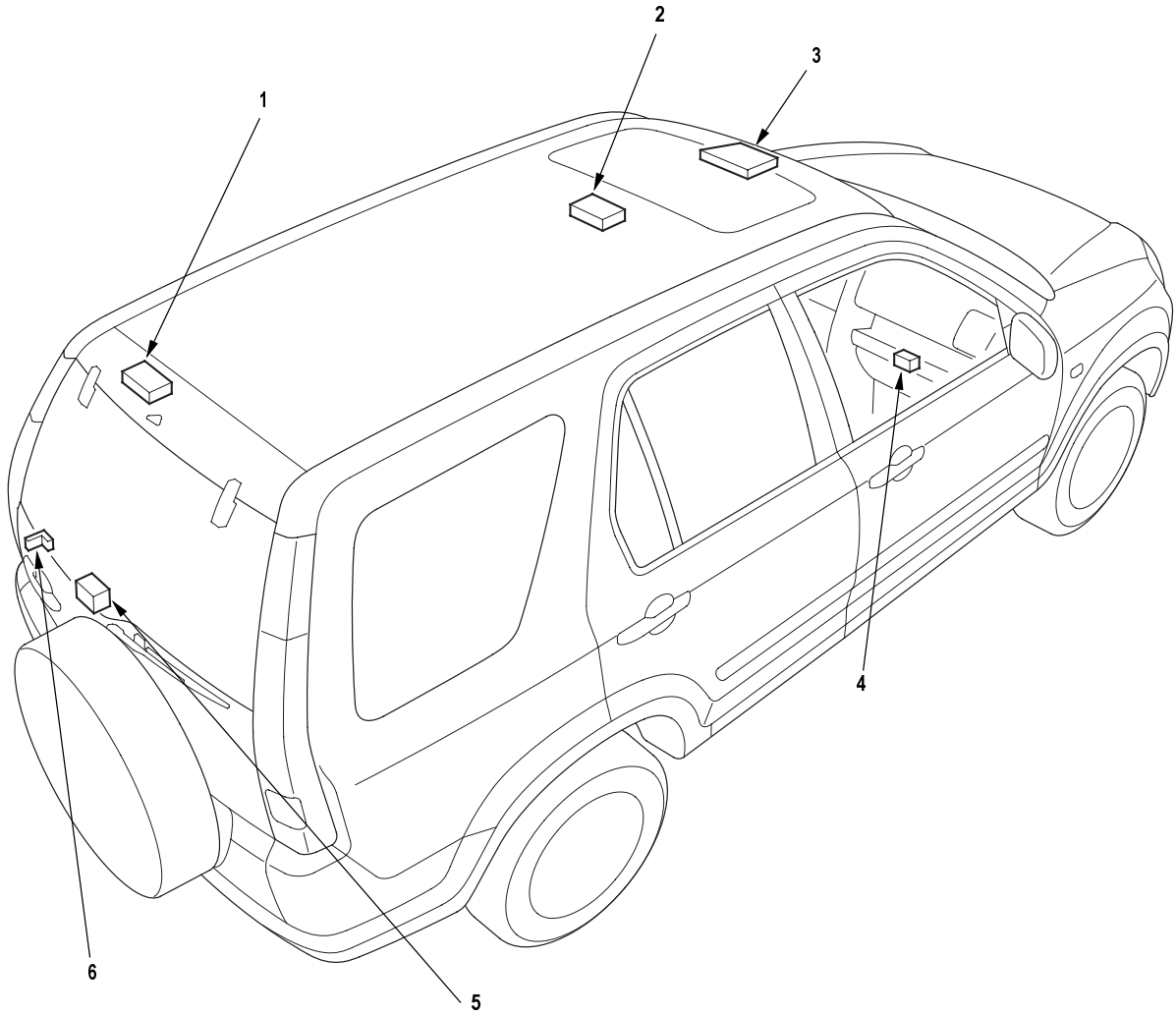
Terminal / Position	5		6	1	2	3	4	7	9	10
OFF	○	◎	○	○	○					
ON	○	◎	○		○	○	○	○	○	○

5. If the continuity is not as specified, replace the illumination bulb (D) or the switch.
6. Install the switch in the reverse order of removal.

Interior Lights

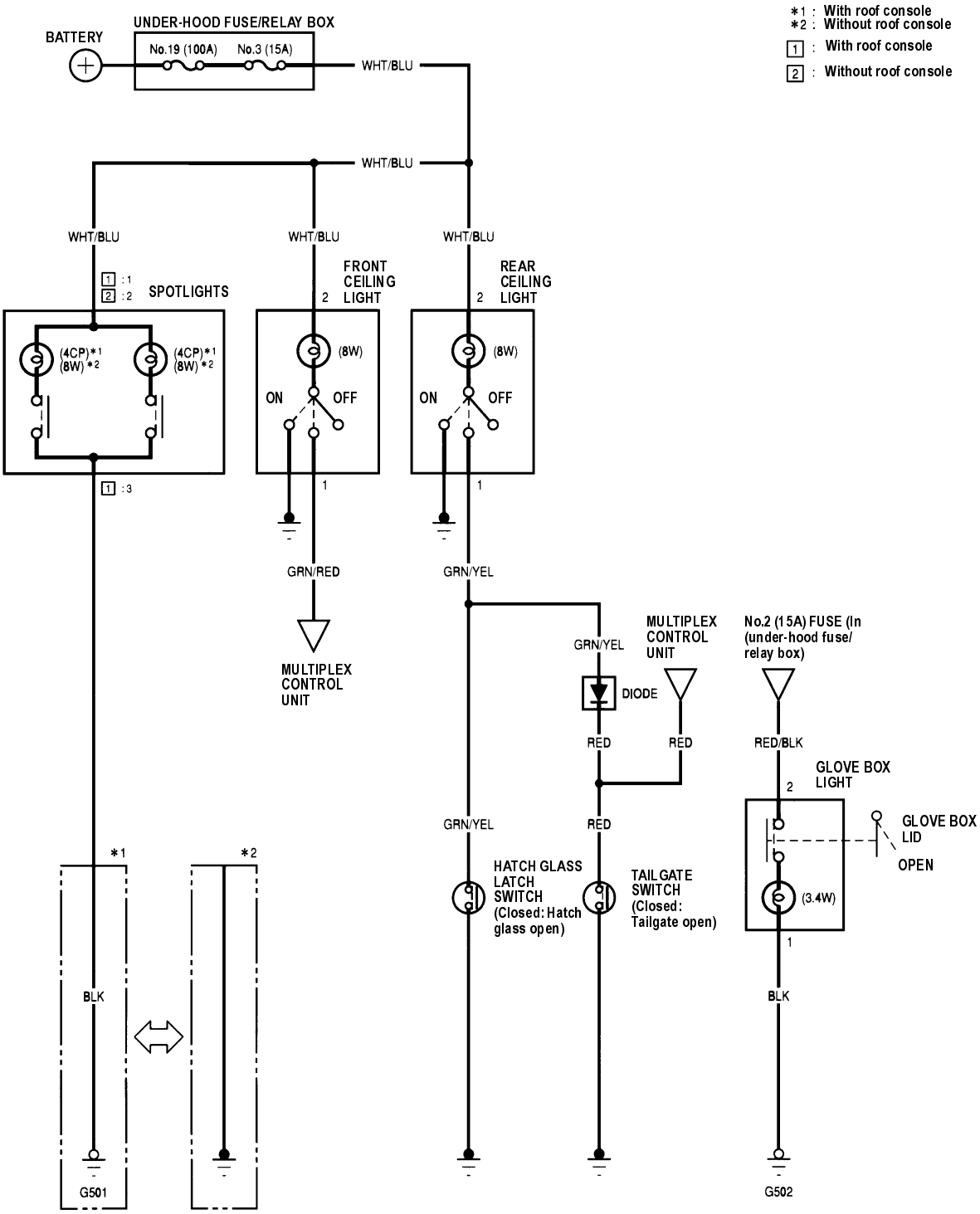
Component Location Index

NOTE: LHD type is shown, RHD type is similar.



1	REAR CEILING LIGHT	Test, page 22A-109; Replacement, page 22A-109
2	FRONT CEILING LIGHT	Test, page 22A-109; Replacement, page 22A-109
3	SPOTLIGHT	Test, page 22A-108; Replacement, page 22A-108
4	GLOVE BOX LIGHT	Test, page 22A-109; Replacement, page 22A-109
5	HATCH GLASS LATCH SWITCH	Test, page 22A-110; Replacement, page 20-166
6	TAILGATE SWITCH	Test, page 22A-110; Replacement, page 22A-110

Circuit Diagram

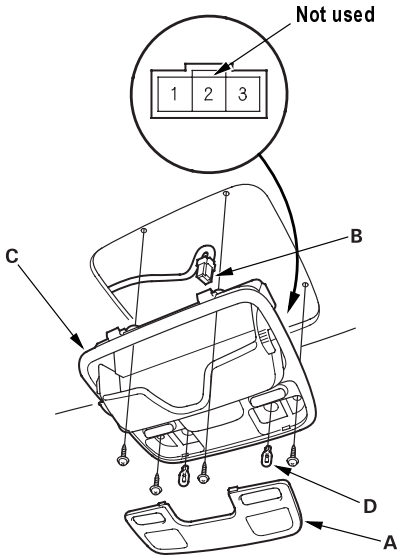


Spotlights Test/Replacement

With Roof Console:

1. Turn the light switch OFF.
2. Carefully pry off the lens (A) with a small screwdriver.

   Spotlight: 4CP



3. Remove the four mounting screws.
4. Disconnect the 3P connector (B) from the housing (C).
5. Check for continuity between the terminals in each switch position according to the table.

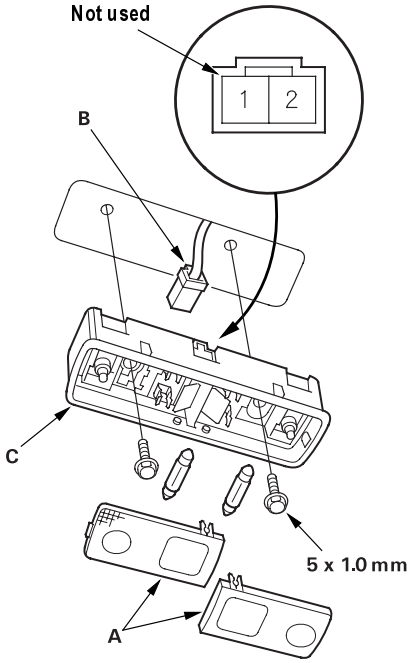
Position	Terminal	1		3
LEFT	ON	○	⊙	○
	OFF			
RIGHT	ON	○	⊙	○
	OFF			

6. If the continuity is not as specified, check the bulb (D). If the bulb is OK, replace the light.

Without Roof Console:

1. Turn the light switch OFF.
2. Carefully pry off the lenses (A) with a small screwdriver.

   Spotlight: 8 W x 2



3. Remove the two mounting bolts.
4. Disconnect the 2P connector (B) from the housing (C).
5. Check for continuity between the terminals in each switch position according to the table.

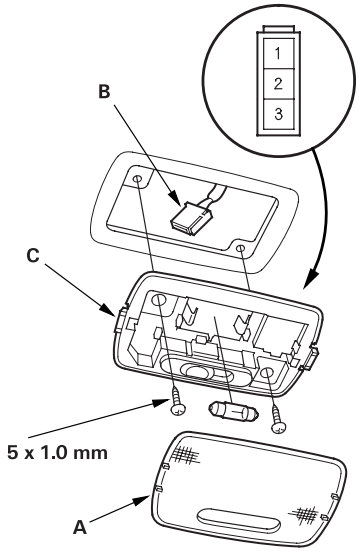
Position	Terminal	2		Body ground
LEFT	ON	○	⊙	○
	OFF			
RIGHT	ON	○	⊙	○
	OFF			

6. If the continuity is not as specified, check the bulb (D). If the bulb is OK, replace the light.
7. When installing the spotlights housing, if the threads in the ET screw are worn out, use an oversized ET screw made specifically for this application.

Ceiling Light Test/Replacement

1. Turn the light switch OFF.
2. Carefully pry off the lens (A) with a small screwdriver.

   Ceiling Light: 8 W



3. Remove the two mounting screws.
4. Disconnect the 3P connector (B) from the housing (C).
5. Check for continuity between the terminals in each switch position according to the table.

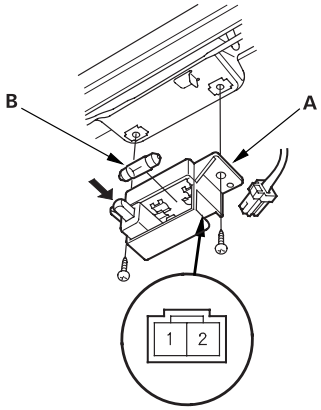
Terminal / Position	1		2		Body ground
OFF					
MIDDLE	○	◊	○		
ON			○	◊	○

6. When installing the ceiling light housing, if the threads in the ET screw are worn out, use an oversized ET screw made specifically for this application.

Glove Box Light Test/Replacement

1. Open the glove box.
2. Disconnect the 2P connector from the glove box light (A).

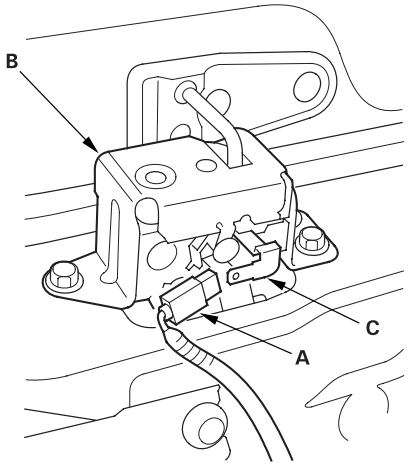
   Glove Box Light: 3.4 W



3. Check for continuity between the No. 1 and No. 2 terminals.
   - There should be continuity with the switch released.
   - There should be no continuity with the switch pushed.
4. If the continuity is not as specified, check the bulb (B). If the bulb is OK, replace the light.

Hatch Glass Latch Switch Test

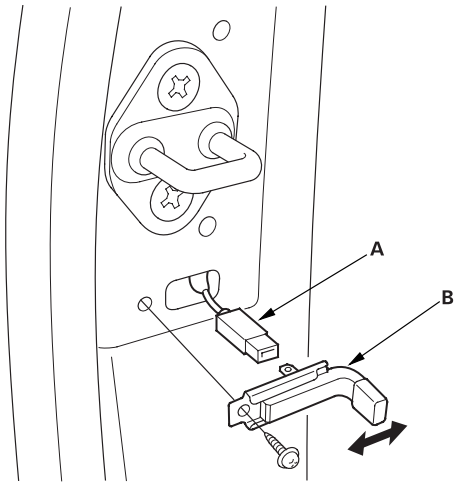
1. Remove the tailgate lower trim panel (see page 20-80).
2. Push the hatch glass opener switch, and open the hatch glass.
3. Disconnect the connector (A) from the hatch glass opener (B).



4. Check for continuity between the opener switch positive terminal (C) and body ground.
   - There should be continuity with the hatch glass opened.
   - There should be no continuity with the hatch glass closed.
5. If the continuity is not as specified, replace the hatch glass latch switch.

Tailgate Switch Test/Replacement

1. Open the tailgate.
2. Remove the mounting screw from the tailgate switch.
3. Disconnect the connector (A) from the tailgate switch (B).

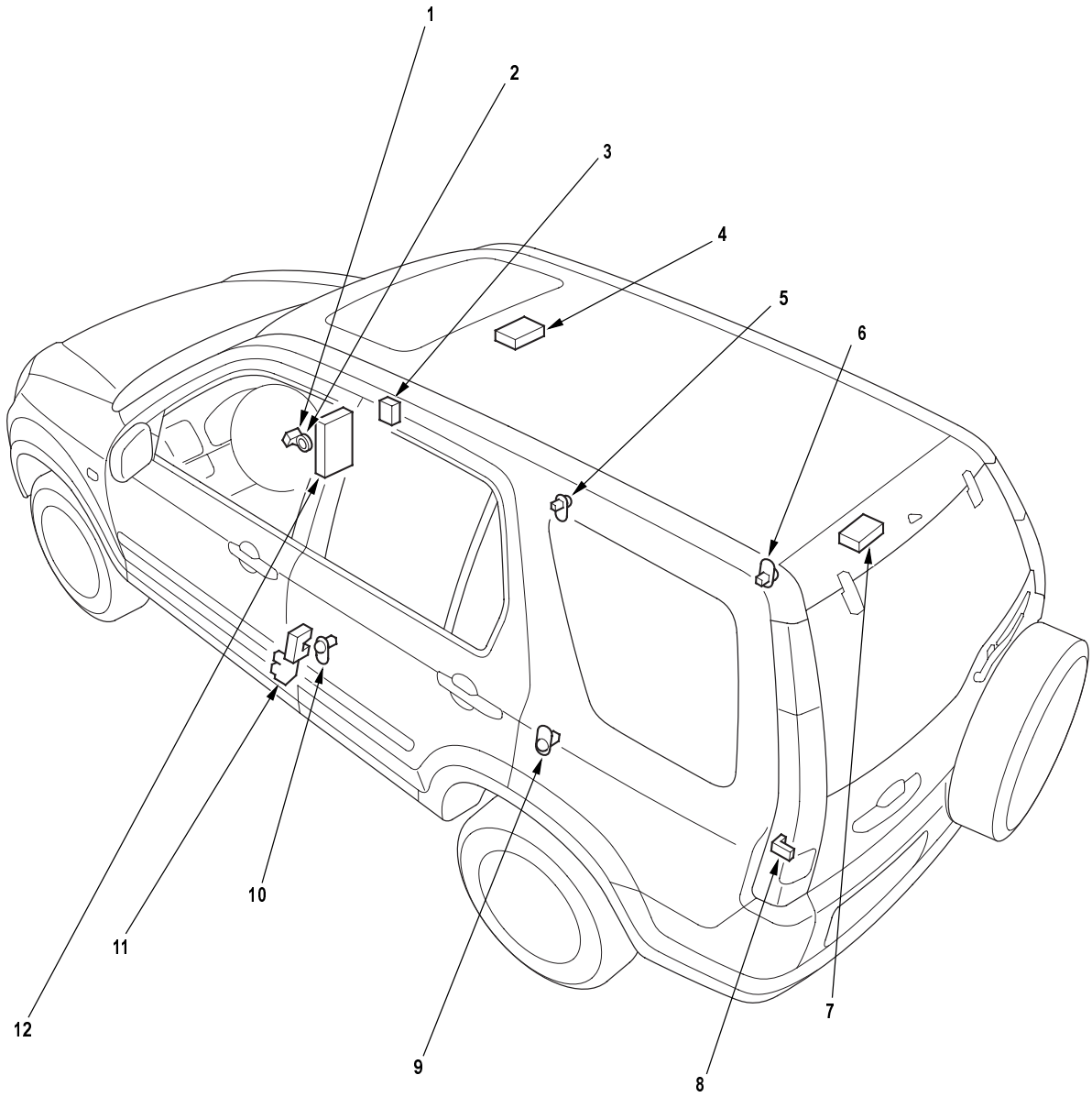


4. Check for continuity between the tailgate switch positive terminal (C) and body ground.
   - There should be continuity with the switch released (tailgate open position).
   - There should be no continuity with the switch pushed (tailgate open position).
5. If the continuity is not as specified, replace the tailgate switch.

Entry Light Control System

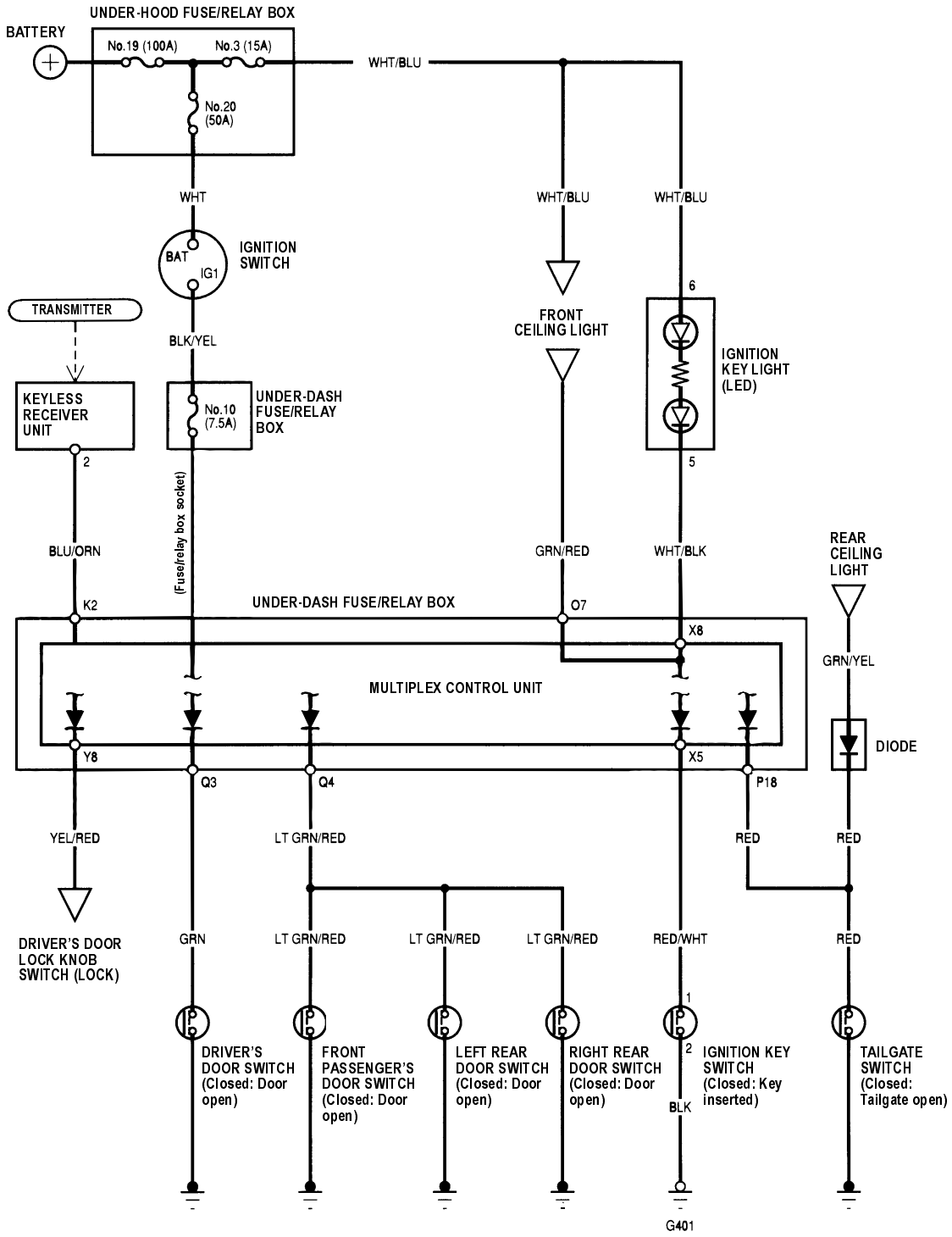
Component Location Index

NOTE: LHD type is shown, RHD type is similar.



1	IGNITION KEY SWITCH	Test, page 22A-113
2	IGNITION KEY LIGHT	Test, page 22A-113
3	KEYLESS RECEIVER UNIT	Input Test, page 22A-165
4	FRONT CEILING LIGHT	Test, page 22A-109; Replacement, page 22A-109
5	FRONT PASSENGER'S DOOR SWITCH	
6	RIGHT REAR DOOR SWITCH	
7	REAR CEILING LIGHT	Test, page 22A-109; Replacement, page 22A-109
8	TAILGATE SWITCH	Test, page 22A-110; Replacement, page 22A-110
9	LEFT REAR DOOR SWITCH	
10	DRIVER'S DOOR SWITCH	
11	DRIVER'S DOOR LOCK KNOB SWITCH	Test, page 22A-202
12	MULTIPLEX CONTROL UNIT	Input Test, page 22A-114

Circuit Diagram

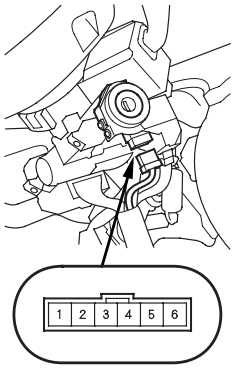


Ignition Key Switch Test

NOTE: For more key-in beeper information, refer to the circuit diagram (see page 22A-112) and input test (see page 22A-114).

When the ignition key is in the ignition switch, the key-in beeper circuit of multiplex control unit senses ground through the closed ignition key switch. When you open the driver's door, the beeper circuit senses ground through the closed door switch. When both switches are closed (driver's door and ignition), the key-in beeper in the gauge assembly is activated.

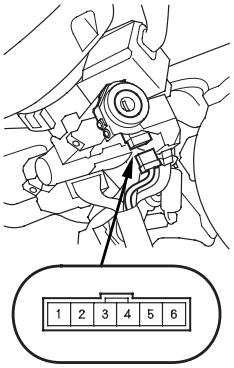
1. Remove the steering column upper and lower covers (see page 17-24).
2. Disconnect the 6P connector.



3. Check for continuity between the No. 1 and No. 2 terminals.
   - There should be continuity with the key in the ignition switch.
   - There should be no continuity with the key removed.
4. If the continuity is not as specified, replace the steering lock assembly.

Ignition Key Light Test

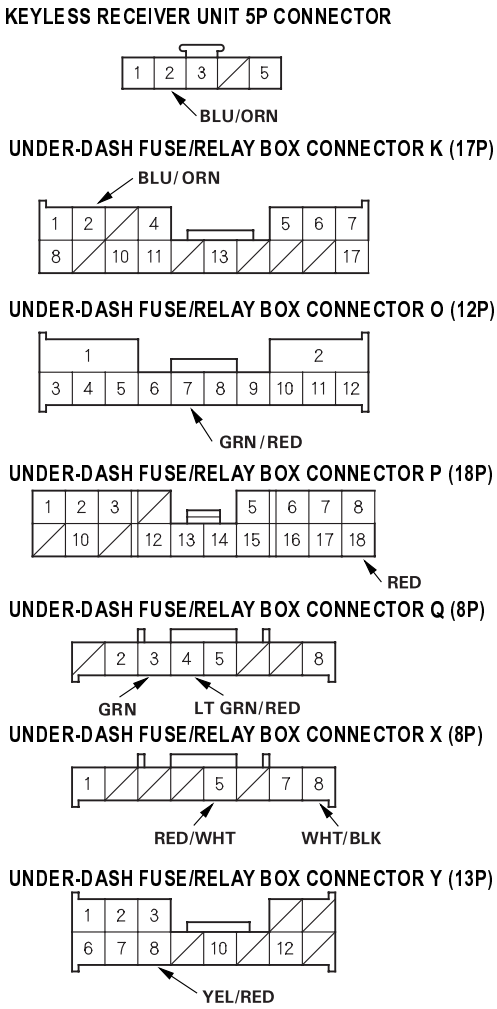
1. Remove the steering column upper and lower covers (see page 17-24).
2. Disconnect the 6P connector.



3. The LED should come on when power is connected to the No. 6 terminal and ground is connected to No. 5 terminal.

Control Unit Input Test

1. Before testing, troubleshoot the multiplex control system (see page 22A-235).
2. Remove the dashboard lower cover.
3. Disconnect the under-dash fuse/relay box connectors.
   NOTE: All connectors are wire side of female terminals.



4. 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 5.

5. With the connectors still disconnected, 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, go to step 5.

Cavity	Wire	Test condition	Test: Desired result	Possible cause if result is not obtained
K2	BLU/ORN	Under all conditions	Check for continuity between the K2 terminal and the keyless receiver unit 5P connector No. 2 terminal: There should be continuity.	• An open in the wire
X8	WHT/BLK	Under all conditions	Attach to ground: Ignition key light should come on.	• Blown No. 3 (15A) fuse in the under-hood fuse/relay box • Faulty ignition key light • An open in the wire

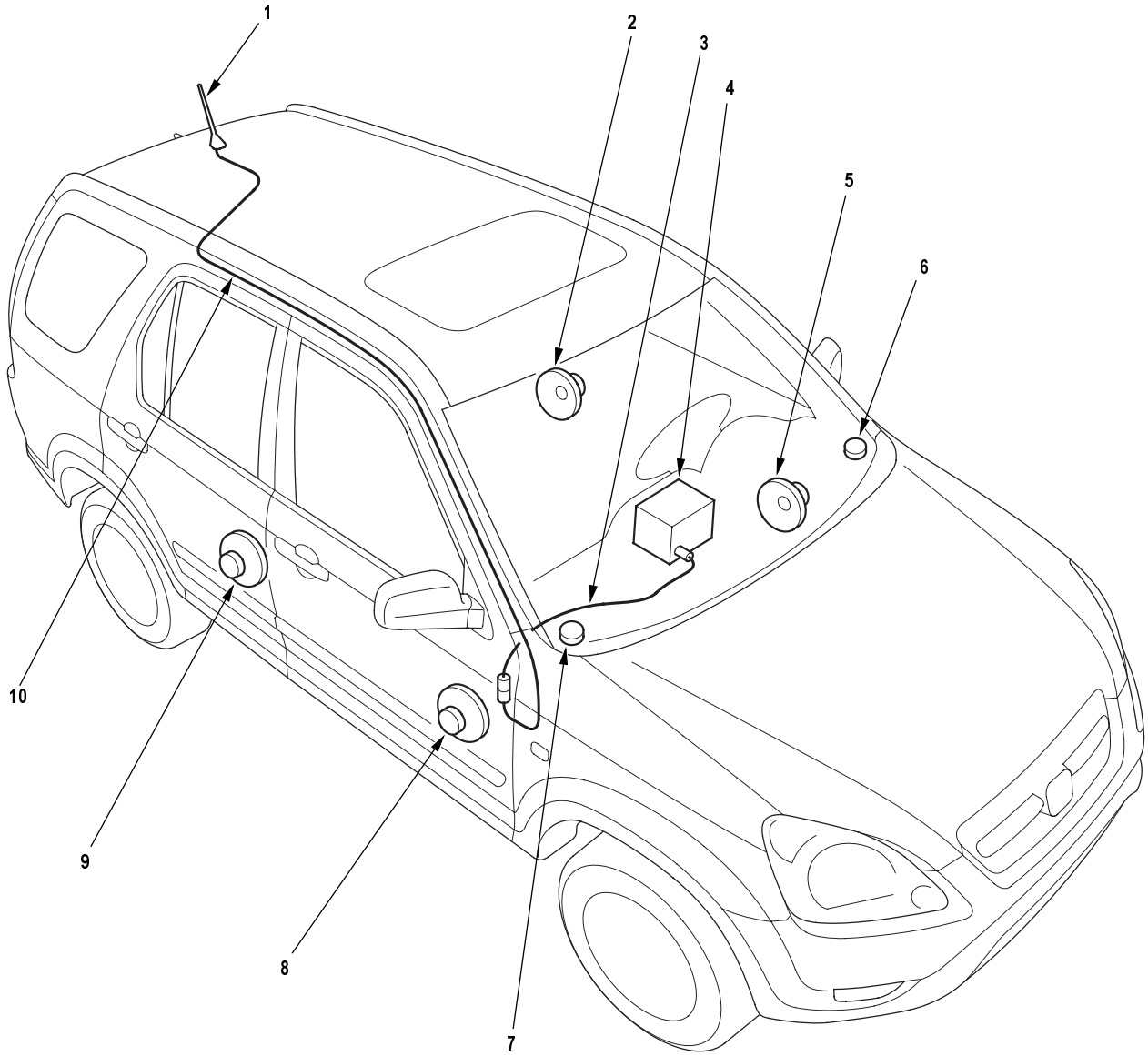
6. Reconnect the connectors to the under-dash fuse/relay box, and make sure these input tests at the appropriate connectors on the under-dash fuse/relay box.
- If any test indicates a problem, find and correct the cause, then recheck the system.
- If all the input tests prove OK, the multiplex control unit must be faulty, replace the under-dash fuse/relay box assembly.

Cavity	Wire	Test condition	Test: Desired result	Possible cause if result is not obtained
P18	RED	Tailgate lid open	Check for voltage to ground: There should be 1 V or less.	• Faulty tailgate switch • An open in the wire
		Tailgate closed	Check for voltage to ground: There should be 5 V or more.	• Faulty tailgate switch • Short to ground
Q3	GRN	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
Q4	LT GRN/ RED	Front passenger's door open	Check for voltage to ground: There should be 1 V or less.	• Faulty front passenger's door switch • An open in the wire
		Front passenger's door closed	Check for voltage to ground: There should be 5 V or more.	• Faulty front passenger's door switch • Short to ground
		Left (right) rear door open	Check for voltage to ground: There should be 1 V or less.	• Faulty left (right) rear door switch • An open in the wire
		Left (right) rear door closed	Check for voltage to ground: There should be 5 V or more.	• Faulty left (right) rear door switch • Short to ground
X5	RED/WHT	Ignition key inserted into the ignition switch	Check for voltage to ground: There should be 1 V or less.	• Poor ground (G401) • Faulty ignition key switch • An open in the wire
		Ignition key removed from the ignition switch	Check for voltage to ground: There should be 5 V or more.	• Faulty ignition key switch • Short to ground
Y8	YEL/RED	Driver's door lock knob switch locked	Check for voltage to ground: There should be 1 V or less.	• Poor ground (G501) • Faulty driver's door lock knob switch • An open in the wire
		Driver's door lock knob switch unlocked	Check for voltage to ground: There should be 5 V or more.	• Faulty driver's door lock knob switch • Short to ground
O7	GRN/RED	Ceiling light switch in middle position, all door closed	Attach to ground: Ceiling light(s) should come on.	• Blown No. 3 (15A) fuse in the under-hood fuse/relay box • Blown bulb • Faulty ceiling light • An open in the wire

Stereo Sound System

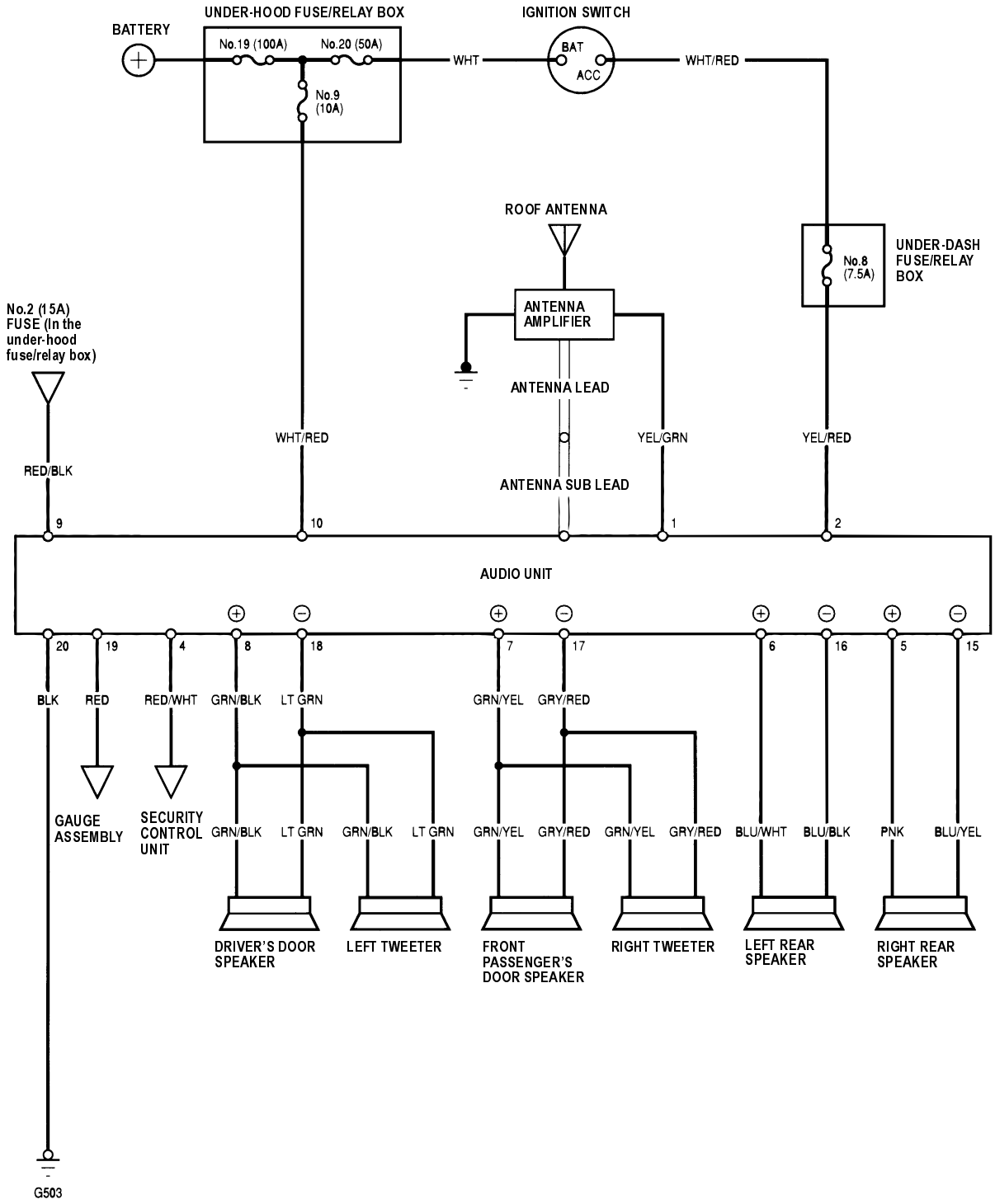
Component Location Index

NOTE: LHD type is shown, RHD type is similar.



1	ROOF ANTENNA	Replacement, page 22A-121
2	LEFT REAR SPEAKER	Replacement, page 22A-120
3	ANTENNA SUB-LEAD	
4	AUDIO UNIT	Removal, page 22A-118; Connector Replacement, page 22A-119
5	DRIVER'S DOOR SPEAKER	Replacement, page 22A-120
6	LEFT TWEETER	Replacement, page 22A-120
7	RIGHT TWEETER	Replacement, page 22A-120
8	FRONT PASSENGER'S DOOR SPEAKER	Replacement, page 22A-120
9	RIGHT REAR SPEAKER	Replacement, page 22A-120
10	ANTENNA LEAD	

Circuit Diagram

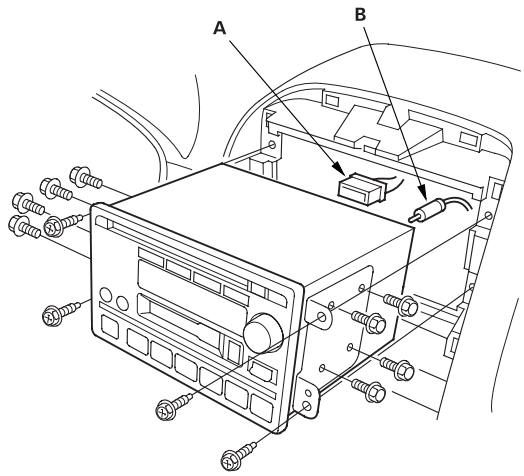


Audio Unit Removal/Installation

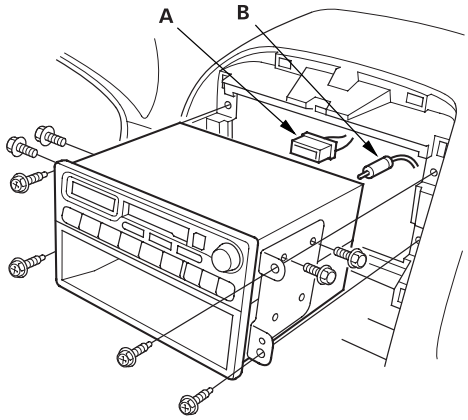
NOTE:
- Put on gloves to protect your hands.
- Take care not to scratch the dashboard and related parts.

1. Make sure you have the anti-theft code for the radio, then write down the frequencies for the radio's preset buttons.
2. Remove the dashboard center panel (see page 20-89).
3. Remove the fore mounting bolts, then remove the audio unit.

Type 1:



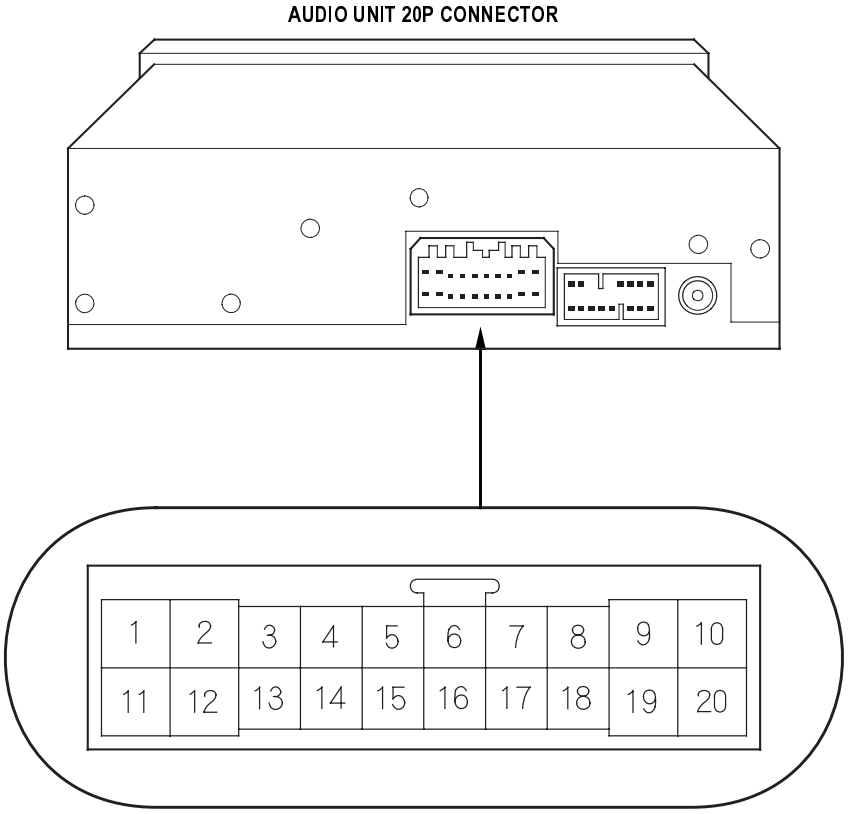
Type 2:



4. Disconnect the connector (A) and the antenna lead (B).
5. Install the audio unit in the reverse order of removal, and note these items:
   - Make sure the audio unit connector is plugged in properly, and the antenna lead is connected properly.
   - Enter the anti-theft code for the radio, then enter the customer's radio station presets.

Audio Unit Connector Replacement

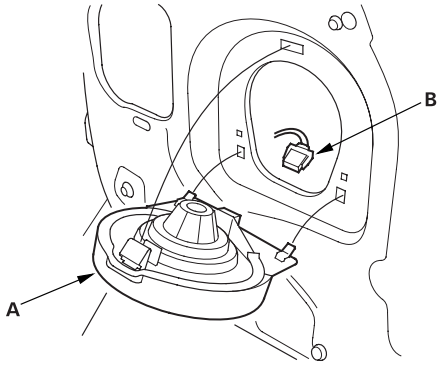
Cavity	Wire	Connects to
1	YEL/GRN	Roof antenna
2	YEL/RED	ACC (Main stereo power supply)
3	———	Not used
4	RED/WHT	Security input
5	PNK	Right rear speaker (+)
6	BLU/WHT	Left rear speaker (+)
7	GRN/YEL	Front passenger's door speaker (+), Right tweeter (+)
8	GRN/BLK	Driver's door speaker (+), Left tweeter (+)
9	RED/BLK	Lights-on signal
10	WHT/RED	Constant power
11	———	Not used
12	———	Not used
13	———	Not used
14	———	Not used
15	BLU/YEL	Right rear speaker (--)
16	BLU/BLK	Left rear speaker (-)
17	GRY/RED	Front passenger's door speaker (-), Right tweeter (-)
18	LT GRN	Driver's door speaker (-), Left tweeter
19	RED	Gauge assembly
20	BLK	Ground (G503)



Speaker Replacement

Door Speaker:

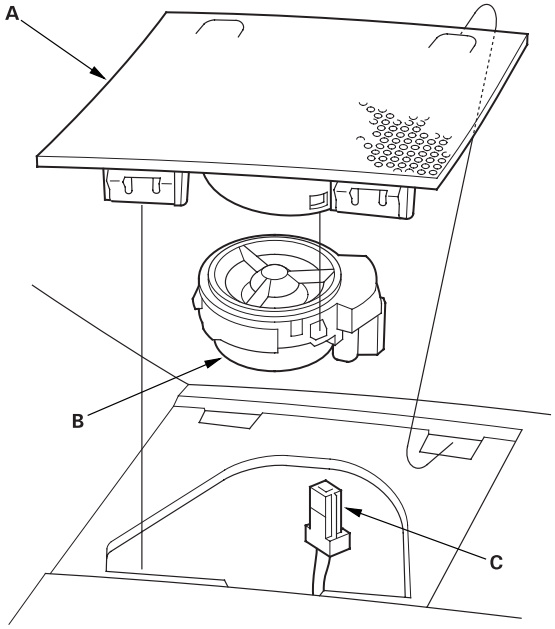
1. Remove the door panel (see page 20-9).
2. Push down on the clip, then pull the top of the speaker (A) straight out just enough to release the upper clip. If you pull the speaker out too far, you will damage the lower clips (C). Then lift the speaker straight up to release the lower clips.



3. Disconnect the 2P connector (B), and remove the speaker.
4. Install the speaker in the reverse order of removal.

Tweeter:

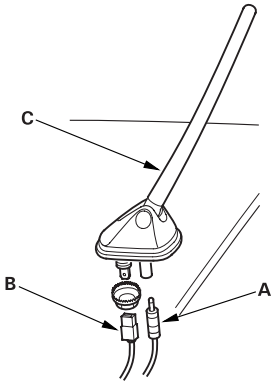
1. Remove the tweeter speaker grille (A) and tweeter (B) as an assembly.
2. Disconnect the 2P connector (C) from the tweeter.
3. Remove the tweeter speaker grille from the tweeter.



4. Install the tweeter in the reverse order of removal.

Roof Antenna Replacement

1. Remove the rear part of headliner (see page 20-81).
2. Disconnect the antenna lead connector (A) and 1P connector (B) from the roof antenna (C).

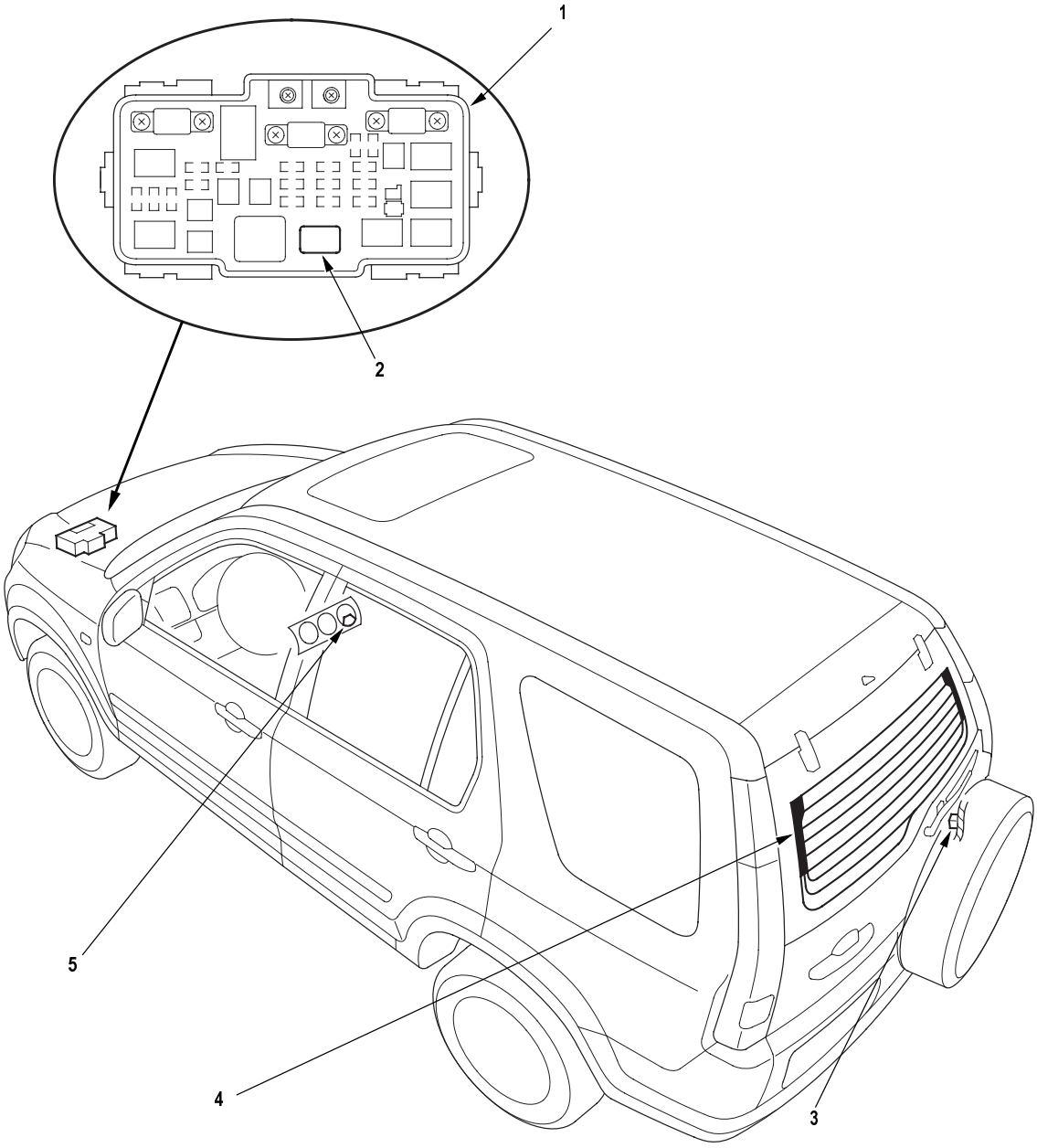


3. Remove the mounting nut and the antenna.

Rear Window Defogger

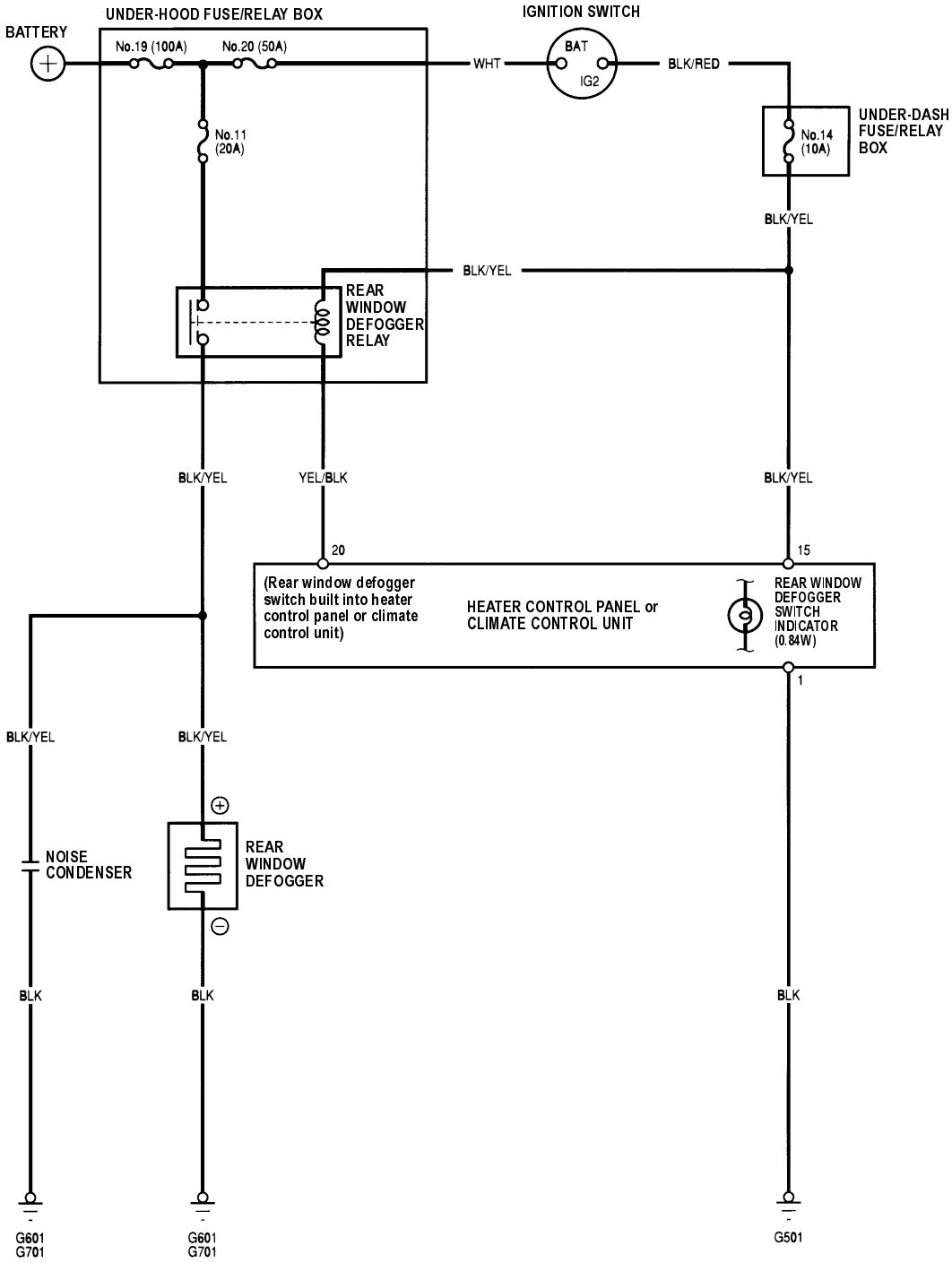
Component Location Index

NOTE: LHD type is shown, RHD type is similar.



1 UNDER-HOOD FUSE/RELAY BOX
2 REAR WINDOW DEFOGGER RELAY Test, page 22A-60
3 NOISE CONDENSER Capacity Test, page 22A-125
4 REAR WINDOW DEFOGGER Function Test, page 22A-124; Defogger Wire Repair, page 22A-124
5 REAR WINDOW DEFOGGER SWITCH
built into the heater control panel or climate control unit

Circuit Diagram



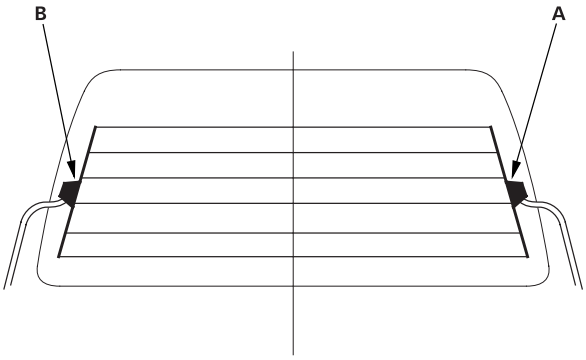
Function Test

NOTE:
- Be careful not to scratch or damage the defogger wires with the tester probe.
- Before testing, check the No. 11 (20A) fuse in the under-hood fuse/relay box and No. 14 (10A) fuse in the under-dash fuse/relay box.

1. Check for voltage between the positive terminal (A) on the right side of the glass and body ground with the ignition switch and defogger switch ON.

There should be battery voltage.

- If there is no voltage, check for:
  - faulty defogger relay.
  - an open in the BLK/RED, BLK/YEL, or YEL/BLK wire.
  - faulty the heater control panel or climate control unit.
- If there is battery voltage, go to step 2.



2. Check for voltage between the positive terminal (A) and the negative terminal (B).

If there is no voltage, check for:

- an open in the BLK wire.
- Poor ground (G601 or G701).

3. Touch the voltmeter positive probe to the halfway point of each defogger wire, and the negative probe to the negative terminal.

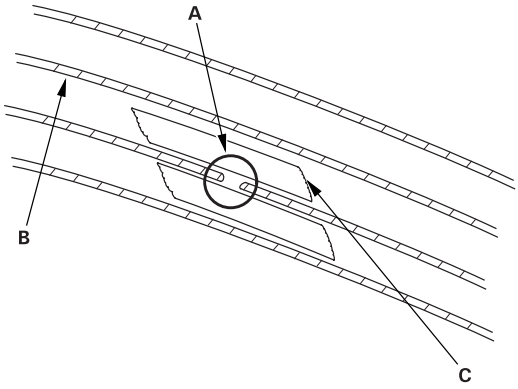
There should be about 6 V with the ignition switch and the defogger switch ON.

- If the voltage is as specified, the defogger wire is OK.
- If the voltage is not as specified, repair the defogger wire.
  - If there is battery voltage, there is a break in the negative half of the grid.
  - If it there is 0 V, there is a break in the positive half of the grid.

Defogger Wire Repair

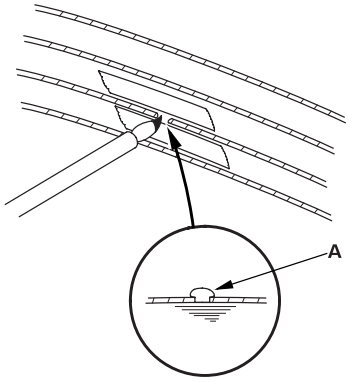
NOTE: To make an effective repair, the broken section must be no longer than 1 inch.

1. Lightly rub the area around the broken section (A) with fine steel wool, then clean it with alcohol.



2. Carefully mask above and below the broken portion of the defogger wire (B) with transparent tape (C).

3. Mix the silver conductive paint thoroughly. Using a small brush, apply a heavy coat of the paint (commercially available defogger grid repair material) extending about 1/8" on both sides of the break. Allow 30 minutes to dry. Mix the paint before use.



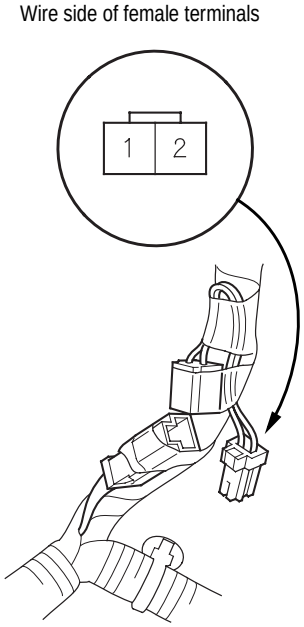
4. Check for continuity in the repaired wire.

5. Apply a second coat of paint in the same way. Let it dry 3 hours before removing the tape.

Noise Condenser Capacity Test

1. Remove the right rear side trim panel (see page 20-77).
2. Disconnect the 2P connector (A) from the noise condenser.

   Noise Condenser capacity: 0.47 ± 0.09 microfarads

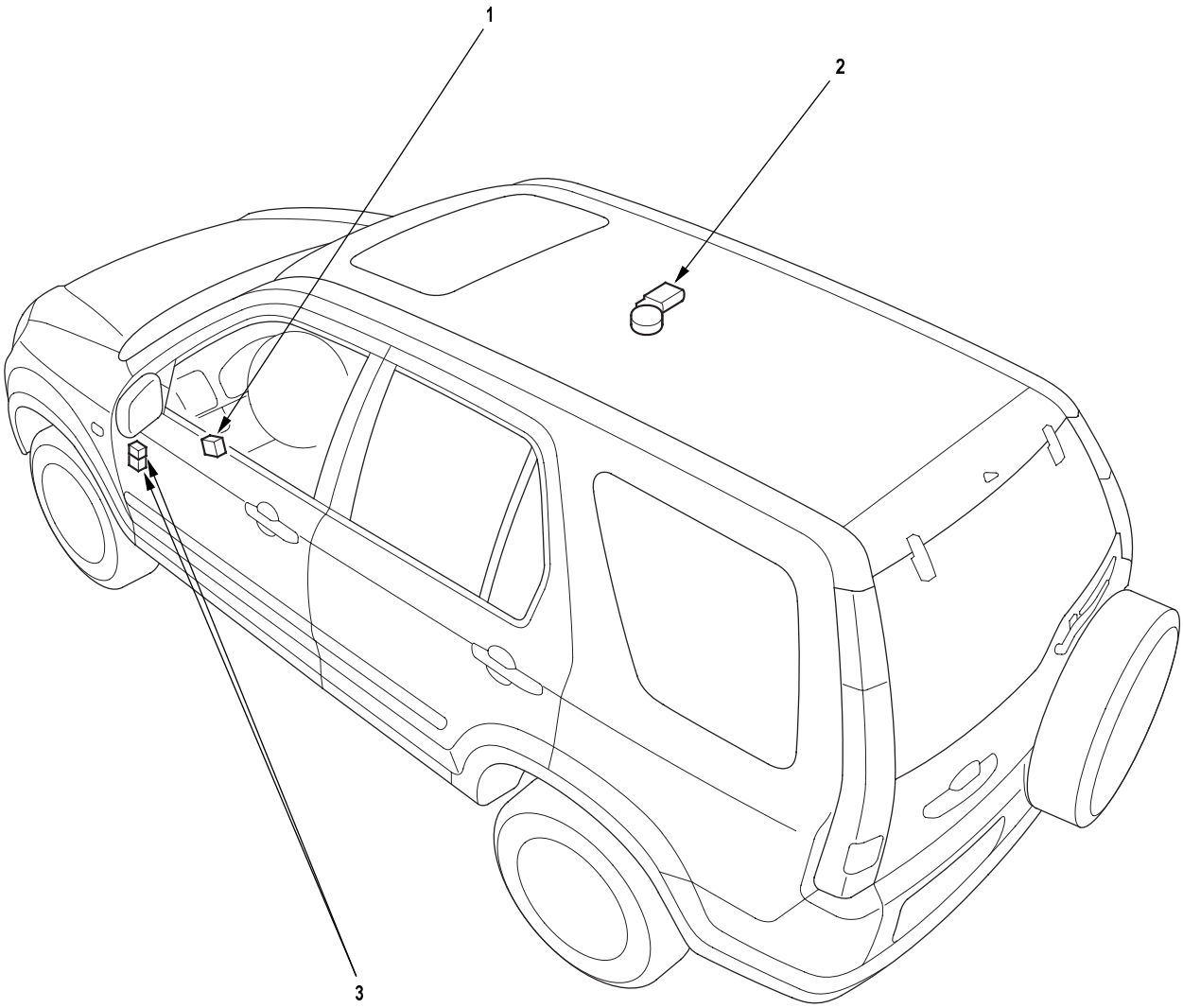


3. Use a commercially available condenser tester. Connect the condenser tester probes, and measure the condenser capacity.
4. If not within the specifications, replace the noise condenser.

Sunroof

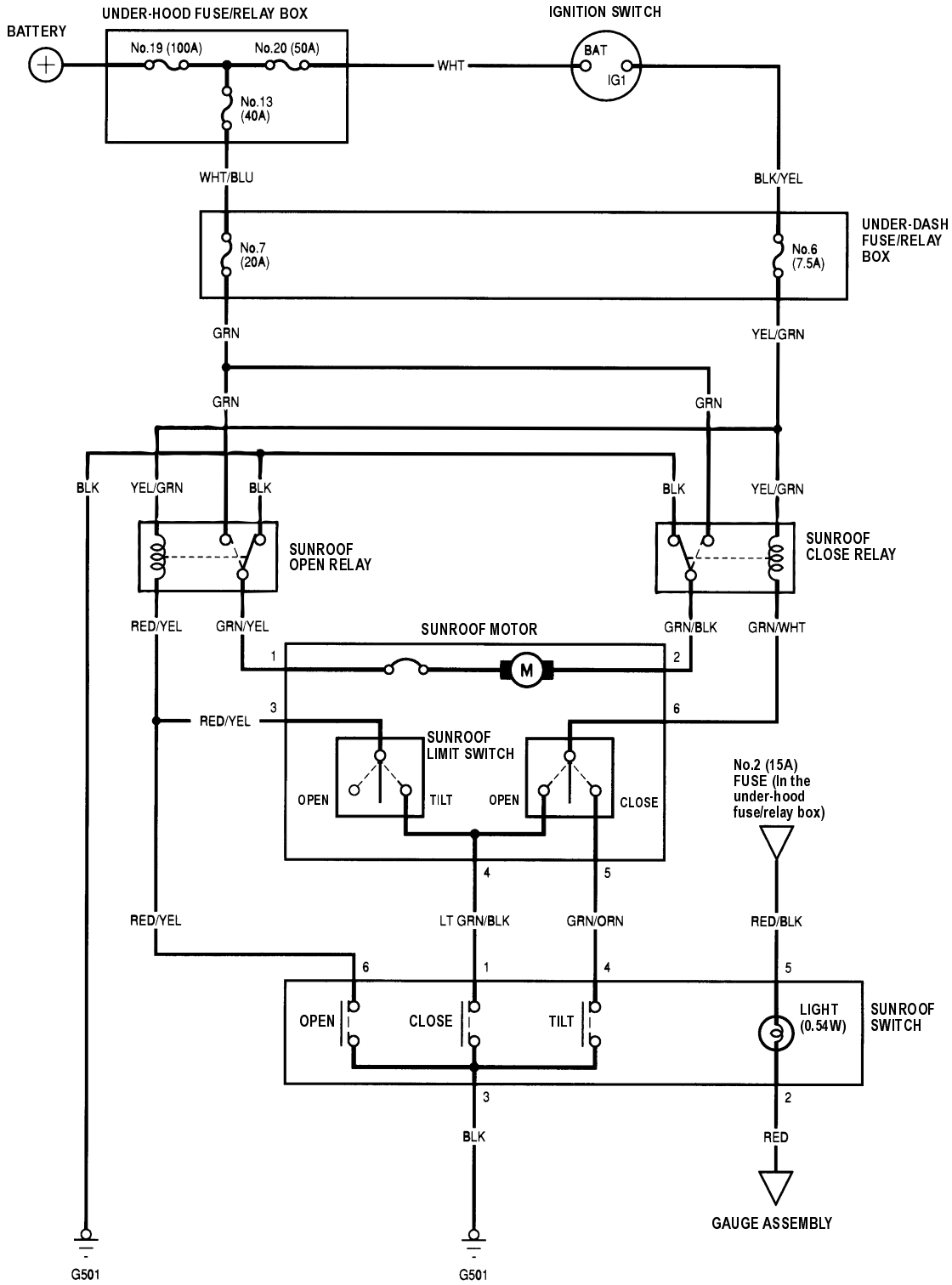
Component Location Index

NOTE: LHD type is shown, RHD type is similar.



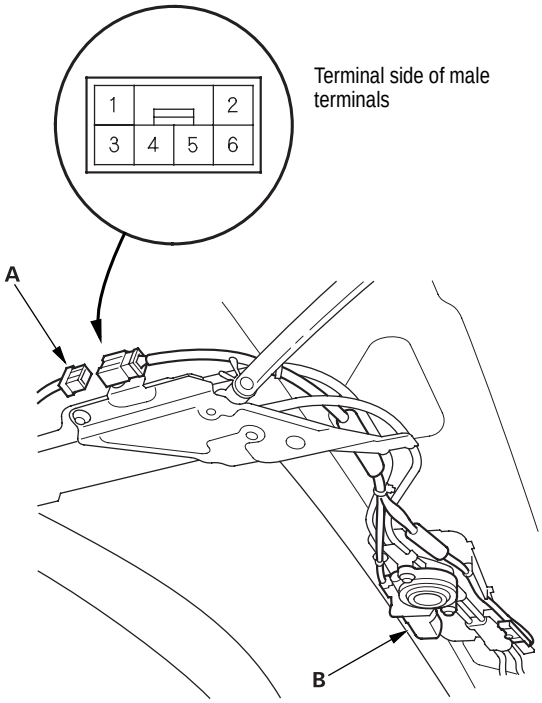
1	SUNROOF SWITCH	Test, page 22A-129
2	SUNROOF MOTOR	Test, page 22A-128 Replacement, page 20-68
3	SUNROOF OPEN RELAY	Test, page 22A-60
	[Wire colors: GRN/YEL, GRN, RED/YEL, BLK and YEL/GRN]	
	SUNROOF CLOSE RELAY	Test, page 22A-60
	[Wire colors: GRN/BLK, GRN, GRN/WHT, BLK and YEL/GRN]	

Circuit Diagram



Motor Test

1. Remove the headliner (see page 20-81).
2. Disconnect the 6P connector (A) from the sunroof motor (B).



Motor test:

3. Check the motor by connecting power and ground according to the table.

Terminal / Position	1	2
OPEN	⊕	⊖
CLOSE	⊖	⊕

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

   NOTE: See the closing force check (see page 20-74) for the motor clutch test.

Limit switch test:

5. Check for continuity between the terminals in each switch position according to the table.

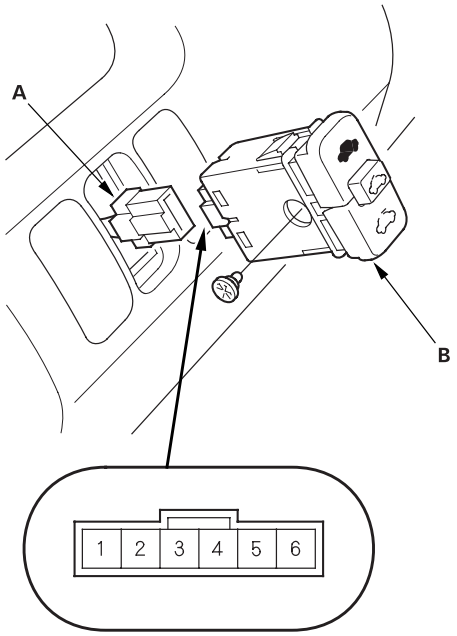
   NOTE: Turn the motor by hand with the wrench.

Terminal / Position	3	4	5	6
TILT	○	○	○	○
OPEN		○		○
CLOSE	○	○	○	○

6. If the continuity is not as specified, adjust the limit switch (see page 20-73), and recheck.
7. If the continuity is still not as specified, replace the moonroof motor.

Switch Test/Replacement

1. Remove the dashboard lower cover (see page 20-88).
2. Disconnect the 6P connector (A) from the sunroof switch (B), and remove the sunroof switch.



3. Check for continuity between the terminals in each switch position according to the table.

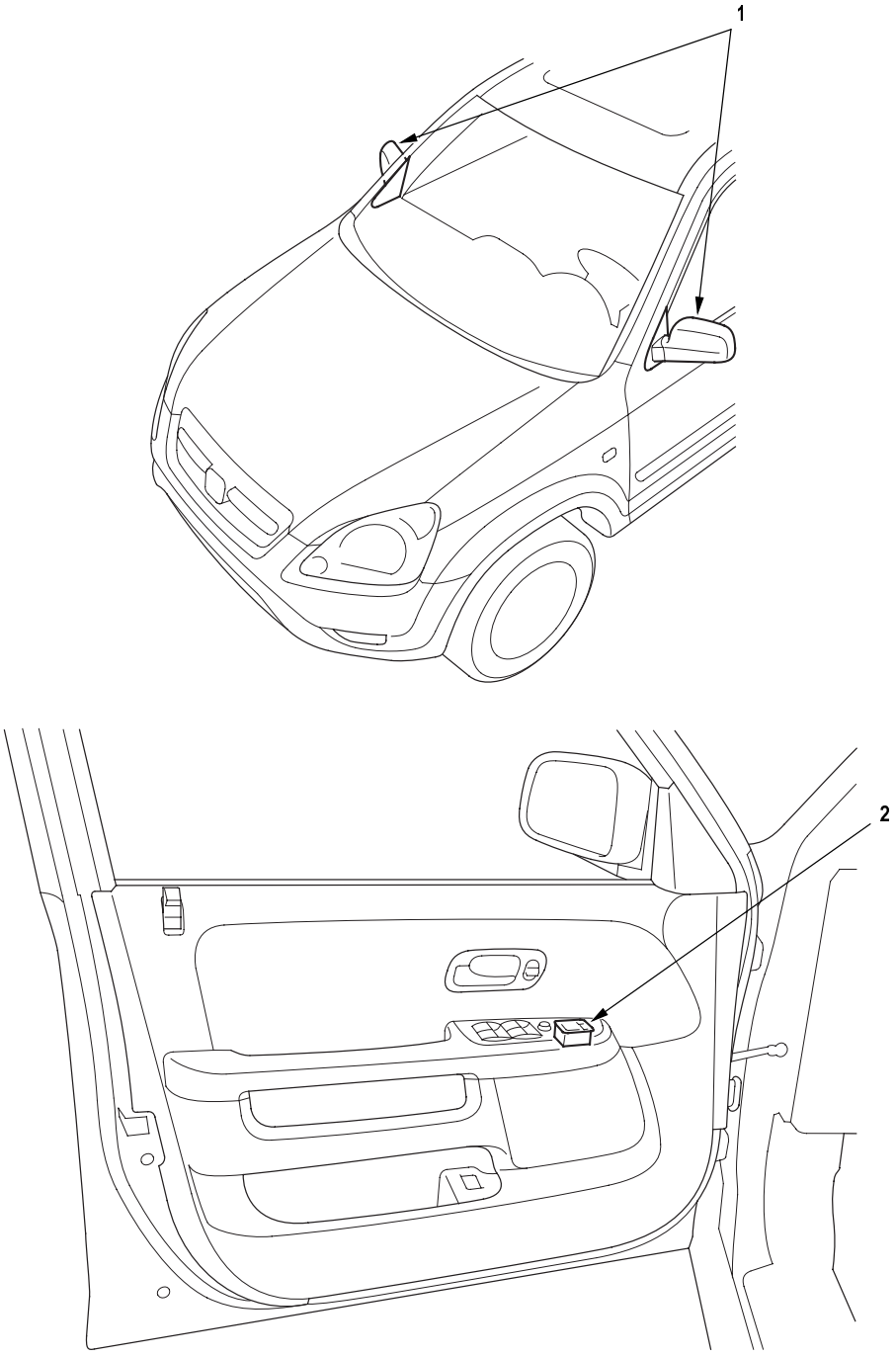
Terminal / Position	2		5	1	3	4	6
CLOSE				○—○			
TILT	○—(≈)—○				○—○		
OPEN					○———○		

4. If the continuity is not specified, replace the bulb (C) or the switch.

Power Mirrors

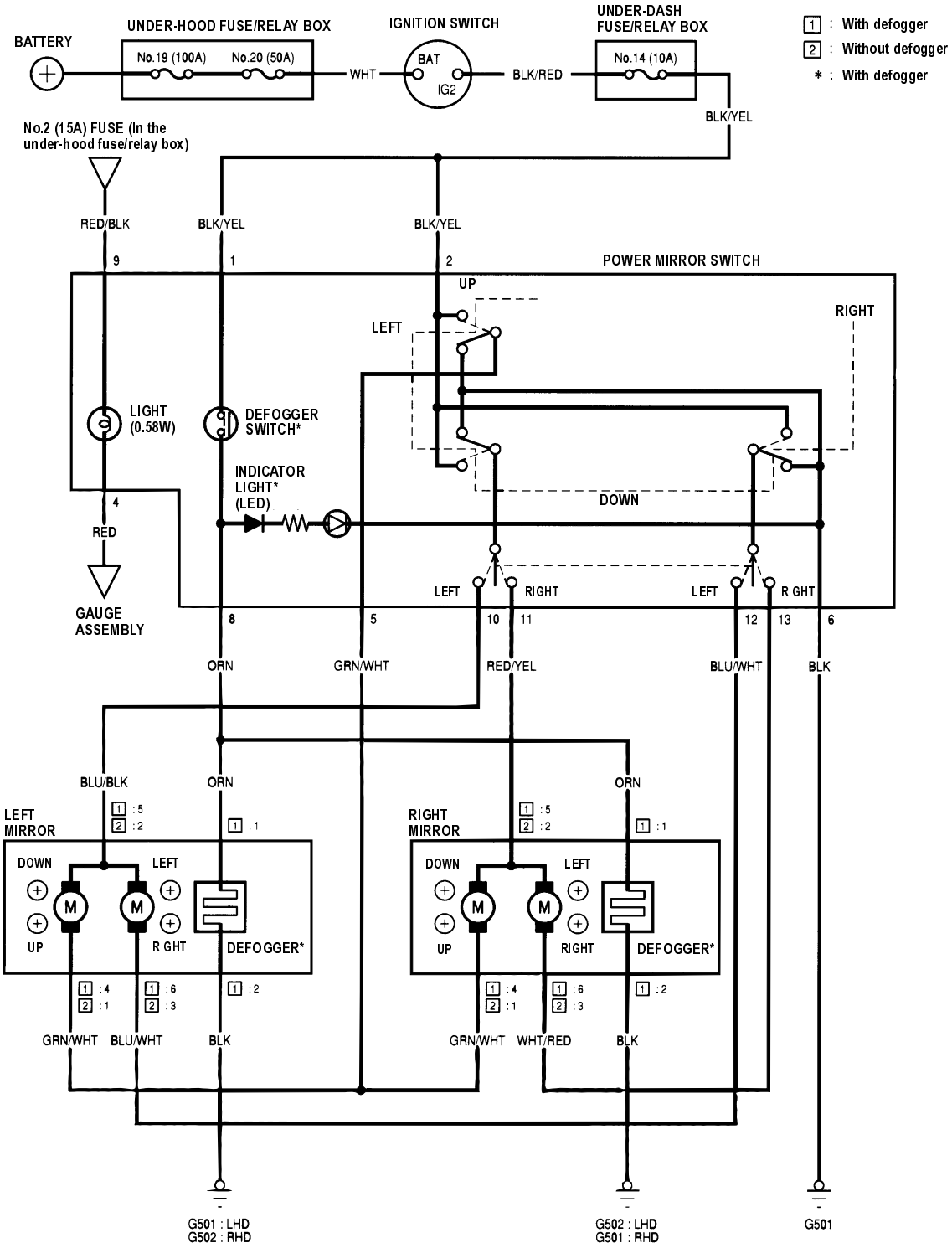
Component Location Index

NOTE: LHD type is shown, RHD type is symmetrical.

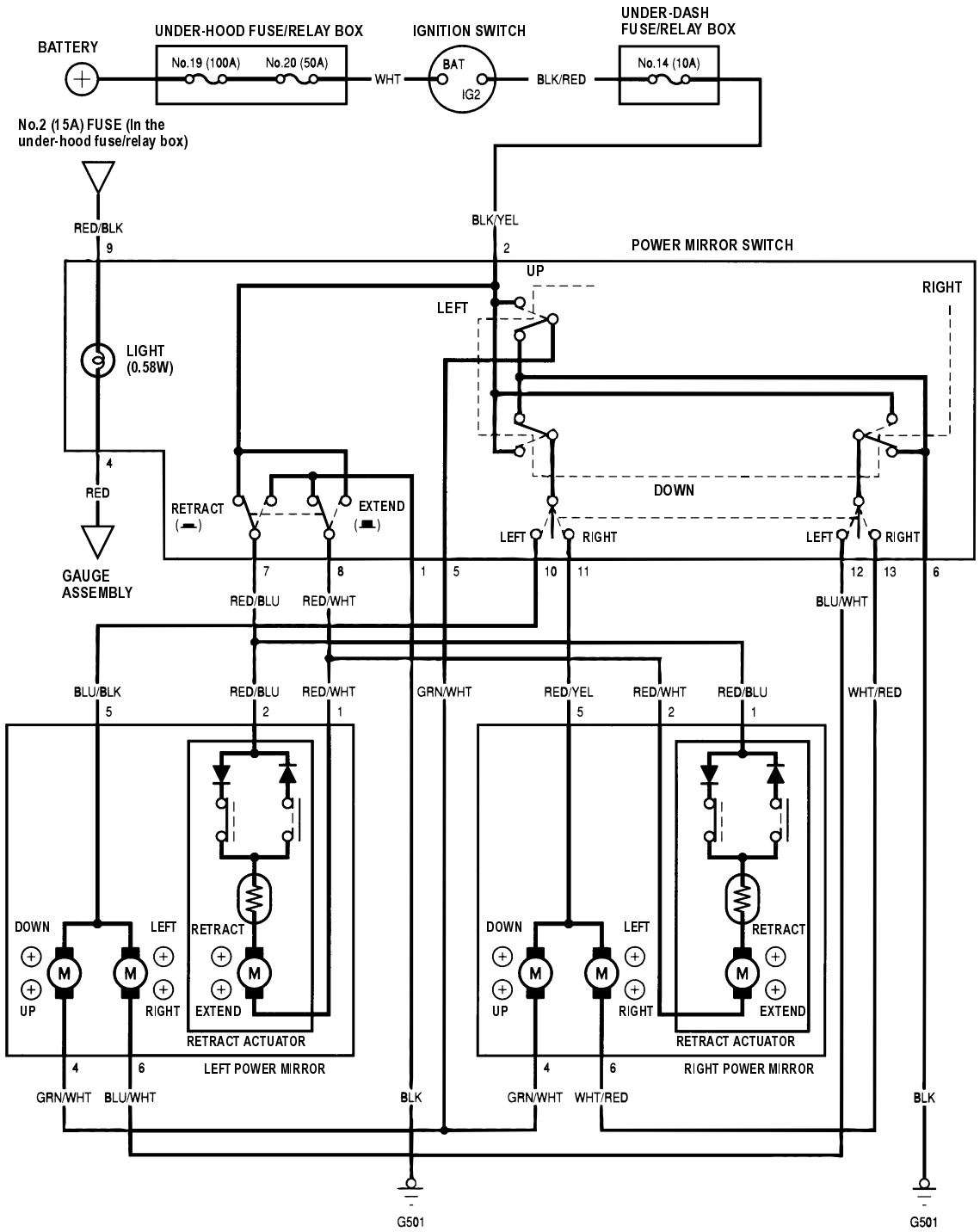


1	POWER MIRRORS	Function Test, page 22A-133; Replacement, page 22A-139; Mirror Actuator Test, page 22A-136; Mirror Actuator Replacement, page 22A-137
2	POWER MIRROR and MIRROR DEFOGGER SWITCH	Test, page 22A-135; Replacement, page 22A-135

Circuit Diagram

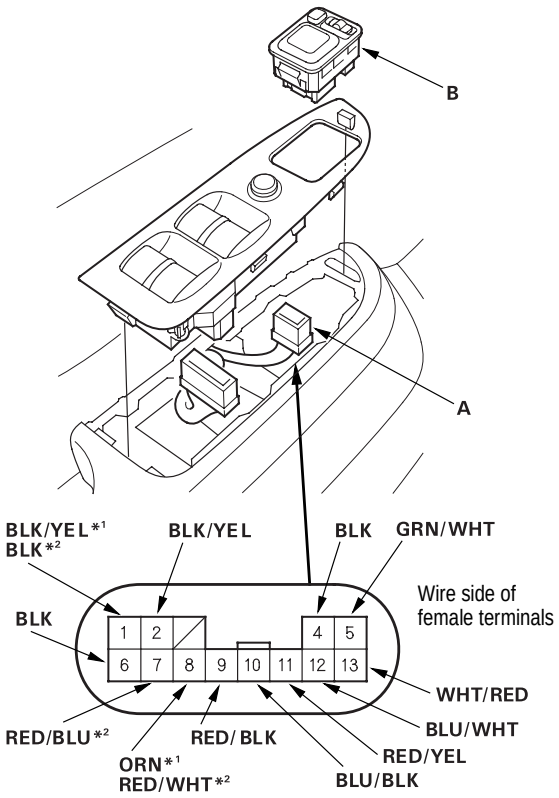


Circuit Diagram - With Retract Power Mirror



Function Test

1. Remove the driver's switch panel (A) (see page 20-9).



*1 : With defogger
*2 : With retract mirror

2. Disconnect the 13P connector (A) from the switch (B).
3. Choose the appropriate test based on the symptom:
   - Both mirrors don't work, go to step 4.
   - Left mirror doesn't work, go to step 6.
   - Right mirror doesn't work, go to step 7.
   - Defoggers don't work, go to step 8.
   - Retract actuators don't work, go to step 9.

Both mirrors

4. Check for voltage between the No. 2 terminal and body ground with the ignition switch ON (II).
   There should be battery voltage.
   - If there is no battery voltage, check for:
     – blown No. 14 (10A) fuse in the under-dash fuse/relay box.
     – an open in the BLK/YEL wire.
   - If there is battery voltage, go to step 5.
5. Check for continuity between the No. 6 terminal and body ground.
   There should be continuity.
   - If there is no continuity, check for:
     – an open in the BLK wire.
     – poor ground (G501).
   - If there is continuity, check both mirrors individually as described in the next column.

Left mirror

6. Connect the No. 2 terminal to the No. 10 terminal, and the No. 5 (or No. 12) terminal to No. 6 terminal with jumper wires. The left mirror should tilt down (or swing left) with the ignition switch ON (II).
   - If the mirror does not tilt down (or does not swing left), check for an open in the GRN/WHT (or BLU/WHT) wire between the left mirror and the 13P connector. If the wire is OK, check the left mirror actuator.
   - If the mirror neither tilts down nor swings left, repair the BLU/BLK wire.
   - If the mirror works properly, check the mirror switch.

Right mirror

7. Connect the No. 2 terminal to the No. 11 terminal, and the No. 5 (or No. 13) terminal to No. 6 terminal with jumper wires. The right mirror should tilt down (or swing left) with the ignition switch ON (II).
   - If the mirror does not tilt down (or does not swing left), check for an open in the GRN/WHT (or WHT/RED) wire between the right mirror and the 13P connector. If the wire is OK, check the right mirror actuator.
   - If the mirror neither tilts down nor swings left, repair the RED/YEL wire.
   - If the mirror works properly, check the mirror switch.

(cont'd)

Function Test (cont'd)

Defogger

8. Connect the No. 1 and No. 8 terminals with a jumper wire, and check for voltage between the BLK wire terminal of the mirror connector and body ground. There should be battery voltage and both mirrors should warm up with the ignition switch ON (II).

- If there is no voltage or neither warms up, check for:
  – an open in the BLK/YEL or ORN wire.
  – blown No. 14 (10A) fuse in the under-dash fuse/relay box.
- If only one fails to warm up, check its defogger.
  – poor ground (G501, G502).
- If both warm up, check the defogger switch.

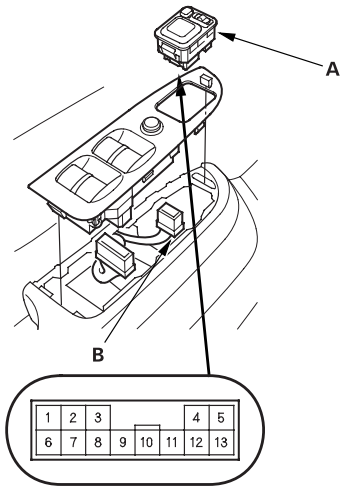
Retractable mirror

9. Connect the No. 2 terminal to the No. 7 (or No. 8) terminal with a jumper wire. The mirrors should retract (or extend) when the ignition switch is turned back and forth between ON (II) and OFF.

- If the mirrors neither retract nor extend, check for an open in the RED/BLU or RED/WHT wire between the switch and the mirrors.
- If one of the mirrors does not retract or extend, check the retractable mirror actuator.

Power Mirror Switch Test/Replacement

1. Remove the driver's switch panel (see page 20-9).
2. Remove the power mirror switch (A).



3. Disconnect the 13P connector (B) from the switch.
4. Check for continuity between the terminals in each switch position according to the table.

Mirror Switch:

	Terminal / Position	2	5	6	10	11	12	13
L	UP	○	○					
	DOWN	○		○	○			
	LEFT	○			○		○	
	RIGHT	○					○	
R	UP	○	○			○		
	DOWN	○		○		○		
	LEFT	○		○		○		○
	RIGHT	○		○		○		○

Defogger Switch:

Terminal / Position	1	8
ON	○	○
OFF		

Retract Switch:

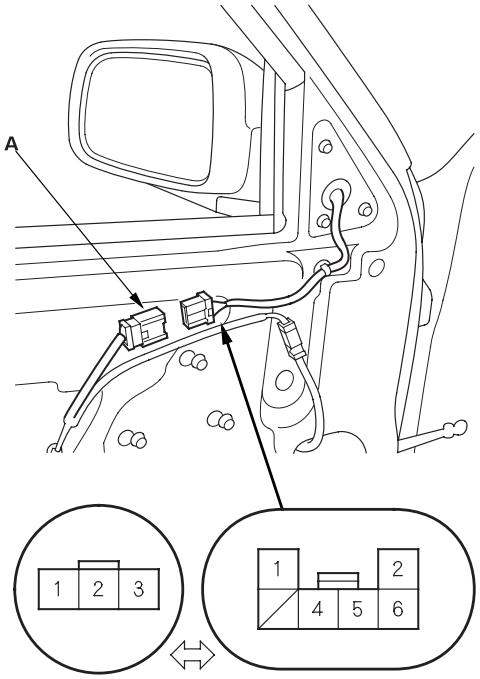
Terminal / Position	1	2	7	8
RETRACT	○	○	○	○
EXTEND	○	○	○	

5. If the continuity is not as specified, replace the switch.

Power Mirror Actuator Test

1. Remove the door panel (see page 20-9).
2. Disconnect the 6P or 3P connector (A) from the power mirror actuator.

   3P connector: without defogger or retract
   6P connector: with defogger or retract



Wire side of female terminals

3. Check actuator operation by connecting battery power and ground according to the table.

Position \ Terminal	1 [4]	2 [5]	3 [6]
TILT UP	⊕	⊖	
TILT DOWN	⊖	⊕	
SWING LEFT		⊕	⊖
SWING RIGHT		⊖	⊕

[ ] : 6P CONNECTOR

4. If the mirror fails to work properly, replace the mirror actuator (see page 22A-137).

Defogger Test:

5. Check for continuity between the No. 1 and No. 2 terminals of the 6P connector. There should be continuity.
6. If the continuity is not as specified, replace the mirror actuator.

Retract Switch:

7. Check actuator operation by connecting battery power and ground according to the table.

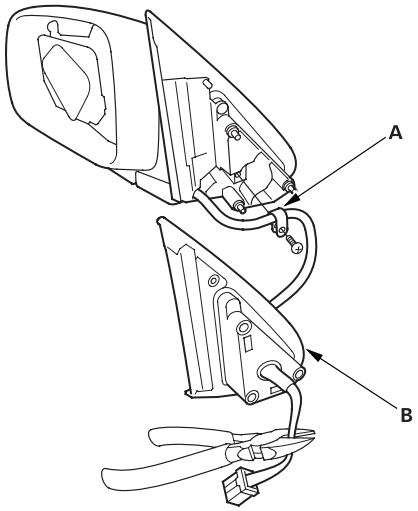
Position \ Terminal	1 [2]	2 [1]
Mirror retracts from extend position.	⊖	⊕
Mirror extends from retract position.	⊕	⊖

[ ] : Right power mirror

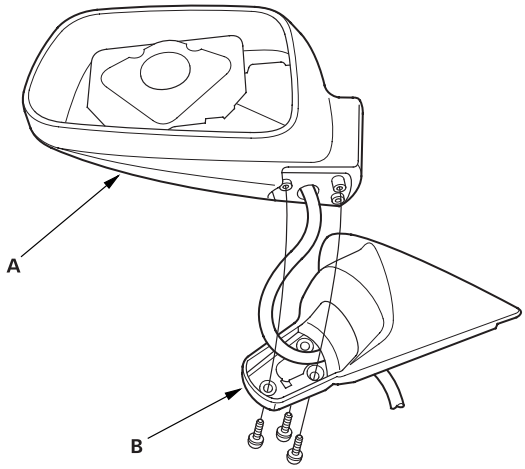
8. If the retract actuator fails to work properly, replace the mirror.

Power Mirror Actuator Replacement

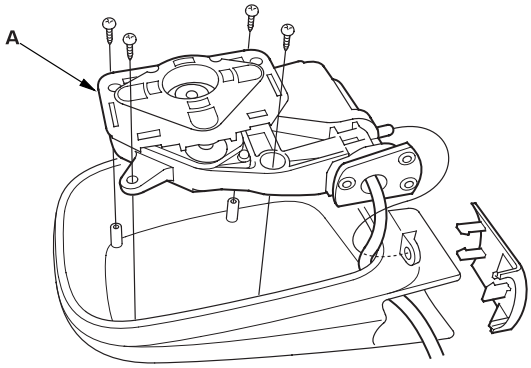
1. Remove the mirror holder, and disconnect the mirror defogger connectors* (see page 20-40).
   *: With defogger
2. Remove the power mirror (see page 20-39).
3. Disconnect the 3P or 6P connector from the mirror.
4. Remove the screw from the harness clip (A).



5. Cut the wire harness with cutter, and remove the gasket (B).
6. Remove the three screws, and separate the mirror housing (A) from the bracket (B).



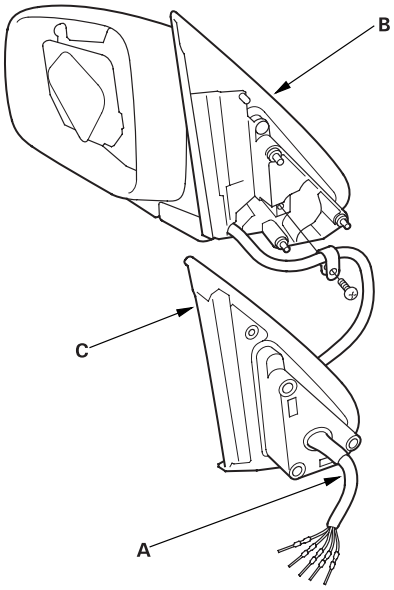
7. Remove the four screws and the actuator (A).



(cont'd)

Power Mirror Actuator Replacement (cont'd)

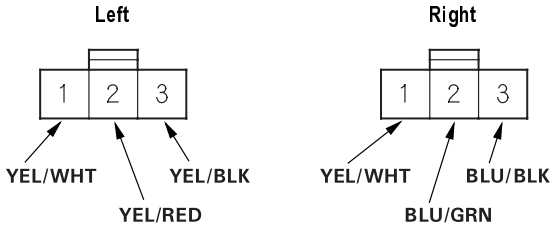
8. Route the wire harness (A) of the new actuator through the hole in the bracket (B) and gasket (C).



9. Install the actuator, bracket, harness clip, and gasket in the reverse order of removal.

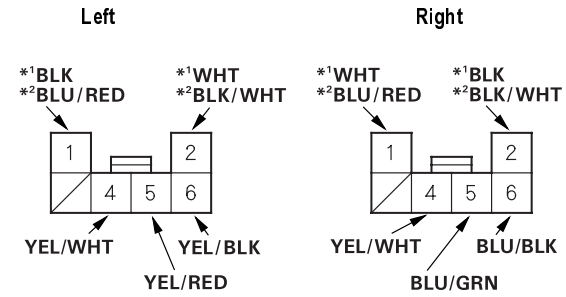
10. Insert the new actuator terminals into the connector in the original arrangement as shown below.

3P CONNECTOR:



Wire side of female terminals

6P CONNECTOR:



*1 : Defogger
*2 : Retract

Wire side of female terminals

11. Apply tape to seal the intersection of the wire harness and the gasket.

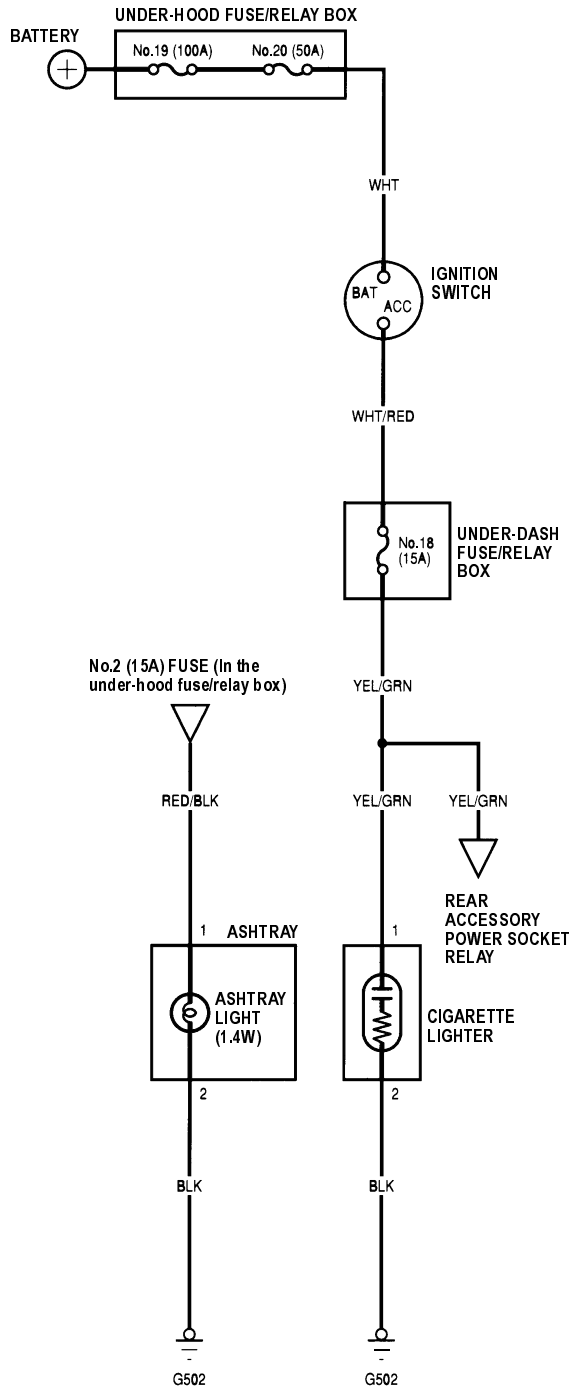
12. Reassemble in the reverse order of disassembly. Be careful not to break the mirror when reinstalling it to the actuator (see page 20-40).

13. Reinstall the mirror assembly to the door.

14. Operate the power mirror to ensure smooth operation.

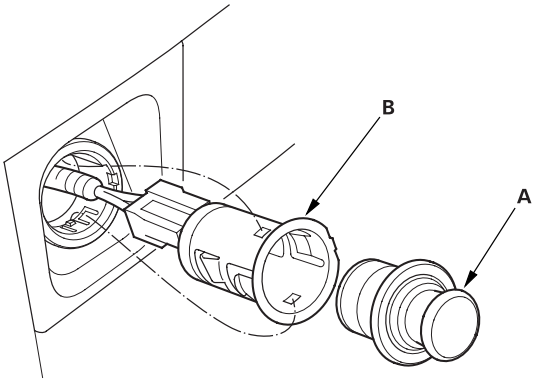
Cigarette Lighter

Circuit Diagram

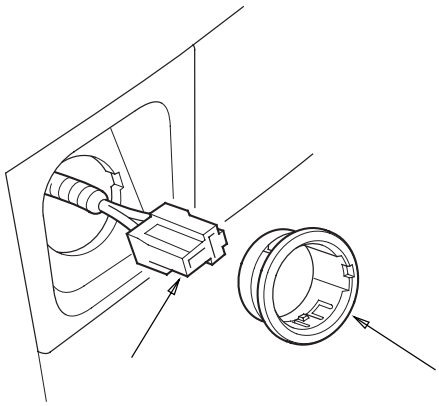


Replacement

1. Remove the cigarette lighter (A) and socket (B).



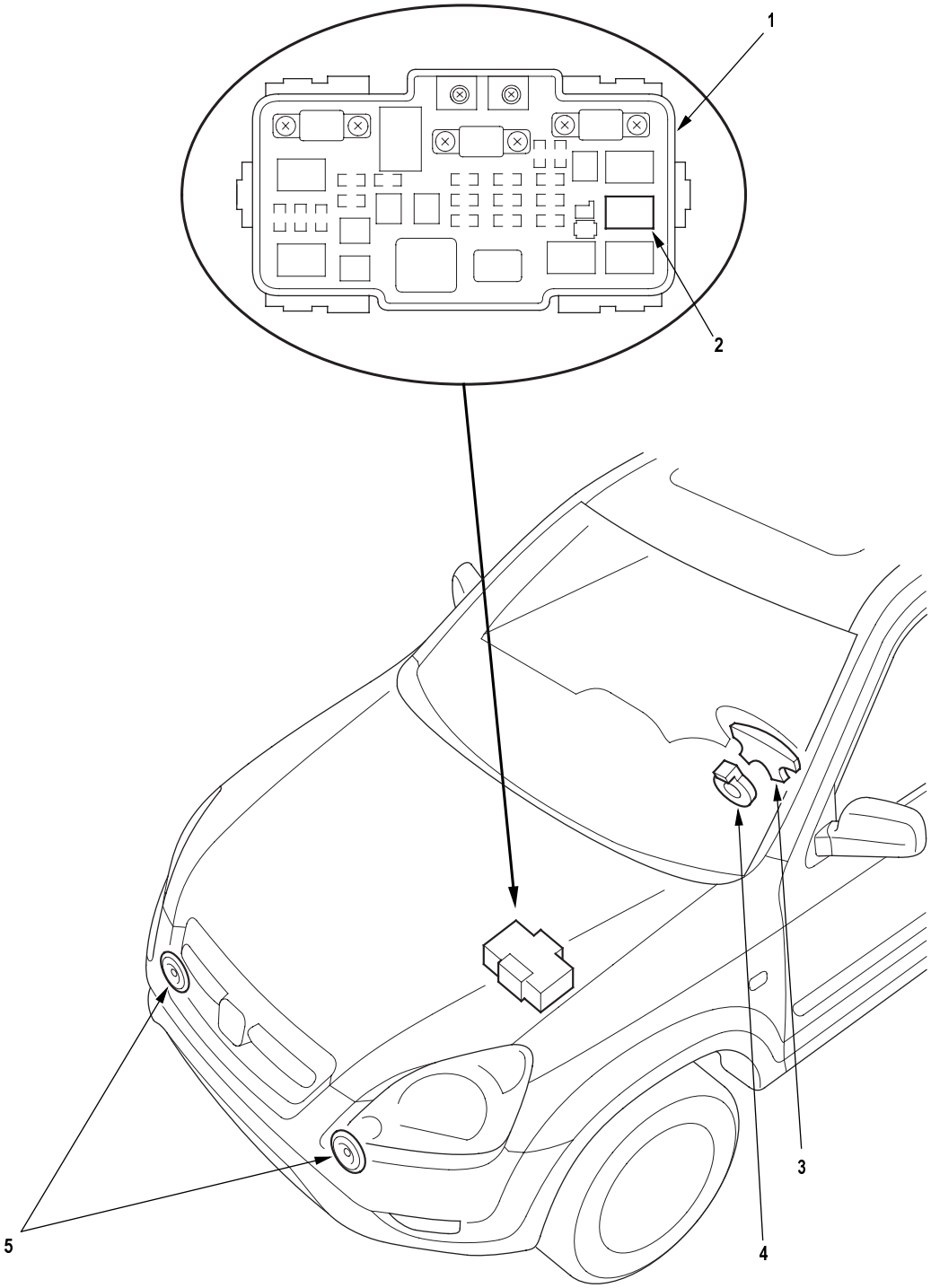
2. Disconnect the 2P connector (A) from the socket.
3. Remove the ring (B) from the dashboard.



Horns

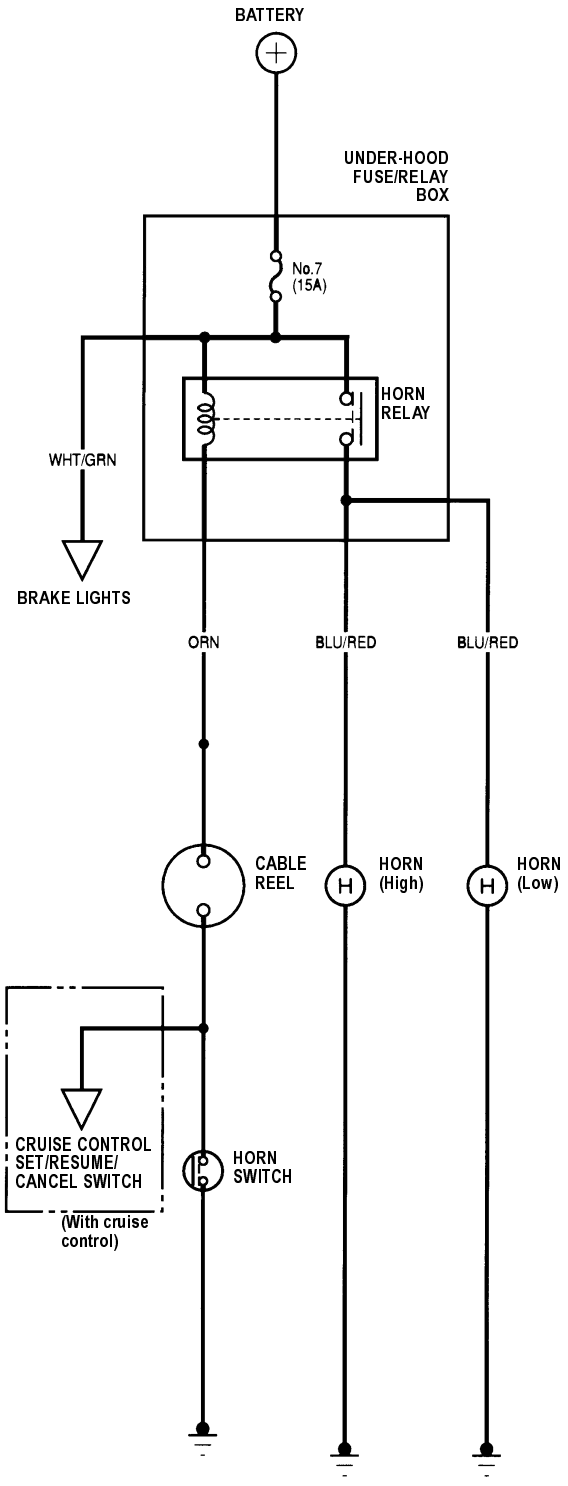
Component Location Index

NOTE: LHD type is shown, RHD type is similar.



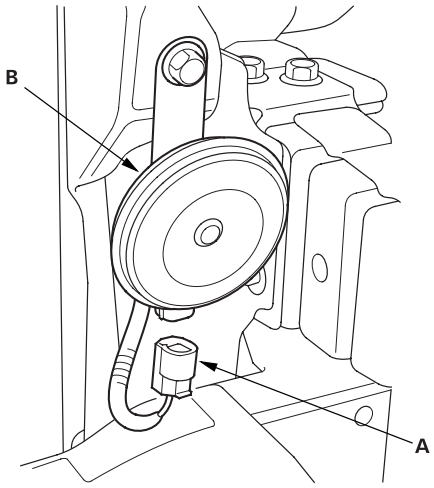
1 UNDER-HOOD FUSE/RELAY BOX
2 HORN RELAY Test, page 22A-60
3 HORN SWITCH Test, page 22A-142
4 CABLE REEL Replacement, page 23-141
5 HORN Test, page 22A-141; Replacement, page 22A-141

Circuit Diagram

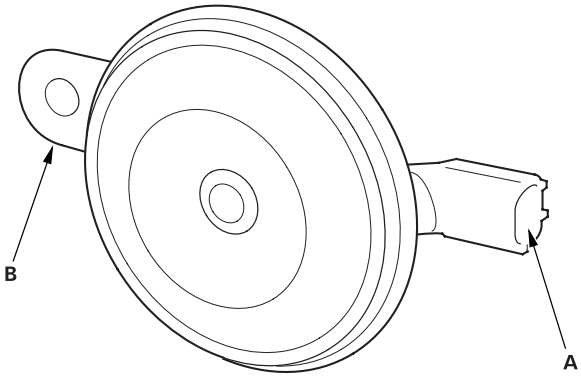


Horn Test/Replacement

1. Remove the front bumper (see page 20-130).
2. Disconnect the 1P connector (A), and remove the horn (B).

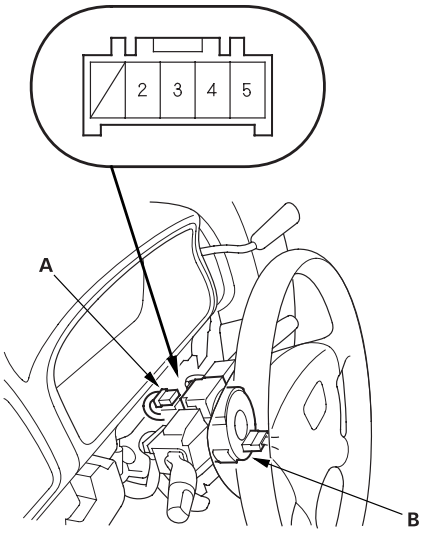


3. Test the horn by connecting battery power to the terminal (A) and ground to the bracket (B). The horn should sound.

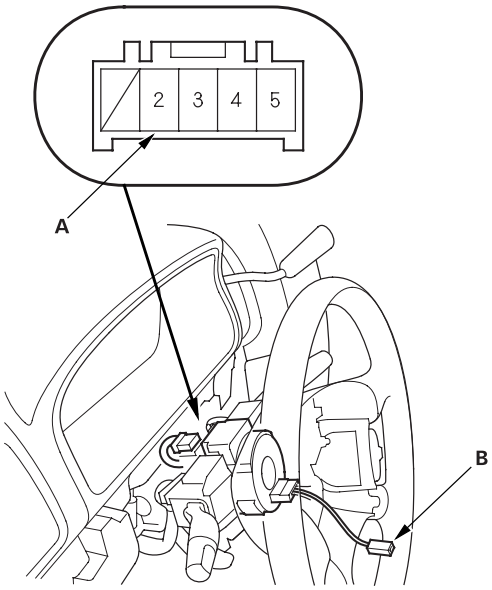


Horn Switch Test

1. Remove the steering column covers (see page 17-24).
2. Disconnect the dashboard wire harness B 5P connector (A) from the cable reel (B).



3. Check for continuity between the cable reel No. 2 terminal and body ground with the horn switch pushed. There should be continuity. If there is no continuity, go to step 4.
4. Remove the driver's airbag assembly (see page 23-135).
5. Disconnect the horn switch positive terminal 1P connector.
6. Check for continuity between the cable reel No.2 terminal (A) and the horn switch positive terminal (B).
   - If there is no continuity, replace the cable reel (see page 23-141).
   - If there is continuity, the cable reel OK, check the steering wheel, the horn switch, and the steering column (ground path).

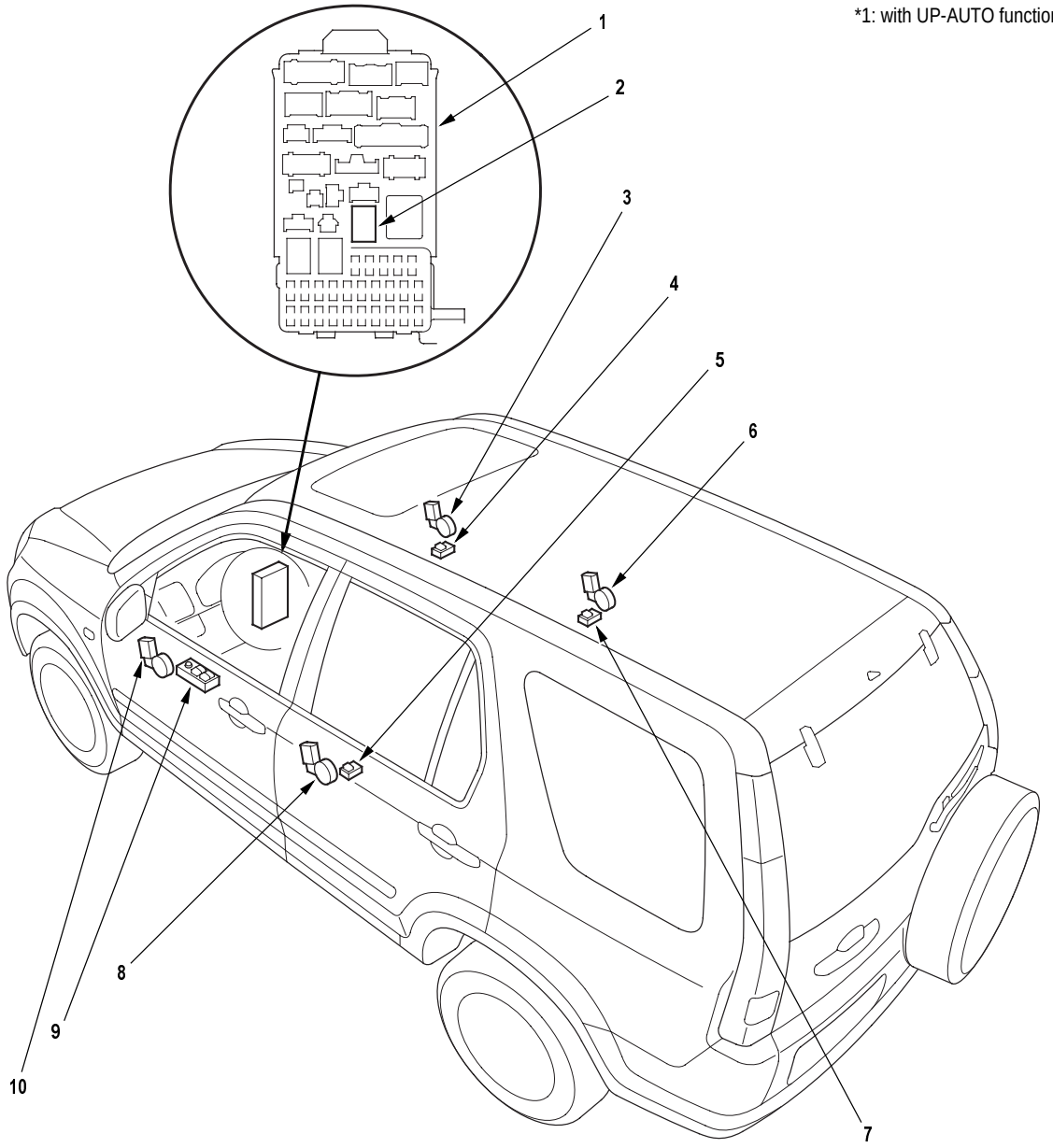


Power Windows

Component Location Index

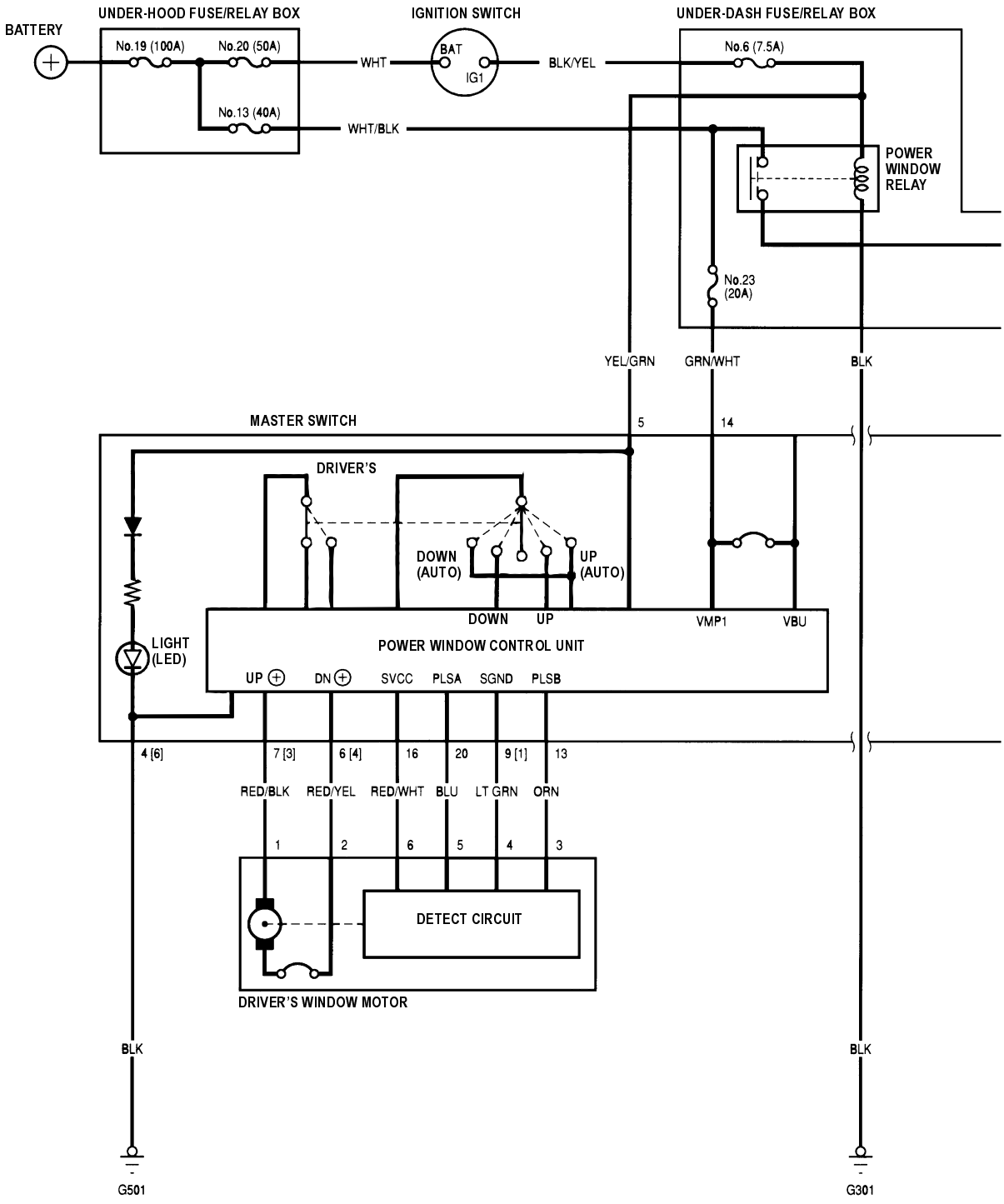
NOTE: LHD type is shown, RHD type is similar.

*1: with UP-AUTO function.

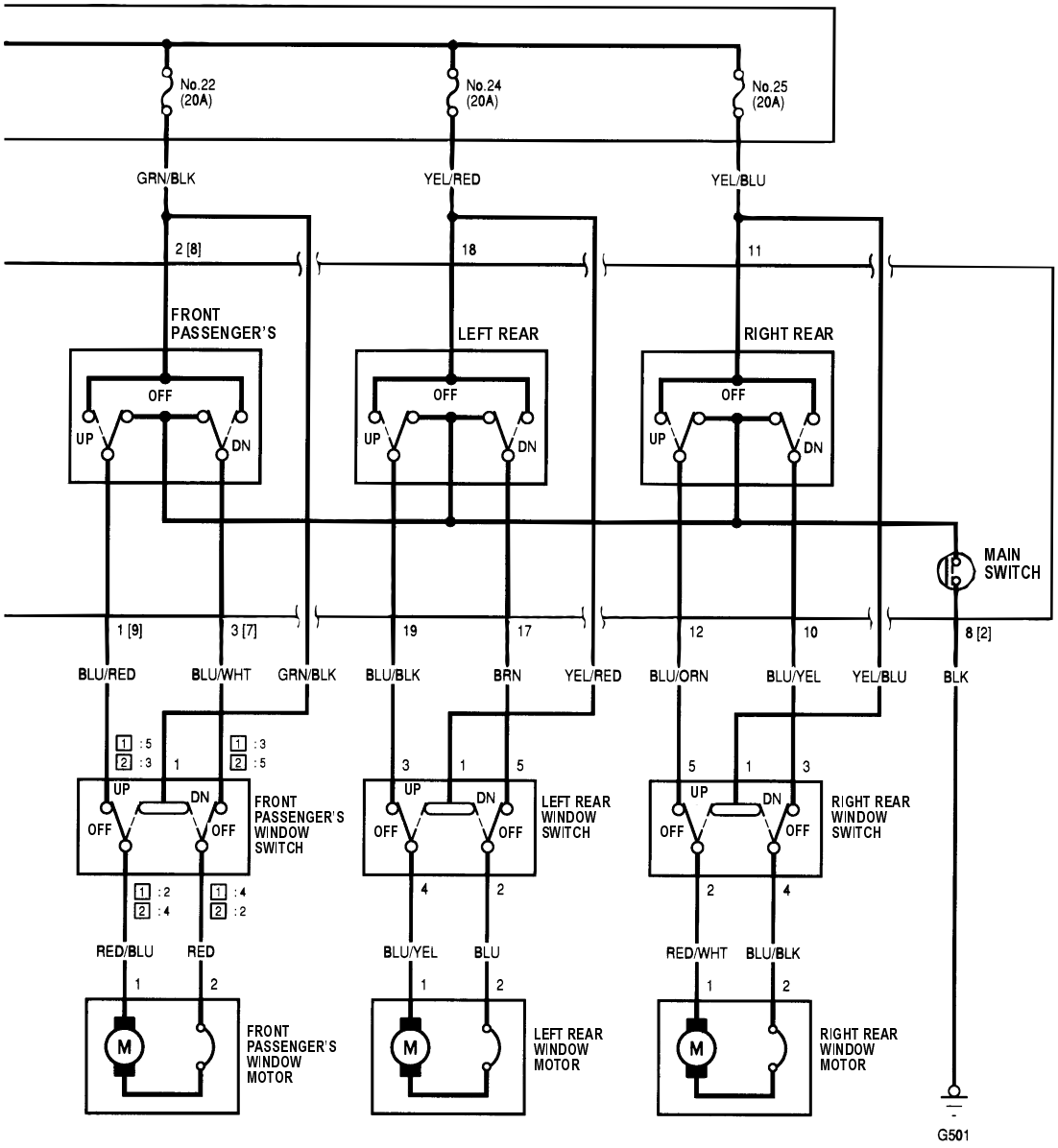


1	UNDER-DASH FUSE/RELAY BOX	
2	POWER WINDOW RELAY	Test, page 22A-60
3	FRONT PASSENGER'S WINDOW MOTOR	Test, page 22A-156
4	FRONT PASSENGER'S WINDOW SWITCH	Test, page 22A-153; Replacement, page 22A-153
5	LEFT REAR WINDOW SWITCH	Test, page 22A-153; Replacement, page 22A-153
6	RIGHT REAR WINDOW MOTOR	Test, page 22A-156
7	RIGHT REAR WINDOW SWITCH	Test, page 22A-153; Replacement, page 22A-153
8	LEFT REAR WINDOW MOTOR	Test, page 22A-156
9	POWER WINDOW MASTER SWITCH	Input Test, page 22A-148; Test, page 22A-152; Replacement, page 22A-148 *1 Resetting the Power Window Control Unit, page 22A-157
10	DRIVER'S WINDOW MOTOR	Test, page 22A-154

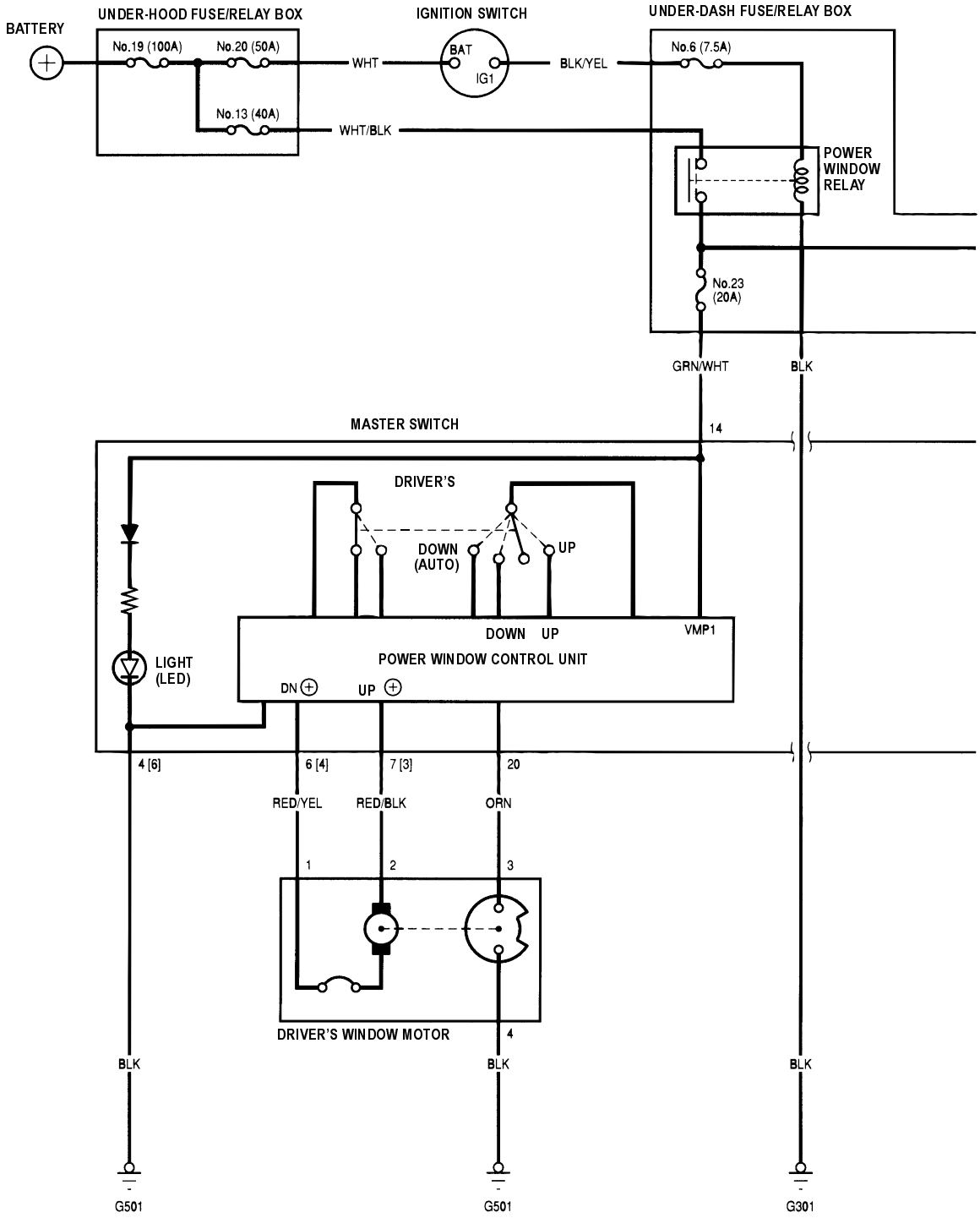
Circuit Diagram - With UP-AUTO Function



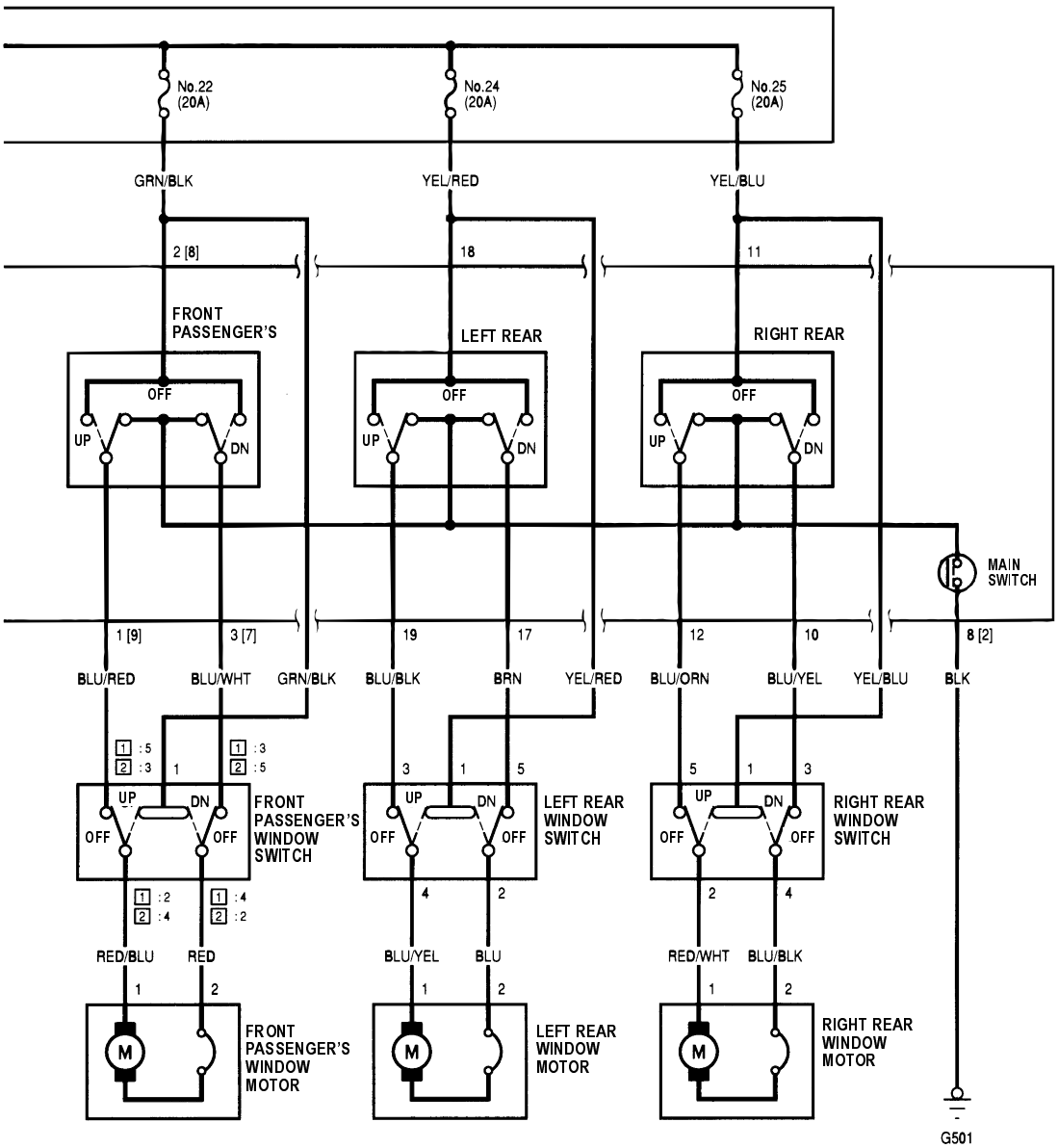
[ ] : RHD type
DN : DOWN
1 : LHD type
2 : RHD type



Circuit Diagram - Without UP-AUTO Function



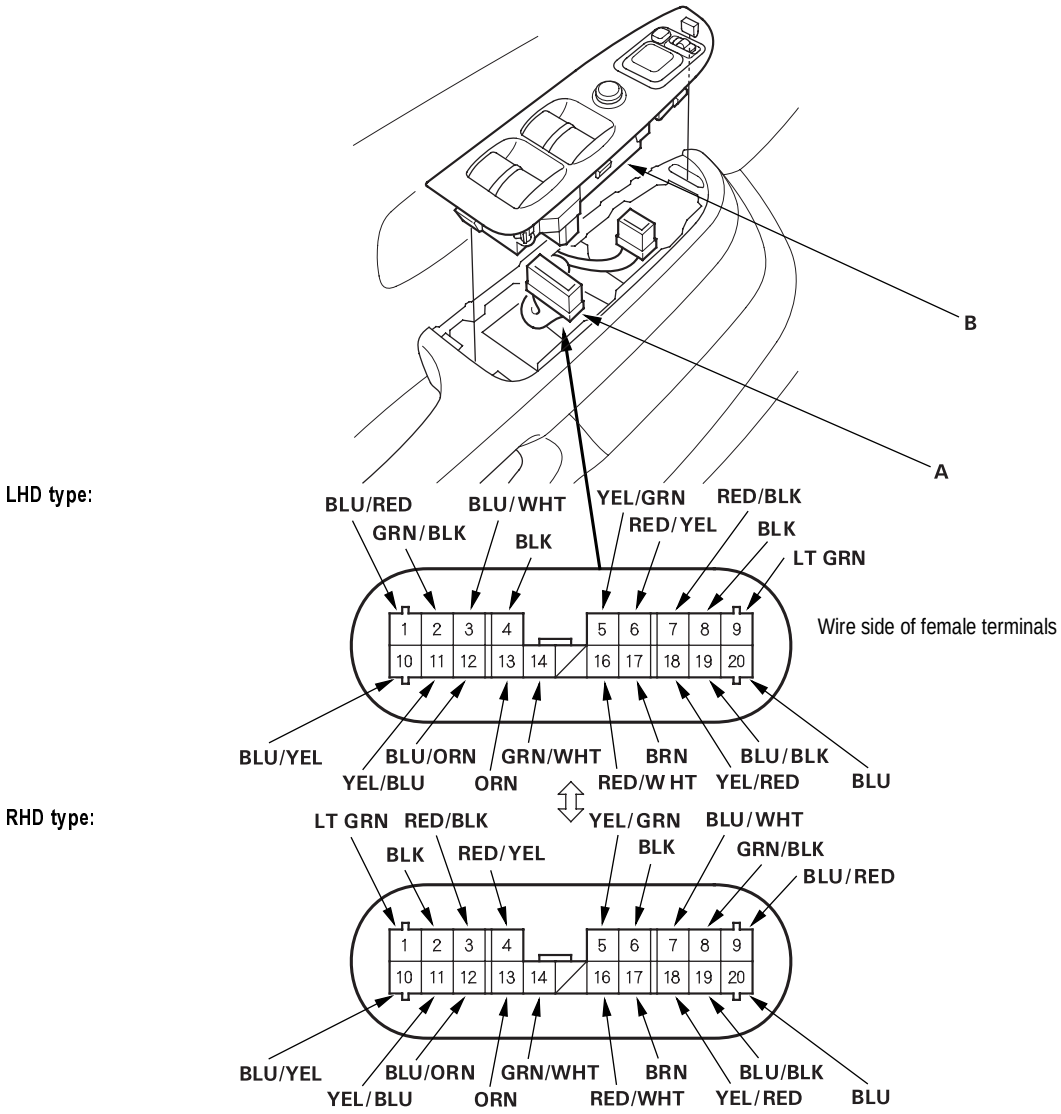
[ ] : RHD type
DN : DOWN
1 : LHD type
2 : RHD type



Master Switch Input Test - With UP-AUTO Function

NOTE: The power window control unit is built into the power window master switch, and it only controls the driver's window operations.

1. Remove the switch panel from the door panel (see page 20-9).
2. Disconnect the 20P connector (A) from the master switch (B).



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, make the following input tests at the connector.
     – If a test indicates a problem, find and correct the cause, then recheck the system.
     – If all the input tests prove OK, go to step 4.

4. Reconnect the 20P connector to the switch, and perform the following input tests.
- 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 5.

Cavity	Wire	Test condition	Test: Desired result	Possible cause if result is not obtained
4[6]	BLK	Ignition switch ON (II), and the master switch ON	Check for voltage to ground: There should be less than 1 V.	• Poor ground (G501) • An open in the wire
8[2]				
14	GRN/WHT	Under all conditions	Check for voltage to ground: There should be battery voltage.	• Blown No. 23 (20A) fuse in the under-dash fuse/relay box • An open in the wire
5	YEL/GRN	Ignition switch ON (II)	Check for voltage to ground: There should be battery voltage.	• Blown No. 6 (7.5A) fuse in the under-dash fuse/relay box • Blown No. 22, 24 or 25 (20A) fuse in the under-dash fuse/relay box • Faulty power window relay • An open in the wire
2[8]	GRN/BLK			
18	YEL/RED			
11	YEL/BLU			
6[4]	RED/YEL	Connect the No. 14 and No. 6 [No. 4] terminals, and the No. 7 [No. 3] and No. 4 [No. 6] terminals, and turn the ignition switch ON (II).	Check for driver's window motor operation: It should run (the driver's window moves down).	• Faulty driver's window motor • An open in the wire
7[3]	RED/BLK			
1[9]	BLU/RED	Connect the No. 2 and No. 3 [No. 7] terminals, and the No. 1 [No. 9] and No. 8 [No. 2] terminals, and turn the ignition switch ON (II).	Check for front passenger's window motor operation: It should run (the front passenger's window moves down).	• Faulty front passenger's window motor • Faulty front passenger's window switch • An open in the wire
3[7]	BLU/WHT			
19	BLU/BLK	Connect the No. 18 and No. 17 terminals, and the No. 19 and No. 8[No. 2]terminals, and turn the ignition switch ON (II).	Check for left rear window motor operation: It should run (the left rear window moves down).	• Faulty left rear window motor • Faulty left rear window switch • An open in the wire
17	BRN			
12	BLU/ORN	Connect the No. 11 and No. 10 terminals, and the No. 12 and No. 8 [No. 2]terminals, and turn the ignition switch ON (II).	Check for right rear window motor operation: It should run (the right rear window moves down).	• Faulty right rear window motor • Faulty right rear window switch • An open in the wire
10	BLU/YEL			

5. Disconnect the 20P connector from the switch connector, and 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 the power window master switch.

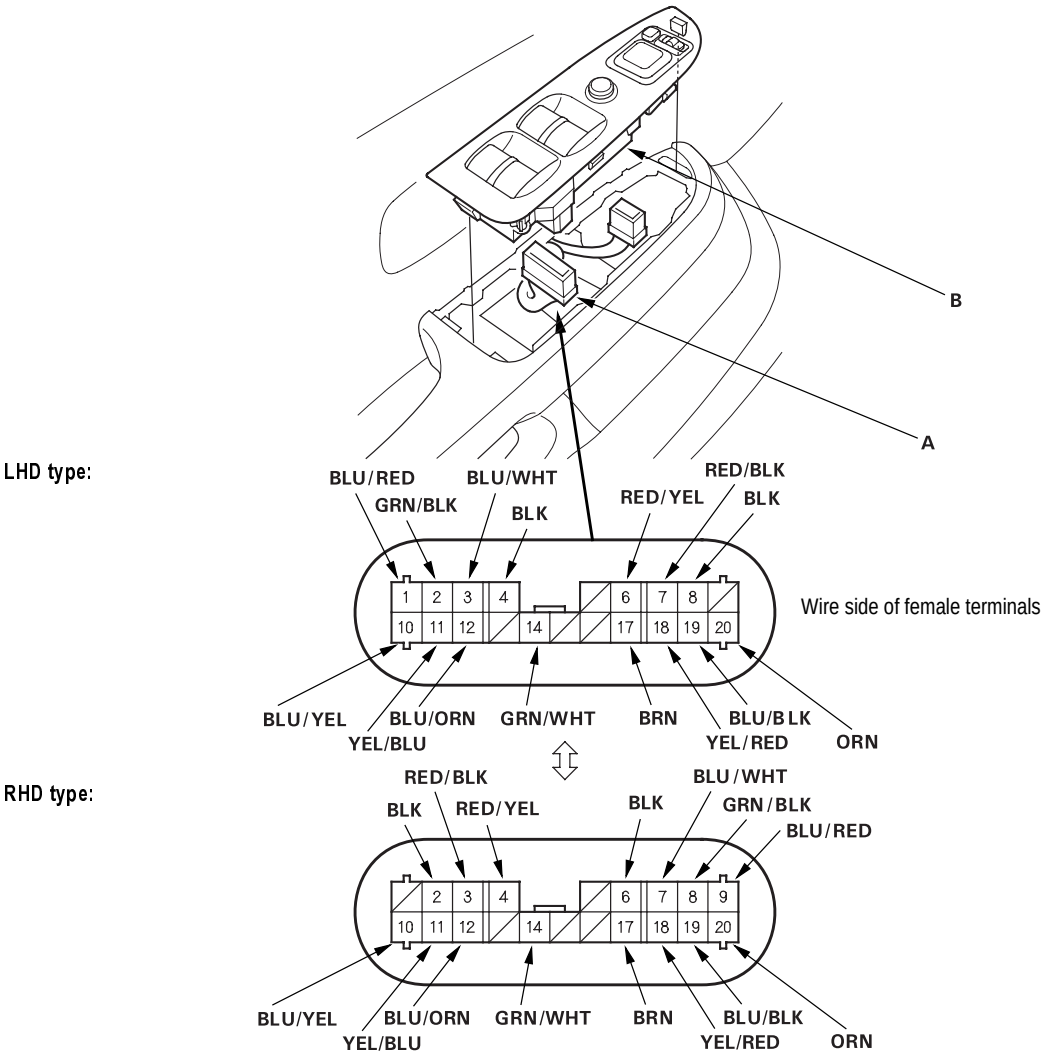
Cavity	Wire	Test condition	Test: Desired result	Possible cause if result is not obtained
16	RED/WHT	Ignition switch ON (II)	Check for voltage to ground: There should be battery voltage.	• Faulty power window master switch • An open in the wire
9[1]	LT GRN	Under all conditions	Check for voltage to ground: There should be battery voltage.	• An open in the wire
20	BLU	Ignition switch ON (II), and the driver's window switch AUTO DOWN	Check for voltage between the No. 20 and No. 4 [No. 1] terminals: There should be 0 V - about 5 V - 0 V - about 5 V repeatedly.	• Blown No. 23 (20A) fuse in the under-dash fuse/relay box • Faulty power window relay • Faulty power window master switch • An open in the wire
13	ORN	Ignition switch ON (II), and the driver's window switch AUTO DOWN	Check for voltage between the No. 13 and No. 4 [No. 1] terminals: There should be 0 V - about 5 V - 0 V - about 5 V repeatedly.	

[ ]:RHD type

Master Switch Input Test - Without UP-AUTO Function

NOTE: The power window control unit is built into the power window master switch, and it only controls the driver's window operations.

1. Remove the switch panel from the door panel (see page 20-9).
2. Disconnect the 20P connector (A) from the master switch (B).



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, make the following input tests at the connector.
     – If a test indicates a problem, find and correct the cause, then recheck the system.
     – If all the input tests prove OK, go to step 4.

4. With the connector still disconnected, 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, go to step 5.

Cavity	Wire	Test condition	Test: Desired result	Possible cause if result is not obtained
4[6]	BLK	Under all condition	Check for continuity to ground: There should be continuity.	• Poor ground (G501) • An open in the wire
8[2]				
14	GRN/WHT	Ignition switch ON (II)	Check for voltage to ground: There should be battery voltage.	• Blown No. 6 (7.5A) fuse in the under-dash fuse/relay box • Blown No. 22, 24 or 25 (20A) fuse in the under-dash fuse/relay box • Faulty power window relay • An open in the wire
2[8]	GRN/BLK			
18	YEL/RED			
11	YEL/BLU			
6[4]	RED/YEL	Connect the No. 14 and No. 6 [No. 4] terminals, and the No. 7 [No. 3] and No. 4 [No. 6] terminals, and turn the ignition switch ON (II).	Check for driver's window motor operation: It should run (the driver's window moves down).	• Faulty driver's window motor • An open in the wire
7[3]	RED/BLK			
1[9]	BLU/RED	Connect the No. 2 and No. 3 [No. 7] terminals, and the No. 1 [No. 9] and No. 8 [No. 2] terminals, and turn the ignition switch ON (II).	Check for front passenger's window motor operation: It should run (the front passenger's window moves down).	• Faulty front passenger's window motor • Faulty front passenger's window switch • An open in the wire
3[7]	BLU/WHT			
19	BLU/BLK	Connect the No. 18 and No. 17 terminals, and the No. 19 and No. 8 [No. 2] terminals, and turn the ignition switch ON (II).	Check for left rear window motor operation: It should run (the left rear window moves down).	• Faulty left rear window motor • Faulty left rear window switch • An open in the wire
17	BRN			
12	BLU/ORN	Connect the No. 11 and No. 10 terminals, and the No. 12 and No. 8 [No. 2] terminals, and turn the ignition switch ON (II).	Check for right rear window motor operation: It should run (the right rear window moves down).	• Faulty right rear window motor • Faulty right rear window switch • An open in the wire
10	BLU/YEL			

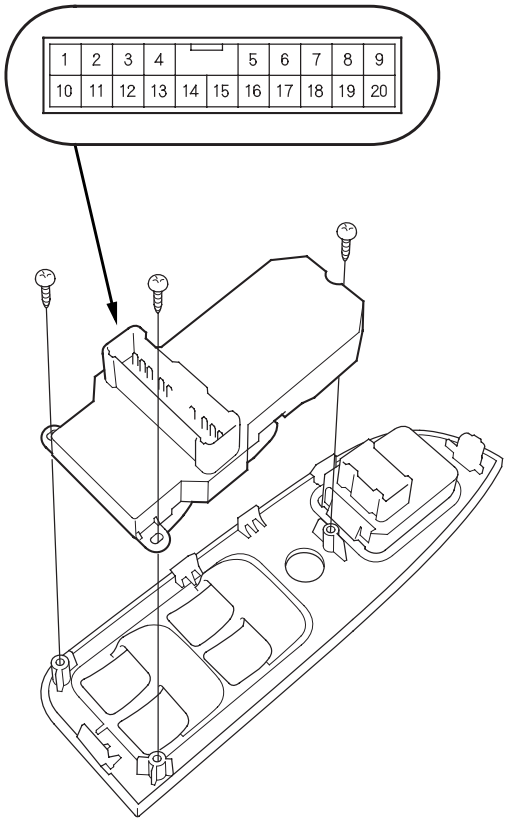
5. Reconnect the 20P connector to the switch, and perform the following input tests.
- If any test indicates a problem, find and correct the cause, then recheck the system.
- If all the input tests prove OK, the control unit must be faulty; replace the power window master switch.

Cavity	Wire	Test condition	Test: Desired result	Possible cause if result is not obtained
20	RED/WHT	Connect the No. 14 and No. 6 [No. 4] terminals, and the No. 7 [No. 3] and No. 4 [No. 6] terminals, and turn the ignition switch ON (II).	Check for voltage between the No. 20 and No. 4 [No. 6] terminals: About 6 V should be indicated while the driver's window motor running.	• Faulty driver's window motor • An open in the wire

[ ]:RHD type

Master Switch Test/Replacement

1. Remove the power window master switch.
2. Disconnect the 20P connector from the switch.



Driver's Switch:

The driver's switch is combined with the control unit so you cannot isolate the switch to test it.
Instead, run the master switch input test procedures on page 22A-148. If the tests are normal, the driver's switch must be faulty.

Front Passenger's Switch:

Position	Terminal / Main Switch	1 [9]	2 [8]	3 [7]	8 [2]
OFF	ON	○		○	○
	OFF	○		○	
UP	ON	○	○		○
	OFF	○	○		
DOWN	ON	○		○	○
	OFF		○	○	

Left Rear Switch:

Position	Terminal / Main Switch	19	18	17	8 [2]
OFF	ON	○		○	○
	OFF	○		○	
UP	ON	○	○		○
	OFF	○	○		
DOWN	ON	○		○	○
	OFF		○	○	

Right Rear Switch:

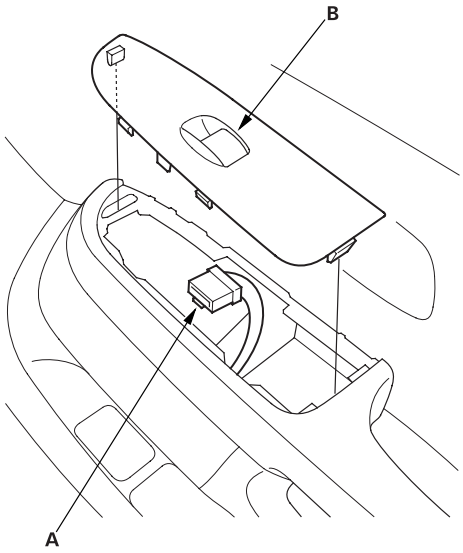
Position	Terminal / Main Switch	11	12	10	8 [2]
OFF	ON		○	○	○
	OFF		○	○	
UP	ON	○	○		○
	OFF	○	○		
DOWN	ON	○		○	○
	OFF	○		○	

[ ] :RHD type

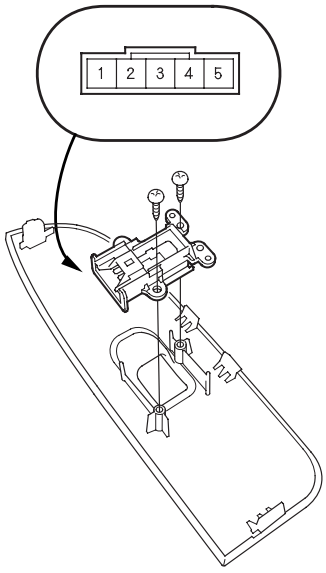
3. If the continuity is not as specified, replace the switch.

Passenger's Window Switch Test/Replacement

1. Remove the switch panel from the door panel (see page 20-9).
2. Disconnect the 5P connector (A) from the power window switch (B).



3. Remove the two screws and the passenger's power window switch.



4. Check for continuity between the terminals in each switch position according to the table.

Front passenger's (LHD type):

Terminal / Position	1	2	3	4	5
UP	○	○		○	
OFF		○	○	○	○
DOWN	○	○		○	○

Front passenger's (RHD type):

Terminal / Position	1	2	3	4	5
UP	○	○		○	○
OFF		○	○	○	○
DOWN	○	○	○	○	

Left Rear Window:

Terminal / Position	1	2	3	4	5
UP	○	○		○	○
OFF		○	○	○	○
DOWN	○	○	○	○	

Right Rear Window:

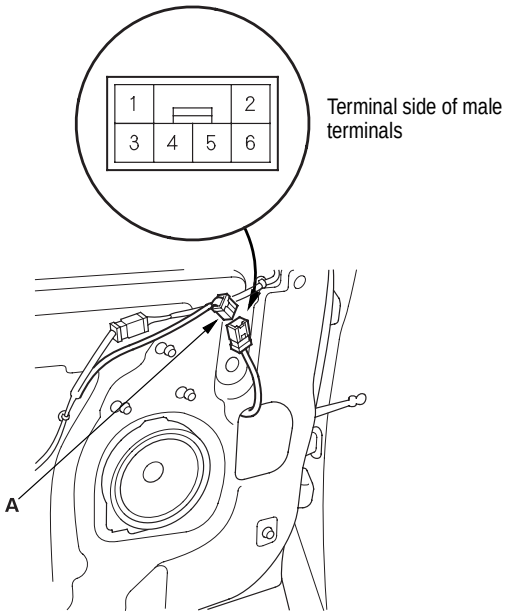
Terminal / Position	1	2	3	4	5
UP	○	○		○	
OFF		○	○	○	○
DOWN	○	○		○	○

5. If the continuity is not as specified, replace the switch.

Driver's Window Motor Test - With UP-AUTO Function

Motor Test:

1. Remove the driver's door panel (see page 20-9).
2. Disconnect the 6P connector (A) from the driver's window motor.



3. Test the motor in each direction by connecting battery power and ground according to the table.

NOTICE

To prevent damage to the motor, disconnect one lead as soon as the motor stops running.

Terminal / Direction	1	2
UP	⊕	⊖
DOWN	⊖	⊕

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

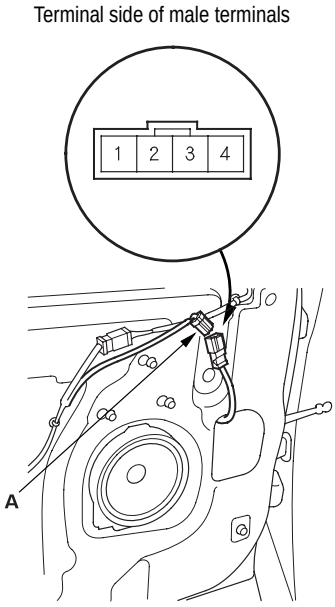
Pulser Test:

1. Reconnect the 6P connector to the window motor, and reconnect the 14P connector to the power window master switch.
2. Check for voltage between the terminals.
   - There should be battery voltage between the No. 6 (+) and No. 4 (-) terminals when the ignition switch is turned ON (II).
   - Connect an analog voltmeter between the No. 5 (+) and No. 4 (-) terminals, and run the window motor down or up. The voltmeter needle should move back and forth alternately between 0 V and about 5 V (a digital voltmeter should show about 2.5 V).
   - Connect an analog voltmeter between the No. 3 (+) and No. 4 (-) terminals, and run the window motor down or up. The voltmeter needle should move back and forth alternately between 0 V and about 5 V (a digital voltmeter should show about 2.5 V).

Driver's Window Motor Test - Without UP-AUTO Function

Motor Test:

1. Remove the door panel (see page 20-9).
2. Disconnect the 4P connector (A) from the driver's window motor.



3. Test the motor in each direction by connecting battery power and ground according to the table.

   NOTICE

   To prevent damage to the motor, disconnect one lead as soon as the motor stops running.

Terminal / Direction	1	2
UP	⊖	⊕
DOWN	⊕	⊖

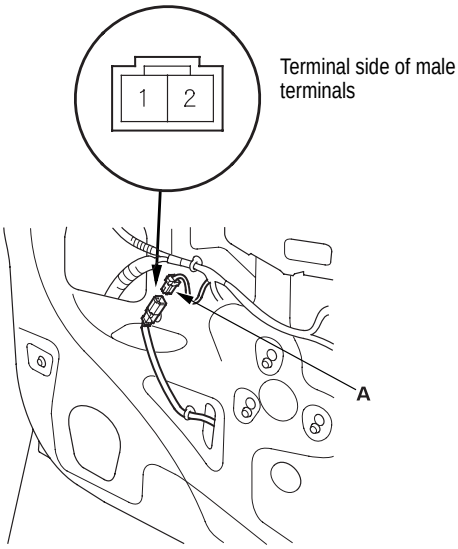
4. If the motor does not run or fails to run smoothly, replace it.

Pulser Test:

1. Remove the 4P conector to the driver's window motor, and reconnect the 20P connector to the power window master switch.
2. Connect the test leads of a voltmeter to the No. 3 and No. 4 terminals of the driver's window motor 4P connector.
3. Run the motor by connecting power and ground to the No. 1 and No. 2 terminals. The voltmeter should read about 6 V.
4. If the voltage is not as specified, check for an open in the wires. If the wires are OK, replace the driver's window motor.

Passenger's Window Motor Test

1. Remove the passenger's door panel (see page 20-9).
2. Disconnect the 2P connector (A) from the passenger's power window motor.



3. Test the motor in each direction by connecting battery power and ground according to the table.

NOTICE

To prevent damage to the motor, disconnect one lead as soon as the motor stops running.

Terminal / Direction	1	2
UP	⊕	⊖
DOWN	⊖	⊕

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

Resetting the Power Window Control Unit

Resetting the power window control unit is required after performing the following procedures:

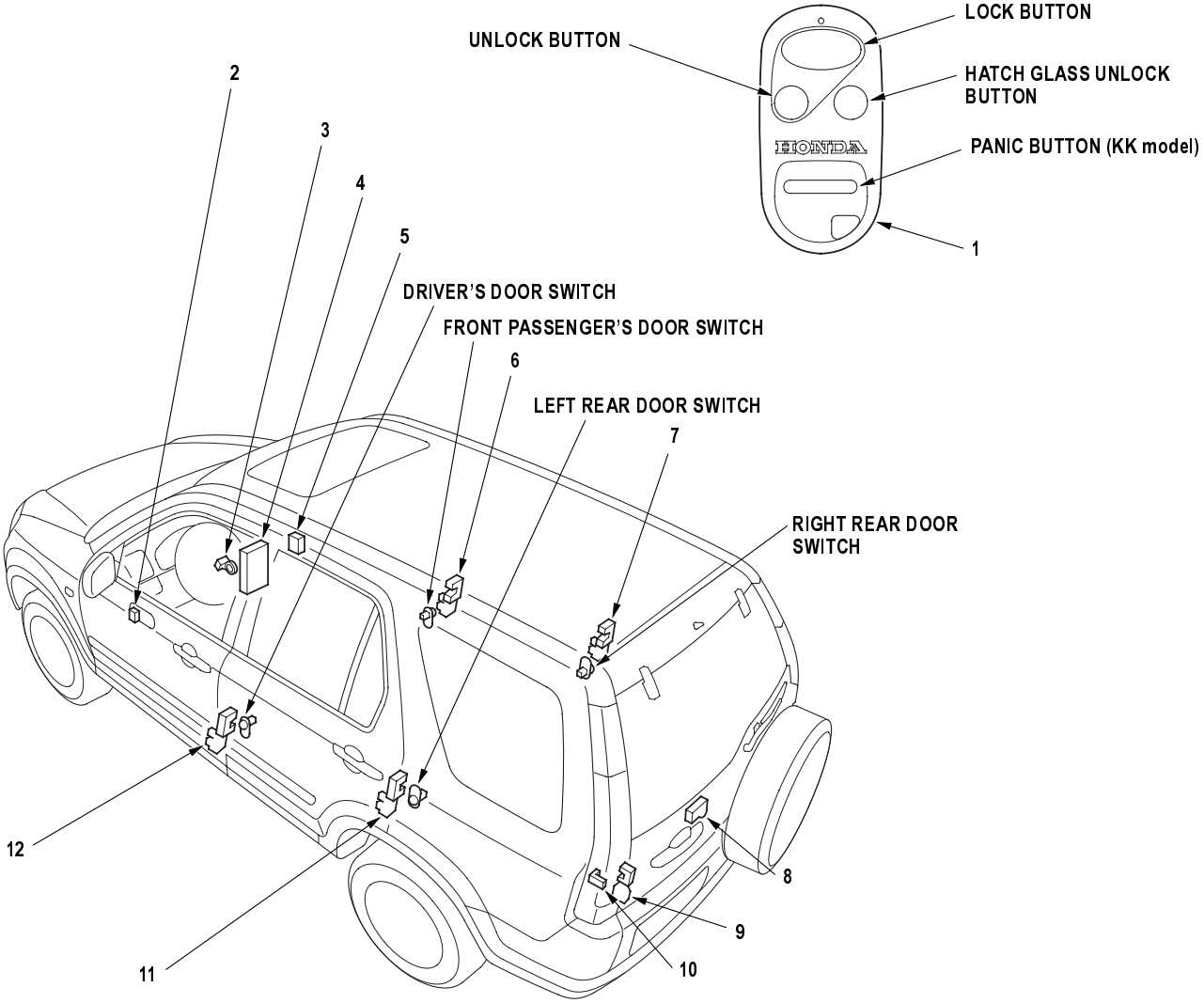
- Loss of battery power
- Loss of power from the No. 6 (7.5A) and/or the No. 23 (20A) fuses in the under-dash fuse/relay box
- Open circuit caused by disconnecting the 20P connector from the power window master switch
- Removal of the regulator, glass, or glass run channel

1. Make sure the glass is installed properly.
2. Close the driver's door.
3. Turn the ignition switch OFF.
4. Remove the No. 23 (20A) fuse in the under-dash fuse/relay box.
5. Turn the ignition switch ON (II).
6. After 1 second, turn the ignition switch OFF.
7. After 5 seconds, install the No. 23 (20A) fuse to the under-dash fuse/relay box.
8. Make sure the driver's window does not work in AUTO with the ignition switch ON (II).
9. Start the engine.
10. Move the driver's window all the way down using the manual DOWN function of the driver's power window switch.
11. Move the driver's window all the way up using the manual UP function of the driver's power window switch, and hold it for 1 second after the window reaches the closed position.
12. If the window does not work in AUTO, repeat steps 2 through 12.

Keyless/Power Door Lock System

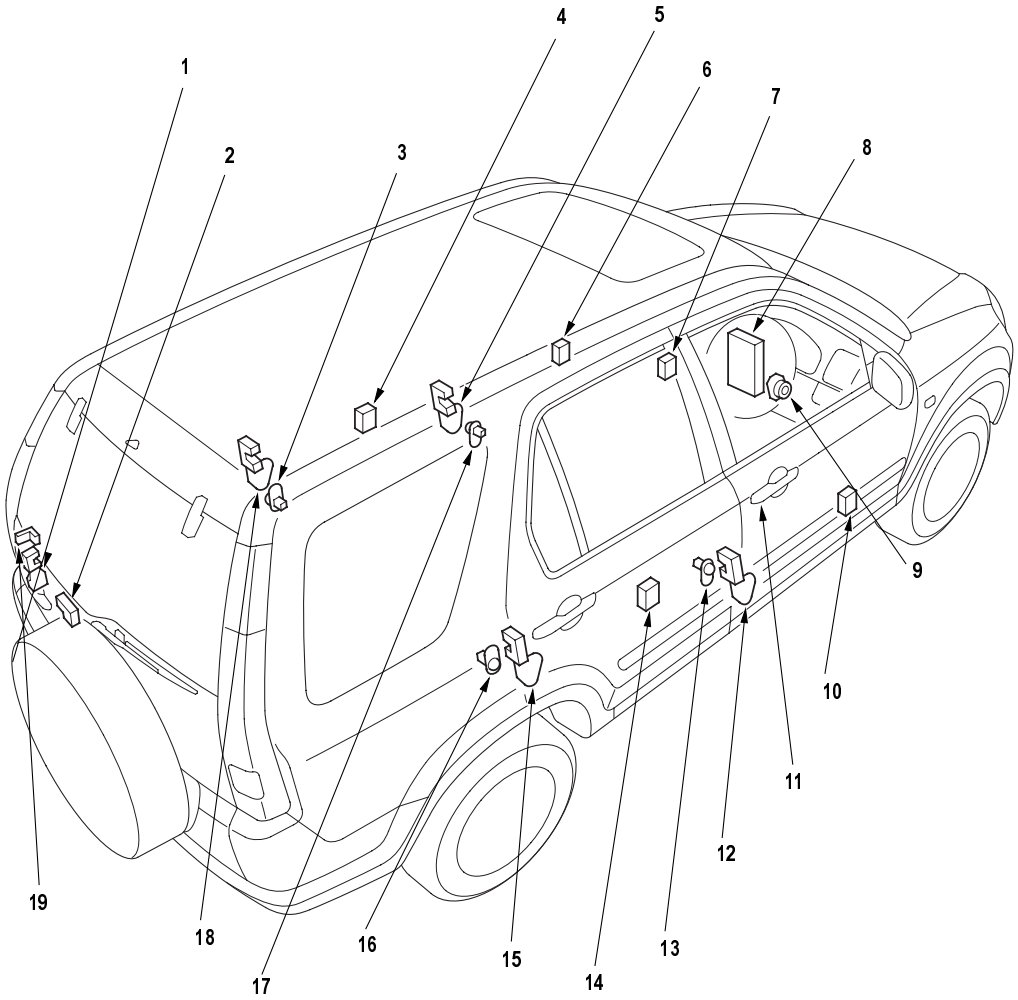
Component Location Index

NOTE: LHD type is shown, RHD type is similar.



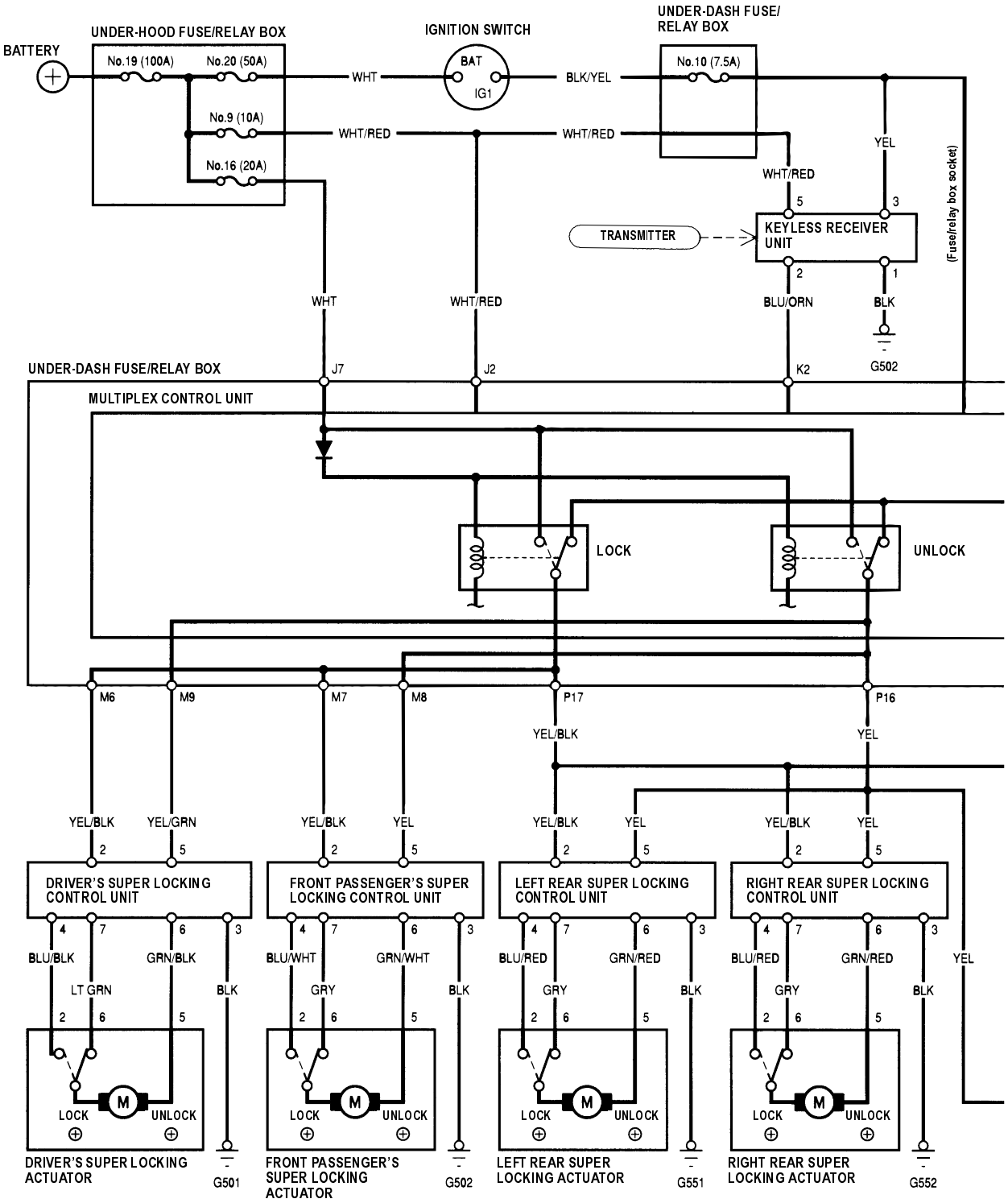
1	TRANSMITTER	Test, page 22A-176 Programming, page 22A-176
2	DRIVER'S DOOR LOCK SWITCH	Test, page 22A-177
3	IGNITION KEY SWITCH	Test, page 22A-113
4	MULTIPLEX CONTROL UNIT	Input Test, page 22A-166
5	KEYLESS RECEIVER UNIT	Input Test, page 22A-165
6	FRONT PASSENGER'S DOOR LOCK ACTUATOR	Test, page 22A-174
7	RIGHT REAR DOOR LOCK ACTUATOR	Test, page 22A-174
8	HATCH GLASS OPENER ACTUATOR	Test, page 22A-178
9	TAILGATE LOCK ACTUATOR	Test, page 22A-178
10	TAILGATE SWITCH	Test, page 22A-110 Replacement, page 22A-110
11	LEFT REAR DOOR LOCK ACTUATOR	Test, page 22A-174
12	DRIVER'S DOOR LOCK ACTUATOR/KNOB SWITCH	Actuator Test, page 22A-174 Knob Switch Test, page 22A-202

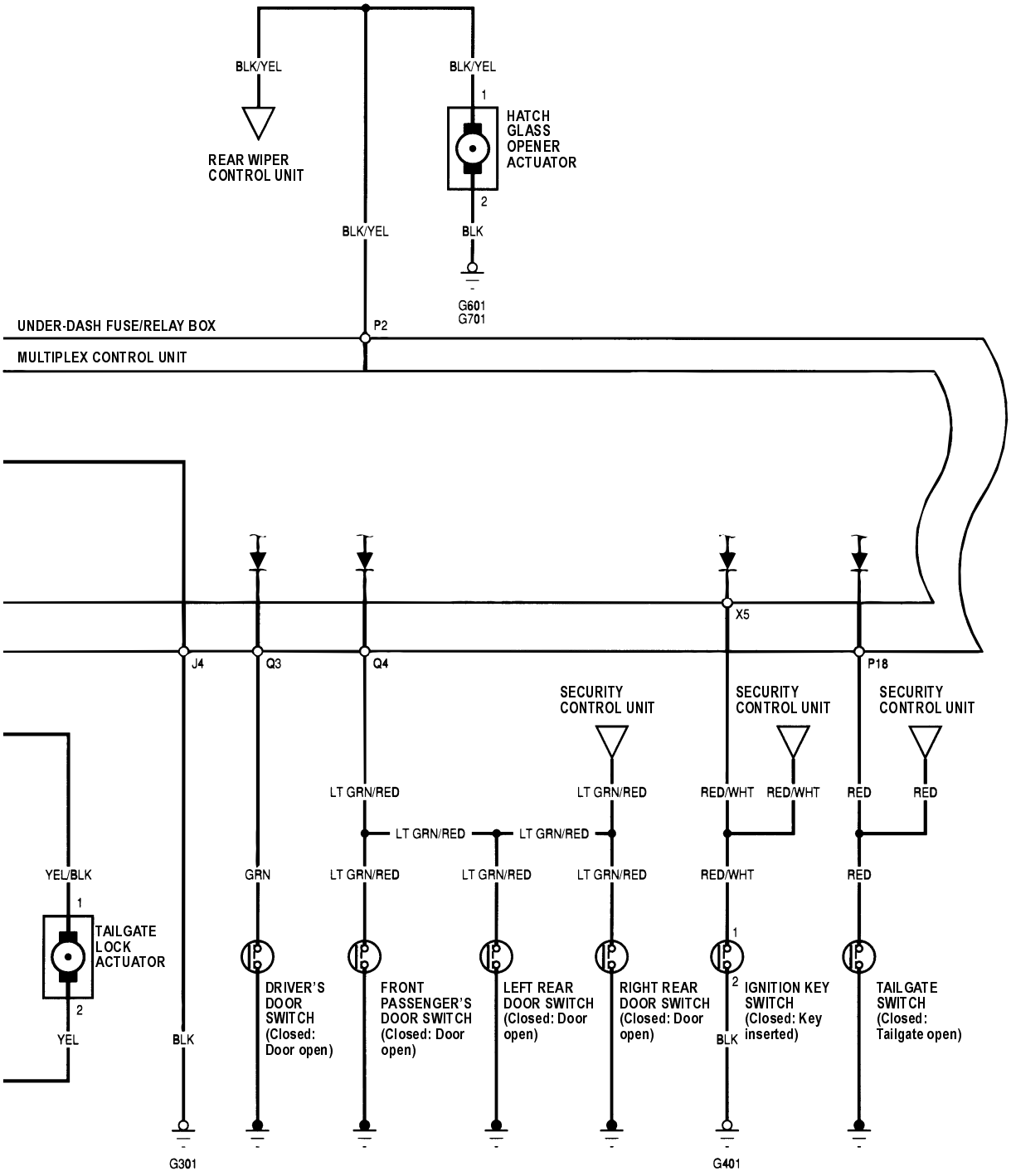
KE model:



1	TAILGATE LOCK ACTUATOR	Test, page 22A-178
	TAILGATE KNOB SWITCH	Test, page 22A-205
2	HATCH GLASS OPENER ACTUATOR	Test, page 22A-178
3	LEFT REAR DOOR SWITCH	
4	LEFT REAR SUPER LOCKING CONTROL UNIT	Input Test, page 22A-172
5	FRONT PASSENGER'S SUPER LOCKING ACTUATOR/KNOB SWITCH	Actuator Test, page 22A-174 Knob Switch Test, page 22A-202
6	FRONT PASSENGER'S SUPER LOCKING CONTROL UNIT	Input Test, page 22A-172
7	KEYLESS RECEIVER UNIT	Input Test, page 22A-165
8	MULTIPLEX CONTROL UNIT	Input Test, page 22A-166
9	IGNITION KEY SWITCH	Test, page 22A-113
10	DRIVER'S SUPER LOCKING CONTROL UNIT	Input Test, page 22A-172
11	DRIVER'S DOOR KEY CYLINDER SWITCH	Input Test, page 22A-204
12	DRIVER'S SUPER LOCKING ACTUATOR/KNOB SWITCH	Actuator Test, page 22A-174 Knob Switch Test, page 22A-202
13	DRIVER'S DOOR SWITCH	
14	RIGHT REAR SUPER LOCKING CONTROL UNIT	Input Test, page 22A-172
15	RIGHT REAR SUPER LOCKING ACTUATOR/KNOB SWITCH	Actuator Test, page 22A-174 Knob Switch Test, page 22A-202
16	RIGHT REAR DOOR SWITCH	
17	FRONT PASSENGER'S DOOR SWITCH	
18	LEFT REAR SUPER LOCKING ACTUATOR/KNOB SWITCH	Actuator Test, page 22A-174 Knob Switch Test, page 22A-202
19	TAILGATE SWITCH	Test, page 22A-110 Replacement, page 22A-110

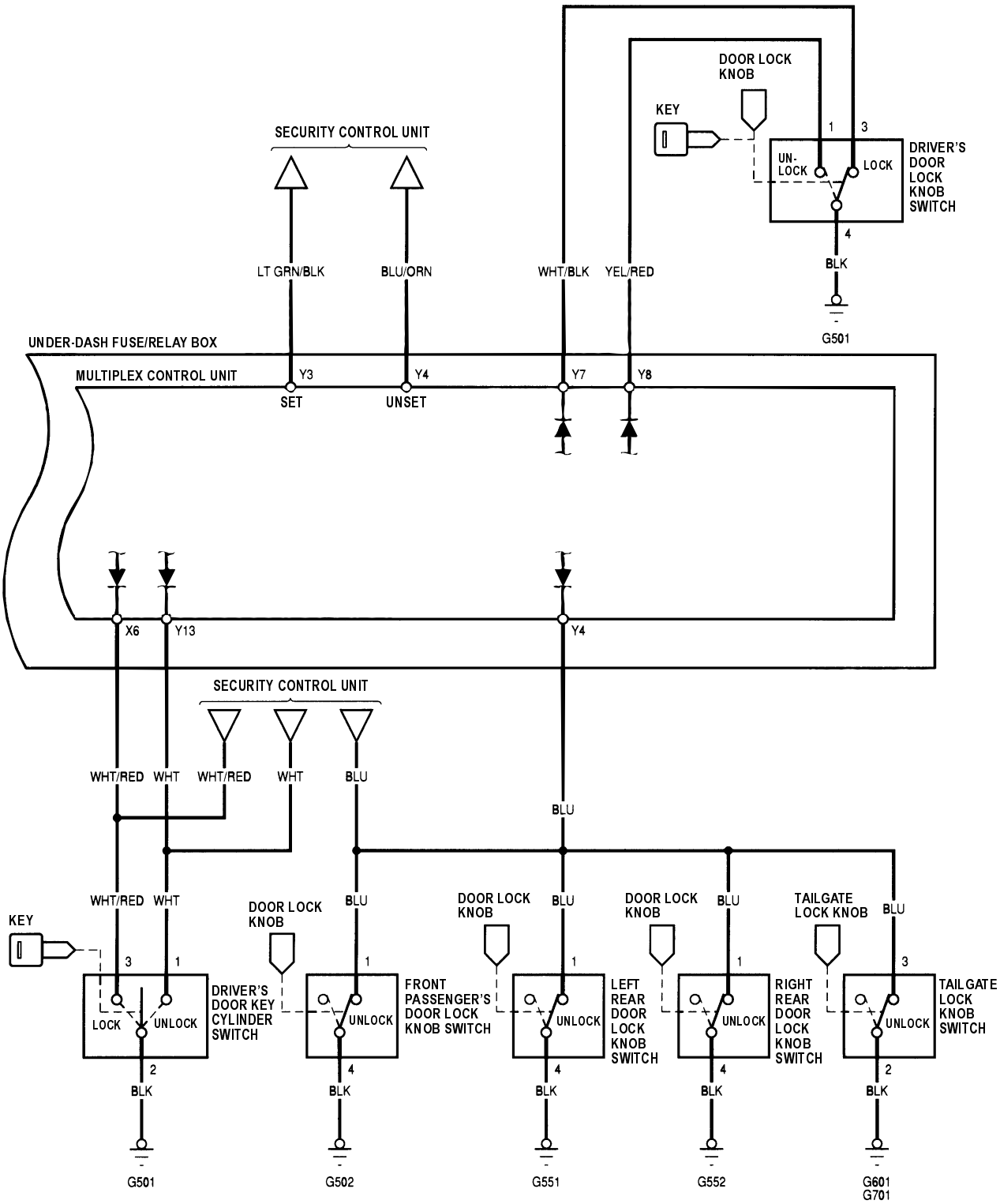
Circuit Diagram - With Super Locking



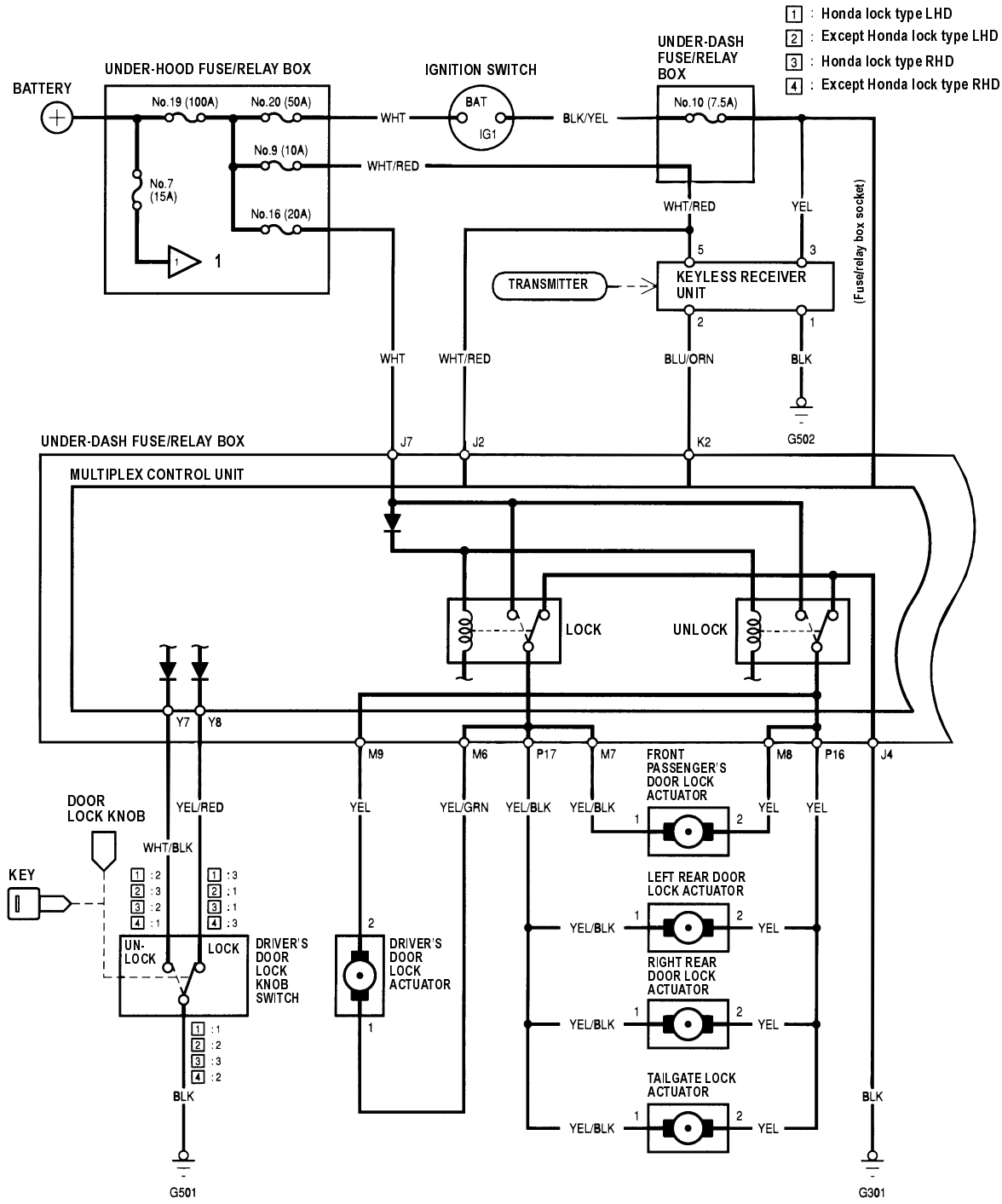

BLK/YEL
REAR WIPER CONTROL UNIT
BLK/YEL
1
HATCH GLASS OPENER ACTUATOR
2
BLK/YEL
BLK
G601
G701
UNDER-DASH FUSE/RELAY BOX
MULTIPLEX CONTROL UNIT
P2
X5
J4
Q3
Q4
P18
SECURITY CONTROL UNIT
SECURITY CONTROL UNIT
SECURITY CONTROL UNIT
LT GRN/RED
LT GRN/RED
RED/WHT
RED/WHT
RED
RED
LT GRN/RED
LT GRN/RED
YEL/BLK
1
TAILGATE LOCK ACTUATOR
2
YEL
BLK
G301
GRN
LT GRN/RED
LT GRN/RED
LT GRN/RED
RED/WHT
RED
DRIVER'S DOOR SWITCH (Closed: Door open)
FRONT PASSENGER'S DOOR SWITCH (Closed: Door open)
LEFT REAR DOOR SWITCH (Closed: Door open)
RIGHT REAR DOOR SWITCH (Closed: Door open)
1
2
IGNITION KEY SWITCH (Closed: Key inserted)
BLK
G401
TAILGATE SWITCH (Closed: Tailgate open)

(cont'd)

Circuit Diagram - With Super Locking (cont'd)



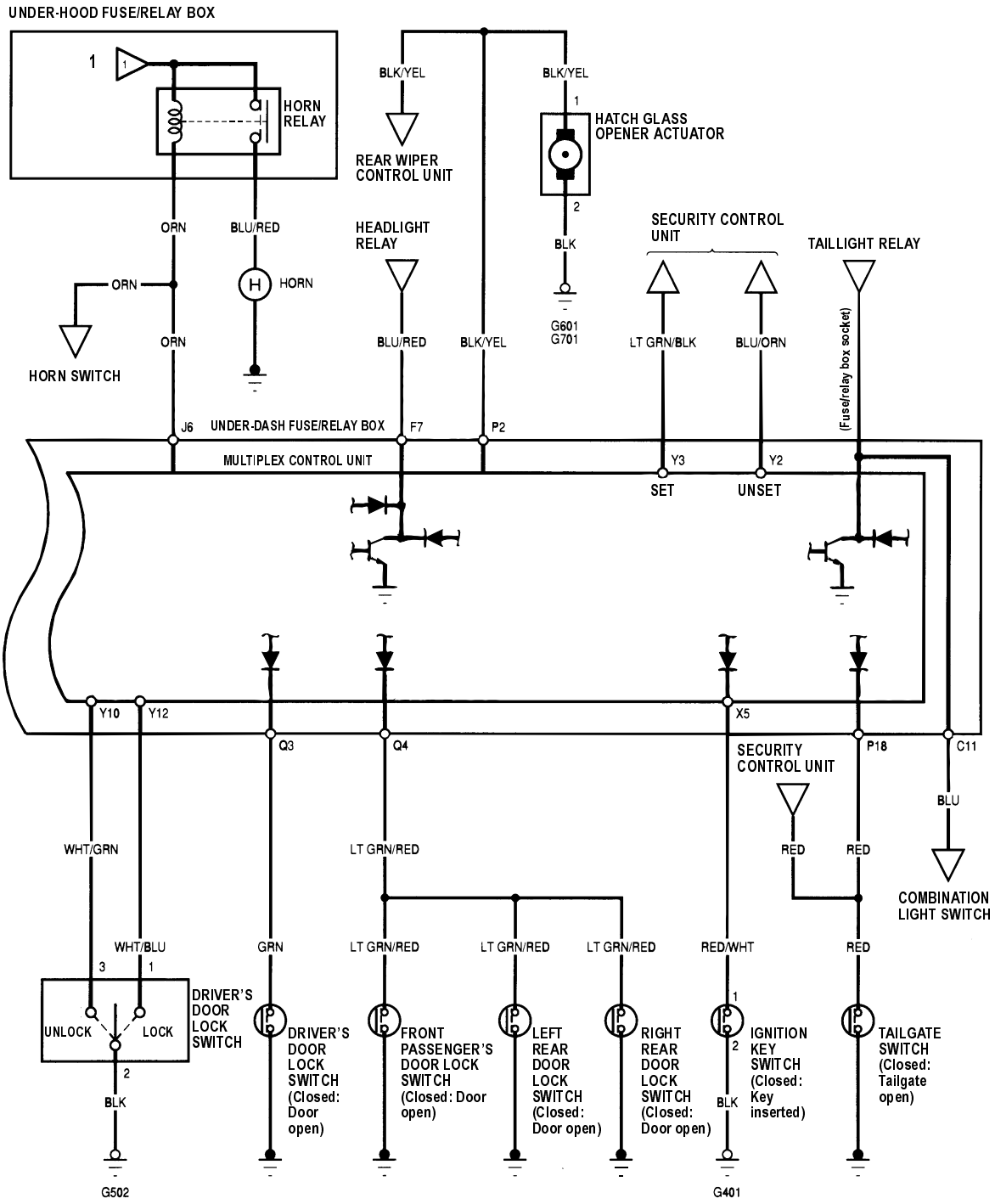
Circuit Diagram - Without Super Locking



1 HORN To page 22A-164

(cont'd)

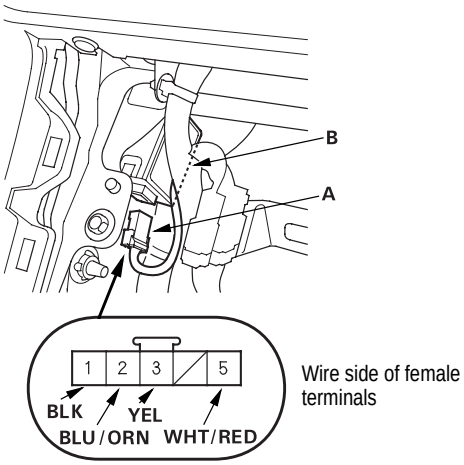
Circuit Diagram - Without Super Locking (cont'd)



1 No.7 (15A) FUSE From page 22A-163

Keyless Receiver Unit Input Test

1. Remove the heater control panel or climate control unit (see page 21-24).
2. Disconnect the 5P connector (A) from the keyless receiver unit (B).



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 are OK, go to step 5.
4. Reconnect the connector, and 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, go to step 5.

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 (G502) • An open in the wire
3	YEL	Ignition switch ON (II)	Check for voltage to ground: There should be battery voltage.	• Blown No. 10 (7.5A) fuse in the under-dash fuse/relay box • An open in the wire
		Ignition switch OFF	Check for voltage to ground: There should be no voltage.	• Short to power on No. 10 (7.5A) fuse circuit
5	WHT/RED	Under all conditions	Check for voltage to ground: There should be battery voltage.	• Blown No. 9 (10A) fuse in the under-hood fuse/relay box • An open in the wire

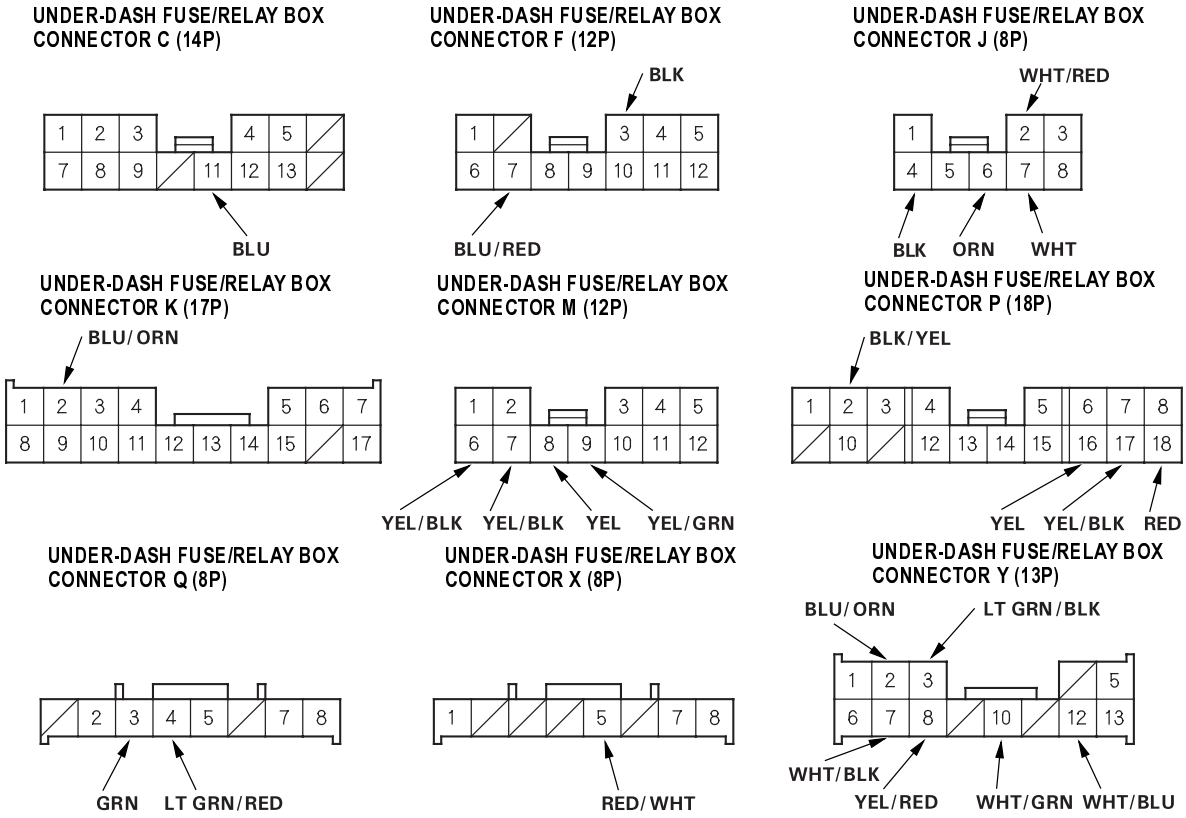
5. Disconnect the connector, and make this input test at the connector.
   - If the test indicates a problem, find and correct the cause, then recheck the system.
   - If the input test prove OK, replace the keyless receiver unit.

Cavity	Wire	Test condition	Test: Desired result	Possible cause if result is not obtained
2	BLU/ORN	Ignition switch OFF, under-dash fuse/relay box connector K (17P) disconnected	Check for continuity between the No. 2 terminal and the No. 2 terminal of the under-dash fuse/relay box connector K (17P). There should be continuity.	• An open in the wire • A short to ground in the wire
			Check for continuity between the No. 2 terminal and body ground: There should be no continuity.	

Control Unit Input Test - Without Super Locking

NOTE: For the hatch glass unlock button test, refer to the rear wiper control unit input test (see page 22A-220).

1. Before testing, troubleshoot the multiplex control system (see page 22A-231).
2. Remove the dashboard lower cover.
3. Disconnect the under-dash fuse/relay box connectors.
   NOTE: All connectors are wire side of female terminals.



4. 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 5.

5. With the connectors still disconnected, 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, go to step 6.

Cavity	Wire	Test condition	Test: Desired result	Possible cause if result is not obtained
J4	BLK	Under all conditions	Check for continuity to ground: There should be continuity.	• Poor ground (G301) • An open in the wire
J2	WHT/RED	Under all conditions	Check for voltage to ground: There should be battery voltage.	• Blown No. 9 (10A) fuse in the under-hood fuse/relay box • An open in the wire
J7	WHT	Under all conditions	Check for voltage to ground: There should be battery voltage.	• Blown No. 16 (20A) fuse in the under-hood fuse/relay box • An open in the wire
M7 M9	YEL/BLK YEL/GRN	Connect J7 terminal to M6 [or M9] terminal, and M9 [or M6] terminal to F3 terminal.	Check actuator operation: The driver's door lock actuator should lock [or unlock].	• Blown No. 16 (20A) fuse in the under-hood fuse/relay box • Faulty driver's door lock actuator • An open in the wire
M6 M8	YEL/BLK YEL	Connect J7 terminal to M7 [or M8] terminal, and M8 [or M7] terminal to F3 terminal.	Check actuator operation: The front passenger's door lock actuator should lock [or unlock].	• Blown No. 16 (20A) fuse in the under-hood fuse/relay box • Faulty front passenger's door lock actuator • An open in the wire
P16 P17	YEL YEL/BLK	Connect J7 terminal to P17 [or P16] terminal, and P16 [or P17] terminal to F3 terminal.	Check actuator operation: The both rear door lock actuator should lock [or unlock].	• Blown No. 16 (20A) fuse in the under-hood fuse/relay box • Faulty left or right door lock actuator • An open in the wire
K2	BLU/ORN	Under all conditions	Check for continuity between the K2 terminal and the keyless receiver unit 5P connector No. 2 terminal with 5P connector disconnected: There should be continuity.	• An open in the wire
Y2*	BLU/ORN	Under all conditions	Check for continuity between the Y2 terminal and the security control unit A17 terminal with the security control unit 20P connector disconnected: There should be continuity.	• An open in the wire
Y3*	LT GRN/ BLK	Under all conditions	Check for continuity between the Y3 terminal and the security control unit A6 terminal with the security control unit 20P connector disconnected: There should be continuity.	• An open in the wire

*: With security system

(cont'd)

Control Unit Input Test - Without Super Locking (cont'd)

6. Reconnect all connections to the under-dash fuse/relay box, and make sure these input tests at the appropriate connectors on the 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, the multiplex control unit must be faulty, replace the under-dash fuse/relay box assembly.

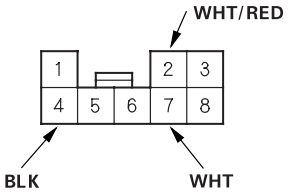
Cavity	Wire	Test condition	Test: Desired result	Possible cause if result is not obtained
P18	RED	Tailgate open	Check for voltage to ground: There should be 1 V or less.	• Poor ground (G601 or G553) • Faulty trunk or tailgate switch • An open in the wire
		Tailgate closed	Check for voltage to ground: There should be 5 V or more.	• Faulty trunk switch • Short to ground
Q3	GRN	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
Q4	LT GRN/ RED	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
		Passenger's door closed	Check for voltage to ground: There should be 5 V or more.	• Faulty passenger's door switch • Short to ground
X5	RED/WHT	Ignition key inserted into the ignition switch	Check for voltage to ground: There should be 1 V or less.	• Poor ground (G401) • Faulty ignition key switch • An open in the wire
		Ignition key removed from the ignition switch	Check for voltage to ground: There should be 5 V or more.	• Faulty ignition key switch • Short to ground
Y7	WHT/BLK	Driver's door lock knob switch unlocked	Check for voltage to ground: There should be less than 1 V.	• Poor ground (G501) • Faulty driver's door lock knob switch • An open in the wire
		Driver's door lock knob switch locked	Check for voltage to ground: There should be 5 V or more.	• Faulty driver's door lock knob switch • Short to ground
Y8	YEL/RED	Driver's door lock knob switch locked	Check for voltage to ground: There should be 1 V or less.	• Poor ground (G501) • Faulty driver's door lock knob switch • An open in the wire
		Driver's door lock knob switch unlocked	Check for voltage to ground: There should be 5 V or more.	• Faulty driver's door lock knob switch • Short to ground
Y10	WHT/GRN	Driver's door lock switch unlocked	Check for voltage to ground: There should be 1 V or less.	• Poor ground (G501) • Faulty driver's door lock switch • An open in the wire
		Driver's door lock switch in neutral	Check for voltage to ground: There should be 5 V or more.	• Faulty driver's door lock switch • Short to ground
Y12	WHT/BLU	Driver's door lock switch locked	Check for voltage to ground: There should be 1 V or less.	• Poor ground (G501) • Faulty driver's door lock switch • An open in the wire
		Driver's door lock switch in neutral	Check for voltage to ground: There should be 5 V or more.	• Faulty driver's door lock switch • Short to ground
P2	BLK/YEL	Press the keyless transmitter hatch glass unlock button	Check for voltage to ground: There should be battery voltage for a moment.	• Poor ground (G601, G701) • Faulty hatch glass opener actuator • An open in a wire
C11	BLU	Under all conditions	Attach to ground: Parking, side marker, license plate lights and taillights should come on.	• Blown No. 2 (15A) fuse in the under-hood fuse/relay box • Faulty taillight relay • Faulty under-dash fuse/relay box • An open in the wire
F7	BLU/RED	Under all conditions	Attach to ground: Headlights should come on.	• Blown No. 15 or 17 (15A) fuse in the under-hood fuse/relay box • Faulty headlight relay 1 or 2 • An open in the wire
J6	ORN	Under all conditions	Attach to ground: The horn should sound.	• Blown No. 7 (15A) fuse in the under-hood fuse/relay box • Faulty horn relay • Faulty horn • An open in the wire

Control Unit Input Test - With Super Locking

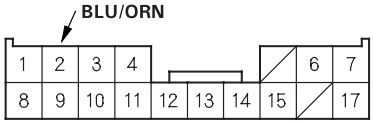
NOTE: For the hatch glass unlock button test, refer to the rear wiper control unit input test (see page 22A-220).

1. Before testing, troubleshoot the multiplex control system (see page 22A-231).
2. Remove the dashboard lower cover.
3. Disconnect the under-dash fuse/relay box connectors.
   NOTE: All connectors are wire side of female terminals.

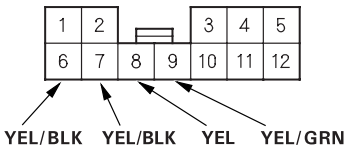
UNDER-DASH FUSE/RELAY BOX CONNECTOR J (8P)



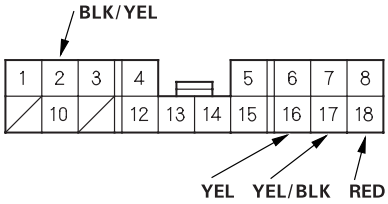
UNDER-DASH FUSE/RELAY BOX CONNECTOR K (17P)



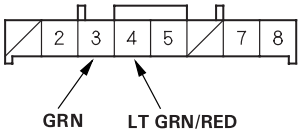
UNDER-DASH FUSE/RELAY BOX CONNECTOR M (12P)



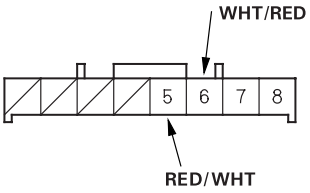
UNDER-DASH FUSE/RELAY BOX CONNECTOR P (18P)



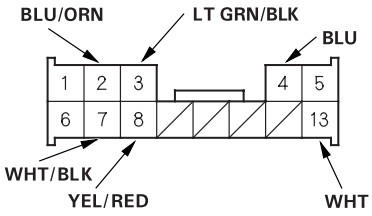
UNDER-DASH FUSE/RELAY BOX CONNECTOR Q (8P)



UNDER-DASH FUSE/RELAY BOX CONNECTOR X (8P)



UNDER-DASH FUSE/RELAY BOX CONNECTOR Y (13P)



4. 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 5.

(cont'd)

Control Unit Input Test - With Super Locking (cont'd)

5. Reconnect the connectors, and 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, go to step 6.

Cavity	Wire	Test condition	Test: Desired result	Possible cause if result is not obtained
J2	WHT/RED	Under all conditions	Check for voltage to ground: There should be battery voltage.	• Blown No. 9 (10A) fuse in the under-hood fuse/relay box • An open in the wire
J7	WHT	Under all conditions	Check for voltage to ground: There should be battery voltage.	• Blown No. 16 (20A) fuse in the under-hood fuse/relay box • An open in the wire
K2	BLU/ORN	Under all conditions	Check for continuity between the K2 terminal and the keyless receiver unit 5P connector No. 2 terminal with the 5P connector disconnected: There should be continuity.	• An open in the wire
M6 M8	YEL/BLK YEL	Connect J7 terminal to M7 [or M8] terminal, and M8 [or M7] terminal to F3 terminal.	Check actuator operation: The front passenger's door lock actuator should lock [or unlock].	• Blown No. 16 (20A) fuse in the under-hood fuse/relay box • Faulty actuator • Faulty super locking control unit • An open in the wire
M7 M9	YEL/BLK YEL/GRN	Connect J7 terminal to M6 [or M9] terminal, and M9 [or M6] terminal to F3 terminal.	Check actuator operation: The driver's door lock actuator should lock [or unlock].	• Blown No. 16 (20A) fuse in the under-hood fuse/relay box • Faulty actuator • Faulty super locking control unit • An open in the wire
P17 P16	YEL/BLK YEL	Connect J7 terminal to P17 [or P16] terminal, and P16 [or P17] terminal to F3 terminal.	Check actuator operation: The left rear door, right rear door and tailgate lock actuator should lock [or unlock].	• Blown No. 16 (20A) fuse in the under-hood fuse/relay box • Faulty actuator • Faulty left rear or right rear super locking control unit. • An open in the wire
J4	BLK	Under all conditions	Check for continuity to ground: There should be continuity.	• Poor ground (G301) • An open in the wire

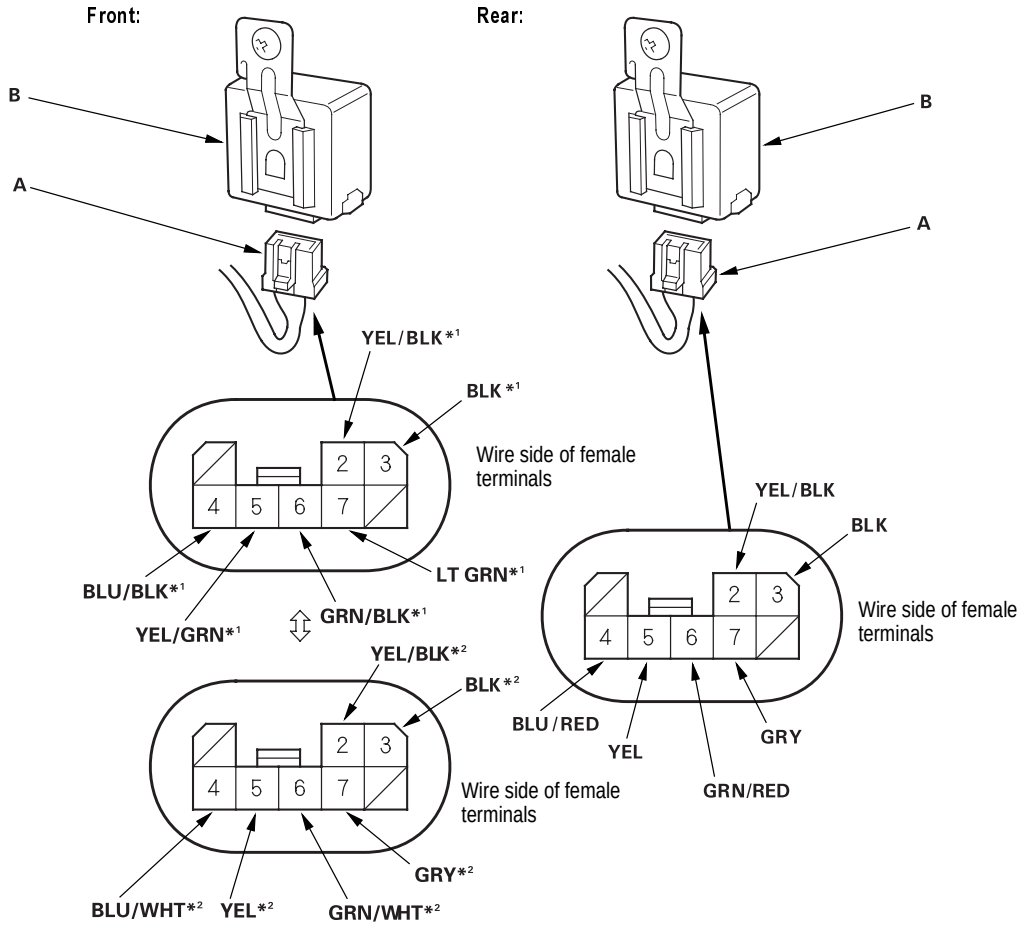
6. Reconnect all connector to the under-dash fuse/relay box, and make sure these input tests at the appropriate connectors on the under-dash fuse/relay box.

- If any test indicates a problem, find and correct the cause, then recheck the system.
- If all the input tests prove OK, the multiplex control unit must be faulty, replace the under-dash fuse/relay box assembly.

Cavity	Wire	Test condition	Test: Desired result	Possible cause if result is not obtained
P18	RED	Tailgate open	Check for voltage to ground: There should be 1 V or less.	• Poor ground (G601) • Faulty tailgate latch switch • An open in the wire
		Tailgate closed	Check for voltage to ground: There should be 5 V or more.	
X5	RED/WHT	Ignition key inserted into the ignition switch	Check for voltage to ground: There should be 1 V or less.	• Poor ground (G401) • Faulty ignition key switch • An open in the wire
		Ignition key removed from the ignition switch	Check for voltage to ground: There should be 5 V or more.	
Q3	GRN	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.	
Q4	LT GRN/ RED	Passengers door open	Check for voltage to ground: There should be 1 V or less.	• Faulty passenger's door switch • An open in the wire
		Passenger's door closed	Check for voltage to ground: There should be 5 V or more.	
Y4	BLU	Front passenger's, tailgate, left rear or right rear door lock knob switch unlocked	Check for voltage to ground: There should be 1 V or less.	• Faulty front passenger's, tailgate, left rear or right rear door lock knob switch • Poor ground (G502, G551, G552, G601, G701) • An open in the wire
X6	WHT/RED	Driver's door key cylinder switch lock	Check for voltage to ground: There should be 1 V or less.	• Faulty driver's door key cylinder switch • Poor ground (G501) • An open in the wire
		Driver's door key cylinder switch in neutral	Check for voltage to ground: There should be 5 V or more.	
Y13	WHT	Driver's door key cylinder switch unlocked	Check for voltage to ground: There should be 1 V or less.	
		Driver's door key cylinder switch in neutral	Check for voltage to ground: There should be 5 V or more.	
Y7	WHT/BLK	Driver's door lock knob switch unlocked	Check for voltage to ground: There should be less than 1 V.	• Poor ground (G501) • Faulty driver's door lock knob switch • An open in the wire
		Driver's door lock knob switch locked	Check for voltage to ground: There should be 5 V or more.	• Faulty driver's door lock knob switch • Short to ground
Y8	YEL/RED	Driver's door lock knob switch locked	Check for voltage to ground: There should be 1 V or less.	• Poor ground (G501) • Faulty driver's door lock knob switch • An open in the wire
		Driver's door lock knob switch unlocked	Check for voltage to ground: There should be 5 V or more.	• Faulty driver's door lock knob switch • Short to ground
Y2	BLU/ORN	Under all conditions	Check for continuity between the Y2 terminal and the security control unit A17 terminal with the security control unit 20P connector disconnected: There should be continuity.	• An open in the wire
Y3	LT GRN/ BLK	Under all conditions	Check for continuity between the Y3 terminal and the security control unit A6 terminal with the security control unit 20P connector disconnected: There should be continuity.	• An open in the wire
P2	BLK/YEL	Press the keyless transmitter hatch glass unlock button	Check for voltage to ground: There should be battery voltage for a moment.	• Poor ground (G601, G701) • Faulty hatch glass opener actuator • An open in a wire

Super Locking Control Unit Input Test

1. Remove the each door panel (see page 20-6).
2. Disconnect the 8 P connector (A) from the super locking control unit (B).
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, make the following input tests at the connector.
     – If a 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.



*1: Driver's
*2: Front passenger's

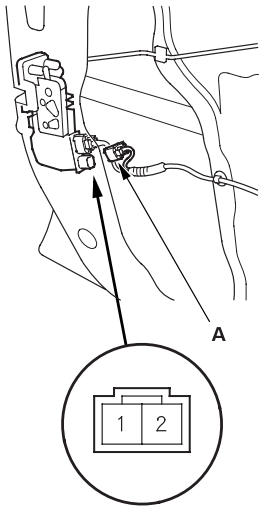
Cavity	Wire	Test condition	Test: Desired result	Possible cause if result is not obtained
3	BLK	Under all conditions	Check for continuity to ground: There should be continuity.	• Poor ground (G501, G502, G551, G552) • An open in the wire
2	YEL/BLK	Connect the No. 2 terminal to the No. 7 terminal and the No. 6 terminal to the No. 3 terminal momentarily with ignition switch ON (II)	Check actuator operation: The actuator should lock.	• Faulty door lock actuator • An open in the wire
7	LT GRN [GRY]			
5	YEL/GRN [YEL]	Connect the No. 5 terminal to the No. 6 terminal and the No. 7 terminal to the No. 3 terminal momentarily with ignition switch ON (II)	Check actuator operation: The actuator should unlock.	
6	GRN/BLK [GRN/WHT or GRN/RED]			
4	BLU/BLK [BLU/WHT or BLU/RED]	Under all conditions	Check for continuity between the No. 4 terminal and No. 2 terminal of the actuator. There should be continuity.	• An open in the wire

[ ]: Passenger's

Door Lock Actuator Test

Driver's Door without Super Locking:

1. Remove the driver's door panel (see page 20-9).
2. Disconnect the 2P connector (A) from the actuator.



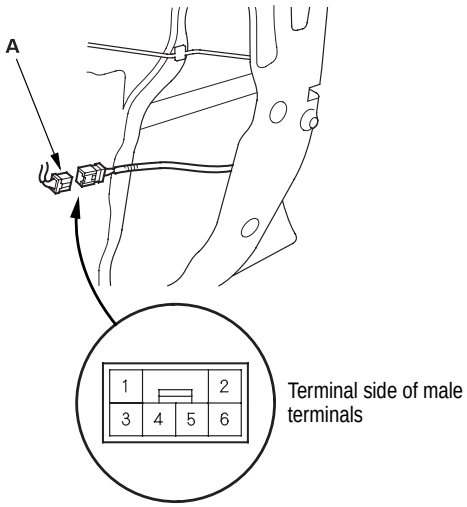
3. Check actuator operation by connecting power and ground according to the table. To prevent damage to the actuator, apply battery voltage only momentarily.

Terminal / Position	1	2
LOCK	⊕	⊖
UNLOCK	⊖	⊕

4. If the actuator does not work as specified, replace it.

Driver's Door with Super Locking:

1. Remove the driver's door panel (see page 20-9).
2. Disconnect the 6P connector (A) from the actuator.



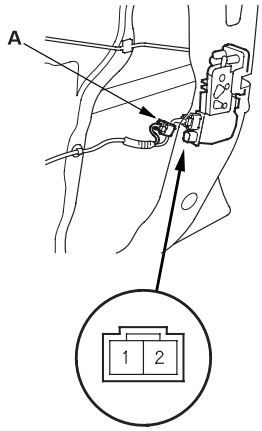
3. Check actuator operation by connecting power and ground according to the table. To prevent damage to the actuator, apply battery voltage only momentarily.

Terminal / Position	5	6
LOCK	⊖	⊕
UNLOCK	⊕	⊖

4. If the actuator does not work as specified, replace it.

Passenger's Door without Super Locking:

1. Remove the passenger's door panel (see page 20-9).
2. Disconnect the 2P connector (A) from the actuator.



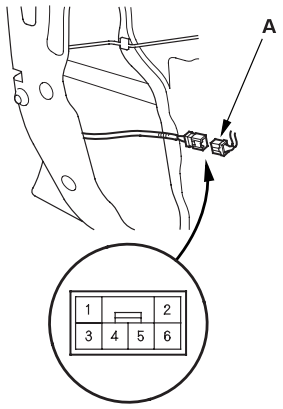
3. Check actuator operation by connecting power and ground according to the table. To prevent damage to the actuator, apply battery voltage only momentarily.

Terminal / Position	1	2
LOCK	⊕	⊖
UNLOCK	⊖	⊕

4. If the actuator does not work as specified, replace it.

Passenger's Door with Super Locking:

1. Remove the passenger's door panel (see page 20-9).
2. Disconnect the 6P connector (A) from the actuator.



3. Check actuator operation by connecting power and ground according to the table. To prevent damage to the actuator, apply battery voltage only momentarily.

Terminal / Position	5	6
LOCK	⊖	⊕
UNLOCK	⊕	⊖

4. If the actuator does not work as specified, replace it.

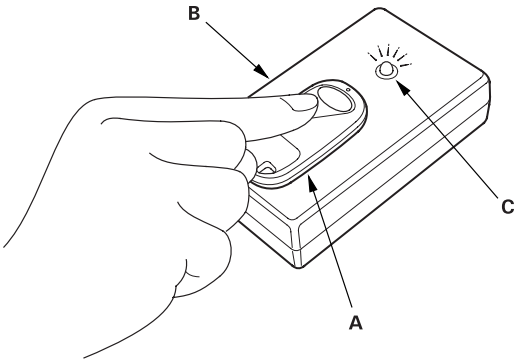
Transmitter Test

NOTE:
- If the doors unlock or lock with the transmitter, but the LED on the transmitter does not come on, the LED is faulty; replace the transmitter.
- If any door is open, you cannot lock the door with the transmitter.
- If you unlocked the doors with the transmitter, but do not open any of the doors within 30 seconds, the doors relock automatically.
- The doors do not lock or unlock with the transmitter if the ignition key is in the ignition switch.

Using a keyless entry checker (07MAJ-SP00300):
Put the transmitter (A) on the keyless entry checker (B) and press the button.

- If the ray indicator light (C) does not come on, check for:
  – a dead or low battery.
  – faulty transmitter.
- If the ray indicator light comes on, the transmitter is OK.

NOTE: When the transmitter battery was replaced, aim the transmitter at the receiver, and press the transmitter button six times. The receiver is located behind the center lower panel. Confirm you can hear the sound of the door lock actuators when you press the sixth time.



Transmitter Programming

Storing transmitter codes:

The codes of up to three transmitters can be programmed into the keyless receiver unit memory. (If a fourth code is stored, the code that was programmed first will be erased.)

NOTE: It is important to maintain the time limits between the steps. Make sure the doors and the tailgate are closed.

1. Turn the ignition switch ON (II).

2. Within 1 to 4 seconds, push the transmitter lock or unlock button.

3. Within 1 to 4 seconds, turn the ignition switch OFF.

4. Within 1 to 4 seconds, turn the ignition switch ON (II).

5. Within 1 to 4 seconds, push the transmitter lock or unlock button.

6. Within 1 to 4 seconds, turn the ignition switch OFF.

7. Within 4 seconds, turn the ignition switch ON (II).

8. Within 1 to 4 seconds, push the transmitter lock or unlock button.

9. Within 1 to 4 seconds, turn the ignition switch OFF.

10. Within 4 seconds, turn the ignition switch ON (II).

11. Within 1 to 4 seconds, push the transmitter lock or unlock button.

12. Confirm you can hear the sound of the door lock actuators. Within 1 to 4 seconds, push the transmitter lock or unlock button again.

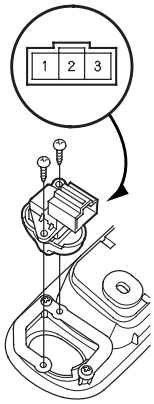
13. Within 10 seconds, press the transmitter lock or unlock buttons on the two additional transmitters. Confirm that you can hear the sound of the door lock actuators after each transmitter code is stored.

14. Turn the ignition switch OFF, and remove the key.

15. Confirm proper operation of the transmitters.

Door Lock Switch Test

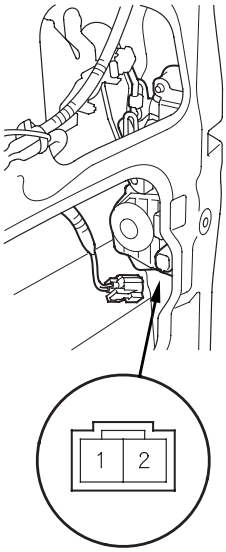
1. Remove the door panel (see page 20-9).
2. Remove the two mounting screws and the door lock switch.



3. Check for continuity between the No. 1 and No. 2 terminals:
   - There should be continuity when the door lock switch is in the LOCKED position.
   - There should be no continuity when the door lock switch is in the UNLOCKED position.
4. Check for continuity between the No. 2 and No. 3 terminals:
   - There should be continuity when the door lock switch is in the UNLOCKED position.
   - There should be no continuity when the door lock switch is in the LOCKED position.
5. If the continuity is not as specified, replace the door lock switch.

Tailgate Lock Actuator Test

1. Remove the tailgate lower trim panel (see page 20-80).
2. Disconnect the 2P connector from the actuator.



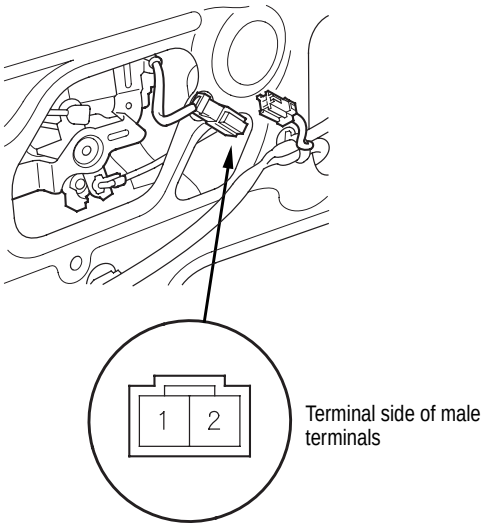
3. Check actuator operation by connecting power and ground according to the table. To prevent damage to actuator, apply battery voltage only momentarily.

Terminal / Position	1	2
LOCK	⊕	⊖
UNLOCK	⊖	⊕

4. If the actuator does not operate as specified, replace it.

Hatch Glass Opener Actuator Test

1. Remove the tailgate lower trim panel (see page 20-80).
2. Disconnect the 2P connector from the actuator.

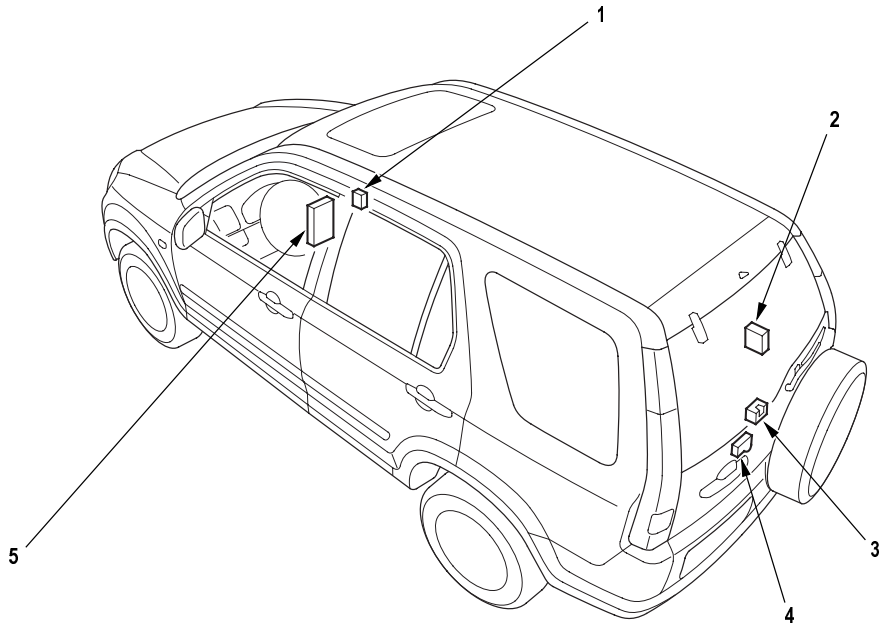


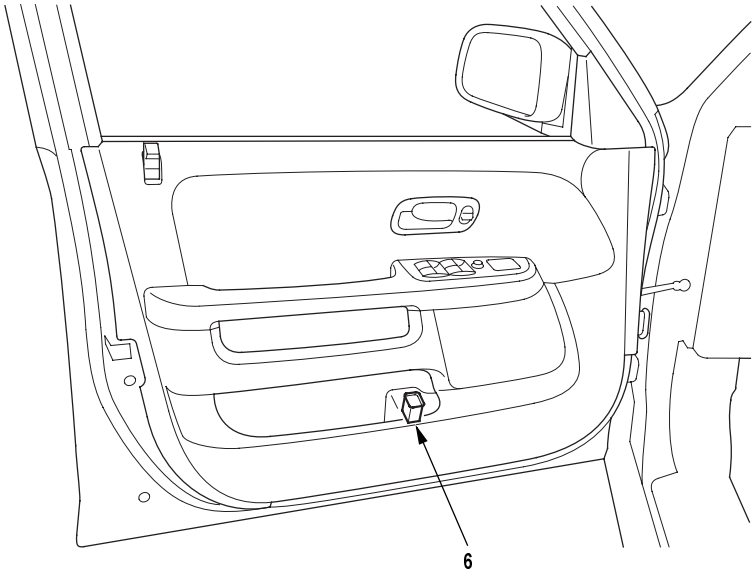
3. Connect power to the No. 1 terminal and ground to the No. 2 terminals momentarily. The actuator should operate.
4. If the actuator does not operate as specified, replace it.

Hatch Glass Opener

Component Location Index

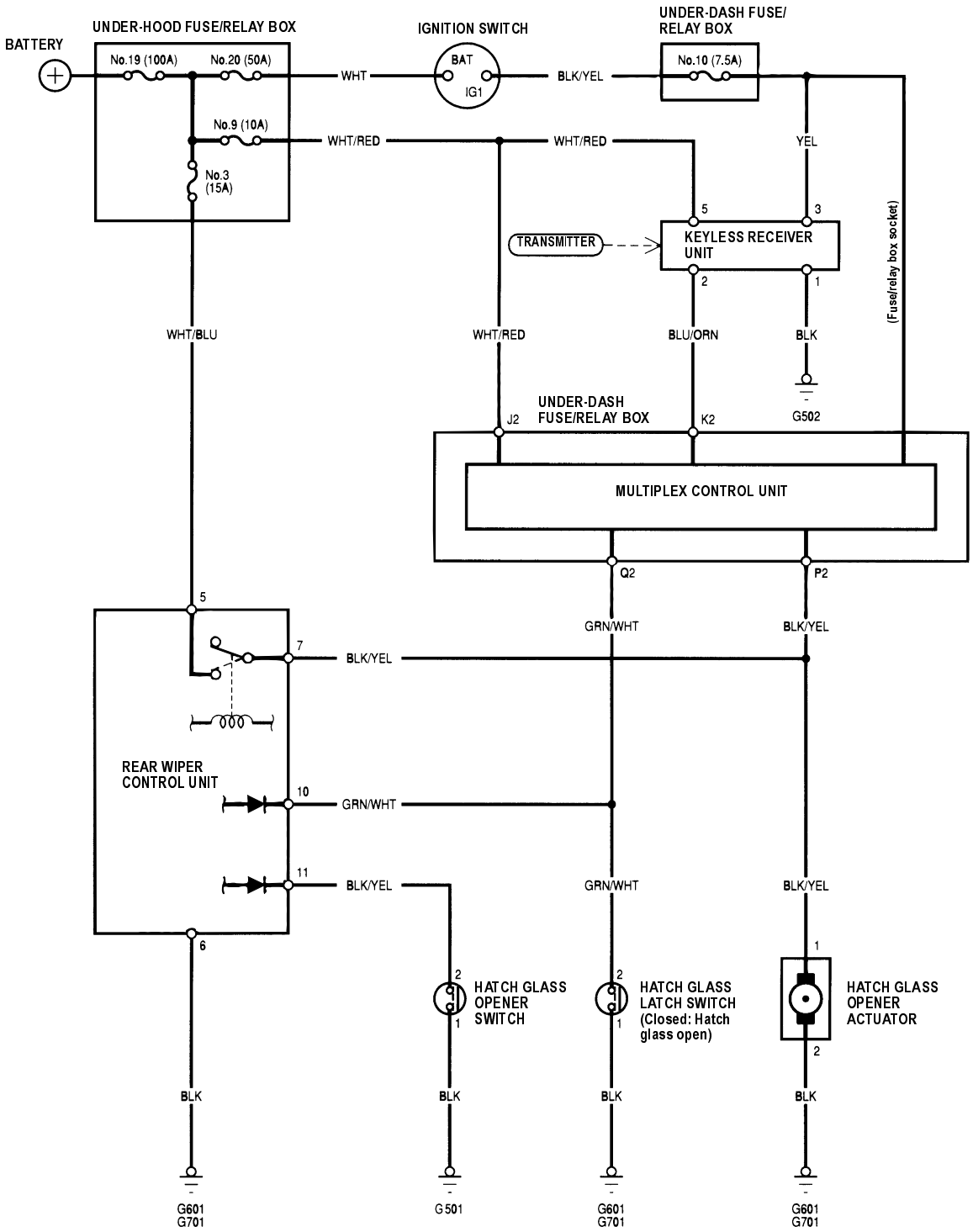
NOTE: LHD type is shown, RHD type is similar.





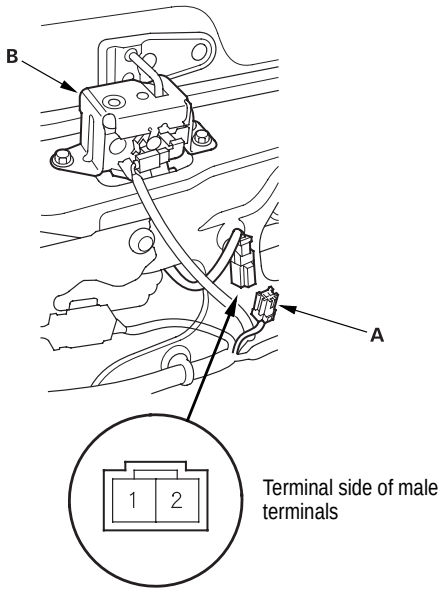
1	KEYLESS RECEIVER UNIT	Input Test, page 22A-165
2	REAR WIPER CONTROL UNIT	Input Test, page 22A-220
3	HATCH GLASS LATCH SWITCH	Test, page 22A-181
4	HATCH GLASS OPENER ACTUATOR	Test, page 22A-178
5	MULTIPLEX CONTROL UNIT	Input Test, page 22A-235
6	HATCH GLASS OPENER SWITCH	Test, page 22A-181 Replacement, page 22A-181

Circuit Diagram



Hatch Glass Latch Switch Test

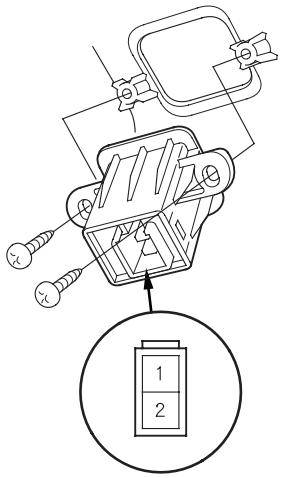
1. Remove the tailgate lower trim panel (see page 20-80).
2. Disconnect the 2P connector (A) from the latch switch (B).



3. Check for continuity between the No. 1 and No. 2 terminals.
   - There should be continuity when the hatch glass is open.
   - There should be no continuity when the hatch glass is closed.
4. If the continuity is not as specified, replace the latch switch.

Hatch Glass Opener Switch Test/ Replacement

1. Remove the driver's door panel (see page 20-76).
2. Disconnect the 2P connector from the opener switch.

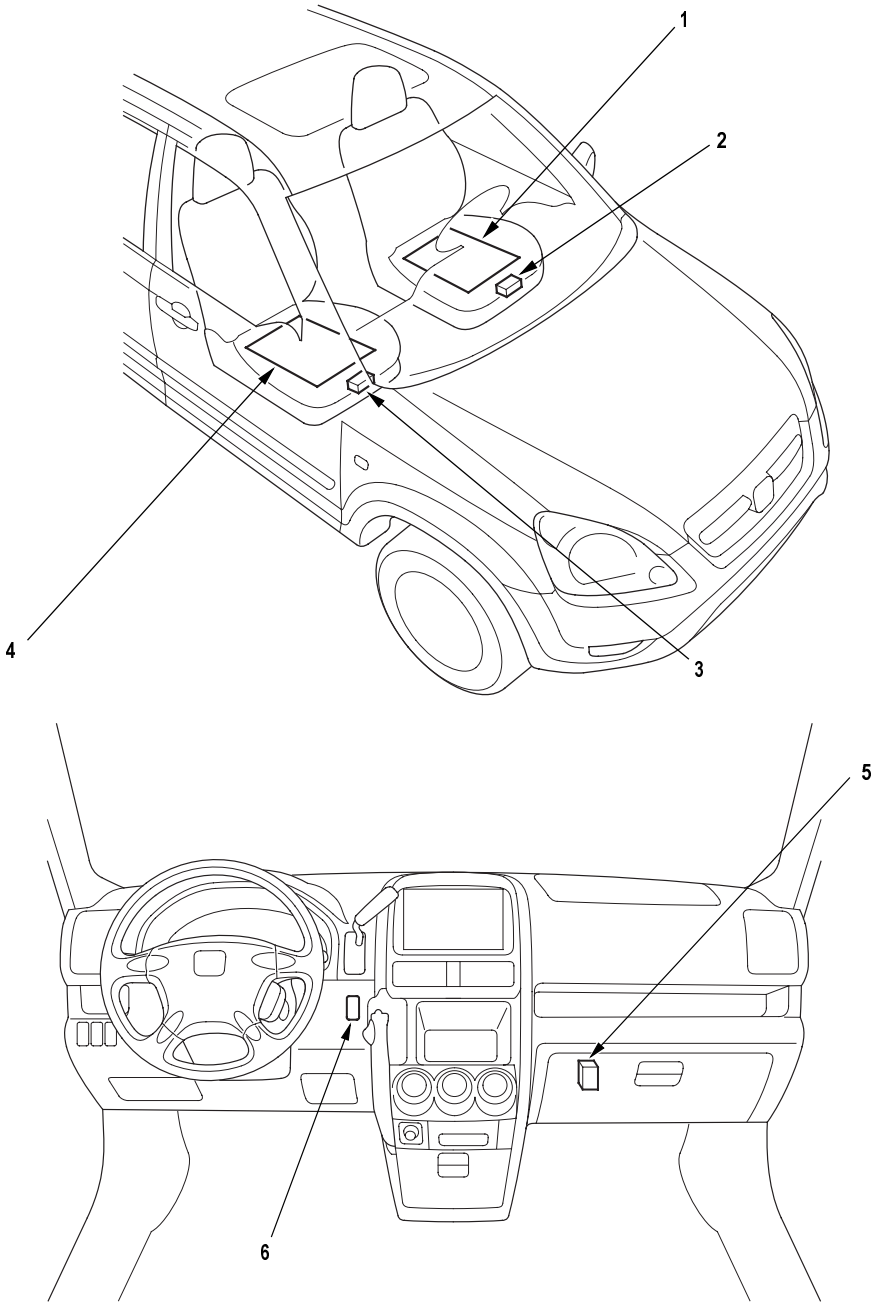


3. Check for continuity between the No. 1 and No. 2 terminals.
   - There should be continuity when the opener switch is pushed.
   - There should be no continuity when the opener switch is released.
4. If the continuity is not as specified, replace the opener switch.

Seat Heaters

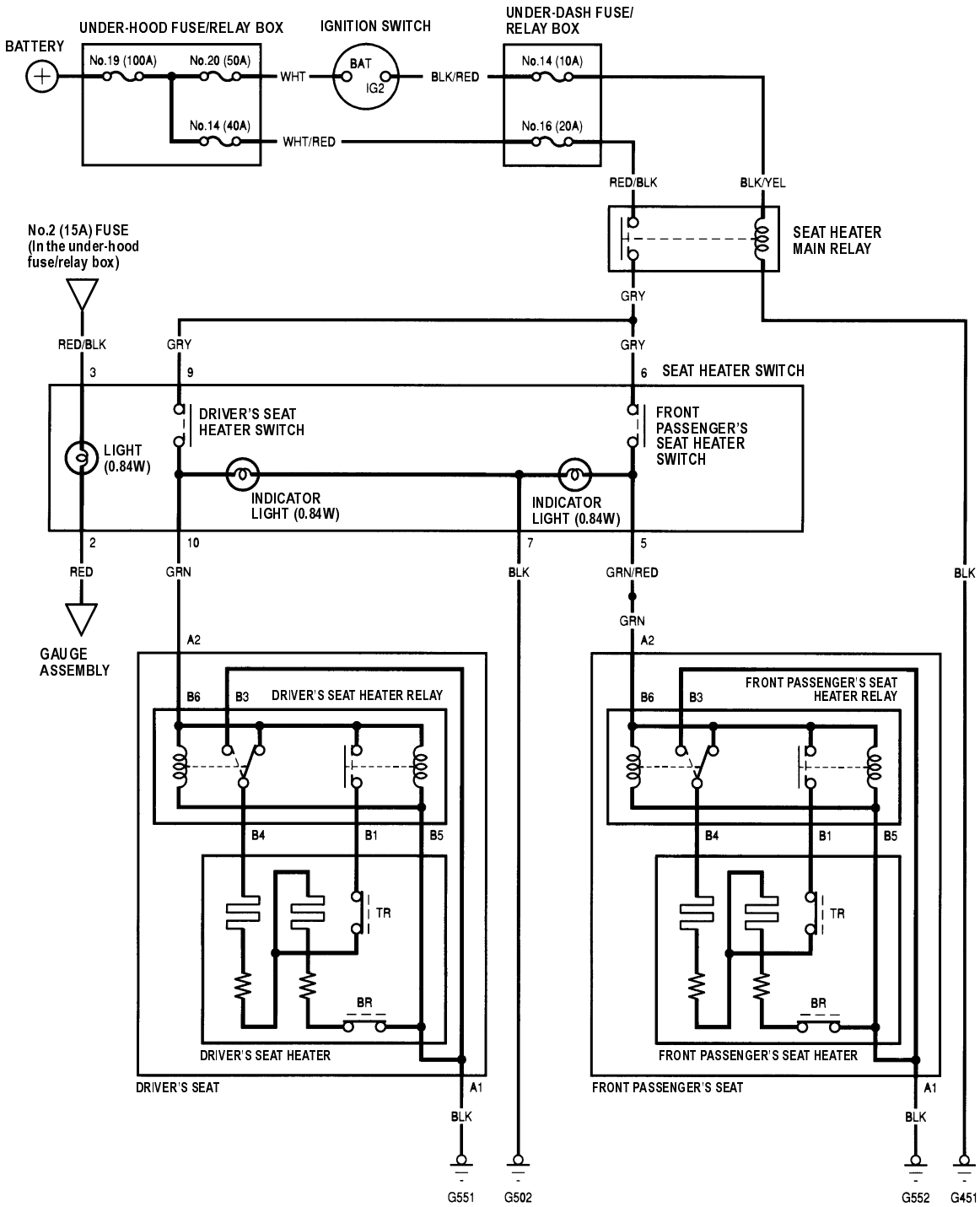
Component Location Index

NOTE: LHD type is shown, RHD type is similar.



1	DRIVER'S SEAT CUSHION HEATER	Test, page 22A-184
2	DRIVER'S SEAT HEATER RELAY	Test, page 22A-184
3	FRONT PASSENGER'S SEAT HEATER RELAY	Test, page 22A-184
4	FRONT PASSENGER'S SEAT CUSHION HEATER	Test, page 22A-184
5	SEAT HEATER MAIN RELAY [Wire colors: GRY, RED/BLK, BLK, BLK/YEL]	Test, page 22A-60
6	SEAT HEATER SWITCH	Test, page 22A-185 Replacement, page 22A-185

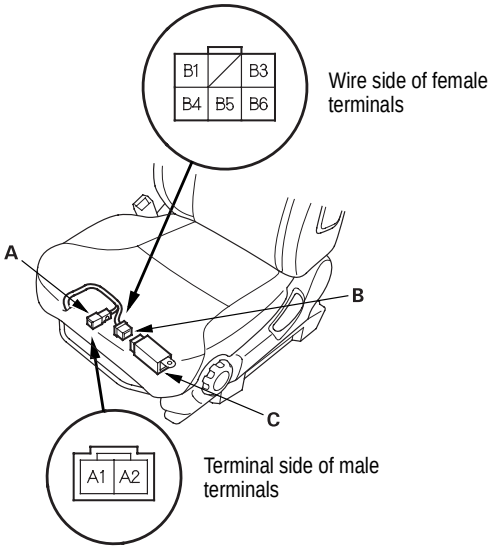
Circuit Diagram



BR : BREAKER [OFF 45 - 55° C (133 - 131°F) ON 25 - 35° C (77 - 95°F)]
TR : THERMOSTAT [OFF 35 - 45°C (95 - 113°F) ON 15 - 25°C (59 - 77°F)]

Seat Heater Test

1. Remove the front seat (see page 20-103).
2. Disconnect the seat heater harness 2P connector (A) from the seat sub-harness and the 6P connector (B) from the seat heater relay (C).



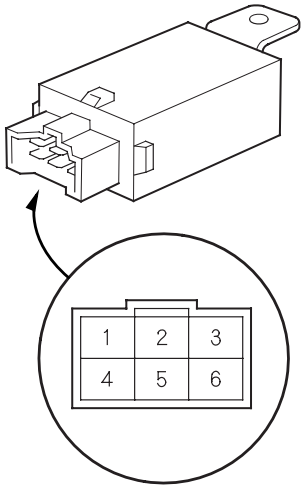
3. Check for continuity between the A1 and B3 terminals, and A2 and B6 terminals. There should be continuity.

   If there is no continuity, replace the seat cushion (see page 20-108).
4. Check for continuity between the B1 and B4 terminals, and B1 and B5 terminals. There should be continuity.

   If there is no continuity, replace the seat cushion (see page 20-108).

Seat Heater Relay Test

1. Remove the front seat (see page 20-103).
2. Disconnect the 6P connector from the seat heater relay (A).



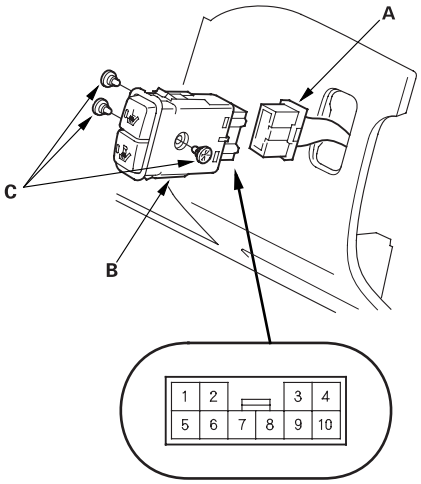
3. Check for continuity between the No. 6 and No. 5 terminals, and No. 6 and No. 4 terminals. There should be continuity.

   If there is no continuity, replace the seat heater relay.
4. Check for continuity between the No. 1 and No. 6 terminals, and No. 3 and No. 4 terminals when power and ground are connected to the No. 6 and No. 5 terminals. There should be continuity.

   If there is no continuity, replace the seat heater relay.

Seat Heater Switch Test/Replacement

1. Remove the dashboard lower cover (see page 20-88).
2. Disconnect the 10P connector (A) from the seat heater switch (B), and remove the seat heater switch.



3. Check for continuity in each switch position according to the table.

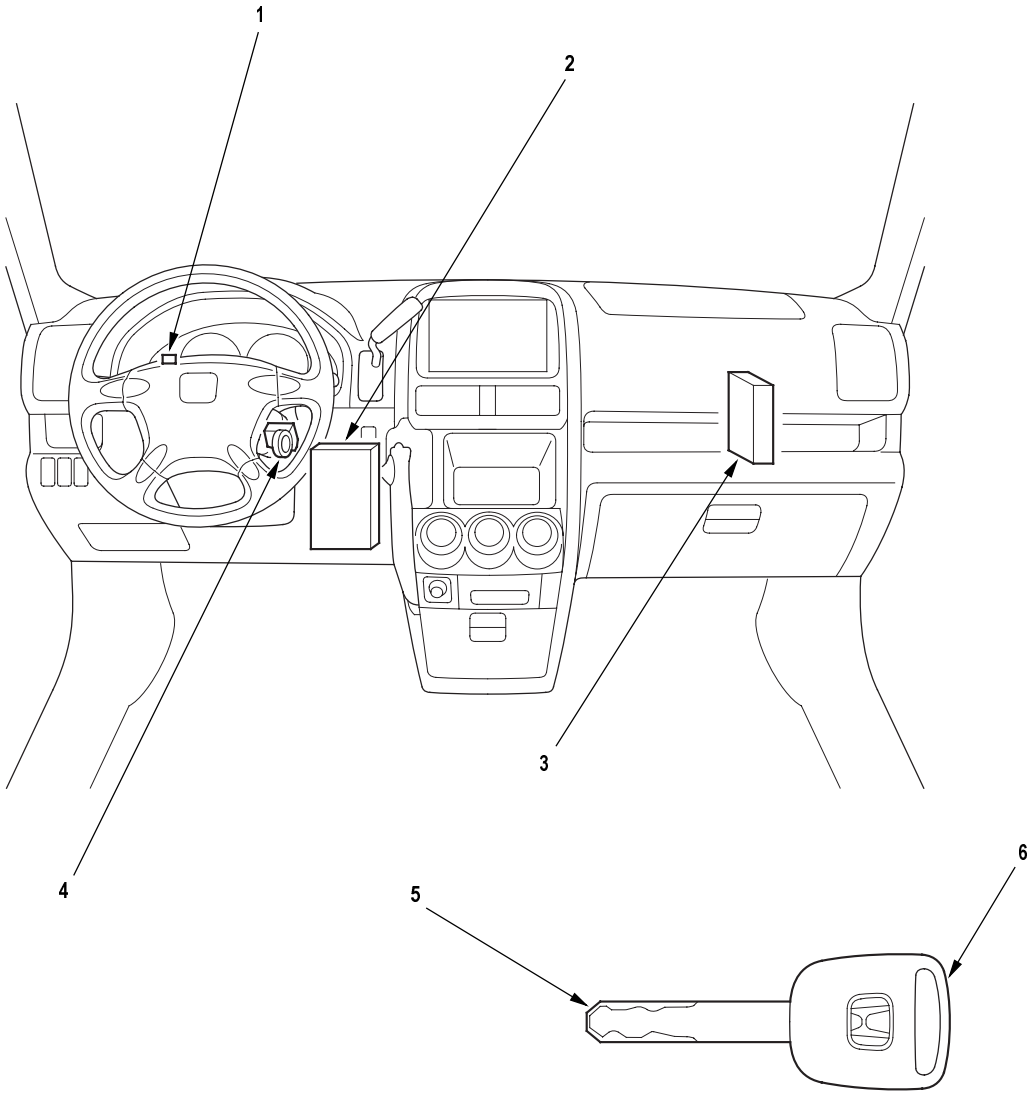
Terminal / Position	2		3	5	6		7		9	10
ON	○	⌇	○	○	○	⌇	○	⌇	○	○
OFF	○	⌇	○	○		⌇	○	⌇		○

4. If the continuity is not as specifed, replace the bulbs (C) or the switch.

Immobilizer System

Component Location Index

NOTE: LHD type is shown, RHD type is similar.

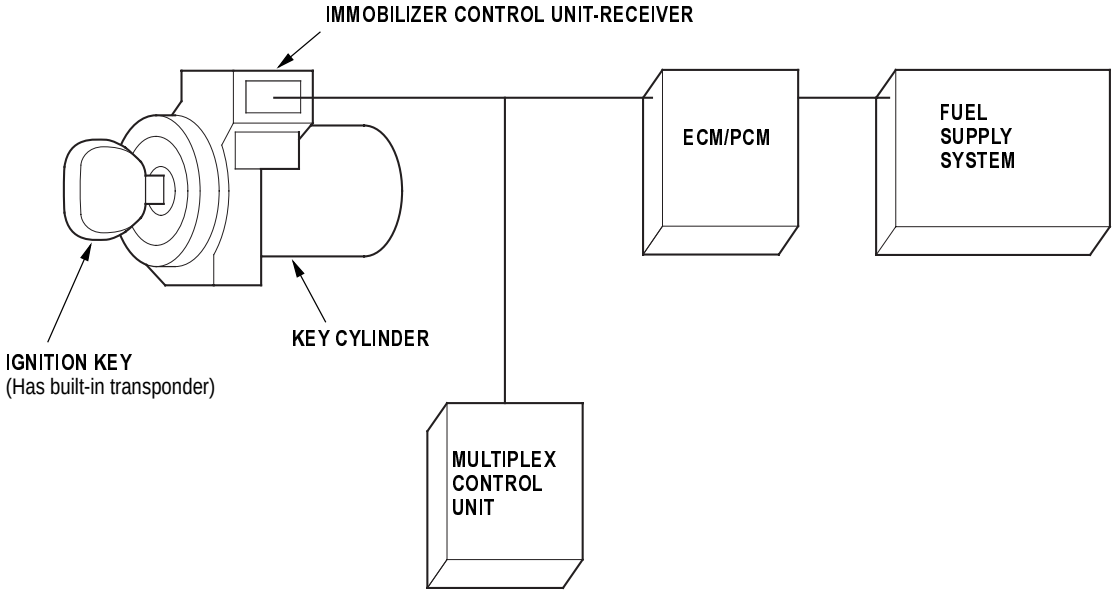


1	IMMOBILIZER INDICATOR LIGHT	Bulb Replacement, page 22A-73
2	MULTIPLEX CONTROL UNIT	Input Test, page 22A-235
3	ECM/PCM	Replacement, page 11-4; Substitute known-good for testing, page 11-5
4	IMMOBILIZER CONTROL UNIT-RECEIVER	Troubleshooting, page 22A-190; Replacement, page 22A-191
5	IGNITION KEY	
6	TRANSPONDER (Built into the ignition key)	

System Description

The vehicle is equipped with an immobilizer system (Type III) that will disable the vehicle unless the proper ignition key is used.
This system consists of a transponder located in the ignition key, an immobilizer control unit-receiver, an indicator light, the multiplex control unit, and the ECM/PCM.

When the key is inserted in the ignition switch and turned to the (II) position, the immobilizer control unit-receiver sends power to the transponder in the ignition key. The transponder then sends a coded signal back through the immobilizer control unit-receiver to the ECM/PCM. The ECM/PCM then energizes the fuel supply system.

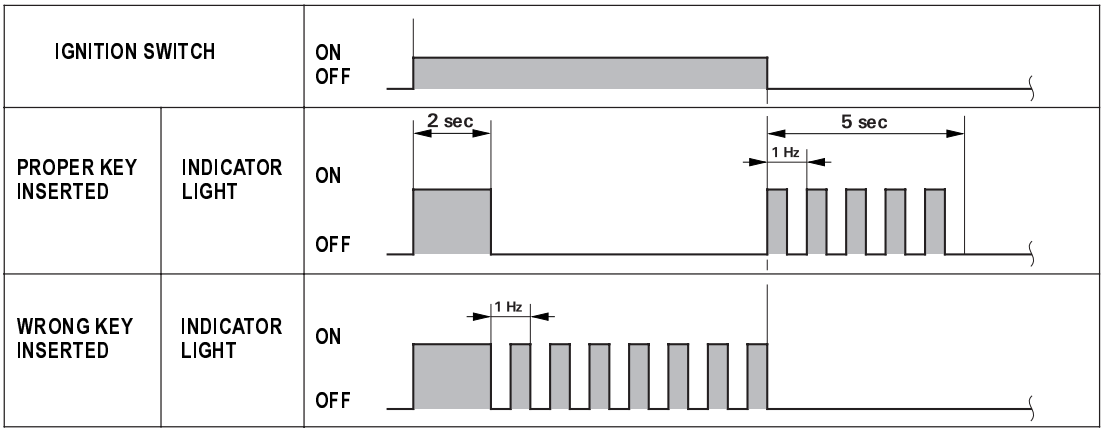


(cont'd)

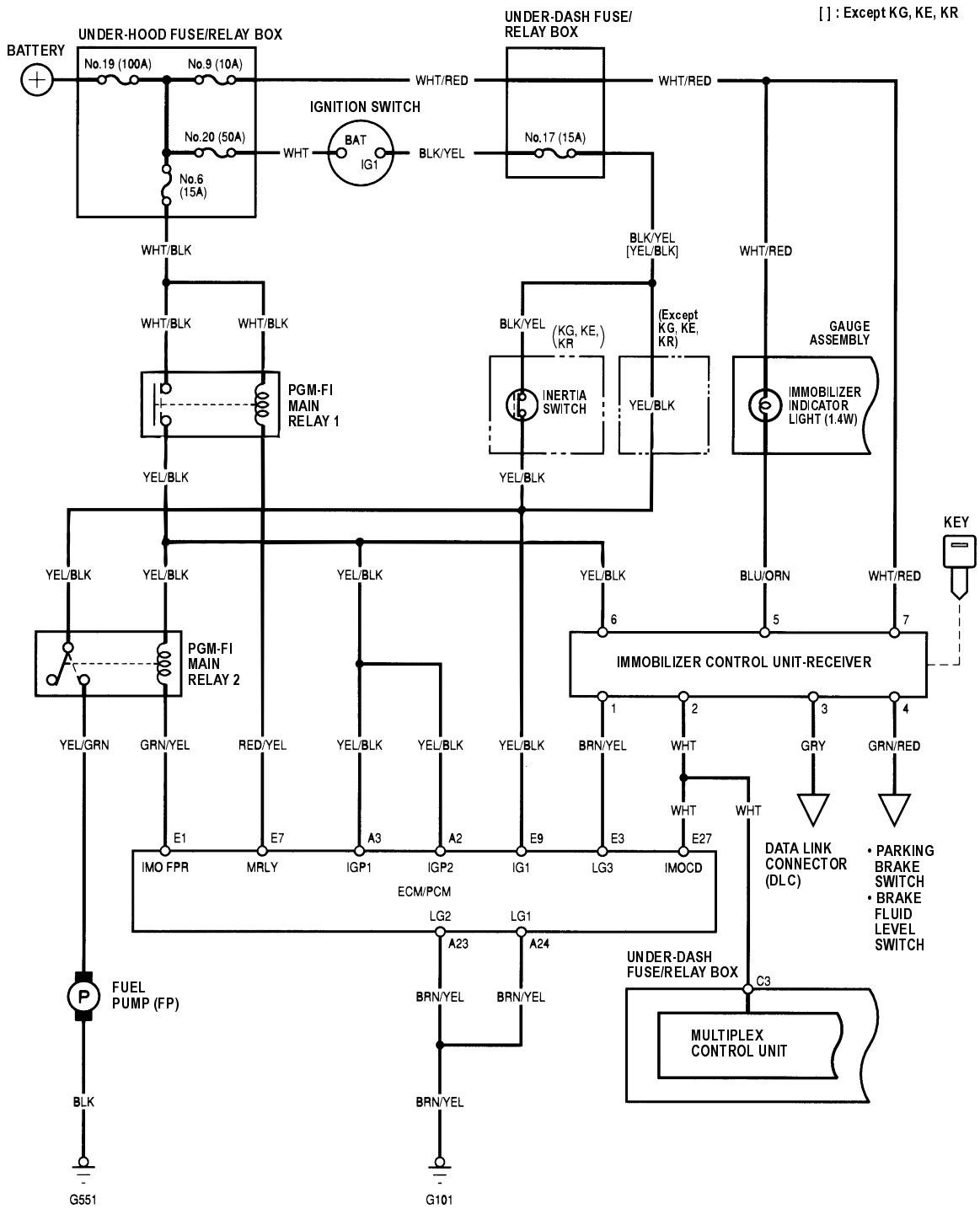
System Description (cont'd)

- If the proper key has been used, the immobilizer indicator light will come on for about 2 seconds, then go off.
- If the wrong key has been used whose code was not received or recognized by the unit, the indicator light will come on for about 2 seconds, then it will blink until the ignition switch is turned OFF. The engine will crank but not start.
- If the ignition switch is turned OFF, the indicator will blink for about 5 seconds to signal that the unit has been set correctly, then the indicator will go off.
- If the customer has lost his key, and cannot start the engine, contact Honda Customer Relations.

IMMOBILIZER INDICATOR LIGHT BLINKING PATTERN:



Circuit Diagram



Troubleshooting

Before troubleshooting the immobilizer system, troubleshoot any ECM/PCM with diagnostic trouble codes (DTCs) (see page 11-62),and make sure the ECM/PCM has no malfunction.

Note these items before troubleshooting:

- Due to the action of the immobilizer system, the engine takes slightly more time to start than on a vehicle without an immobilizer system.
- When the system is normal, and the proper key is inserted, the indicator light comes on for 2 seconds, then it will go off.
- If the indicator starts to blink after 2 seconds, or if the engine does not start, repeat the starting procedure. If the engine still does not start, continue with this procedure.

1. Turn the ignition switch ON (II) with programmed key.

2. Check to see if the immobilizer indicator light comes on.

Does the indicator light blink?

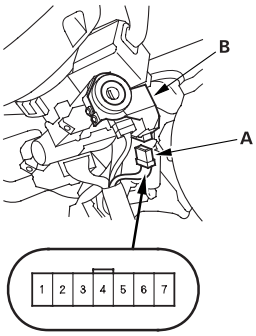
Yes Go to step 3.

No Check for these problems:■

- Blown No. 9 (10A) fuse in the under-hood fuse/relay box.
- An open in the BLU/ORN wire between the gauge assembly and the immobilizer control unit-receiver.
- A faulty immobilizer indicator light.
- An open in the WHT/RED wire between the gauge assembly and the under-hood fuse/relay box.

3. Remove the steering column covers (see page 17-24).

4. Disconnect the 7P connector from the immobilizer control unit-receiver.



5. Check for voltage between the immobilizer control unit-receiver 7P connector No. 7 terminal and body ground.

Is there battery voltage?

Yes Go to step 6.

No Check for these problems:■

- Blown No. 9 (10A) fuse in the under-hood fuse/relay box.
- An open in the WHT/RED wire.

6. Check for voltage between the immobilizer control unit-receiver 7P connector No. 6 terminal and body ground with the ignition switch 0N (II).

Is there battery voltage?

Yes Go to step 7.

No Check for these problems:

- Blown No. 6 (15A) fuse in the under-hood fuse/relay box.
- Faulty PGM-FI main relay 1.
- An open in the YEL/BLK wire.

7. Check for voltage between the immobilizer control-unit receiver 7P connector No. 4 terminal and body ground with the parking brake lever pulled, then released.

Is there 1 V or less, then 5 V or more?

Yes Go to step 8.

No Check for these problems:■

- Faulty parking brake switch or a poor body ground of the parking brake switch.
- Faulty brake fluid level switch.
- An open in the GRN/RED wire.

8. Check for continuity between the immobilizer control unit-receiver 7P connector No. 1 terminal and body ground.

   Is there voltage?

   Yes Go to step 9.

   No Check for these problems:■

   - Poor ground (G101).
   - Faulty ECM/PCM.
   - An open in the BRN/YEL wire.

9. Check for continuity between the immobilizer control unit-receiver 7P connector No. 2 terminal and ECM/PCM terminal E27.

   Is there continuity?

   Yes Go to step 10.

   No Repair open in the WHT wire.■

10. Disconnect the negative cable from the battery.
11. Disconnect the ECM/PCM connector E.
12. Check for continuity between the immobilizer control unit-receiver 7P connector No. 2 terminal and body ground.

    Is there continuity?

    Yes Repair short to ground in the WHT wire.■

    No Go to step 13.

13. Check for continuity between the immobilizer control unit-receiver 7P connector No. 4 terminal and the multiplex control unit (under-dash fuse/relay box connector terminal C3).

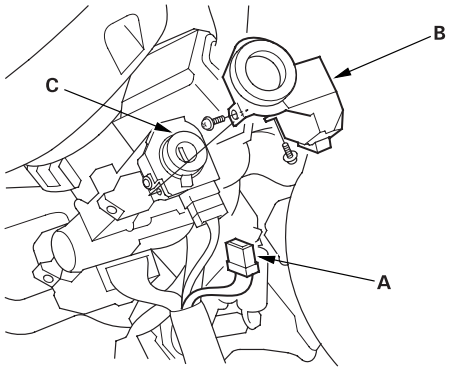
    Is there continuity?

    Yes Replace the immobilizer control unit-receiver. After replacing the immobilizer control unit-receiver, rewrite the unit with a Honda PGM-Tester.■

    No Repair open in the WHT wire. If the harness is OK, check to see if there is any Diagnostic Trouble Code (DTC) for the multiplex control unit. If it is, troubleshoot the multiplex control unit (see page 22A-231), then recheck.■

Immobilizer Control Unit-Receiver Replacement

1. Remove the dashboard lower cover.
2. Remove the steering column covers (see page 17-24).
3. Disconnect the connector (A) from the immobilizer control unit-receiver (B).

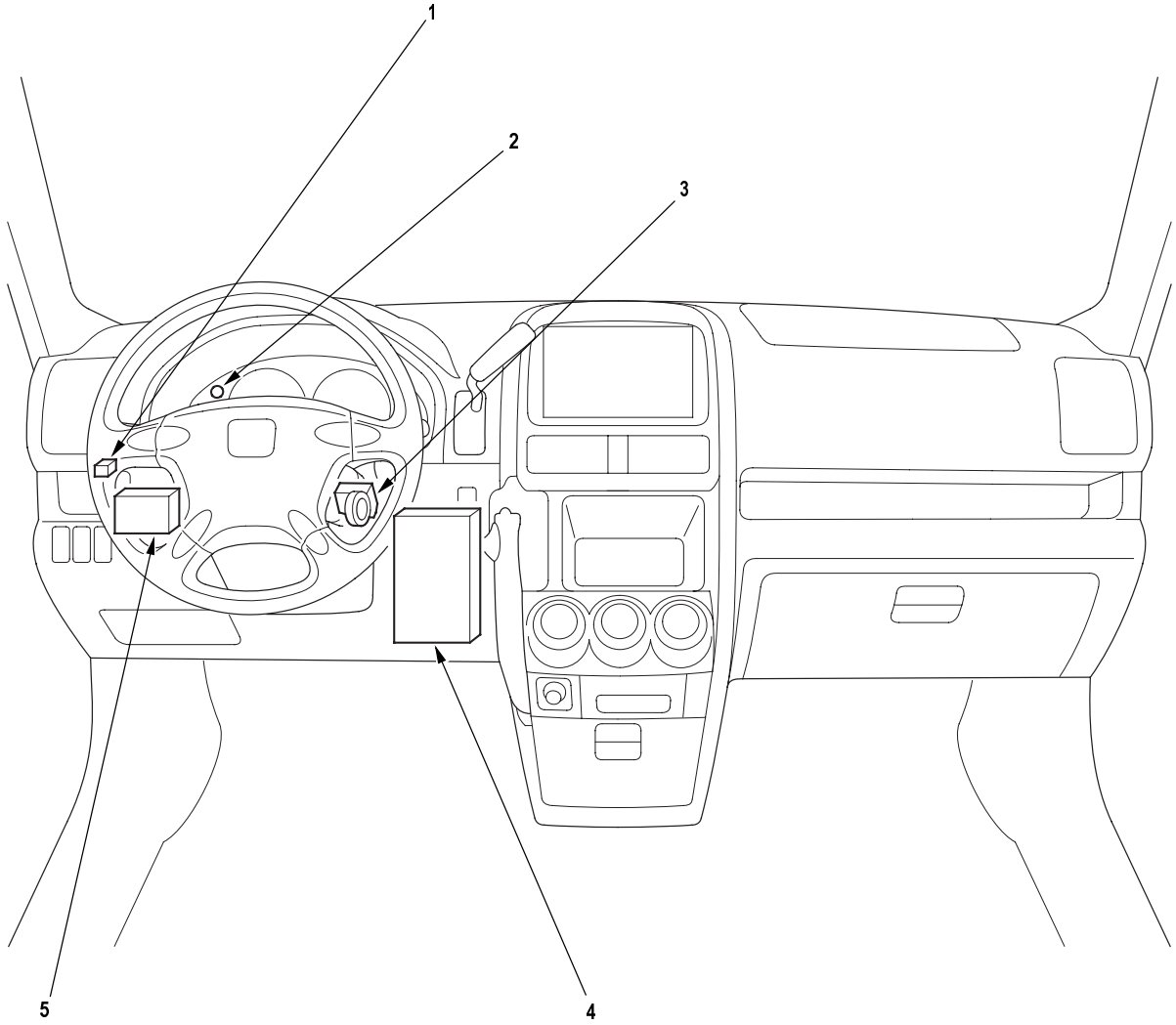


4. Remove the two screws and the immobilizer control unit-receiver from the ignition key cylinder (C).
5. Install the immobilizer control unit-receiver in the reverse order of removal.
6. After replacement, register the immobilizer control unit-receiver with PGM-Tester, then check the immobilizer system.

Security Alarm System

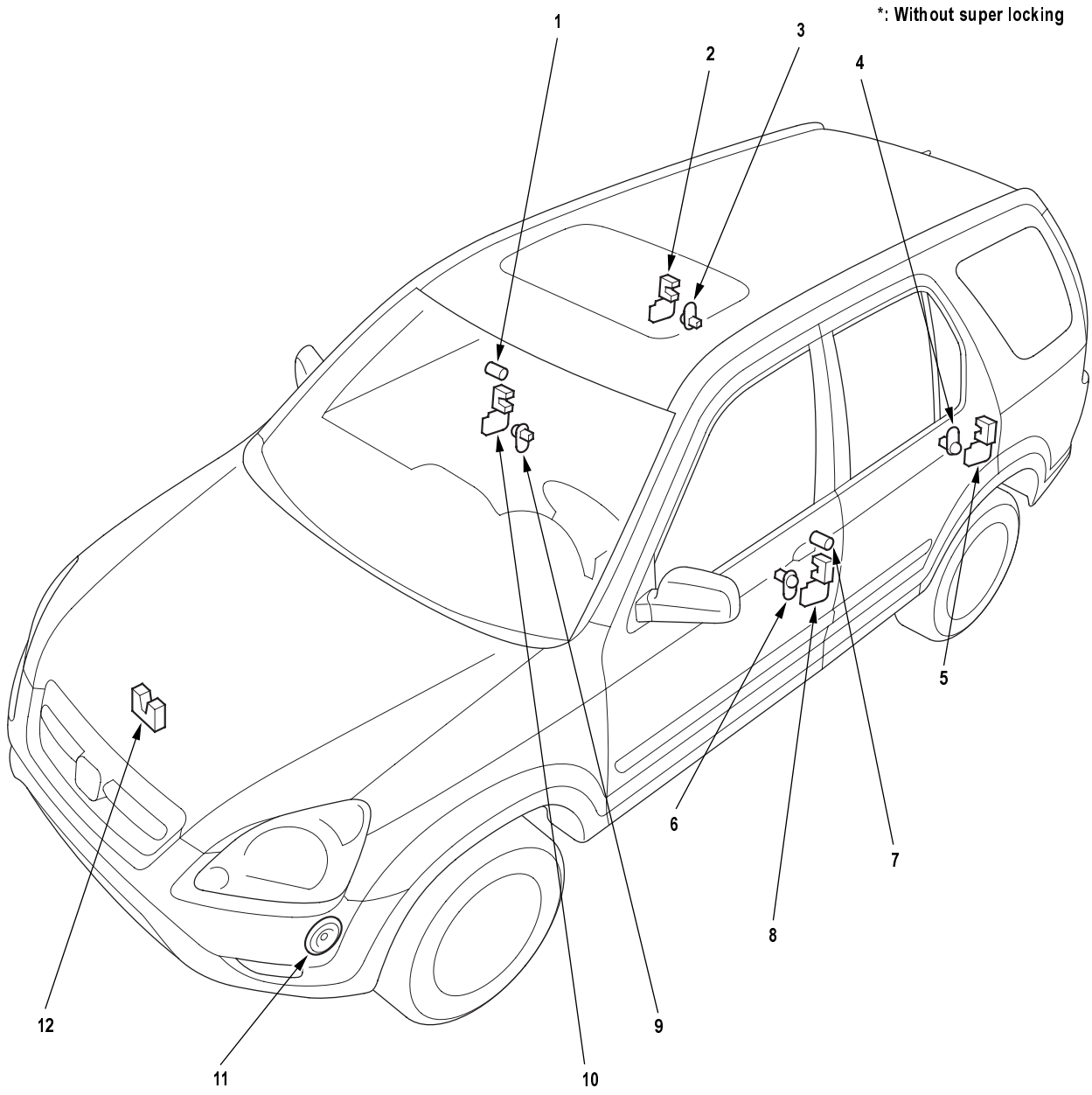
Component Location Index

NOTE: LHD type is shown, RHD type is similar.



1	SECURITY HORN RELAY	Test, page 22A-60
	[Wire colors: BLU/ORN, WHT/GRN, WHT/GRN and GRN]	
2	SECURITY INDICATOR LIGHT	
3	IGNITION KEY SWITCH	Test, page 22A-113
4	MULTIPLEX CONTROL UNIT	Troubleshooting, page 22A-231; Input Test, page 22A-166
5	SECURITY CONTROL UNIT	Input Test, page 22A-199

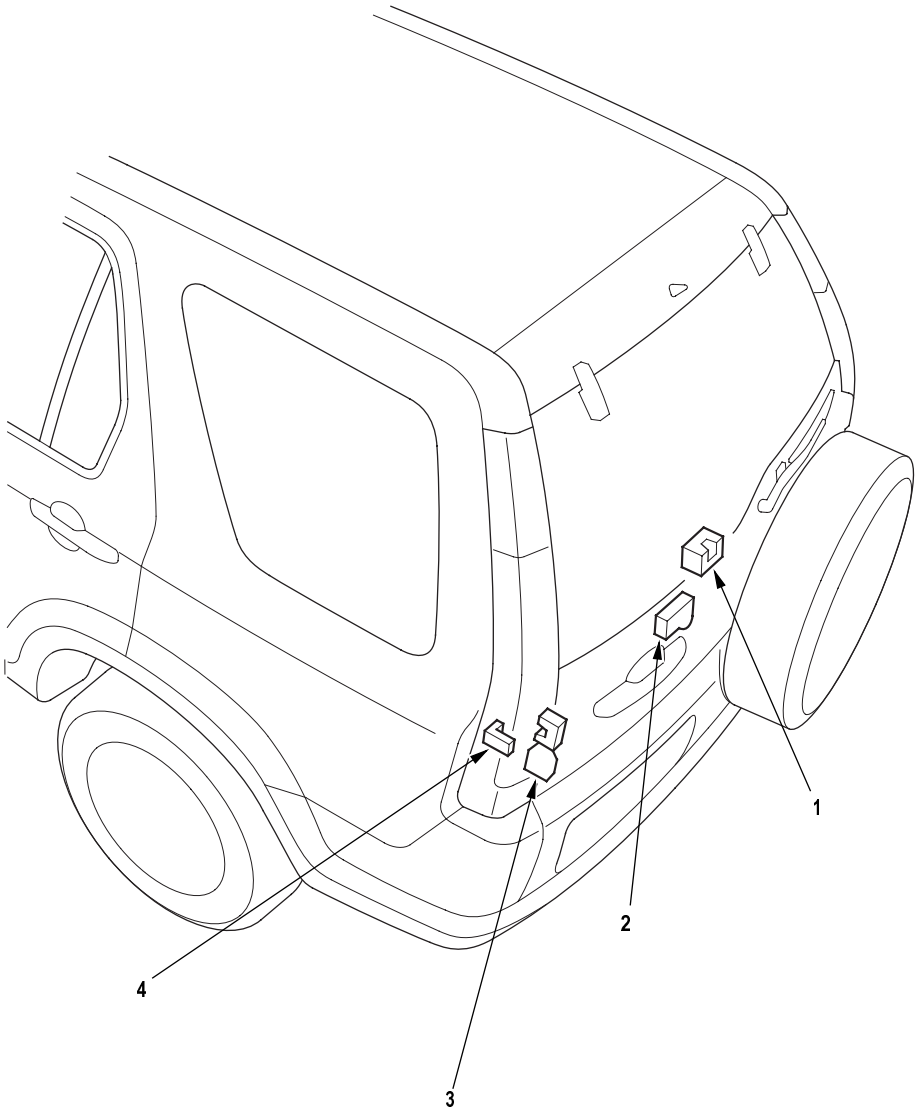
NOTE: LHD type is shown, RHD type is similar.



1	FRONT PASSENGER'S DOOR KEY CYLINDER SWITCH*1	Test, page 22A-204
2	RIGHT REAR DOOR LOCK KNOB SWITCH	Test, page 22A-202
3	RIGHT REAR DOOR SWITCH	
4	LEFT REAR DOOR SWITCH	
5	LEFT REAR DOOR LOCK KNOB SWITCH	Test, page 22A-202
6	DRIVER'S DOOR SWITCH	
7	DRIVER'S DOOR KEY CYLINDER SWITCH	Test, page 22A-204
8	DRIVER'S DOOR LOCK KNOB SWITCH	Test, page 22A-202
9	FRONT PASSENGER'S DOOR SWITCH	
10	FRONT PASSENGER'S DOOR LOCK KNOB SWITCH	Test, page 22A-202
11	SECURITY HORN	Test, page 22A-205
12	HOOD SWITCH	Test, page 22A-204

(cont'd)

Component Location Index (cont'd)



1	HATCH GLASS LATCH SWITCH	Test, page 22A-181
2	HATCH GLASS OPENER ACTUATOR	Test, page 22A-178
3	TAILGATE KNOB SWITCH	Test, page 22A-205
4	TAILGATE SWITCH	Test, page 22A-110; Replacement, page 22A-110

System Description

Security Alarm System

The security alarm system is armed automatically after the doors, hood, and trunk or tailgate are closed and locked. The security indicator on the gauge assembly flashes after the system is armed.

The system is set off when any of these things occur.
- A door is forced open
- A door is unlocked without using the key or the transmitter
- The trunk lid or tailgate is opened without using the key
- The hood is opened
- The engine starter circuit and battery circuit are bypassed by breaking the ignition switch (KH, PH and KK models)

When the system is set off, the alarm sounds and the exterior lights (headlights, parking lights and taillights: FO model or turn signal lights: except (FO model) flash for 2 minutes (FO model) or 30 seconds (Except FO model) or until the system is disarmed by unlocking either door with the key or the transmitter.

For the system to arm, the ignition switch must be off and the key removed. Then, the security control unit must receive signals that the doors, hood, and trunk lid or tailgate are closed and locked. When everything is closed and locked, none of the control unit inputs are grounded.

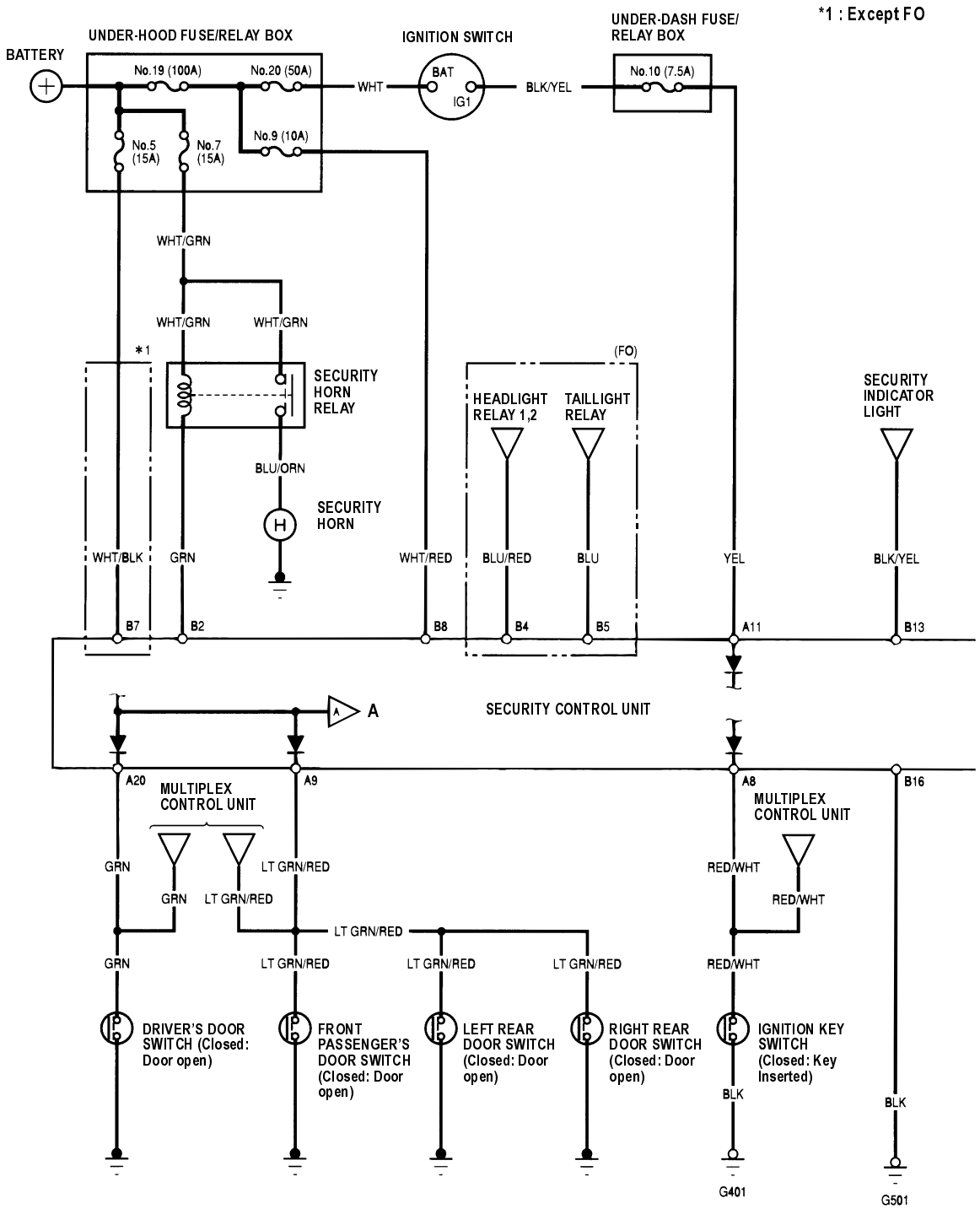
The door switches, hood switch, trunk latch switch or tailgate latch switch, door lock knob switches, and door lock key cylinder switches are all open,. 10 seconds after the doors are locked with the key or the lock knob, or immediately after locking the doors with the remote transmitter, the system arms.

If anything is opened or improperly unlocked after the system is armed, the control unit gets a ground signal from that switch, and the system is set off.

If one of the switches is misadjusted or there is a short in the system, the system will not arm. As long as the control unit continues to get a ground signal, it thinks the vehicle is not closed and locked and will not arm.

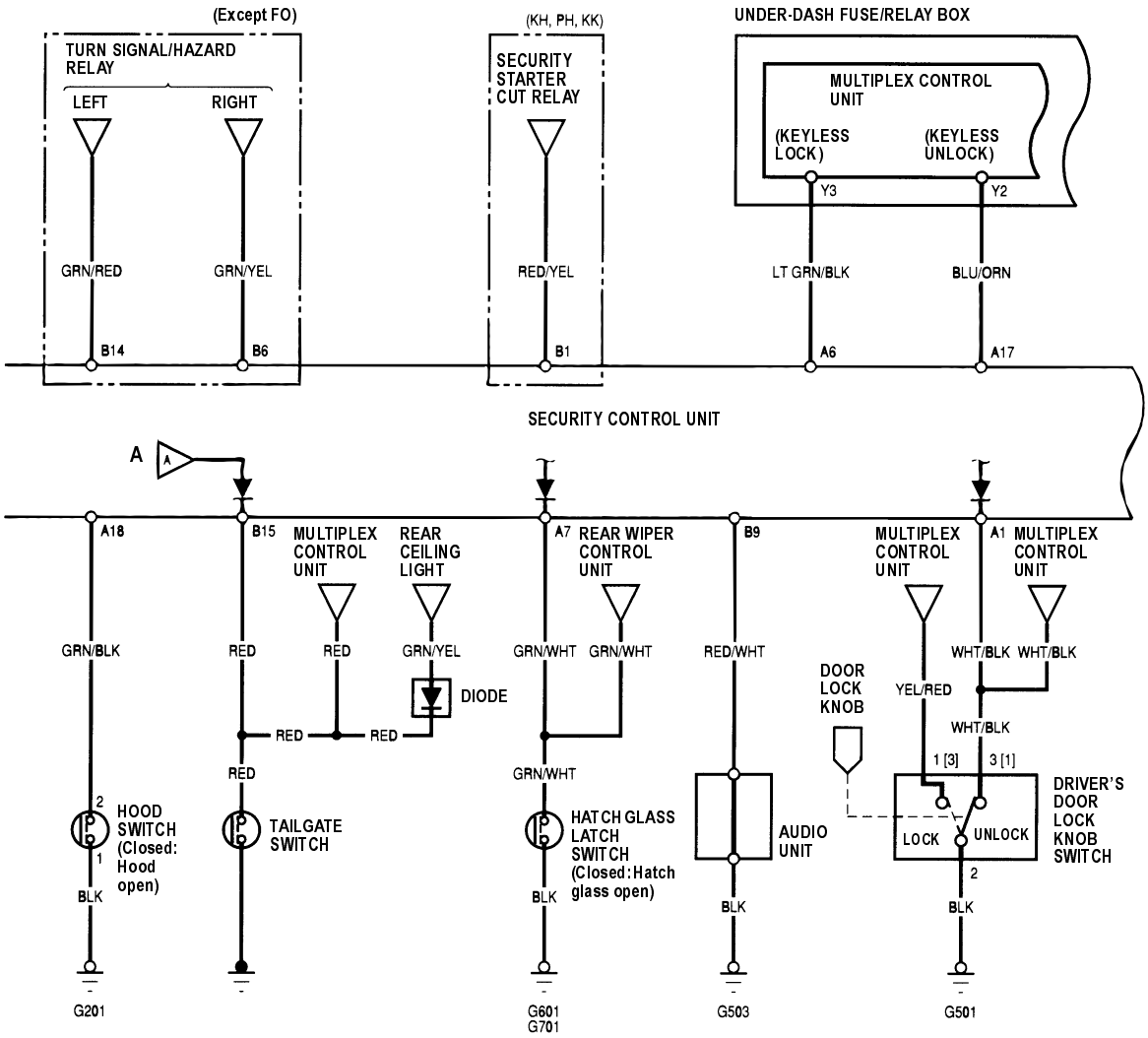
An alarm that sounds for no apparent reason may have been set off by switch that is on the threshold of misadjustment. In this case, it may only take a significant change in outside temperature, the vibration of a passing truck, or someone bumping into the vehicle to make the alarm sound.

Circuit Diagram



A To page 22A-197

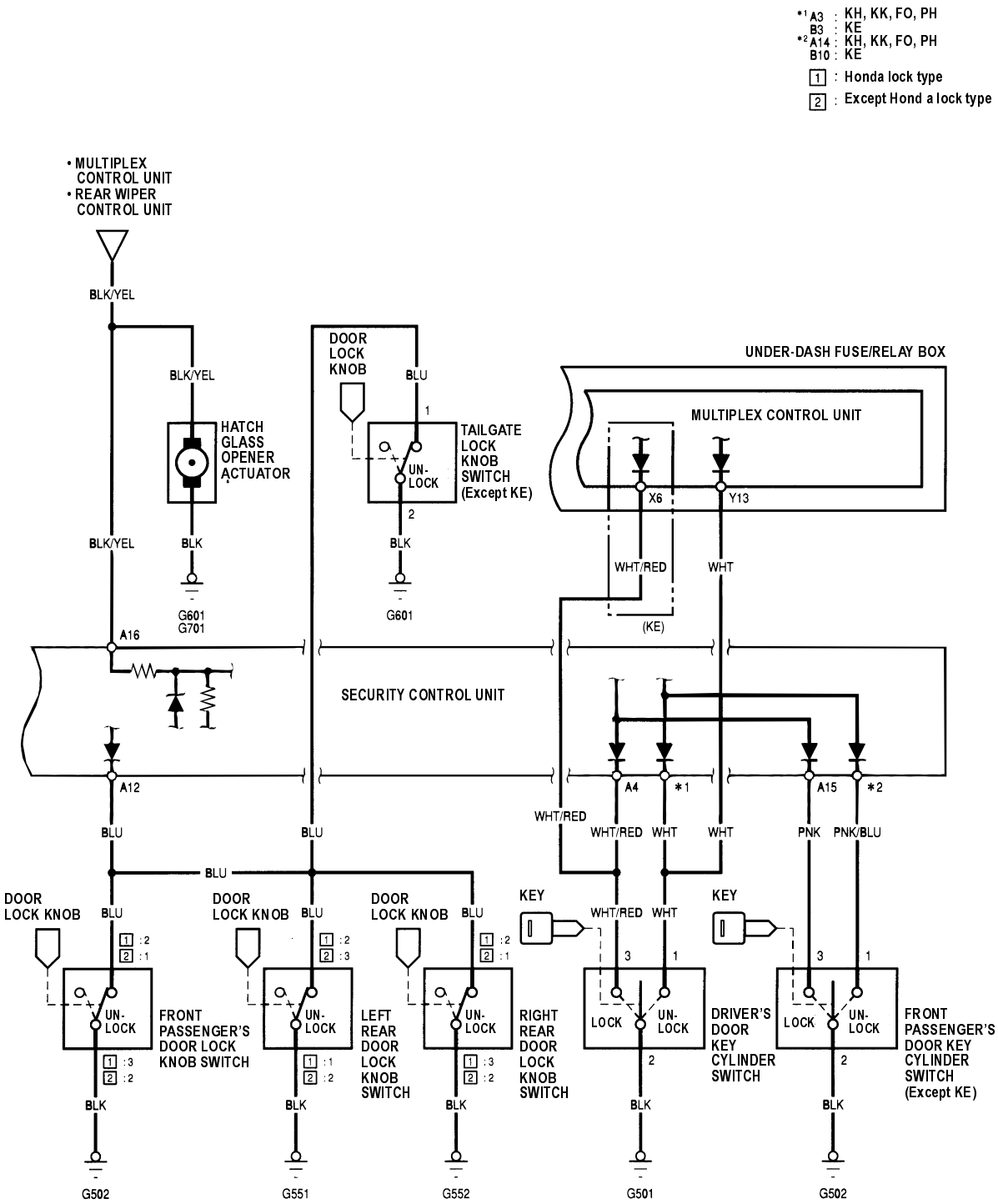
Circuit Diagram (cont'd)



A From page 22A-196

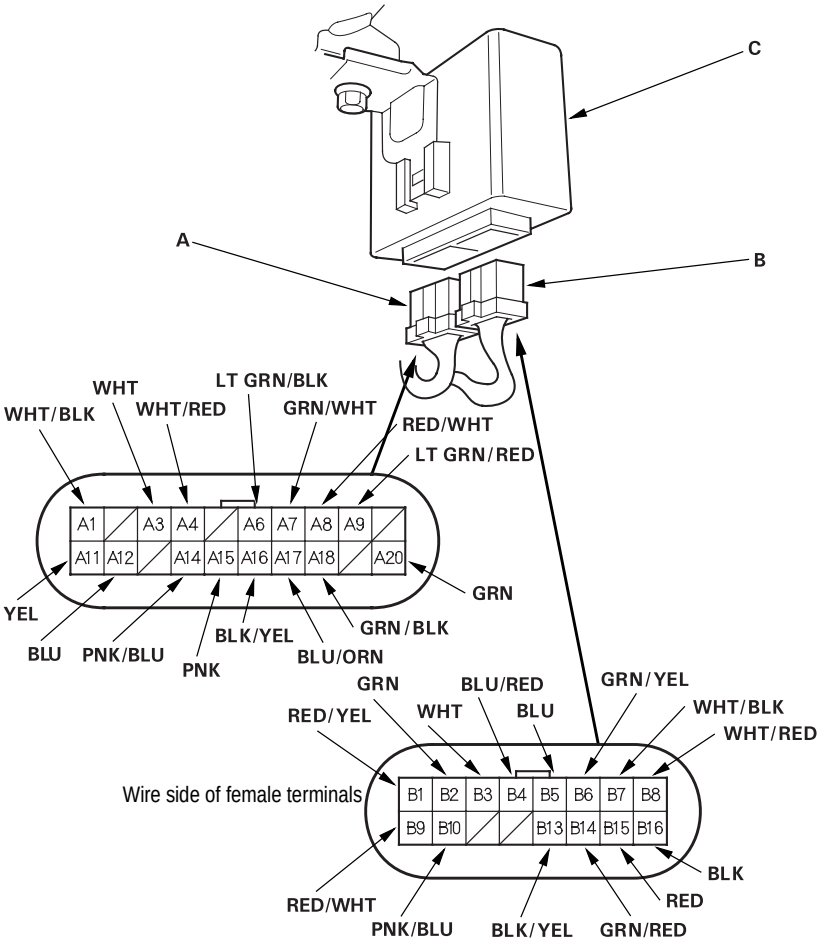
(cont'd)

Circuit Diagram (cont'd)



Security Control Unit Input Test

1. Remove the dashboard lower cover (see page 20-88).
2. Disconnect the 20P connector (A) and 16P connector (B) from the control unit (C).
3. Inspect the 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 4.



(cont'd)

Security Control Unit Input Test (cont'd)

4. If any tests indicate a problem, find and correct the cause, then recheck the system.
- 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 5.

Cavity	Wire	Test condition	Test: Desired result	Possible cause if result is not obtained
B8	WHT/RED	Under all conditions	Check for voltage to ground: There should be battery voltage.	• Blown No. 9 (10A) fuse in the under-hood fuse/relay box • An open in the wire
B7	WHT/BLK	Under all conditions	Check for voltage to ground: There should be battery voltage.	• Blown No. 5 (15A) fuse in the under-hood fuse/relay box • An open in the wire
A11	YEL	Ignition switch ON (II)	Check for voltage to ground: There should be battery voltage.	• Blown No. 10 (7.5A) fuse in the under-dash fuse/relay box • An open in the wire
B16	BLK	Under all conditions	Check for continuity to ground: There should be continuity.	• Poor ground (G501) • An open in the wire
B13	BLK/YEL	Under all conditions	Attach to ground: The security indicator should come on.	• Blown No. 10 (7.5A) fuse in the under-dash fuse/relay box • Faulty gauge assembly • An open in the wire
B2	GRN	Under all conditions	Attach to ground: Security horn should sound.	• Blown No. 7 (15A) fuse in the under-hood fuse/relay box • Faulty security horn relay • Faulty security horn • An open in the wire
B4	BLU/RED	Under all conditions	Attach to ground: Headlights should come on.	• Faulty headlight relay 1 or 2 • An open in the wire
B5	BLU	Under all conditions	Attach to ground: The taillights should come on.	• Faulty taillight relay • An open in the wire
B9	RED/WHT	Under all conditions	Check for continuity to ground: There should be continuity.	• Poor ground (G503) • Faulty audio unit • An open in the wire
A6	LT GRN/ BLK	Under all conditions	Check for continuity to ground: There should be continuity.	• An open in the wire
A17	BLU/ORN	Under all conditions	Check for continuity to ground: There should be continuity.	• An open in the wire
B1	RED/YEL	Ignition switch START (III)	Starting the engine	• Faulty security starter cut relay • An open in the wire
B14	GRN/RED	Ignition switch OFF	Attach to ground: The turn signal lights should come on.	• Blown No. 5 (15A) fuse in the under-hood fuse/relay box • Faulty turn signal switch • Faulty turn signal/hazard relay • An open in the wire
B6	GRN/YEL	Ignition switch OFF		

5. Reconnect the connectors to the security control unit, and perform the following input tests at the appropriate connector.
- If any test indicates a problem, find and correct the cause, then recheck the system.
- If the input tests prove OK, the security control unit internal circuit must be faulty.

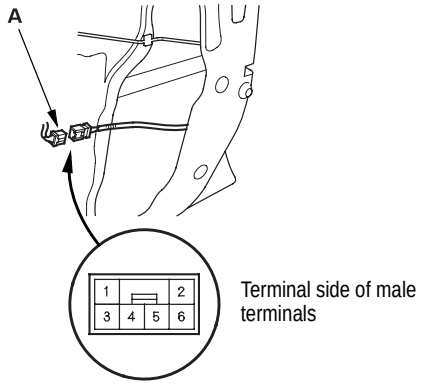
Cavity	Wire	Test condition	Test: Desired result	Possible cause if result is not obtained
A20	GRN	Driver's door open	Check for voltage to ground: There should be less than 1 V.	• Faulty driver's door switch • An open in the wire
		Driver's door closed	Check for voltage to ground: There should be 5 V or more.	
A9	LT GRN/ RED	Passenger's door open	Check for voltage to ground: There should be less than 1 V.	• Faulty passenger's door switch • An open in the wire
		Passenger's door closed	Check for voltage to ground: There should be 5 V or more.	
B15	RED	Tailgate open	Check for voltage to ground: There should be less than 1 V.	• Faulty tailgate switch • An open in the wire
		Tailgate closed	Check for voltage to ground: There should be 5 V or more.	
A7	GRN/WHT	Hatch glass open	Check for voltage to ground: There should be less than 1 V.	• Poor ground (G601, G701) • Faulty hatch glass latch switch • An open in the wire
		Hatch glass closed	Check for voltage to ground: There should be 5 V or more.	

Cavity	Wire	Test condition	Test: Desired result	Possible cause if result is not obtained
A8	RED/WHT	Ignition key is in the ignition switch	Check for voltage to ground: There should be 1 V or less.	• Poor ground (G401) • Faulty ignition key switch • An open in the wire
		Ignition key is out of the ignition switch	Check for voltage to ground: There should be 5 V or more.	
A18	GRN/BLK	Hood open	Check for voltage to ground: There should be 1 V or less.	• Faulty hood switch • Poor ground (G201) • An open in the wire
		Hood closed	Check for voltage to ground: There should be 5 V or more.	
A1	WHT/BLK	Driver's door lock knob unlocked	Check for voltage to ground: There should be 1 V or less.	• Faulty driver's door lock knob switch • Poor ground (G501) • An open in the wire
		Driver's door lock knob locked	Check for voltage to ground: There should be 5 V or more.	
A12	BLU	Front passenger's door lock knob unlocked	Check for voltage to ground: There should be 1 V or less.	• Faulty front passenger's door lock knob switch • Poor ground (G502) • An open in the wire
		Front passenger's door lock knob locked	Check for voltage to ground: There should be 5 V or more.	
		Left rear door lock knob unlocked	Check for voltage to ground: There should be 1 V or less.	• Faulty left rear door lock knob switch • Poor ground (G551) • An open in the wire
		Left rear door lock knob locked	Check for voltage to ground: There should be 5 V or more.	
		Right rear door lock knob unlocked	Check for voltage to ground: There should be 1 V or less.	• Faulty right rear door lock knob switch • Poor ground (G552) • An open in the wire
		Right rear door lock knob locked	Check for voltage to ground: There should be 5 V or more.	
		Tailgate lock knob unlocked	Check for voltage to ground: There should be 1 V or less.	• Faulty tailgate lock knob switch • Poor ground (G601) • An open in the wire
		Tailgate lock knob locked	Check for voltage to ground: There should be 5 V or more.	
A16	BLK/YEL	Hatch glass open	Check for voltage to ground: There should be 1 V or less.	• Faulty hatch glass opener actuator • Poor ground (G601, G701) • An open in the wire
		Hatch glass closed	Check for voltage to ground: There should be 5 V or more.	
A4	WHT/RED	Driver's door key cylinder locked	Check for voltage to ground: There should be 1 V or less.	• Faulty driver's door key cylinder switch • Poor ground (G501) • An open in the wire • A short to ground
		Driver's door key cylinder in neutral	Check for voltage to ground: There should be 5 V or more.	
A3 • B3	WHT	Driver's door key cylinder unlocked	Check for voltage to ground: There should be 1 V or less.	
		Driver's door key cylinder in neutral	Check for voltage to ground: There should be 5 V or more.	
A15	PNK	Front passenger's door key cylinder locked	Check for voltage to ground: There should be 1 V or less.	• Faulty front passenger's door key cylinder switch • Poor ground (G502) • An open in the wire • A short to ground
		Front passenger's door key cylinder in neutral	Check for voltage to ground: There should be 5 V or more.	
A14 • B10	PNK/BLU	Front passenger's door key cylinder unlocked	Check for voltage to ground: There should be 1 V or less.	
		Front passenger's door key cylinder in neutral	Check for voltage to ground: There should be 5 V or more.	

Door Lock Knob Switch Test

Driver's Door (With Super Locking System):

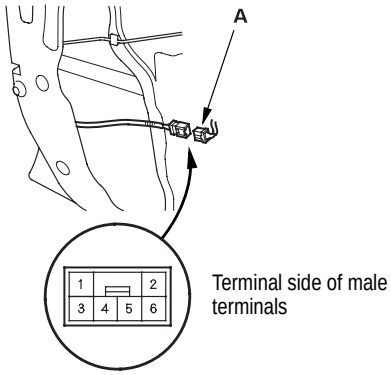
1. Remove the driver's door panel (see page 20-9).
2. Disconnect the 6P connector (A) from the super locking actuator.



3. Check for continuity between the terminals.
   - There should be continuity between the No. 3 and No. 4 terminals when the door lock knob switch is LOCK position.
   - There should be continuity between the No. 1 and No. 4 terminals when the door lock knob switch is UNLOCK position.
4. If the continuity is not as specified, replace the super locking actuator.

Passenger's Door (With Super Locking System):

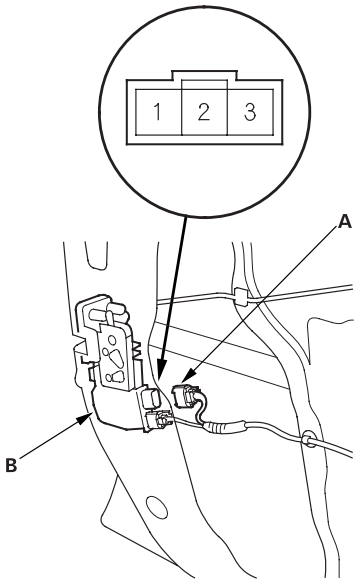
1. Remove the passenger's door panel (see page 20-9).
2. Disconnect the 6P connector (A) from the super locking actuator.



3. Check for continuity between the terminals.
   - There should be continuity between the No. 1 and No. 4 terminals when the door lock knob switch is UNLOCK position.
4. If the continuity is not as specified, replace the super locking actuator.

Driver's Door (Without Super Locking System):

1. Remove the driver's door panel (see page 20-9).
2. Identify the type of door lock actuator (see page 20-14).
3. Disconnect the 3P connector (A) from the actuator (B).



4. Check for continuity between the terminals in each switch position according to the table.

Honda lock type:

Terminal / Position	1 [3]	2	3 [1]
LOCK	○		○
UNLOCK	○	○	

[ ]: RHD type

Except Honda lock type:

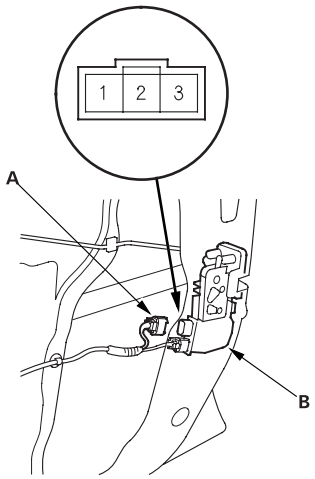
Terminal / Position	1 [3]	2	3 [1]
LOCK	○	○	
UNLOCK		○	○

[ ]: RHD type

5. If the continuity is not as specified, replace the door lock actuator.

Passenger's Door (Without Super Locking System):

1. Remove the passenger's door panel (see page 20-9).
2. Identify the type of door lock actuator (see page 20-14).
3. Disconnect the 3P connector (A) from the actuator.



4. Check for continuity between the terminals in each switch position according to the table.

Front passenger's

Terminal / Position	2 [1]	3 [2]
LOCK		
UNLOCK	○	○

Left rear:

Terminal / Position	1 [2]	2 [3]
LOCK		
UNLOCK	○	○

Right rear:

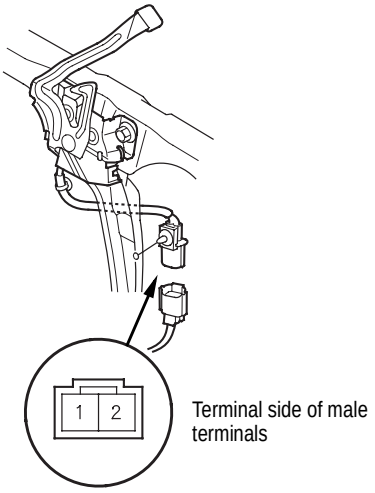
Terminal / Position	2 [1]	3 [2]
LOCK		
UNLOCK	○	○

[ ] : except Honda lock type

5. If the continuity is not as specified, replace the door lock actuator.

Hood Switch Test

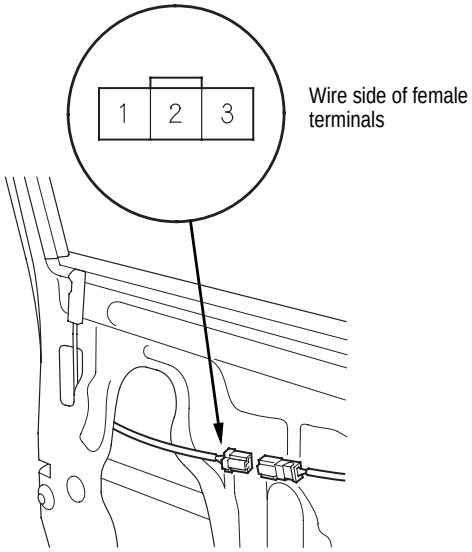
1. Open the hood.
2. Disconnect the 2P connector from the hood switch.



3. Check for continuity between the terminals.
   - There should be continuity between the No. 1 and No. 2 terminals when the hood is opened. (lever released).
   - There should be no continuity between the No. 1 and No. 2 terminals when the hood closed. (lever pushed down).

Door Key Cylinder Switch Test

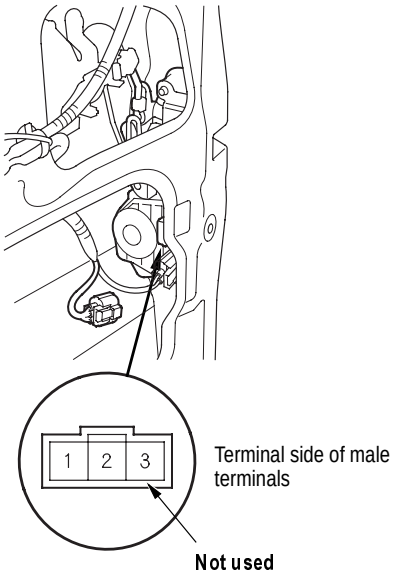
1. Remove the door panel (see page 20-9).
2. Disconnect the 3P connector from the key cylinder switch.



3. Check for continuity between the terminals.
   - There should be continuity between the No. 2 and No. 3 terminals when the door key cylinder switch is LOCK position.
   - There should be continuity between the No. 1 and No. 2 terminals when the door key cylinder switch is UNLOCK position.

Tailgate Lock Knob Switch Test

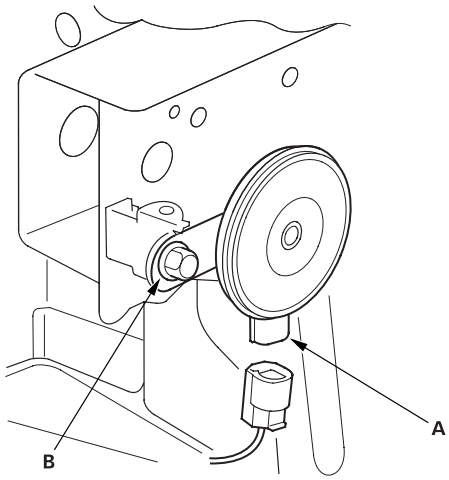
1. Open the tailgate and remove the tailgate trim panel (see page 20-80).
2. Disconnect the 3P connector (A) from the tailgate knob switch (B).



3. Check for continuity between the No. 1 and No. 2 terminals.
   - There should be continuity with the tailgate knob switch is UNLOCK.
   - There should be no continuity with the tailgate knob switch is LOCK.

Security Horn Test

1. Remove the front bumper (see page 20-130).
2. Disconnect the 1P connector from the horn.

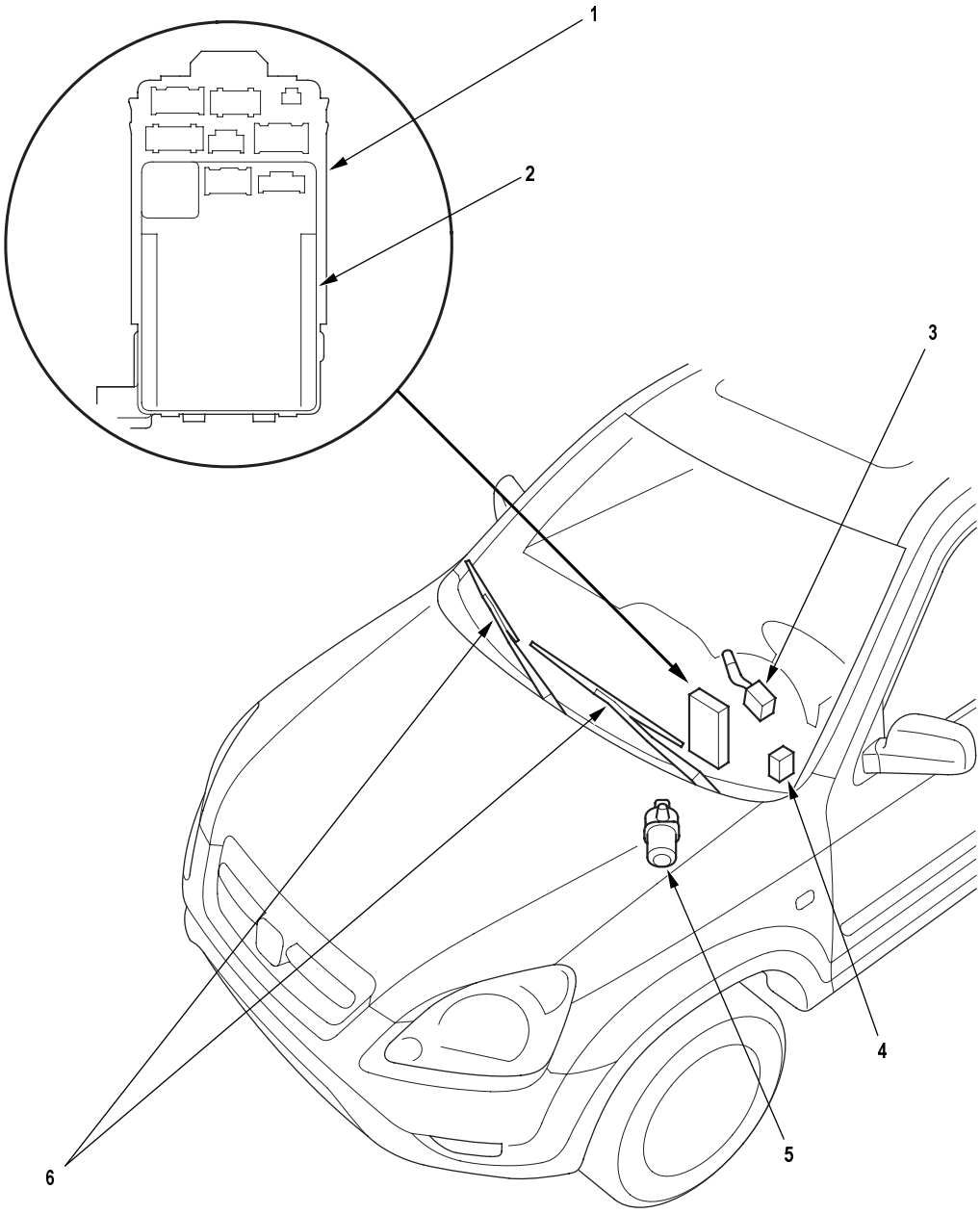


3. Test the horn by connecting battery power to the terminal (A) and grounding the body ground (B). The horn should sound.
4. If the horn fails to sound, check for.
   - faulty security horn relay.
   - faulty mounting bolt.

Wipers/Washers

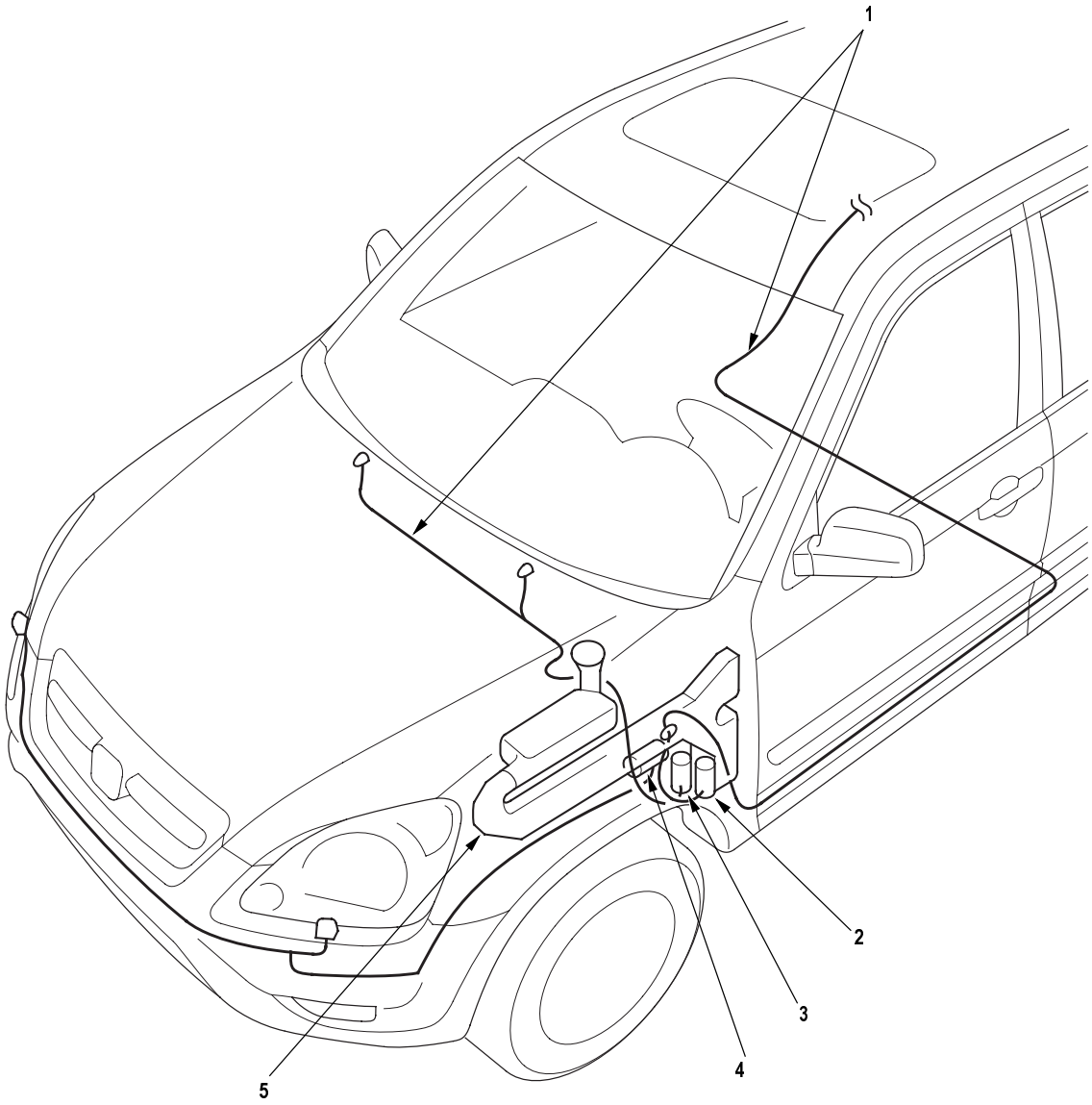
Component Location Index

NOTE: LHD type is shown, RHD type is similar.



1	UNDER-DASH FUSE/RELAY BOX	
2	INTERMITTENT WIPER RELAY CIRCUIT (in the multiplex control unit)	Input Test, page 22A-216
3	WIPER/WASHER SWITCH	Test, page 22A-214; Replacement, page 22A-214
4	HEADLIGHT WASHER CONTROL UNIT	Input Test, page 22A-218
5	WINDSHIELD WIPER MOTOR	Test, page 22A-222; Replacement, page 22A-223
6	WINDSHIELD WIPER ARMS and LINKAGE	Replacement, page 22A-223

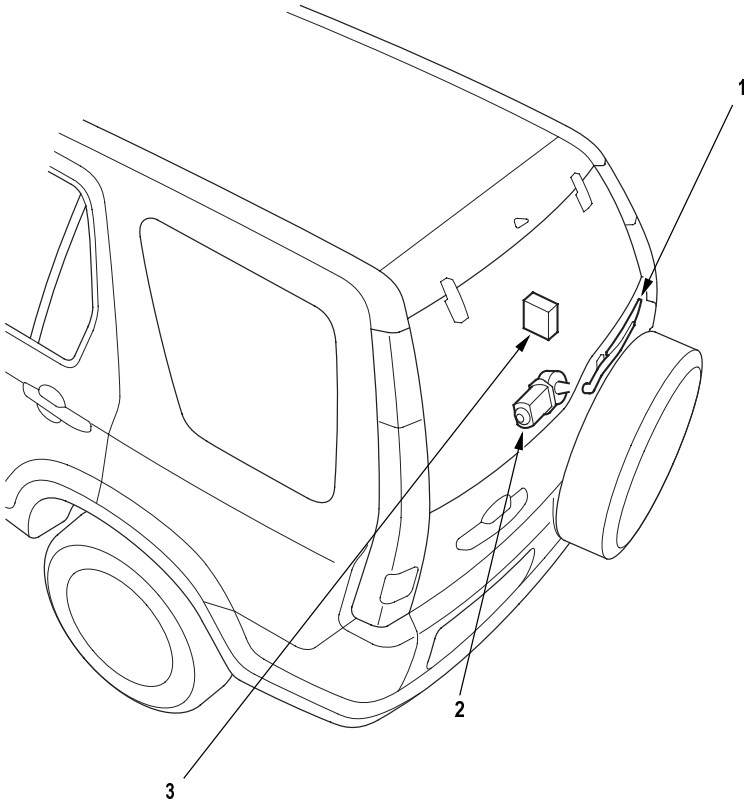
NOTE: LHD type is shown, RHD type is similar.



1	WASHER TUBE	Replacement, page 22A-225
2	REAR WINDOW WASHER MOTOR	Test, page 22A-213
3	WINDSHIELD WASHER MOTOR	Test, page 22A-213
4	HEADLIGHT WASHER MOTOR	Test, page 22A-213
5	WASHER RESERVOIR	Replacement, page 22A-224

(cont'd)

Component Location Index (cont'd)

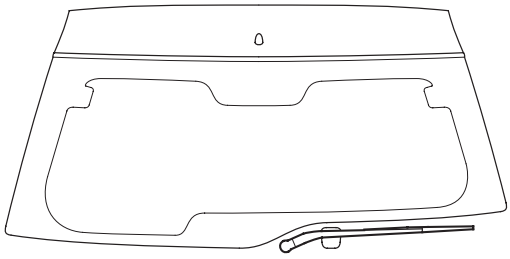


1	REAR WIPER ARM/LINKAGE	Replacement, page 22A-223
2	REAR WINDOW WIPER MOTOR	Test, page 22A-222; Replacement, page 22A-223
3	REAR WINDOW WIPER CONTROL UNIT	Input Test, page 22A-220

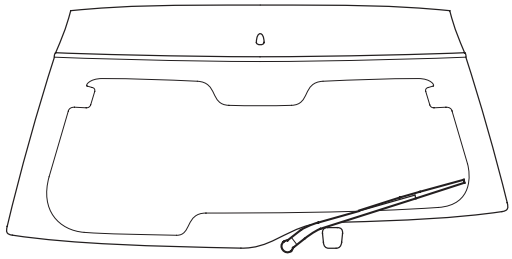
System Description

Intermittent operation:
Rear window wiper switch ON: The wiper operates every seven seconds after completing two sweeps.

Rear window wiper switch OFF: The wiper returns to the park position.



REAR WINDOW WIPER PARK POSITION



REAR WINDOW WIPER STAND-BY POSITION

Washer/Wiper combined system:
Rear window wiper switch ON: The wiper operates continuously while the washer switch is ON.

Rear window wiper switch OFF: After switching OFF the washer switch, the wiper returns to the park position after completing two sweeps.

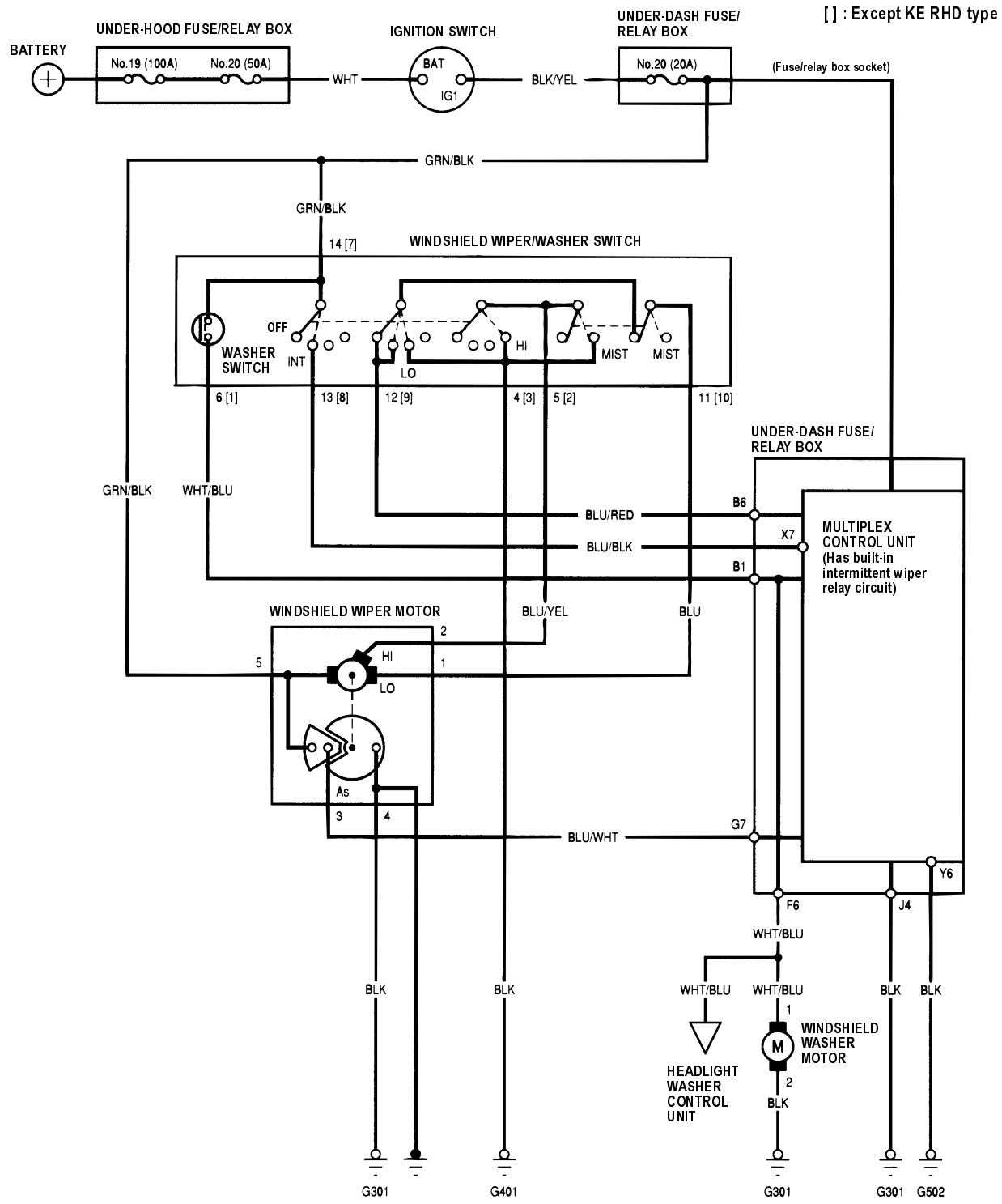
Failsafe Function:
Lock Function: The rear window wiper will not operate if the hatch glass is open.

Emergency Stop Function: If the hatch glass is opened while the rear window wiper is operating, it will automatically stop.

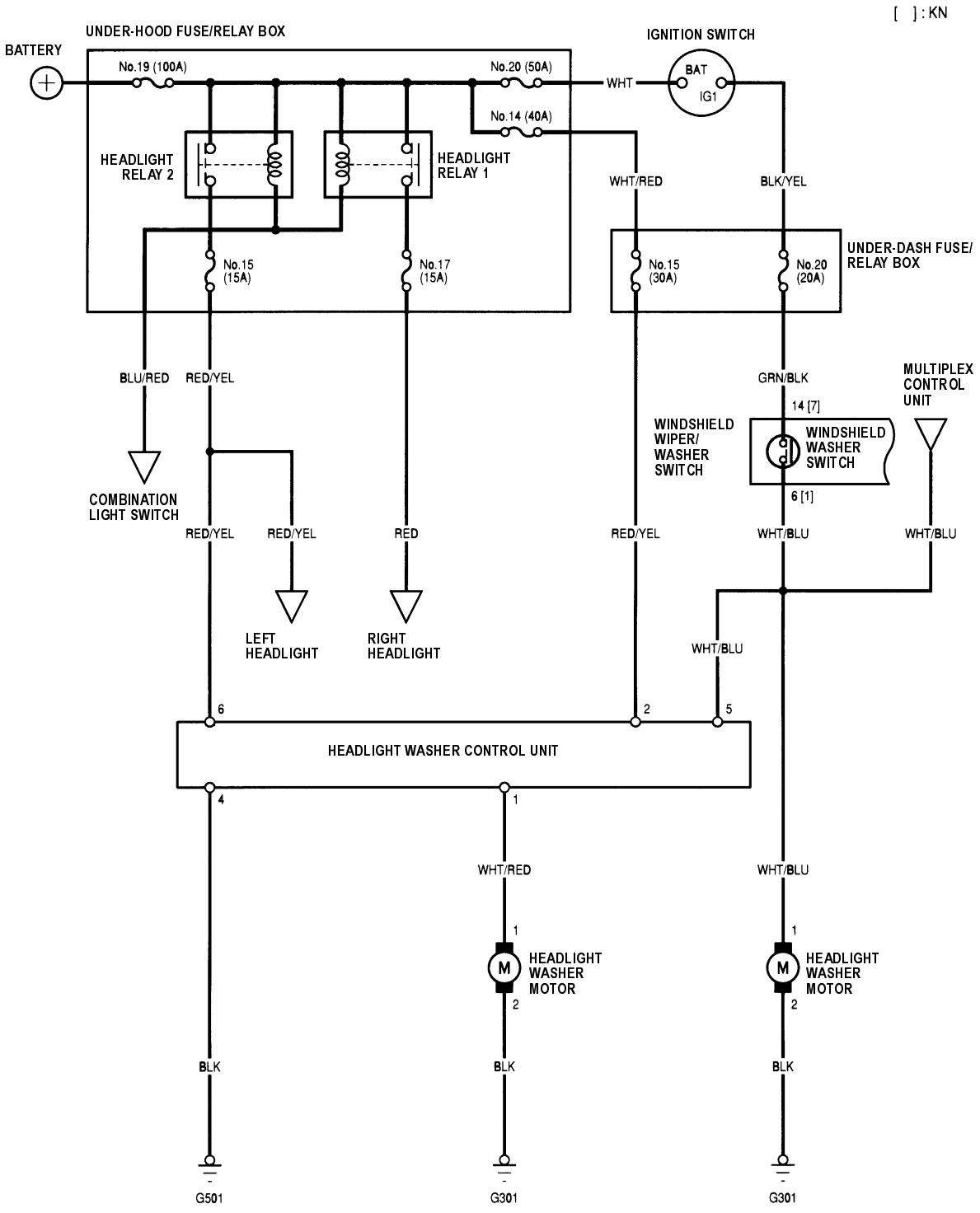
Automatic Park Function: If the ignition switch is turned OFF while the rear window wiper is operating, the wiper will return to the park position.

NOTE: To avoid interference with the vehicle's spare tire, the rear wiper does not fold out as on previous models.

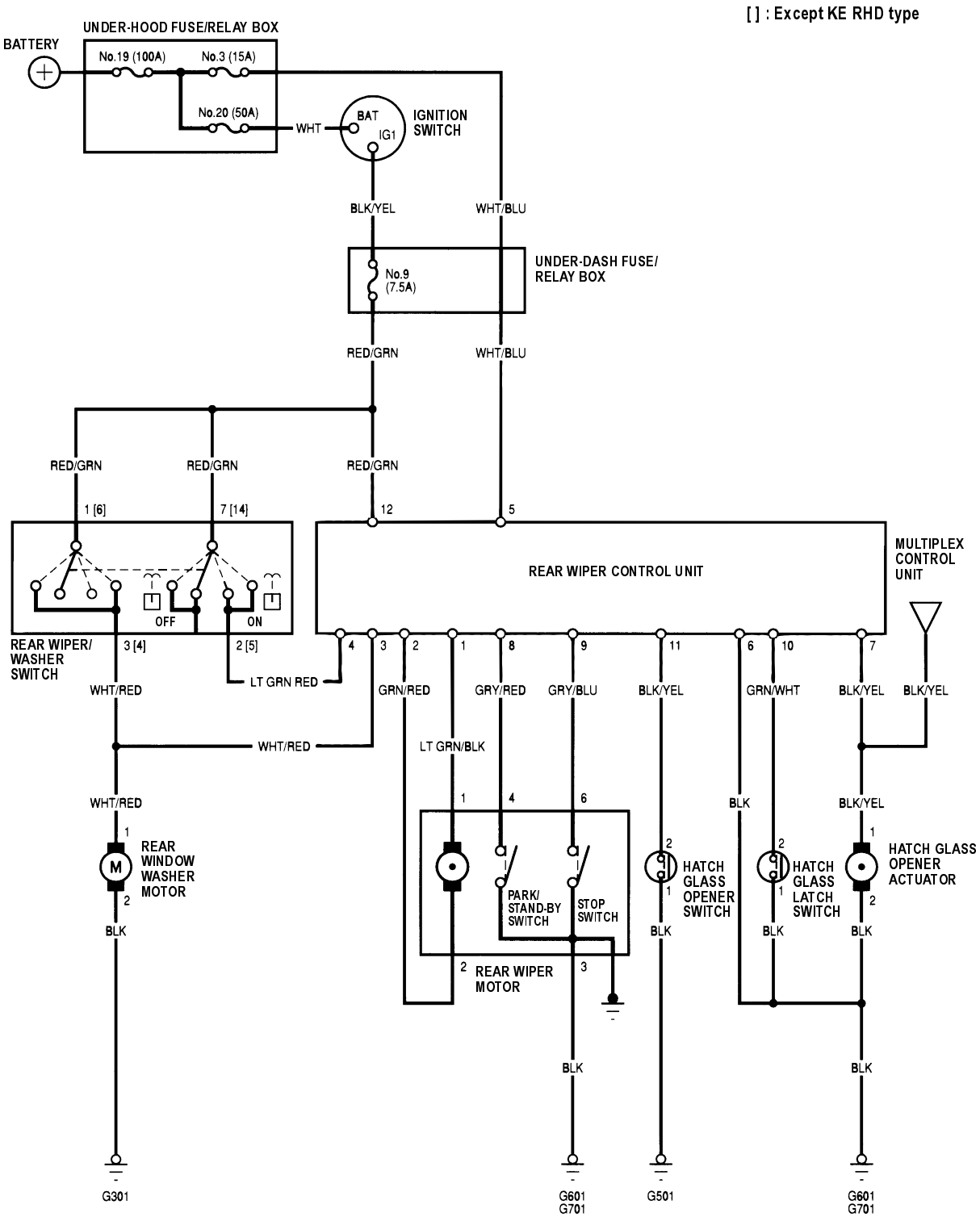
Circuit Diagram - Windshield



Circuit Diagram - Headlight Washer

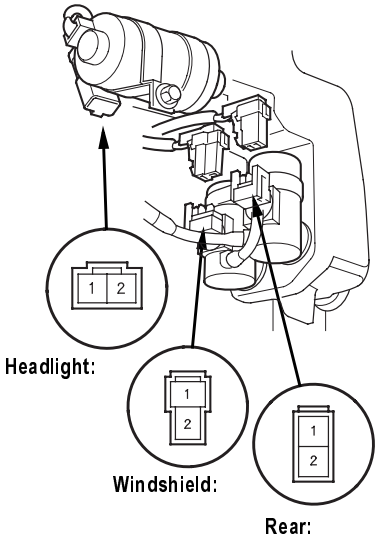


Circuit Diagram - Rear Window



Washer Motor Test

1. Remove the left inner fender (see page 20-155).
2. Disconnect the 2P connector (A) from the washer motor (B).

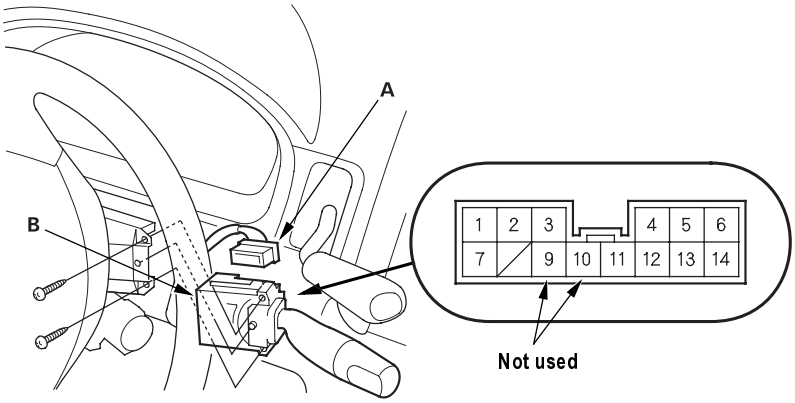


3. Test the motor by connecting battery power to the No. 1 terminal and ground the No. 2 terminal of the washer motor. The motor should run.
   - If the motor does not run or fails to run smoothly, replace it.
   - If the motor runs smoothly, but little or no washer fluid is pumped, check for a disconnected or blocked washer hose, or a clogged pump outlet in the motor.

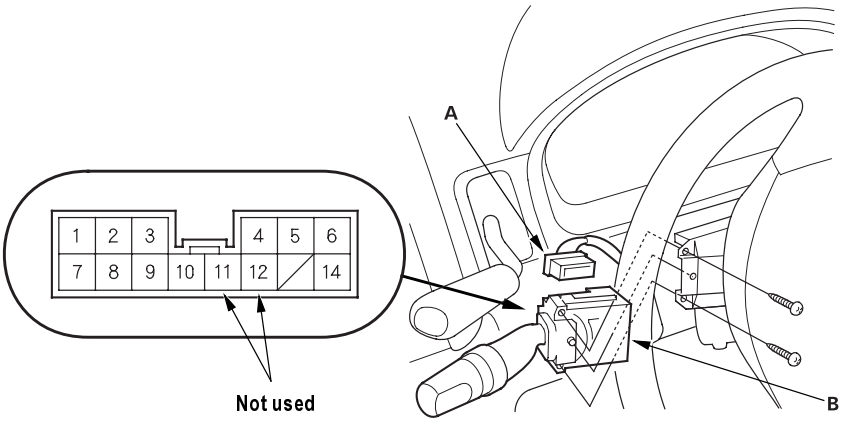
Wiper/Washer Switch Test/Replacement

1. Remove the driver's dashboard lower cover (see page 20-88).
2. Remove the steering column covers (see page 17-24).
3. Disconnect the 14P connector (A) from the wiper/washer switch (B).

LHD type and KE model:



RHD type:



4. Remove the two screws, then pull out the wiper/washer switch.

5. Inspect the connector 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, check for continuity between the terminals in each switch position according to the tables. If the continuity is not as specified, replace the switch.

Windshield:

Terminal / Position	4 [3]	5 [2]	6 [1]	11 [10]	12 [9]	13 [8]	14 [7]	9 [12]		10 [11]
OFF				○	○					
INT				○	○	○	○			
LO	○			○						
HI	○	○								
Mist switch ON	○	○								
Washer switch ON			○				○			

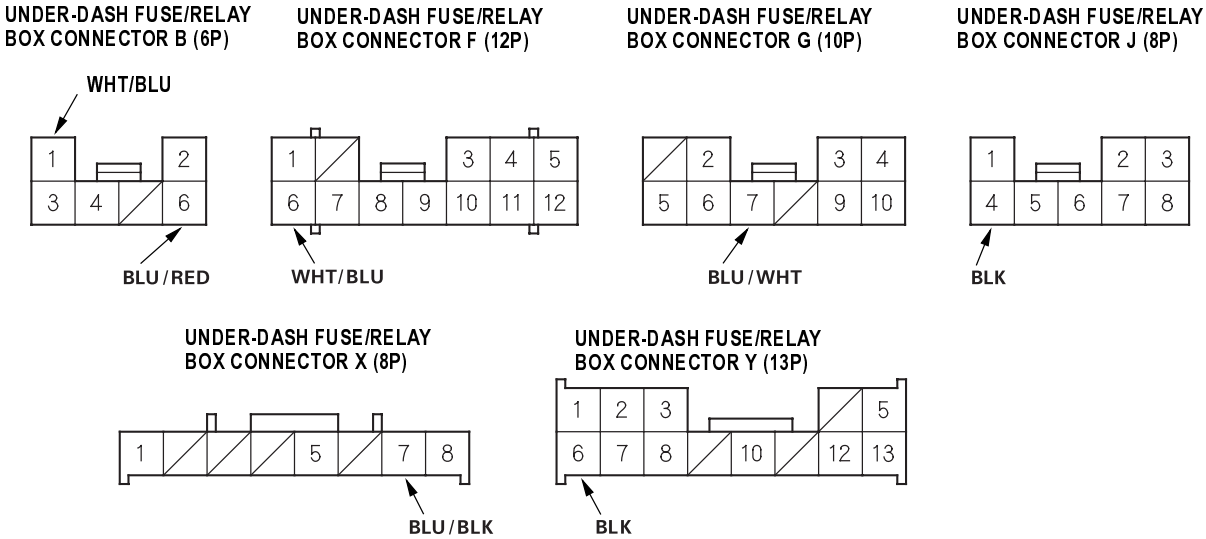
Rear Window:

Terminal / Position	1 [6]	2 [5]	3 [4]	7 [14]
Washer switch ON and wiper switch OFF	○		○	
OFF				
ON		○		○
Wiper and Washer switch ON	○	○	○	○

[ ] : RHD type

Control Unit Input Test

1. Before testing, troubleshoot the multiplex control system (see page 22A-231).
2. Remove the dashboard lower cover.
3. Disconnect the under-dash fuse/relay box connectors B, F, G, J, X and Y.
   NOTE: All connectors are wire side of female terminals.



4. 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 are OK, go to step 5.

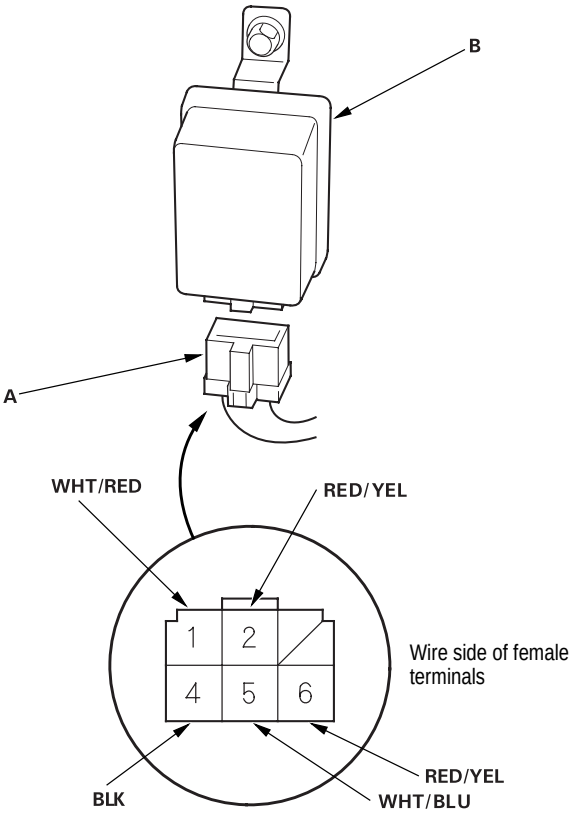
5. Reconnect the connectors, and make these input tests at the connector.

- If any test indicates a problem, find and correct the cause, then recheck the system.
- If all the input tests prove OK, go to step 6.
- If all the input tests prove OK, the multiplex control unit must be faulty; replace the under-dash fuse/relay box assembly.

Cavity	Wire	Test condition	Test: Desired result	Possible cause if result is not obtained
J4	BLK	Under all conditions	Check for voltage to ground: There should be 1 V or less.	• Poor ground (G301) • An open in the wire
Y6	BLK	Under all conditions	Check for voltage to ground: There should be 1 V or less.	• Poor ground (G502) • An open in the wire
B1 • F6	WHT/BLU	Ignition switch ON (II) and washer switch ON	Check for voltage to ground: There should be battery voltage. Check windshield washer motor operation: The washer motor should run.	• Poor ground (G301) • Blown No. 20 (20 A) fuse in the under-dash fuse/relay box • Faulty wiper/washer switch • Faulty windshield washer motor • An open in the wire
B6	BLU/RED	Ignition switch ON (II), wiper switch in OFF or INT, jump B6 to ground.	Check for voltage to ground: There should be battery voltage. Check wiper motor operation: The wiper motor should run at low speed.	• Blown No. 20 (20 A) fuse in the under-dash fuse/relay box • Faulty wiper/washer switch • Faulty windshield wiper motor • An open in the wire
G7	BLU/WHT	Ignition switch ON (II) and wipers in park position.	Check for voltage to ground: There should be battery voltage.	• Blown No. 20 (20 A) fuse in the under-dash fuse/relay box • Faulty windshield wiper motor • An open in the wire
X7	BLU/BLK	Ignition switch ON (II) and wiper switch in INT	Check for voltage to ground: There should be battery voltage.	• Blown No. 20 (20 A) fuse in the under-dash fuse/relay box • Faulty wiper/washer switch • An open in the wire

Headlight Washer Control Unit Input Test

1. Remove the dashboard lower cover.
2. Disconnect the 6P connector (A) from the headlight washer control unit (B).



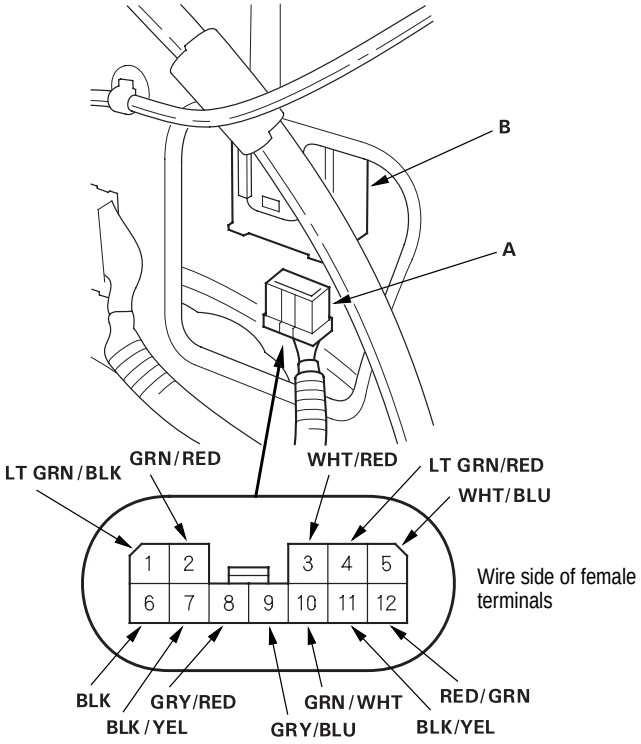
3. Inspect the connector and socket terminals to be sure they are all making good contact.
   - If the terminals are bent, loose or corroded, repair them as necessary, and recheck the system.
   - If the terminals look OK, go to step 4.

4. With the connector still disconnected, make these input tests at the connector.
- If any test indicates a problem, find and correct the cause, then recheck the system.
- If all the input tests prove OK, replace the headlight washer control unit.

Cavity	Wire	Test condition	Test: Desired result	Possible cause if result is not obtained
2	RED/YEL	Under all conditions	Check for voltage to ground: There should be battery voltage.	• Blown No. 14 (40A) fuse in the under-hood fuse/relay box • Blown No. 15 (30A) fuse in the under-dash fuse/relay box • An open in the wire
5	WHT/BLU	Ignition switch ON (II) and washer switch ON	Check for voltage to ground: There should be battery voltage.	• Blown No. 20 (20A) fuse in the under-dash fuse/relay box • Faulty washer switch • An open in the wire
6	RED/YEL	Headlight switch ON	Check for voltage to ground: There should be battery voltage.	• Blown No. 15 (15A) fuse in the under-hood fuse/relay box • Faulty headlight relay 2 • Faulty combination light switch • An open in the wire
4	BLK	Under all conditions	Check for continuity to ground: There should be continuity.	• Poor ground (G501) • An open in the wire
1	WHT/RED	Connect the No. 1 terminal to the No. 2 terminal with a jumper wire.	Check motor operation: The headlight washer motor should run.	• Faulty headlight washer motor • An open in the wire

Rear Wiper Control Unit Input Test

1. Remove the right rear side trim panel (see page 20-77).
2. Disconnect the 12P connector (A) from the control unit (B).



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. Reconnect the connector, and 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, go to step 5.

Cavity	Wire	Test condition	Test: Desired result	Possible cause if result is not obtained
6	BLK	Under all conditions	Check for voltage to ground: There should be less than 1 V.	• Poor ground (G601, G701) • An open in the wire
5	WHT/BLU	Under all conditions	Check for voltage to ground: There should be battery voltage.	• Blown No. 3 (15 A) fuse in the under-hood fuse/relay box • An open in the wire
12	RED/GRN	Ignition switch ON (II)	Check for voltage to ground: There should be battery voltage.	• Blown No. 9 (7.5 A) fuse in the under-dash fuse/relay box • An open in the wire

Cavity	Wire	Test condition	Test: Desired result	Possible cause if result is not obtained
4	LT GRN/ RED	Ignition switch ON (II) and rear wiper switch ON	Check for voltage to ground: There should be battery voltage.	• Blown No. 9 (7.5 A) fuse in the under-dash fuse/relay box • Faulty wiper/washer switch • An open in the wire
8	GRY/RED	Rear wiper in park position	Check for voltage to ground: There should be less than 1 V.	• Poor ground (G601, G701) • Faulty rear wiper motor • An open in the wire
		Rear wiper in stand by position		
9	GRY/BLU	Rear wiper in park position	Check for voltage to ground: There should be less than 1 V.	
		Rear wiper in stand by position	Check for no voltage to ground: There should be 5 V or more.	
10	GRN/WHT	Hatch glass open	Check for voltage to ground: There should be less than 1 V.	• Poor ground (G601, G701) • Faulty hatch glass latch switch • An open in the wire
		Hatch glass closed	Check for voltage to ground: There should be 5 V or more.	• Short to ground • Faulty hatch glass latch switch
11	BLK/YEL	Hatch glass opener switch pushed	Check for voltage to ground: There should be less than 1 V.	• Poor ground (G501) • Faulty hatch glass opener switch • An open in the wire
		Hatch glass opener switch released	Check for voltage to ground: There should be 5 V or more	• Short to ground • Faulty hatch glass opener switch

5. Disconnect the connector, and make these input tests at the connector.

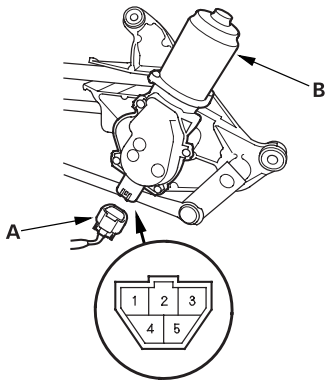
- If all the input tests prove OK, the control unit must be faulty; replace the rear wiper control unit.

Cavity	Wire	Test condition	Test: Desired result	Possible cause if result is not obtained
3	WHT/RED	Connect the No. 5 terminal to No. 3 terminal	Check rear washer motor operation: The rear washer should come on.	• Blown No. 3 (15 A) fuse in the under-dash fuse/relay box • Poor ground (G301) • Faulty rear washer motor • An open in the wire
1	LT GRN/ BLK	Connect the No. 3 terminal to No. 2 terminal, and No. 1 terminal to No. 6 terminal	Check rear wiper motor operation: The rear wiper should come on.	• Blown No. 3 (15 A) fuse in the under-dash fuse/relay box • Poor ground (G601, G701) • Faulty rear wiper motor • An open in the wire
2	GRN/RED			
7	BLK/YEL	Rear wiper park position, connect the No. 5 terminal to No. 7 terminal	Check hatch glass opener actuator operation: The hatch glass should open.	• Poor ground (G601, G701) • Faulty hatch glass opener actuator • An open in the wire

Wiper Motor Test

Windshield:

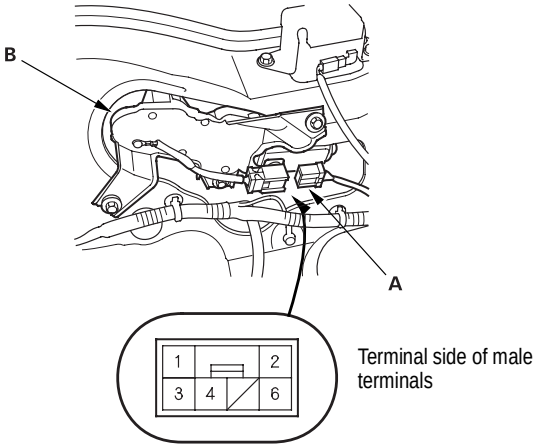
1. Remove the wiper arms, hood seals, and cowl covers (see page 22A-223).
2. Disconnect the 5P connector (A) from the wiper motor (B).



3. Test the motor by connecting battery power to the No. 5 terminal and ground the No. 1 terminal of the wiper motor 5P connector. The motor should run. If the motor does not run or fails to run smoothly, replace the motor.
4. Connect an analog voltmeter between the No. 3 (+) and No. 4 (-) terminals, and run the motor at low or high speed. The voltmeter should indicate 12 V and 4 V or less alternately.

Rear Window:

1. Open the tailgate, and remove the tailgate lower trim panel (see page 20-9).
2. Disconnect the 4P connector (A) from the wiper motor (B).



3. Test the motor by connecting battery power to the No. 2 terminal and ground the No. 1 terminal of the wiper motor. The motor should run. If the motor does not run or fails to run smoothly, replace the motor.
4. Connect an ohmmeter between No. 3 and No. 6 terminal and between No. 3 terminal and No. 4 terminal.

   There should be continuity when the wiper is in the park position.
5. Connect an ohmmeter between No. 3 terminal and No. 6 terminal.

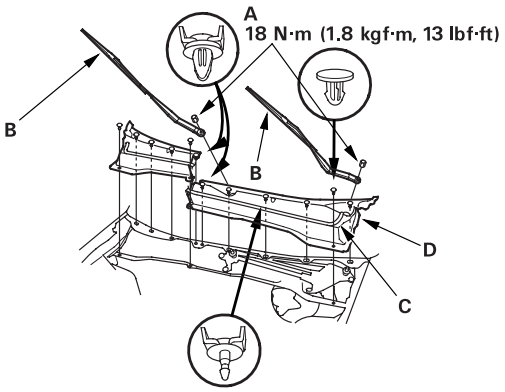
   There should be no continuity when the wiper is in the stand-by position.
6. Connect an ohmmeter between No.3 terminal and No. 4 terminal.

   There should be continuity when the wiper is in the stand-by position.

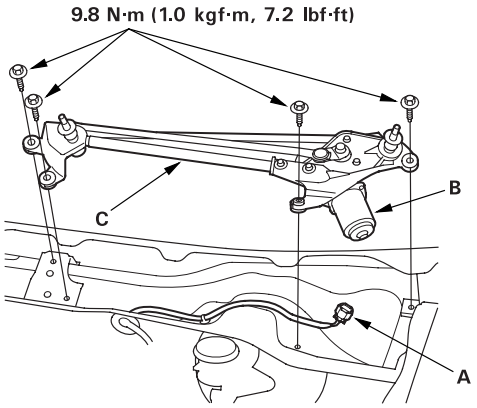
Wiper Motor Replacement

Windshield Wiper Motor:

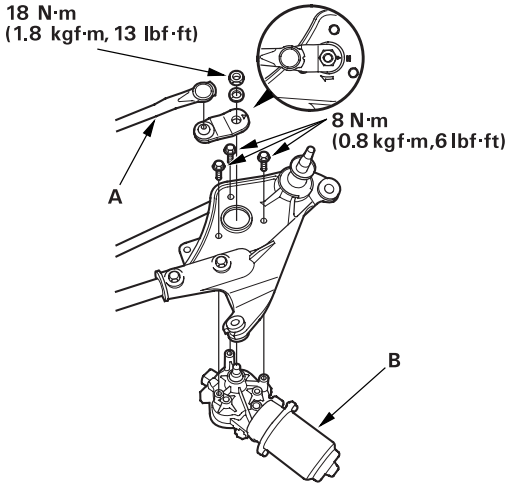
1. Open the hood. Remove the nuts (A) and the windshield wiper arms (B).



2. Remove the hood seals (C) and cowl covers (D).
3. Disconnect the 5P connector (A) from the wiper motor (B).



4. Remove the four bolts and wiper linkage assembly (C).
5. Remove the three mounting bolts and nut from the wiper linkage (A) to remove the wiper motor (B).

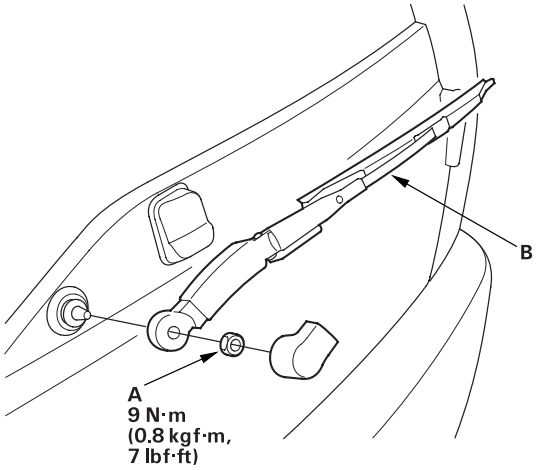


6. Install in the reverse order of removal, and note these items:
   - Grease the moving parts.
   - Before reinstalling the wiper arms, turn the wiper switch ON, then OFF to return the wiper shafts to the park position.
   - If necessary, replace any damaged clips.
   - Check the wiper motor operation.

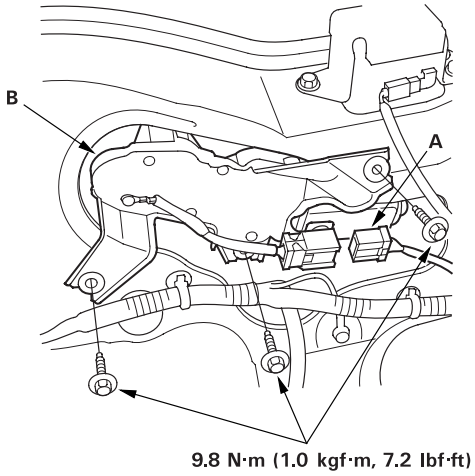
Wiper Motor Replacement (cont'd)

Rear Window Wiper Motor:

1. Remove the mounting nut (A) and the wiper arm (B).



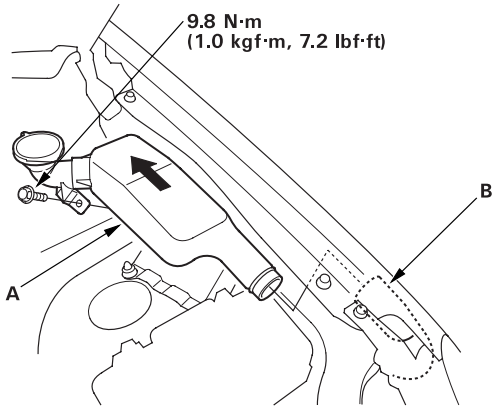
2. Disconnect the 6P connector (A) from the wiper motor (B).



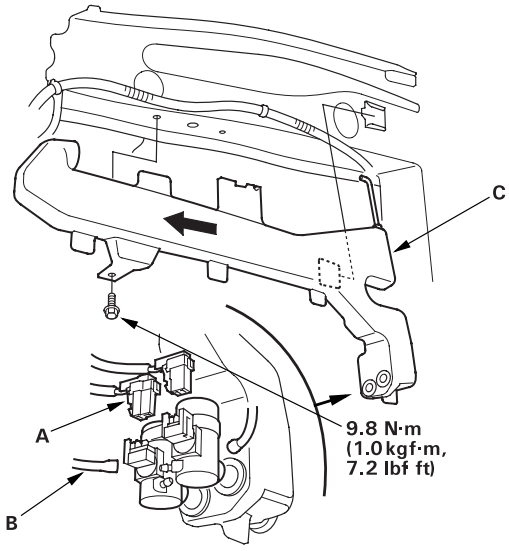
3. Remove the three bolts and the wiper motor.
4. Install in the reverse order of removal. Check the wiper motor operation.

Washer Reservoir Replacement

1. Open the hood.
2. Remove the bolt, then separate and remove the filler neck (A) from the washer reservoir (B).



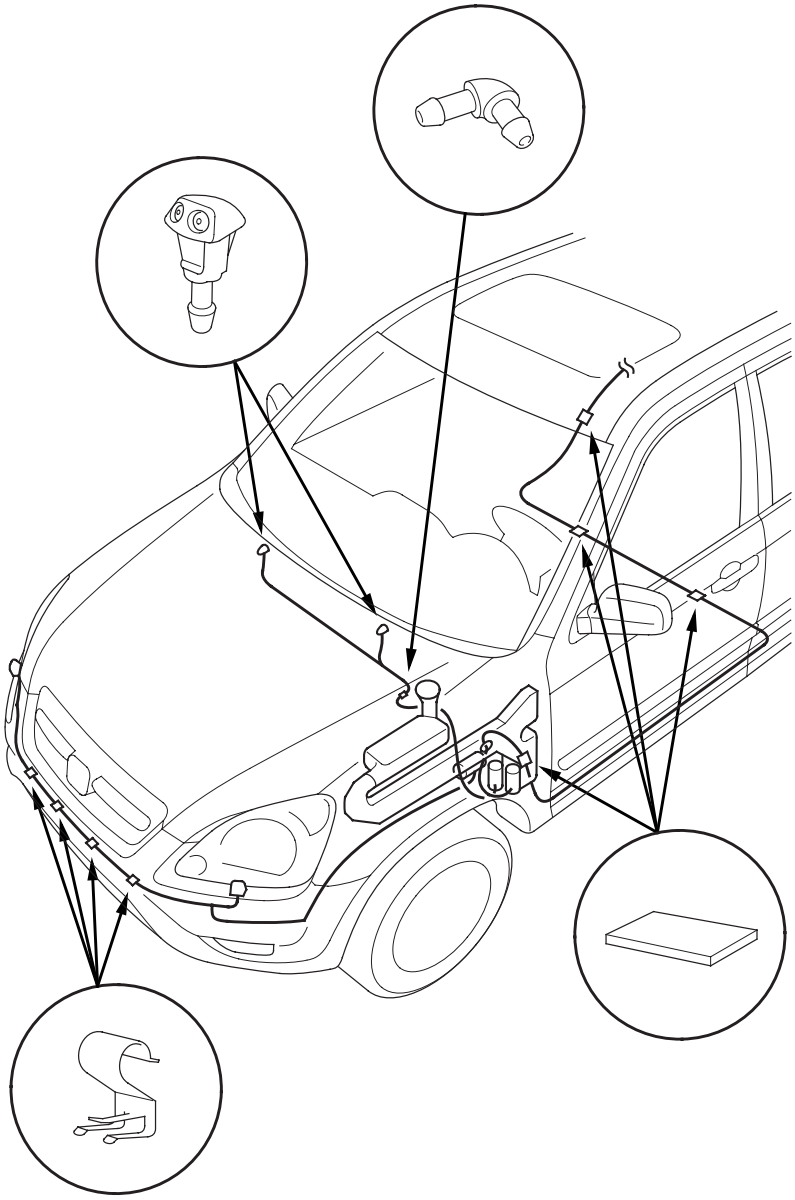
3. Remove the left inner fender (see page 20-155).
4. Disconnect the 2P connectors (A) and washer tubes (B).



5. Remove the bolt and washer reservoir (C).
6. Install the reservoir in the reverse order of removal. Check the the washer motor operation.

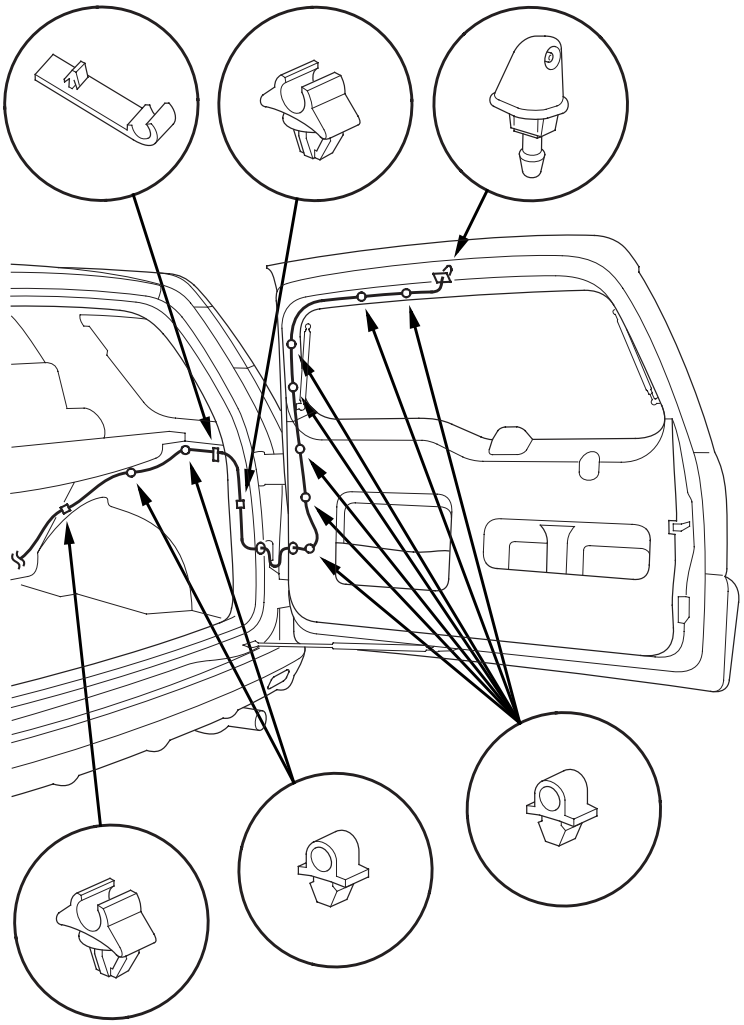
Washer Tubes Replacement

1. Remove the left inner fender (see page 20-155).
2. Remove the windshield washer nozzles and clips, then remove the tubes.



(cont'd)

Washer Tubes Replacement (cont'd)

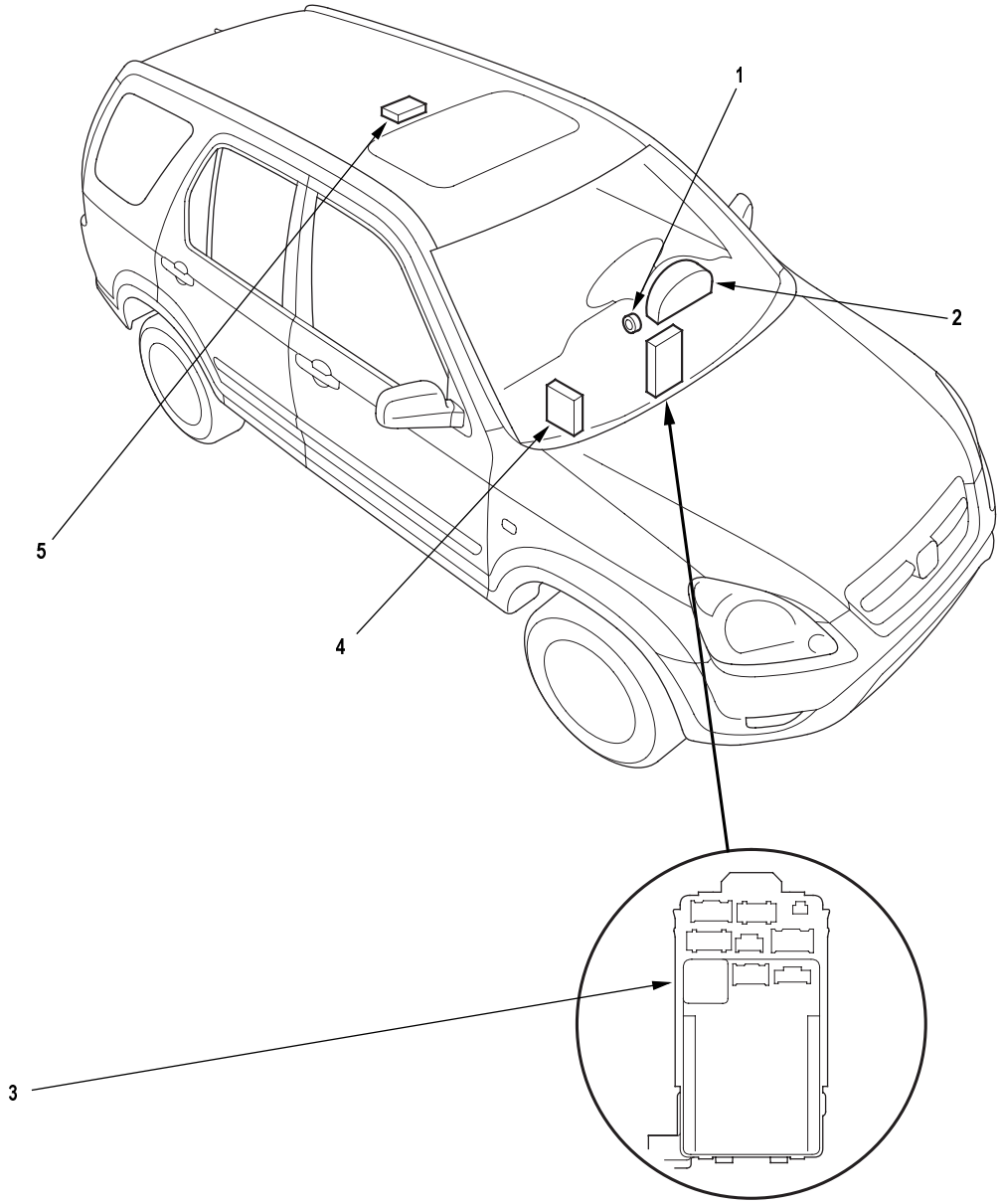


3. Install in the reverse order of removal. Take care not to pinch the washer tubes. Check the windshield washer operation.

Multiplex Control System

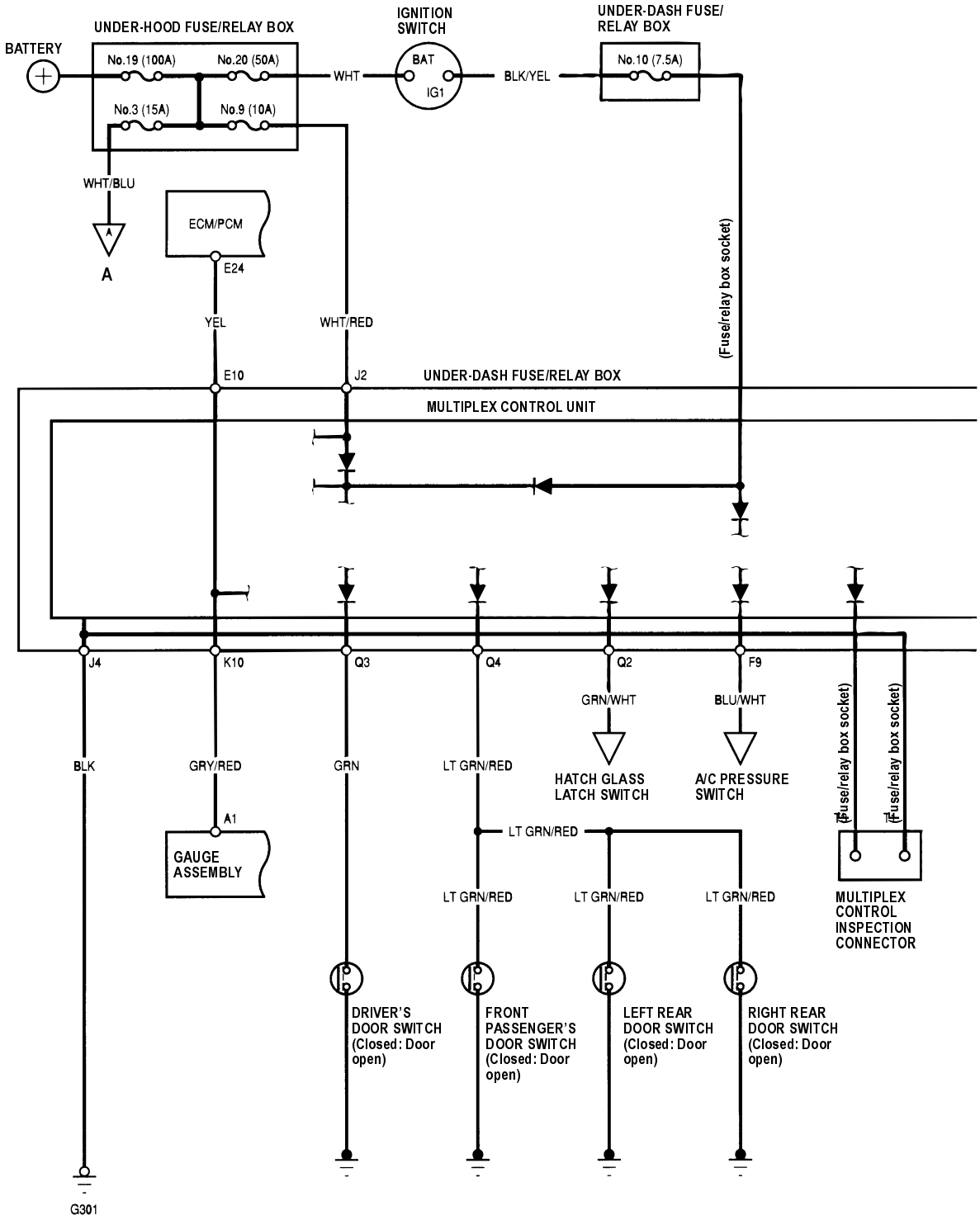
Component Location Index

NOTE: LHD type is shown, RHD type is similar.



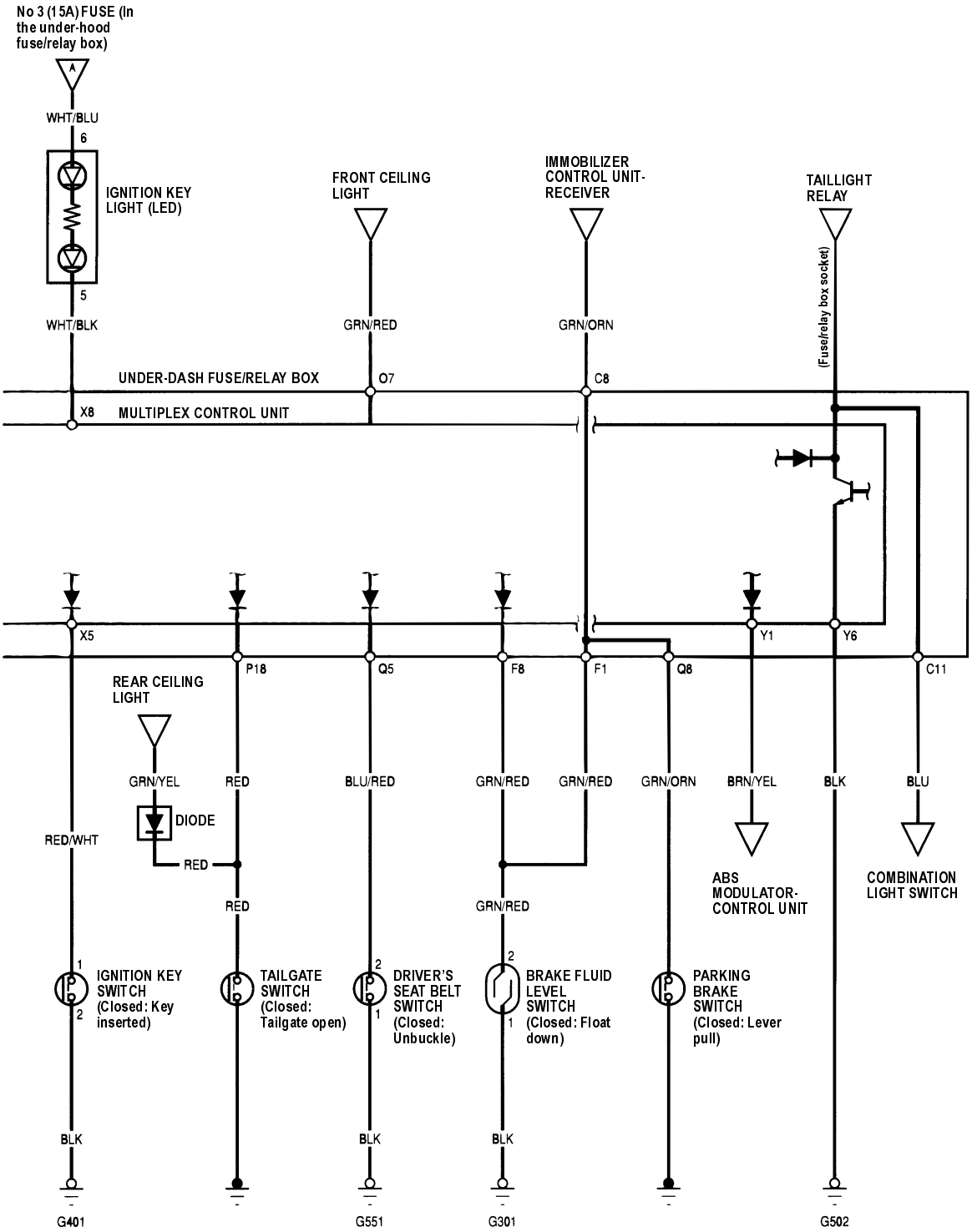
1	IGNITION KEY LIGHT	Test, page 22A-113
2	GAUGE ASSEMBLY	
3	MULTIPLEX CONTROL UNIT (Built into the under-dash fuse/relay box)	Troubleshooting, page 22A-231; Input Test, page 22A-235
4	ECM/PCM	
5	FRONT CEILING LIGHT	Test, page 22A-109

Circuit Diagram



A IGNITION KEY LIGHT To page 22A-229

Circuit Diagram (cont'd)



System Description

The multiplex Control System has four internal functions:
- Multiplexing (send multiple signals over shared wires)
- Wake up/sleep (runs at full power only on demand to reduce battery draw)
- Fail-safe (fixes or ignores faulty signals)
- Self-diagnosis (Mode 1 for system DTCs, Mode 2 for input lines)

The system controls the function of these circuits:
- Entry light control (ignition key light and ceiling light)
- Wiper/washer (intermittent wipe and park functions)
- Interlock system
- Keyless/power Door Lock
- Meter assembly, temperature gauge, and indicator lights
- HVAC (Compressor and fan control)
- Key-in reminder
- Lights-on reminder
- Seat belt reminder
- Daytime running lights
- Rear fog light

Multiplex Communication

To reduce the number of wire harnesses, digital signals are sent via shared multiplex communication lines rather than sending normal electrical signals through individual wires.
- The input signals from each switch are converted to digital signals at the central processing unit (CPU).
- The digital signals are sent from the transmitting unit to the receiving unit as serial signals.
- The transmitted signal is converted to a switch signal at the receiving unit, and it operates the related component or monitors a switch.
- There are exclusive communication lines between the ECM/PCM, the gauge assembly, and the under-dash fuse/relay box.

Wake-up and Sleep

The multiplex control system has ”wake-up’’ and ”sleep’’ functions to decrease parasitic draw on the battery when the ignition switch is OFF.
- In the sleep mode, the multiplex control unit stops functioning (communication and CPU control) when it is not necessary for the system to operate.
- As soon as any operation is requested (for example, a door is unlocked), the related control unit in the sleep mode immediately wakes up and begins to function.
- When the ignition switch is turned OFF, and the driver’s or front passenger’s door is opened, then closed, there is about a 40 second delay before the control unit goes from the wake-up mode to the sleep mode.
- If any door is open, the sleep mode will not function.
- If a key is in the ignition switch, the sleep mode will not function.
- When in sleep mode, the draw is reduced from 70-80 mA to less than 10 mA.

Fail-safe

To prevent improper operation, the multiplex control system has a fail-safe function. In the fail-safe mode, the output signal is fixed when any part of the system malfunctions (for example a faulty control unit or communication line).
Each control unit has a hardware fail-safe function that fixes the output signal when there is any CPU malfunction, and a software fail-safe function that ignores the signal from the malfunctioning control unit and allows the system to operate normally.

Troubleshooting

Special Tool Required:
MPCS Service Connector 07WAZ-0010100

1. Check the No. 9 (10 A) fuse in the under-hood fuse/relay box and the No. 10 (7.5 A) fuse in the under-dash fuse/relay box.

   Are the fuses OK?

   Yes Go to step 2.

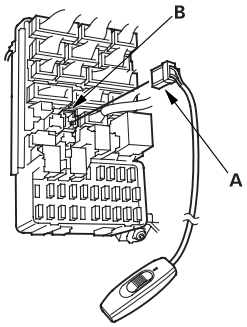
   No Find and repair the cause of the blown fuse.■

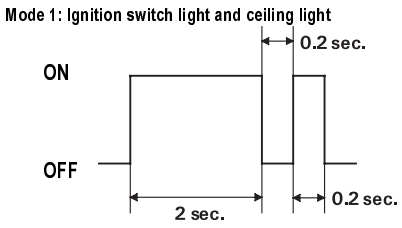
2. Remove the driver's dashboard lower cover (see page 20-88).

3. Switch the ceiling light to the middle position. Close all doors. Turn the ignition switch ON (II).

   If the driver's seatbelt is unbuckled, the beeper will beep five times.

4. Check self-diagnosis function Mode 1 for a diagnostic trouble code (DTC) by connecting the special tool (A) to the multiplex control inspection connector (B). After about 5 seconds, the ignition switch light and ceiling light should come on for 2 seconds, go out, then blink once for 0.2 second. This means that you are in Mode 1 of the self-diagnosis function.





   Did the blinking lights confirm that you are in model?

   Yes Count the blinks, then go to step 5.

   No See if the SCS circuit is working properly. Go to step 6.

5. If there is a DTC, it will blink, pause, then repeat the DTC as long as the ignition switch is ON (II).

   Is there continuity?

   Yes Count the blinks, then go to step 8.

   No Go to step 9.

6. Check for continuity between the inspection connector T1 and body ground.

   Is there continuity?

   Yes Go to step 9.

   No Go to step 7.

7. Check for continuity between the connector J of under-dash fuse/relay box No. 4 terminal and body ground.

   Is there continuity?

   Yes Faulty under-dash fuse/relay box. Replace and check for DTCs.

   No Repair the open in the wire, and recheck for DTCs.■

(cont'd)

Troubleshooting (cont'd)

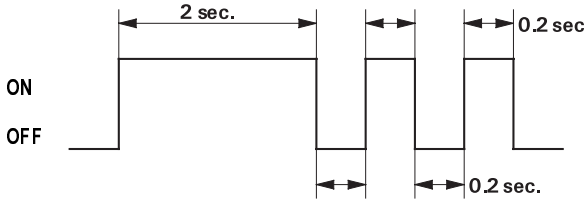
8. About 1 second after you go into self-diagnosis mode 1, the ceiling light will indicate the DTC, and repeat it every 3 seconds. If there is more than one DTC, the system will indicate them in ascending order, beginning from the DTC with the lowest numerical value. Troubleshoot the DTCs as indicated below:

- DTC 1, 2, and 3 (ECM/PCM P0600) simultaneously: Check for a short to body ground in the YEL wire between multiplex control unit terminal E10 and ECM/PCM terminal E24, and in the GRY/RED wire between multiplex control unit terminal K10 and gauge assembly terminal A1. If both wires are OK, substitute a known-good multiplex control unit, gauge assembly, and ECM/PCM one at a time, in that order, and recheck for the DTCs after each substitution.
- DTC 2 and 5 simultaneously: Check for an open in the YEL wire between multiplex control unit terminal E10 and ECM/PCM terminal E24, If the wire is OK, substitute a known-good multiplex control unit, gauge assembly, and ECM/PCM one at a time, in that order, and recheck for the DTCs after each substitution.
- DTC 1, and 6 simultaneously: Check for an open in the GRY/RED wire between multiplex control unit terminal K10 and gauge assembly terminal A1, If the wire is OK, substitute a known-good multiplex control unit, gauge assembly, and ECM/PCM one at a time, in that order, and recheck for the DTCs after each substitution.
- DTC 1 only (no other DTCs present): Substitute a known-good multiplex control unit, and a gauge assembly one at a time, in that order, and recheck for the DTCs after each substitution.
- DTC 2 only (no other DTCs present): Substitute a known-good multiplex control unit and a ECM/PCM one at a time, in that order, and recheck for the DTCs after each substitution.
- DTC 3 only (no other DTCs present): Substitute a known-good multiplex control unit, and recheck for the DTC.
- DTC 5 only (no other DTCs present): Substitute a known-good gauge assembly, and recheck for the DTC.
- DTC 6 only (no other DTCs present): Update the ECM/PCM if it does not have the latest software, or substitute a known-good ECM/PCM, then recheck (see page 11-5). If the symptom/indication goes away with a known-good ECM/PCM, replace the original ECM/PCM.■

DTC	Cause
1	The multiplex control unit cannot receive signals from the gauge assembly.
2	The multiplex control unit cannot receive signals from the ECM/PCM.
3	The multiplex control unit cannot receive signals from itself.
5	The gauge assembly cannot receive signals from multiplex control unit and the ECM/PCM.
6	The ECM/PCM cannot receive signals from multiplex control unit and the gauge assembly.

9. From Mode 1, disconnect the special tool from the multiplex control inspection connector for about 5 to 10 seconds, then reconnect it. The ceiling light should come on for 2 seconds, then blink twice more at 0.2 second intervals. This means the system has gone from Mode 1 to Mode 2.

MODE 2: Ceiling Light Blinking Pattern



NOTE: To cancel Mode 2, disconnect the SCS service connector from the multiplex control inspection connector for more than 10 seconds or turn the ignition switch OFF.

10. Look in the following table for the switches most closely related to the problem. While still in Mode 2, operate the switches and the control unit. If the circuit is OK, the spotlight and ceiling light should blink once. If the circuit is faulty, there will be no indication.

Does the ceiling light blink?

Yes Go to step 12.

No Go to step 11.

In each table below is a list of circuits that can be checked in Mode 2.

Taillight relay
Windshield washer switch (ON)
Windshield wiper motor (INT, Auto stop)
Driver's door switch (door opened)
Front passenger's door switch (door opened)
Left rear door switch (door opened)
Right rear door switch (door opened)
Ignition key switch (key in switch)
Tailgate switch (talgate opened)
Parking brake switch (ON)
Driver's door lock knob switch (LOCK/UNLOCK)
Passenger's door lock knob switch (UNLOCK)(KE model)
Left rear door lock knob switch (UNLOCK)(KE model)
Right rear door lock knob switch (UNLOCK)(KE model)
Driver's door key cylinder switch (LOCK/UNLOCK)
Driver's door lock switch (LOCK/UNLOCK)
Front passenger's door key cylinder switch (LOCK/UNLOCK)
Driver's seat belt switch (UNLATCH)
A/C switch (with fan switch ON)
Combination light switch
ECM/PCM communication line
Gauge assembly communication line
ABS communication
Front fog light switch (KE model)
Hatch glass (open)

11. Check two or three other circuits listed above.

Does the spotlight and ceiling light blink for each circuit?

Yes The additional circuits are OK. Repair the short or open in the circuit that failed the test in step 10.■

No Multiplex failed circuits can mean that the control unit has failed, but without triggering a DTC. Test a few more circuits. If they also fail, test the multiplex control unit inputs (see page 22A-235). If all the input test are OK, substitute a known-good control unit, gauge assembly, or ECM/PCM, one at a time, then recheck. 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 faulty control unit, then recheck. If the system works properly, that control unit is faulty; replace it.■

(cont'd)

Troubleshooting (cont'd)

12. Shift to the sleep mode:
Turn the ignition switch OFF, and remove the key. If the control unit receivers no inputs from the inputs listed below, it will go into the sleep mode after about 20 seconds.

Multiplex Control Unit
Taillight relay (combination switch OFF)
Driver's door switch (door closed)
Front passenger's door switch (door closed)
Left rear door switch (door closed)
Right rear door switch (door closed)
Tailgate switch (tailgate closed)
Driver's door key cylinder switch (LOCK/UNLOCK)
Hatch glass (glass closed)

13. Comfirm the sleep mode:
Check for voltage on the YEL and WHT/GRN wires. There should be battery voltage in the sleep mode. Check the parasitic draw at the battery while shifting into the sleep mode. Amperage should change from about 70 through 80 mA to less than 10 mA.

14. Shift to the wake up mode:

When the ignition switch is turned ON (II), the multiplex control unit, gauge assembly, and ECM/PCM wake up at the same time without "talking" to each other through the communication lines. When any switch in the multiplex system is turned on, it wakes up its related control unit which, in turn, wakes up the other units.

After confirming the sleep mode, look in the following table for the switch most closely related to the problem. Operate that switch and see if its control unit wakes up.

NOTE: If any control unit is faulty and will not wake up, several parts of the system will malfunction at the same time.
In the table below, the control unit is followed by a list of the switches and input signals that can wake it up.

Multiplex Control Unit No. 9 (10 A) under-hood fuse
Communication lines (ECM/PCM, Gauge assembly)
Taillight relay (combination switch ON)
Driver's door switch (door open)
Front passenger's door switch (door open)
Left rear door switch (door open)
Right rear door switch (door open)
Driver's door key cylinder switch (LOCK/UNLOCK)
Driver's door lock knob switch (LOCK/UNLOCK)
Driver's door lock switch (LOCK/UNLOCK)
Front passenger's door key cylinder switch (UNLOCK)
Ignition key switch (key in switch)
Tailgate switch (tailgate open)

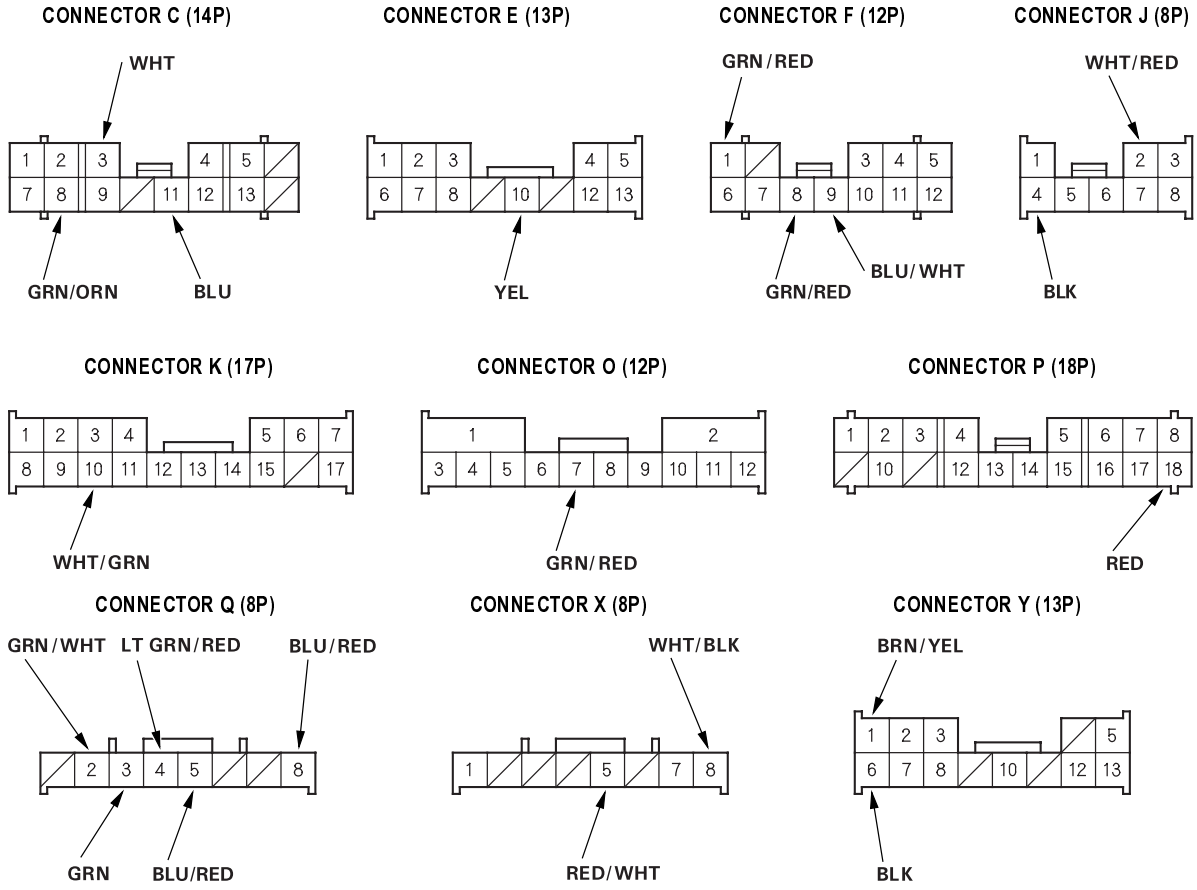
Is the wake-up function OK?

Yes Intermittent failure; the system is OK at this time.

No Test the multiplex control unit inputs (see page 22A-235).

Multiplex Control Unit Input Test

1. Remove the dashboard under cover (see page 20-95).
2. Disconnect the under-dash fuse/relay box connectors C, E, F, J, K, O, P, Q, X and Y.
   NOTE: All connectors are wire side of female terminals.



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.

(cont'd)

Multiplex Control Unit Input Test (cont'd)

4. Reconnect the connectors to the under-dash fuse/relay box, and make sure these input tests at the appropriate connectors on the under-dash fuse/relay box.

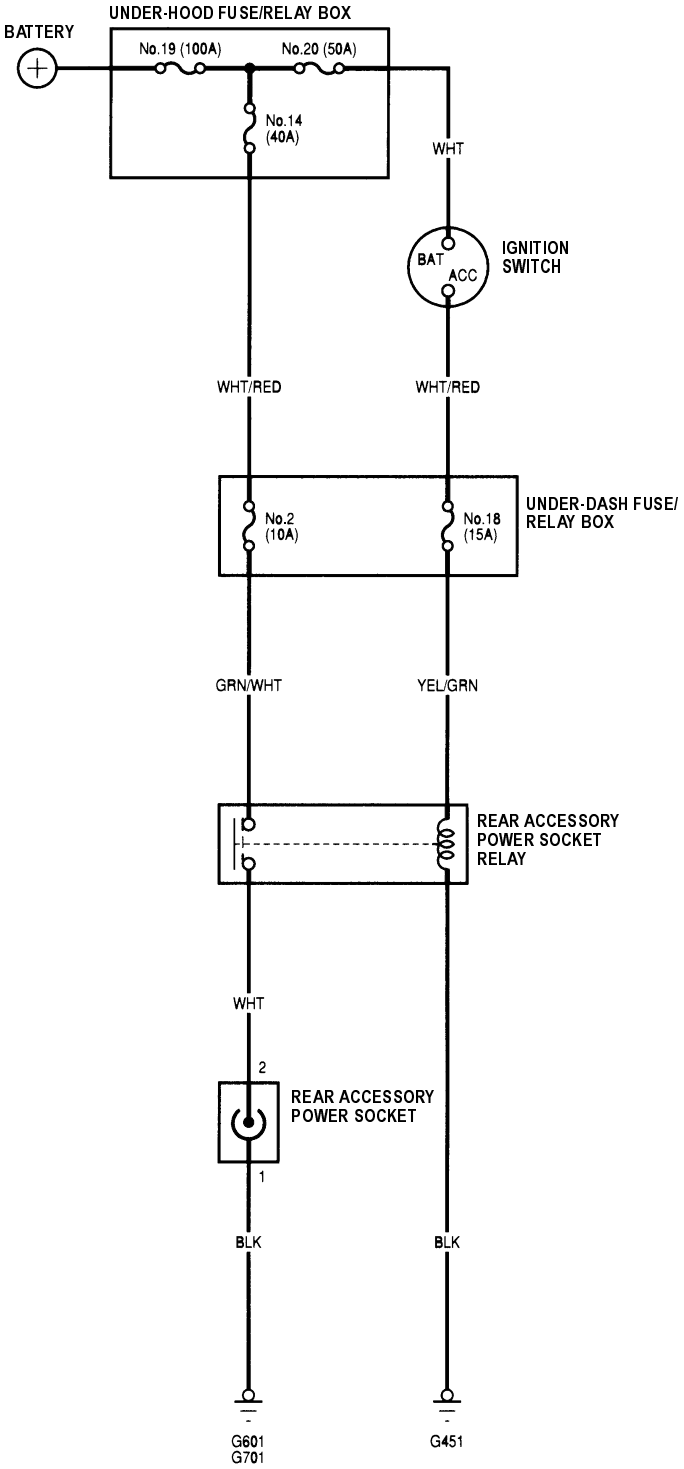
- If any test indicates a problem, find and correct the cause, then recheck the system.
- If all the input tests prove OK, the multiplex control unit must be faulty, replace the under-dash fuse/relay box assembly.

Cavity	Wire	Test condition	Test: Desired result	Possible cause if result is not obtained
J4	BLK	Under all conditions	Check for voltage to ground: There should be less than 1 V.	• Poor ground (G301) • An open in the wire
Y6	BLK	Under all conditions	Check for voltage to ground: There should be less than 1 V.	• Poor ground (G502) • An open in the wire
J2	WHT/RED	Under all conditions	Check for voltage to ground: There should be battery voltage.	• Blown No. 9 (10A) fuse in the under-hood fuse/relay box • An open in the wire
Q3	GRN	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
Q4	LT GRN/ RED	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
		Passenger's door closed	Check for voltage to ground: There should be 5 V or more.	• Faulty passenger's door switch • Short to ground
Q8 • C8 • F1	GRN/ORN • GRN/RED	Parking brake lever pulled	Check for voltage to ground: There should be 1 V or less.	• Faulty parking brake switch • An open in the wire
		Parking brake lever released	Check for voltage to ground: There should be 5 V or more.	• Faulty parking brake switch • Short to ground
Q5	BLU/RED	Ignition switch ON (II) Driver's seat belt is unbuckled.	Check for voltage to ground: There should be 1 V or less.	• Faulty driver's seat belt switch • Poor ground (G551) • An open in the wire
		Ignition switch ON (II) Driver's seat belt is buckled.	Check for voltage to ground: There should be 5 V or more.	• Faulty driver's seat belt switch • Short to ground
P18	RED	Tailgate open	Check for voltage to ground: There should be 1 V or less.	• Faulty tailgate switch • An open in the wire
		Tailgate closed	Check for voltage to ground: There should be 5 V or more.	• Faulty tailgate switch • Short to ground
X5	RED/WHT	Ignition key is in the ignition switch	Check for voltage to ground: There should be 1 V or less.	• Faulty ignition key switch • Poor ground (G401) • An open in the wire
		Ignition key is out of the ignition switch	Check for voltage to ground: There should be 5 V or more.	• Faulty ignition key switch • Short to ground
F9	BLU/WHT	Under all conditions	Check for voltage to ground: There should be 5 V or more.	• An open or short in the wire
C3	WHT	Under all conditions	Check for continuity to ground: There should be continuity.	• An open or short in the wire

Cavity	Wire	Test condition	Test: Desired result	Possible cause if result is not obtained
X8	WHT/BLK	Under all conditions	Attach to ground: The ignition key light should come on.	• Blown No. 3 (15A) fuse in the under-hood fuse/relay box • Blown LED • An open in the wire
O7	GRN/RED	Ceiling light switch in the middle position, all doors closed	Attach to ground: The ceiling light, spotlights should come on.	• Blown No. 3 (15A) fuse in the under-hood fuse/relay box • Faulty ceiling light or spotlights • An open in the wire
C11	BLU	Under all conditions	Attach to ground: Dash lights should come on.	• Blown No. 2 (15A) fuse in the under-hood fuse/relay box • Faulty taillight relay • An open in the wire
F8	GRN/RED	Disconnect the brake fluid level switch 2P connector, and jump the GRN/RED and BLK	Check for voltage to ground: There should be less than 1 V.	• Faulty brake fluid level switch • An open in the wire
		Brake fluid level switch connector disconnected, jumper wire removed	Check for voltage to ground: There should be 5 V or more.	• Faulty brake fluid level switch • Short to ground
E10	YEL	All doors, tailgate and hatch glass closed, ignition key removed	Check for voltage to ground: There should be battery voltage in the sleep mode and 3-7 volts when awake.	• An open or short in the wire
K10	GRY/RED	All doors, tailgate and hatch glass closed, ignition key removed	Check for voltage to ground: There should be battery voltage in the sleep mode and 3-7 volts when awake.	• An open or short in the wire
Y1	BRN/YEL	Under all conditions	Check for continuity between the Y1 terminal and the No. 13 terminal of the ABS modulator-control unit. There should be continuity.	• An open in the wire
Q2	GRN/WHT	Hatch glass open	Check for voltage to ground: There should be 1 V or less.	• Poor ground (G601, G701) • Faulty hatch glass latch switch • An open in the wire
		Hatch glass closed	Check for voltage to ground: There should be 5 V or more.	• Faulty hatch glass latch switch • Short to ground

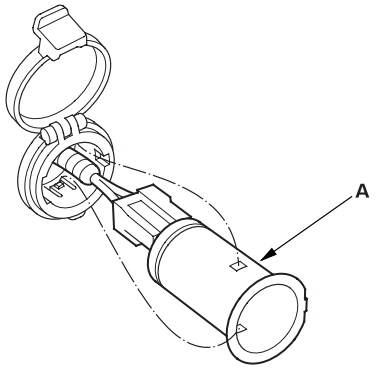
Accessory Power Socket

Circuit Diagram

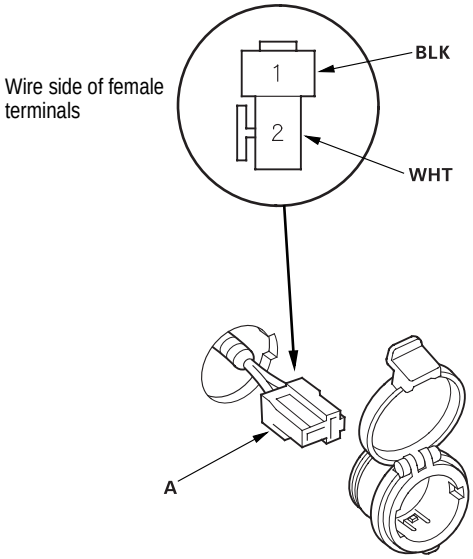


Test/Replacement

1. Carefully pry the accessory power socket (A) out from the left rear side trim panel.



2. Disconnect the 2P connector (A) from the socket.



3. Inspect the connector 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. Turn the ignition switch to ACC (I), and check for voltage between the No. 1 and No. 2 terminals.

- There should be battery voltage.
- If there is no battery voltage, check for:
  – poor ground (G451, G601, G701).
  – an open in the wire.
  – blown No. 18 (15A) fuse in the under-dash fuse/relay box.
  – blown No. 2 (10 A) fuse in the under-dash fuse/relay box.
  – faulty rear accessory power socket relay.